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ACTION:

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GEOPHYSICAL REPORT

on the

UNUK AND COUL CLAIM GROUPS
Jeff and Tarn Grids

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VANCOUVER B.C.

UNUK RIVER AREA

SKEENA MINING DIVISION
NTS 104 B/9 and 104 B/10

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GRANGES INC.
23300 - 885 WEST GEORGIA STREET
VANCOUVER, BC
V6C 3E8

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

October 18, 1991

A.J. O'Donnell

21,749

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INTRODUCTION

A geophysical survey was undertaken on the Jeff and Tarn Grids, which encompass portions of the Coul 3 (tenure number 251346), Unuk 11 (251360) and Unuk 12 (251361) claims. Malcolm Bell is the recorded holder of the claims. The claims are held by Granges Inc. of Vancouver, BC, under option from Springer Resources Ltd. and Cove Resources Corporation. The exploration was completed by Scott Geophysics Ltd. under the supervision of A.J. O'Donnell, geologist for Granges Inc.

LOCATION AND ACCESS

The claims are located in the Skeena Mining Division, approximately 80 km northwest of Stewart, BC, on NTS map sheets 104 B/9 and 104 B/10 (Figures 1 and 2).

Access to the area is gained by helicopter from the outpost Bell II on the Stewart-Cassiar highway approximately 50 km to the east.

The property is characterized by steep vegetation-covered slopes up to 1220 m (4000 ft) elevation and alpine conditions with ice fields and glaciers at higher elevations.

GEOLOGY

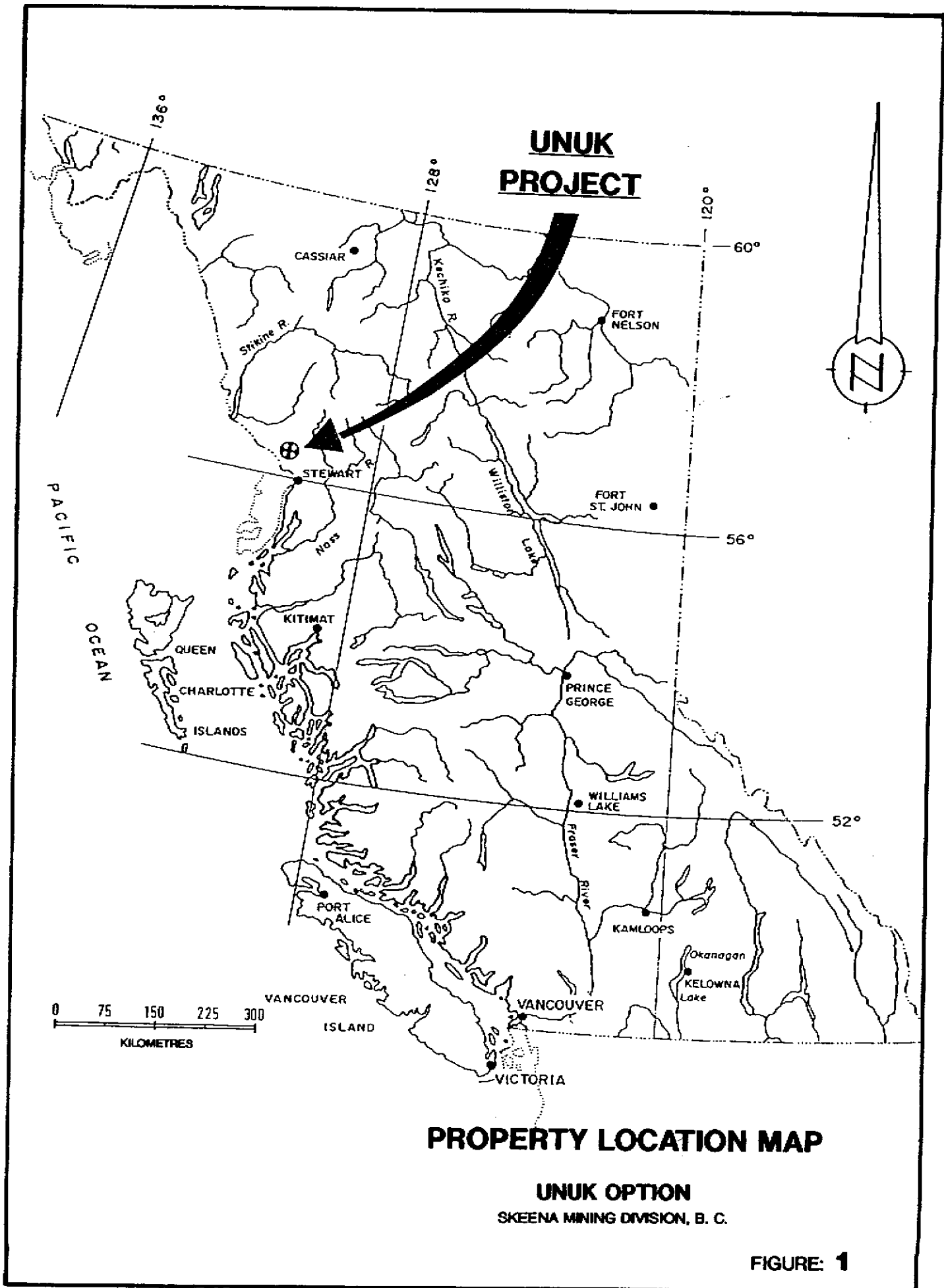
The property is underlain by a thick volcanic-sedimentary succession of Upper Triassic to Middle Jurassic age overlain by marine basin sediments of Middle to Upper Jurassic age, cut and intruded by a variety of plutons spanning late Triassic to Tertiary time.

PREVIOUS WORK

Previous work on the property consisted of prospecting, geological mapping, soil and rock sampling, airborne electromagnetic and magnetic surveying, ground magnetic and VLF electromagnetic surveying, trenching and diamond drilling, the results of which are documented in reports held by Granges Inc.

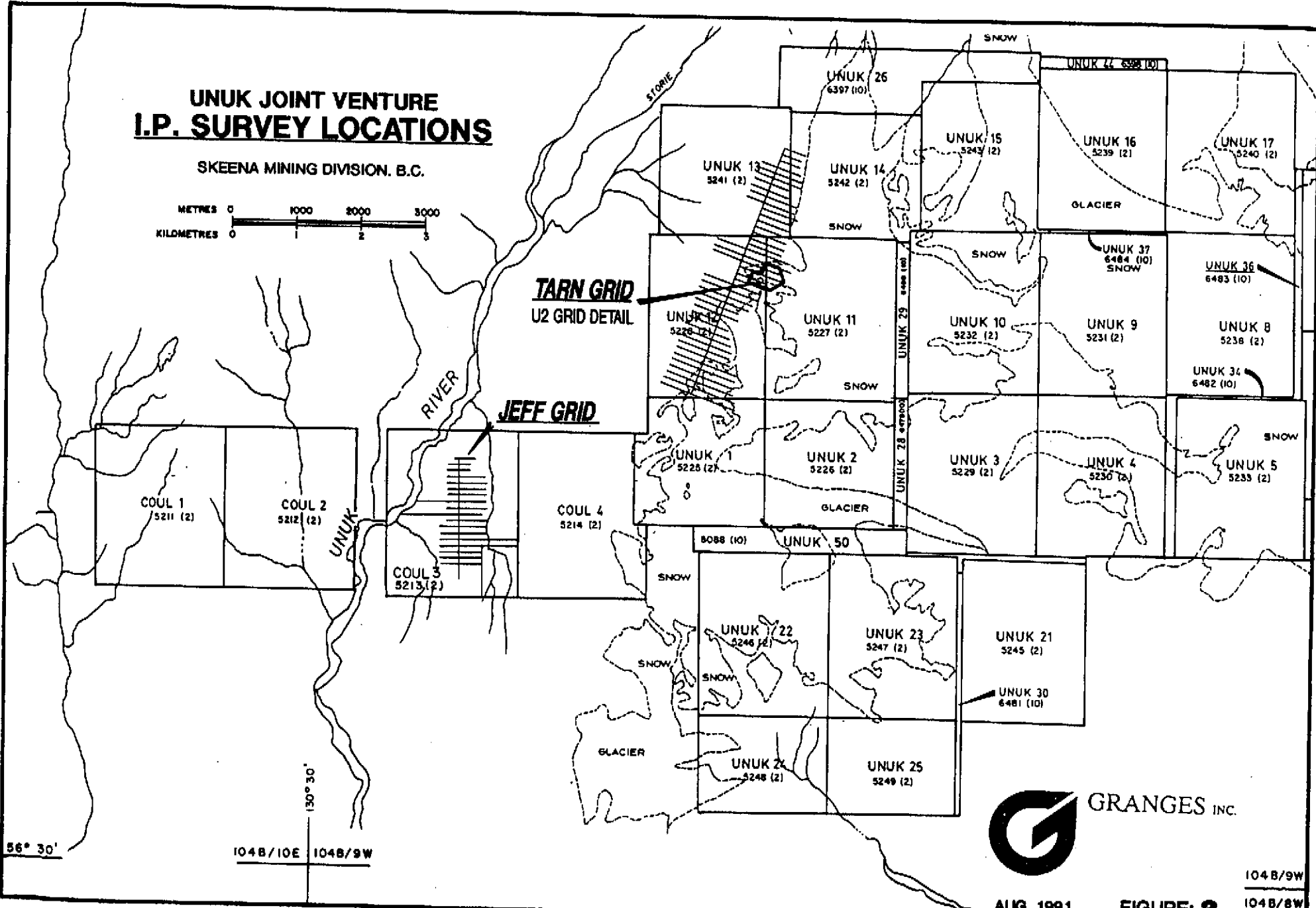
GEOPHYSICAL SURVEY

Induced polarization and magnetometer surveys were conducted over portions of the Jeff and Tarn Grids within the period August 15 to August 27, 1991. A total of 15.3 line kilometres of induced polarization survey and magnetometer survey were completed on the two grids, 2.0 km on the Tarn grid and 13.3 on the Jeff grid. Details of lines are given in the appended production reports.



UNUK JOINT VENTURE I.P. SURVEY LOCATIONS

SKEENA MINING DIVISION, B.C.



56° 30'

104B/10E 104B/9W

130° 30'



GRANGES INC.

AUG. 1991

FIGURE: 2

104B/9W

104B/8W

The pole dipole electrode array was used on the induced polarization survey, with an "a" spacing of 25 metres and "n" separations of 1, 2, 3, 4 and 5. The current electrode location was to the west of the potential electrodes on the grids.

Instrumentation

A Scintrex IPR11 time domain receiver, and a Scintrex 2.5 kw IPC7 transmitter were used for the induced polarization survey. Readings were taken using a 2 second alternating square wave. The chargeability for the eighth slice is the value that has been plotted on the accompanying plans and pseudosections (M7; 690 to 1050 milliseconds after shutoff; midpoint at 870 milliseconds).

A Scintrex MP4 total field magnetometer was used for the magnetometer survey. A Geometrics G816 total field magnetometer was used as the fixed base station magnetometer. All readings were corrected for diurnal drift with reference to the base station.

The survey data was archived, processed and plotted using a Toshiba 3200 microcomputer running Scintrex Soft II and proprietary software. All chargeability responses 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 response, the spectral parameters are often relatively poorly defined.

Jeff Grid - Magnetometer Survey

A total of 13.3 km of magnetometer surveying was completed on the Jeff grid. Readings expressed in gammas were taken every 25 metres along section lines 100 metres apart.

The survey indicated generally weak anomalous north-south striking trends, which are associated with, or in close proximity to, the chargeability highs. The majority of these trends, because of their association with IP anomalies, warrant further exploration by diamond drilling.

Jeff Grid - Induced Polarization Survey

A total of 13.37 km of induced polarization surveying was undertaken over the Jeff grid, with readings being taken every 25 metres on section lines 100 metres apart. The survey indicated north striking anomalous trends consisting of both chargeability and resistivity.

The eastern portion of the grid, and especially to the south east, the survey exposed an area of very low resistivity with chargeabilities being difficult to detect, due to the resulting low primary voltages. It is assumed that the resistivity anomalies are the result of graphitic argillite.

It is recommended that the IP chargeability, resistivity and magnetic anomalies in favourable geology be tested by five widely-spaced diamond drill holes at the following locations:

Hole #1: 1300N/0+00 270°W -45° Depth 115 m

The hole is designed to check the underlying geology, anomalous gold in the soil and the chargeability high.

Hole #2: 7+54N/0+25E 270°W -45° Depth 115 m

This hole is to test the geological contact, a strong resistivity anomaly and some gold values in the soil.

Hole #3: 900N/2+00W 270°W -45° Depth 120 m

Hole #3 is designed to test a chargeability high with a magnetic association along with gold values in the soil.

Hole #4: 1600N/0+93W 270°W -45° Depth 1000 m

The hole is designed to test a north striking chargeability high associated with anomalous soil values.

Hole #5: 1800N/0+00 270°W -45° Depth 100 m

This hole is designed to test both the elevated magnetometer anomaly and a possible geological contact which has been projected by mapping.

Tarn Grid - Magnetometer Survey

The Tarn Grid was located as a detailed area of the U-2 Grid established in 1990. The magnetometer survey indicated a local, slightly above background magnetometer high with the higher gamma readings located on the eastern portion of line 3550N. A further magnetic high is associated with resistivity and chargeability on line 3400N which has been recommended for diamond drilling.

Tarn Grid - Induced Polarization Survey

Four short lines were surveyed on a 25 metre interval over section lines 50 metres apart. The strongest anomalous area in both chargeability and resistivity was indicated on line 3400N

approximately 24+37E. To the south on line 3550N the anomaly is still relatively strong. However, the remaining lines indicated lower chargeability with an increase in resistivity.

It is recommended that the anomalous zone be tested by drilling at the following coordinate:

3400N 23+75E -45°E Depth 100 m

Further exploration would depend upon the results obtained.

CONCLUSIONS AND RECOMMENDATIONS

The IP and magnetometer geophysical surveys indicated several anomalous areas on the Jeff grid and an IP zone on the Tarn grid.

It is recommended that these areas be tested by at least five diamond drill holes on the Jeff grid and one in the Tarn grid area, for a total of approximately 650 metres. Further exploration would depend upon the results obtained from the drilling.

