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PACIFIC GEOPHYSICAL LTD.

REPORT ON THE
INDUCED POLARIZATION AND RESISTIVITY SURVEY
AND MAGNETIC SURVEY

ON THE
RAINBOW PROJECT
OMINECA MINING DIVISION, BRITISH COLUMBIA

FOR
TECK EXPLORATION LIMITED

LATITUDE : 123 49' 00" N LONGITUDE : 55 03' 00" W
N.T.S. 930/4

BY
MARTIN ST.PIERRE, B.Sc.
Geophysicist
AND
PAUL A. CARTWRIGHT, P.Geoph.
Geophysicist

DATED: MAY 24, 1991.

SUMMARY

A limited Induced Polarization (IP) / resistivity test survey and a total field ground magnetic survey have been carried out on the Rainbow Project by Pacific Geophysical Ltd., on behalf of Teck Exploration Ltd., during the period May 15 - 19, 1991.

Interpretation of the data acquired on these surveys has detected two areas of anomalous IP effect. One area is located in the south-western extremity of the survey area and appears to be dipping to the east under a thickening cover of overburden. The strong to moderate intensity IP effects are almost certainly caused by metallic sulphides.

The other zone is located in the central survey area, coincident with a mineralized showing, and seems to be trending to the north north-west.

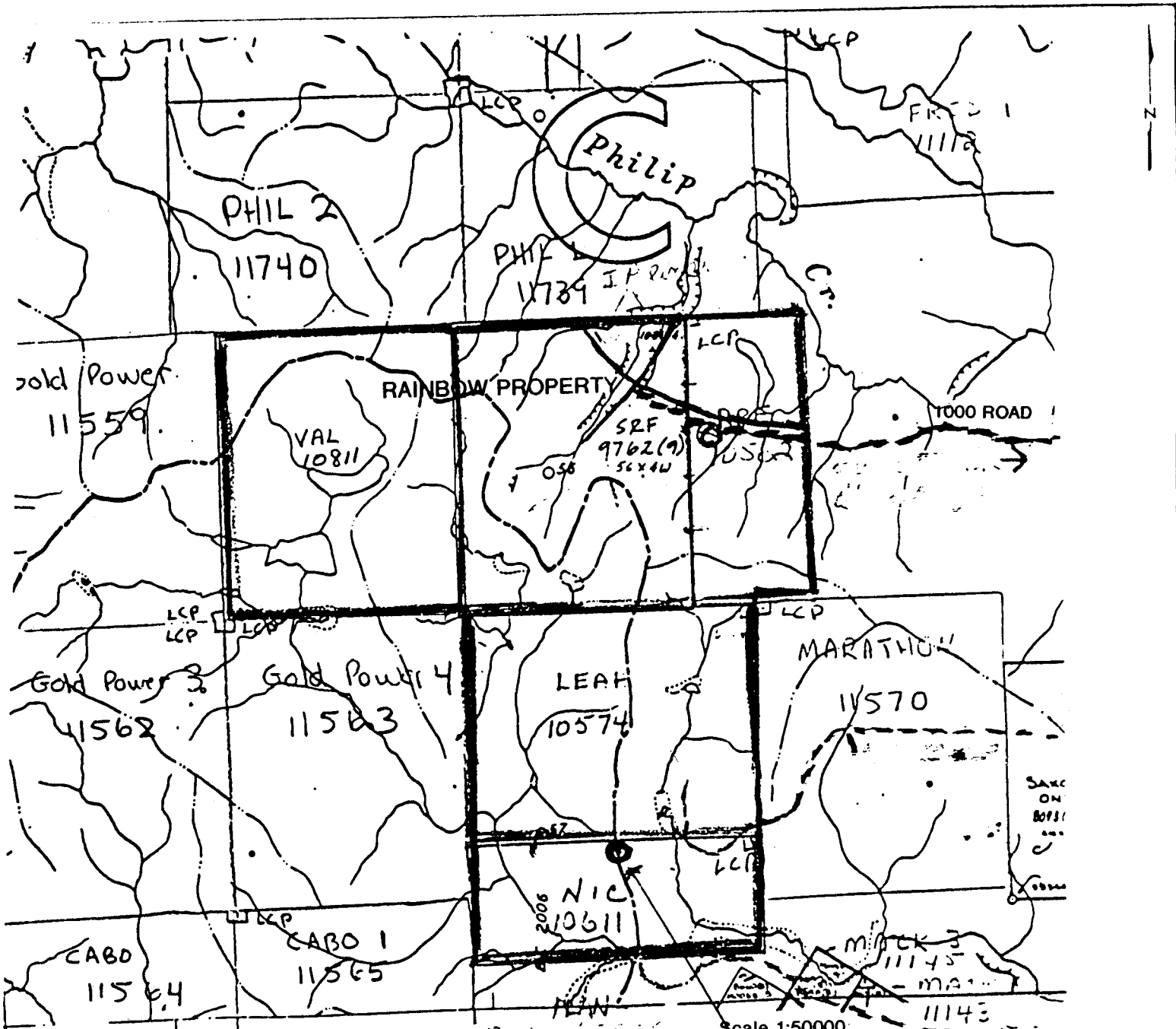
Both features are marginally defined and further IP coverage is recommended to more fully outline the causative sources.

