

COMINCO LTD

EXPLORATION

WESTERN CANADA

N^oS: 93A/3

ASSESSMENT REPORT

IP/RESISTIVITY SURVEYS
ON THE
ZEPHYR PROPERTY

Cu/Au PORPHYRY EXPLORATION
SOUTH CENTRAL BRITISH COLUMBIA

WORK DATES: MAY 5 - JUNE 1 1992

AUGUST 24 1992

R.J. AULIS

93A/3

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GEOPHYSICAL SURVEYS
ON THE
ZEPHYR PROPERTY

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EXPLORATION

WESTERN DISTRICT
28 July 1992

ASSESSMENT REPORT

GEOPHYSICAL SURVEYS ON THE ZEPHYR PROPERTY

I Summary

A reconnaissance style IP survey totalling 65.6 line kilometres was completed this field season. The survey was carried out primarily along existing logging and/or access roads in the area. One area of anomalous IP response was delineated on the western margin of the claims. It is recommended to survey this area in greater detail using IP and soil geochemistry and to map and prospect any outcrops available.

II Introduction

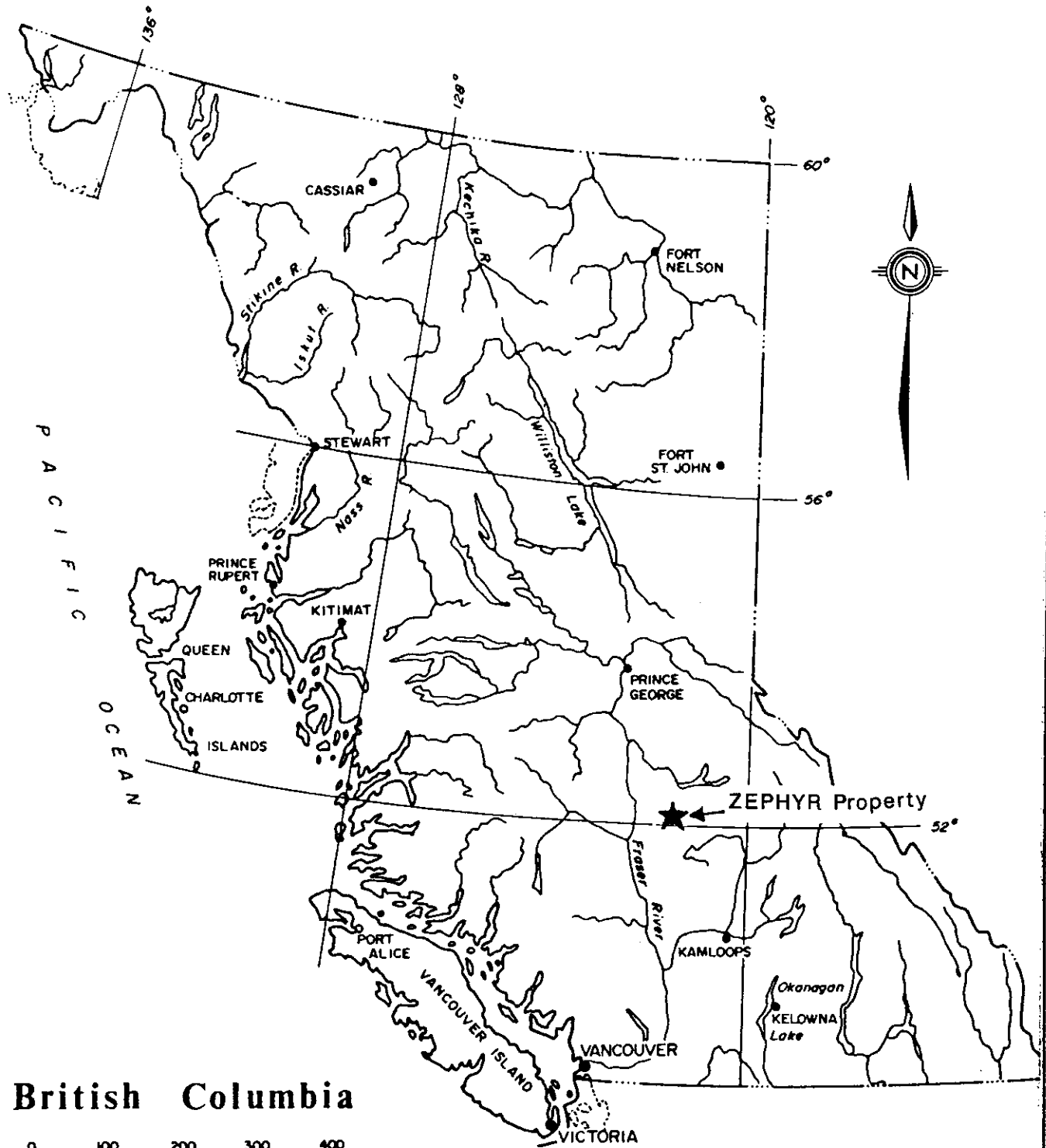
The Zephyr property is situated 25 km north of Lac La Hache in the Cariboo Mining District and is easily accessible via numerous road. Relief is gentle with elevations between 3000' and 4400'. The claims cover the northern portion of a large prominent mag high on the NW corner of the Takomkane Batholith. The southern portion of this coincident mag high/zoned intrusive complex hosts porphyry copper gold mineralization as seen on the Peach Lake, Tim and GWR prospects. The induced polarization survey was carried out May 5 to June 1 1992 by Scott Geophysics Ltd. of Vancouver. The project was planned by A.M. Pauwels, Senior Geologist Cominco and Supervised by R.J. Aulis, geologist Cominco.

III Geology

Lithologies on the Zephyr claims comprise Upper Triassic Nicola Volcanics intruded by Takomkane-related syenite-diorite stocks within the Quesnel Trough). The Takomkane batholith has many features in common with the economically Cu-hosting Guichan Batholith. Aeromagnetic survey data suggests the Takomkane batholith is a large zoned intrusive complex 15 km in diameter. Eocene basalts form an extensive capping along the western margin of the claims with smaller outliers within the claims. Faults on the property are numerous and probably related to the major N-S trending Pinchi Fault located several kms west. Several major northerly and west-northwesterly trending linear magnetic lows occur on the eastern margin of the property and are interpreted to be faults that have reduced the magnetic response of their hosting lithologies. Outcrop on the property is very sparse.

IV Previous Exploration

Exploration in this area for porphyry copper began in the mid 1960's following the discovery of the Cariboo-Bell porphyry copper deposit. In 1967 Coranex Ltd. conducted a geochemical soil sampling program over most of the Spout Lake are, precipitating the staking of claims south of Spout Lake and the discovery of several showings which have been explored by AMEX (1971-1973), Craigmont (1975), Stallion Resources (1983) and Guichon Explorco Ltd.