Respectfully submitted,



A.J. O'Donnell

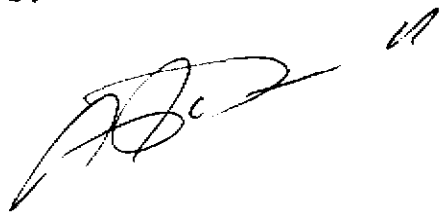
STATEMENT OF EXPENDITURES

Scott Geophysics Ltd.

Geophysical Survey Fees: 13 survey days	\$12,939.80
Field Assistants (2): 15 days	3,651.14
Demobilization: 2 travel days	1,373.52
Food and Accomodation	460.06
Report Preparation and Management	669.38
	<hr/>
	19,093.90
Plus GST (7%)	1,336.57
	<hr/>
	\$20,430.47

The costs are apportioned as follows:

Coul 3:	\$17,759.81
Unuk 11:	1,335.33
Unuk 12:	1,335.33

A handwritten signature in black ink, appearing to be 'A. B. C.', is written over the bottom right portion of the apportionment table.

CERTIFICATE OF QUALIFICATIONS

I, Arthur John O'Donnell, of Delta, British Columbia do hereby certify that:

- 1) I am Exploration Manager for Granges Inc. with offices at 2300, 885 West Georgia Street, Vancouver, B.C. V6C 3E8.
- 2) I am a graduate of Saint Francis Xavier University, Antigonish, N.S. with a BSc degree in geology. I also took an extra year of geology at Dalhousie University, Halifax, N.S.
- 3) That I have practised my profession for thirty years.
- 4) I have been a member in good standing of the Association of Professional Engineers of the Province of Ontario since 1970 and the Association of Professional Engineers Province of Manitoba since 1980.

Dated at Vancouver, B.C. this 4th day of March, 1991.



A.J. O'Donnell, P.Eng.

APPENDIX A

GEOPHYSICAL SURVEY PRODUCTION REPORT

Scott Geophysics Ltd.

GEOPHYSICAL SURVEY PRODUCTION REPORT

page 1 of ___

IPR 11 SURVEY: pole dipole array, a=25 meters, n=1 to 5

Project No.: 9141 Client: Granges Inc. Area: Unik River

Date	Lines surveyed and comments	Production
Sun Aug. 11		
Mon Aug. 12		
Tues Aug. 13		
Wed Aug. 14		
Thurs Aug. 15	Mob to camp. L3200N Tarn Dump 91410101	400 meters IP 400 meters mag.
Fri Aug. 16	L3250N, L3300N, L3350N, L3400N Tarn Dump 91410102	1600 meters IP 1500 meters mag.
Sat Aug. 17	L1300N L1400N to station 75 east Jeff Dump 91410201	1450 meters IP 1450 meters mag.

Remarks:

Totals 3450 meters IP
 (this wk) 3350 meters mag.

Totals 3450 meters IP
 (to date) 3350 meters mag.

Personnel:	S	M	T	W	T	F	S
Dominique Berube					r	r	r
Andre McNicoll					c	g	t
Josee Catafard					g	t	c
Matt Scott					t	c	g
Granges					p	p	p

r = receiver t = transmitter
 p = pots c = current
 s = standby m = mob/demob
 d = data proc. l = linecutting
 g = mag.

Signed: _____

Date: _____

Aug 23/91

GEOPHYSICAL SURVEY PRODUCTION REPORT

IPR 11 SURVEY: pole dipole array, a=25 meters, n=1 to 5

Project No.: 9141 Client: Granges Inc. Area: Unuk River

Date	Lines surveyed and comments	Production
Sun	L1400N from station 75E	1825 meters IP
Aug. 18	L1500N, L1600N L1700N to station 00 Jeff Dump 91410202	1825 meters mag
Mon	L1700N from station 00	1750 meters IP
Aug. 19	L1800N, L1900N, L2000N Jeff Dump 91410203	1750 meters mag.
Tues	L2100N	1375 meters IP
Aug. 20	L1200N Jeff Dump 91410204	1375 meters mag.
Wed	L1100N, L1000N	1725 meters IP
Aug. 21	L900N to station 75W Jeff Dump 91410205	1725 meters mag.
Thurs	L900N from station 75W	1550 meters IP
Aug. 22	L800N Jeff Dump 91410206	1550 meters mag.
Fri	L700N, L600N	1825 meters IP
Aug. 23	Jeff Dump 91410207	1825 meters mag.
Sat	L500N, L400N	1300 meters IP
Aug. 24	Jeff Dump 91410208	1300 meters mag.

Remarks:

Totals 11350 meters IP
 (this wk) 11350 meters mag.

Totals ~~14800~~ meters IP
 (to date) ~~14700~~ meters mag.

Personnel:	S M T W T F S
Dominique Berube	r r r r r r r
Andre McNicoll	c g c g t c g
Josee Catafard	g t t c g t c
Matt Scott	t c g t c g t
Granges	p p p p p p p

r = receiver t = transmitter
 p = pots c = current
 s = standby m = mob/demob
 d = data proc. l = linecutting
 g = mag.

Signed: 

Date: Sept 3/91

GEOPHYSICAL SURVEY PRODUCTION REPORT

IPR 11 SURVEY: pole dipole array, a=25 meters, n=1 to 5

Project No.: 9141 Client: Granges Inc. Area: Unuk River

Date	Lines surveyed and comments	Production
Sun Aug. 25	L2000S stop at cliff near 2075E move setup Jeff Dump 91410301	575 meters IP 500 meters mag
Mon Aug. 26	L1900S, L2000S from 2075E 'G' Grid Dump 91410302	1175 meters IP 1175 meters mag.
Tues Ayg. 27	L1800S L1700S to station 2300E 'G' Grid Dump 91410303	1100 meters IP 1100 meters mag.
Wed Aug. 28	Travel to Prince George	travel
Thurs Aug. 29	Travel to Vancouver	travel
Fri Aug. 30		
Sat Aug. 31		

Remarks:

Totals (this wk) : 2850 meters IP
2775 meters mag.

Totals (to date) : ~~17~~650 meters IP
~~17~~475 meters mag.

Personnel:	S	M	T	W	T	F	S
Dominique Berube	r	r	r	m	m		
Andre McNicoll	t	c	g	m	m		
Josee Catafard	g	t	c	m	m		
Matt Scott	c	g	t	m	m		
Granges	p	p	p				

r = receiver t = transmitter
 p = pots c = current
 s = standby m = mob/demob
 d = data proc. l = linecutting
 g = mag.

Signed: _____

Date: _____

Scott 3/91

500W

500E

SURVEY SPECIFICATIONS

array pole dipole
a spacing 25 meters
n separations 1, 2, 3, 4, 5

current electrode
west of potential electrodes

receiver Scintrex IPR11
transmitter Scintrex IPC7
pulse time 2 seconds
M7 receive window 690-1050 msec
mid point 870 msec

2000N

1500N

1000N

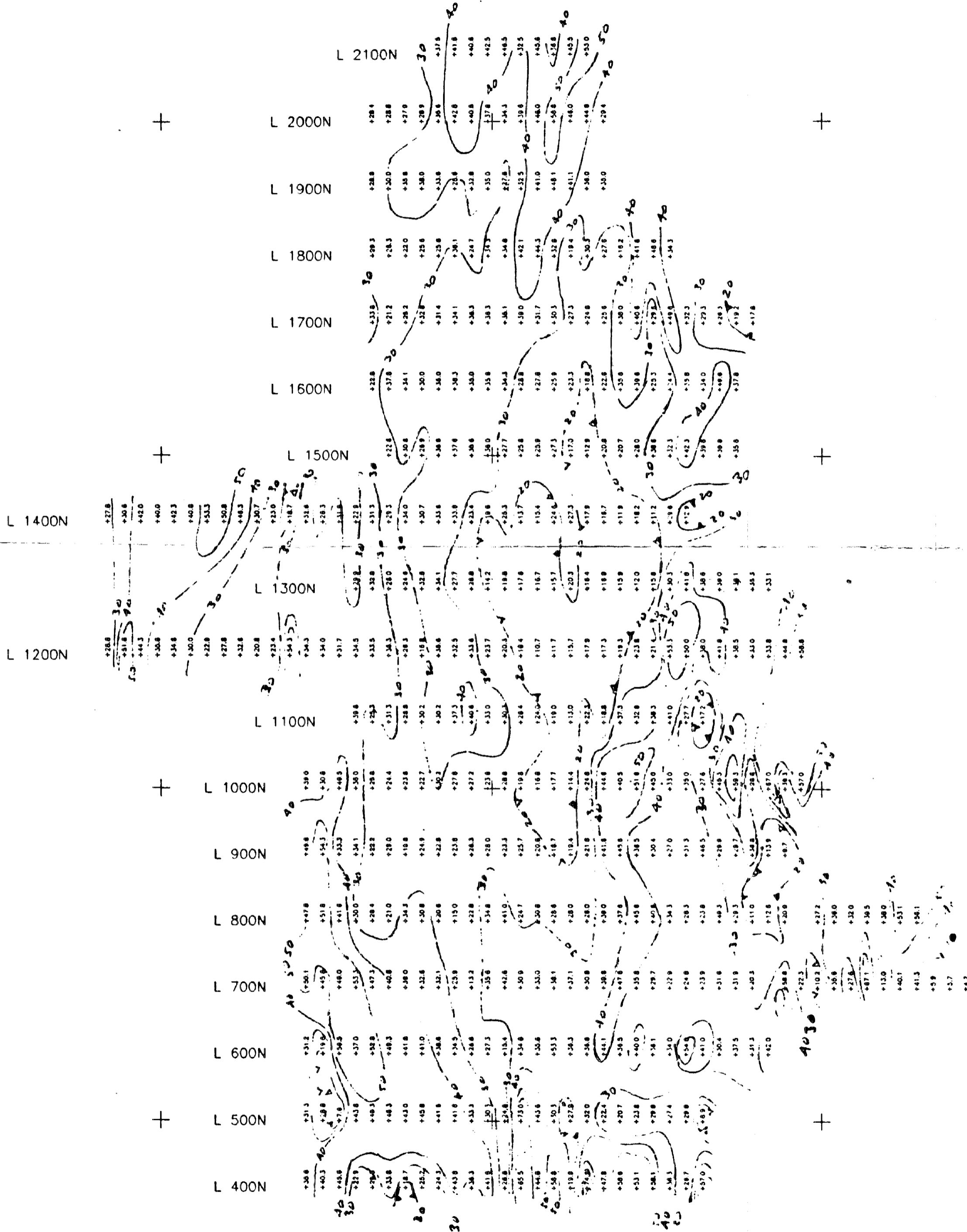
500N

2000N

1500N

1000N

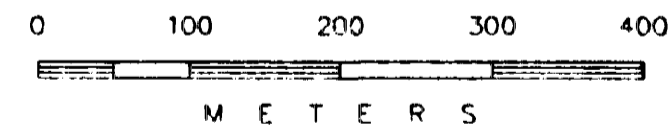
500N



+ M7 (millivolts/volt)

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ASSESSMENT REPORT

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GRANGES INC.

JEFF GRID
UNUK RIVER AREA, B.C.
CHARGEABILITY CONTOUR PLAN
a=25 meters/n=1

DRAWN BY: ars DATE: Sept/91

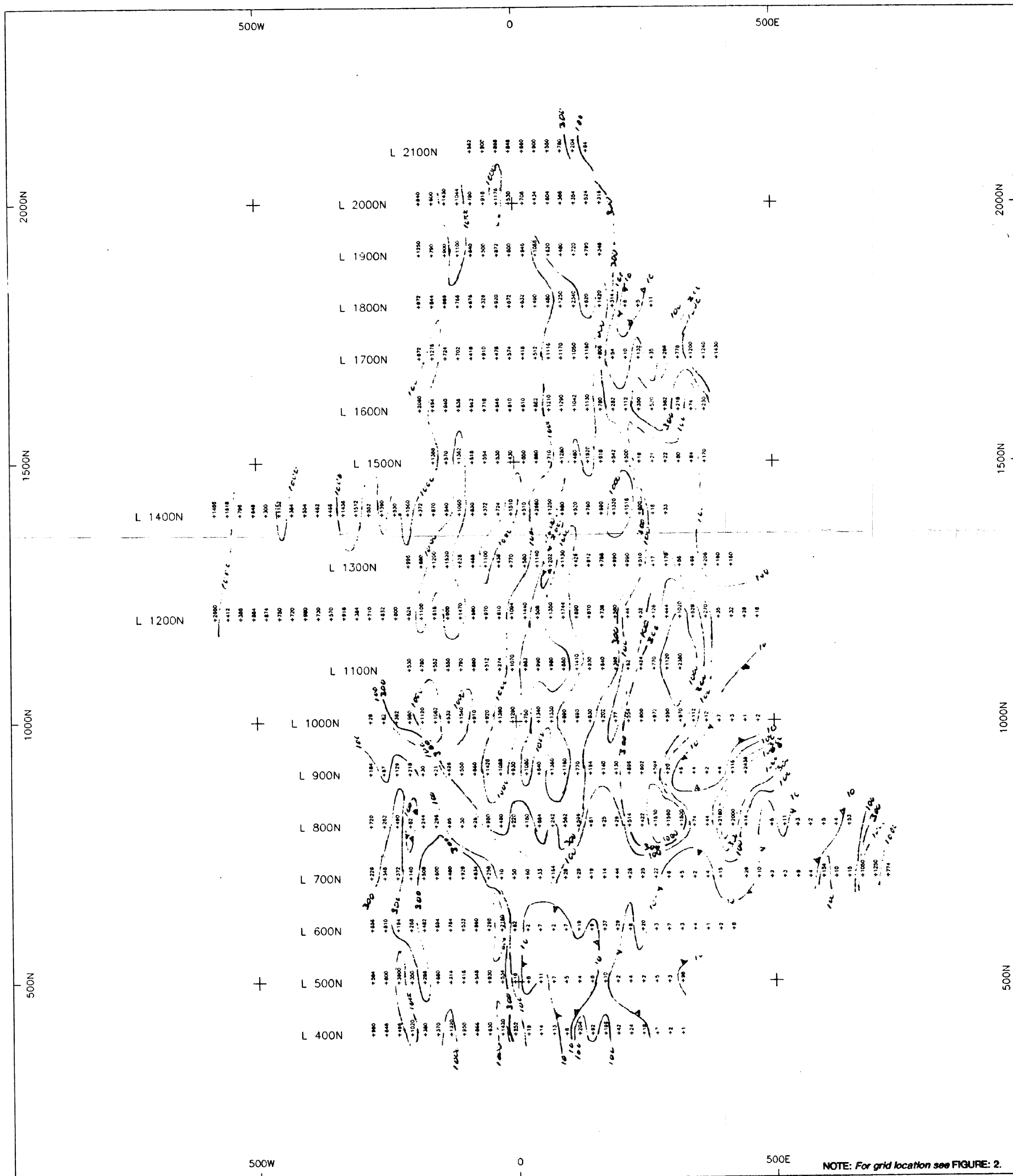
SCOTT GEOPHYSICS LTD.

