AQUITAINE COMPANY OF CANADA LIMITED (OWNER AND OPERATOR)

COOPER CREEK PROJECT

(Perth-Pyrite reverted Crown Grants - GOAT 1-3 claims)

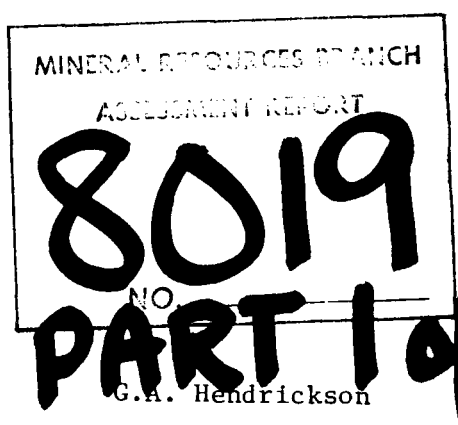
REPORT ON GEOPHYSICAL WORK

LONGITUDE: 117° 10'W

LATITUDE: 50° 09' 30"N

SLOCAN MINING DIVISION, NTS 82 K/3E

BRITISH COLUMBIA



G.A. Hendrickson

September 21, 1979.

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INTRODUCTION

During the period June 24 to June 29, 1979, Aquitaine Company of Canada Ltd. carried out ground electromagnetic and magnetic surveys on the Cooper Creek property. The property is located in the Slocan mining district and lies within NTS map sheet 82 K/3.

There are no roads to the property and access is only by helicopter. The nearest helicopter base is in Nelson, B.C.

The purpose of this work was to investigate a showing of copper and zinc that had been known for several years. The initial geologic concept of this property suggested that it could host a volcanogenic massive sulphide deposit thus the geophysical work was geared to this idea.

The target host rocks are the volcanics, volcaniclastics and argillites assigned to the Permain and/or Triassic Kaslo Group.

PERSONNEL

			Time devoted to project
Bill Heshka	- Geologist	- Calgary, Alberta -	5 Days
Grant Hendrickson	- Geophysicist	- Calgary, Alberta -	7 Days
Abram Davis	- Helper	- Nelson, B.C. -	2 Days
Al Mason	- Helper	- Nelson, B.C. -	2 Days

INSTRUMENTS

- APEX PARAMETRICS MAXMIN III electromagnetic system.
- SCINTREX MP-2 magnetometer.

Specifications on these instruments can be found at the back of this report.

SURVEY PROCEDURE

A small grid was cut on property. Lines were oriented to cross the regional strike of the rocks at right angles. A base line (bearing 334^{o}) was put in and six cross lines 1km in length and spaced 100m apart were established. The cutting of this grid was only partially successful despite a good effort by the line cutting crew. The topography and bush conditions made progress extremely slow. Working on the cut lines with the geophysical equipment was impractical in many areas thus the coverage is not complete. The rough topography also required that the lines by accurately secant-chained to allow topographical corrections to be applied to the H.E.M. data.

The H.E.M. data was recorded at 1777Hz and 444Hz. The coil separation was always 200m horizontal. Corrections for the coil separation variation with the slope were made to the in-phase data.

The magnetic surveying was done with a total field proton magnetometer. The sensor was carried on a back-pack which reduces the accuracy to ± 5 gammas. A base station was occupied periodically to ensure against errors due to diurnal drift of the earth's magnetic field. Data was recorded at 25m intervals along the lines.

DISCUSSION OF RESULTS

Due to the problems with the grid, line 3N is the only line that the electromagnetic system was used on. This line lies 100m below the showing thus is a good test of any southern extension of the mineralization. There is an indication of a very weak conductor at 1+25W, however, a much higher frequency (V.L.F. range) signal is needed to excite this type of conductor. Another stronger conductor was picked up at 3+95W. This conductor is weak and originates from a source 40m deep. These types of response are more typical of thin veins and/or fault zones.

The conductivity of mineralized samples from the adit area was checked with a ohmmeter and found to be very variable. Some samples appeared to be very zinc rich which probably explains the poor conductivity in some samples.