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	Magnetic Profile (Line 0)	FILE: TECRAIN
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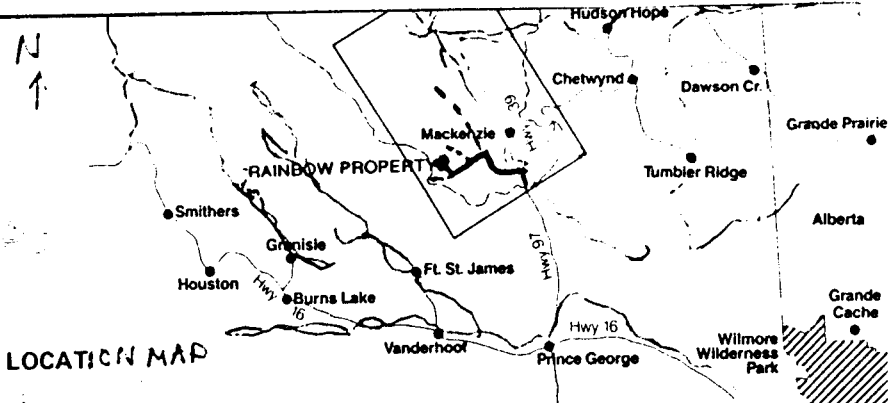
**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

21,540



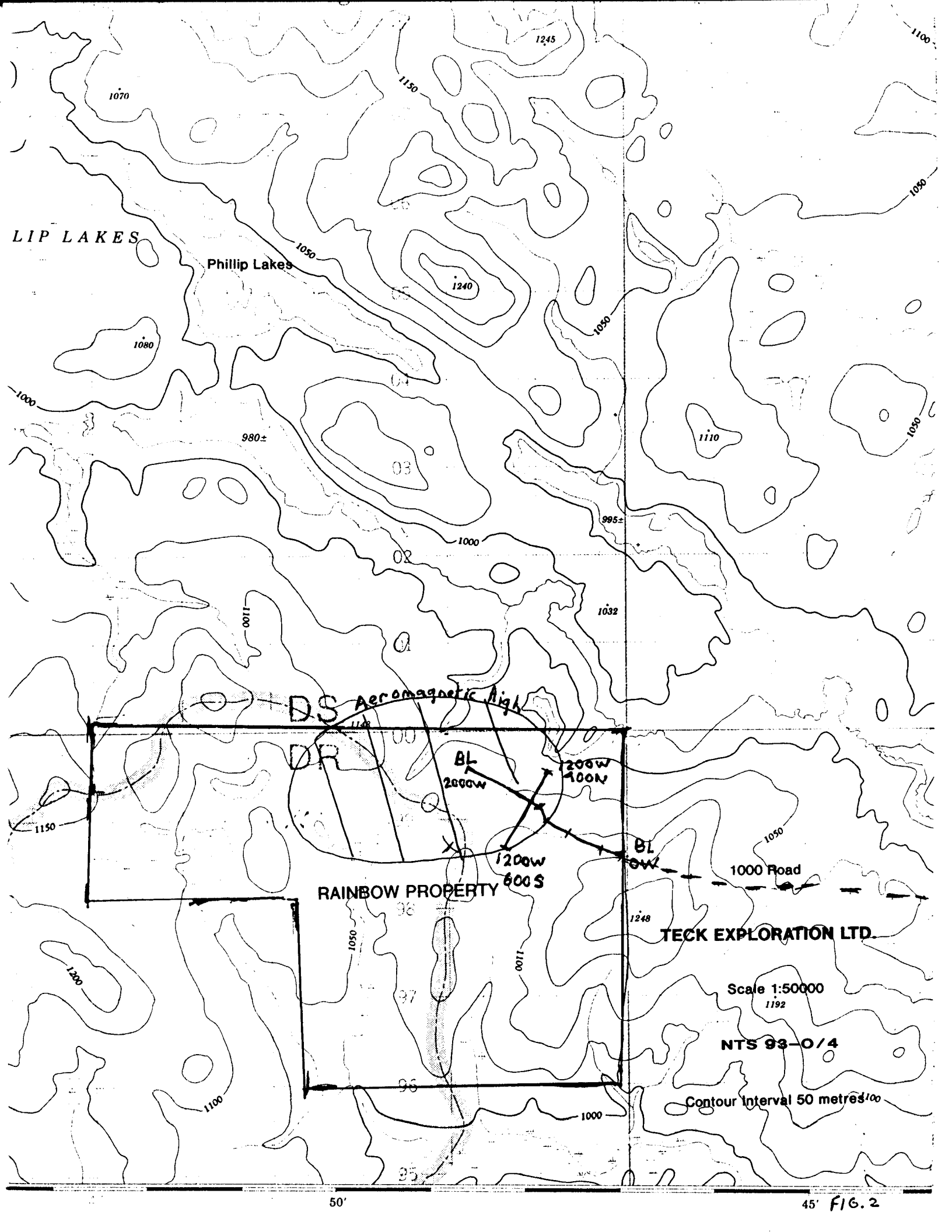
TO SOUTH SEE MAP 53 J/13 W.
 surface disturbances including roads, test pits, trenches, portals, utility sites, and camp sites. **TECK EXPLORATION LTD.**

