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GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORTS

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GEOPHYSICAL ASSESSMENT REPORT

ON THE

SUN PROPERTY
TENURE # 333439, 333440

KAMLOOPS MINING DIVISION

LATITUDE 50 48' NORTH
LONGITUDE 120 45.5' EAST

NTS 92I/15

BY
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MARCH 1996
WORK PERMIT No: KAM 95 1500303-644

**GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT**

24,386

SUMMARY

The Sun property is comprised of 30 contiguous claim units on the north side of Kamloops Lake, at Copper Creek, in the Kamloops Mining Division. The Afton copper-gold porphyry mine lies 17 kilometres to the south-southeast. The claims have a history of mercury mining and drift and shaft prospecting into copper and gold mineralization. In January of 1996, an EM16R resistivity survey was conducted over the central portion of the Sun 2 claim. The premise of the program was to test the potential of this method in delineating zones of hydrothermal alteration and silicification.

The survey results indicated a generally north-northwesterly trending high resistivity feature. A correlation between anomalous rock geochemistry undertaken in the 1992 work program and the flanks of this feature is strong. Extension of this survey over the remainder of the property is recommended.

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INTRODUCTION

The Sun claims are comprised of 30 contiguous claim units currently held by Andrew W. Molnar of Vancouver, B.C. Between January 3 and January 9, 1996, an EM16R resistivity survey was conducted over the central portion of the Sun 2 claim.

TABLE 1

CLAIM INFORMATION

| <u>CLAIM</u> | <u>RECORD #</u> | <u># UNITS</u> | <u>EXPIRY DATE</u> |
|--------------|-----------------|----------------|--------------------|
| SUN 1 | 333439 | 10 | January 12, 1998 |
| SUN 2 | 333440 | <u>20</u> | January 12, 1998 |
| | TOTAL UNITS | 30 | |

The claims are recorded in the Kamloops Mining Division.

LOCATION/ACCESS/INFRASTRUCTURE

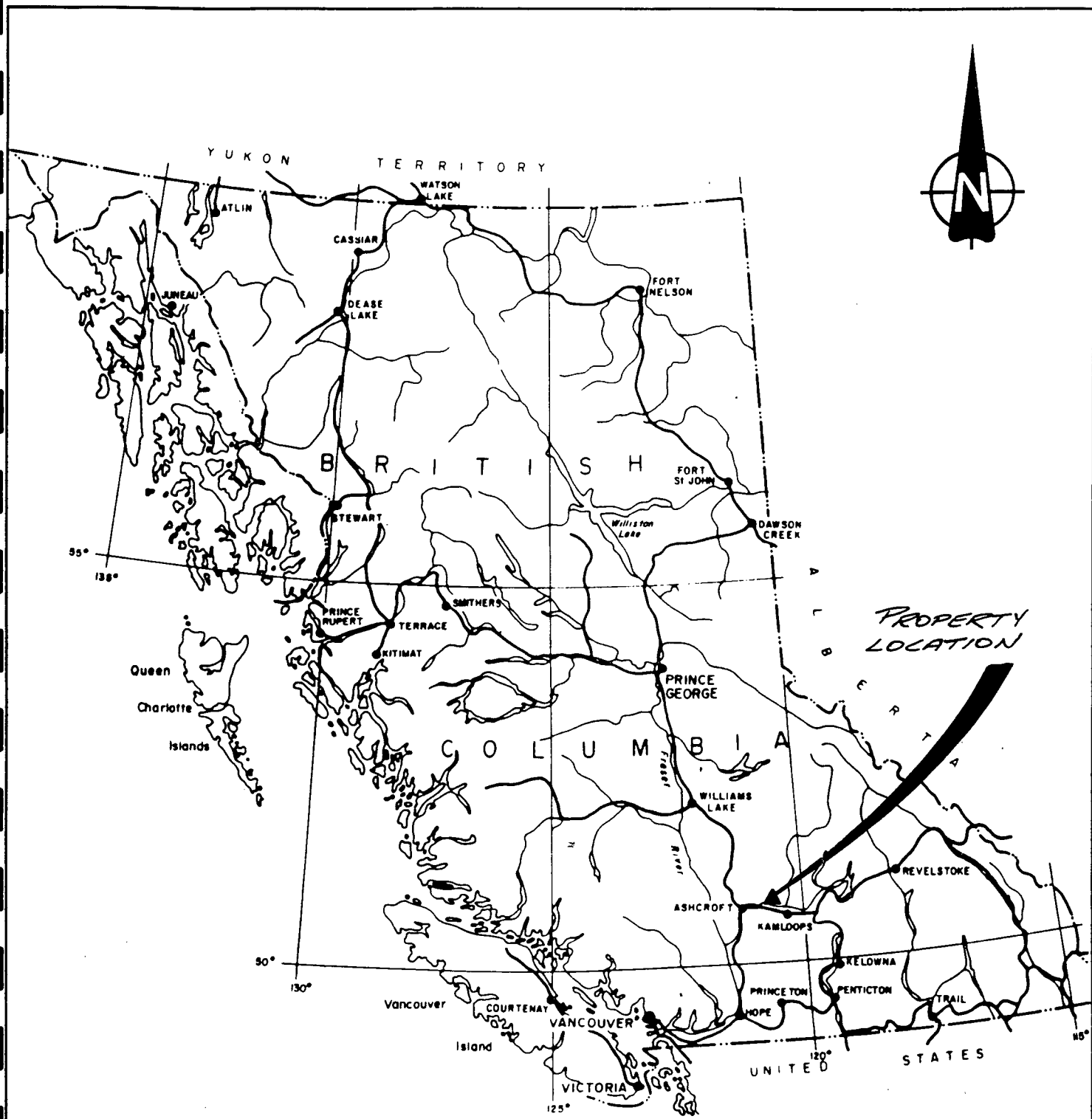
The Sun Property is located on the north side of Kamloops Lake (Thompson River) at Copper Creek, 20 kilometres west-northwest of Kamloops, B.C. A Canadian National Rail line with siding runs along the north side of the Thompson River from Savona, through the property, to Kamloops. Good condition all-weather roads from Highway #1 at Savona and North Kamloops connect to the property via the Carabine Creek road to Copper Creek. Power and telephone lines are located on the property at Copper Creek, and water is available from Carabine Creek that runs through the property.

