## Geology, Geochemistry and Self Potential Investigations

on the

**Gillian Silver Claims** 

BC Geological Survey Assessment Report 31051



Goosly Lake Area Omineca Mining Division British Columbia

Mineral Titles Reference Map M093L018 Lat. 54°09.2' N, 126°25.3' W for

for owners/operators B.N.Church and D.R. Haughton

> Prepared by B. Neil Church, P.Eng. Victoria, B.C. June 10, 2009

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## Summary

A reconnaissance self potential survey on the Gillian Silver property gives a broad negative millivolt response in vicinity of a previously detected zone of alteration and metal anomaly in Skeena Group rocks at the western margin of a Goosly-type stock. There is much in the geological, geochemical and general structural setting reminiscent of the nearby Equity Silver mine.

## Introduction

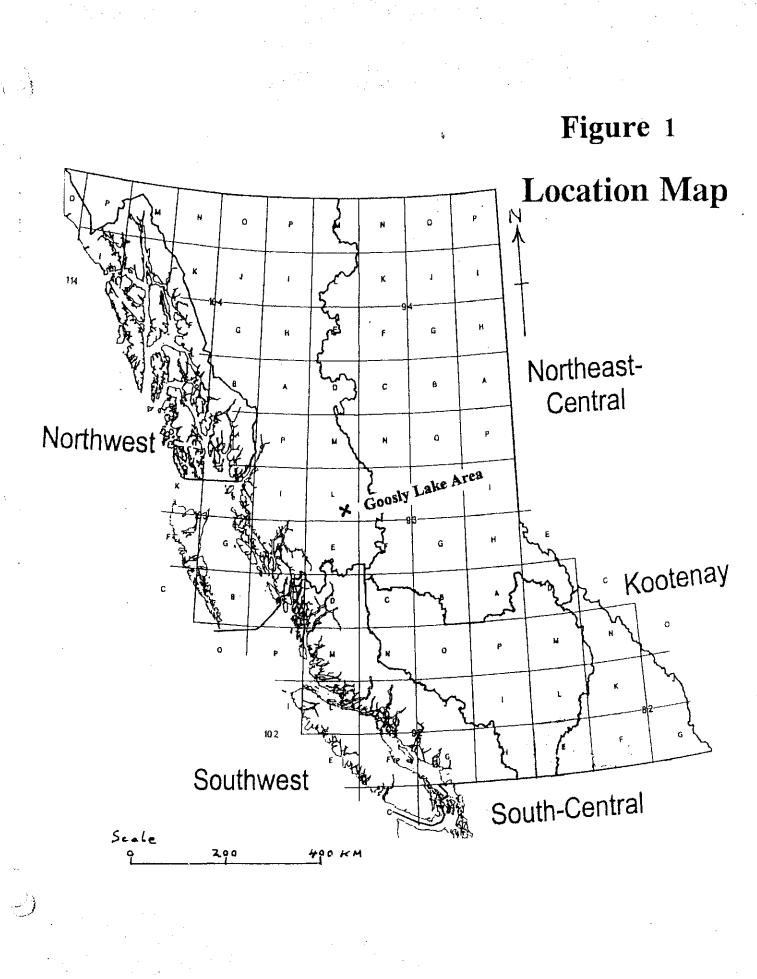
The Gillian-Silver property southeast of Houston, B.C., is centred on a polyphase syenomonzonite gabbro stock that intrudes Lower Cretaceous volcanic and sedimentary rocks of the Skeena Group. The pluton is one of a series of several similar intrusions whose occurrence and alignment suggests structurally controlled emplacement along an east-northeasterly trending belt that extends about 30 km from the Silver Queen mine on the west to the Equity Silver mine to the east.

The distribution of elements about Goosly-type intrusions seems to confirm a genetic relationship. It is possible that the intrusions were only a source of heat in mobilizing mineral-bearing solutions, however, evidence suggests that copper and possibly some of the other elements, moved directly from the intrusions.

An idealized model proposes a synthesis of Silver Queen and Equity Silver mineralization conforming to the generalities of these deposits and the Gillian Silver property. It is postulated that a Goosly-type stock lies subjacent to the Silver Queen mine and at the Equity Silver mine a Silver Queen-type vein system has been largely eroded away (Church et al., 1976).

According to the model, a Tertiary syenomonzonite stock, with numerous offshoot dykes, intrudes the Mesozoic pile, releasing and mobilizing solutions, that result in replacement sulphide lenses, typical of the Equity deposit, and satellitic vein systems, typical of the Silver Queen. The egress of hydrothermal solutions from the area of the intrusion results in a broad aureole of alteration and sulphide dissemination.

In keeping with this model, a preliminary SP survey on the Gillian Silver property was successful in picking-up a target zone for further exploration at the western contact of a Goosly-type stock.



-3-



Photo 1 Equity Mine Road

## **The Property**

The property consists of three contiguous mineral claims - the Gillian (6 cells) Silver East (3 cells) and Silver South (6 cells); tenure nos. 605225, 586189 and 586191. The location and configuration of the claims is shown on Figs. 1-3. The property was first staked in June 2008. D.R. Haughton of Brentwood Bay and B.N. Church of Victoria, B.C., own the claims

## **Location and Access**

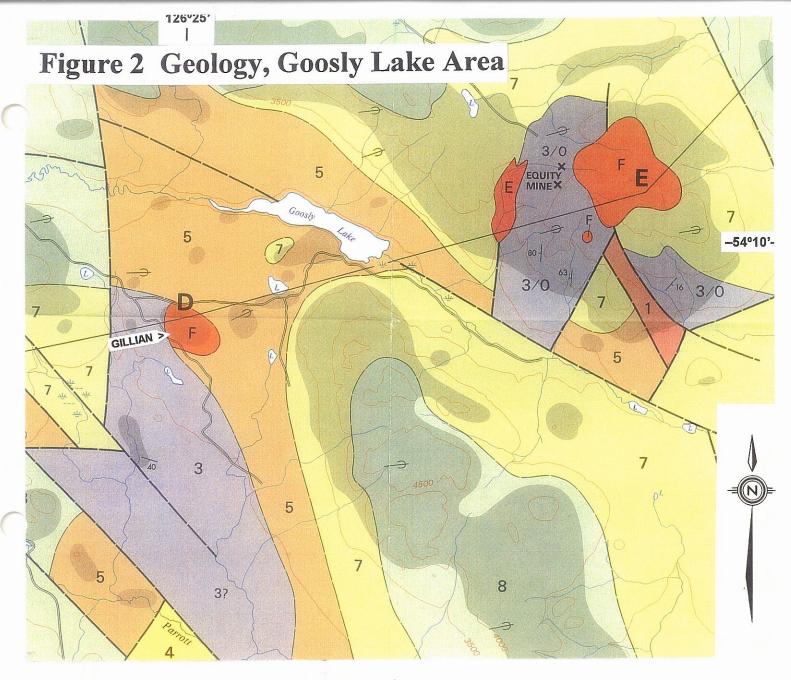
The property is 35 km southeast of the town of Houston and 3 km southwest of Goosly Lake at latitude 54°08' N and longitude 126°25' W (Fig. 1). Access to the claims is by the 'Buck Flats' gravel road that joins Highway 16 at point 2 km west of town or, more directly from Houston, via the improved all weather Equity mine road (Photo 1). A network of logging roads cross the property and connect with the Equity mine site to Goosly Lake and the upper section of Buck Creek.

## **Physiography and Climate**

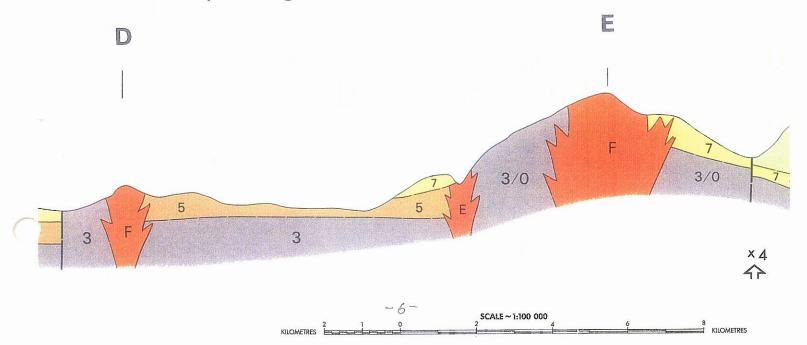
The property is situated on the Skeena-Fraser drainage divide in the central part of the Nechako Plateau. The region is characterized by low mountainous terrain and gently rolling hills that rise above flat areas of swampy ground with few streams. Local relief is less than 200 m. A hill on the northeast part of the property (elev. 1036 m) is the highest point - the lowest ground is a southerly trending glacial meltwater channel near the western extremity of the property.

Overburden is a combination of relatively thin glacial till and residual soil accumulations (~5 to 18 m thick) in the central area, ranging to thicker clay and outwash gravel deposits (~50 m thick) in the western and southern parts of the property. Glacial striations indicate mostly easterly ice movement.

Bedrock exposures are small, sparse and limited to hilltops and a few road cuts.