FIGURE: 3

NOTE: For grid location see FIGURE: 2.

500W

500E

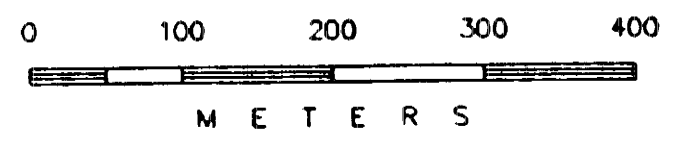


SURVEY SPECIFICATIONS
 array pole dipole
 a spacing 25 meters
 n separations 1, 2, 3, 4, 5
 current electrode
 west of potential electrodes
 receiver Scintrex IPR11
 transmitter Scintrex IPC7
 pulse time 2 seconds
 M7 receive window 690-1050 msec
 mid point 870 msec

+ RHO (ohm meters)

**GEOLOGICAL BRANCH
 ASSESSMENT REPORT**

21,749

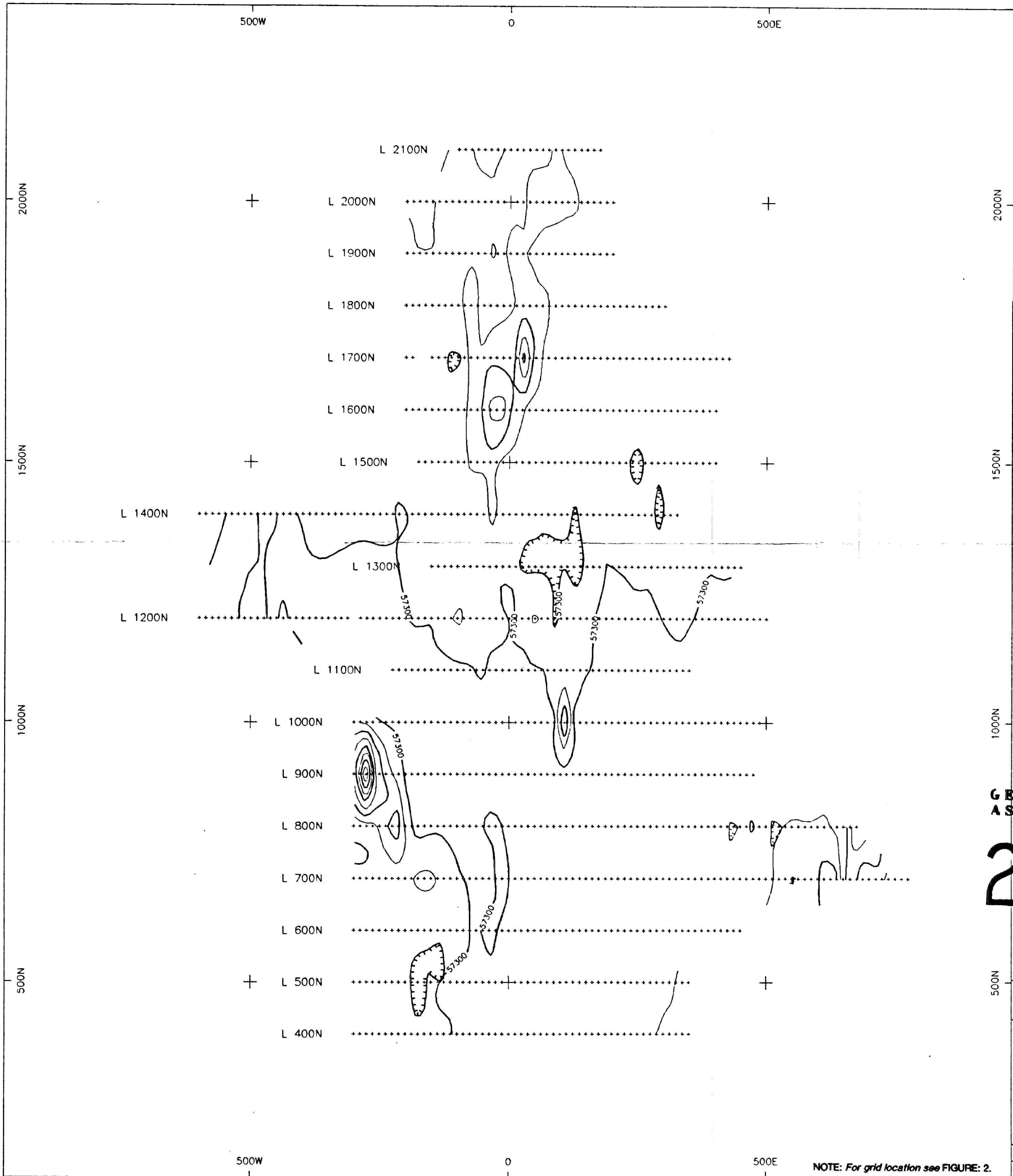


GRANGES INC.

JEFF GRID
 UNUK RIVER AREA, B.C.
 RESISTIVITY CONTOUR PLAN
 a=25 meters/n=1

DRAWN BY: ars DATE: Sept/91
 SCOTT GEOPHYSICS LTD. FIGURE: 4

NOTE: For grid location see FIGURE: 2.

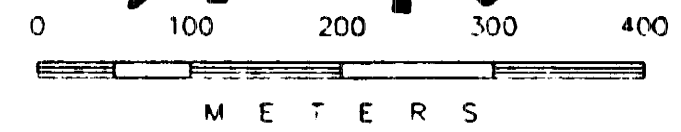


SURVEY SPECIFICATIONS
 survey magnetometer Scintrex MP4
 base magnetometer Geometrics G816
 type proton
 posted value total field
 units gammas

+ MAG (gammas)
 Data: 99999 or less not plotted

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GRANGES INC.

JEFF GRID
 UNUK RIVER AREA, B.C.
 MAGNETOMETER CONTOUR PLAN
 contour interval = 50 gammas

DRAWN BY: ars DATE: Sept/91
 SCOTT GEOPHYSICS LTD. FIGURE: 5

NOTE: For grid location see FIGURE: 2.

500W

0

500E

SURVEY SPECIFICATIONS
 survey magnetometer Sointrex MP4
 base magnetometer Geometrics G816
 type proton
 posted value total field
 units gammas

2000N

1500N

1000N

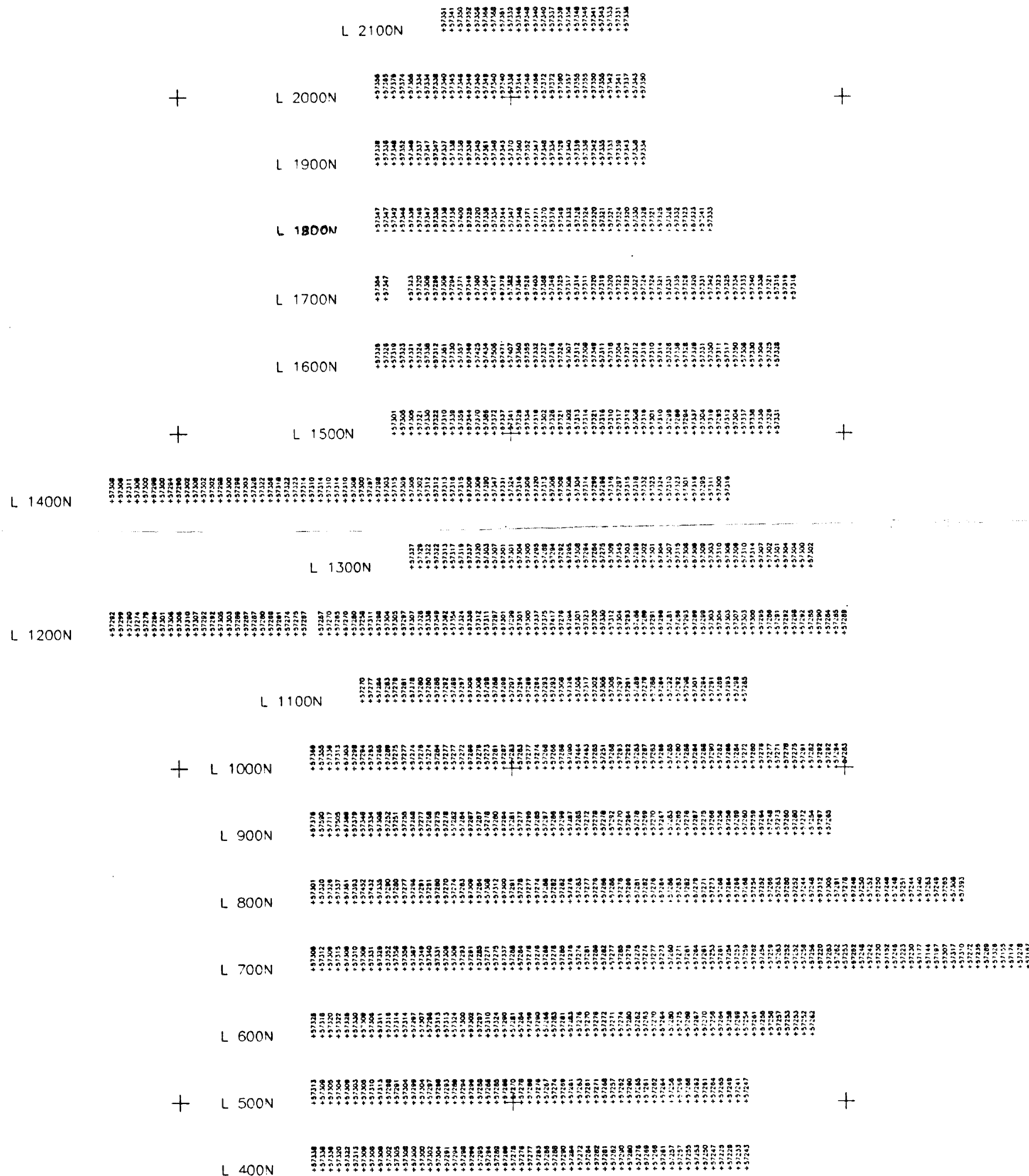
500N

2000N

1500N

1000N

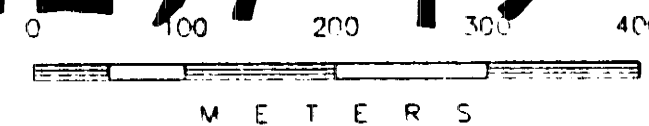
500N



+ MAG (gammas)

GEOLOGICAL BRANCH ASSESSMENT REPORT

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GRANGES INC.

JEFF GRID
 UNUK RIVER AREA, B.C.
 MAGNETOMETER PLAN

500W

0

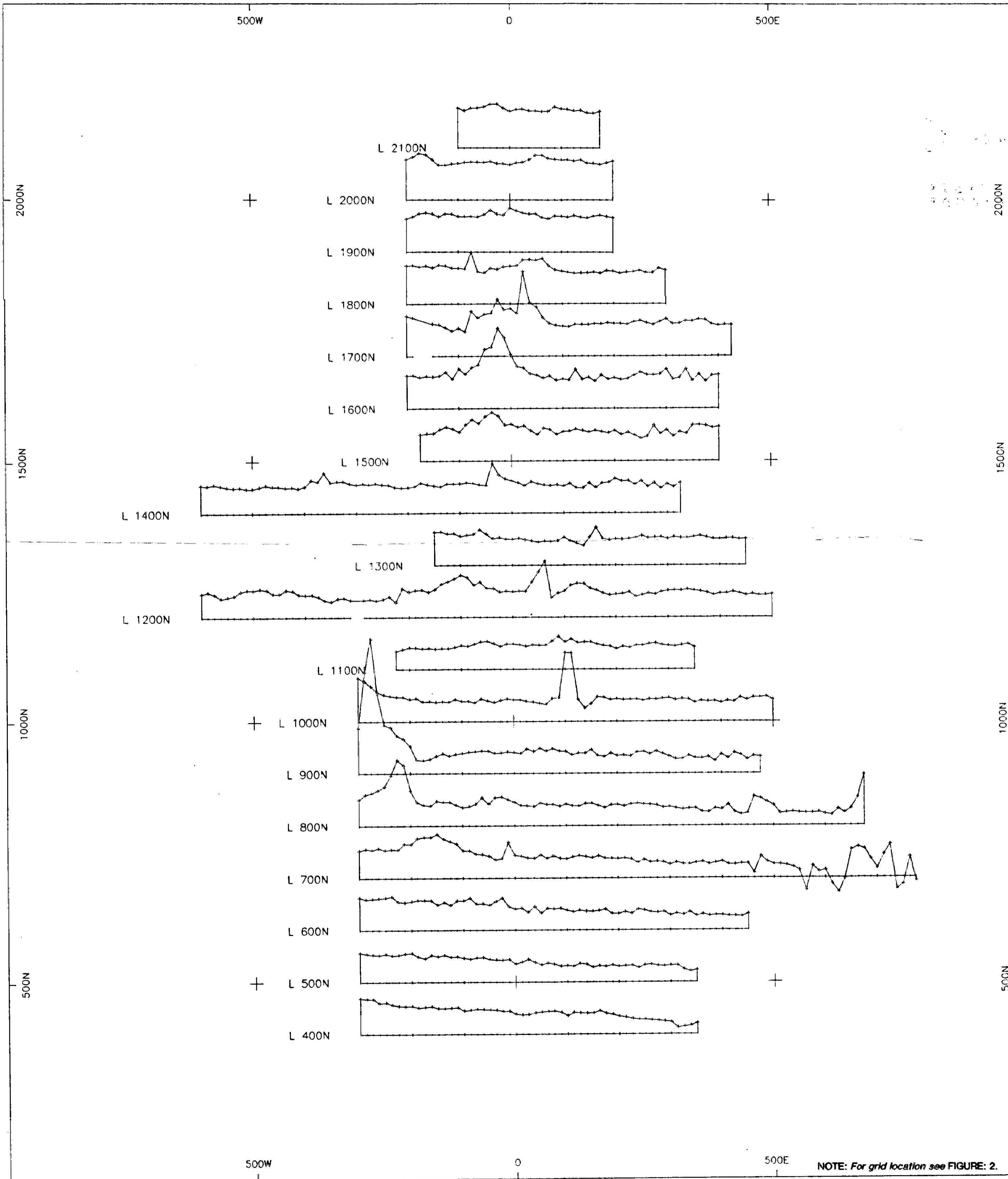
500E

NOTE: For grid location see FIGURE 2.