British Columbia



ZEPHYR PROPERTY

Location Map

Scale: see above	Date: Aug. 1992	Plate: Fig. 1
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(1983), B-P Selco (1984). A diamond drill hole is reported drilled in 1973, by Cities Service Minerals Corp, some 300 m east of McIntosh Lakes, on the northern limit of the mag high. Propylitically altered andesite volcanics to 997' were found with locally heavy (10%) pyrite but no evidence of Cu mineralization nor Cu-porphyry style alteration. Armstrong Mt. Gold Corp. undertook an airborne magnetic data enhancement project in 1989 on ground covering much of the present Zephyr property. Numerous areas of interest were targeted for further exploration efforts.

V Tenure

The Zephyr property comprises the following 34 claims totalling 680 units:

<u>Claim Name</u>	<u>Record #</u>	<u>Claim Size</u>	<u>Date/Rec</u>	<u>Due Date</u>
Abbey 3	301180	20	1991/06/12	1992/06/12
Abbey 5	303094	20	1991/07/30	1992/07/30
Ace 1	302129	20	1991/06/13	1992/06/13
Ace 2	302130	20	1991/06/13	1992/06/13
Ace 3	302131	20	1991/06/13	1992/06/13
Ace 4	302132	20	1991/06/14	1992/06/14
Cass 1	303105	20	1991/07/31	1992/07/31
Cass 2	303106	20	1991/08/01	1992/08/01
Cass 3	303107	20	1991/08/08	1992/08/08
Dora 6	305600	20	1991/10/16	1992/10/16
Dora 7	305955	20	1991/10/16	1992/10/16
Dora 8	302133	20	1991/06/06	1992/06/06
Dora 9	302134	20	1991/06/07	1992/06/07
Jo 1	303090	20	1991/07/30	1992/07/30
Jo 2	303091	20	1191/08/07	1992/08/07
Jo 3	303092	20	1991/08/08	1992/08/08
King 1	302144	20	1991/06/10	1992/06/10
King 3	302145	20	1991/06/07	1992/06/07
Pete 1	303086	20	1991/07/31	1992/07/31
Pete 2	303087	20	1991/08/01	1992/08/01
Pete 3	303088	20	1991/08/07	1992/08/07
Ray 1	308324	20	1992/03/25	1993/03/25
Ray 2	308325	20	1992/03/25	1993/03/25
Ray 3	308326	20	1992/03/27	1993/03/27
Ray 4	308327	20	1992/03/26	1993/03/26
T.T.	303085	20	1991/08/12	1992/08/12
TT1	302141	20	1991/06/19	1992/06/19
TT2	302142	20	1991/06/18	1992/06/18
TT3	302143	20	1991/06/18	1992/06/18
Jo 4	308592	20	1992/04/08	1993/04/08
Oley 1	309297	20	1992/05/07	1993/05/07
Oley 2	309298	20	1992/05/09	1993/05/09
Oley 3	309299	20	1992/05/08	1993/05/08
Oley 4	309300	20	1992/05/10	1993/05/10

The claims are currently included under an option agreement between Cominco Ltd. and Action Mine Services Inc. whereby the former has the option to acquire an undivided 100% beneficial interest in the claims held by the latter.

VI Geophysical Survey

The Induced Polarization Survey was conducted from May 5 to June 1 using a crew of five. Eric Hards, geophysicist, was the party chief and operated the IP receiver. Randal Aulis, geologist, was the Cominco representative on site for the majority of the survey. Accommodation was found at Ten-ee-ah Lodge on the west tip of Spout Lake.

Scintrex IPR11 and IPR12 time domain receivers, and a Scintrex IPC7 2.5 kw transmitter were used for the induced polarization survey. Readings were taken using a 2 second on/2 second off alternating square wave. The receiver used on a particular line is indicated on the pseudosections, with the IPR11 used from May 5 to 11 and the IPR12 after May 12.

The chargeability for the interval 690 to 1050 milliseconds after shutoff (M7 for IPR11) is the value plotted on the accompanying pseudosections and plan maps. Resistivities are given in units of ohm meters.

The survey data was archived, processed, and plotted using a microcomputer running Scintrex SoftII and proprietary software. All chargeability values were analyzed for their spectral characteristics (Cole-Cole intrinsic chargeability, time constant, and frequency dependence) using Johnson's curve matching procedure (Scintrex Soft II). In areas of low amplitude chargeability, the spectral parameters are poorly defined.

The pole-dipole electrode array was used on the survey, with readings taken at an "a" spacing of 75 m at "n" separations of 1,2,3 and 4. The location of the current electrode with respect to the receiving electrodes is indicated as the pseudosections. The survey was performed on widely separated traverses along roads primarily and uncut flagged lines.

VII Presentation of Data

The IP data was presented as pseudo-sections of chargeability and apparent resistivity. The pseudo-sections are presented at a scale of 1:5,000 and incorporate the n=1 to n=4 chargeability values and the calculated resistivity data. The sections have been computer contoured with contour intervals listed to the side of each section.

VIII Discussion of Results

For this property, chargeabilities of 5-15 mV/V are considered weakly anomalous, 15-20 mV/V are moderately anomalous and greater than 20 mV/V are strong anomalies.

A moderately to strongly anomalous IP response extends for greater than 1000m (open to the east) along the eastern half of Line H. Twenty three readings from n=1 to n=4 recorded chargeabilities greater than 20 mV/V. These values are preceded by weakly to moderately anomalous IP response spanning 300E to 1350 E.

Line H is situated on the western margin of the property where Tertiary basalts are known to locally cap the older Nicola Volcanics. The highly anomalous IP response is not consistent however with a basalt and thus the cause of the response remains in question and may still reflect disseminated porphyry copper mineralization.

A weak IP anomaly was recorded over 300 m on Line I located approximately 1.5 km south of Line H. A chargeability high of 10.08 mV/V was recorded at 525 N on the south end of the line.

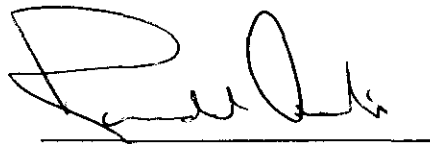
Lines H and I both occur on the outside NW corner of the large aeromagnetic feature being explored.

Chargeabilities over the remainder of the property were at background levels. It is estimated that in approximately 25% of the surveyed area the IP did not penetrate deep overburden.

IX Conclusions and Recommendations


Two IP features were found on the Zephyr property, both within 2 km of each other on the west side of the claims. The Line H chargeabilities are locally strongly anomalous with numerous values exceeding 20 mV/V. The cause of this anomaly has yet to be defined. Prospecting and detailed soils and detailed IP surveys over the immediate vicinity are recommended. Weakly anomalous chargeabilities associated with Line I, 1.5 km to the south may have a similar or related source and any work done in the Line H vicinity should extend SSE towards this weak anomaly.

