MINETA RESOURCES LTD.
GEOPHYSICAL REPORT ON A TOTAL FIELD MAGNETICS
AND TWO STATION VLF-EM SURVEY
ON THE
BART CLAIMS
NICOLA MINING DIVISION
NTS 62 E/13 S2 L/04 N
LATITUDE 50° 02' N LONGITUDE 119° 55' W
AUTHOR: Glen E. White B.Sc., P.Eng
DATE OF REPORT: November 21, 1989

LATITUDE 50° 02' N
LONGITUDE 119° 55' W

LOG NO: 0314
ACTION:
FILE NO:

SUB-RECORDBER
RECEIVED
MAR 12 1990
M.R. # $ VANCOUVER, B.C.

WHITE GEOPHYSICAL INC.
INTRODUCTION:

In late September White Geophysical Inc. was contracted by Mineta Resources Ltd. to conduct a program of geophysical surveying on the Bart Claims near Kelowna B.C. Approximately 35 kilometres of total field magnetics and two station VLF-EM survey were completed on two separate grids. The purpose of these surveys was to delineate the ultramafic intrusives in the area and aid in the mapping of faults, shears and lithologies in the area.

PROPERTY:

The Bart Claim Group consists of 174 units in the Nicola Mining Division and is summarized as follows.

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LOCATION AND ACCESS:

The Bart Claims are located approximately 27 kilometres west of Okanagon Lake near the headwaters of the Nicola River. The approximate coordinates are Latitude 50° 01’N Longitude 119° 52’W. Old Dave Lake is located in the east central portion of the claims while Barton Lake occupies the greater part of the Bart 2 claim in the northeastern corner of the property.

The property predominantly lies on an elevated plateau rising 200-300 feet to the east of the Nicola River (elevation 3900 feet). The highest point of land on the property is at its eastern margin on the flanks of Dome Rock Mountain at approximately 5400 feet.

The property is easily reached by road from the west shore of Okanagon Lake 8 kilometres north of Westbank. From here the Bear Main Road leads approximately 40 kilometres to the east to Cameo Lake approximately 2 kilometres past Cameo Lake the Nicola Main Road leads to the north. The road traverses the Bart 10, 5 and 4 claims. The author does not know the status of the Nicola Main Road at time of writing.

GEOLOGY:

The Bart claims are primarily underlain by the metasedimentary rocks of Chapperon Group. These rocks consist of argillites, shists, and quartzites of Permian or Triassic age.

The southwestern corner of the property is underlain by granitic rocks of Jurassic age belonging to the coast intrusives.
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BART CLAIMS

CLAIMS MAP

N.T.S. 82L/4W

FIG. 2
In places, Eocene Kamloops Group Volcanics overlay the Chapperon Group. These rocks consist primarily of dacite andesite lava breccia or andesite lava breccia but may also consist of rhyolite tuff breccia or dacite and andesite lavas.

The Chapperon group has been intruded by serpentininitite and serpentinized ultramafics. This group of intrusions, known as the Old Dave intrusives have been at the center of the exploration activity in the area. These intrusions occur on the property as dykes trending to the north-northwest at 300-340 degrees and are steeply dipping to vertical. The lithology of the intrusives varies and includes peridotite, dunite, pyroxenite and possibly gabbo and troctolite. Many of the rocks are altered to a certain degree to serpentine and talc.

The dyke outcrops often occur as linear ridges from five to twenty metres above the background topography making them easy to trace even when no outcrops occur. R.D. Good reports that the intrusives were mapped on all claims of the now forfeited Cameo No. 1 Group consisting of the Rich, Jack, C1 and C12 claims. (See Figure 5) All of these claims are now part of the Bart Claim Group.

MINERALIZATION:

The first documented report of the Chromite potential of the Old Dave Intrusions was made in the 1929 British Columbia Annual Report on Mines. Small high grade segregations of chromite were reported to occur in a serpentinized peridotite dyke and were presumably removed at this time. These
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BART CLAIMS

REGIONAL GEOLOGY

SCALE: 1" = 4 MILES

N.T.S. 82L/4W

FIG. 3
showings a few hundred metres south of the Bart 6 Claim are known as the Alocin Showings and are described by Cairnes (1932, p.94A):

"...This cromite-bearing dyke is composed mainly of dark green serpentine which commonly weathers a deep orange-red, but in places is coated instead with a thin, semi-transparent, whitish, talcose film. The serpentine has resulted from the alteration of an intrusive composed very largely of olivine. Microscopic studies reveal different stages of alteration ranging from those in which abundant small grains of olivine occur in a meshwork of serpentine to others in which no traces of unaltered serpentine remain. Other minerals present include partly to completely altered crystals of pyroxene, talc, chlorite, magnetite, asbestos, chromite. The chromite is dark brown and almost opaque in thin section. It is an abundant constituent at one locality. At most other places the rock carries disseminated magnetite occurring either as crystals or in lumps and small irregular streaks. At different places the serpentine was observed to contain small veinlets of cross-fiber asbestos varying in thickness from that of a mere thread to 1/4 inch...

