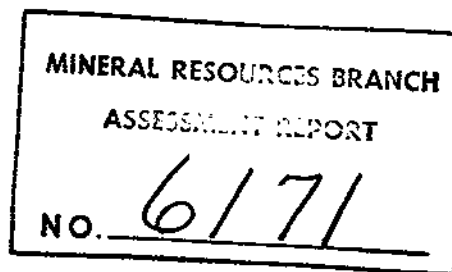


6171

GEOPHYSICAL REPORT *.77-#42-#6171*
On An
INDUCED POLARIZATION SURVEY
On Behalf Of
VITAL MINES LTD.

Cosa and Nostra claims, Sicily Lake area
Kamloops Mining Division, B. C.
Lat. $51^{\circ}46'N$ Long. $120^{\circ}22'W$ N.T.S. 92 P/16

AUTHOR: Glen E. White
DATE OF WORK: July 31 - August 3, 1976
DATE OF REPORT: September 13, 1976



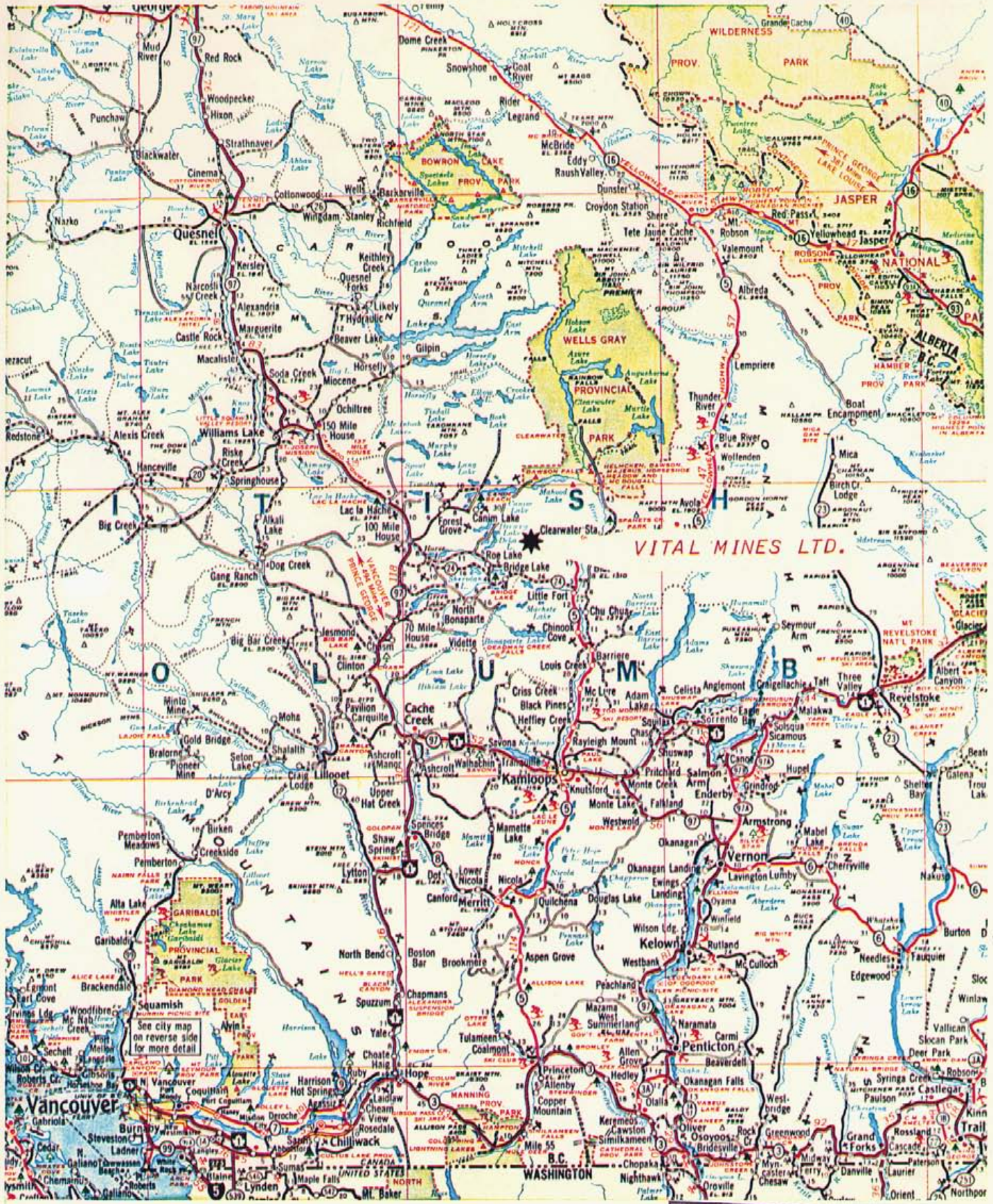
T. R. Ryan
7.11.77

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VITAL MINES LTD.
LOCATION MAP

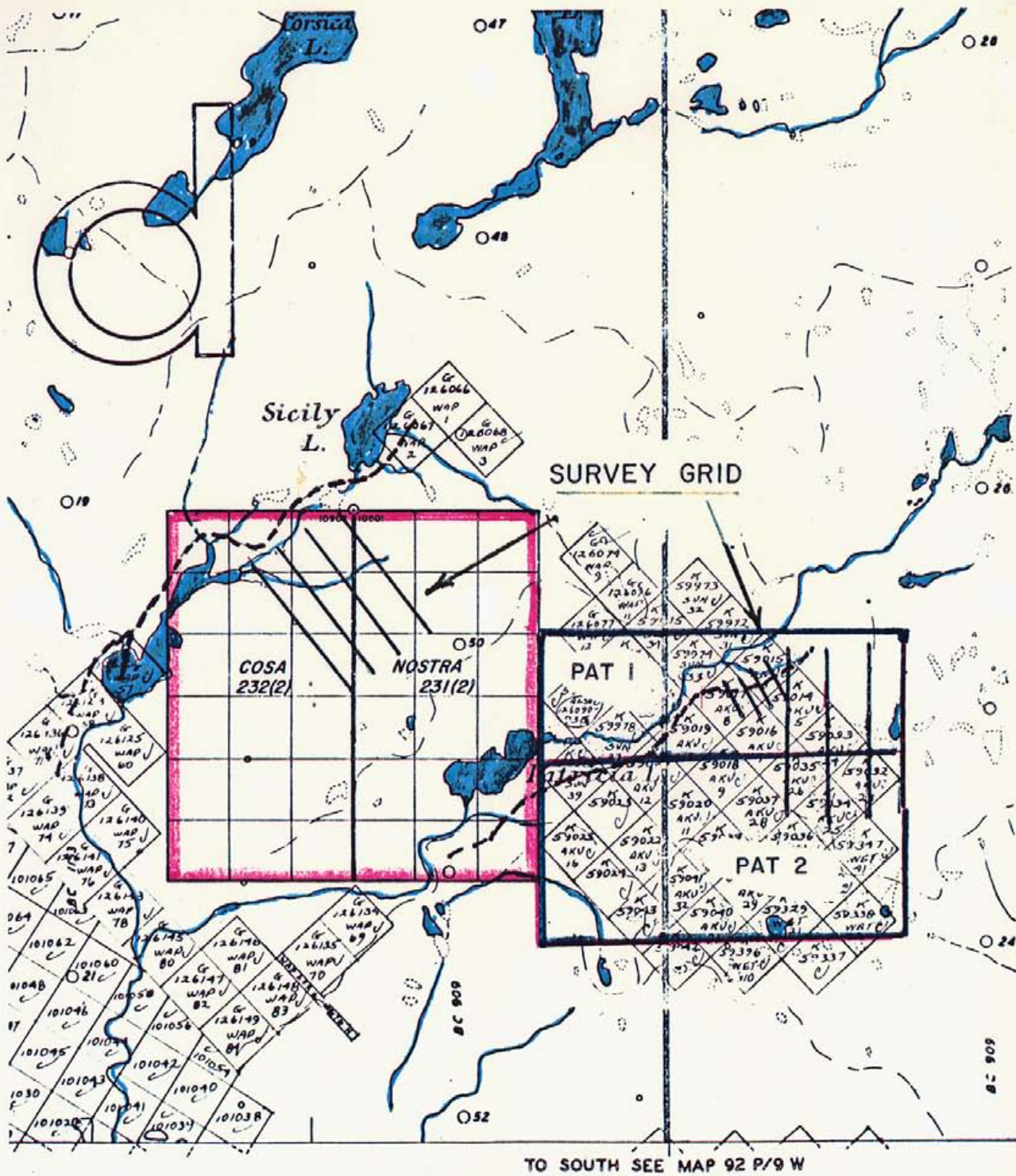
SCALE: LOCATION MAP 1" = 40 MILES APPROX.