GENERAL GEOGRAPHY

The Sun Property covers an area of moderately rolling hills transected by north trending valleys. The topography ranges from approximately 1200 to 2500 feet in elevation. The area is generally dry, with open pine forest at higher elevations. Precipitation is limited to about 20 inches per year, most of which occurs in the winter months between November and March.

HISTORY

The Sun Property has been explored since the late 1890s, with copper and mercury receiving the most attention. A 200 x 450 metre crown granted mineral claim called the Tenderfoot was staked in 1889

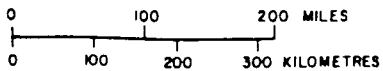


**SUN CLAIMS
PROPERTY LOCATION**

KAMLOOPS MINING DIVISION

NTS 921/15

FIGURE 1



to cover an outcrop containing bornite mineralization. Intermittent work in the area continued until Falsaise Lake Mines Ltd. performed prospecting, soil sampling and diamond drilling (Chisolm, 1972).

Roccoco Resources Ltd. performed soil geochemistry, VLF-EM geophysics, percussion and diamond drilling in the vicinity of the Tenderfoot showing between 1982 and 1985.

TABLE 2

SUMMARY OF DRILLING RESULTS (1982-1983)

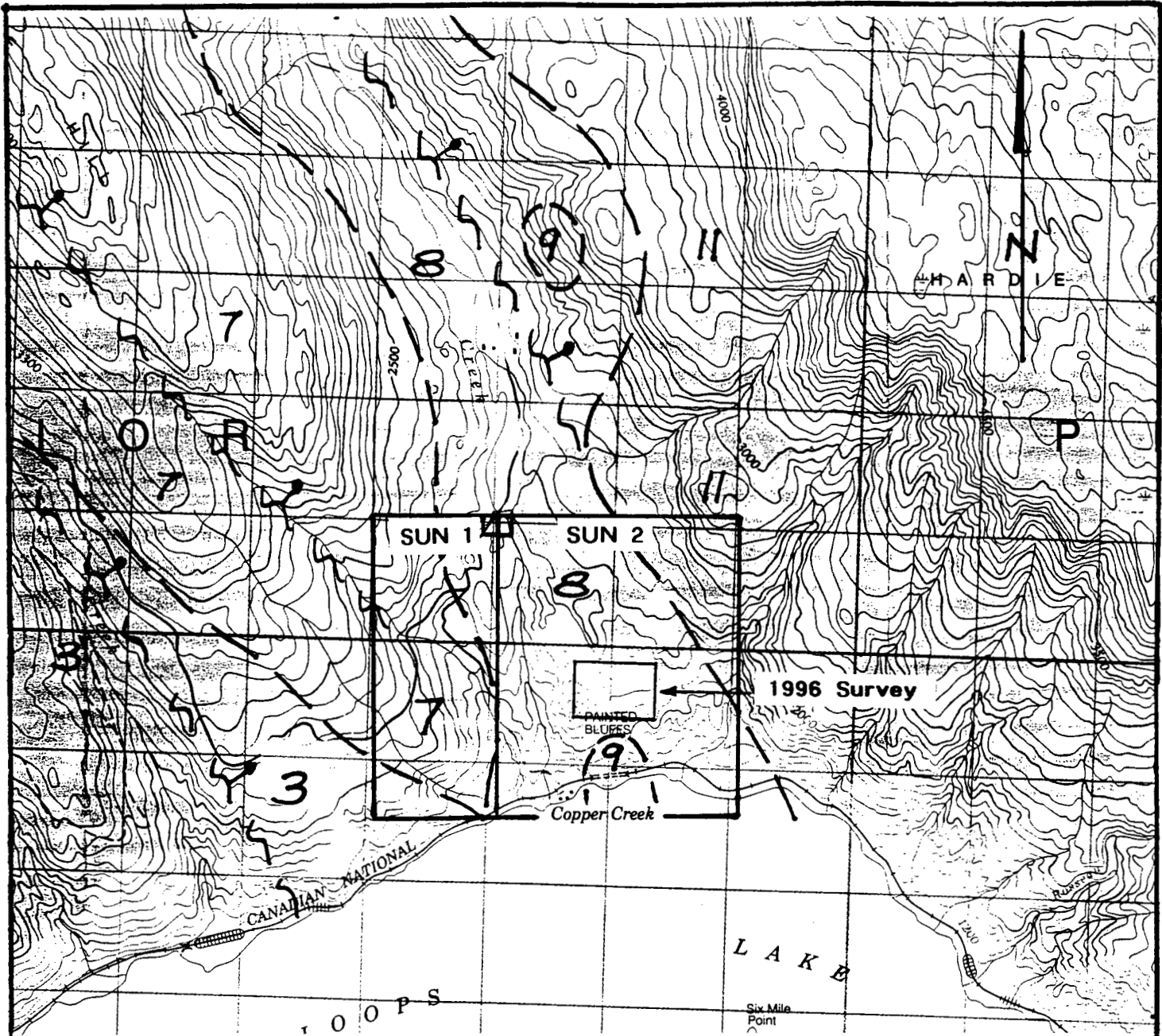
| <u>HOLE</u> | <u>TOTAL DEPTH (ft)</u> | <u>FROM (ft)</u> | <u>TO (ft)</u> | <u>INTERSECTION WIDTH</u> | <u>Cu%</u> | <u>Au (oz/t)</u> | <u>Ag (oz/t)</u> |