Scale 1 inch=4.5 miles



LOCATION MAP

FIG. 1



LIP LAKES

Phillip Lakes

DS Aeromagnetic High

RAINBOW PROPERTY

TECK EXPLORATION LTD.

Scale 1:50000

NTS 93-0/4

Contour Interval 50 metres

50'

45' FIG. 2

1. INTRODUCTION

Induced Polarization (IP) and resistivity surveys, together with a total field magnetic survey, have been carried out on the Rainbow Project at the request of Teck Exploration Limited by Pacific Geophysical Limited. The property, located approximately 55 km west of Windy Point, British Columbia, was accessed by road. The objective of this survey was to test the property in a region of high aero-magnetic intensity for the presence of Mount Milligan type porphyry mineralization. A total of 3.0 line kilometres of IP/resistivity and of total field magnetic data was acquired during the present survey. This field work was carried out under the direction of Michael J. Cormier, B.Sc., during the period May 15 to 17, 1991.

2. DESCRIPTION OF CLAIMS

The Rainbow property consists of 5 contiguous claims comprising a total of 80 units owned by Richard P. Forshaw and David Forshaw. The claims are currently subject to a right of first refusal agreement with Teck Corporation dated April 24, 1991. The table below lists their status (pending work filed in 1991) and ownership.

<u>Claim Name</u>	<u>Record Number</u>	<u>Ownership</u>	<u>Number of Units</u>	<u>Expiry Date</u>
R.P.F.	10562	Richard P. Forshaw	10	May 29, 1993
Leah	10574	David Forshaw	20	June 2, 1992
Nic	10611	Richard P. Forshaw	10	June 11, 1993

Val	10811	David Forshaw	20	June 11, 1992
S.R.F.	9762	David Forshaw	20	September 1, 1992

3. DESCRIPTION OF GEOLOGY

The following geological description has been provided by the staff of Teck Exploration Ltd.

"The property is located within the northern part of a narrow northwesterly trending assemblage of lower Late Triassic island arc volcanics and associated sedimentary facies known as the Quesnel belt and defined locally as the Takla Group. These rocks are intruded by coeval plutons which range up to Early Jurassic in age (Nelson et al., 1991). The large multiphase Hogem batholith, located approximately 30 kilometres west of the property, is the largest pluton in the area. The property is located near the eastern margin of Quesnellia which is marked by a complex zone of faults that separate the Takla rocks from the Late Palaeozoic Slide Mountain Terrane and metamorphic rocks of autochthonous North America.