MINERAL RESOURCES BRANCH

ASSESSMENT REPORT

No. 6171

Glen E. White
geophysical consulting
&
consultants Ltd.



VITAL MINES LTD.
LOCATION MAP

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 6171

Glen C. White
geophysical consulting
&
services ltd.

INTRODUCTION

In the interum July 31 - August 3, 1976, Glen E. White Geophysical Consulting & Services Ltd. conducted a program of induced polarization surveying on the Cosa and Nostra claims, Clearwater area, Kamloops Mining Division. The program was conducted on behalf of Vital Mines Ltd.

PROPERTY LOCATION AND ACCESS

The property consists of the Cosa and Nostra mineral claims comprising a total of 36 contiguous units. Latitude $51^{\circ}46'N$, Longitude $120^{\circ}22'W$, N.T.S. 92 P/16. Access is via good gravel logging roads owned by Clearwater Forest Products. The distance from Clearwater to Sicily Lake is some 26 miles.

GENERAL GEOLOGY

Geology Map Bonaparte Lake Map 1278A illustrates the regional geology of the survey area. The claims lie on a small batholith Cretaceous age consisting of biotite quartz monzonite, granodiorite and minor pegmatite and apalite. The area has been extensively glaciated and contains variable depths of unsorted glacial till. The forest cover consists of spruce, hemlock, cedar and fir with windfall and buckbrush.

SURVEY SPECIFICATIONS

Survey Grid

The survey grid consisted of lines spaced 800 feet apart from 132N to 156N orientated in a NW - SE direction. Some 3 miles of surveying were conducted.

Electrode Array

The data was obtained using the Wenner array. This array consists of two outside current stakes and C_1 and C_2 and two inside potential electrodes P_1 and P_2 which are spaced equal distance apart, known as the "a" spacing, and moved together along a traverse line. A 300 foot "a" spacing was used for this survey.

Induced Polarization System

A time domain Hunttec MK III receiver and a LOPO M-3 transmitter were used for this survey. The data recorded in the field consisted of the current (I) flowing through electrodes C_1 and C_2 , the primary voltage (V_p) appearing between electrodes P_1 and P_2 during the "current on" part of the cycle and four segments, M_1 , M_2 , M_3 and M_4 , in percent of the secondary voltage (V_s) during the "current off". A continuous cycle time of 4 seconds was used with

approximately 1.5 seconds on and 0.5 seconds off with the current then reversing in polarity to complete the cycle until stable readings were obtained. A period of 20 msec. and a delay time of 60 msec. were used. The four M factors were then numerically summed to obtain the area under the decay curve in milliseconds.

DISCUSSION OF RESULTS

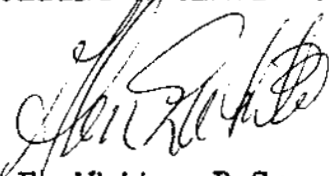
The induced polarization chargeability data, Figure 2, shows a strong chargeable source in the center of the survey area. This anomaly appears to trend northward from line 132N and reaches a high of 16.5 msec. above a background of some 2.0 msec.