Reported by:



R.J. Aujis
Geologist

Approved for
Release by:



W.J. Wolfe
Manager, Exploration
Western District

RJA/ljs

REFERENCES

- Scott, A. Logistical Report, Induced Polarization and Resistivity Surveys, Zephyr Property, Lac La Hache Area, British Columbia, June 1992

APPENDIX A

STATEMENT OF EXPENDITURES

ZEPHYR PROPERTY MAY 5 - JUNE 1, 1992

STAFF COSTS:

A.M. Pauwels, senior geol, 10 days @ \$425/day.....\$4250.00
R.J. Aulis, geologist, 25 days @ \$270/day.....\$6750.00
A.P.Roberts, technician, 7 days @ \$279/day.....\$1953.00
\$12,953.00

DOMICILE\$7535.25

TRANSPORTATION

Tundra Helicopters\$3586.31
Redhawk Rentals 4 x 4 truck\$1400.00

LINECUTTING

Action Mine Services\$2724.34

I.P. CONTRACT

A. Scott Geophysics Ltd.\$29,749.58
I.P./Res surveys May 5 to Jun 1 1992

SUPPLIES\$353.76

TOTAL\$58,302.24

APPENDIX B

AFFIDAVIT

In the matter of the B.C. Mineral Act and in the matter of a geophysical program carried out on the Zephyr property, located 25 km NE of Lac La Hache, in the Cariboo mining division of British Columbia, specifically, in NTS sheet 93/A3 ;

I, Randal J. Aulis, of 14 - 11 K de K Court, in the city of New Westminster, make oath and say:

1. that I am employed as a geologist by Cominco Ltd. and as such have personal knowledge of the facts to which I hereinafter depose;
2. that annexed hereto and marked as Appendix A to this my affidavit is a true copy of expenditures incurred in a geophysical program on the Zephyr property;
3. that the said expenditures were incurred between the 5th day of May and the 1st day of June 1992, for the purpose of mineral exploration on the above noted property.

A handwritten signature in black ink, appearing to read 'R. Aulis', written over a horizontal line.

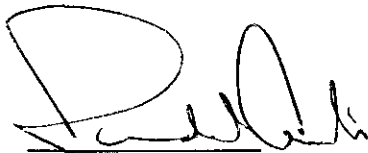
R.J. Aulis
Geologist,
Cominco Ltd.

APPENDIX C

STATEMENT OF QUALIFICATIONS

I, Randal J. Aulis, with a business address in Vancouver, British Columbia and a residential address in New Westminster, British Columbia, hereby certify that:

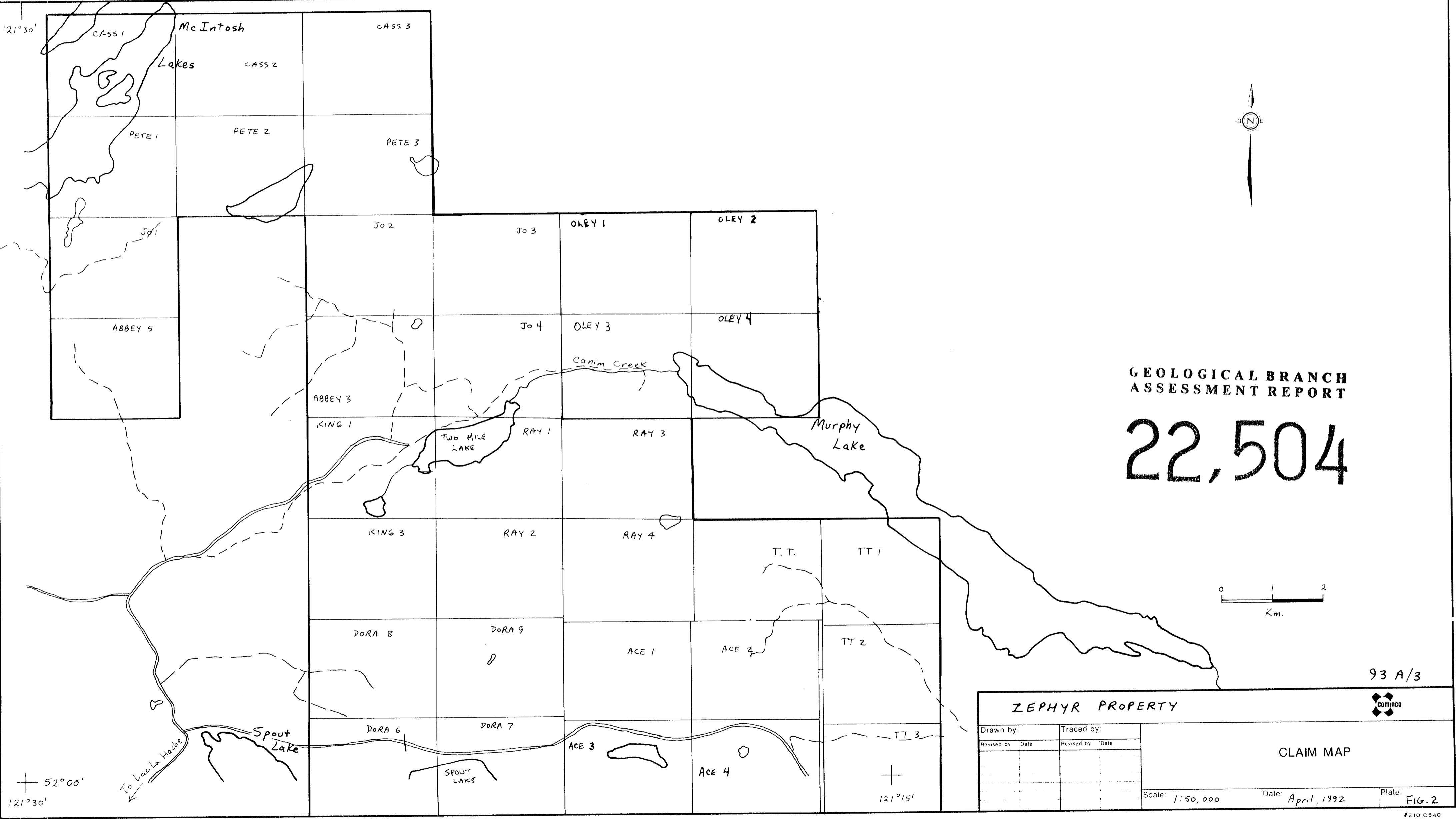
1. I have been employed as a geologist since 1985 by Cominco Ltd. with a business address at 700 - 409 Granville St., Vancouver, British Columbia, V6C 1T2;
2. I graduated with a B.Sc. (Hons) Earth Sciences degree from the University of Waterloo in 1986;
3. I personally supervised the geophysical program conducted on the Zephyr property and have written this report on the matter.

A handwritten signature in black ink, appearing to read 'Randal J. Aulis', written over a horizontal line.

Randal J. Aulis
Geologist
Cominco Ltd.