The Quesnel belt is known to host a number of copper-gold porphyry deposits associated with alkalic magmatism including the Afton and Similco Mines and the Mount Polley, Mount Milligan and Stikine copper deposits. Mount Milligan, which contains geologic reserves of 400 million tonnes grading 0.48 grams per tonne gold and 0.2 % copper, is located 20 kilometres northwest of the Rainbow property.

A 2 km by 2 km aeromagnetic high is located in the northern part of the property in the approximate area of the I.P. survey. Magnetic highs of this nature are often related to small plutons that could be the centre of a porphyry system.

The only outcrop found in the survey area is a small road outcrop located on the baseline at 900 W. It consists of

a maroon-coloured slightly-siliceous hematitic tuff. The eastern end of the outcrop contains a northwesterly trending carbonate altered and silicified shear zone, approximately 2 metres wide, that contains trace amounts of disseminated chalcopyrite and minor disseminated pyrite. This outcrop is located on the western side of a northwesterly trending lineament."

REFERENCE (As supplied by staff of Teck Exploration Ltd.)

Nelson, J., Bellefontaine, K., Regional Geological Mapping Near the
Green, K. and MacLean, M. Mount Milligan Copper-Gold Deposit,
B.C. Ministry of Energy Mines and
Petroleum Resources, Geological
Fieldwork 1990, Paper 1991-1, pages
89-110.

4. INSTRUMENT SPECIFICATIONS

The IP / resistivity measurements were made using an EDA Model IP-6 six channel time domain receiver set to "mode 3" whereby a delay time (TD = 80 milliseconds) is followed by 10 measurement windows with time widths of 80,80,80,80,160,160,160,320,320 and 320 milliseconds, yielding a total integration time of 1760 milliseconds. The signal used to make the measurements was provided by a GDD Model TX 1400 transmitter producing a 2 second on / 2 second off square wave of alternating polarities powered by a 1.4 kilowatt Honda motor generator set. IP effects were recorded as chargeability in milliseconds while apparent resistivity values were normalized in units of ohm-meters.

A GEM Systems Model GSM-19 Overhauser magnetometer was employed to collect the total field magnetic data along the grid lines while an EDA OMNIMAG PPM 375 magnetometer monitored the magnetic field at the base station. At the end of each day, the recorded base station data were combined with the field readings to correct for diurnal variations in the earth's magnetic field.

5. SURVEY SPECIFICATIONS

The IP/resistivity survey was carried out using the pole - dipole array with an interelectrode spacing of 50 meters. The moving current electrode was located to the east of the potential

electrode pair on Line 0 and to the north on Line 1200W. Measurements made at stations spaced 50 meters apart along the two lines recorded four dipole separations in each case.

Total field magnetic readings were taken at 25 meter intervals along the same lines referred to above.

6. DATA PRESENTATION

The induced polarization and resistivity results are shown on the following data plots in pseudosection format:

<u>Line</u>	<u>Electrode Interval</u>	<u>Reading Interval</u>	<u>Total Coverage</u>
0	50 meters	0W-2000W	2000 meters
1200W	50 meters	600S-400N	1000 meters

The strong, moderate and weak IP anomalies are indicated by bars in the manner shown on the pseudosections. These bars represent the surface projection of the anomalous zones interpreted from the transmitter and receiver electrode locations when the anomalous values were measured.

The total field magnetic survey results are presented in profile form on the following two maps:

A) a profiled, 1:5000 scale plot with posted numbers of Line 0

(FILE: TECRAIN)

and

B) a profiled, 1:5000 scale plot with posted numbers of Line 1200W

(FILE: TECRAIN2).

The data on both profile maps have been corrected for diurnal variations.

7. DISCUSSION OF RESULTS

The results of the geophysical data appear to indicate the presence of two anomalous areas. The strongly to moderately anomalous zone detected at the western tip of Line 0 is believed to be related to the moderate intensity anomaly recorded on the southern tip of Line 1200W. The source of this IP response appears to either dip at a shallow angle towards the east, or to be covered with an increasing thickness of overburden material as one moves eastwards.

The moderate to weak anomalies on Line 0, centred at Stations 825W and 650W, may be related to the weak anomaly at the northern tip of Line 1200W, thus implying a north north-westerly trend. A mineralized showing is exposed in the vicinity of the anomaly located at Station 825W on Line 0. The sources of both anomalous zones are believed to be related to metallic sulphides. The reader is referred to the two IP pseudosections included in this report.