The apparent resistivity map, Figure 3, indicates no definite correlation between the chargeability and resistivity values. The resistivity data shows moderate variations which can be attributed to changes in the overburden and depth to bedrock. The higher resistivity values would suggest the close proximity of bedrock.

CONCLUSION AND RECOMMENDATIONS

During the early part of August 1976, an induced polarization survey was conducted on the Cosa and Nostra claims on behalf of Vital Mines Ltd. The survey detected a moderately anomalous chargeability response which could be caused by some 2 - 6% by volume of sulphide mineralization and is therefore worthy of further investigation.

Respectfully submitted,
GLEN E. WHITE GEOPHYSICAL
CONSULTING & SERVICES LTD.



Glen E. White B.Sc.
Geophysicist

A P P E N D I X

Instrument Specifications

A. Induced Polarization Receiver

- (1) Type - Hunttec MK III time domain
- (2) Sensitivity - $V_p = 10^{-7}$ to 10^{-6} volts 1% resolution
 $V_p = 10^{-6}$ to 10 volts 0.1% resolution
- (3) Range - 30×10^{-6} to 10 volts
- (4) Self Potential - \neq 1 volt
- (5) M Factor - 0.1%
- (6) Power - 0.7 ampere at 12 volts
Rechargeable batteries
- (7) Size - 16" x 9" x 5 3/4"

B. Induced Polarization Transmitter

- (1) Type - Hunttec LOPO M-3
- (2) Maximum Current - 1.5 A D.C.
- (3) Maximum Voltage - 1,800 V D.C.
- (4) Load Power - \neq 160 watts @ 75% efficiency
- (5) Load Current - Continuously adjustable
- (6) Cycle Time - 2, 4, 8 or 16 seconds

STATEMENT OF QUALIFICATIONS

Name: WHITE, Glen E.

Profession: Geophysicist

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

Professional Associations: Associate member of Society of Exploration Geophysicists.

Active member B.C. Society of Mining Geophysicists.

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

Two years Mining Geophysicist with Sulmac Explorations Ltd. and Airborne Geophysics with Spartan Air Services Ltd.

One year Mining Geophysicist and Technical Sales Manager in the Pacific north-west for W. P. McGill and Associates.

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.

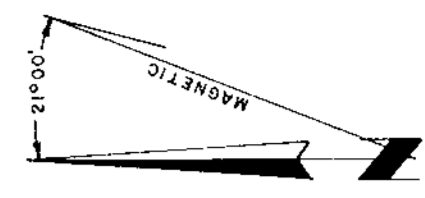
Five years Consulting Geophysicist.

Active experience in all Geologic provinces of Canada.

COST BREAKDOWN

<u>Personnel</u>	<u>Date</u>	<u>Wages</u>	<u>Total</u>
E. MacKenzie.....	July 31 - Aug. 3/76.....	\$90/day.....	\$360.00
D. Steblin.....	"....."	80/day.....	320.00
T. MacKenzie.....	"....."	65/day.....	260.00
E. DeMooy.....	"....."	65/day.....	260.00
Meals and Accomodations.....			320.00
Vehicle plus gas.....			120.00
Instrument Lease.....			340.00
Drafting, Interpretation and Reports.....			<u>344.00</u>
Total.....			<u>\$2324.00</u>