## **Cross Section (Looking Northwest)**



LEGEND

#### **BEDDED ROCKS** MIOCENE 11 POPLAR BUTTES FORMATION: COLUMNAR OLIVINE BASALT EOCENE **BUCK CREEK FORMATION** 10 PARROTT MOUNTAIN MEMBER: MAINLY ANDESITE BRECCIA 9 SWANS LAKE MEMBER: MAINLY BASALTIC LAVA 8 HOUSTON MEMBER: APHANITIC ANDESITE AND DACITE LAVAS AND VOLCANIC BRECCIA, MINOR BASALT 7 **GOOSLY LAKE FORMATION: MAINLY FELDSPATHIC ANDESITE** AND TRACHYANDESITE LAVAS: BRECCIAS, SILLS, AND STOCKS 6 BURNS LAKE FORMATION: CONGLOMERATE, SANDSTONE INCLUDING SHALE **UPPER CRETACEOUS** 5 TIP TOP HILL FORMATION: MAINLY BIOTITE-HORNBLENDE ANDESITE AND ANDESITIC DACITE LAVAS AND PYROCLASTIC 5 ROCKS 4 ACID VOLCANIC ROCKS, MAINLY RHYOLITE LAVA IN THE TCHESINKUT LAKE AND BULKLEY LAKE AREAS AND RELATED QUARTZ PORPHYRY INTRUSIONS ON OKUSYELDA HILL LOWER CRETACEOUS **SKEENA GROUP ?** 3/0 A MIXED ASSEMBLAGE OF CHERT PEBBLE AND POLYMICTIC CONGLOMERATE, SANDSTONE, AND FELSIC VOLCANIC FRAGMENTAL ROCKS; SHALE AND MASSIVE RHYOLITE LAVA FORM LOCAL DEPOSITS: INCLUDES CONGLOMERATE WITH SOME WEYLA-BEARING FRAGMENTS JURASSIC HAZELTON GROUP 2 UNDIVIDED FINE-GRAINED DACITIC ANDESITE, RHYOLITE, AND BASALTIC LAVAS AND VOLCANICLASTIC ROCKS AND DYKES 1 TELKWA FORMATION: INCLUDES MAROON TUFF AND TUFF BRECCIA 0 MAXAN LAKE FORMATION: WEYLA-BEARING BROWN SANDSTONES; MAY ALSO INCLUDE CHERT PEBBLE CONGLOMERATE AND ASSOCIATED BEDS ASSIGNED TO

#### **IGNEOUS INTRUSIONS**

**GOOSLY INTRUSIONS: SYENOMONZONITE-GABBROIC STOCKS:** INCLUDES THE PARROTT LAKE INTRUSION AND GOOSLY LAKE INTRUSION



NANIKA INTRUSIONS: EQUITY GRANITE STOCK AND QUARTZ FELDSPAR PORPHYRY AT DUNGATE CREEK

#### **BULKLEY INTRUSIONS**



MINE HILL MICRODIORITE SILLS AND DYKES



BIOTITE-PLAGIOCLASE PORPHYRY STOCK AT DUCK LAKE AND RELATED QUARTZ FELDSPAR PORPHYRY INTRUSIONS

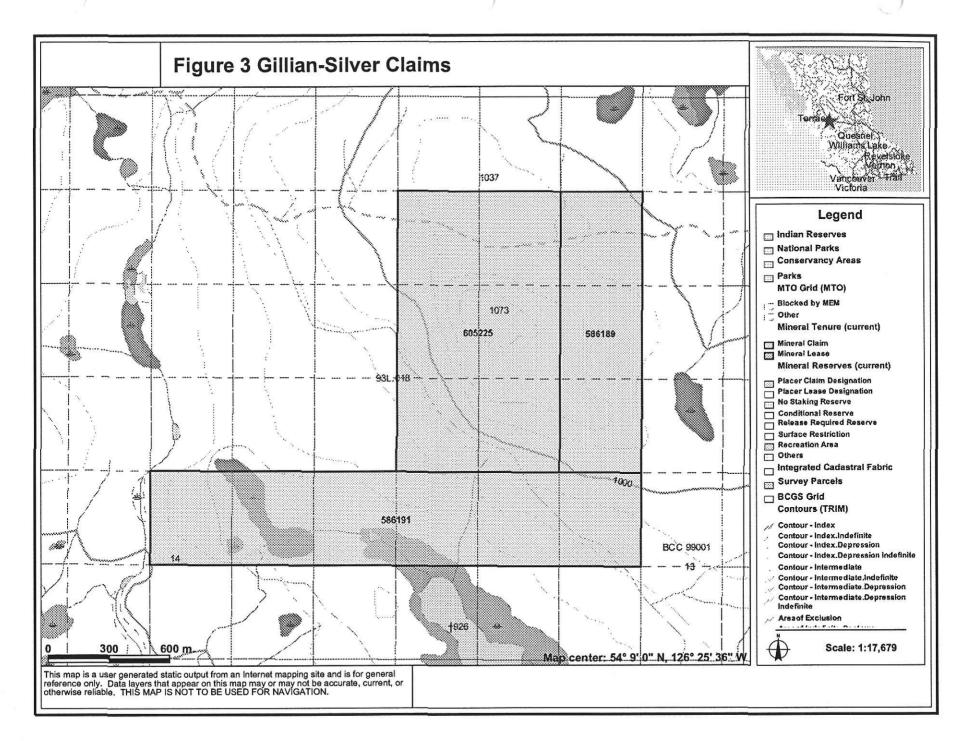
BASIC AND INTERMEDIATE STOCKS AT BOB CREEK AND TSICHGASS LAKE



**TOPLEY INTRUSIONS: INCLUDES THE GRANITIC STOCK NEAR BURNS LAKE** 

# GROUP FRANCOIS LAKE

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The area is forested with second growth spruce and lodge-pole pine that has supported historic and recent logging operations.

Climatic conditions are generally mild and dry in the summer; freezing conditions are typical from November to May. Various geophysical, geochemical and geological programs from 1970 to 1981 were carried out mostly from late May through October, although some drilling was done in January to take advantage of frozen ground to move heavy equipment.

## History

Kennco Explorations (Western) Ltd. conducted a major exploration program in the Houston B.C. area in the period from 1961 to 1967. Stream sediment geochemistry from this program led to the discovery of the 'SG' polymetallic deposit (now the Equity Mine site) 5 km northeast of Goosly Lake.

Further exploration revealed a geological setting similar to the SG southwest Goosly Lake. Lewes River Mines Ltd. staked the adjoining Gail and GMGW claims in 1969 and soon after optioned the property to Newmont Mining Corp. of Canada (Archer, 1971). From 1970 to 1971 geological mapping was done on the property followed by a geochemical soil survey (200 samples) and a geophysical program consisting of an induced polarization survey (18.2 line-km) and a magnetometer survey (23.3 linekm).

Gillian Mines Ltd. subsequently re-staked part of the same ground (Gillian East and Gillian West claims). In the summer of 1976, a program of geological mapping, geochemistry and geophysics was completed then followed by percussion drilling (Potter, 1976). The work began with 49.9 km of line cutting, then mapping at the scale of 1:5000, a schedule of collecting 830 soil samples, plus induced polarization and VLF EM surveys. The drilling comprised eight holes totaling 686 m on the Gillian West claim. In September 1979 the work continued with an electromagnetic survey (16.5 km). This was followed-up by two stages of diamond drilling on Gillian West – 3 NQ holes in 1979 and 33 more holes in 1980 (Leighton and Culbert, 1980). The final work on the property was in 1981. This comprised a diamond drill program of 11 holes, totaling 2,339 m, and a detailed magnetometer survey over the central part of the property (14.5 line-km).

## **Geological Setting**

West-central British Columbia is part of the accreted Stikine terrane - a sequence that includes submarine immature volcanic island-arc rocks of the Late Triassic Takla Group and submarine to subaerial red-bed volcanic, volcaniclastic and sedimentary rocks of the Early to Middle Jurassic Hazelton Group. These rocks are overlain by several post accretionary marine volcanic and sedimentary sequences of the Early Cretaceous Skeena Group, the younger continental fragmental Tip Top Hill volcanic rocks and the Late Cretaceous to Tertiary calcalkaline to alkaline lava flows of the Francois Lake and Endako groups that occur in downfaulted blocks scattered throughout the terrane. Plutonic rocks of Jurassic, Cretaceous and Tertiary ages form distinctive intrusive belts with which copper-molybdenum porphyry deposits and various base metal and precious metal veins are associated.

The Goosly Lake area is underlain by a diverse assemblage of volcanic and sedimentary rocks of Jurassic to Eocene age. These beds are intruded by numerous dykes and several small and medium-size plutons. The principal stratigraphic divisions comprise a basement sequence of steeply dipping volcanic and clastic sedimentary rocks assigned to the Skeena Group, some maroon tuff breccia believed to be Hazelton Group, and relatively flat lying volcanic cover rocks of the Francois Lake Group (Fig. 2).

At the Equity Mine erosion has sliced through the cover rocks exposing copper-silver mineralization in a wedge of westerly dipping Skeena Group volcanic and sedimentary beds between two intrusive stocks. West of the mine there is a granitic stock dated  $58\pm2$  Ma that exhibits weak Cu, Mo porphyry-style mineralization within an envelope of disseminated pyrite, some quartz veining and phyllitic alteration of the same age. Immediately east of the mine, there is a much larger syenomozonite-gabbro stock ( $52\pm1$  Ma) that is a principal feeder intrusion to the Goosly Lake volcanic complex (Dostal et al., 2001). The main metallic minerals at the Equity mine are pyrite, chalcopyrite, tetrahedrite, pyrrhotite, arsenopyrite, sphalerite, magnetite and specularite occurring as fine-grained disseminations and, less commonly, coarse massive sulphide pods. The ore bodies are accompanied by aluminous alteration characterized by kaolinite, andalusite, corundum, scorzalite and pyrophyllite. Whole rock K/Ar dating of this alteration gives 48.3 to 51.7 Ma.

Combined open pit and underground workings at the Equity mine, principally from the Main Zone and Southern Tail (1980-1994), have produced 33.8 Mt of ore grading 64.9 g/t Ag, 0.4% Cu and 0.46 g/t Au. The mining was focused mainly on felsic volcanic and volcaniclastic members of the Skeena Group. These beds are believed to be equivalent units of the Skeena Group exposed several kilometers to the southwest on the Gillian Silver property.

Ney, Anderson and Panteleyev (1972) outlined the prevailing theories on the origin of the Equity deposit. These are epigenetic, related separately to the granitic and the syenomonzonite-gabbro intrusions, and syngenetic hypotheses that, to the present, retain divided allegiance among economic geologists. Ney clearly favoured a syngenetic (VMS) model saying "... the main concentration of metals was affected by volcanic processes directly related to the formation of the host rocks...". However, Panteleyev (1995) has subsequently adopted a 'subvolcanic' epigenetic (porphyry Cu-Mo related) model ('L01') that relates the Equity deposit to emplacement of the granitic stock west of the mine. This concurs with Cyr et al. (1984), although there is little evidence of silica flooding of the country rocks that so often accompanies granitic Cu porphyry style mineralization. The main evidence for this theory is a K-Ar date which suggests that part of the Southern Tail zone is within the thermal aureole of the granitic stock Wetherell et al. (1979). An epigenetic model is supported by replacement textures, sulphide crosscutting relationships, vein fissure-filling paragenesis and the presence of mineralized dykes within the ore zones, however, the 'subvolcanic' classification of the Equity deposit proposed by Panteleyev (1995), as it relates to the granitic intrusion, seems unlikely without identification of corresponding associated effusive.