|-------------|--|----------------------|--------------------|-------------------------------|------------|----------------------|----------------------|
| P82-1 | 100 | 10 | 100 | 90 | 0.44 | 0.004 | 0.12 |
| P82-2 | 105 | 10 | 105 | 95 | 0.82 | 0.005 | 0.18 |
| P82-3 | 35 | 15 | 35 | 20 | 0.06 | 0.002 | 0.02 |
| P82-4 | 135 | 10 | 135 | 125 | 0.30 | 0.002 | 0.08 |
| *DDH 83-1 | 200 | 42 | 200 | 158 | ~0.31 | ~0.001 | ? |
| *DDH 83-2 | 204 | 32 | 100 | 68 | ~0.72 | ~0.001 | ~0.23 |
| *DDH 83-3 | no samples, minor mineralization noted | | | | | | |
| *DDH 83-4 | no samples, minor mineralization noted | | | | | | |

A more detailed description of these work programs may be found in assessment report #11,345 and #15,071.

In 1992, a program of mapping and sampling was undertaken.. Grab samples from the adit dump returned values as high as 18,325 ppm copper, 667 ppb gold, 15.1 ppm silver, while a 2 meter sample from a stockwork zone southwest of the adit returned 10,786 ppm copper, 214 ppb gold, 8.9 ppm silver and 236,000 ppb mercury. The variations in vein mineralogy, and crosscutting structures noted in this program suggest several periods of mineralization has occurred.

REGIONAL GEOLOGY

The area north of Kamloops Lake is underlain by rocks of Upper Triassic to Tertiary age. The following rocks occur in the area, (after Game, 1985), (figure 2).



