87-197-15838

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GEOPHYSICAL REPORT
GREEN LAKE RESOURCES LTD.

VLF ELECTROMAGNETOMETER SURVEYS

LILL GROUP OF CLAIMS, LILLOOET LAKE AREA

LILLOOET M.D. N.T.S. 92J/7E LATITUDE: 50°64WN/7 LONGITUDE: 122°365W

Glen E. White, B.Sc., P. Eng.,

Geophysicist

DATE OF WORK: Dec. 4-20,1986 DATE OF REPORT: Jan. 20,1987

Owner G.H. Rayner & ASSOC-

PART 1 OF Z

SUB-SECARORN RECEIVED

APR 2 1987

M.R. # \$..... VANCOUVER, B.C.

FILMED

GEOLOGICAL BRANCH ASSESSMENT REPORT

WHITE GEOPHYBICAL INC.

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ILLUSTRATIONS

FIGURE 1 - Location and Claims Map

FIGURE 2 - Magnetic Intensity

FIGURE 3 - VLF-EM Profiles

FIGURE 4 - VLF-EM Filtered dip angle

PLATE 1 - Compilation Map by Montgomery Consultants Ltd.

PLATE 2 - Regional Airborne Magnetic Intensity

INTRODUCTION

At the request of Green Lake Resources Ltd., White Geophysical Inc. has completed a program of ground magnetometer and VLF electromagnetometer surveying on the LILL claim group on the northwest end of Lillooet Lake.

The surveys were done during the period Dec. 4-20,1986.

The purpose of the surveys was to examine an area of magnetite - pyrite - chalcopyrite - pyrrhotite - skarn and pyrite - chalcopyrite - sphalerite in silicified banded tuffaceous rocks for diamond drill targets as recommended by J.H.Montgomery, Ph.D., P.Eng., in his report on the claims dated November 7,1986.

PROPERTY

The LILL group of claims consists of three claims comprising some 22 units as shown on Figure 1. The claims are listed as follows:

CLAIM	UNITS	RECORD #	DATE
rifr i	10	574	November 1,1986
LILL II	2	575	November 1,1986
LILL IV	10	3234	May 3,1986

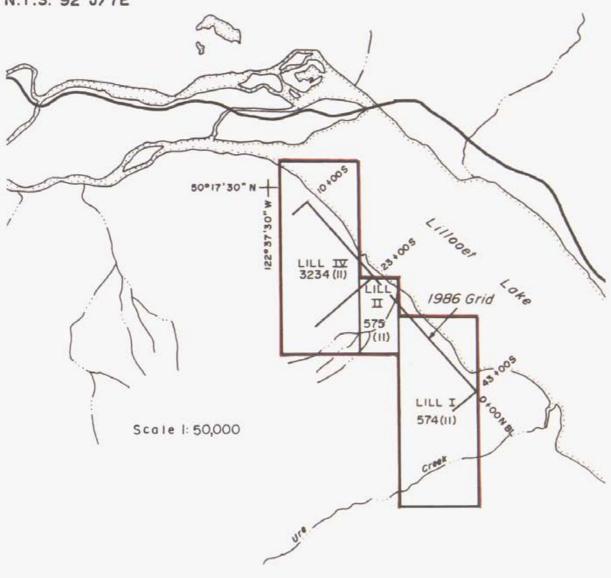
LOCATION AND ACCESS

The property is located on the northwest end of Lillooet Lake on the southwest shore of the lake some 120 km north of Vancouver, B.C. The village of Pemberton is located some 12 km west of the claims.

Access to the claims is by boat from the northeast shore of the lake. The hillside is heavily timbered and very steep. N.T.S. 92J/7E; Latitude 50°14'N; Longitude 122°36'W.



N.T.S. 92 J/7E



GREEN LAKE RESOURCES LTD.

LAKE ADIT PROJECT

LOCATION AND CLAIM MAP

PREVIOUS WORK

An excellent outline of the Lake Adit workings was compiled by H.Kim, P.Geol., F.G.A.C., in a report dated October 6,1980 for a January 15,1981 prospectus for Regulus Resources Ltd.

