

4531

Egg, Foo, Damn, Chilly  
VESTOR EXPLORATIONS LT. OPTION  
REDFERN LAKE AREA, BRITISH COLUMBIA  
N.T.S.: 94-G-5  
94G/5W  
REPORT ON GEOPHYSICAL SURVEYS

Toronto, Ontario  
August 10, 1973

H. Beckmann  
R. C. Hart, P. Eng.]

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 4531 MAP

VESTOR EXPLORATIONS LTD. OPTION  
REDFERN LAKE AREA, BRITISH COLUMBIA  
N.T.S.: 94-G-5

REPORT ON GEOPHYSICAL SURVEYS

by

Herb Beckmann and  
R.C. Hart - P. Eng. - Province of B.C.

for

RIO TINTO CANADIAN EXPLORATION LIMITED

CLAIMS

Egg 1 to 8 incl.  
Foo 6, 10, 12, 14  
Foo 16 to 25 incl.  
Chilly 36  
Damn 1 to 10 incl.

OWNER

Vestor Explorations Ltd.,  
1502-11111-87th Avenue,  
Edmonton, Alberta  
T6G 0X9

LOCATION

North of Redfern Lake, 120 miles north of Mackenzie  
Laird Mining Division, British Columbia  
57° 22'N, 123° 50'W

August 10, 1973

VESTOR EXPLORATIONS LTD. OPTION  
REDFERN LAKE AREA, BRITISH COLUMBIA  
N.T.S.: 94-G-5

REPORT ON GEOPHYSICAL SURVEYS

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DRAWINGS IN POCKETS

DWG.	C-3421	Claim Map #1	1"=2000'
DWG.	M-4433-1 and 2	Magnetometer Contour #2-3	1"= 400'
DWG.	IP-4434-1 and 2	Chargeability Contours #4-5	1"= 400'
DWG.	IP-4435-1 and 2	Apparent Resistivity Contours #6-7	1"= 400'
DWG.	IP-4436-1 and 2	Gradient Array Chargeability and Resistivity Profiles #8-9	1"= 400'

Pole-Dipole Arrays

DWG.	IP 3424	#10 IP Profiles	L 40W	1"= 200'
DWG.	IP 3425	#11 IP Profiles	L 24W	1"= 200'
DWG.	IP 3426	#12 IP Profiles	L 00	1"= 200'
DWG.	IP 3427	#13 IP Profiles	L 36 NE	1"= 200'
DWG.	IP 3428	#14 IP Profiles	L 8 S	1"= 200'
DWG.	IP 3429	#15 IP Profiles	L 00	1"= 200'
DWG.	IP 3430	#16 IP Profiles	L 24N	1"= 200'
DWG.	IP 3431	#17 IP Profiles	L 28N	1"= 200'
DWG.	IP 3432	#18 IP Profiles	L 32N	1"= 200'
DWG.	IP 3433	#19 IP Profiles	L 36N	1"= 200'
		#20	Location map	

VESTOR EXPLORATIONS LTD. OPTION  
REDFERN LAKE AREA, BRITISH COLUMBIA  
N.T.S.: 94-G-5

REPORT ON GEOPHYSICAL SURVEYS

SUMMARY

The induced polarization survey has revealed anomalous chargeability responses slightly upslope, but correlating with known geochemical lead and zinc soil anomalies in areas underlain by limestones of the Devonian Dunedin formation.

The magnetometer survey shows very little magnetic contrast and the presence of magnetite and pyrrhotite can be discounted.

The geophysical data are sufficiently encouraging to warrant exploratory diamond drilling.

VESTOR EXPLORATIONS LTD. OPTION  
REDFERN LAKE AREA, BRITISH COLUMBIA  
N.T.S.: 94-G-5

REPORT ON GEOPHYSICAL SURVEYS

INTRODUCTION

During the period of June 8 to July 22, 1973 a geophysical field party under the direction of Mr. D. N. Sexsmith executed an induced polarization and magnetometer survey on the Egg, Foo, Chilly and Damn claims, located in the Redfern Lake area, Laird Mining Division, British Columbia.

All survey personnel are on staff with Rio Tinto Canadian Exploration Limited.

The survey was initiated to test, with induced polarization, the potential of known lead and zinc soil anomalies in an area underlain by limestones of the Devonian Dunedin formation.

The purpose of an induced polarization survey is to map the subsurface distribution of conductive metallic mineralization near the lines covered. Within the surveyed area such mineralization could include pyrite, pyrrhotite, magnetite, chalcopyrite, galena and other sulphide mineralization such as graphite.