A study by Leitch, Sinclair and Godwin (1990) of 'galena lead isotope data' from deposits in the Buck Creek area (i.e. the Equity Silver and Silver Queen mines) shows a clustering of results and a 'Jurassic source' for the mineralizing solutions. Alldrick, MacIntyre and Villeneuve (2007) agree with Leitch et al. (1990) regarding clustering of the isotope data, but conclude that 'the main source of lead is Cretaceous' and, in particular, from the Skeena Group. Also, according to these authors, there is a small amount of 'Tertiary lead' and this is thought to have been recycled from previously mineralized Skeena Group rocks - this primary lead being remobilized by a later magmatic, hydrothermal and structural event to add 'new lead' to the original lead, residing in primary Cretaceous galena. It is explained further 'the later event was most likely the emplacement of the large multiphase gabbro-monzonite stock that intrudes and displaces the Main zone orebody along its northeastern margin. Remobilizated sulphide minerals were displaced into north-northeast-trending fractures and/or faults that accompanied the later hypabyssal monzonite stage of emplacement of the multistage (the Goosly stock) intrusion.'

Nevertheless, it may be difficult to support the idea of mixing of 'old' and 'new' lead while 'clustering of Pb isotope data' is observed – mixing would produce a linear trend in the Pb isotope results. In any case, debating the source of lead may be a redundant exercise since the Equity mine has no record of significant lead production.

Alternatively, from a purely geographical point of view, the syenomonzonite – gabbro Goosly stock, situated as it is adjacent to the Main Zone, seems to be a more likely source rock (Church, 1969). This stock is a relatively large multistage intrusion consisting of several differentiated phases with accessory pyrite and aqueous minerals such as biotite that could be a significant source of hydrothermal mineralization. Indeed, the stock shows a positive chemical link to the ore in the form of As plus several other elements that comprise lithogeochemical halos enclosing the stock and the mineralized zones (Kowalchuck et al., 1984).

## **Current Project**

The Gillian Silver property is strategically centred on a prominent 30-kmlineament trending east-northeast from the Silver Queen mine at Owen Lake to the central uplift hosting the Equity mine at the center of the Buck Creek basin. The lineament appears to be a radial fissure in a volcano-tectonic sink that coincides with a series of syenomonzonite stocks and dykes that comprises the main eruptive axis of the Eocene Goosly Lake volcanic rocks.

This report presents the results of a geological, geophysical and geochemical reconnaissance survey of the Gillian Silver property lasting several days, based in Houston, beginning August 11<sup>th</sup>, 2008. The immediate target for exploration was a gossaniferous exposure in a logged-over area on the west side of the property (Photo 3) and a geochemical anomaly near an intrusive contact in the northeast area (Barakso and Church, 1973).

The overall attraction for renewing exploration on the Gillian Silver property is the geological similarity with the Equity mine. For example on each property a major multiphase Goosly-type gabbro syenomonzonite stock intrudes Skeena Group volcanic and sedimentary rocks (Figs. 2 and 4). Also, at each locality, previous exploration indicates an increase in hydrothermal alteration and mineralization in the country rocks towards the intrusive contacts (Bartlett and Dick, 1982). Indeed, lithogeochemical studies (Church and Barakso, 1990) show anomalous metal concentration in argillaceous beds approaching the western contact of the Gillian gabbro (i.e. sample G-295, Cu 242 ppm, Zn 320 ppm, Ni 248 ppm).

That the Gillian gabbro could be a source of mineralizing solutions is supported by analyses of the gabbro (Church and Barakso, 1990) which show relatively high copper background levels i.e. samples G-280, 25 ppm; G-281, 37 ppm; G-282, 25 ppm; G-283, 27ppm, and samples N-3a, 46.8 ppm, N-3b, 50.7 ppm (this study, Appendix 'B').

**The Survey**: Details of a self potential (SP) survey and sampling program on the Gillian Silver property are shown on Figure 4 and Tables 1a and 1b and Appendix 'B'. The survey was conducted along convenient logging roads and consisted of three legs. The first leg was planned to test a gossan zone exposed on a logging road near western boundary of the Silver South claim. The second and third legs were run consecutively proceeding north and northwest from the eastern part of the Silver South claim to test the area underlain by volcanic and sedimentary rocks of the Skeena Group and the contact of the Goosly-type gabbroic intrusion (Figure 4). Samples were taken for assay from the gossan, argillaceous rocks of the Skeena Group and the gabbroic intrusion.

**The Self Potential (SP) Method**: Of all the geophysical techniques applied for the exploration of sulphide deposits, the SP method is most useful. This is because of low cost of the basic equipment, simplicity and speed of the method, and definitive results (Burr, 1982). Another advantage of the SP method - it does not respond to secondary electrical fields (caused by subsurface valleys, wet clay, shears or faults) which can be a significant drawback for interpreting the results using the other conventional electrical methods such as resistivity, EM and IP.

The SP method was developed as a successful exploration tool more than a century ago and has been used extensively and routinely since the 1930's and 40's by geophysicists. The original delineation of Flin Flon orebody in Manitoba is a good example of the success of the SP method; other

significant success stories include orebody discoveries in the Noranda area, Quebec, and at the Buchan's Mine, Newfoundland.

Explanations of the SP phenomenon propose a battery model and natural telluric fields as the sources of DC electrical ground currents and spontaneous potential (voltage). A battery generates an electrochemical current because one or more metallic sources are in contact with acid or alkaline solutions. In the ground, the common sulphides such as pyrrhotite, pyrite and chalcopyrite, provide the metallic element and the process of oxidation and weathering provides electrolytes for a natural battery. According to theory, these solutions, in contact with a metallic conductor (a sulphide body), generate a current that flows along the sulphide ore body to depth, then into the wall rock where it returns to the surface and completes the circuit by flowing back into the sulphide body. Almost all metallic sulphides are conductors of electricity and can serve as the metallic element of a natural battery (the notable exception is sphalerite).

Besides sulphides, there are other minerals that conduct natural electrical currents. Principal among these is graphite and the manganese oxides psilomelane and pyrolusite. Graphite conducts electricity very well, however, graphite does not oxidize or weather like the sulphides and therefore the 'battery model' does not apply in this case. Therefore, it is believed that for graphite bodies the natural telluric fields are the chief source of electrical currents and spontaneous potential.

For sulphide bodies, the spontaneous potential, as measured across the surrounding country rocks, may range from -0.1 to -0.7 volts, and sometimes more. Graphite bodies generally show negative readings towards the upper end of this scale, whereas, manganese bodies may give positive voltage.

The apparatus employed to measure weak currents is a millivoltmeter, with a 5 megaohm input impedance, connected to a pair of non-polarizing electrodes in the form of porous unglazed flat-bottom earthenware pots designed to make good contact with the soil. (Without significant resistance built-in to the wiring there would be an instantaneous current surge, after which the voltage would drop to zero.) Each pot is filled with a supersaturated solution of copper sulphate into which copper rods project downward from a non-conducting plastic or wooden cap.

The SP survey was conducted following previously mapped logging roads and trails (Photos 2a and 2b). From a fixed base-station pot, the connecting



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Photos 2a,b Self Potential Operation (a) reel, (b) voltmeter and electrodes copper wire (~1000 m) was played out from a reel and successive reading are taken on the voltmeter each time that the forward pot is moved ahead and placed at a new carefully spaced station (usually at 10 or 20 m intervals). This procedure was preceded at each station by removing loose stones, roots and top soil with heel of the boot and 'screwing' the forward pot firmly down into the resulting divot. At extremely dry locations, the site was pre-wetted to ensure reliable pot-to-ground contact.

The Results of the survey are mixed. Although no ore was found, the SP survey is supportive of the geological observations. For example, Leg 1 of the survey, in the western part of the property, shows slightly anomalous negative readings of -14.0, -12.7 and -13.3 millivolts at 60m, 90m and 100m north of the base station SPX (Table 1a, Fig. 4). This corresponds to the location of gossaniferous 'float' exposed on the logging road near the claim boundary (Photo 3). Detailed examination of the gossan indicates a complex mineralogy consisting mostly iron carbonates laced through with guartz in veinlets and cavity fillings. Assay results on gossan samples NC-1A, 1B, 1C, 1D and 1E shows Ca 19.94 %, 18.80 %, 7.27 %, 16.35 %, 16.50 % and Fe 2.35 %, 4.00 %, 3.94 %, 3.52 %, 2.82 % respectively. Sample NC-1C showed the highest values for Cu (99.7 ppm) and S (0.4 %) Appendix 'B'. Legs 2 and 3 of the SP survey provide a section through the Skeena Group volcanic and sedimentary rocks to the gabbroic stock. A significant negative SP anomaly -47.0 millivolts occurs at the western contact of the stock 1250 m north of base station SPY (Table 1b, Fig. 4). This anomaly is broad and begins with the reading -29.5 millivolts at 1150 m in argillite and continues through to -32.5 millivolts at 1275 m in the gabbro. Within this interval the highest assay values are Cu 68.2 ppm at NC-2A, Pb 4.3 ppm at NC-2B, Zn 91 ppm at NC-2B, Ag 0.2 ppm at NC-2B and NC-2C in the argillite and As 109 ppm at NC-3A and As 111 ppm at NC-3B in the gabbro (Appendix 'B').

Full silicate analysis of gabbro sample 280 shows significant water and high total alkalies:  $SiO_2 49.54\%$ ,  $TiO_2 2.77\%$ ,  $Al_2O_3 15.34\%$ ,  $Fe_2O_3 6.03\%$ , FeO 4.44%, MnO 0.14%, MgO 4.24%, CaO 6.28%, Na<sub>2</sub>O 5.20%, K<sub>2</sub>O 1.96%, + H<sub>2</sub>O 2.80, -H<sub>2</sub>O 0.58%, CO<sub>2</sub> 0.10%, S 0.06%, P<sub>2</sub>O<sub>5</sub> 0.27%. The lead content, determined from gabbro samples NC-3A and NC-3B, is 4.0 and 4.1 ppm, respectively (Appendix 'B'). A thin section of the gabbro shows plagioclase 60%, pyroxene + chlorite 20%, accessory K-spar, biotite, magnetite, sulphides and no quartz.



