## SELF-POTENTIAL PROSPECTING REPORT FOR

## **MR. ALLEN HARVEY**

HAWKINS LAKE AREA, B.C., N.T.S. 92P 086 Lat. 51 deg. 51', 56" N; Long 120 deg. 56' 8" W UTM 642500 E 5748000 N

AUTHOR: Glen E. White B.Sc. Geophysicist DATE OF WORK: August 3, 5, 28 & 29, 2006 DATE OF REPORT: August 29, 2006



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#### **1.0 INTRODUCTION**

Road construction for a logging company by a friend of Mr. Harvey uncovered a seam of green mud and altered rock. Mr. Harvey recognized the rock as copper bearing mineralization. Though some time had passed, since the find, his friend was able to identify the corner of the logging road where he uncovered it. This corner had been a road-building problem and had to be cut and filled. The rock reportedly came from the low filled area. Prospecting uncovered minor malachite stain in shears along this corner. The sample that came from the corner was reported to assay some 6% copper. Thus the idea to try a simple self potential test of several cross lines was undertaken to see if there would be any evidence of shear hosted mineralization.

#### 2.0 **PROPERTY**

- 2.1 TENURE: Mr. Havrvey holds the property under tenure numbers 507663 and 507667.
- 2.2 LOCATION AND ACCESS: The claims are located just north of Hawkins Lake, which is some 5 kilometers west of the south end of Canim Lake, B.C. A switchback gravel logging road just east of Sellers road at Hawkins Lake, gives excellent access to the claims. The claim center is approximately UTM 642500E 5748000N; Lat. 51 deg. 51' 56" N, Long 121 deg. 51' 56" W.
- 2.3 PHYSIOGRAPY: The property is covered by spruce, pine and cedar in the swamp and creek areas. Glacial detritus with high clay content and of variable depths blankets the area.

- 3.1 REGIONAL GEOLOGY: The regional geology is outlined on Map 1278A, Bonaparte Lake, Scale 1:250,000. This map indicates that the property is underlain by the Takomkane granites of Triassic or Jurassic age. A wedge of Triassic Nicola rocks consisting of augite andesite flows, breccia, tuff, argillite, greywacke and grey limestone is mapped just north of the claims.
- 3.2 LOCAL GEOLOGY: The logging road work has shown that the Nicola rocks extend onto the claims area rather than being covered predominately by Takomkane intrusives. Examination of some of the road exposures suggested that the outcrops have a microdiorite appearance and are likely meta-andesite tuffs and breccias with some intermixed black argillite fingers. The rocks have considerable semi-banded epidote parallel to the regional foliation. These are cut at variable angles with vienlets of pink quartz-calcite. Fine grained specular hematite floods most of the outcrops. The rock exposures have a consistent steeply dipping shear pattern varying from 350 degrees to 010 degrees. The variable compression forces give a rounded appearance to some of the road blasted material.

Shearing in the andesitic rocks, particularly at the possible discovery outcrop, contains thin leaflets of malachite stain. On the Grid B zone the southern most shear at 010 degrees had some 2-5cm of argillic alteration and heavy malachite stain. No primary sulphides were seen. Magnetic testing of various rock samples indicated an increased magnetic susceptibility with some of the malachite stain.

#### 4.0 SURVEY DETAILS

4.1 SURVEY GRID: A Magellan Explorist 400 GPS unit recording 7 satellites was used for control. However, in reconciling the GPS information with various map data there is a difference between them. Fig. 2 shows the two small self-potential test areas, grids A and B. They are drawn on the BCGS Geology UTM 10 map and the coordinates labeled accordingly. This map gives a best approximation to the actual ground features as recorded by the hand held GPS unit.

Fig. 3 and Fig. 1 show the UTM Cell grid. This grid is the same as on topographic map Bonaparte Lake, 92P 1:250,000. On these maps the North gird lines, such as 5748000, are some 250m too far north compared to the BCGS Geology UTM 10 map. The East grids lines coincide. However, this brings into question the true cell tenure location as detailed by Fig. 1.

Grids A and B were compassed and chained every 25m as the selfpotential survey progressed. GPS readings were taken for each station. The stations were flagged and labeled with standard grid coordinates and their GPS values.

4.2 SELF-POTENTIAL SURVEY: Readings were taken with a hand held digital voltmeter with an input impedance of 10 MegOhm and read at a scale of 200 millivolts. A gradient online technique with a spacing of 25 m was employed between two metal stakes. A spacing of this length should detect any significant possible mineralized shear zones. Readings were taken every 25 m. High readings were double-checked.