The magnetic data has a total range of 233 nT and tends to indicate a relationship between thick overburden, as indicated by the IP/resistivity pseudosections, and higher magnetic values. This

can be seen on Line 0 between Stations 1050W and 1325W and also on Line 1200W between Stations 50S and 450S. It is probably due to magnetic material within the overburden itself. Also, where there is known outcrop, the magnetic field tends to be low - as can be seen on Line 0 between Stations 800W and 950W. Where the IP data has anomalous values on the $n=1$ separation, indicating a source close to the surface, the magnetic data is low as seen on Line 0 between Stations 1800W and 1925W and on Line 1200W between Stations 475W and 600W. The reader is referred to the magnetic profile plots FILE: TECRAIN and FILE:TECRAIN2.

8. CONCLUSIONS AND RECOMMENDATIONS

A study of geophysical data collected on the Rainbow project has resulted in several conclusions being drawn.

First, the IP survey has defined four anomalies, on two lines, which are believed to be caused by two separate areas of metallic sulphide mineralization.

Second, the sulphides defined in the west and south west of the property are believed to be dipping to the east under an increasing thickness of overburden.

Third, high magnetic values appear to be related to thicker

overburden, which is an unusual signature; the true significance of which is unknown at present.

Because of the small area covered by this survey and the limited geological information available, the conclusions of this report are fairly tentative.

Additional IP/resistivity and magnetometer surveys are recommended toward the west and south of the present survey grid on the Rainbow project.

PACIFIC GEOPHYSICAL LTD.



Martin St. Pierre, B.Sc.
Geophysicist



Paul A. Cartwright, P.Geoph.
Geophysicist

Dated: May 24, 1991.

9. PERSONNEL

The personnel utilized during the data acquisition and reporting stages of the present geophysical program are listed below.

<u>Name</u>	<u>Occupation</u>	<u>Address</u>	<u>Date</u>
M.St.Pierre	Geophysicist	8621 Tulsey Cr.East Surrey, B.C.	May 15-17/91 May 21-23/91
M. Cormier	Geophysicist	5512 Kings Road Vancouver, B.C.	May 15-17/91
P.A.Cartwright	Geophysicist	4238 West 11th Avenue Vancouver, B.C.	May 23/91
D. McPherson	Helper	Pacific Geophysical 212-744 W.Hastings	May 15-17/91
D. Martinson	Helper	"	"
B. Page	Helper	"	"

PACIFIC GEOPHYSICAL LTD.

Paul A. Cartwright
Paul A. Cartwright, P.Geoph.

Dated: May 24, 1991.

STATEMENT OF COSTS

Pacific Geophysical Ltd.

Equipment and Personnel	2 days @ \$1595	3,190	
Food and Accommodations	12 mandays @ \$46	552	
Travel	3 days @ \$1320	3,960	
Report	\$550	<u>550</u>	\$8,252

Teck Exploration Ltd.

Personnel	8 mandays @ \$231	1,848	
Truck Rental	8 days @ \$135	1,080	
Food and Accommodations	6 days @ \$50	300	
Supplies		250	<u>3,478</u>
TOTAL EXPENSES			<u>\$11,730</u>

11. CERTIFICATE

I, Michael J. Cormier, of the City of Vancouver, Province of British Columbia, do hereby certify:

1. I am a geophysicist residing at 5512 Kings Road, Vancouver, British Columbia.
2. I am a graduate of McGill University, Montreal, Quebec with a B.Sc. degree (1981).
3. I have been practising my profession for 10 years.
4. I have no direct or indirect interest, nor do I expect to receive any interest, directly or indirectly, in the property or securities of Teck Exploration Ltd. or any affiliates.
5. Permission is granted to use in whole or in part for assessment and qualification requirements but not for advertising purposes.

Dated at Vancouver, British Columbia this 24th day of May, 1991.



Michael J. Cormier, B.Sc.

12. CERTIFICATE

I, Martin St. Pierre, of the City of Surrey, Province of British Columbia, do hereby certify:

1. I am a geophysicist residing at 8621 Tulsey Crescent East, Surrey, British Columbia.
2. I am a graduate of McGill University, Montreal, Quebec with a B.Sc. degree (1984).
3. I have been practising my profession for 7 years.
4. I have no direct or indirect interest, nor do I expect to receive any interest, directly or indirectly, in the property or securities of Teck Exploration Ltd. or any affiliates.
5. Permission is granted to use in whole or in part for assessment and qualification requirements but not for advertising purposes.