A recent report of the larger LILL claim group area has been prepared by J.H.Montgomery, Ph.D., P.Eng., dated November 7, 1986 for Green Lake Resources Ltd. Dr. Montgomery describes the history and previous work as follows:

"The first mining exploration activity in the immediate area took place in 1915 with the discovery of the Boulder (Ure) Creek and Lake Adit showings. According to Cairnes (1924), there were four groups of claims: Eagle group, Lake group, Boulder group (including Copper King C.G.) and the Apex group.

On the Eagle group, there is a tunnel 100 feet long driven through volcanic and sedimentary rocks. It intersected a zone of mineralization about 5 feet wide which contains pyrite, magnetite, chalcopyrite, pyrrhotite and sphalerite.

On the Lake group, a tunnel intersects about 18 feet of similar mineralogy in greenstones.

On the Boulder group (also know as "Skerl's Showing:), a mineralized zone about 300 feet wide contains abundant pyrite. Rock types include slates, chert, limestone and greenstones. Other minerals present include those mentioned above.

On the Apex group, the zone is about 600 feet wide (Cairnes, 1924) and is mineralized with pyrrhotite.

Some diamond drilling is reported to have been done around 1929 near the Lake and Eagle groups by Howe Sound Company but no details of this work are available.

In 1959, the MAC Group of claims covered part of the geological mapping Boulder group and geochemical sampling were done on what later became known as Skerl's Showing. See Figure 5-1 (Plate 1). The work was done by Dr. A.C.Skerl, P.Eng. The mapping showed the underlying rock (in part) to be pyritic, siliceous tuff with found were chalcopyrite. Three areas geochemically anomalous in copper.

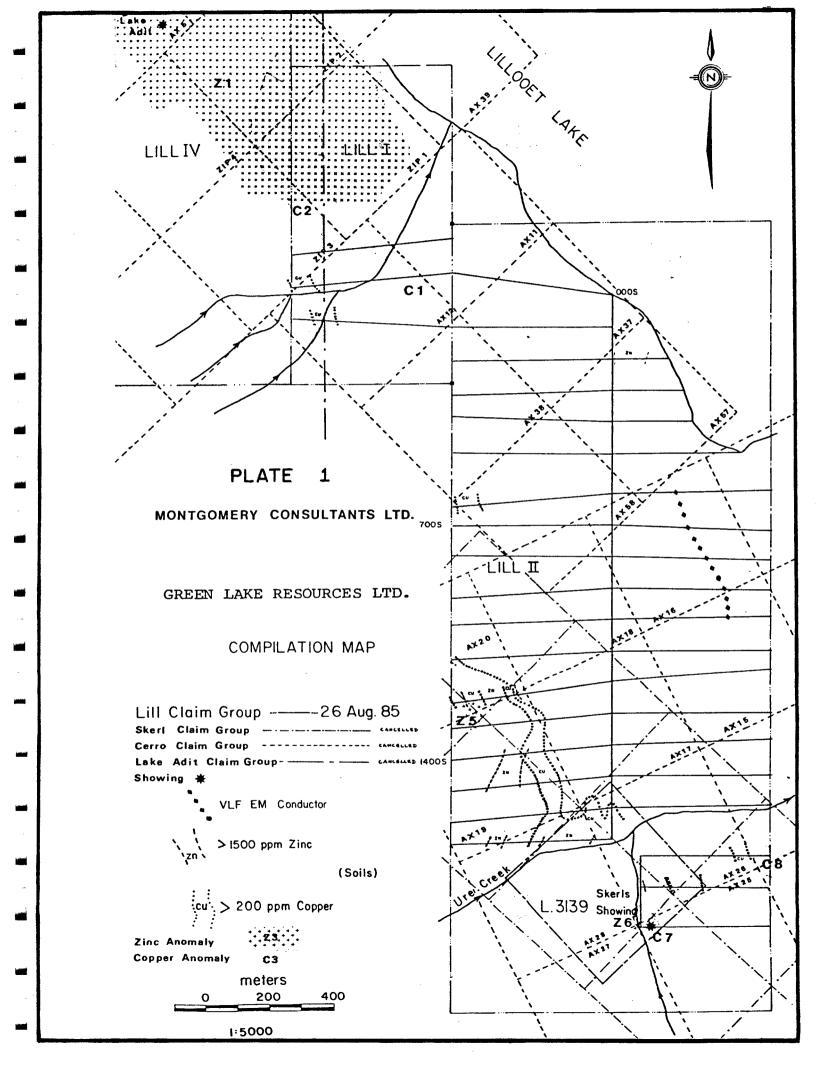
In 1969 and 1970, Cerro Mining Company of Canada Limited staked the AX-ZIP claims over most of the showings, put in a grid and did geophysical surveys, geochemical soil sampling and geological mapping. The results of this work are summarized below and plotted on Figure 5-1 (Plate 1.).