...The principal discovery was made less than 100 yards southeast of and a few feet above, the left bank of the river...Here a small segregation of high-grade chromite ore was discovered, apparently mostly dug out. It occurred in part as closely spaced kidneys of chromite 1/2 inch to one inch in diameter, and in part as a heavy dissemination of small, granular aggregates occupying up to 75 per cent or more of the rock volume. The enclosing rock is a dull green, massive, partly serpentinized dunite in which some further alteration to talc and chromiferous chlorite has occurred.
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BART CLAIMS
AEROMAGNETIC MAP

SCALE = 1:100 000
N.T.S. 82L/4W

FIG. 4
Little of no magnetite appeared to be present. Though not of itself economically important, this discovery suggests the possibility of other occurrences in this serpentinized belt. Little clue is furnished as to where to look for such deposits. The rock in the belt is a type that under favorable conditions might prove a valuable source of both chromite and asbestos and, perhaps, rarer minerals such as platinum. The belts should consequentially be followed in both directions and particular attention paid to it in places where it either widens materially or changes its general structure or appearance."

Stevenson in his preliminary report (1941) on the "Chrome Ridge" describes the situation as follows:

"...This occurrence consists of several small lenses of chromite, ranging from dimensions of 9 feet by 13 inches to 6 inches by 2 inches, in serpentinized dunite. The dunite forms a belt approximately 600 feet in width that strikes north 25 degrees west...a known distance of approximately 3 1/2 miles."

More recent geological mapping and aeromagnetic surveys indicate that the Old Dave intrusive extends for at least ten kilometres, over six kilometres of which lie on the Bart claims.

G. von Rosen P. Eng in his report on the "Chromite Ridge" (1977) states:

"...The origin of the "sill" could be postulated as having formed in a quasi horizontal manner, by intrusion of semi plastic magma between metasediments, and fractional
crystallization upon cooling, thereby causing the layering of olivine, pyroxene, chromite and magnetite crystals. Certain thicker sections of the dykes could therefore have denser and more voluminous segregations of chromite."

PREVIOUS WORK:

The chromite and platinum potential of the Old Dave intrusives have been known since the late 1920’s with the discovery of the showings near Alocan Creek. These showings were mostly dug out by the time C. Cairnes visited the site in 1932.

C. Cairnes in the 1932, Geology of Canada Summary Report, describes the location and mineralogy of the showing and concludes that the area has definite chromium and platinum potential.

J.S Stevenson visited the site of the Alocan Showings in 1941 and describes the site in his 1941 Preliminary Report on Chrome Ridge, B.C., British Columbia Department of Mines. In this report a detailed description is given of the Alocan Showings with samples taken from five pits all ranging between 20 and 30 percent Cr₂O₃.

With the aid of further mapping A.G. Jones in his 1959 Vernon Map Area, Geological survey of Canada Memoir 296 expands on the extent of the known ultramafic intrusives.

In 1977 a portion of the Old Dave intrusives to the north and south of the Alocan Showings was staked and optioned to Pan Ocean Oil Ltd. as the Rich, Jack, Cl, C12, Joy and Penstemon claims. The Rich, Jack, Cl and C12 Claims are included in the
area covered by the present Bart Claims.

In May of 1978, Sanders Geophysics of Ottawa, flew a helicopter borne magnetometer survey over the area between Cameo Lake and Barton Lake. This survey successfully outlined the extent of the ultramafic dykes in the area. The survey was followed up by a program of geological mapping, prospecting and geochemical sampling on the property. This program included the cutting of 34.6 kilometres of line on the property and the taking of 1048 soil, 5 silt and 21 rock samples. No ground magnetics appears to have been completed, though a model study of the airborne geophysics was conducted by Kenting Exploration Services Ltd. The geochemical results in conjunction with the magnetics outlined several anomalous zones with definite chromite potential. Their are no trenching or drilling reports filed on the property leading the author to believe that the outlined anomalies were never tested. It appears that no work was done on the property to test its platinum potential.