DRAWN BY: ars DATE: Sept/91

SCOTT GEOPHYSICS LTD.

FIGURE: 6



SURVEY SPECIFICATIONS
 survey magnetometer Scintrex MP4
 base magnetometer Geometrics G816
 type: proton
 posted value total field
 units gammas

KEY FIELD BASE UNITS/cm
 ++ MAG (gammas) 57200 100

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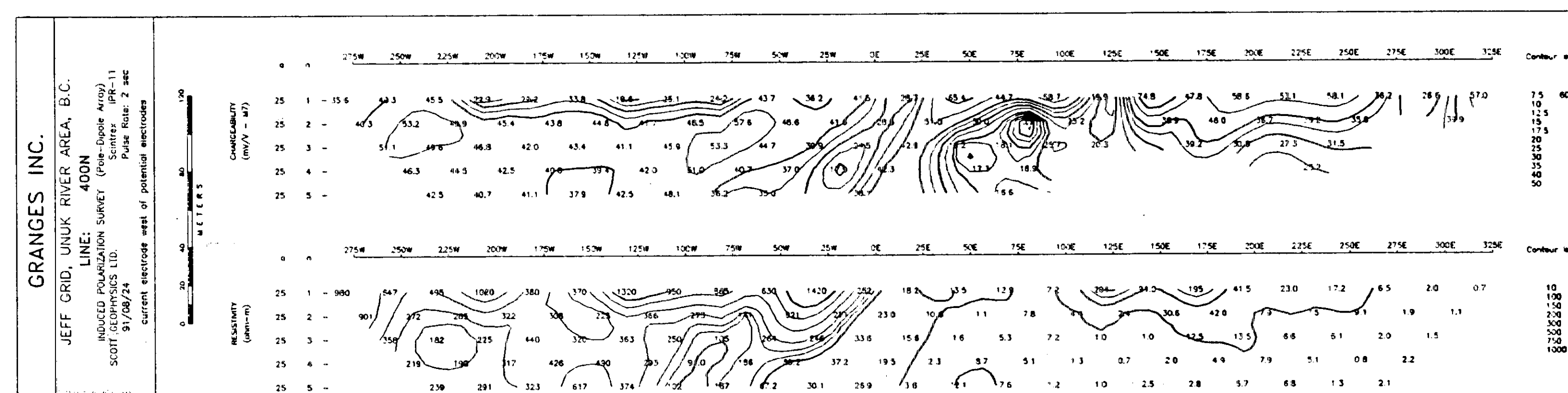
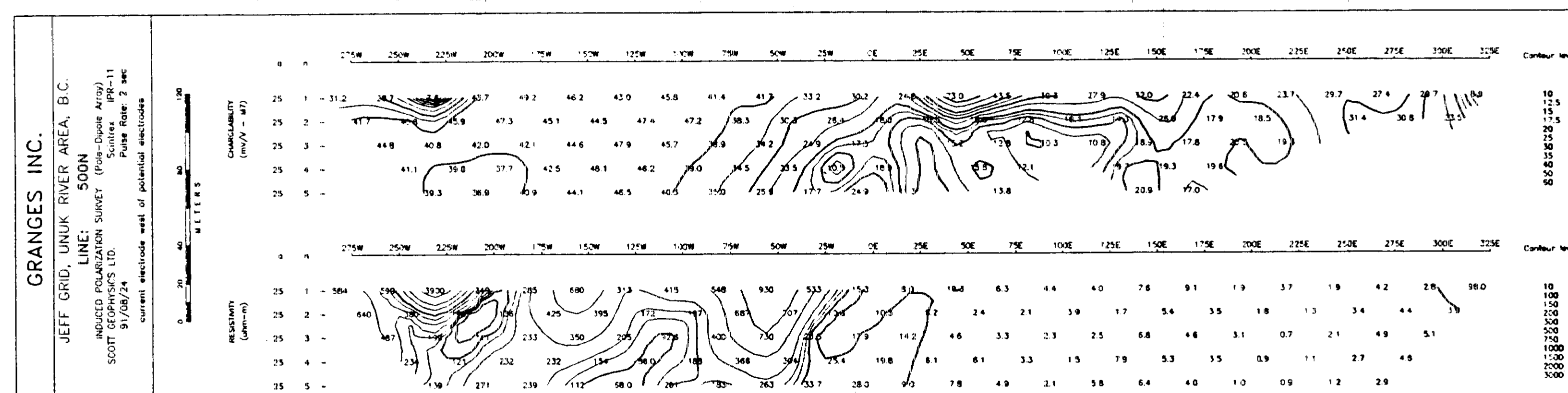
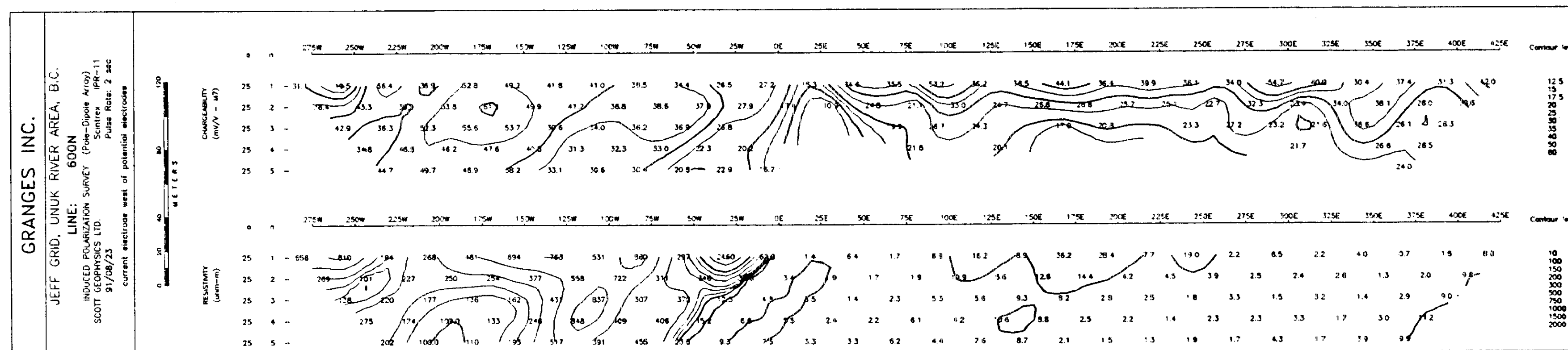
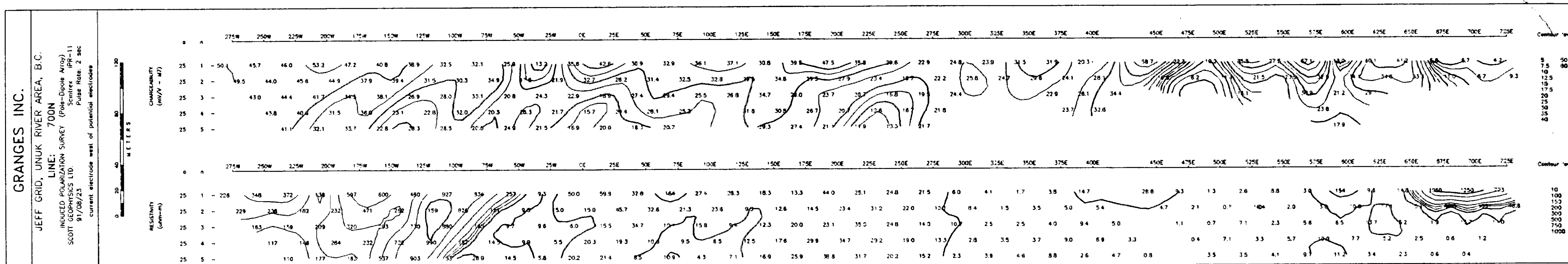
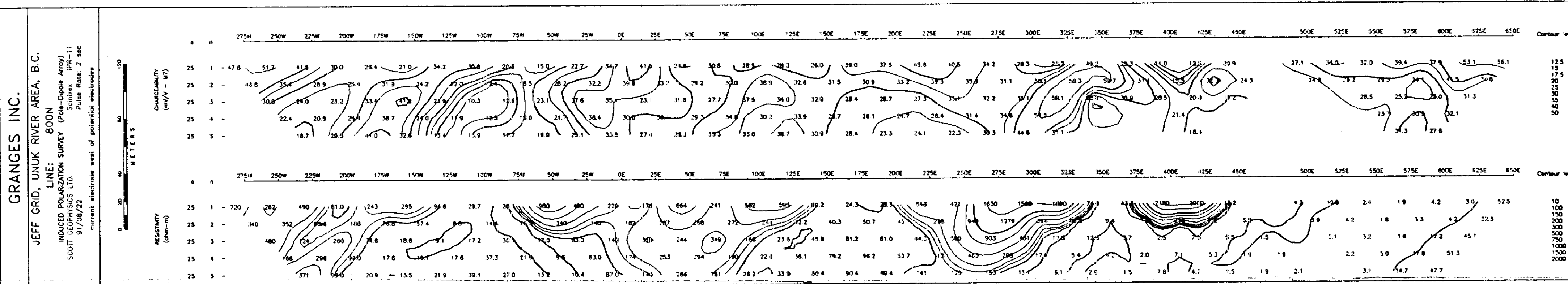
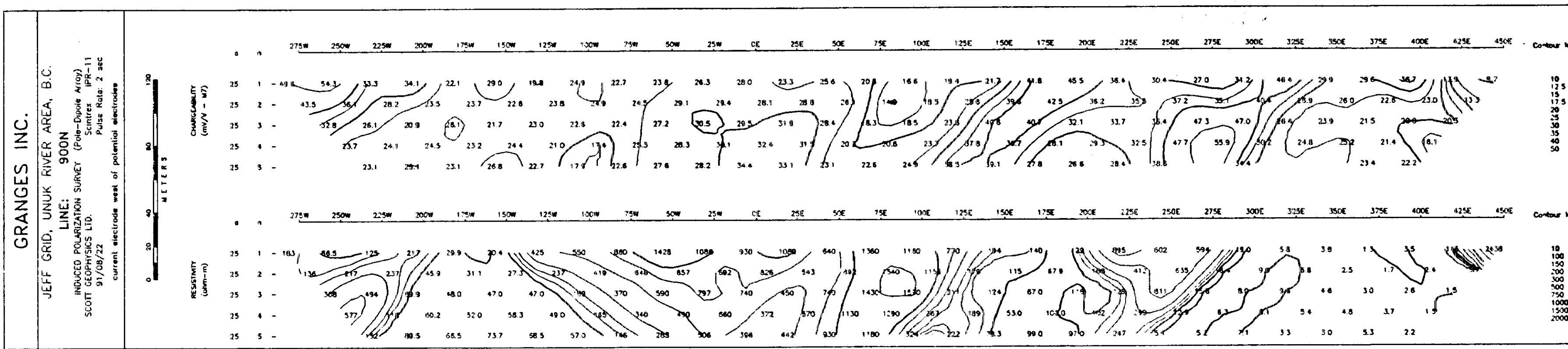
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0 100 200 300 400
 METERS

GRANGES INC.
 JEFF GRID
 UNUK RIVER AREA, B.C.
 MAGNETOMETER PROFILES

DRAWN BY: ors DATE: Sept/91
 SCOTT GEOPHYSICS LTD. FIGURE: 7

NOTE: For grid location see FIGURE: 2.