Most of the grid was covered with the magnetometer. The magnetic anomalies to the west of the baseline on L 4N are related to pyrrhotite mineralization especially the sharp reversal close to the baseline. These anomalies are typical of narrow sources close to the surface and appear to extend to the north within the canyon. The magnetic anomalies also continue weakly to the south at least as far as L 3N. The thickening of the overburden south of 3+75N tends to obscure the magnetic response. The magnetics suggest a steep west dip which agrees with the geology. The magnetic susceptibility of mineralized samples from the adit varies greatly. Some well mineralized samples are virtually non-magnetic, whereas others are strongly magnetic. The magnetic responses of the eastside of L 4N lie within the granite and are probably related to magnetite

CONCLUSION

The limited amount of geophysical work has not provided much encouragement for a large massive sulphide deposit within 100m of the surface along L 3N. The property still has a lot of potential and should not be dropped on the basis of the geophysical work. A more complete geophysical coverage of the grid would have been preferable. A V.L.F. survey would be more effective at mapping small massive veins, however, this also would be a difficult survey to carry out. The data would have to be corrected for topography.

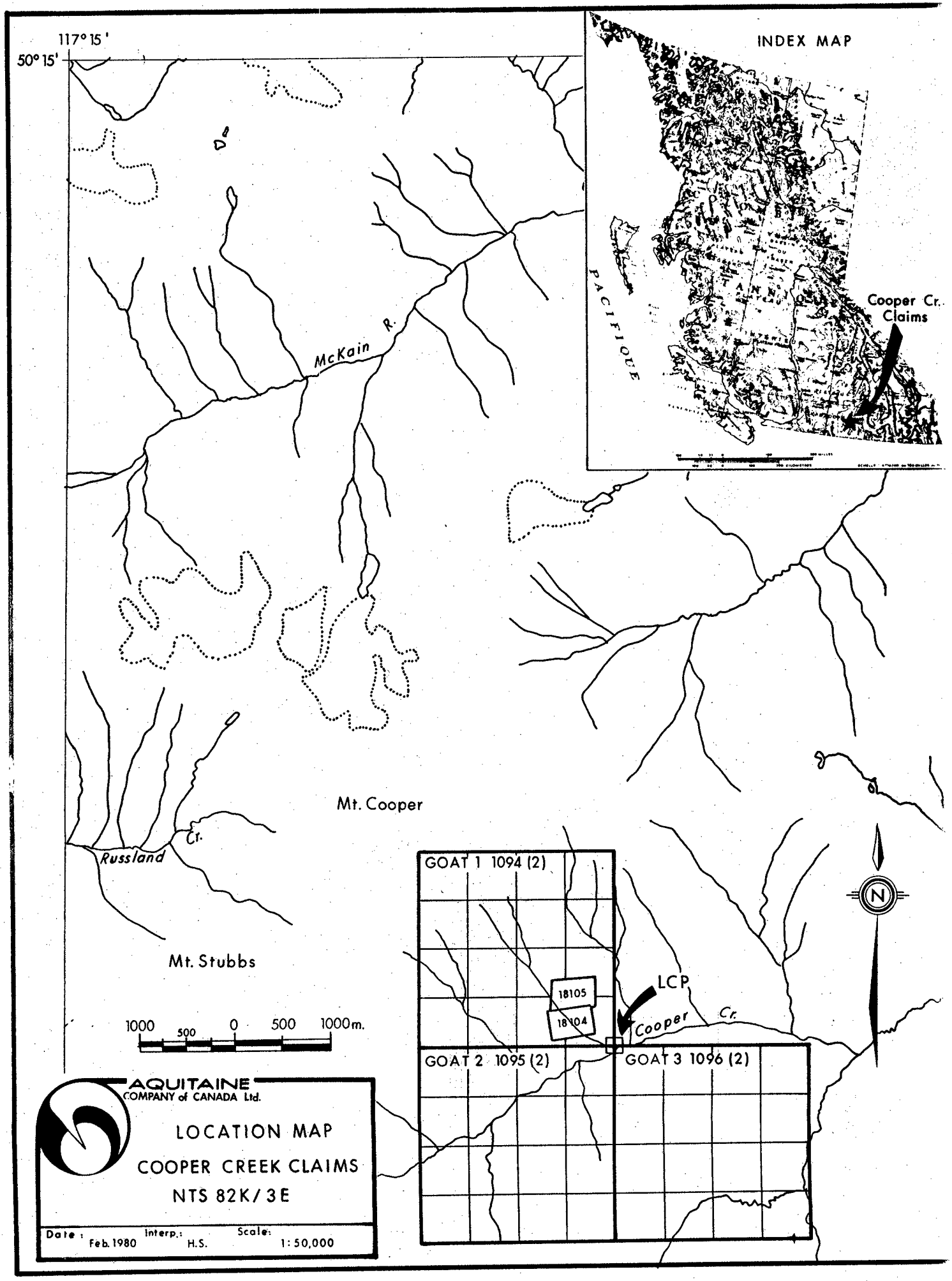
The decision on any further work is primarily a geological decision. Combining the knowledge of the property we obtained this summer with that of the previous operators, one can come up with a drill hole location that would test the best information and potential of the property.