Dated at Vancouver, British Columbia this 24th day of May, 1991.




Martin St.Pierre, B.Sc.

13. CERTIFICATE

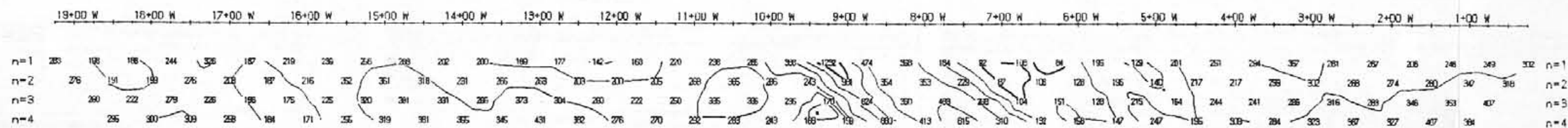
I, Paul A. Cartwright, of the City of Vancouver, Province of British Columbia, do hereby certify:

1. I am a geophysicist residing at 4238 West 11th Avenue, Vancouver, British Columbia.
2. I am a graduate of the University of British Columbia, with a B.Sc. degree (1970).
3. I am a member of the Society of Exploration Geophysicists, the European Association of Exploration Geophysicists and the Canadian Society of Exploration Geophysicists.
4. I have been practising my profession for 21 years.
5. I am a Professional Geophysicist licensed in the Province of Alberta.
6. I have no direct or indirect interest, nor do I expect to receive any interest, directly or indirectly, in the property or securities of Teck explorayion Ltd. or any affiliate.
7. Permission is granted to use in whole or in part for assessment and qualification requirements but not for advertising purposes.

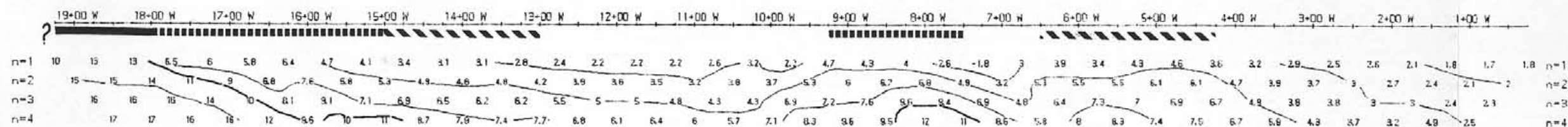
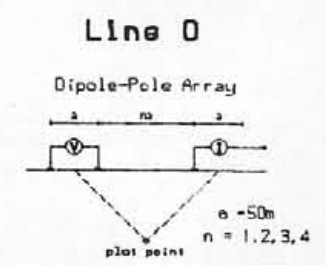
Dated at Vancouver, British Columbia this 24th day of May, 1991.



Paul A. Cartwright, P.Geoph.



RESISTIVITY
(ohm-m)



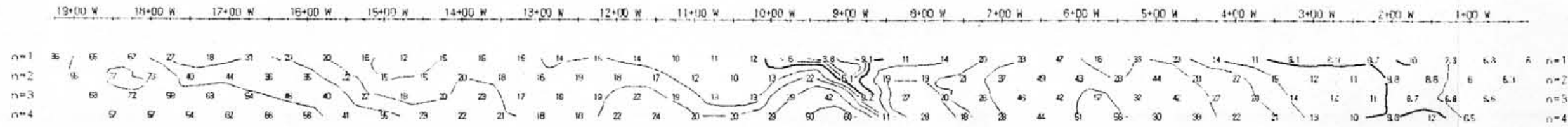
OBS. CHARGEABILITY
(mmeq)

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Instrument : EDA IP 6
Frequency : 2s ON / 2s OFF
Operators : MJC/MST.P

INTERPRETATION

- ▬ Strong increase in polarization.
- ▬▬▬ Moderate increase in polarization.
- ▬▬▬▬ Weak increase in polarization.



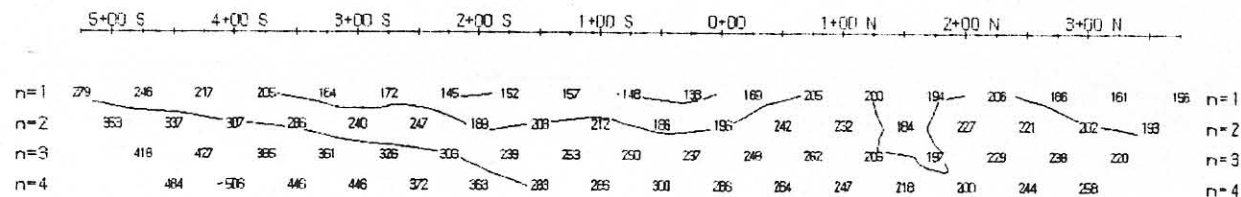
METAL FACTOR
(10000)

TECK EXPLORATION LTD.