Soil samples were taken over the claim area by A.G.S.Cross (1970). He considered nine areas anomalous in copper and six areas anomalous in zinc.

Magnetometer and VLF-EM surveys were conducted over a part of the claims. Anomalous zones are partly coincident with geochemical anomalies and areas of known mineralization. This work was done for Cerro by Eagle Geophysics Ltd.

The geology of the area was mapped by J.R.Woodcock (1969).

In 1980, the Lake Adit claim was staked over Lake Adit Showing and H.Kim (1980) performed geophysical and geochemical surveys. In his report, he recommended additional exploration of the property.



In 1983, the property was now (?) covered by the LILL (Ax?) claims which were staked in 1977. At this time, Hightest Resources Inc. put in a new grid with 100 metre spacing covering most of the claims. See Figure 5-1 (Plate 1). They concluded geochemical soil and VLF-EM surveys over the property. The soil survey detected the copper-zinc anomalies shown on Figure 5-1 (Plate 1)."

GENERAL GEOLOGY

The property area is underlain by a pendant of the Cadwallader Group of rocks of Upper Triassic age which is enveloped by the Spetch Creek pluton. The 1977 GSC Map, PEMBERTON, by G.J.Woodsworth shows that the northeastern limit of the Coast Crystalline Belt composed of granite, granodiorite, quartz monzonite and quartz diorite trends northwesterly across the Pemberton map area. The Spetch Creek pluton has been mapped as a homogeneous medium to course grained granodiorite which has been moderately foliated parallel with the shore of Lillooet Lake.

The Cadwallader group consists mainly of greenstone, tuff and flows of andesite, rhyolitic tuff and flows and minor lenticular limestone beds, argillite, phyillite, conglomerate and chert. The rock contacts trend northwest. Contact metamorphism occurs in the limestone as evidenced by garnetite and epidote skarns.

Mineralization has been found with epidote skarns and consists of magnetite-pyrite-chalcopyrite-pyrrhotite. Pyrite-chalcopyrite-sphalerite has been found in silicified banded tuffaceous rocks and has been suggested by J.Montgomery, Ph.D., P.Eng., to have a strong resemblance to a volcanogenic deposit.

PHYSIOGRAPHY

The claims are situated on the northeastern slope of Mount Currie of the Coast Mountain Range. The topographic profile exceeds 30 degrees and forms numerous rock cliffs and steep slopes. The elevation of the property is from 213m at lake level to 1473m. The slopes are timbered with hemlock balsam and cedar with light underbrush. The showings are some 200m above the lake.

VLF ELECTROMAGNETOMETER SURVEY

This survey was conducted using a Geonics EM-16 VLF electromagnetometer. This instrument acts as a receiver utilizing the VLF electromagnetic fields generated by VLF submarine navigation and communication stations which operate in the 15-25 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. This produces an anomaly in the tilt angle and quadrature readings.

For maximum coupling, a transmitter station located in the same direction as the geological strike should be selected, since the direction of the horizontal electromagnetic field is perpendicular to the direction of the transmitting station.

Readings were taken at 25 m intervals and the data filtered in the field by the operator as described by D.C. Fraser, Geophysics Vol. 34, No. 6 (December 1969). The advantage of this method is that it removes the dc bias and attenuates long spatial wave lengths to increase resolution of local anomalies. The method phase shifts the tilt-angle data by 90 degrees such that crossovers and inflections will be transformed into peaks to yield a contourable quantity.