To test the southern extension of the showing

collar - 3+90N and 2+00W
dip - minus 45°
azimuth - 89°
depth - 140 meters

The weak conductor at 3+95W on L 3N may become a drill target if there is some supporting geological information.

If further geophysical work is to be carried out I recommend VLF and/or I.P.-Resistivity coverage.


117° 15'
50° 15'
INDEX MAP
PACIFIQUE
Cooper Cr. Claims
McKain R.
Mt. Cooper
Russland Cr.
Mt. Stubbs
GOAT 1 1094 (2)
18105
18104
LCP
Cooper Cr.
GOAT 2 1095 (2)
GOAT 3 1096 (2)
N
1000 500 0 500 1000m.
AQUITAINE
COMPANY of CANADA Ltd.
LOCATION MAP
COOPER CREEK CLAIMS
NTS 82K/3E
Date : Feb. 1980
Interp.: H.S.
Scale: 1:50,000

STATEMENT OF QUALIFICATION

1. I am a graduate of the University of British Columbia. B.Sc. 1971, major in Geophysics. Since graduation, I have worked one year as a Junior Mine Geologist and eight years as an Exploration Geophysicist. Currently employed as a Mining Project Geophysicist for Aquitaine Company of Canada Limited.

2. I am a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.

3. I am also an active member of the S.E.G., C.S.E.G. and the C.I.M.M.

G. Hendrickson.

MP-2

Proton Precession Magnetometer

I. General Information

The MP-2 is a portable one gamma proton precession magnetometer suitable for field survey or base station use. The total intensity of the magnetic field is measured and displayed on a five digit light emitting diode (LED) readout within 3.7 seconds. As no leveling is required, a rapid survey is possible to a high accuracy anywhere on the earth. An optional low temperature kit converts the instrument easily for winter use. The sensor is either staff mounted, or carried in a backpack. Two separate attachment joints orient the sensor for either polar or equatorial use.

II. Specifications

The MP-2 has the following specifications:

Resolution	1 Gamma
Total Field Accuracy	$\pm$ 1 Gamma over full operating range.
Range	20,000 to 100,000 gammas in 25 overlapping steps.
Internal Measuring Programme	Single reading - 3.7 seconds. Recycling feature permits automatic repetitive readings at 3.7 seconds intervals.
External Trigger	External trigger input permits use of sampling intervals longer than 3.7 seconds.
Display	5 digit LED (Light Emitting Diode) readout displaying total magnetic field in gammas or normalized battery voltage.
Data Output	Multiplied precession frequency and gate time outputs for base station recording using interfacing optionally available from Scintrex.
Gradient Tolerance	Up to 5000 gammas/metre.
Power Source	8 alkaline "D" cells provide up to 25,000 readings at 25°C under reasonable signal/noise conditions (less at lower temperatures). Premium carbon-zinc cells provide about 40% of this number.
Sensor	Omnidirectional, shielded, noise-cancelling dual coil, optimized for high gradient tolerance.
Harness	Complete for operation with staff or back pack sensor.
Operating Temperature Range	-35°C to +60°C