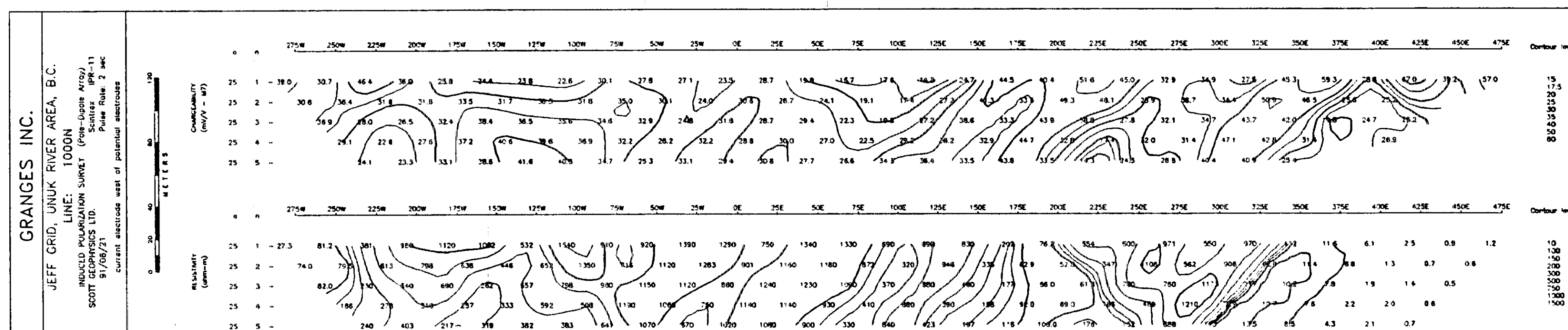
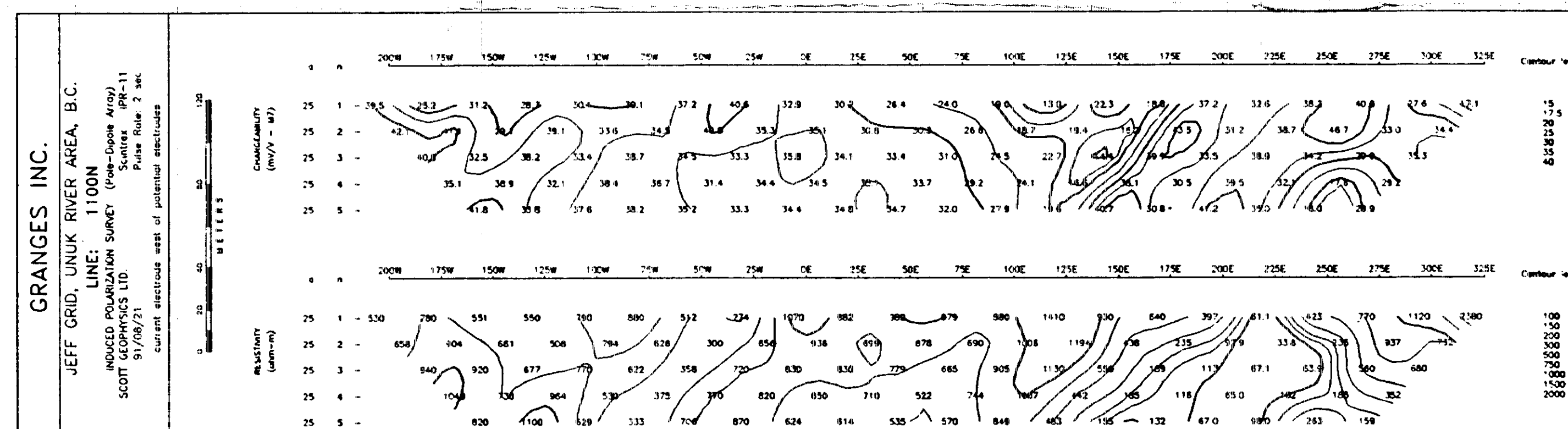
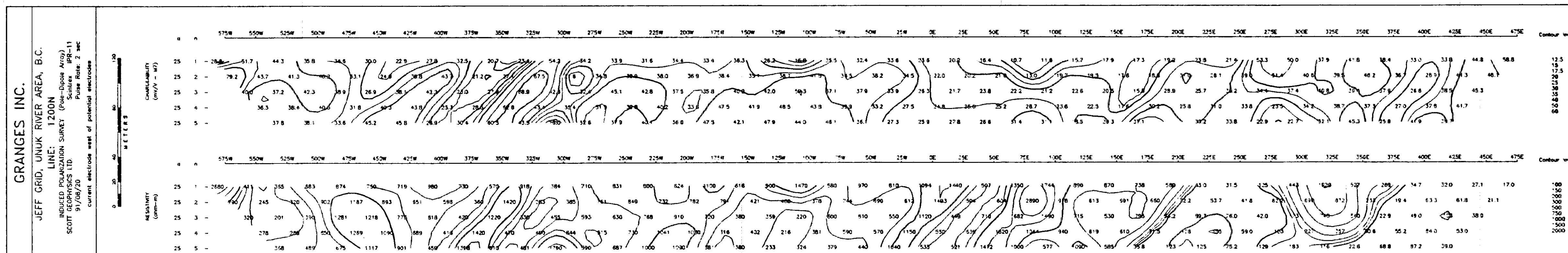
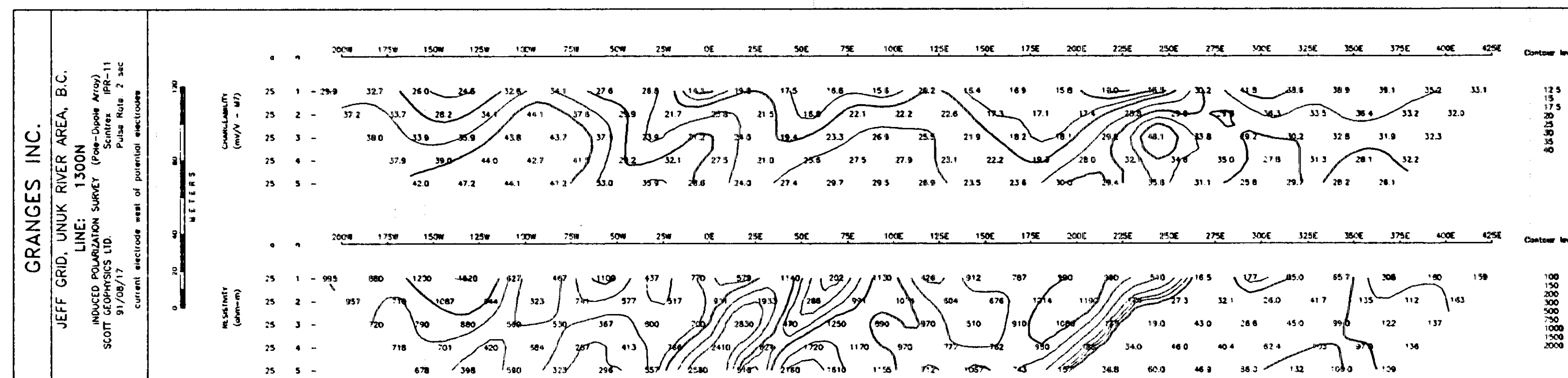
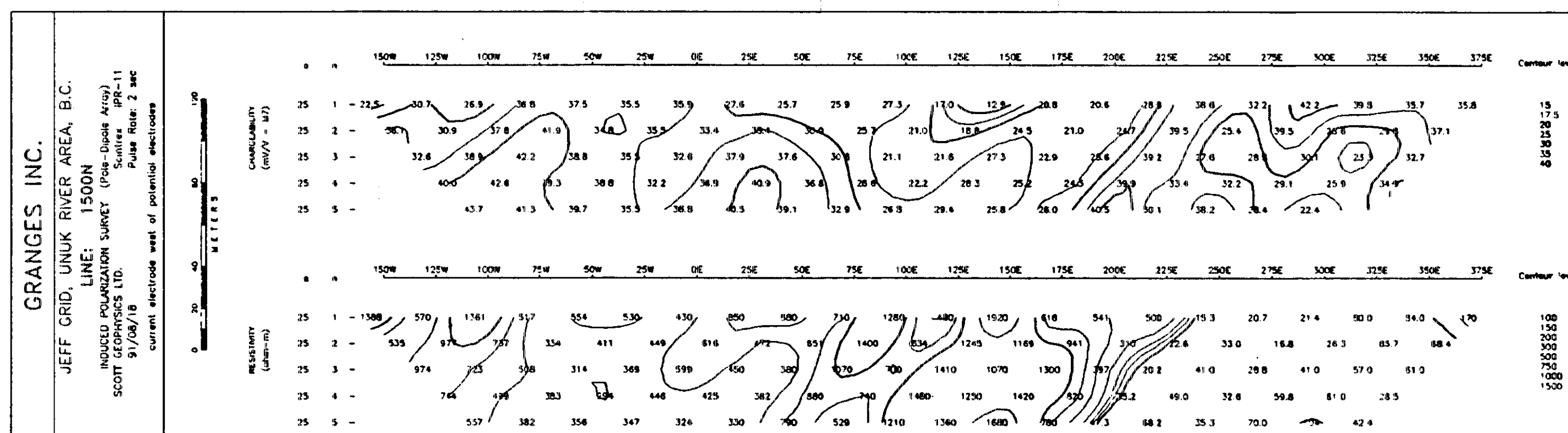
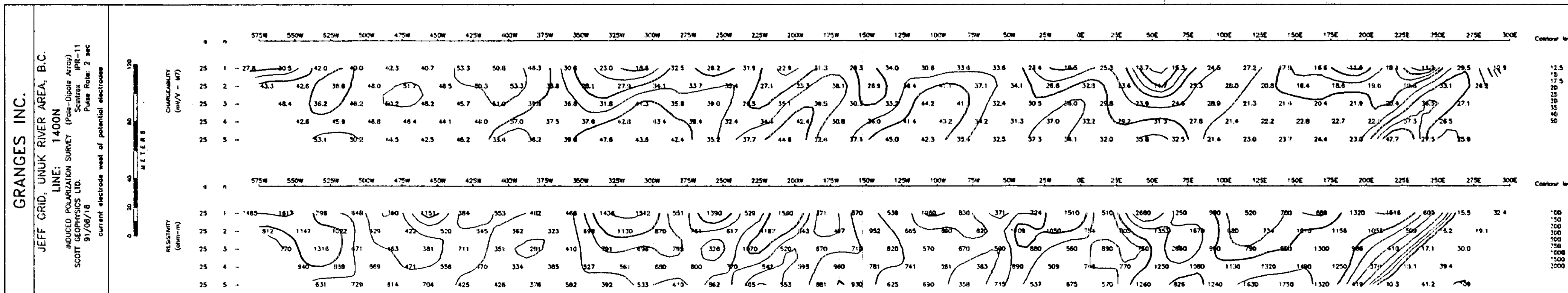