## Photo 3 Mineralized Float

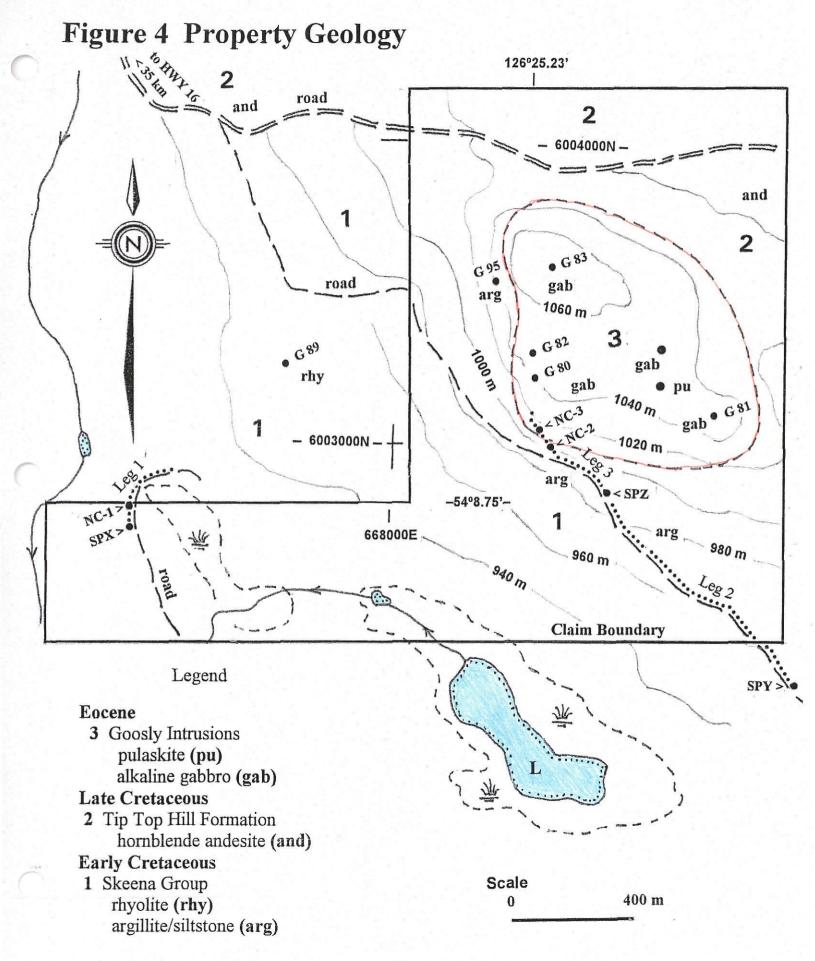
## Table 1aSP Results (Leg 1 SW Zone)

	Distance	Readings			U	тм
Station	Metres	Millivolts	Sample	Notes	Easting	Northing
			-		-	-
	295	-1.9		slash area	667269	6002896
	280	0.1		slash area		
	270	0.3		slash area		
	260	-0.8		slash area		
	250	-1.3		slash area		
	240	1.5		slash area	667219	6002891
	230	-0.5		slash area		
	220	-0.8		slash area		
	210	-2.6		slash area		
	200	-8.1		slash area		
	190	-3.1		slash area		
	180	-4.9		slash area		
	170	-8.2				
	160	-1.9				
	150	-5.2		·	667157	6002829
	140	-3.7				
	130	0		creek		
	120	-8.4				
	110	-8.8				
	100	-13.3		vein		
	90	-12.7		vein		
	80	-2.3				
	70	-4.4	NC-1	gossaniferous float	667140	6002759
	60	-14.1		vein		
	50	-6.1				
	40	-1.6				
	30	-2.4				
	20	-4.8				
	10	-4.5		Leg 1		
SPX	0	0		base station		

## Table 1b SP Results (Legs 2 & 3 NE Zone)

	Distance	Readings			U	ГМ
Stations	Metres	Millivolts	Samples	Notes	Easting	Northing
	1350	-16.5		crest of hill	668461	6003126
	1325	-19:3	NC-3B	gabbro		
	1300	-27.7	NC-3A	gabbro		
	1275	-32.5		gabbro		
	1250	-47.1	NC-2C	argillite		
	1200	-28.3	NC-2B	argillite		
	1175	-30.3	NC-2A	argillite		
	1150	-29.5		argillite		
	1124			start side road	668566	6002941
	1100	-21.9		· · · · · · · · · · · · · · · · · · ·		
	1050	-17.1				
	1000	-17.8				
	950	-16.7		Leg 3		
SPZ	900	0		base station		
	850	-7.5				
	800	-9.3				
	750	-11.6				
	700	-8.5				
	650	-7.4				
	600	-8.5				
	550	-6.5				
	500	-9.7				
	450	-8.9				
	400	-12.1				
	350	-6.5				
	300	-10.1				
	200	-5.5				
	100	-18.4				
	40	-8.1		Leg 2		
SPY	0	0		base station	669354	6002208

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Silicate analysis of typical banded argillite from the Skeena Group, drill core sample GIL43-431, gives SiO<sub>2</sub> 69.58%, TiO<sub>2</sub> 0.27%, Al<sub>2</sub>O<sub>3</sub> 15.85%, Fe<sub>2</sub>O<sub>3</sub> 0.07%, FeO 1.78%, MnO 1.06%, MgO 1.06%, CaO 0.65%, Na<sub>2</sub>O 2.19%, K<sub>2</sub>O 0.57%, +H<sub>2</sub>O 3.5%, -H<sub>2</sub>O 0.45%, CO<sub>2</sub> 2.88%, S 0.01%, P<sub>2</sub>O<sub>5</sub> 0.11%. The normative mineral calculation from this shows 52% quartz.

## **Conclusions and Recommendations**

The attraction of the Gillian Silver property is the geological setting that is strikingly similar to the nearby Equity Silver mine.

The property presents three targets for exploration within the Skeena Group. These are (1) quartz carbonate veins, (2) disseminations and replacements related to contact metamorphism and (3) VMS-style mineralization associated with a rhyolite complex in the central part of the property. (The latter target was discounted early in this study because of previous disappointing drilling results based on a volcanogenic model proposed by Culbert, 1976 - Assessment Report No. 6148).

The SP method is a cheap and reliable exploration tool. In spite of extensive glacial cover, the method has proven successful in detecting a weakly mineralized vein system in the western part of the property and was helpful in mapping an alteration zone in the northeast area at the contact of a gabbroic intrusion.

It is recommended that further work be carried out:

- (A) the SP reconnaissance survey should be completed along the existing road system;
- (B) to be followed by combined detailed SP and magnetometer surveys conducted on a grid across and around the Goosly-type stock in the northeast part of the property to trace the full extent of the alteration zone already detected at the western contact of this intrusion;
- (C) plus a geochemical soil survey pending results of the geophysical program.

## References

Archer, A.R. (1971): Geochemical Survey and Geology of the Gail and GMWG 1-100 Claims; B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report No. 2863, 11 pages.

Alldrick, D.J., MacIntyre, D.G. and Villeneuve, M.E. (2007): Geology, Mineral Deposits and Exploration Potential of the Skeena Group (NTS 093E, L, M; 1031), Central British Columbia; B.C. Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork 2006, Paper 2007-1, pages 1-17.

Barakso, J. and Church, B.N. (1973): Rock Geochemistry in the Owen Lake, Goosly Lake Area; B.C. Department of Mines and Petroleum Resources, Preliminary Maps Nos. 13a to 13i.

Bartlett, S.C. and Dick, D.L. (1982): Interim Report on the Gillian Mines Ltd. Property, Parrott-Goosly Lakes Area, B.C., Bema Industries Ltd., 24 pages.

Burr, S.V. (1982): A Guide to Prospecting by the Self-Potential Method; Ontario Geological Survey, Miscellaneous Paper 99, 15 pages.

Church, B.N. (1969): SG (Sam Goosly); *in* Geology, Exploration and Mining in British Columbia, B.C. Ministry of Energy, Mines and Petroleum Resources, pages 142-148.

Church, B.N., Barakso, J.J. and Bowman, A.F. (1976): The Endogenous Distribution of Minor Elements in the Goosly – Owen Lake Area of Central British Columbia; CIM Bulletin, Vol. 69, pages 88-95.

Church, B.N. and Barakso, J.J. (1990): Geology, Lithogeochemistry and Mineralization in the Buck Creek Area, British Columbia; B.C. Ministry of Energy, Mines and Petroleum Resources, Paper 1990-2, 95 pages.

Cyr, J.B. Pease, R.B. and Schroeter, T.G. (1984): Geology and Mineralization at Equity Silver Mine; Economic Geology, Volume 79, pages 947-968. Dostal, J., Church, B.N., Reynolds, P.H. and Hopkins, L. (2001): Eocene Volcanism in the Buck Creek Basin, Central British Columbia (Canada): transition from arc to extensional volcanism; Journal of Volcanology and Geothermal Research, Vol. 107, pages 149-170.

Kowalchuck, J.M., Church, B.N., Bradshaw, P.M.D. and Barakso, J. (1984): Lithogeochemistry at the Equity Silver Mine; Western Miner, Vol. 57, No. 4, pages 50-54,

Leitch, Craig H.B., Sinclair, A.J. and Godwin, C.I. (1990): Metallogenic Implications of Galena Isotope Data, Equity Silver and Silver Queen Deposits, Central British Columbia; Dept. of Geological Sciences, The University of British Columbia, unpublished report, 21 pages.

Leighton, D.G. and Culbert, R.R. (1980): Memorandum Report on the Gillian Property, Houston, B.C., private report for Gillian Mines Ltd., 13 pages.

MacIntyre, D.G., McMillan, R.H. and Villeneuve, M.E. (2003): The Mid-Cretaceous Rocky Ridge Formation – Important Host Rocks for VMS and Related Deposits in Central British Columbia; B.C. Ministry of Energy and Mines, Paper 2004-1, pages 231-247.

Ney, C.S., Anderson, J.M. and Panteleyev, A. (1972): Discovery, Geological Setting and Style of Mineralization, Sam Goosly Deposit, Canadian Institute of Mining and Metallurgy, Bulletin Vol. 65, No. 723, pages 53-64.