Size	Console, with batteries: 80 x 160 x 250 mm. Sensor: 80 x 150 mm. Staff: 30 x 1550 mm. (extended) 30 x 600 mm. (collapsed)
Weights	Console, with batteries: 1.8 kg. Sensor: 1.3 kg Staff: 0.6 kg

APEX MAXMIN III PORTABLE EM

- **Five frequencies: 111, 222, 444, 888 and 1777 Hz.**
- **Maximum coupled (horizontal-loop) operation with reference cable.**
- **Minimum coupled operation with reference cable.**
- **Vertical-loop operation without reference cable.**
- **Coil separations: 50, 100, 150, 200, 250 and 300 m (with cable) or 200, 300, 400, 600, 800 and 1000 ft.**
- **Reliable data from depths of up to 210m (700 ft).**
- **Built-in voice communication circuitry with cable.**
- **Tilt meters to control coil orientation.**

SPECIFICATIONS:

Frequencies: 111, 222, 444, 888 and 1777 Hz

Modes of Operation:
MAX: Transmitter coil plane and receiver coil plane horizontal (Max-coupled; Horizontal-loop mode). Used with refer. cable.
MIN: Transmitter coil plane horizontal and receiver coil plane vertical (Min-coupled mode). Used with reference cable.
V.L.: Transmitter coil plane vertical and receiver coil plane horizontal (Vertical-loop mode). Used without reference cable, in parallel lines.

Coil Separations: 50, 100, 150, 200, 250 and 300 m (MMIII) or 200, 300, 400, 600, 800 and 1000 ft (MMIIIF).
Coil separations in V.L. mode not restricted to fixed values.

Parameters Read:
- In-Phase and Quadrature components of the secondary field in MAX and MIN modes.
- Tilt-angle of the total field in V.L. mode.

Readouts:
- Automatic, direct readout on 90mm (3.5") edgewise meters in MAX and MIN modes. No nulling or compensation necessary.
- Tilt angle and null in 90mm edgewise meters in V.L. mode.

Scale Ranges:
In-Phase: ±20%, ±100% by push-button switch.
Quadrature: ±20%, ±100% by push-button switch.
Tilt: ±75% slope.
Null (V.L.): Sensitivity adjustable by separation switch.

Readability: In-Phase and Quadrature: 0.25% to 0.5%; Tilt: 1%.

Repeatability: ±0.25% to ±1% normally, depending on conditions, frequencies and coil separation used.

Transmitter Output:
- 111 Hz : 600 Atm^2
- 222 Hz : 550 Atm^2
- 444 Hz : 300 Atm^2
- 888 Hz : 150 Atm^2
- 1777 Hz : 75 Atm^2

Receiver Batteries: 9V trans. radio type batteries (4). Life: approx. 35 hrs. continuous duty (alkaline, 0.5 Ah), less in cold weather.

Transmitter Batteries: Rechargeable gel-type batteries. Total capacity: 24V, 9Ah. (Two 14.4V 1A chargers supplied).

Reference Cable: Light weight 2-conductor teflon cable for minimum friction. Unshielded. All reference cables optional at extra cost. Please specify.

Voice Link: Built-in intercom system for voice communication between receiver and transmitter operators in MAX and MIN modes, via reference cable.

Indicator Lights: Built-in signal and reference warning lights to indicate erroneous readings.

Temperature Range: -40°C to +60°C (-40°F to +140°F).

Receiver Weight: 6kg (13 lbs.)

Transmitter Weight: 26kg (57 lbs.)

Shipping Weight: Typically 100kg (220lbs.), with one of each reference cable length.
Shipped in two field/shipping cases.