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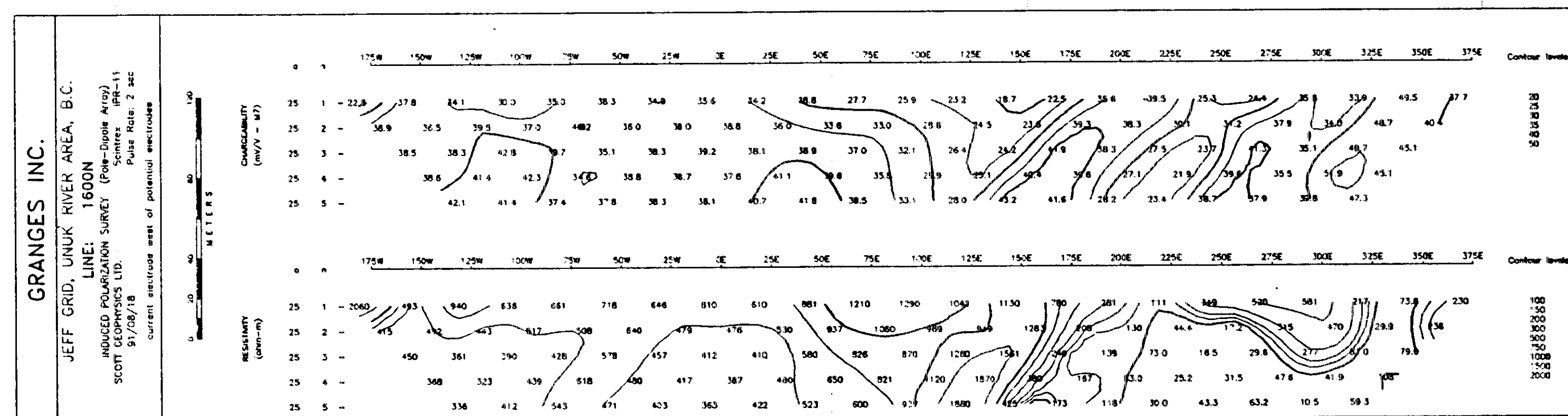
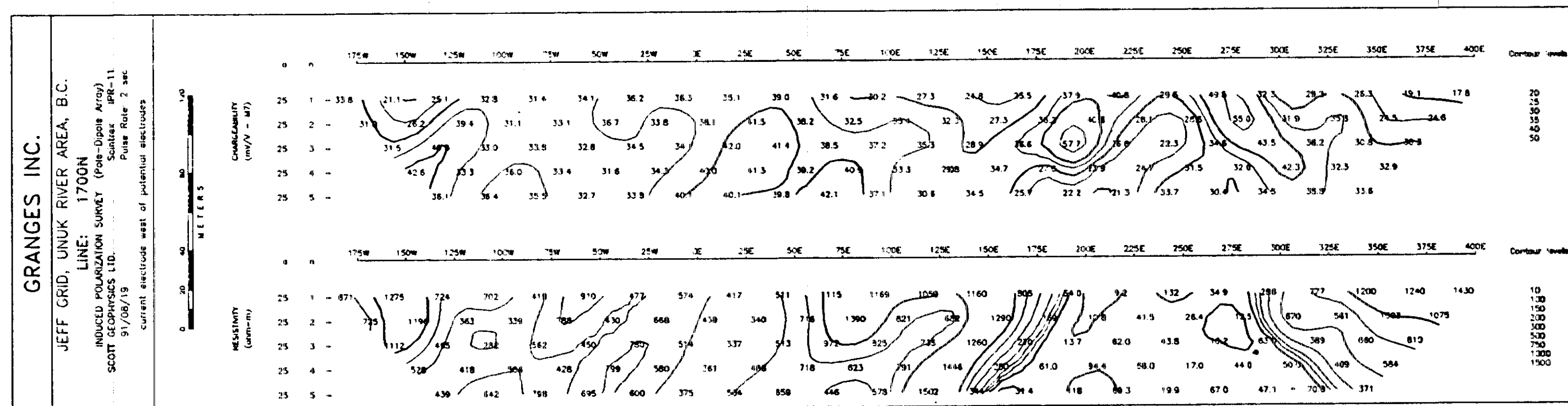
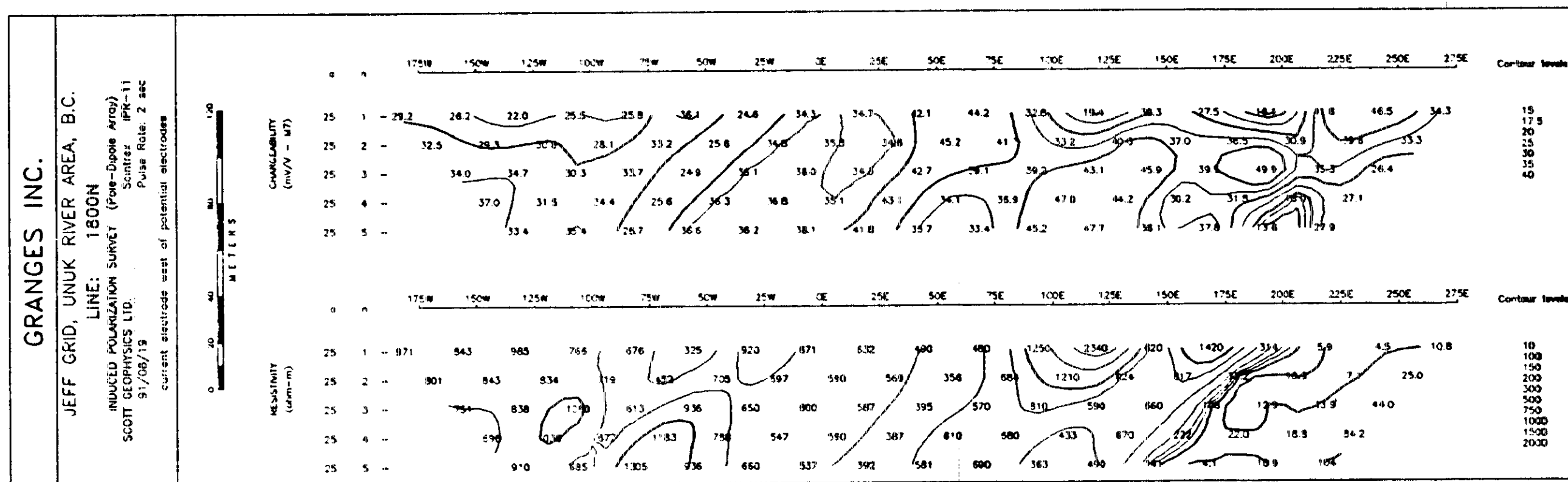
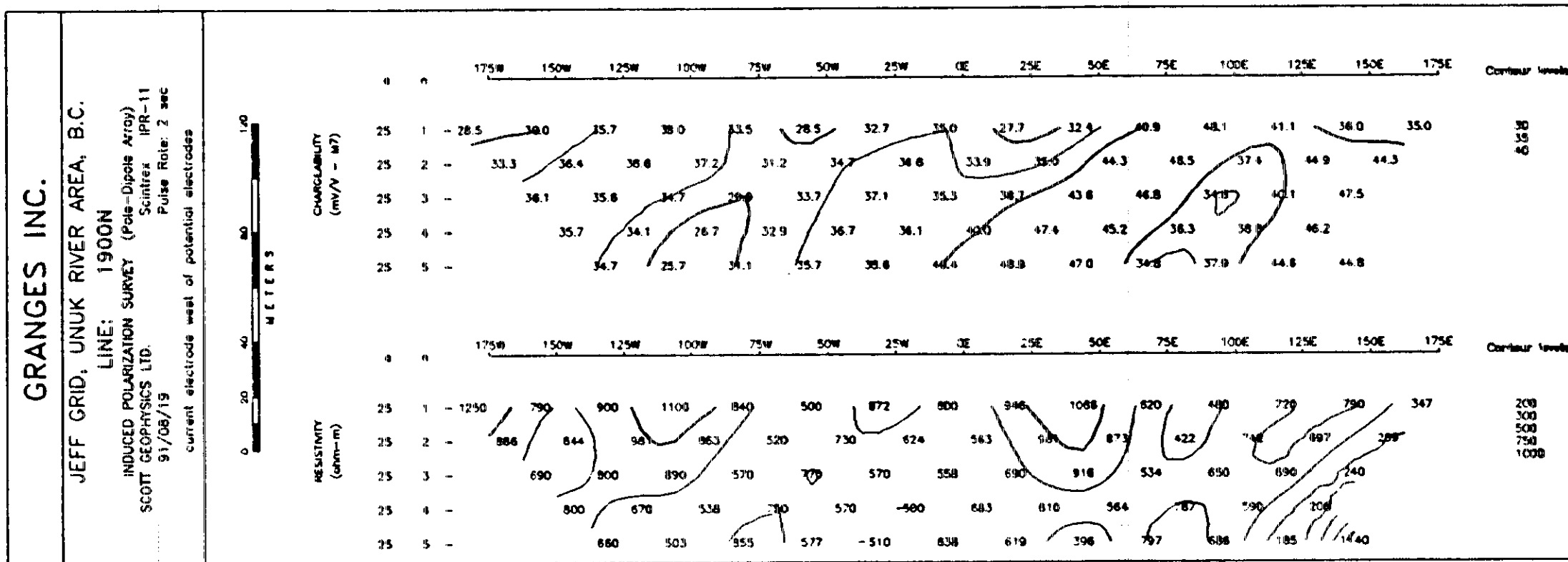
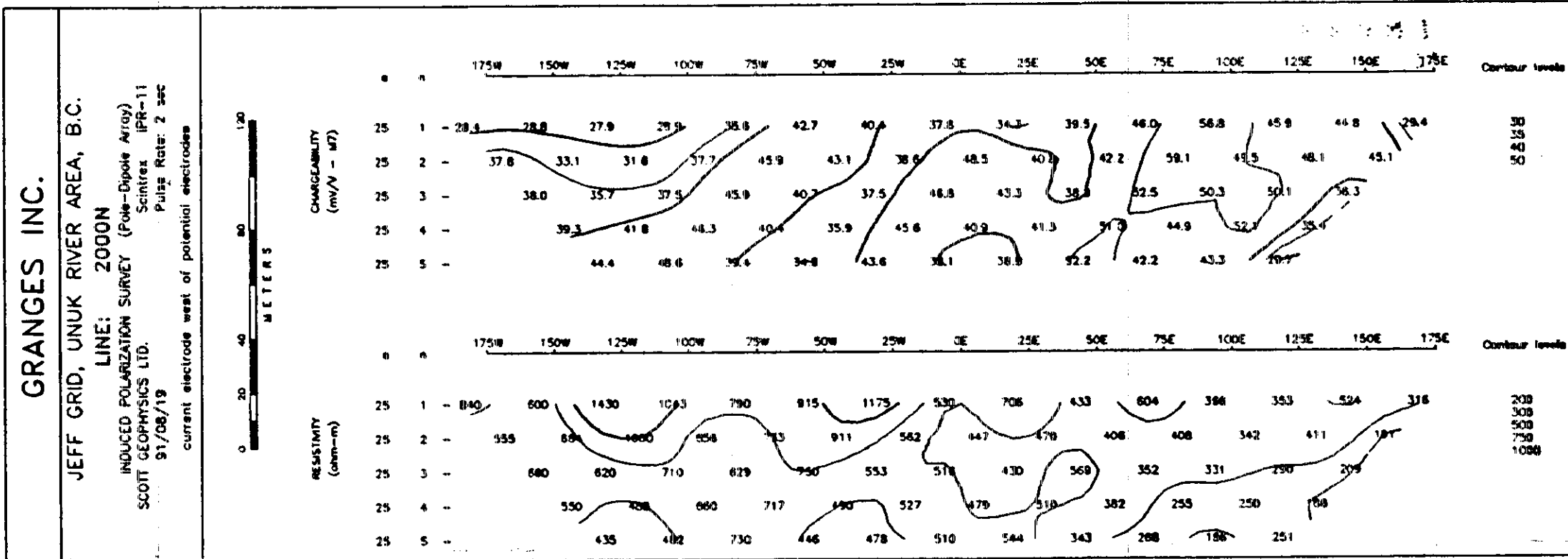
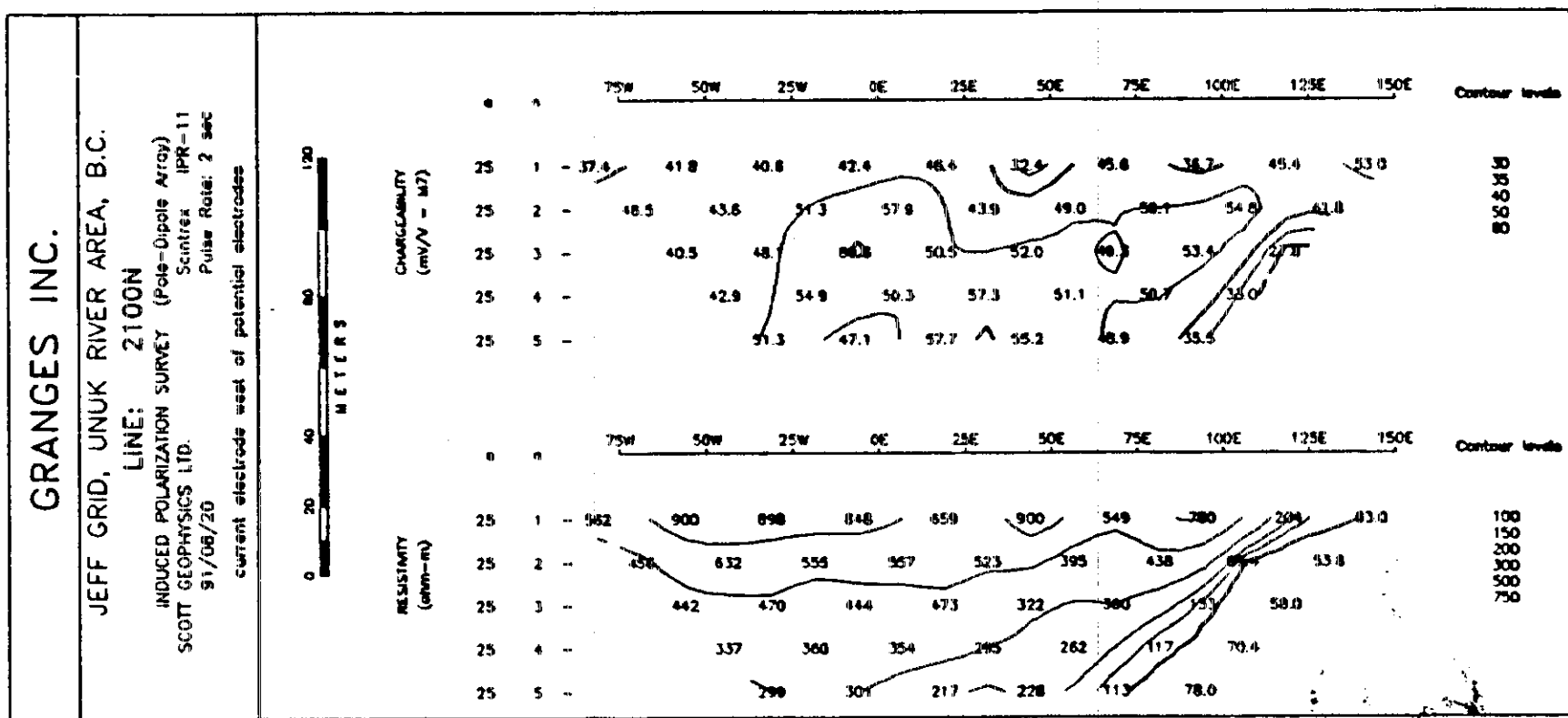
NOTE: For grid location see FIGURE 2.

FIGURE 8a



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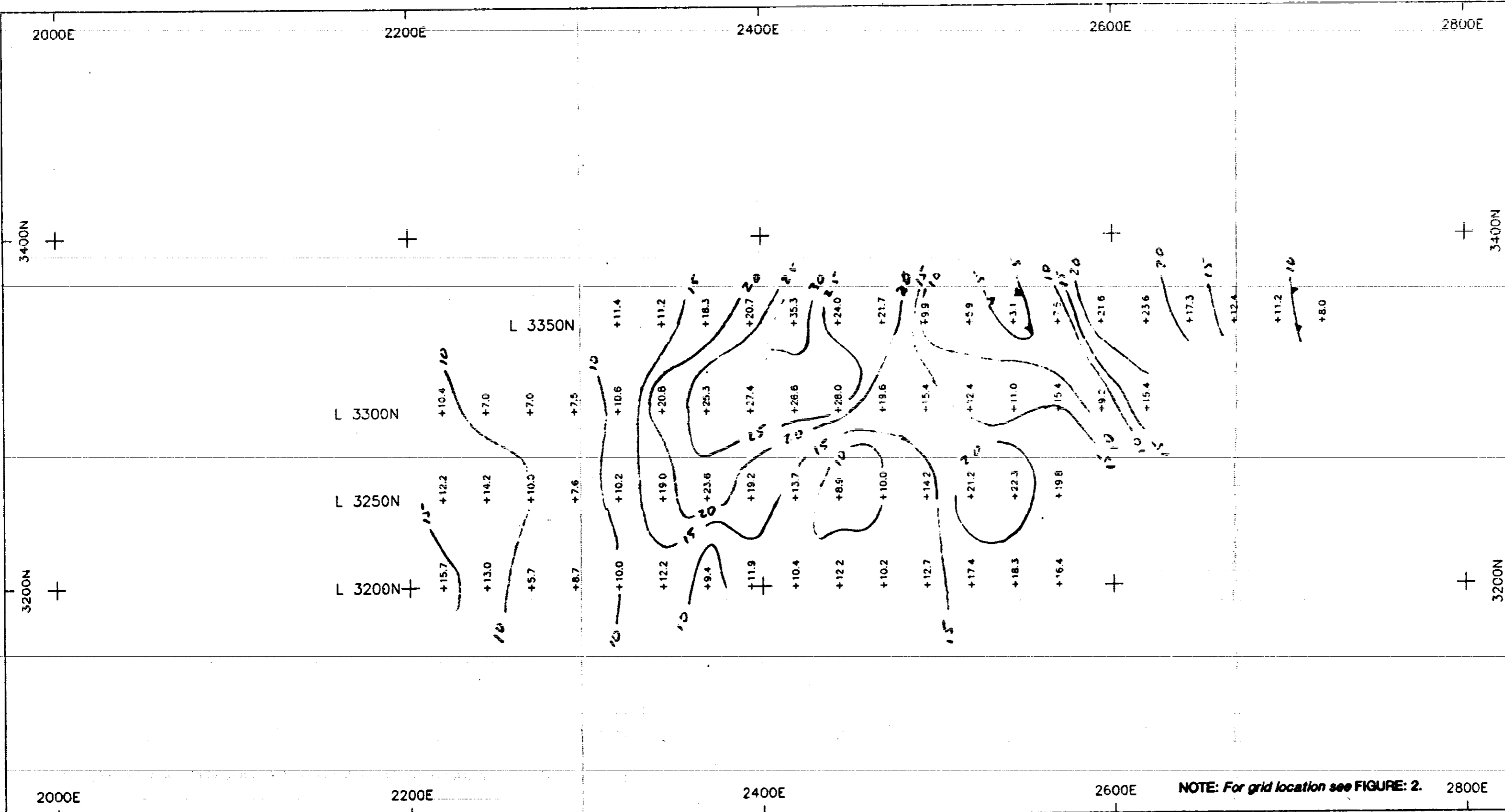
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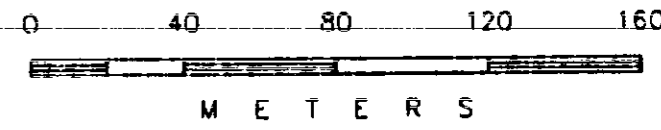
FIGURE 8c



SURVEY SPECIFICATIONS
 array pole dipole
 a spacing 25 meters
 n separations 1, 2, 3, 4, 5
 current electrode
 west of potential electrodes
 receiver Scintrex IPR11