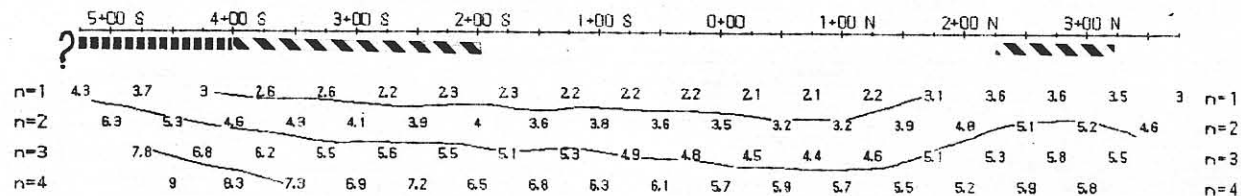
INDUCED POLARIZATION SURVEY
Line 0
Rainbow Property, Omineca M.D., B.C.

Date: May 1991 NIS : 930/4
Interpretation by:

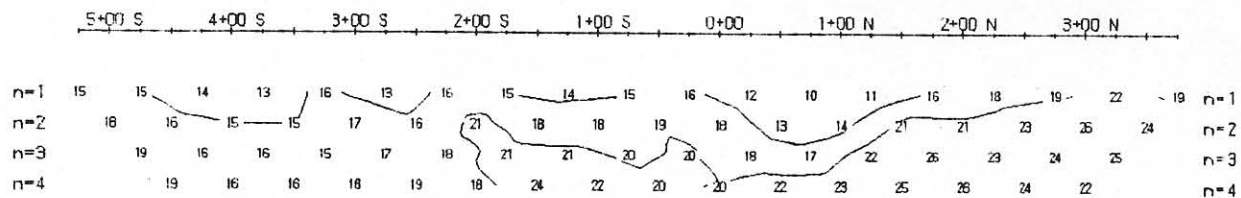
Pacific Geophysical



RESISTIVITY
(ohm.m)



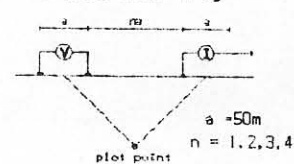
C.G.S. CHARGEABILITY
(msec)



METAL FACTOR
($1/\rho_{res} \times 1000$)

Line 1200 W

Dipole-Pole Array



Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Instrument : EDA IP 6
Frequency : 2s ON / 2s OFF
Operators : MJC/MST.P

INTERPRETATION

- ▬ Strong increase in polarization
- ▬▬▬ Moderate increase in polarization
- ▬▬▬▬ Weak increase in polarization

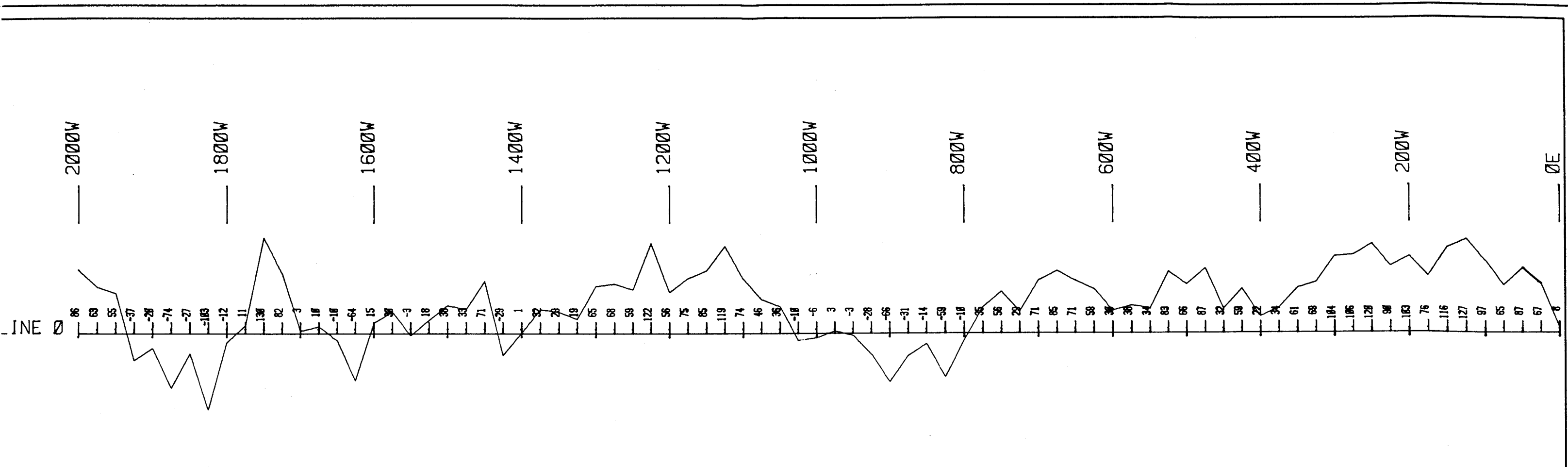
TECK EXPLORATION LTD.