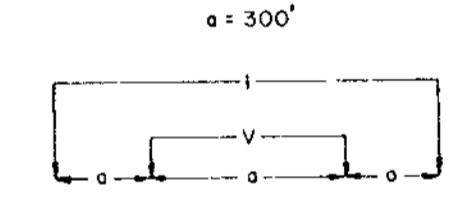
T. Ryan
9.11.77



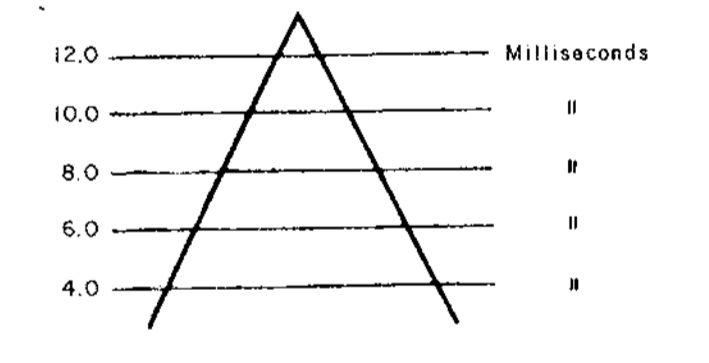
LEGEND

- Contour Line, Contour Interval 4.0, 6.0, 8.0, 10.0, 12.0 Milliseconds
- Stations
- - - Outline of Claims
- Claim Pkts
- == Unimproved Roads