LEGEND

KAMLOOPS GROUP


- 12 Tranquille Beds: conglomerate, sandstone, tuff, minor coal
- 11 Rhyolite, andesite, basalt, tuffs, agglomerate
- 10 Coldwater Beds: conglomerate, sandstone

CRETACEOUS OR TERTIARY

- 9 Copper Creek Intrusions: granite, granodiorite, granite porphyry
- 8 Andesite basalt, picrite, agglomerate, breccia, tuff, minor conglomerate, sandstone
- 7 Conglomerate, sandstone and shale

UPPER TRIASSIC

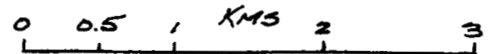
- 3 Nicola Group: greenstone, andesite-basalt, agglomerate, breccia, minor argillite, limestone, conglomerate

 Thrust fault (ball on downthrown side)

**SUN PROPERTY
LOCATION &
REGIONAL GEOLOGY**

921/15 FIGURE 2

1:50,000



Kamloops Group

Dewdrop Flats formation
porphyritic basalt, breccia, andesite and agglomerate

Tranquille formation
conglomerate, sandstone, shale, tuff

Coldwater formation
conglomerate, sandstone, shale, coal

Ashcroft formation
coarse conglomerate (+minor sandstone)

Post-Lower Cretaceous

Copper Creek Intrusions
granite, granodiorite, granite porphyry

Lower Cretaceous-Upper Triassic

Nicola Group
andesite, basalt, picrite, serpentine, tuffs, augite porphyry
conglomerate, sandstone, argillite, limestone

The Afton copper-gold porphyry mine is located 17 kilometres to the east-southeast of the property and an old mercury mine occurs within the property. Prospects in the area include gold-silver epithermal-style mineralization and numerous mercury showings.

For a more detailed review of the regional geology, work of Cockfield, 1948, or Preto, 1977 can be referred to.

PROPERTY GEOLOGY

The Sun Property is predominantly underlain by porphyritic augite and olivene basalt that are cut by various andesite to basaltic dykes and a granodiorite-quartz-diorite stock. Conglomerate and minor sandstone of the Kamloops Group overlie the volcanic rocks to the west of the property. Detailed petrographic analyses of several rock types was performed by Game, 1983, and is summarized below:

porphyritic augite basalt

Reddish or green porphyritic rock composed of augite crystals in a fine grained plagioclase-rich groundmass. The plagioclase has undergone extensive alteration to sericite and saussurite. The phenocrysts are stained reddish with hematite. Calcite and serpentine fills fractures and vugs in the matrix.

porphyritic olivene basalt (Picrite porphyry)

Hard, darkgreen or reddish phenocrysts in a soft, soapy, light green aphanitic groundmass. Composed of sericite-saussurite altered plagioclase, olivene and calcite. The olivene is almost completely altered to serpentine, calcite and hematite.

Andesite (dykes)

Fine grained plagioclase groundmass with secondary vein minerals of quartz, calcite and chlorite.

biotite diorite, quartz-diorite

Light grey, phaneritic biotite quart diorite. Weakly sericitic euhedral plagioclase crystals, biotite, magnetite and pyrite with crosscutting calcite veins. Biotite exhibits both primary and secondary phases (Game, 1985).

To the west of the quartz diorite intrusion, biotite lamprophyre or diabase, and rhyolite occurs. Several areas of the property contain highly serpentinous-clay altered volcanic rocks.

ALTERATION AND MINERALIZATION

The volcanic rocks are moderate to strongly chlorite-epidote-saussurite altered throughout the property, with development of carbonate, serpentinite, and silicified zones. Secondary biotite alteration has converted to chlorite (Game, 1985). Mineralization consisting of chalcopyrite and bornite occurs within shears and fractures trending dominantly north to northwest and are cut by northeast trending fractures. The mineralization occurs as massive veinlets and veins in shears from 0.1 to 2-3 metres in width with disseminations and smears along microfractures and veinlets. The gangue consists of quartz, carbonate, chlorite, epidote-saussurite and clays. Gypsum, anhydrite, and possibly fluorite and mariposite occur with quartz carbonate veins and chalcopyrite-bornite mineralization. Several shears and veins elsewhere on the property contain elevated silver (Ag), antimony (Sb), mercury (Hg), arsenic (As) and gold (Au).