PROTON PRECESSION MAGNETOMETER SURVEY

The magnetometer survey was carried out utilizing two GSM-8 proton precession magnetometers. One of these was operated in conjunction with a CMG MR-10 base magnetometer recorder to allow diurnal and micropulsation variation removal. Operator precautions of demagnetization and consistency were observed and field clock to base magnetometer timing skew was maintained within one second per day. Corrected, unfiltered data are plotted on each of the base maps.

DISCUSSION OF RESULTS

The baseline of the survey grid crosses from below the lake adit showing parallel to the lake at 045°SE through the LILL II claim to the northwest corner of the LILL I claim. The grid does not extend far enough southward to have examined the Skerl showing on the southeast side of Ure Creek. The present grid was established in the difficult weather period of December 1986 and was undertaken to get a preliminary look at the claims. This report covers only the ground magnetometer and VLF electromagnetometer surveys. The grid preparation and soil sampling was undertaken by a separate contractor.

The lake adit is situated on line 1100S. The magnetite body shows up as a magnetic high trend some 700 gammas above background. The showings do not respond as a VLF-EM conductor. The geophysical readings were not taken to the ends of the lines in some cases since the lines went around cliffs and were unmarked and the operators were trying to get as much work done as quickly as possible.

The magnetic intensity data shows an interesting pattern of variations: the data from 1000S to 2600S is dominated by short strike length magnetic highs, while south of line

2600S the magnetic anomalies are large and broad. Several weak VLF-EM crossovers occur between lines 1900S and 2600S. This area appears to be broken by a number of faults.

The strong oblong magnetic anomaly between lines 2600S and 3500S may reflect a buried intrusive which has enriched the rocks with magnetite and pyrrhotite. Weak VLF-EM conductors associated with the magnetic highs which suggests semi-massive sulphide mineralization. The oblong magnetic high is separated from another strong anomaly to the east by a pronounced magnetic low band. This band of lows likely reflects a low magnetic susceptibility lithologic unit such as sediments or possibly a major alteration zone from which the iron particles have been removed. A strong VLF-EM conductor is associated with the eastern magnetic anomaly and curves with the magnetic trend. Sulphide mineralization is likely present. These two magnetic anomalies are clearly shown in the southeast corner of Plate 2.

The strongest VLF-EM conductor occurs from lines 3800S to 4300S and is open to the south. It is situated along the western flank of a linear magnetic anomaly which appears to be lithologically related. This conductor is either a sulphide zone at the interface of possibly a volcanic flow-tuff horizon or a sulphide-graphite rich argillite. The shape of the VLF-EM response suggests a conductor which extends to depth. However because of the steep slopes the altitude of the conductor is difficult to ascertain and should try to be determined geologically.

PLATE 2
GREEN LAKE RESOURCES LTD.
LAKE ADIT PROJECT REGIONAL AIRBORNE MAGNETIC INTENSITY MAP

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CONCLUSION AND RECOMMENDATIONS

A preliminary ground magnetometer and VLF-electromagnetometer survey of a portion of the LILL claim group detected several interesting magnetic highs and VLF-EM conductors. These features should be correlated with the geochemical results and any available geology. The success of this survey would suggest that the remainder of the grid be systematically surveyed in more favorable weather conditions.

The strength of the magnetic anomalies and VLF-EM conductors south of line 2600S are valid geophysical responses which should be tested by diamond drilling on their own merrit.

Respect to Live submitted,

Glen E. Warte, Eng.

Geophysicist

EM 16 - VLF ELECTROMAGNETIC UNIT

SPECIFICATIONS

Source of primary field - VLF transmitting stations

Transmitting stations used- Any desired station frequency can be supplied with the instrument in the form of plug-in tuning units. Two tuning units can be plugged in at one time. A switch selects units can be plugged in at one time. A switch selects either station.

Operating frequency range - 15-25 KHz.