In 1989 D.V. Woods did a study of the area west of Okanagan Lake. This study included a reprocessing of the government airborne magnetic data. A compilation of the recent geological information and an evaluation of the magnetic trends. This data is presented in his his report "Interpretation of GSC Areomagnetics Whiteman Creek Area, Vernon, B.C.". Fortuitously the area spanned by the Bart Claims was incuded in the Airborne Reprocessing and the data is presented in figure 4.
MAGNETOMETER AND ELECTROMAGNETOMETER SURVEYS:

The VLF-EM and Magnetic surveys were conducted simultaneously utilizing the Omni-Plus VLF/MAGNETOMETER system built by EDA Instruments Inc. This instrument contains several microprocessors and associated circuitry for monitoring, processing and storing data. The VLF-EM portion of this instrument utilizes the VLF-electromagnetic fields generated by submarine navigation and communication stations which operated in the 15-30 kHz frequency band. The field generated by these stations is primarily horizontal. The instrument indicates the presence of a secondary field due to a conductor as a distortion in this horizontal field.

The distortion of this field produces an anomaly in the tilt angle, quadrature and total field intensity readings. VLF-EM data is corrected for facing direction during data processing and is edited for spurious noise spikes. For maximum coupling, a transmitter station located in the same direction as the geological strike of interest should be selected, since the direction of the horizontal electromagnetic field is perpendicular to the direction from the transmitting station. The advantage of the Omni-Plus is that several stations can be recorded simultaneously since the instrument automatically compensates for individual station direction.

The magnetics portion of the survey was conducted using the magnetometer system built into the Omni-Plus in conjunction with an EDA base magnetometer. The quartz clocks in the two instruments are synchronized in the morning. At the end of each survey day the field unit is connected to the base unit via an RS232C interface. At this time the base units readings are match to the field units and then dumped to a
microprocessor via the RS232C interface. The microprocessor writes the data to a storage medium, most commonly magnetic disks or tape, for later processing. The solid state memory of this instrument and the microprocessors give rapid data gathering at a rate of some 5-10 kilometres per day at 12.5 metre intervals.

DISCUSSION OF RESULTS:

Approximately 33 kilometres of total field magnetic and two station VLF-EM survey were conducted on the Bart Claims by White Geophysical Inc. on behalf of Mineta Resources Ltd. The survey was conducted on two separate grids.

Grid #1 was established over portions of the Bart 6,7,8 and 9 claims with a line interval of 200 metres and a station interval of 25 metres. The magnetic and VLF-EM measurements were made every 12.5 metres. The line and station spacing was chosen as a compromise. The wide line spacing enabled the delineation of the ultramafics over a large area while the narrow station spacing was needed to determine whether or not the ultramafic unit has a layered structure.

The wide line spacing does not lend well to contouring so the magnetic data is presented in profiled form in figures 7 & 8. The VLF-EM response was measured for both the Cutler and Seattle transmitting stations. This data is presented in profile form in figures 9 & 10. A total of 23 line kilometres was surveyed on Grid #1.

Grid #2 was established over the west-central portion of the Bart 5 claim. Again lines were spaced 200 metres apart with stations established every 25 metres VLF-EM and total field
magnetic measurements were taken every 12.5 metres. The magnetic data is presented in profile form in figure 11 and the VLF-EM data for both Seattle and Cutler transmitting stations is presented in figures 12 & 13 respectively. A total of ten kilometres of line was surveyed on Grid #2.

On Grid #1 the Total field magnetic results indicate that the ultramafic unit spans the entire length of the grid. The minimum strike length of the unit is 3 kilometres. There are actually two parallel units for most of the strike length. The western unit has a width of 300-400 metres while the eastern unit has an apparent width of approximately 100 metres. The eastern unit appears to have a higher magnetic susceptibility than the western unit. The two units may actually have no country rock between them but merely a zone of much lower magnetic susceptibility. If this postulate is confirmed by mapping and trenching the entire unit would be an extremely well layered ultramafic and thus have excellent potential as a source for chromium and/or platinum.

Numerous conductors were delineated by the VLF-EM surveys. These conductors have been marked on the VLF-EM profile maps and on the interpretation map. Most of the conductors strike across the ultramafic unit at approximately 20 degrees. The two most notable exceptions are conductors A & B which strike north-south to the west of the ultramafic unit. These are the strongest conductors delineated and may be sourced in a major fault structure or mineralized shear.