1996 GEOPHYSICAL SURVEY

In January, 1996, a geophysical crew was mobilized to the Sun Property to conduct an EM16-R resistivity survey. The EM16R gives a direct reading of the apparent resistivity of the ground in ohm-metres. The method enables the estimation of conductivity and thickness of overburden and aids interpretation and delineation of contact zones and detection of anomalous conductive and resistive zones beneath the surface.

Two components were measured during the course of the survey: 1) Apparent Resistivity (ohm-metres); and 2) Phase Angle (0-90 degrees). The apparent resistivity value is a function of the resistivity of the top layer, and if present, on the resistivity of a lower second layer. In general, if the ground is homogenous and not layered the phase angle will be 45°. In the case of a deeper second layer being present the phase angle generally increases if it is more conductive, and decreases if it is of higher resistivity.

Four lines, approximately 2500 metres in total length, were surveyed over the known mineralized zones and workings, and to the North where overburden has hindered previous mapping and prospecting programs. The lines were oriented at 097°, as this most favourably coupled with the VLF-EM transmitter at Annapolis, Maryland (21.4 Khz). Readings were taken at 20 metre intervals, utilizing a 20 meter dipole, along the lines (Figure 3).

Results from the survey show a high resistivity trend striking generally north-northwest through the grid. The southern portion of this trend splays to a north-south strike.

There is a strong correlation between the anomalous rock samples taken in 1992 and the western flank of this geophysical feature. On L1900N/1370E, by the shaft, strong silicification and quartz carbonate stockwork was noted, correlating well with the elevated apparent resistivity and low phase angle.

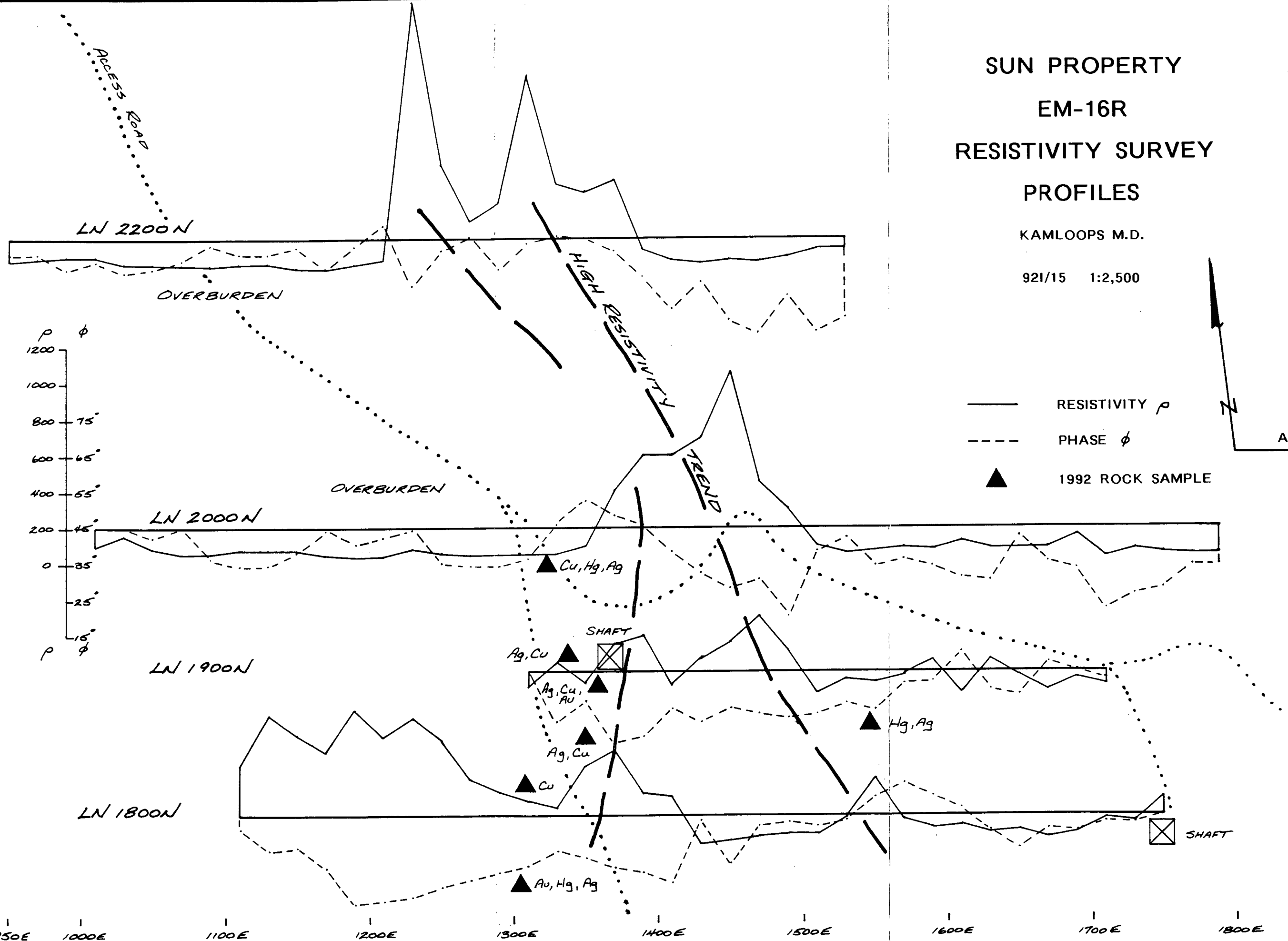
To the north, on L2200N, this trend is quite pronounced. Deep hand augering (if possible) in the overburden adjacent of this feature is recommended to test the hypothesis that the mineralization is associated with the western flank of this resistive feature.