Parameters measured

- (1) The vertical in-phase component (tangent of the tilt angle of the polarization ellipsoid).
 - (2) The vertical out-of-phase (quadrature) component (the short axis of the polarization ellipsoid compared to the long axis).

Method of Reading

- In-phase from a mechanical inclinometer and quadrature from a calibrated dial. Nulling by audio tone.

Scale Range

- In-phase <u>+</u> 150%; quadrature <u>+</u> 40%.

Readability

- <u>+</u> 1%.

Reading Time

- 10-40 seconds depending on signal strength.

Operating temperature

range - -40°to 50°C.

Operating Controls

-on-off switch, battery testing push button, station selector switch, volume control, quadrature, dial ± 40%, inclinometer dial ± 150%.

Power Supply

- 6 size AA (penlight) alkaline cells. Life about 200 hours.

Dimensions

-42x14x9cm (16x5.5x3.5 in.)

Weight

- 1.6 kg. (3.5 lbs.)

Shipping weight

- 4.5 kg. (10 lbs.)

GSM-8 PROTON PRECESSION MAGNETOMETER

SPECIFICATIONS

Resolution: 1 gamma

Accuracy: ± 1 gamma over operating range

Range: 20,000-100,000 gamma in 23 overlapping

steps.

Gradient Tolerance: up to 5000 gamma/metre

Operating Modes: manual pushbutton - new reading every

1.85 sec., display active between

readings.

cycling - pushbutton initiated, 1.85

sec. period.

selftest - pushbutton controlled, 7 sec.

period.

Output: visual - 5 digit 1 cm (0.4") high liquid

crystal display, visible in any

ambient light.

digital - multiplied precession

frequency and gating pulse.

analog - optional 0-99 or 0-999 gamma.

External Trigger: permits externally triggered operation

with periods longer than 1.85 sec. (optional minimum period 0.9 sec.)

Power Requirements: 12V 0.7A peak, 5mA standby.

Power Source: internal - 12V 0.75Ah NiCd rechargeable

battery 3,000 readings per full

charge.

external - 12-32V

Battery Charger: input: 110/220V 50/.60Hz

output: 14V 75mA DC.

Operating Temp.: -35 to +55C

Dimensions:

console: 15x8x15cm. (6 x 3 1/4 x 6")

sensor: 14x7cm dia (5 1/2 x 3" dia)

staff: 175cm (70") extended,

53cm (21") collapsed.

Weight:

2.7kg (6 lb) per standard complete with

batteries.

COST BREAKDOWN

PERSONNEL	DATE	WAGES	TOTAL		
Geoff Hemingsley	Dec.4-20/86 (14)	\$195/day	\$2,730.00		
Mark Niedzwiecki	Dec.4-20/86 (14)	\$180/day	2,520.00		
Meals and Accomodat	ions field camp		1,120.00		
Instruments: Magnetometer - VLF-EM					
@ \$4	0/day each		1,120.00		
Vehicle and trailer	for gear		650.00		
Drafting and plotti	ng		250.00		
Interpretation and	reports		900.00		
Helicopter			1,256.00		
	TOTAL		\$10,546.00		

STATEMENT OF QUALIFICATIONS

NAME:

WHITE, Glen E., P.Eng.

PROFESSION:

Geophysicist

EDUCATION:

B.Sc. Geophysics - Geology

University of British Columbia

PROFESSIONAL

Registered Professional Engineer,

ASSOCIATIONS:

Province of British Columbia.

Associate Member of Society of Exploration

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

explointion and allegine despites.

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.