Grid #2 was located to confirm the location and delineate the extent of a small magnetic high appearing in the government airborne magnetic data. Judging from the magnetic data, grid two has again delineated an ultramafic intrusive. In this
locality the ultramafic has delineated strike length of over 1000 metres and an average width of 500 metres. The magnetic data indicates a layered structure. Several VLF-EM conductors were delineated by the surveys. These may be sourced in faults, graphite, or mineralized shears. The conductors have been marked on the VLF-EM profile maps as well as the interpretation map.

CONCLUSIONS AND RECOMMENDATIONS:

In late September and early November of 1989 White Geophysical Inc. on behalf of Mineta Resources Ltd. completed 33 kilometres of Total field magnetics and two station VLF-EM surveying on the Bart Claim Group near Kelowna B.C.

The geophysical surveys were successful in delineating the part of the ultramafic rock unit on the property as well as several strong VLF-EM conductors. The ultramafic units appear layered so present excellent targets for possible platinum and/or chromium ore occurrences. The VLF-EM conductors present possible zones of enrichment.

The next phase of exploration on the property should consist of a geochemical survey to attempt to target the zones of chromium and platinum enrichment. This survey should be conducted in conjunction with a detailed geological mapping of the property.

Upon the return of geochemical results the promising areas of the ultramafic should be trenched or diamond drilled. It is important to remember that producing chromite or platinum occurrences are often narrow bands within layered ultramafics and thus difficult to detect except by direct sampling.
Therefore even with discouraging geochemical results the ultramafic should be trenches at regular interval along its strike length wherever possible.

Respectfully Submitted

Glen E. White, P.Eng.
Consulting Geophysicist
REFERENCES:


COST BREAKDOWN:

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<th>Dates</th>
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Mobilization and demobilization ................. $ 600.00

Instrument rental 10 days @ 300/day ............ $3000.00

Data processing and reproduction ............... $ 750.00

Data analysis and report writing ............... $ 750.00

Truck 10 days .................................. $ 675.00

Total $9,275.00
STATEMENT OF QUALIFICATIONS

NAME: WHITE, Glen E., P.Eng.

PROFESSION: Geophysicist

EDUCATION: B.Sc. Geophysics-Geology
University of British Columbia

PROFESSIONAL ASSOCIATIONS:
Registered Professional Engineer,
Province of British Columbia.

- Associate Member of Society of Geophysicists.
- Past President of B.C. Society of Mining Geophysicists

EXPERIENCE:

- Pre-Graduate experience in Geology - Geochemistry - Geophysics with Anaconda American Brass.

- Two years mining Geophysicist with Sulmac Exploration Ltd. and Airborne Geophysics with Spartan Air Services Ltd.


- Two years Mining Geophysicist and Supervisor airborne and ground geophysical divisions with Geo-X Surveys Ltd.

- Two Years Chief Geophysicist Tri-Con Exploration Surveys Ltd.

- Seventeen Years Consulting Geophysicist

- Active Experience in all Geological Provinces of Canada.
CERTIFICATE:

I, Glen E. White, with a business address of 11751 Bridgeport Road, Richmond B.C. do hereby certify that:

1) I am a consulting geophysicist registered with the Association of Professional Engineers of British Columbia since 1977.

2) I am an Associate Member of the Society of Exploration Geophysicists.

3) I hold a B.Sc. degree (1966) in geology and geophysics from the University of British Columbia.

4) I have been practising my profession as geophysicist - geologist for over 20 years.

5) I have no direct or indirect interest, nor do I expect to receive any interest directly or indirectly in the Bart Claims or securities of Mineta Resources Ltd.

6) I have based this report on a review of available geological publications and exploration reports in the area of the Bart Claim Group and on the geophysical data just acquired.

7) I consent to the use of this report in whole or in part by Mineta Resources Ltd. for publication or any filing statement of Statement of Material Facts as long as the context of the report is not violated.


Glen E. White, P.Eng.,
Consulting Geophysicist

WHITE GEOPHYSICAL INC.
GEOLoGICAL BIRANCH
ASSESSMENT REPORT

19,792

+ FIELD STRENGTH - Base=1700
- Scale=500/cm

⊙ QUADRACTURE - Scale=20%/cm

△ INPHASE - Scale=20%/cm

MINETA RESOURCES LTD.
BART CLAIMS
GRID #2
VLF PROFILES - SEATTLE, WASHINGTON
Scale: 1: 5000.0

Date: Oct. 1999

WHITE GEOPHYSICAL INC.