INDUCED POLARIZATION SURVEY

Line 1200 W
Rainbow Property, Omineca M.D., B.C.

Date: May 1991 NTS : 930/4
Interpretation by:

Pacific Geophysical

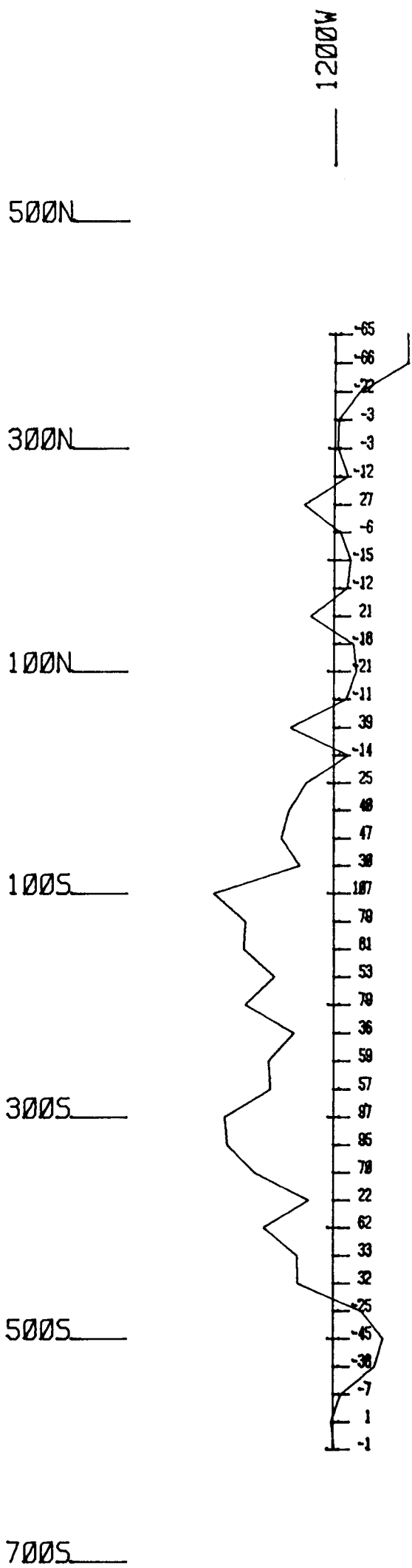


Instrument : GEM-10 & PPM 376
 Field : TOTAL
 Datum : 58000 nT

Profile Scale : 50 nT / Cm

TECK EXPLORATION LTD.
MAGNETOMETER SURVEY
 LINE 0
 RAINBOW PROPERTY, OMINECA M.D., B.C.

SCALE = 1 : 5000 DATE : MAY 1981
 SURVEY BY : MJC/MST.P NTS : 830/4
 FILE: TECRAIN
 Pacific Geophysical Ltd.



Instrument : GEH-10 & PPM 375
 Field : TOTAL
 Datum : 50000 nT

Profile Scale : 50 nT / Cm

TECK EXPLORATION LTD.

MAGNETOMETER SURVEY

RAINBOW PROPERTY, OMINECA H.D., B.C.

SCALE = 1 : 5000 DATE : MAY 1991

SURVEY BY : MJC/MST.P NTS : 830/4

FILE: TECRAIN2

Pacific Geophysical Ltd.