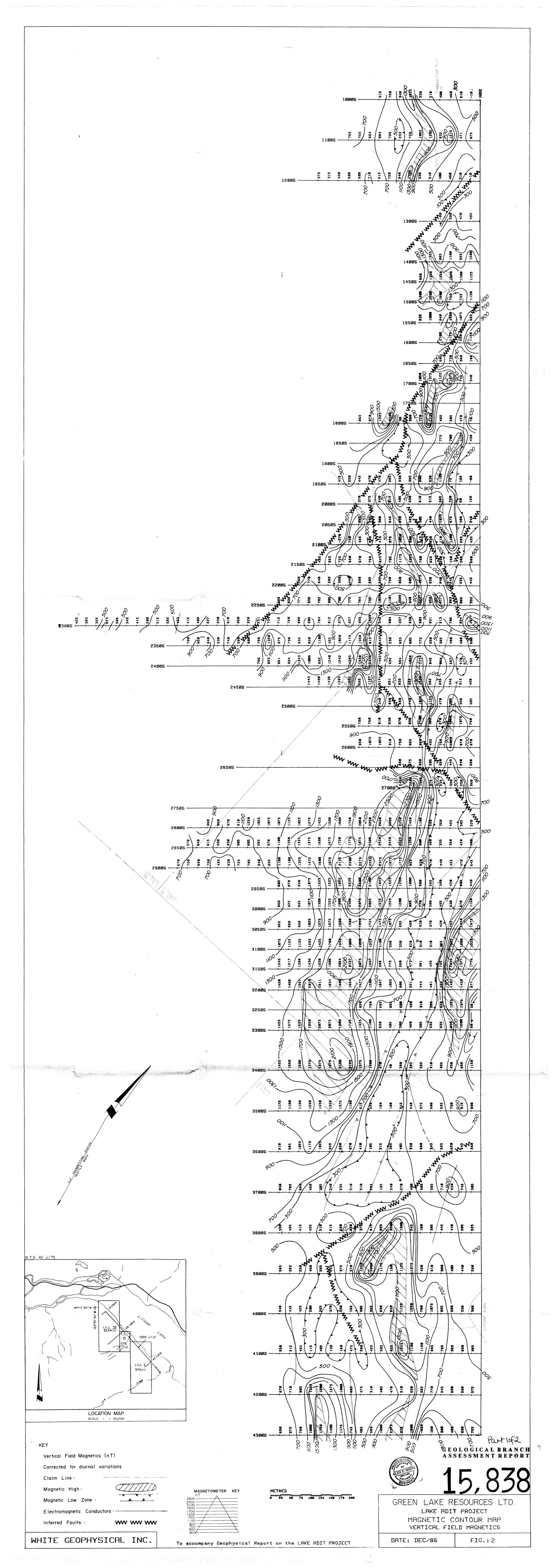
-Two years Chief Geophysicist Tri-Con

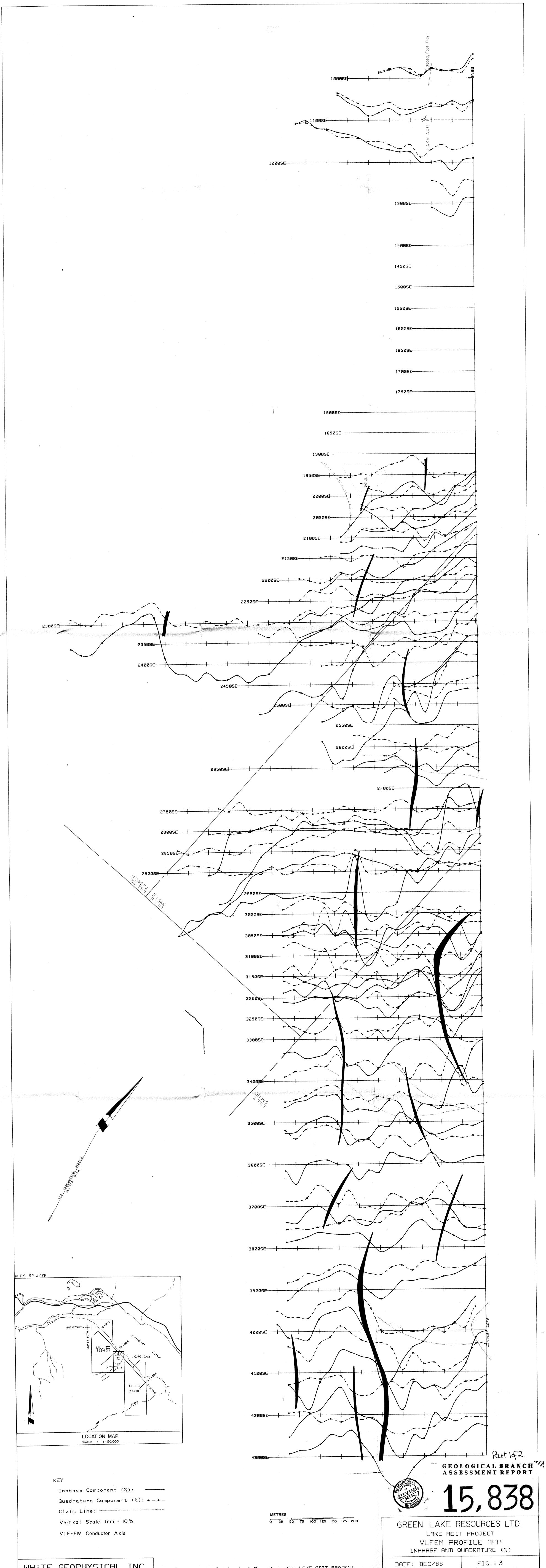
Exploration Surveys Ltd.