APEX PARAMETRICS LIMITED
200 STEELCASE RD E, MARKHAM, ONT, CANADA

TO ACCOMPANY THE COPPER CREEK REPORT
NTS 82 K/3E

FIG. 1

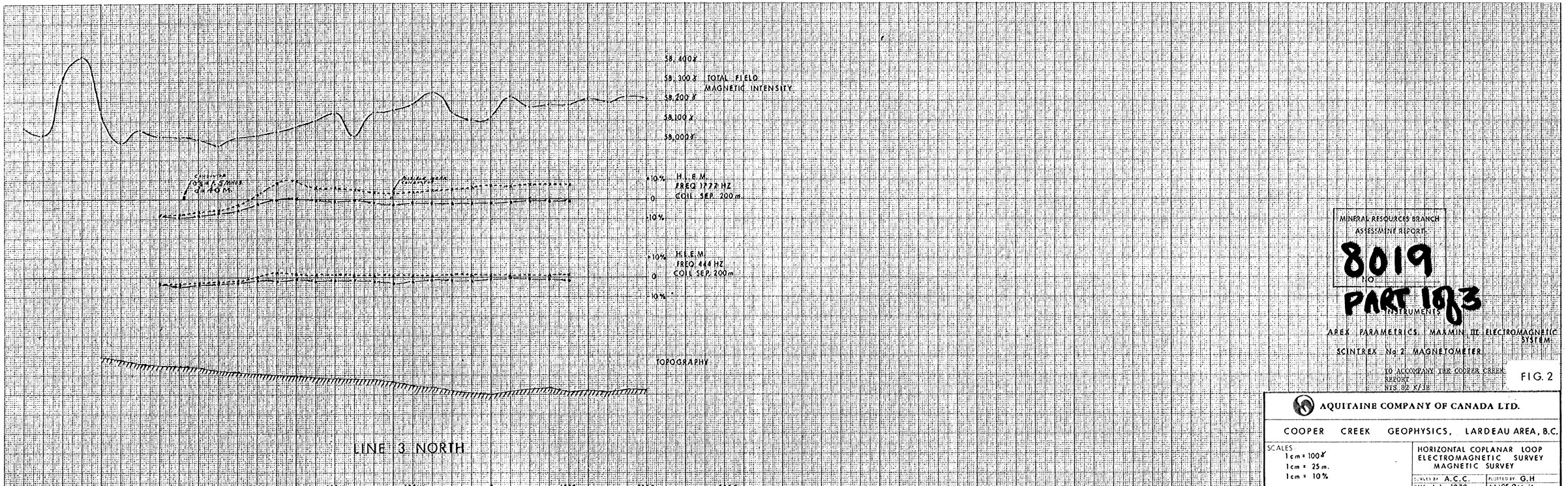
AQUITAINE COMPANY OF CANADA LTD.

COOPER CREEK GEOPHYSICS, LARDEAU AREA, B.C.

SCALES
1cm = 200γ
1cm = 25 m.
SCINTREX MP2 MAGNETOMETER

TOTAL FIELD MAGNETIC SURVEY

SURVEY BY A.C.C. PLOTTED BY G.H.
DATE July, 1979 A.F. 195-9 AX-28



INSTRUMENTS

APEX PARAMETRICS, MAXMIN III ELECTROMAGNETIC SYSTEM

SCINTREX No 2 MAGNETOMETER

TO ACCOMPANY THE COOPER CREEK REPORT
NTS 82 K/3E

FIG. 2

AQUITAINE COMPANY OF CANADA LTD.

COOPER CREEK GEOPHYSICS, LARDEAU AREA, B.C.

SCALES
1 cm = 100γ
1 cm = 25 m.
1 cm = 10%

HORIZONTAL COPLANAR LOOP ELECTROMAGNETIC SURVEY
MAGNETIC SURVEY

SURVEY BY A.C.C. PLOTTED BY G.H
DATE July, 1979 AP 195-9AX-28