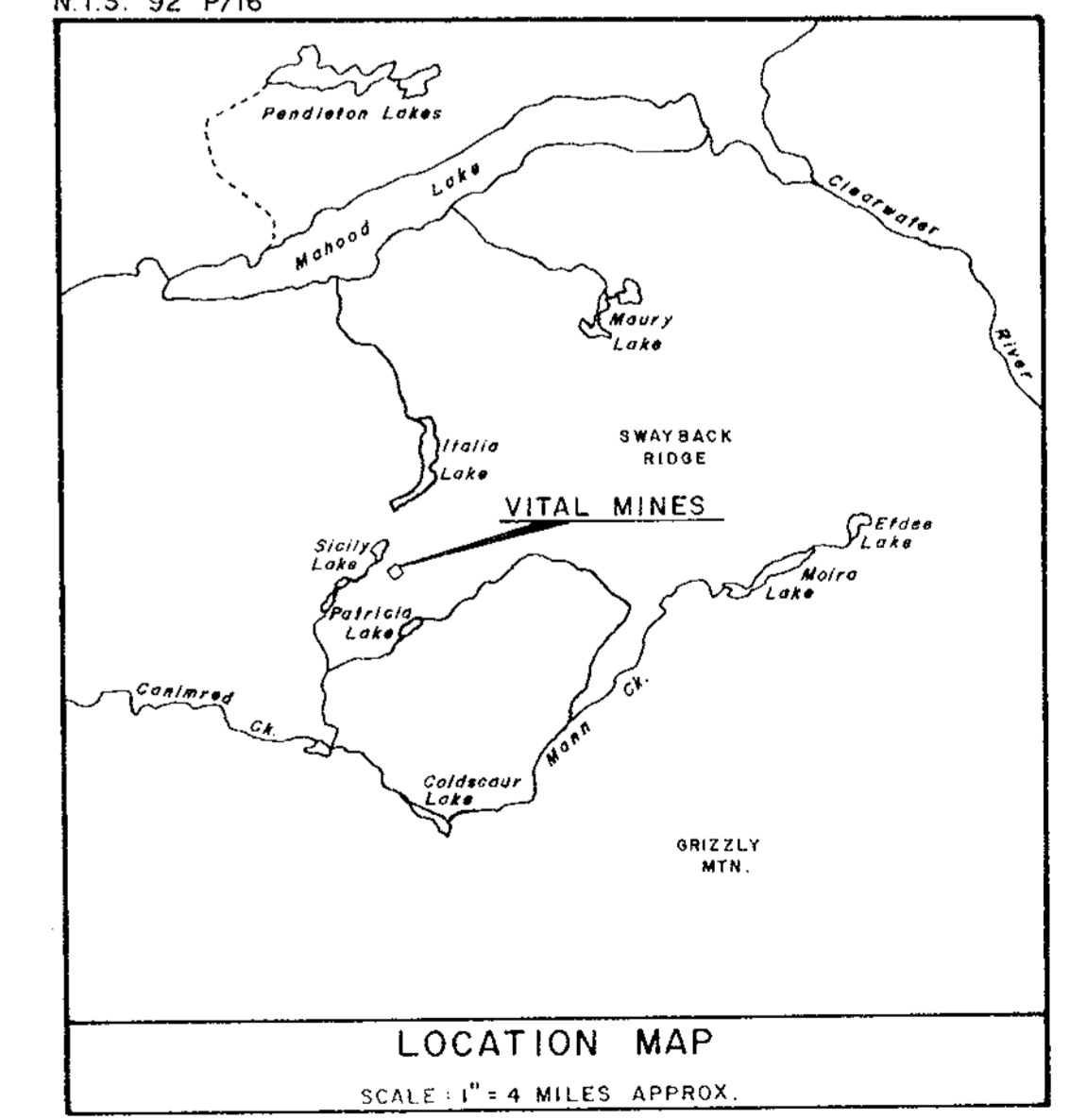
INSTRUMENT : LOPO M-3 WENNER ARRAY



CHARGEABILITY KEY



N.T.S. 92 P/16



LOCATION MAP

SCALE : 1" = 4 MILES APPROX.

VITAL MINES LTD.

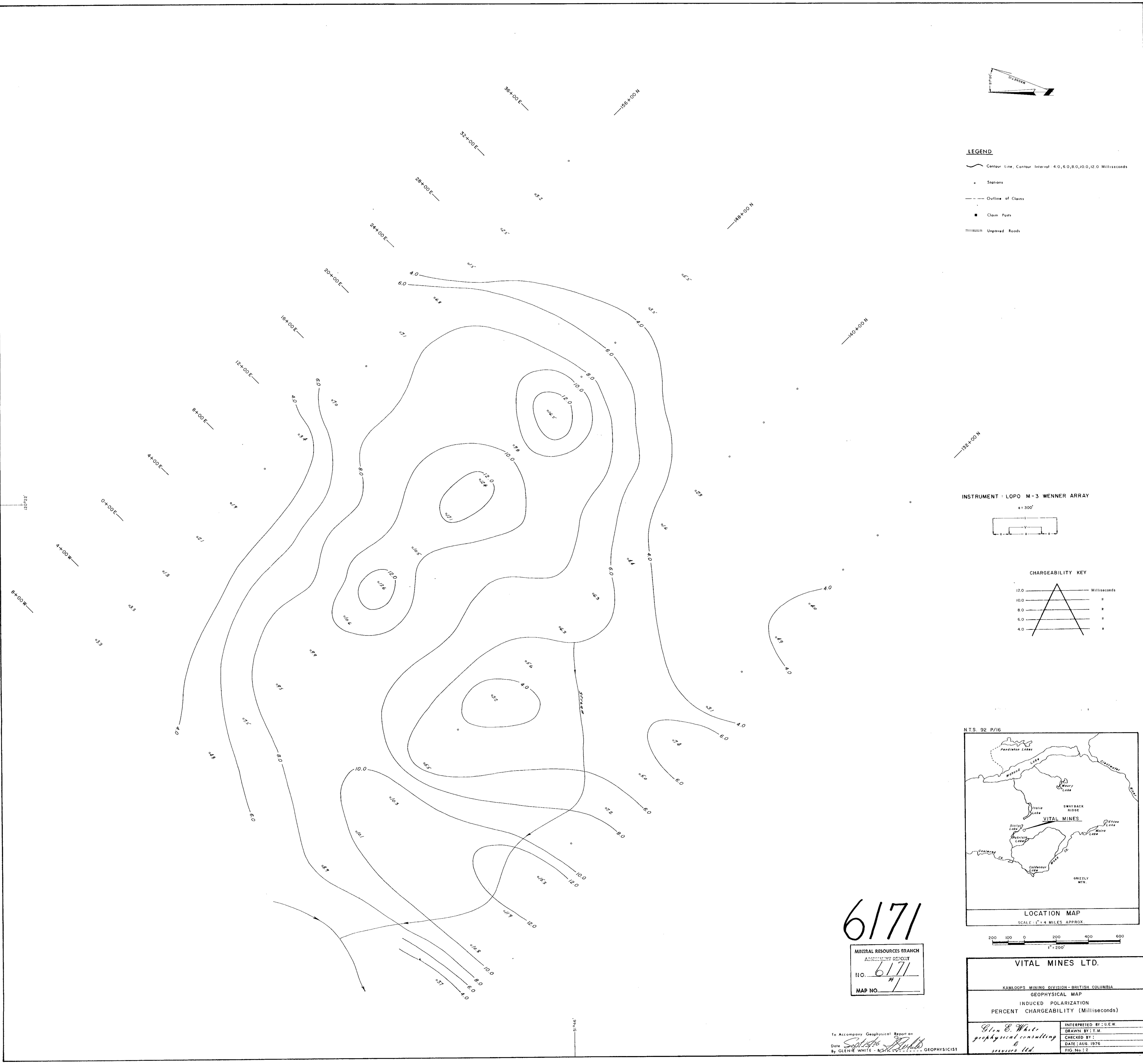
KAMLOOPS MINING DIVISION - BRITISH COLUMBIA
GEOPHYSICAL MAP
INDUCED POLARIZATION
PERCENT CHARGEABILITY (Milliseconds)