121°30'

52°00'
121°30'

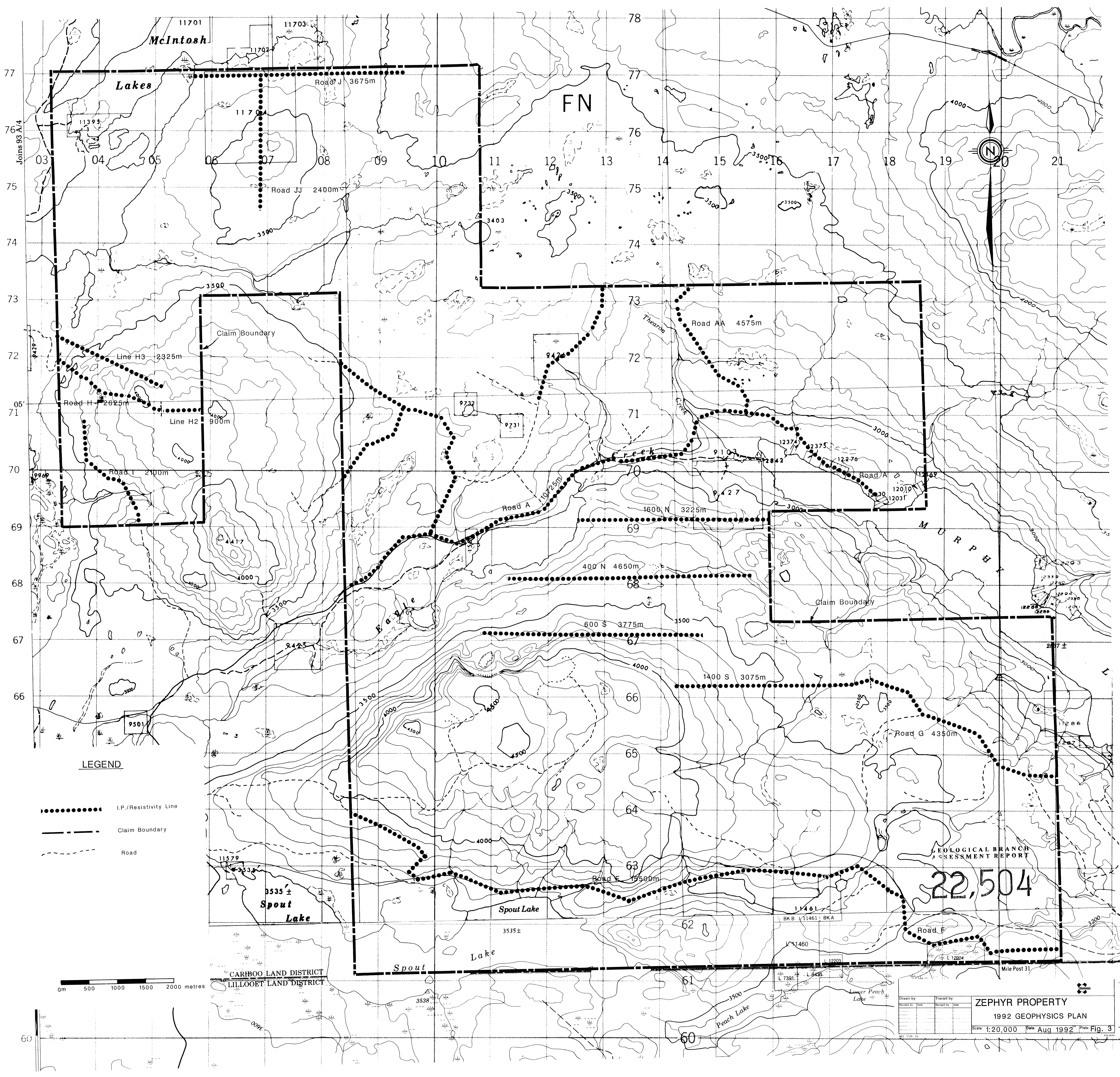


**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

22,504

93 A/3

ZEPHYR PROPERTY					
Drawn by:		Traced by:		CLAIM MAP	
Revised by:	Date:	Revised by:	Date:		
Scale: 1:50,000				Date: April, 1992	
				Plate: FIG. 2	

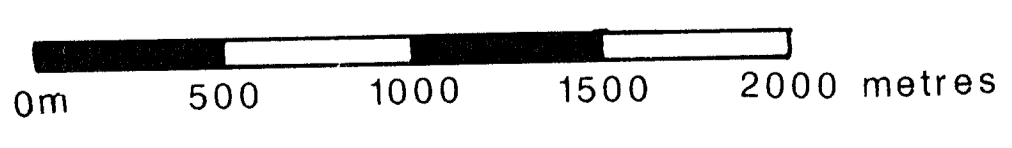


LEGEND

- I.P./Resistivity Line
- - - - - Claim Boundary
- - - - - Road

GEOLOGICAL BRANCH
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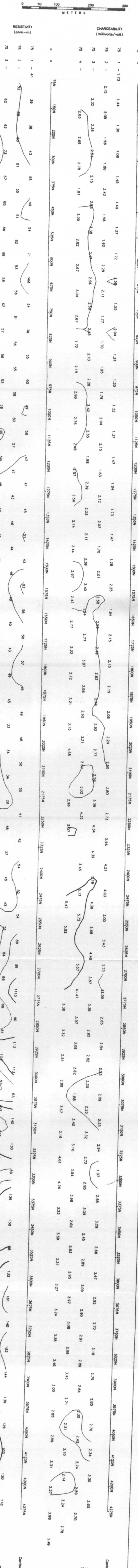
CARIBOO LAND DISTRICT
LILLOOET LAND DISTRICT

Drawn by		Traced by	
Drawn by Date	Drawn by Name	Traced by Date	Traced by Name

ZEPHYR PROPERTY
1992 GEOPHYSICS PLAN
Scale: 1:20,000 Date: Aug 1992 Plate: Fig. 3

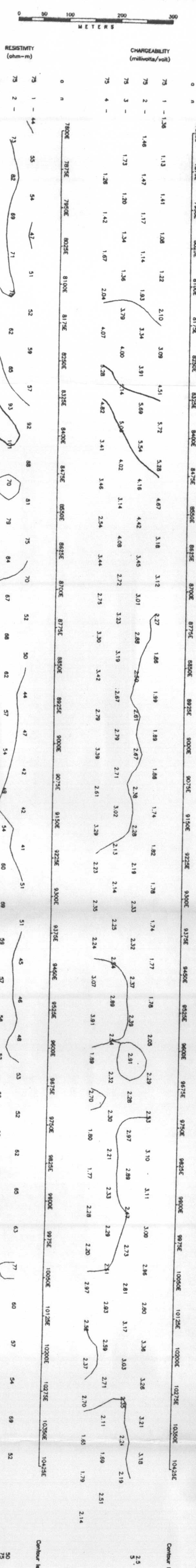
COMINCO LTD.
ZEPHYR PROPERTY, B.C.

ROAD AA
INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD.
Scintrex IPR-11
92/05/07
Pulse Rate: 2 sec
Road AA/Station 0 = Road A/9140E
cross at 1275N, road turns to right at 3120N
current electrode south of receiving electrodes
M7 window is 690 to 1050 msec after shutoff



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ZEPHYR PROPERTY, B.C.