-Fourteen years Consulting Geophysicist.

-Active experience in all Geologic provinces

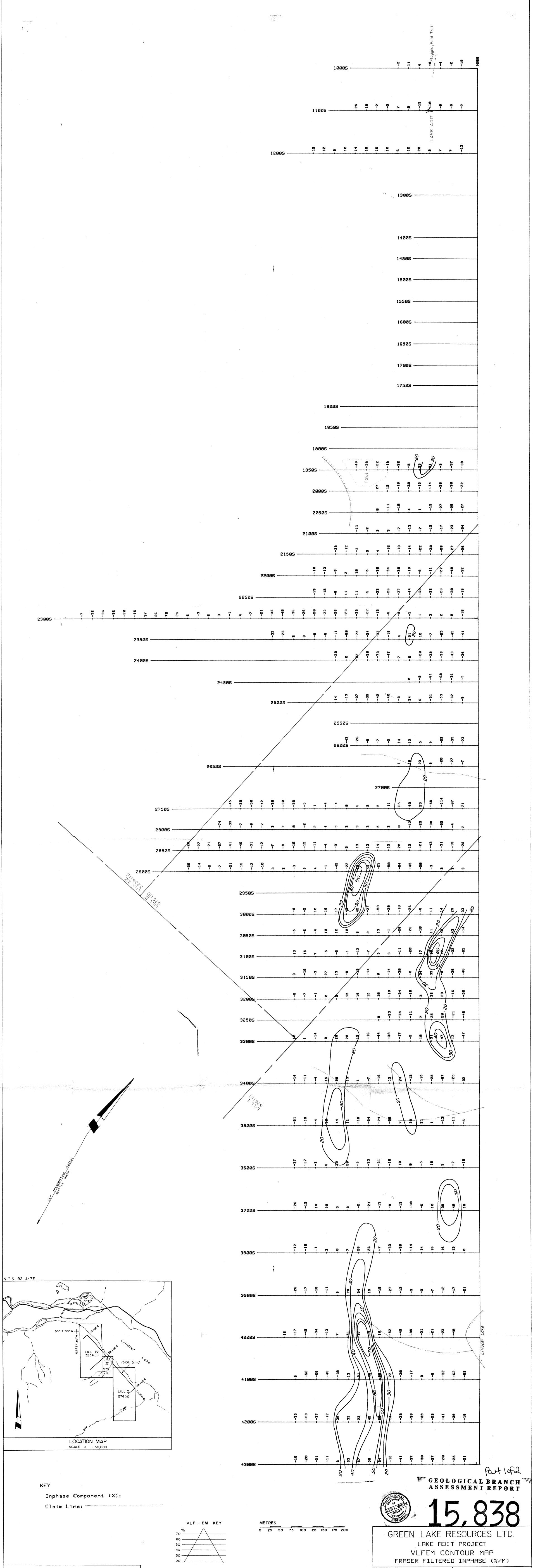
of Canada.





WHITE GEOPHYSICAL INC.

To accompany Geophysical Report on the LAKE ADIT PROJECT



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FIG.: 4 DATE: DEC/86