SUN PROPERTY
EM-16R
RESISTIVITY SURVEY
PROFILES

KAMLOOPS M.D.

921/15 1:2,500

ANNAPOLIS
21.4 kHz
097°



- RESISTIVITY ρ
- - - PHASE ϕ
- ▲ 1992 ROCK SAMPLE

950E 1000E 1100E 1200E 1300E 1400E 1500E 1600E 1700E 1800E

CONCLUSIONS AND RECOMMENDATIONS

The Sun Property contains extensive hydrothermal alteration and shearing developed within a highly active tectonic environment. Continuous veins and shears of copper mineralization may be dissected by strong regional structures, however, the presence of elevated quantities of mercury, antimony, and anomalous gold and silver within proximity to the intrusions indicates potential for more recent epithermal style mineralization.

Results for the EM16R resistivity survey indicate some reasonable potential in this method for identifying regions of silicification and alteration. Continued use of this geophysical tool, combined with deep augering along the western flank of the northern reaches of the high resistivity zone delineated by the 1996 survey, is recommended to test this hypothesis.

STATEMENT OF COSTS

| | |
|--------------------------------------|----------------------|
| Personnel | |
| R. Krawinkel, Geophysicist | |
| 5 days @ \$350/day | \$1,750 |
| C. Basil, Geophysical Operator | |
| 5 days @ \$295/day | 1,475 |
| 4x4 truck 5 days @ \$90/day | 450 |
| Tolls/Fuel | 220 |
| EM16R Rental 5 days @ \$35/day | 175 |
| Room and Board 10 mandays @ \$90/day | 900 |
| Supplies/Survey Equipment Rental | 145 |
| Report/Drafting/Reproductions | <u>900</u> |
| | Total \$6,015 |
| | Work Applied \$6,000 |

REFERENCES

Blann, D.E., 1992: Assessment Report on the Sun Property.

Cockfield, W.E., 1948: Geology and Mineralogy of the Nicola Map-Area, British Columbia; Geological Survey of Canada, Memoir 249.

Game, R.E., 1984: Economic Geology and Mineralogy of the Bornite Property, Savona, B.C., Unpublished B.A.Sc. thesis.

Game, R.E., 1985: Assessment Report on the Bornite Claims and Tenderfoot Crown Grant. Assessment Reports #11,354, #15,071.

Preto, V.A., 1967: Nicola volcanics, Plutons, and Mineral Deposits; Fieldtrip No. 5 Guidebook,, GAC-SEG Annual Meeting, 1977.

STATEMENT OF QUALIFICATIONS

I, CHRISTOPHER M. BASIL, of 16-1609 Harwood Street, Vancouver British Columbia, DO HEREBY CERTIFY:

- 1) That I have been employed by Coast Mountain Geological LTD since 1988 as a Geophysical Operator and Project Manager.
- 2) That I majored in Physics at McGill University, Montreal, Quebec from 1977 to 1981.
- 3) That I completed the Advanced Prospecting Course through Malaspina College.
- 4) That I have been practicing my profession for 15 years.
- 5) That the information, conclusions and recommendations in the report are based on personal work on the property during 1996, and a review of pertinent literature.

Dated at Vancouver, British Columbia this 31 day of March, 1996.



Christopher Basil
Vice President, Coast Mountain Geological Ltd.