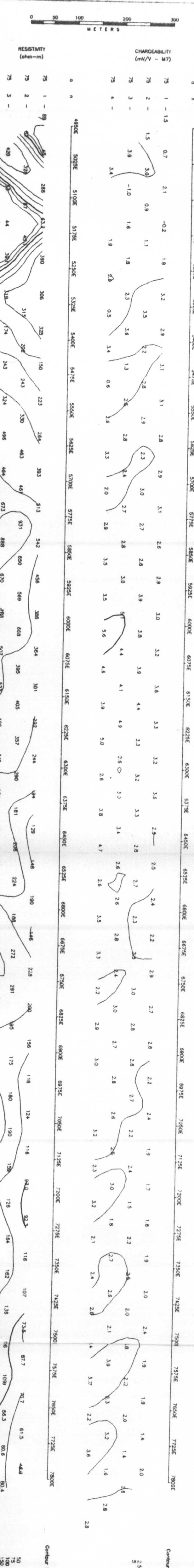
ROAD A
INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD.
Scintrex IPR-11
92/05/07
Pulse Rate: 2 sec
6350E - small road goes south to lake
9252E - road branches S, culvert 10175E, lake
current electrode west of receiving electrodes
M7 window is 690 to 1050 msec after shutoff



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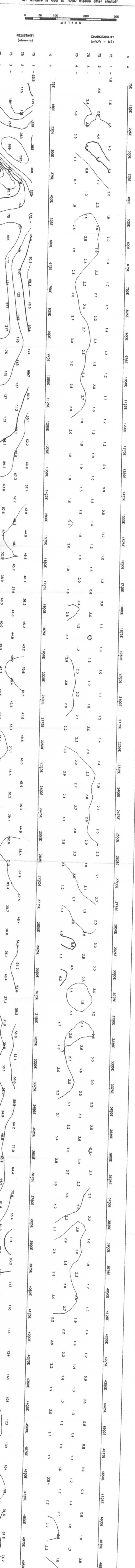
COMINCO LTD.
ZEPHYR PROPERTY, B.C.

ROAD A
INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD.
Scintrex IPR-11
92/05/07
Pulse Rate: 2 sec
4650E - claim post (21107 Roy 1)
6350E - small road goes due south to lake
current electrode west of receiving electrodes
M7 window is 690 to 1050 msec after shutoff



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ZEPHYR PROPERTY, B.C.

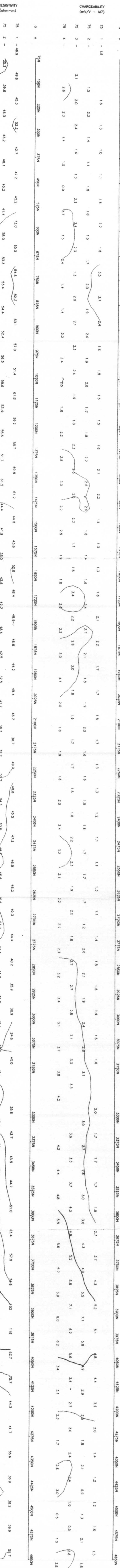
ROAD A
INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD.
Scintrex IPR-11
92/05/07
Pulse Rate: 2 sec
425E - cross-section, 2050 - road branches N, 2825E/2050E - gate
425E - claim post 211167 Roy -
current electrode west of receiving electrodes
M7 window is 690 to 1050 msec after shutoff



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ZEPHYR PROPERTY, B.C.
ROAD C

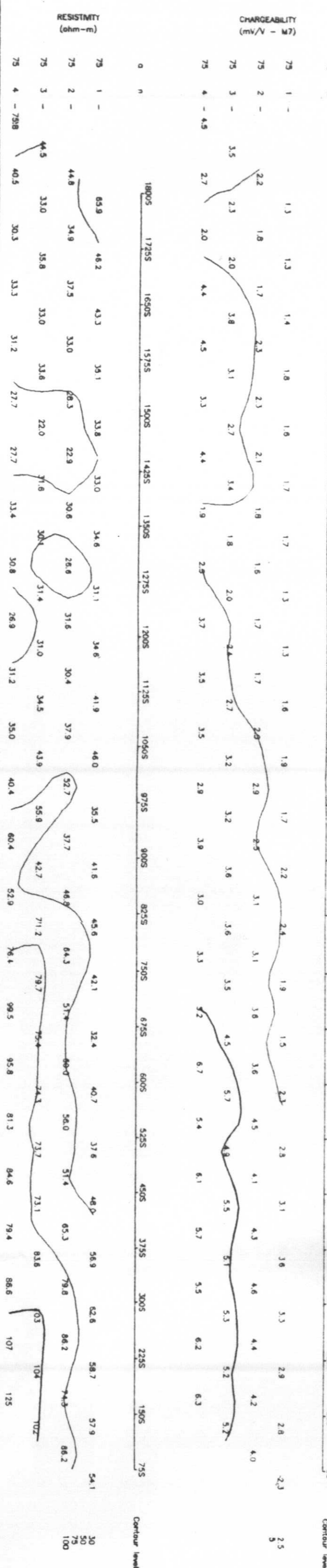
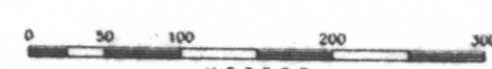
INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD. Sinterex IPR-11
92/05/08 Pulse Rate 2 sec
Line C/75N-Line A/525N
Line C/350N crosses Line D (road)
current electrode is south of receiving electrodes
M7 window is 690 to 1050 milliseconds after shutoff



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ZEPHYR PROPERTY, B.C.
ROAD D

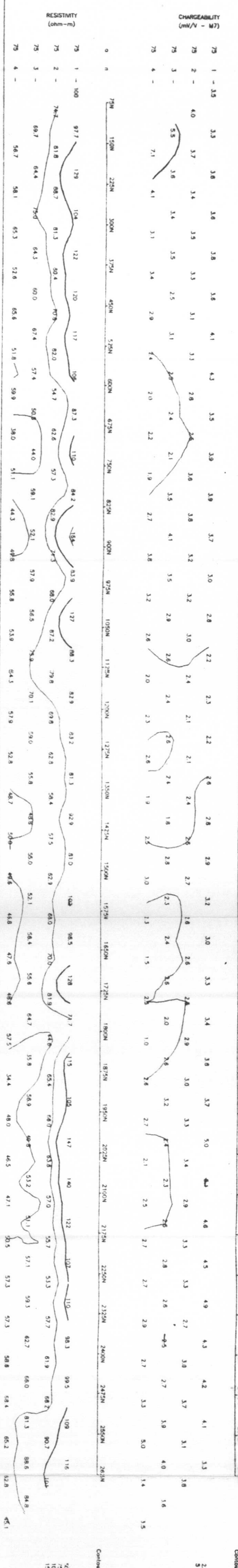
INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD. Sinterex IPR-11
92/05/08 Pulse Rate 2 sec
Line D/station 0 - Line C/station 350N
small creek at 1722N
current electrode east of receiving electrodes
M7 window is 690 to 1050 milliseconds after shutoff



COMINCO LTD.