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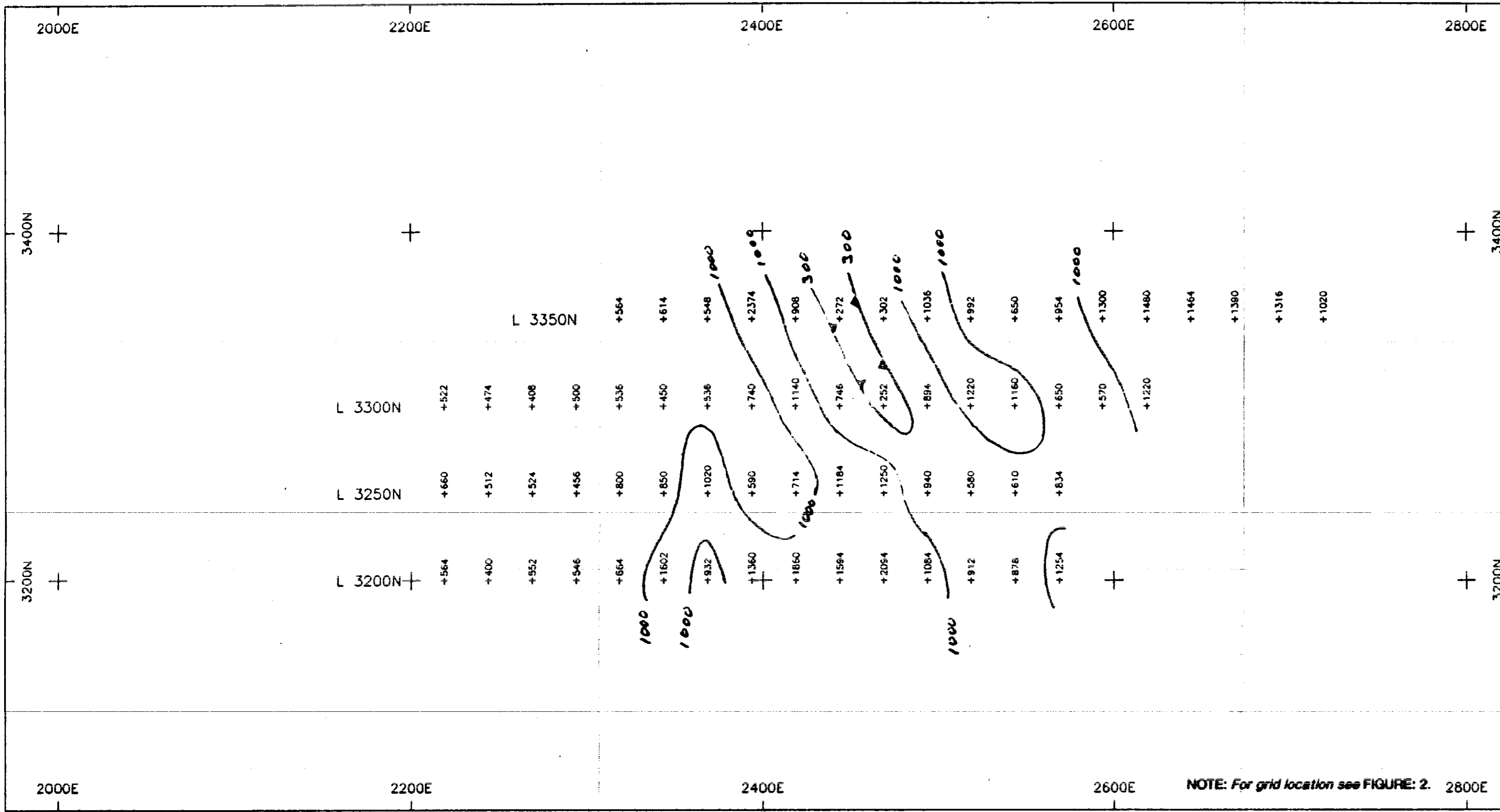
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GRANGES INC.

TARN LAKE GRID
 UNUK RIVER AREA, B.C.
 CHARGEABILITY CONTOUR PLAN
 a=25 meters/n=1

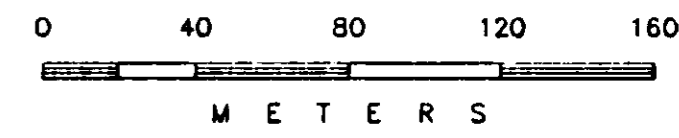
NOTE: For grid location see FIGURE: 2.



SURVEY SPECIFICATIONS
 array pole dipole
 a spacing 25 meters
 n separations 1, 2, 3, 4, 5
 current electrode
 . west of potential electrodes
 receiver Scintrex IPR11

**GEOLOGICAL BRANCH
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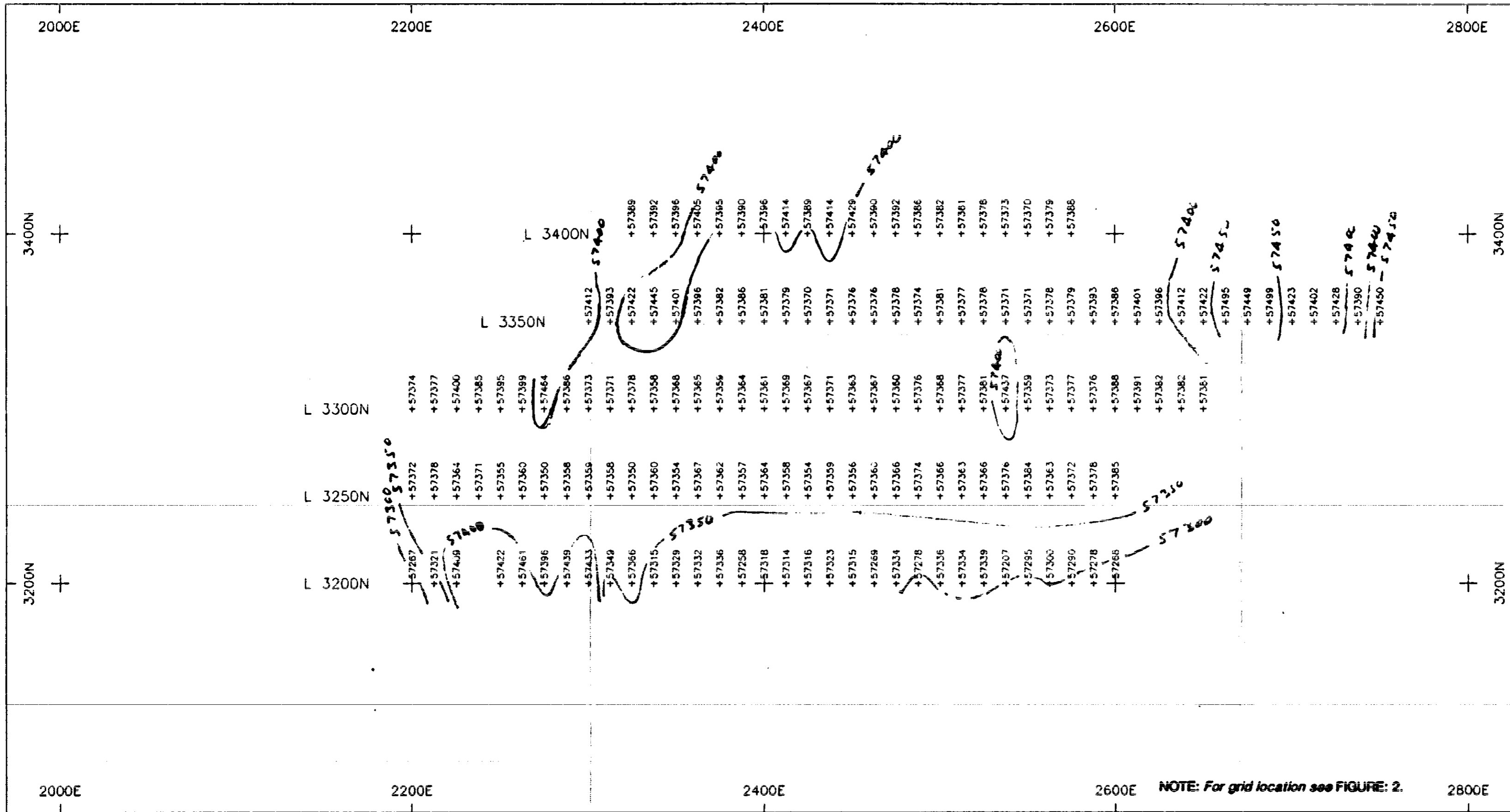


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 RESISTIVITY CONTOUR PLAN
 a=25 meters/n=1

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NOTE: For grid location see FIGURE: 2.

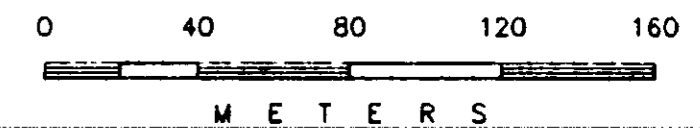


SURVEY SPECIFICATIONS
 survey magnetometer Scintrex MP4
 base magnetometer Geometrics G816
 type proton
 posted value total field
 units gammas

+ MAG (gammas)

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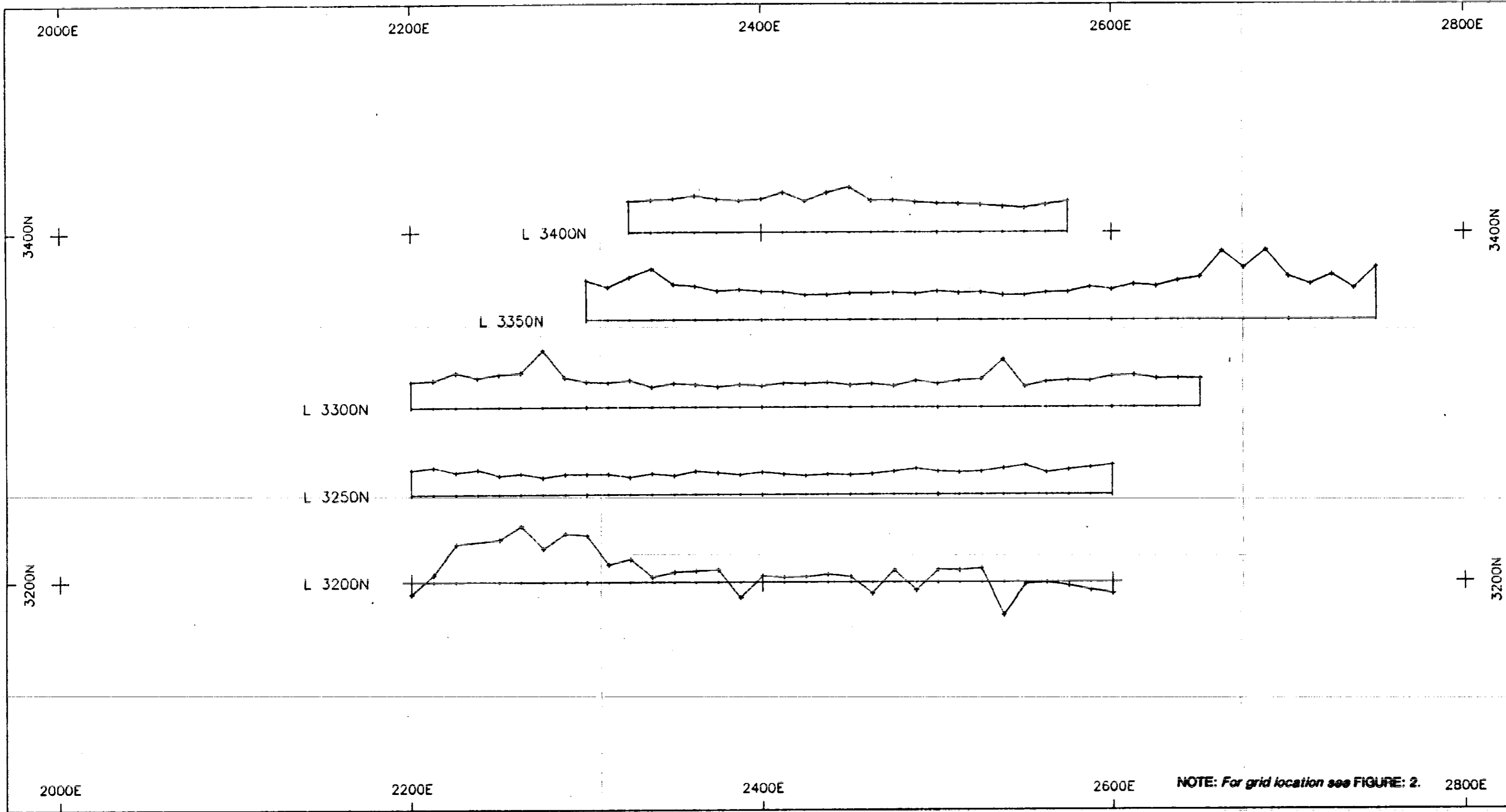
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 MAGNETOMETER CONTOUR PLAN

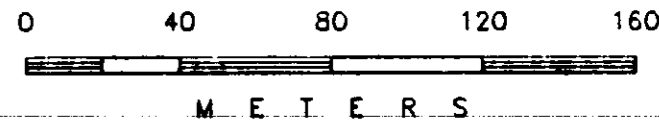
DRAWN BY: ars DATE: Sept/91
 SCOTT GEOPHYSICS LTD. FIGURE: 11



SURVEY SPECIFICATIONS
 survey magnetometer Scintrex MP4
 base magnetometer Geometrics G816
 type proton
 posted value total field
 units gammas
 KEY FIELD BASE UNITS/cm
 +- MAG (gammas) 57300 100