Panteleyev, A. (1995): Subvolcanic Cu-Au-Ag-As-Sb; BC Ministry of Energy, Mines and Petroleum Resources, Mineral Deposit Profiles, Number L01, 4 pages.

Potter, R.G. (1976): Geological, Geochemical and Geophysical Report on the Gillian Mineral Claims, Omineca Mining Division; B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report No. 6151, 26 pages.

Wetherell, D.G., Sinclair, A.J. and Schroeter, T.G. (1979): Preliminary Report on the Sam Goosly Copper-Silver Deposit (93L/1E): *in* Geological Fieldwork 1978; B.C. Ministry of Energy, Mines and Petroleum Resources, Paper 1979-1, pages 132-137.

## Appendix 'A' Statement of Costs

Labour: B.N. Church, P.Er D.R. Haughton, P	- , - ,	7 days @ \$500/da 7 days @ \$500/d	•
Accommodation:			\$ 509
Meals:			\$ 325
Vehicle costs:	@ 45¢ / km x 2456 l fuel	cm	\$1,105 \$572
Ferry costs:			\$ 123
Coquihalla toll:			\$ 10
Air photos:	@\$9.00 x 13 + tax		\$ 131
TRIM topographic maps	10 (Naniamo Maps and	l Charts)	\$ 103
Coloured regional maps: (	Canada Map Store)		\$67
Chemical Analyses: (Ac	eme)		\$ 237
Report preparation:			<u>\$2,500</u>
		Total	\$ 12,682

-



Acme Analytical Laboratories (Vancouver) Ltd. 1020 Cordova St. East Vancouver, BC Canada V6A 4A3 Phone 604 253 3158 Fax 604 253 1716 GST#843013921 RT

Bill To: B.N. Church Geological Services 600 Parkridge St. Victoria, BC V8Z 6N7 Canada

Invoice Date: Invoice Number: VANI013141 Submitted by: B. Neil Church Job Number: Order Number: Project Code: Shipment ID: Quote Number:

September 23, 2008 VAN08009219 Houston Silver

ltem	Package	Description	Sample No.	Unit Price	Amount
1	G1EX	0.25g 4 Acid Digestion ICP-MS	10	\$17.00	\$170.00
2	STOR-PLP	3 months of pulp storage	10	\$0.48	\$4.80
3	DIS-PLP	Warehouse disposition of pulps	10		
4	BATCH	Batch Surcharge for <20 samples	1	\$50.00	\$50.00
i i					
	1	<u>_</u>	Net Total	<u> </u>	\$225.80
			Canadian GST		\$11.29
			Grand Total	CAD	\$237.09

Invoice Stated In Canadian Dollars

#### Payment Terms:

This is a professional service, Payment due upon receipt. Please pay the last amount shown on the invoice.

For cheque payments, please remit payment to the above address, made payable to: Acme Analytical Laboratories (Vancouver) Ltd. Please specify Acme invoice number on cheque remittance.

For electronic payments, please wire funds to one of the following accounts:

For payment in Canadian Funds: Acme Analytical Laboratories (Vancouver) Ltd. The Royal Bank of Canada 400 Main Street Vancouver, BC Canada V6A 2T5 Account # 1034123 Bank Transit # 07120-003 Swift Code: ROYCCAT2

For payment in US Funds: Acme Analytical Laboratories (Vancouver) Ltd. The Royal Bank of Canada 400 Main Street Vancouver, BC Canada V6A 275 Account # 4001533 Bank Transit # 07120-003 Swift Code: ROYCCAT2

Please specify Acme invoice number for reference on transfer forms when making payment.



CanadaMapStore.com 152 Dallas Road Victoria, B.C., V8V 1A3 Canada Phone: 1.250.384.3537 / Fax: 1.250.384.2679 GST#13210 2236

 Date:
 Wednesday, June 25, 2008 1:01 PM

 Order:
 10647 (Paid)

#### **NEIL CHURCH**

#### **Billing Address**

.. VICTORIA, BC .. CA 250-727-3279 **Shipping Address** 

.. VICTORIA, BC .. CA 250-727-3279

Product	Quantity	Price	Subtotal
093L017 TOPO	1	\$20.00	\$20.00
	Item	Total:	\$20.00
	Shipping	Total:	\$0.00
		GST:	\$1.00
		PST:	\$1.40
	Order	Total:	\$22.40



CanadaMapStore.com 152 Dallas Road Victoria, B.C., V8V 1A3 Canada Phone: 1.250.384.3537 / Fax: 1.250.384.2679 GST#13210 2236

Date: Tuesday, July 08, 2008 3:31 PM Invoice: 10660

#### **NEIL CHURCH**

#### **Billing Address**

VICTORIA, BC .. CA 250-727-3279

**Shipping Address** 

.. VICTORIA, BC .. CA 250-727-3279

Product	Quantity Price	Subtotal
093L008 TOPO	1 \$20.00	\$20.00
093L018 TOPO	1 \$20.00	\$20.00
an an an tha an	Item Total:	\$40.00
	Shipping Total:	\$0.00
	GST:	\$2.00
	PST:	\$2.80
	Order Total:	\$44.80

## Appendix 'B' Analytical Results

-28-

## **Acme**Labs ACME ANALYTICAL LABORATORIES LTD. 1020 Cordova St. East Vancouver BC V6A 4A3 Canada

Phone (604) 253-3158 Fax (604) 253-1716

**Client:** 

#### **B.N. Church Geological Services** 600 Parkridge St.

V/A(N(0)8(0)0)9/21(9)

Victoria BC V8Z 6N7 Canada

Submitted By: Receiving Lab: Received: Report Date: Page:

B. Neil Church Canada-Vancouver September 10, 2008 September 22, 2008 1 of 2

## CERTIFICATE OF ANALYSIS

Houston Silver

#### CLIENT JOB INFORMATION

#### SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Number of Samples	Code Description	Test Wgt (g)	Report Status	
10	Sorting of samples on arrival and labeling			
10	4 Acid digestion ICP-MS analysis	0.25	Completed	
	Samples	Samples       10     Sorting of samples on arrival and labeling	Samples     Wgt (g)       10     Sorting of samples on arrival and labeling	Samples     Wgt (g)     Status       10     Sorting of samples on arrival and labeling

#### SAMPLE DISPOSAL

Number of Samples:

Store After 90 days Invoice for Storage

10

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

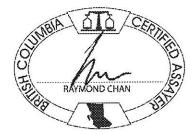
Invoice To:

Project: Shipment ID: P.O. Number

STOR-PLP

B.N. Church Geological Services 600 Parkridge St. Victoria BC V8Z 6N7 Canada

CC:



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only.

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ADDITIONAL COMMENTS



1.9

50.7

4.1

Client:

#### B.N. Church Geological Services 600 Parkridge St.

V/A/NI0810109241994

1EX

ppm

0.1

< 0.1

<0.1

< 0.1

<0.1

<0.1

<0.1

<0.1

< 0.1

< 0.1

<0.1

BL

1EX

ppm

٧

1

31

108

163

146

119

350

27

30

170

180

1EX

Ca

%

0.01

19.94

18.80

7.27

16.35

16.50

4.12

3.51

0.85

0.21

0.20

1EX

P

¥,

0.001

0.055

0.086

0.090

0.090

0.242

0,139

0.163

0.039

0.036

< 0.001

Victoria BC V8Z 6N7 Canada

Part 1

1EX

Sb

ppm

0.1

2.4

2.2

85.4

2.3

0.7

0.1

< 0.1

< 0.1

0.3

0.4

1EX

Cd

ppm

0.1

0.8

0.3

0.2

1.7

0.2

0.3

0.6

0.5

0.1

0.2

Project: Report Date:

Page

1EX

ppm

0.1

0.3

0.2

1.6

0.7

0.3

0.7

1.2

1.1

1.1

1,5

U

1EX

Ац

ppm

0.1

<0.1

< 0.1

<0.1

<0.1

< 0.1

<0.1

< 0.1

< 0.1

< 0.1

<0.1

1EX

Fe

%

0.01

2.35

4.00

3.94

3.52

2.82

7.09

4.27

4.45

3.62

2.70

1EX

ppm

As

1

10

9

69

12

11

86

26

22

109

111

Houston Silver ate: September 22,

1EX

Th

ppm

0.1

0.5

0.8

1.1

0.9

0.8

0.9

2.5

2.4

3.4

3.3

September 22, 2008

2 of 2

1EX

ppm

175

110

351

467

400

371

273

334

90

91

\$r

1

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1EX

NĚ

ppm

0.1

28.7

36.9

76.7

44.7

32.4

32.1

1.1

0.5

92.2

82.7

1EX

Co

ppm

13.8

23.1

31.9

19.8

15.0

64.3

16.0

14.4

22.2

20.5

0.2

1EX

Mn

ppm

2140

1672

1736

1915

2147

1272

838

265

257

1167

1

1EX

Zn

ppm

1

89

60

79

42

73

81

91

78

87

82

1EX

Ag

ppm

0.1

< 0.1

< 0.1

< 0.1

< 0.1

< 0.1

< 0.1

0.2

0.2

< 0.1

<0.1

Method 1EX 1EX 1EX Analyte Mo Cu РЬ Unit ppm ppm ppm MOL 0,1 0.1 0,1 NC-1A Silt Pulp 1.1 54.8 7.4 NC-1B 2.8 Silt Pulp 1.5 33.6 NC-1C Silt Pulp 0.9 99.7 9.1 NC-1D 3.4 Silt Pulp 1.0 47.4 NC-1E Silt Pulp 1.0 9.5 4.8 NC-2A Silt Pulp 2.8 68.2 2.2 NC-2B Silt Pulp 2.0 14.3 4.3 NC-2C Silt Pulp 2.0 12.2 4.0 NC-3A Silt Pulp 2.1 46.8 4.0

Silt Pulp

CERTIFICATE OF ANALYSIS

NC-3B

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Client:

## B.N. Church Geological Services

600 Parkridge St. Victoria BC V8Z 6N7 Canada

Project: Report Date: Houston Silver September 22, 2008

Page:

2 of 2 Part 2

		PAN NY	SIS									-				N/A	IN(0):		2413)		
*****	Method	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX
	Analyte	La	Cr	Mg	Ba	Tì	A	Na	к	W	Żr	Çe	Sn	Y	Nb	Ta	Be	Sc	LI	S	Rb
	Unit	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	n ppm	ppm	ppm	ррт	ppm	ppm	ppm	ppm	%	рріт
	MOL	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1	0.1
NC-1A	Silt Pulp	2.8	1	5.90	38	0.002	1.28	0.019	0.23	0.2	4,4	4	0.2	4.8	0.3	<0.1	<1	3	12.1	<0.1	11.7
NC-1B	Silt Pulp	5.6	119	0.87	85	0.182	3.64	0.983	0.64	0,5	15.0	10	0.4	10.3	1.1	<0.1	<1	14	16.4	<0.1	28.2
NC-1C	Silt Pulp	11.4	250	0.70	405	0.389	7.17	0.032	0.41	0.3	23.9	15	0.4	13.9	1.5	<0.1	<1	20	105.9	0.4	14.7
NC-1D	Silt Pulp	7.6	162	1.81	140	0.263	4.68	0.803	0.68	0.7	20,4	14	0.2	13.8	1.4	<0.1	<1	18	69.8	<0.1	22.8
NC-1E	Silt Pulp	7.0	148	0.60	90	0.247	4.29	1.308	0.33	0,4	20.7	14	0.2	14.4	1.2	<0.1	<1	15	44.5	<0.1	11.9
NC-2A	Silt Pulp	18.5	2	2.35	341	1.453	7.12	3.039	0.92	0.2	149.6	44	1.3	28.8	14.6	0.8	1	26	18.8	0.2	12.1
NC-2B	Silt Pulp	30.4	1	0.70	294	0.713	7.67	4.233	1.93	0,3	298.0	63	2.8	35.7	31.9	1.7	3	6	7.6	<0.1	21.4
NC-2C	Silt Pulp	31.2	2	0.57	447	0.736	7.92	4.395	2.33	0.3	329.4	70	3.2	37.2	33.7	1.9	3	6	9.7	<0.1	26.8
NC-3A	Silt Pulp	15.4	100	0.19	344	0.534	9.07	1.008	1.87	0.5	53.3	33	1.2	14.5	6.3	0.4	2	14	34.2	<0.1	51.2
NC-3B	Silt Pulp	16.6	102	0.19	350	0.563	9.11	1.089	1.94	0.6	57.1	34	1.5	13.6	7,5	0.5	1	13	31.0	<0.1	56.1

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	600 Parkridge St.
	Victoria BC V8Z 6N7 Canada
Project:	Houston Silver

1020 Cordova St. East Vancouver BC V6A 4A3 Canada Phone (604) 253-3158 Fax (604) 253-1716

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Houston Silver September 22, 2008

Page:

Report Date:

**Client:** 

2 of 2 Part 3

**B.N. Church Geological Services** 

VAN080092191

## CERTIFICATE OF ANALYSIS

	Method	1EX
	Analyte	H
	Unit	ppm
	MDL.	0.1
NC-1A	Silt Pulp	0.1
NC-1B	Silt Pulp	0.5
NC-1C	Silt Pulp	0.9
NC-1D	Silt Pulp	0.7
NC-1E	Silt Pulp	0.6
NC-2A	Silt Pulp	3.7
NC-2B	Silt Pulp	6.8
NC-2C	Sitt Pulp	7.2
NC-3A	Silt Pulp	1.4
NC-3B	Silt Pulp	1.4

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.

## Appendix 'C' Statement of Qualifications

I, Barry Neil Church, do hereby certify that:

- 1. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia (membership number #8172) with offices at 600 Parkridge St., Victoria, B.C.
- 2. I am a graduate of the University of British Columbia (1967) with a Ph.D. degree in geology. I have practiced my profession continuously since graduation.
- 3. I am familiar with the district. This report is based on my personal examination of the property in 2008. I am the author of this report and verify the costs as reported to be true.
- 4. D.R. Haughton (Brentwood Bay, B.C.) and myself are the owners of the property.

Submitted by:

Aul Church

B. Neil Church, P.Eng. June 10<sup>th</sup>, 2009

#### Neil Church

From:	<mt.online@gov.bc.ca></mt.online@gov.bc.ca>
To:	<drhaughton@shaw.ca>; <bnchurch@shaw.ca></bnchurch@shaw.ca></drhaughton@shaw.ca>
Sent:	Tuesday, June 09, 2009 4:40 PM
Subject:	SOW-M (4287169) 2009/JUN/09 16:40:27 Mineral Titles Online, Transaction event, Email
-	confirmation

Event Number: 4287169 Event Type: Exploration and Development Work / Expiry Date Change

Event Detail: https://www.mtonline.gov.bc.ca/mtov/sowEventDetail.do?eventID=4287169

Work Type Description: Technical Work Work Type Code: T Technical Items: Geochemical, Geological, Geophysical

Financial Summary:

Total Required Work Amount: 2967.33

PAC Name: 141786 PAC Debit: 0.00 PAC Credit: 9714.83

Total Submission Fees: 297.04

Total Paid: 297.04

Work Start Date: 2009/MAY/31 Work Stop Date: 2009/JUN/09 Total Value of Work: \$12682.16 Mine Permit No:

Summary of the work value:

Tenure Number: 586189 Tenure Type: M Tenure Subtype: C Claim Name/Property: EAST SILVER Issue Date: 2008/jun/10 Old Good To Date: 2009/jun/10 New Good To Date: 2012/jun/10 # of Days Forward: 1096 Area in Ha: 56.82 Tenure Required Work Amount: 681.83 Tenure Submission Fee: 68.25

Tenure Number: 586191 Tenure Type: M Tenure Subtype: C

÷.,

Claim Name/Property: SOUTH SILVER Issue Date: 2008/jun/10 Old Good To Date: 2009/jun/10 New Good To Date: 2012/jun/10 # of Days Forward: 1096 Area in Ha: 113.66 Tenure Required Work Amount: 1363.94 Tenure Submission Fee: 136.52

Tenure Number: 605225 Tenure Type: M Tenure Subtype: C Claim Name/Property: GILLIAN Issue Date: 2009/may/31 Old Good To Date: 2010/may/31 New Good To Date: 2012/jun/10 # of Days Forward: 741 Area in Ha: 113.64 Tenure Required Work Amount: 921.56 Tenure Submission Fee: 92.28

Related Summary:

If you have not yet submitted your report for this work program, your technical work report is due in 90 days as per Section 33 of the Mineral Tenure Act and Section 16 and Schedule A of the Mineral Tenure Act Regulation. Please attach a copy of your confirmation page to the front of your report.

If you have questions concerning the registration of exploration and development work/expiry date change or the filing of physical/technical reports, please make inquires to <u>Mineral.Titles@gov.hc.ca</u> or call 1-866-616-4999 (toll free).

Server Name: PRODUCTION

## ADDENDUM

# Analyical Methods Survey Stations

# **Survey Stations**

١.

### Notes on SP Survey, Geochemical Sampling and Analytical Methods

The following is supplementary to the description of the Self Potential survey and geochemical program provided on pages 14 - 20 of this report.

The survey stations reporting Self Potential (SP) results (millivolt readings) and the location of geochemical samples are shown on the accompanying Leg 1, Leg 2 and Leg 3 maps plotted at 1:5,000 scale.

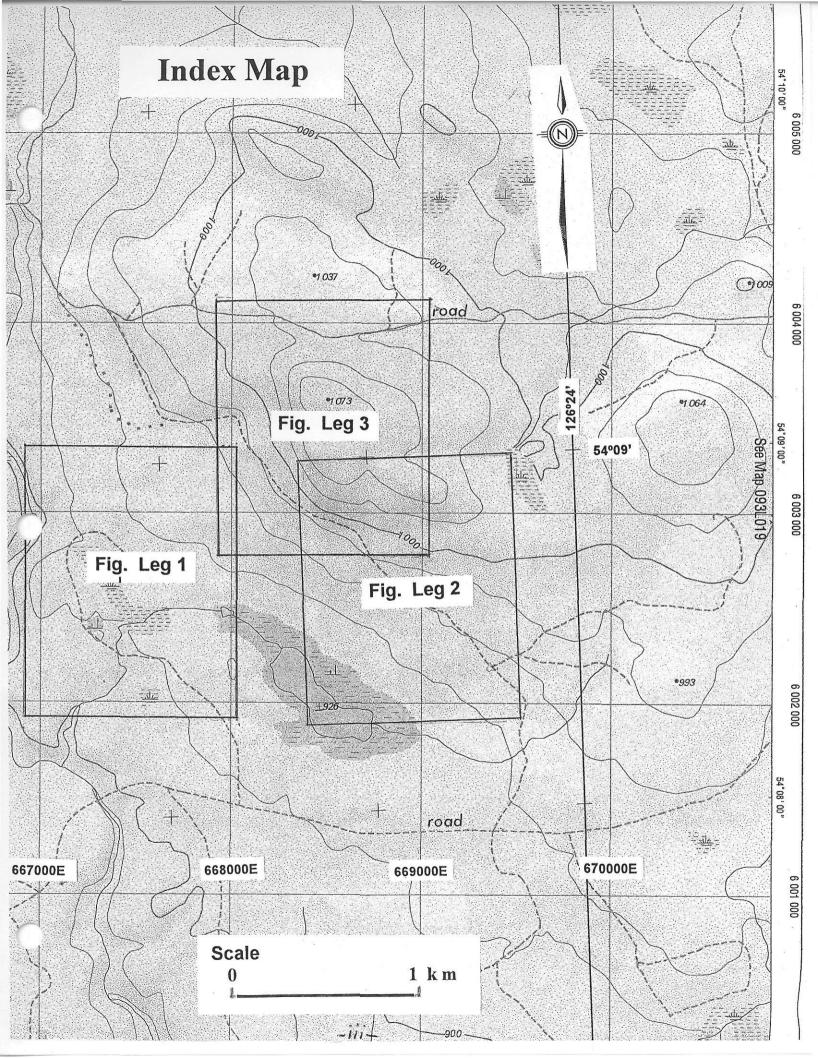
The samples for geochemistry were gathered and processed by the author and shipped to Acme Analytical Laboratories Ltd. in Vancouver, B.C.