ZEPHYR PROPERTY, B.C.
ROAD E

INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD. Sinterex IPR-11
92/05/08 Pulse Rate 2 sec
475N-gate into field, 950N-creek with culvert
1525N-barb wire fence, 2725N-old road heading west
current electrode south of receiving electrodes
M7 window is 690 to 1050 milliseconds after shutoff



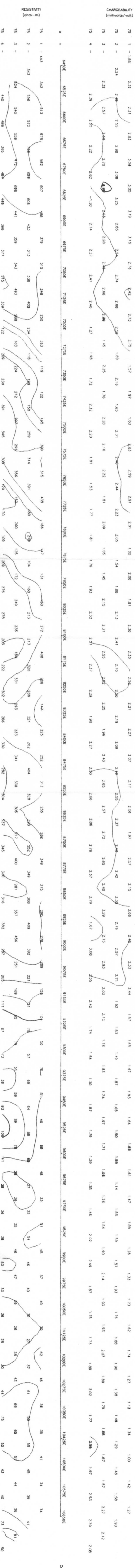
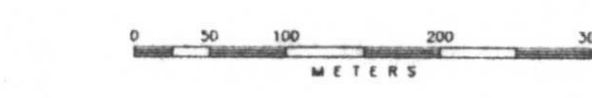
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ZEPHYR PROPERTY, B.C.

ROAD F3

INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD.
05-14-19
1770E-left onto another road, 9525E-merges onto larger road 17300E km 108 sign, horse corral 18350E
Current electrode west of receiving electrodes
Mx window is 690 to 1050 msec after shutoff

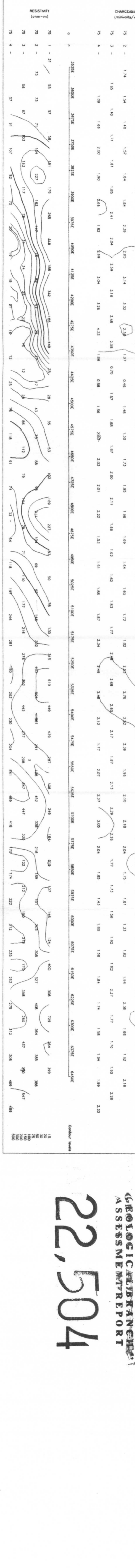
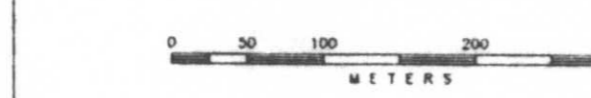


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ZEPHYR PROPERTY, B.C.

ROAD F2

INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD.
05-13-92
1770E-left onto another road, 9525E-merges onto larger road 17300E km 108 sign, horse corral 18350E
Current electrode west of receiving electrodes
Mx window is 690 to 1050 msec after shutoff

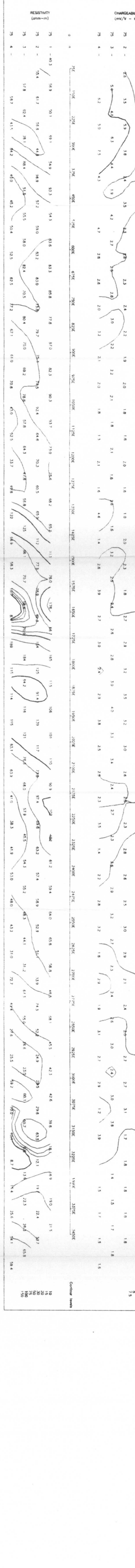
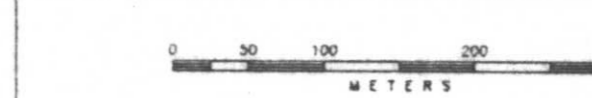


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ZEPHYR PROPERTY, B.C.

ROAD F1

INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD.
92/05/11
1770E-left onto another road, 9525E-merges onto larger road 17300E km 108 sign, horse corral 18350E
Current electrode west of receiving electrodes
Mx window is 690 to 1050 msec after shutoff



22,504
GEOLOGICAL INTERPRETATION
ASSESSMENT REPORT

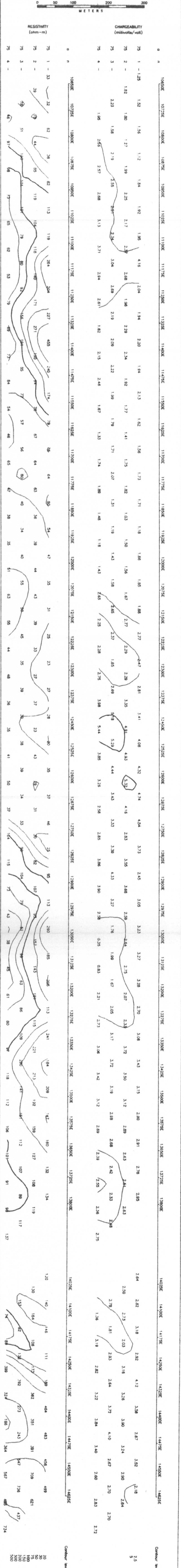
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ZEPHYR PROPERTY, B.C.

ROAD F4

INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD. Scintrex: IPR-12
05-16-19 Pulse Rate: 2 sec

1770E-left onto another road, 9525E-merges onto larger road km 116
17300E km 108 sign, horse corral 18350E
current electrode west of receiving electrodes
Mx window is 690 to 1050 msec after shutoff



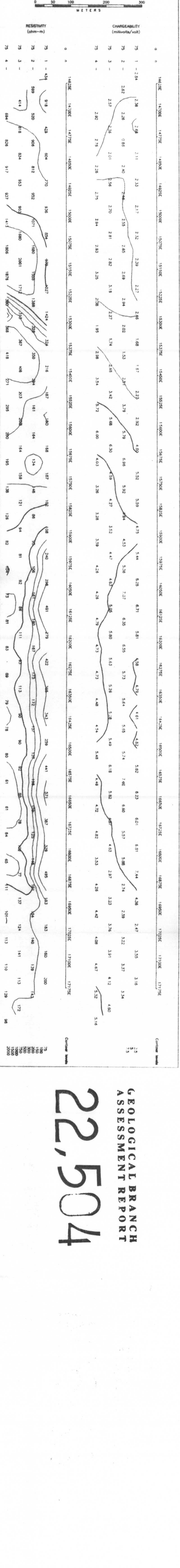
COMINCO LTD.

ZEPHYR PROPERTY, B.C.

ROAD F5

INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD. Scintrex: IPR-12
05-16-92 Pulse Rate: 2 sec

1770E-left onto another road, 9525E-merges onto larger road km 116
17300E km 108 sign, horse corral 18350E
current electrode west of receiving electrodes
Mx window is 690 to 1050 msec after shutoff



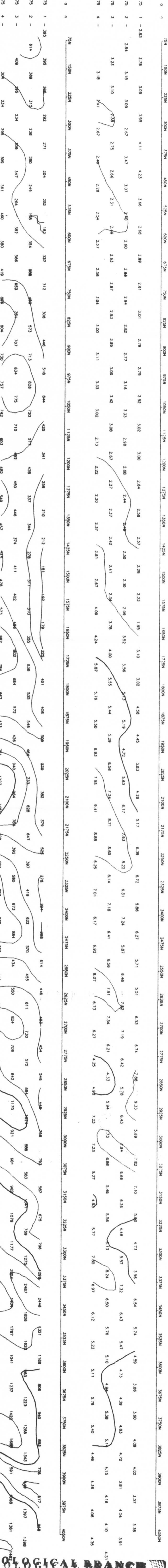
GEOLOGICAL BRANCH
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COMINCO LTD.