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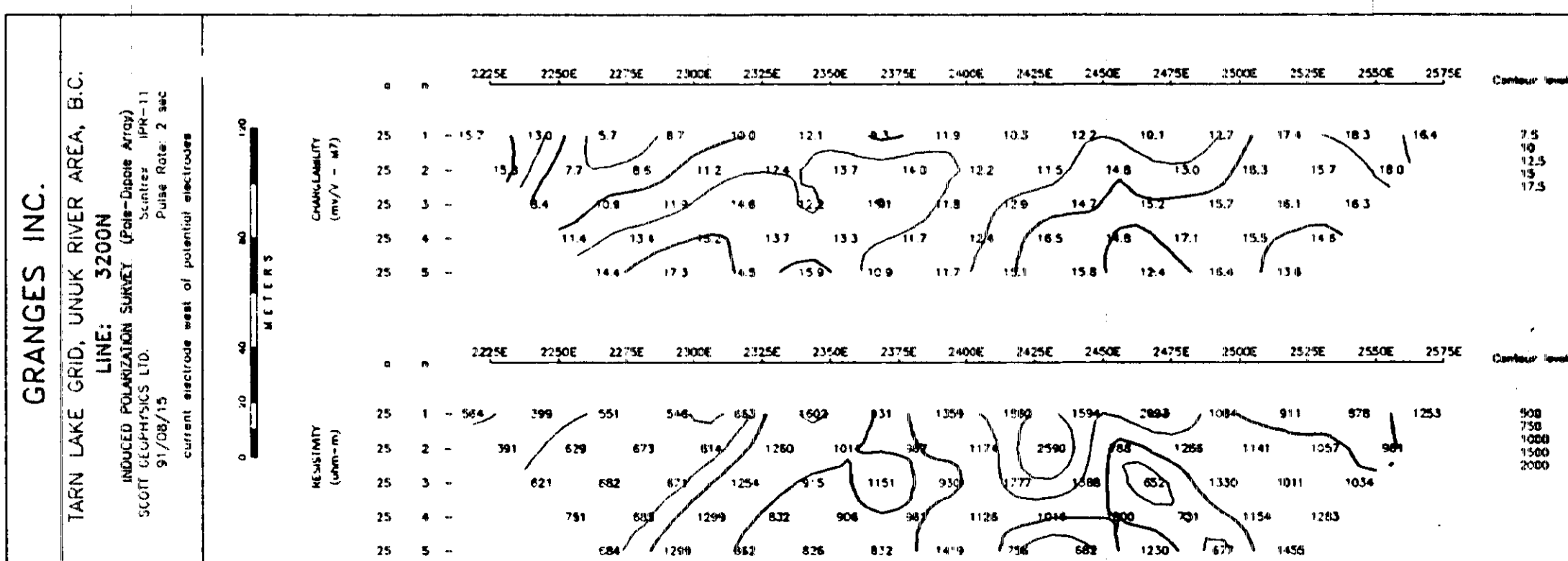
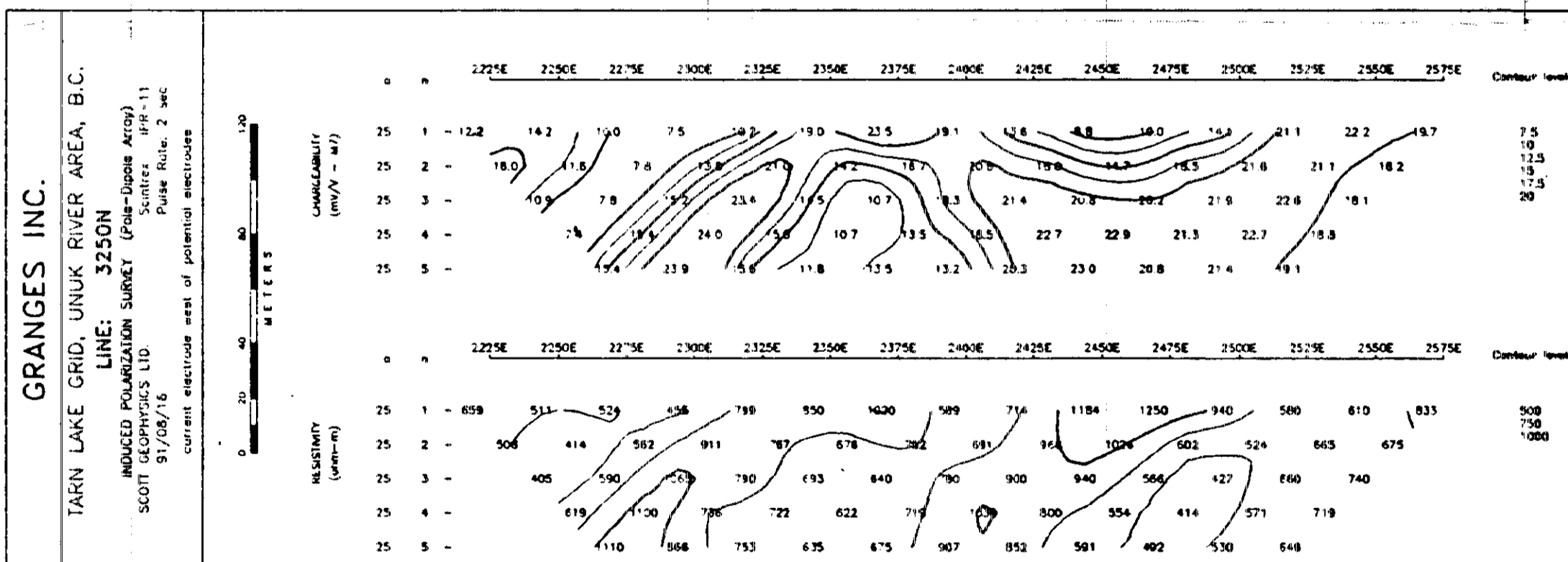
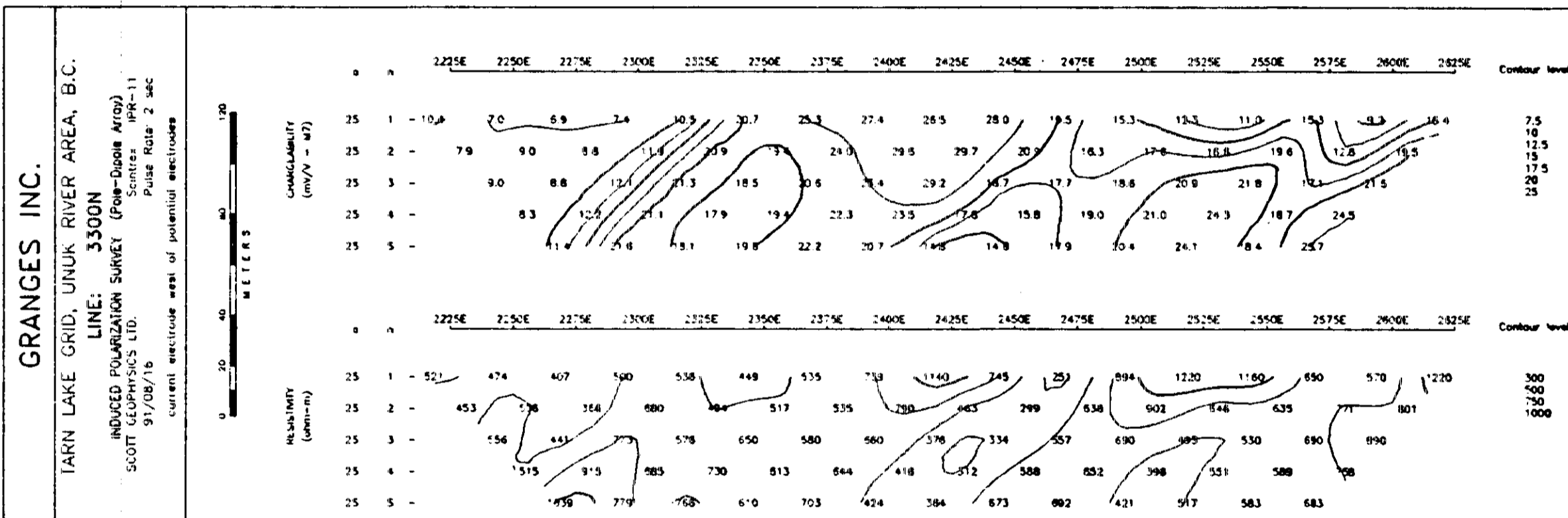
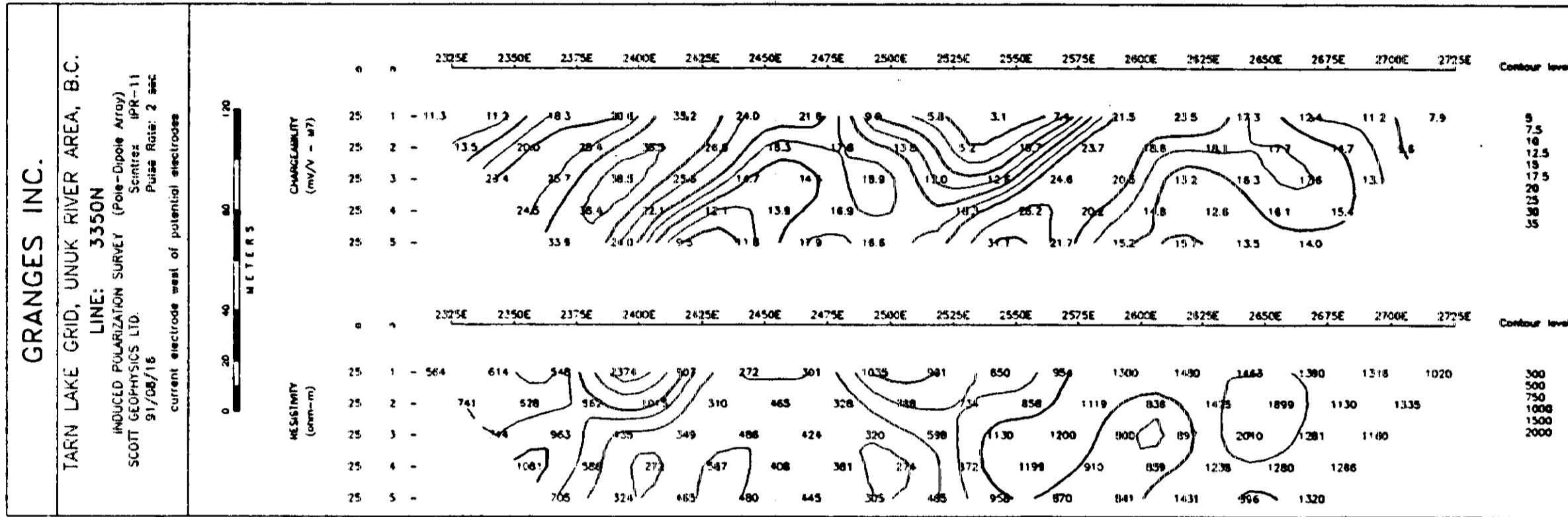
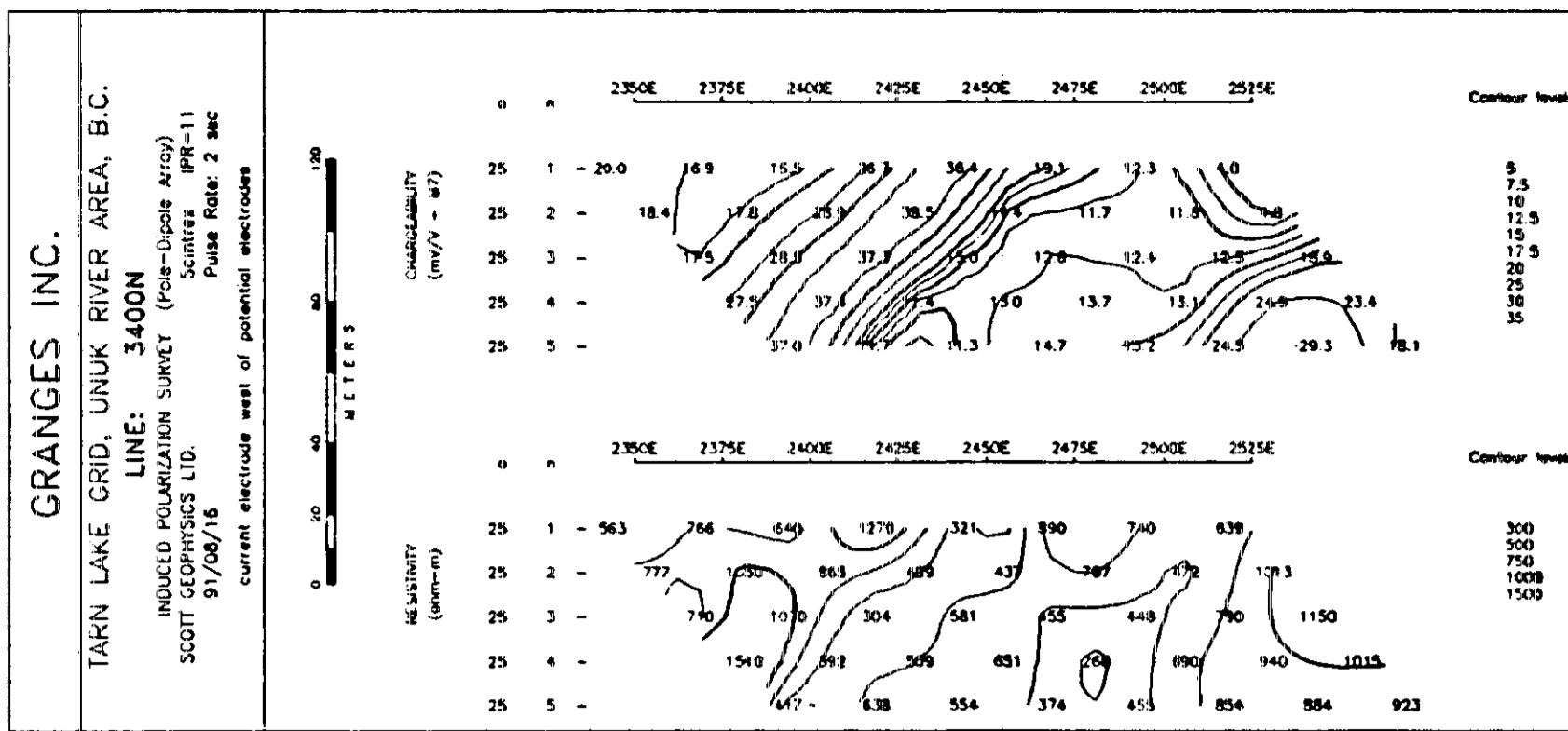


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TARN LAKE GRID
 UNUK RIVER AREA, B.C.
 MAGNETOMETER PROFILES

DRAWN BY: ars DATE: Sept/91
 SCOTT GEOPHYSICS LTD. **FIGURE: 12**

NOTE: For grid location see FIGURE: 2.



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NOTE: For grid location see FIGURE 2.

FIGURE 13