#### 5.0 DATA CORRELATION

5.1 Grid A: On grid A, the area of the high-grade copper discovery, two lines were traversed across the possible discovery road cut. Malachite stain could easily be observed in shears along this portion of the logging road, which gave some credence to the chance discovery story. Plan map Fig. 4 shows this grid and the self-potential readings obtained. Fig. 5 details the data in profile form. The two lines are spaced 25m apart and depict a zone of anomalous readings between stations 50 E and 125 E that could possibly be caused by shear hosted oxidizing mineralization, or a highly altered fault zone. In previous survey work in the 1980s, the author took self-potential readings at the old Cowichan Copper mine near Honey Moon Bay on Vancouver Island. Self-potential surveys were used in the 1950s to aid in finding surface showings. Here the massive sulphide mineralization gave readings in the order of 500 plus millivolts. In the early 1970s the author worked for Northair Mines near Whistler, B.C. Self-potential, VLF, and Magnetic surveys were used to locate the Warman zone in an area of strong yet irregular geochemical values. Diamond drilling of this target resulted in what became the ore zone. It









consisted of oxidizing lead/zinc/copper mineralization in a quartzcarbonate vein. The self-potential readings were in the order of this Grid A data. The double lows with the high in the middle suggests two parallel shear zones.

5.2 Grid B: Plan map Fig. 6 shows a long line of 325 m, 0 N, orientated in an east-west direction undertaken to cross any north-south shearing and to study the self-potential readings over a reasonable length. Two northerly directed lines, 325 E and 0 E were also completed to examine an east-west creek drainage. Fig. 7 outlines the self-potential data in profile format. The strongest response was obtained on line 0 N at 185 E and may relate to the narrow 2-5 cm argillic altered malachite stained shear zone along the road to the south. A weaker response occurs along this same line at 65 E. It is associated with a narrow draw leading south to shearing and malachite staining at the bend in the road in the southwest corner of the map. Weak inflections also occur on the northerly-directed lines where they cross the east-west creek valley. This suggests shearing and faulting but no oxidizing mineralization.

#### 6.0 SUMMARY

6.1 CONCLUSIONS: The double amplitude self-potential response in Grid A is of sufficient variation to possibly reflect parallel shear zones hosting oxidizing copper mineralization. The lack of similar anomalous self-potential readings on Grid B increases the significance of this double amplitude anomaly. Weak magnetic responses obtained from several malachite stained

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## Statement of Expenses

### Labor

	<b>Total Expenses</b>	\$2,003.60
August 28 and 29, 2006 2 <u>days@\$250</u>	\$500.00	\$ 500.00
Report		
Groceries, field supplies @ mis	c. \$ 65.00	\$ 65.00
Other Expenses		
4 x 4 pick-up truck 2 <u>days@\$75/day</u> Gas Total Transportation	\$ 150.00 <u>88.60</u> \$ 338.60	\$ 238.60
Transportation		
Glen E. White - B.Sc. Geophys August 3 and 5, 2006 2 days@ \$350 Total Labor	icist <u>\$ 700.00</u> \$1,200.00	\$1,200.00
Al Harvey - Prospector August 3 and 5, 2006 2 <u>days@\$250/day</u>	\$ 250.00	

samples would suggest a possible copper/magnetite relationship. Similarly the pervasive epidote banding, specular hematite flooding and pink quartzcarbonate filled fractures would suggest this series of meta-andesites could host significant copper mineralization.

6.2 RECOMMENDATIONS: The preliminary prospecting, geological and selfpotential work merits this claim group for further advanced exploration techniques. A well-cut survey grid should be established across the claims to control, geological mapping, magnetometer, VLF and geochemical surveying.

**Respectfully Submitted** 

Glen E. While Geophysicist.

### 7.0 STATEMENT OF QUALIFICATIONS

- 1) I, Glen White certify that I am a semi-retired geophysicist residing at 4781 Caverly Road, Lac La Hache, B.C.
- 2) That I graduated in 1966 from the University of British Columbia with a B.Sc. degree in geophysics-geology.
- 3) That I have practiced my profession as geophysicist-geologist for 40 years and have worked across Canada, the United States and Internationally.
- 4) That I was registered as a Professional Engineer with the Association of Professional Engineers of British Columbia from 1977 to 1998.
- 5) That I have personally undertaken the self-potential work and have examined the various rock outcrops for mineral potential during the days August 3<sup>rd</sup> and 5<sup>th</sup> and have prepared this report for Mr. Harvey August 28<sup>th</sup> and 29<sup>th</sup>, 2006.

Glen E. White B.Sc

Geophysicist August 29, 2006