ZEPHYR PROPERTY, B.C.
ROAD G

INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD. Scintrex: IPR-12
05-18-82 Pulse Rate: 2 sec.

culverts at 220N, 1425N, and 2400N
2100N - road curves west 90 degrees
current electrode south of receiving electrodes
Mx window is 690 to 1050 msec after shutoff



GEOLOGICAL BRANCH
ASSESSMENT REPORT

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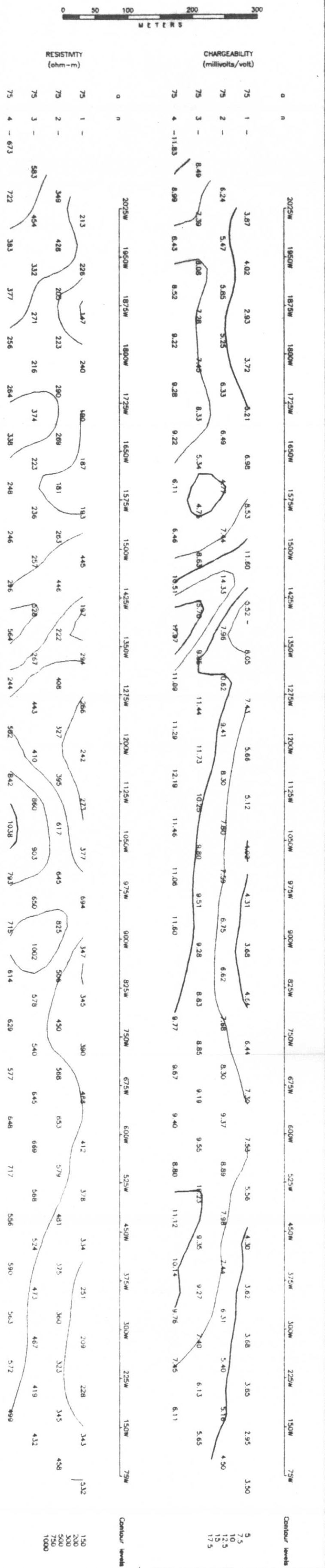
COMINCO LTD.

ZEPHYR PROPERTY, B.C.

LINE H3

INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD.
06-06-92

Line H3/OV is 300 m N of road intersection, hdg = 295
helped at 750E, Line H3 crosses road at 2100E
current electrode is east of receiving electrodes
Mx window is 690 to 1050 msec after shutoff



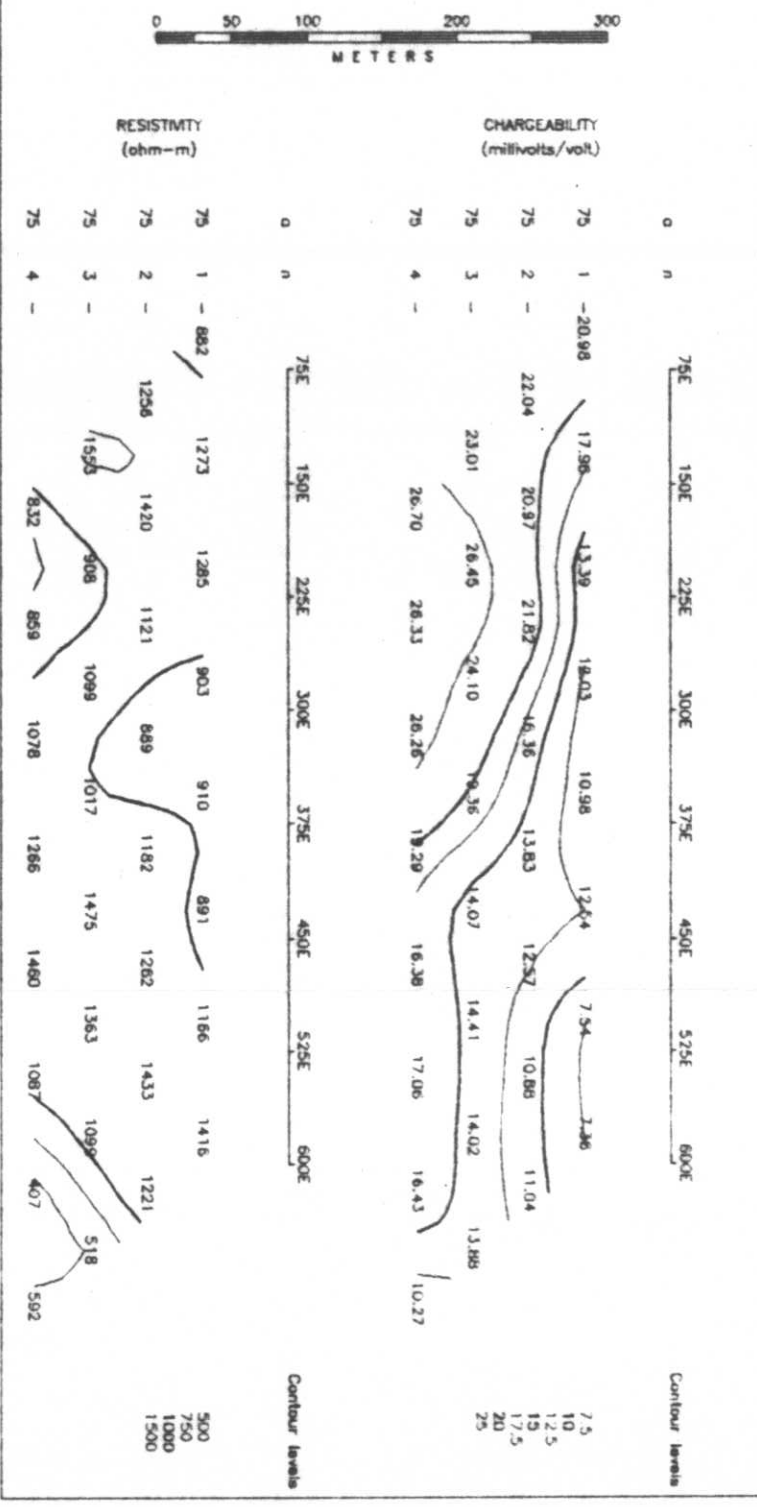
COMINCO LTD.

ZEPHYR PROPERTY, B.C.