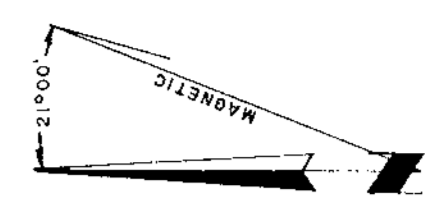
INTERPRETED BY : G.E.W.
DRAWN BY : T.M.
CHECKED BY : T.
DATE : AUG 1976
FIG. No. : 2

6171

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 6171
MAP NO.

To Accompany Geophysical Report on
Date Sept 1976
By GLEN E. WHITE - N.C.S. - GEOPHYSICIST

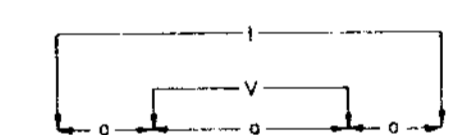




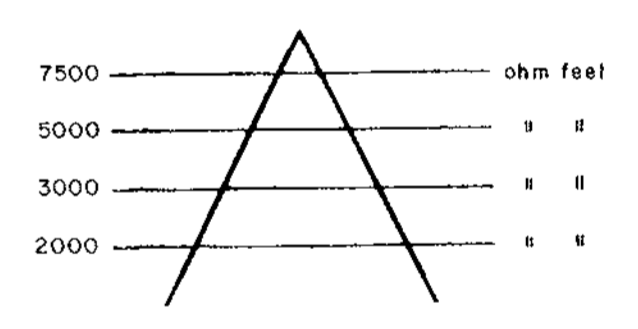
LEGEND

- Contour Line, Contour Interval 2000,3000,5000,7500 ohm feet
- Stations
- Outline of Claims
- Claim Posts
- == Unpaved Roads