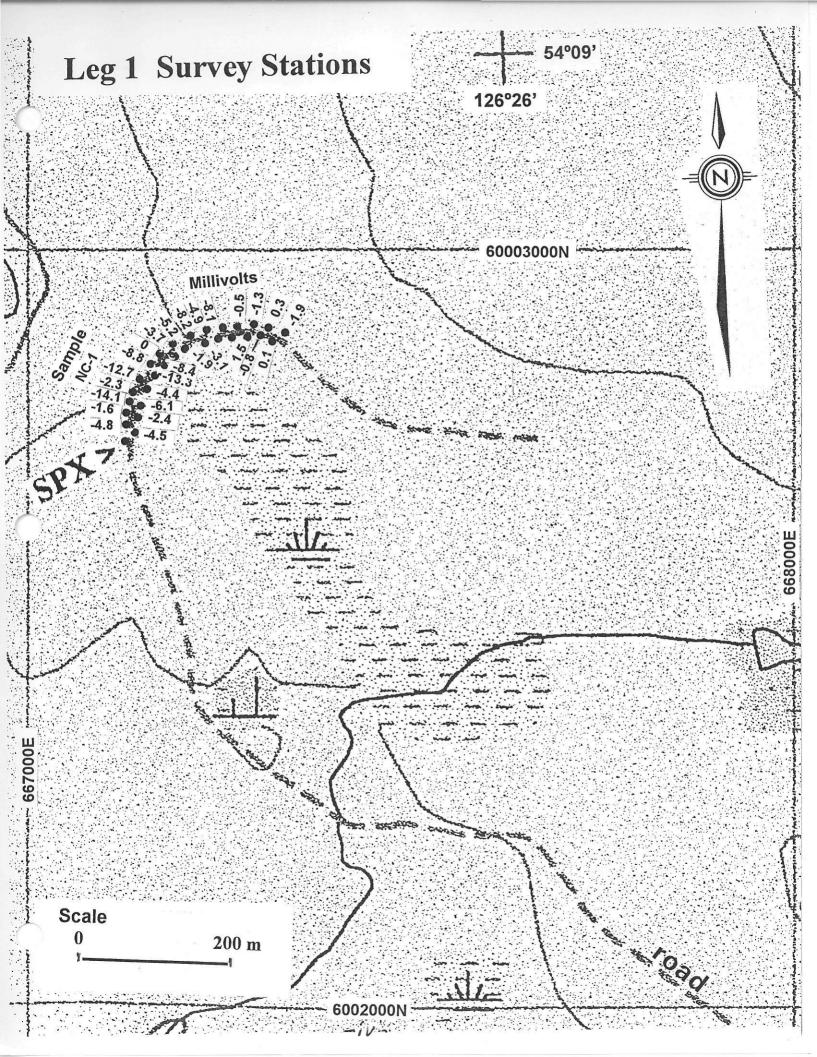
A total of 10 rock samples were collected for assay in the areas of anomalous SP readings over 3 different lithologies; NC-1, vein (5 subsamples); NC-2, argillite (3 subsamples); NC-3, gabbro (2 subsamples). These include NC-1A, NC-1B, NC-1C, NC-1D and NC-1E, a road-side collection of gossaniferous handspeciments (regolith) centred approximately 70 m north of base station SPX in the SW zone. This collection is believed to represent glacial float eroded from a series of subcropping veins indicated by the SP survey at 60m (-14.1 mv), 90m (-12.7 mv) and 100 m (-13.3 mv) north of SPX (see Leg 1 map).

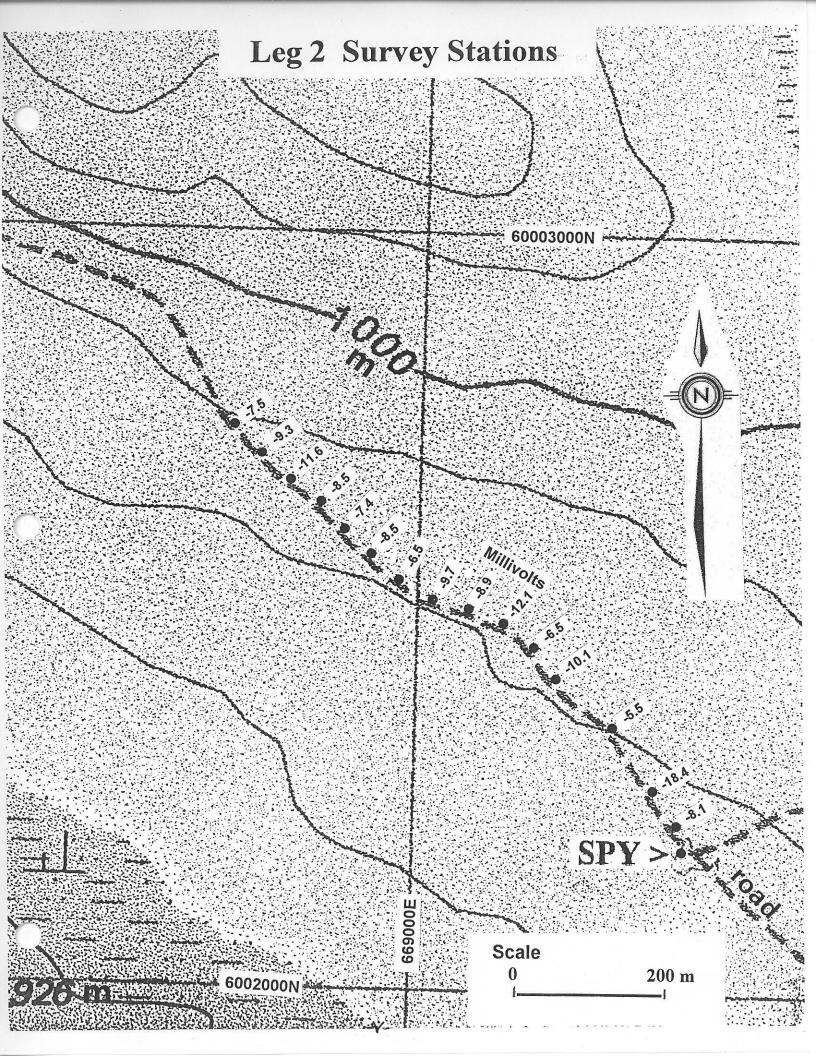
In addition, there are 5 rock samples collected over the largest SP anomaly by an intrusive contact on the road between 1175 to 1325 m north of base station SPY in the NE zone (see Fig. 4 and Leg 3 map). These are host rock argillite samples NC-2A at 1175 m (-30.3 mv), NC-2B at 1200 m (-28.3 mv), NC-2C at 1250m (-47.1 mv), and samples of the gabbroic intrusion NC-3A at 1300 m (-27.7 mv) and NC-3B at 1325 m (-19.3 mv).

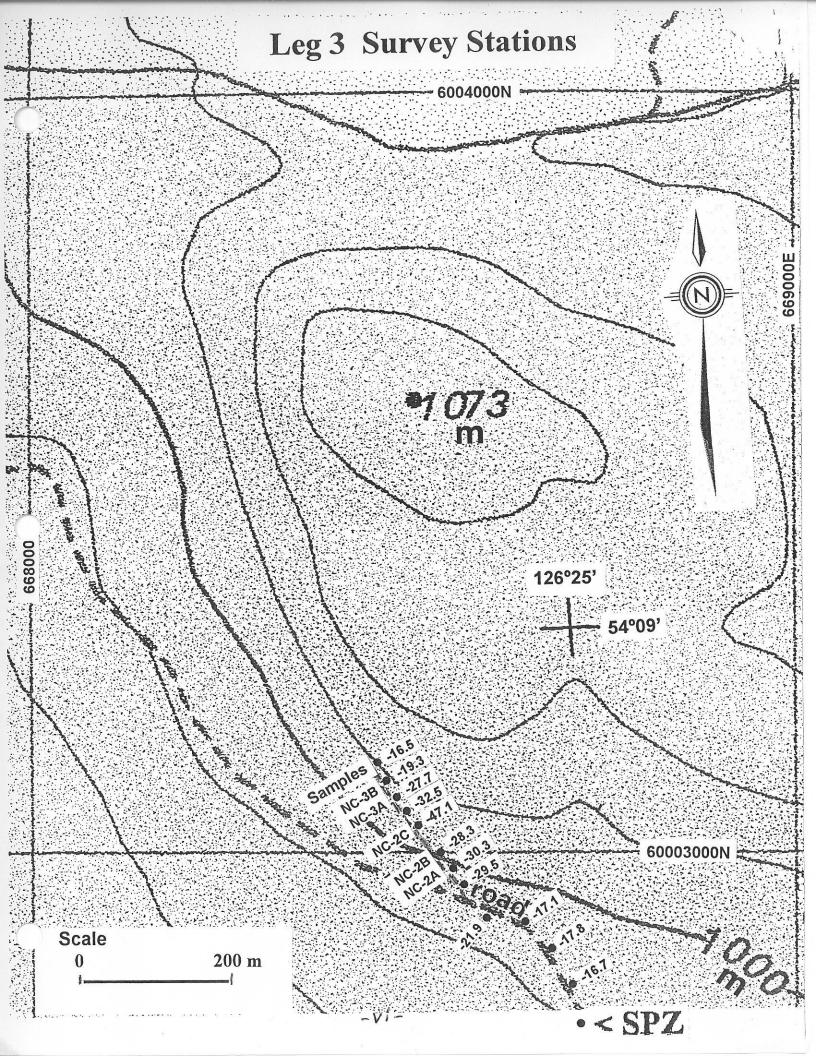
The Acme Laboratories brochure entitled 'Service and Fees' (attached) provides details of the analytical methods. In this case Acme's 41 element 'Group 1EX' package was used that is adaptable for litho- or stream sediment geochemical prospecting. This analytical method follows a routine whereby samples are subjected to combined acid dissolution, HF + HNO<sub>3</sub> + HClO<sub>4</sub>, followed by take-up of the dried residue in HCL. The final determination is done by ICP-mass spectrometry that gives lower detection limits for the major elements in the range 0.001 to 0.01 % and 0.1 to 1 ppm for minor elements. The quality of results is gauged by replicate analyses and the use of standard samples.