LINE H2

INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD.
06-06-92

Line H2/OE = Road H/2400E, claim post (Abbey 5.1W) at 225E
claim post (Abbey 5.1E) at 740E
current electrode west of receiving electrodes
Mx window is 690 to 1050 msec after shutoff



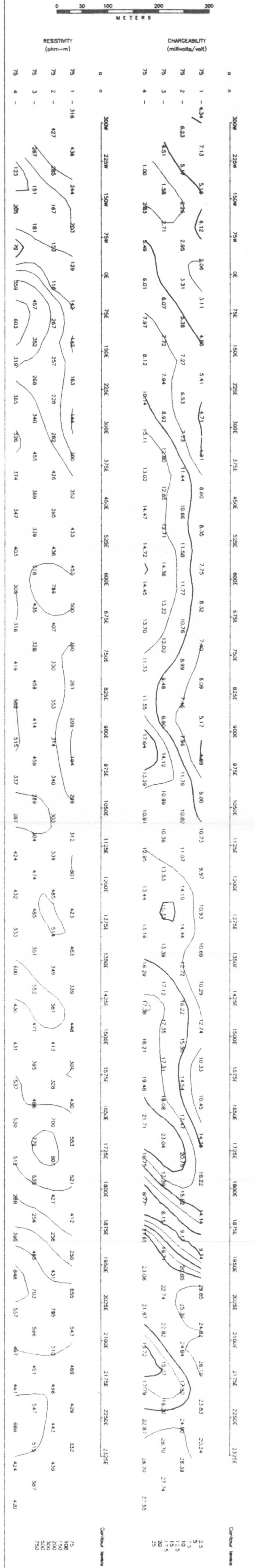
COMINCO LTD.

ZEPHYR PROPERTY, B.C.

ROAD H

INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD.
05-29-92

log sort area at 280E, cross road at 800E
2400E - line goes off road into clearcut and bush
current electrode west of receiving electrodes
Mx window is 690 to 1050 msec after shutoff



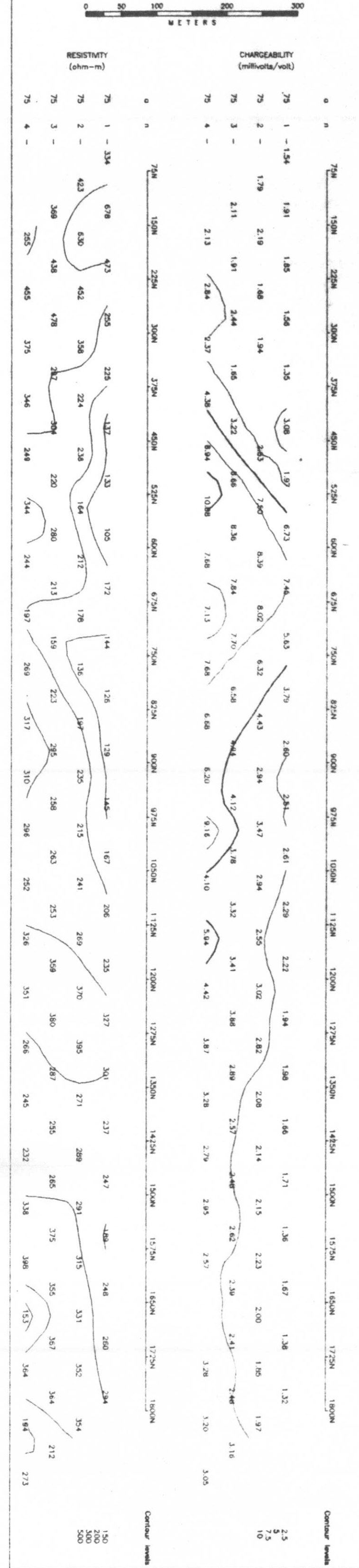
COMINCO LTD.

ZEPHYR PROPERTY, B.C.

ROAD I

INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD.
05-27-92

road I joins main road at 475N, leaves clearcut at 600N
enters clearcut at 1760N, goes onto another road at 1800N
current electrode south of receiving electrodes
Mx window is 690 to 1050 msec after shutoff



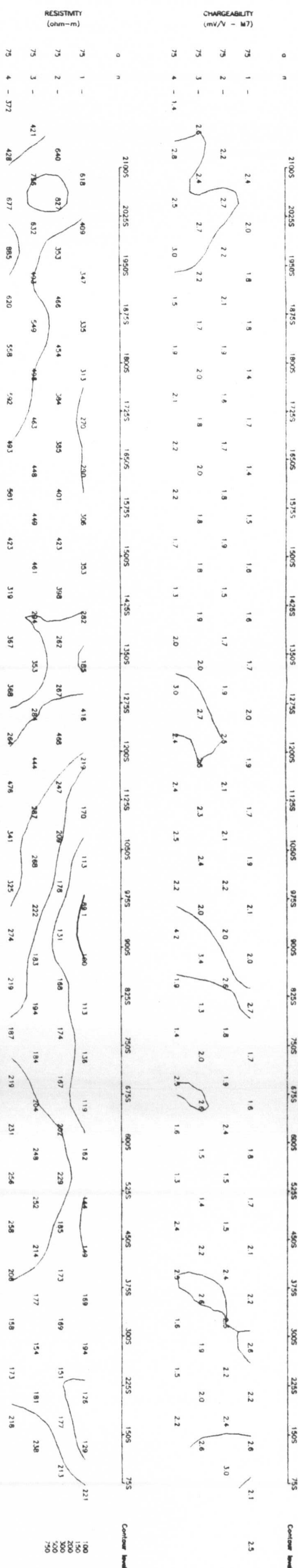
22,504
GEOLOGICAL BRANCH
ASSESSMENT REPORT

COMINCO LTD.

ZEPHYR PROPERTY, B.C.
ROAD JJ

INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD. Scintrex IPR-11
92/05/10 Pulse Rate: 2 sec

Line JJ/755 - Line JJ/1275E
14805 - line leaves road and goes into bush
current electrode north of receiving electrodes
M7 window is 690 to 1050 msec after shutoff

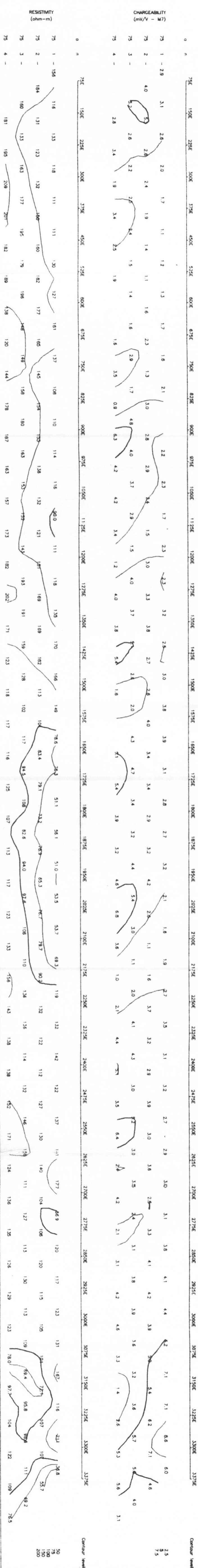


COMINCO LTD.

ZEPHYR PROPERTY, B.C.
ROAD J

INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD. Scintrex IPR-11
92/05/09 Pulse Rate: 2 sec

claim post at 520E (Duke 1)
claim post at 3375E (LCP Duke)
current electrode west of receiving electrodes
M7 window is 690 to 1050 msec after shutoff



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GEOLOGICAL BRANCH
ASSESSMENT REPORT