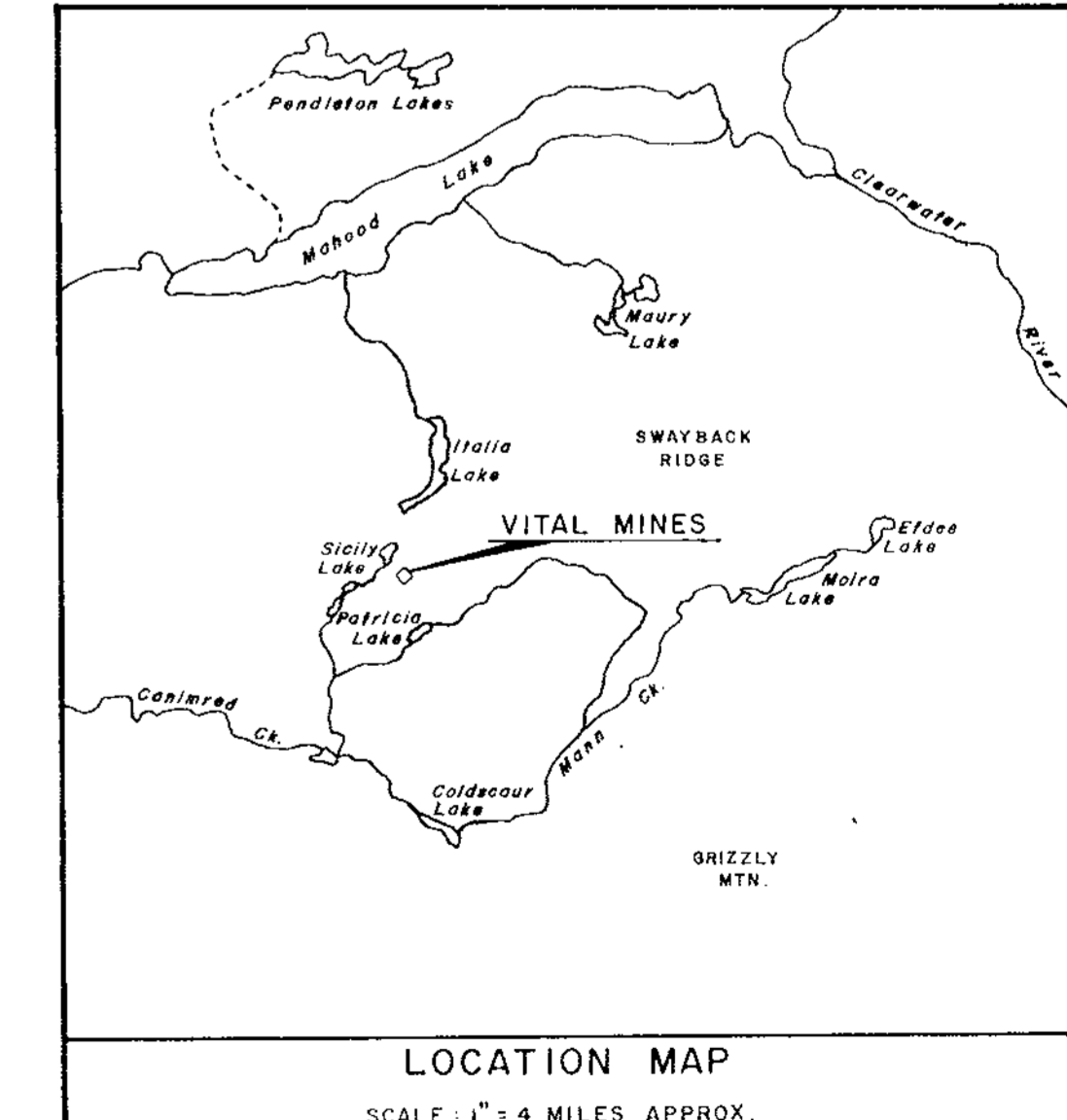
INSTRUMENT : LOPO M-3 WENNER-ARRAY



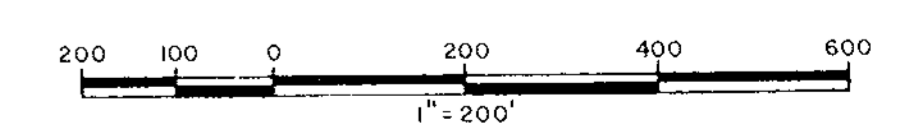
RESISTIVITY KEY



N.T.S. 92 P/16



LOCATION MAP
SCALE 1" = 4 MILES APPROX.



VITAL MINES LTD.

KAMLOOPS MINING DIVISION - BRITISH COLUMBIA
GEOPHYSICAL MAP
INDUCED POLARIZATION
APPARENT RESISTIVITY (ohm feet)

Glen E. White
geophysical consulting
services Ltd.

INTERPRETED BY: G.E.W.
DRAWN BY: T.M.
CHECKED BY: _____
DATE: AUG. 1976
FIG. No.: 3

6171

MINERAL RESOURCES BRANCH
ACCOMMODATION REPORT
NO. 6171
#2
MAP 103

To Accompany Geophysical Report on
Date *Sept 16 1976*
By GLEN E. WHITE - B.S.C. - GEOPHYSICIST