Addendum to Ass. Rpt. No. 31051 Meil Church (P. Eng) Client No. 141786 March 23rd/2010 -1-

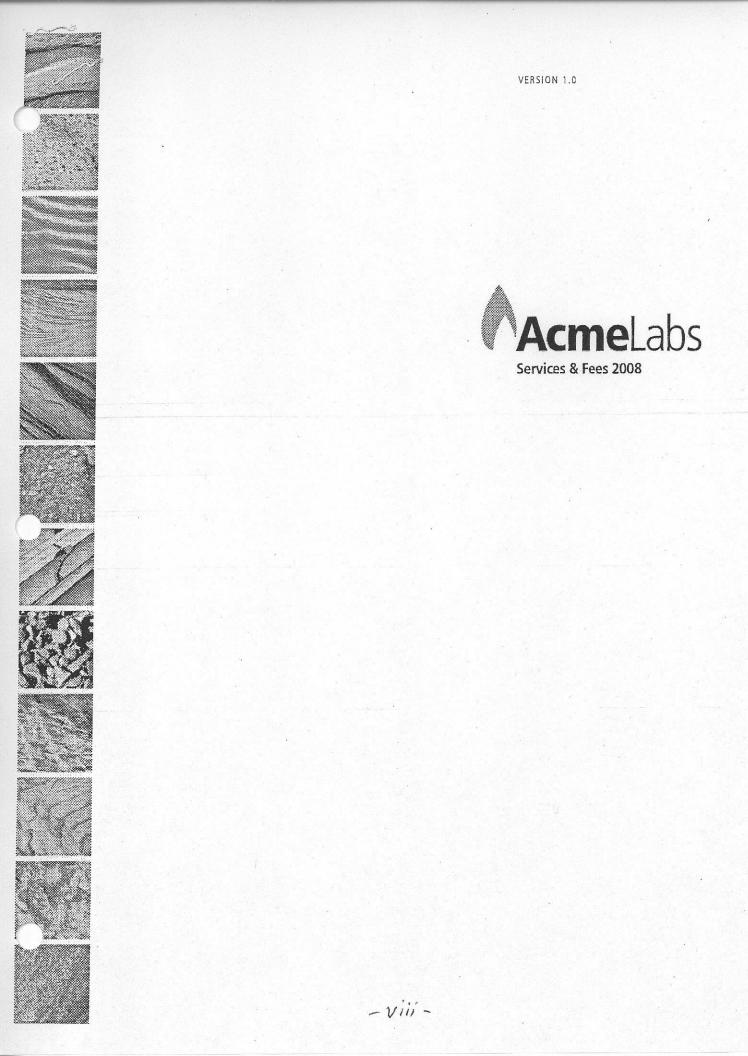








**Analyical Methods** 



- A

## Geochemical 4-Acid Digestion

#### Groups 1E & 1EX ICP-ES & ICP-MS

Combines a strong 4-acid digestion that dissolves most minerals with a choice of either ICP-ES or ICP-MS analysis and you get highly cost-effective near-total determinations with low to very low detection limits.

A 0.25 g split is heated in  $HNO_3$ -HClO<sub>4</sub>-HF to fuming and taken to dryness. The residue is dissolved in HCl. Solutions are analysed by your choice of ICP-ES (Group 1E) or ICP-MS (Group 1EX).

Requires minimum 1 g sample pulp.

Group 1E		Cdn
35 elements		\$12.00
Group 1EX		Cdn
41 elements		\$17.00

	Grou Dete			up 1EX ection	Upper Limit					
Ag	0.5	ppm	0.1	ppm	200	ppm				
Al*	0.01	%	0.01	%	20	%				
As <sup>1</sup>	5	ppm	1	ppm	10000	ppm				
Au <sup>‡</sup>	4	ppm	0.1	ppm	200	ppm				
Ba*	1	ppm	1	ppm	10000	ppm				
Be*	1	ppm	1	ppm	1000	ppm				
Bí	5	ppm	0.1	ppm	4000	ppm				
Ca	0.01	%	0.01	%	40	%				
Cd	0.4	ppm	0.1	ppm	4000	ppm				
Ce			1	ppm	2000	ppm				
Co	2	ppm	0.2	ppm	4000	ppm				
Cr <sup>4</sup>	2	ppm	1	ppm	10000	ppm				
Си	2	ppm	0.1	ppm	10000					
Fe*	0.01	%	0.01	%	60	%				
Hf*			. 0.1	ppm	1000	ppm				
К	0.01	%	0.01	%	10	%				
La	2	ppm	0.1	ppm	2000	ppm				
Li	•		0.1	ppm	2000	ppm				
Mg*	0.01	%	0.01	%	30	%				
Mn*	5	ppm	1	ppm	10000	ppm				
Мо	2	ppm	0.1	ppm	4000					
Na	0.01	%	0.001	%	10	%				
Nb	2	ppm	0.1	ppm	2000	ppm				
Ni	2	ppm	0.1	ppm	10000	ppm				
p	0.002	%	0.001	%	5	%				
Pb	5	ppm	0.1	ppm	10000	ppm				
RЬ	-		0.1	ppm	2000	ppm				
;	-		0.1	%	10	%				
Sb*	5	ppm	0.1	ppm	4000	ppm				
Sc	1	ppm	1	ppm		ppm				
5n*	2	ppm	0.1	ppm	2000					
5r		ppm	1	ppm	10000					
la*	- (***		0.1	ppm	2000					
ſh ·	2	ppm	0.1	ppm	4000					
1	0.01	%	0.001	%	10					
J	20	ppm	0.1	ppm	4000					
1		ppm		ppm	10000					
V*		ppm		ppm	200					
1		ppm		ppm	2000					
'n		ppm		ppm	10000					
r*		ppm		ppm	2000					

\*The digestion is only partial for some Cr and Ba minerals and some oxides of Al, Hf, Mn, Sn, Ta, Zr.

‡Volatilization during fuming may result in some loss of As, Sb and Au.

8 | Acme Labs Schedule of Services & Fees 2008

## Acmelabs Acmelabs 1020 Cordova St. East Vancouver BC V6A 4A3 Canada

Client:

### B.N. Church Geological Services 600 Parkridge St.

Victoria BC V8Z 6N7 Canada

Project: Report Date;

September 22, 2008

1020 Cordova St. East Vancouver BC V6A 4A3 Car Phone (604) 253-3158 Fax (604) 253-1716

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Houston Silver

OUALINY (CO	NHROL																N(0)\$!	i ale)/	219		
	Method	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX
	Analyte	Мо	Сц	Pb	Zn	Ag	NL	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	81	v	Ca	Р
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ррт	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.001
Pulp Duplicates																					
NC-3A	Silt Pulp	2.1	46.8	4.0	87	<0,1	92.2	22.2	265	3.62	109	1.1	<0.1	3.4	90	0.1	0.3	<0.1	170	D.21	0.039
REP NC-3A	QC	1.5	50.9	3.7	88	<0.1	90.9	22.3	253	3.61	114	1.3	<0.1	3.2	90	0.1	0,3	<0.1	174	0.20	0.038
Reference Materials										•											
STD DST6	Standard	11.1	128.1	37.5	171	0.3	30.7	13.5	895	3.65	21	7.6	<0.1	6.7	294	6.1	5.1	4.8	96	2.01	0.086
STD OREAS24P	Standard	1.4	45.4	3,1	112	0.1	131.8	42.9	1005	6.86	1	2.1	<0.1	2.6	340	0.1	<0.1	<0.1	153	5.16	0.120
STD DST6 Expected		12.7	129.7	36.7	176	0.4	30.4	13.7	980	3.91	24	7.8	D	6.9	298	5.6	5.4	4.7	115	2.26	0.099
STD OREAS24P Expected		1.5	52	2.9	114	0.06	141	44	1100	7,97	2	0.75		2.85	403	0.3	0.14		183	6.07	0.136
BLK	Blank	0.6	<0.1	<0.1	<1	<0.1	<0.1	<0.2	<1	<0.01	<1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.001

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This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.



Client:

### B.N. Church Geological Services 600 Parkridge St.

Victoria BC V8Z 6N7 Canada

Part 2

Project: Report Date:

Page:

Date:

Houston Silver September 22, 2008

1020 Cordova St. East Vancouver BC V6A 4A3 Canac Phone (604) 253-3158 Fax (604) 253-1716

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1 of 1

														•			-				
QUALITY CO	NTEROL	<b>~</b> 155°)	0R)													NZA)	N(0)3(	0(0)\$7	219	1	
	Method	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX
	Алаlyte	La	Cr	Mg	Ba	П	AI	Na	к	w	Zr	Ce	Sn	Y	Nb	Та	Be	Sc	LI	S	Rb
	Unit	ppm	ррт	%	ppm	%	%	%	%	ppm	ppm	mqq	ppm	ppm	ppm	ррт	ppm	ppm	ppm	%	ррт
	MDL	0.1	1	0.01	1	0.001	0,01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1	0.1
Pulp Duplicates			-																		
NC-3A	Silt Pulp	15.4	100	0.19	344	0.534	9.07	1.008	1.87	0.5	53.3	33	1.2	14.5	6.3	0.4	2	14	34.2	<0.1	51.2
REP NC-3A	QC	15.7	97	0.19	340	0.551	8.72	0.988	1.86	0.6	54.4	33	1.4	13.7	6.9	0.3	<1	15	33.0	<0.1	52.1
Reference Materials																					
STD DST6	Standard	23.6	232	0.96	585	0.367	6.09	1.453	1.38	7.8	60.3	48	4.2	14.4	9.6	0.5	3	10	23.2	<0.1	55.3
STD OREAS24P	Standard	16.2	184	3.67	233	0.978	6.57	2.079	0.59	0.5	123.3	34	1.5	19,7	16,5	0.9	1	16	6.5	<0.1	18.0
STD DST6 Expected		25.7	230	1,03	702	0.387	6.92	1.673	1.42	7.4	50.1	52	6.3	15.2	8.1	0.6	3	10	25.4		61.2
STD OREAS24P Expected		17.4	221	4.13	285	1.1	7.66	2.31	0.7	0.5	141	37.6	1.6	22.9	21	1.3		20	8.7		22.4
BLK	Blank	<0.1	<1	<0.01	<1	<0.001	<0.01	<0.001	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1	<0.1

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