The apparent chargeabilities observed in the survey area range from 0.2 to a high of 19.0 milliseconds and the apparent resistivities range from 200 to 110,000 ohm metres. Generally,

chargeability anomalies caused by increasing sulphide content correlate with resistivity lows, however, it is not uncommon to find chargeability highs with correlating resistivity increases, eg. if the increase in sulphides corresponds to an increase in silicification.

Background chargeabilities over unaltered and unmineralized areas may change when crossing geological boundaries or contacts.

The potential mineralized horizon on the Vestor Exploration Ltd. claims lies entirely within limestone where background chargeabilities appear to be approximately 2.5 to 3.0 milliseconds. With this background, a uniform subsurface distribution of 1 percent by volume of disseminated conductive metallic mineralization would be expected to add 2.5 to 3.0 milliseconds to the background level. Considering the dip of the formation and the fact that only the lead bearing sulphides are detectable, areas showing chargeability amplitudes of twice background are considered anomalous and are worth further investigation.

Scintrex MK VI time domain induced polarization equipment was employed. The transmitter has a rating of 2.5 kilowatt and equal "ON" and "OFF" times of 2.0 seconds. The receiving unit is a remote controlled ground-pulse type triggered by the rising and falling primary voltage set up in the ground by the transmitter. The integration of the transient polarization takes

place for 0.65 seconds after a 0.45 second delay time following the termination of the current "ON" pulse.

The magnetometer survey was carried out with a Scintrex MF-1 vertical force Fluxgate magnetometer and corrections for diurnal or instrumental drift have been applied to the data.

#### PROPERTY

The property is near and north of Redfern Lake in north-eastern British Columbia. The claims covered in whole or in part are listed on the title page, are owned by Vestor Exploration Ltd., presently under option to Rio Tinto Canadian Exploration Limited and are shown on Drawing C-3421.

#### ACCESS

Access can be gained via float equipped fixed wing charter aircraft from Mackenzie, some 120 air miles south of Redfern Lake and by helicopter from Redfern Lake to the property and the centrally located base camp.

#### SURVEY LINES

Line spacings were approximately 400 feet and control was provided by chained, picketed and flagged compass lines. When possible, claim post location and sample pits of the previous geochemical survey were tied into the geophysical grid lines.



GEOLOGY

The original planning of the programme, scouting of the area, arrangements of the supplies and charter aircraft support was provided by Mr. Rolands A. Benkis, in charge of the reconnaissance geological mapping, carried out simultaneously with the geophysical surveys and is reported under separate cover, entitled:

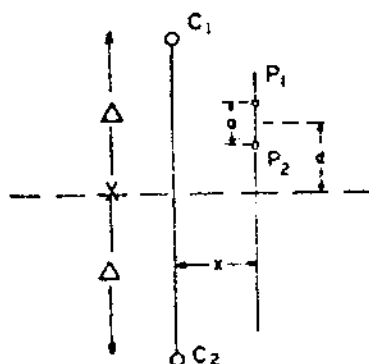
Redfern Lake Area, British Columbia  
N.T.S.: 94-G-5  
Report on Geological Surveys

Toronto, Ontario  
August 2, 1973

R. A. Benkis

GRADIENT ARRAY

CONFIGURATION



SCINTREX 2.5 KW TRANSMITTER  
NEWMONT TYPE RECEIVER

The two current electrodes are placed a large distance (\$2\Delta\$) apart and are fixed. The potential electrodes are held at a constant separation "a" and moved along lines parallel to the line joining \$C\_1\$ and \$C\_2\$. The separation "a" between \$P\_1\$ and \$P\_2\$ is not rigidly specified but should not be greater than \$a/10\$. It is usually fixed at 100 or 200 feet and is determined only by the necessity to have adequate primary and secondary voltages. The smaller the value of "a", the closer the reading is to a "point measurement".

RESISTIVITY IS FOUND FROM:

$$\rho_a = \frac{\Delta^2}{a} \cdot K^1 \cdot \frac{V_p}{I_p}$$

$$K^1 = 0.61 \pi \left/ \left[ \frac{1-D}{(Z^2 + (1-D)^2)^{3/2}} + \frac{1+D}{(Z^2 + (1+D)^2)^{3/2}} \right] \right.$$

$$Z = x/\Delta$$

$$D = d/\Delta$$

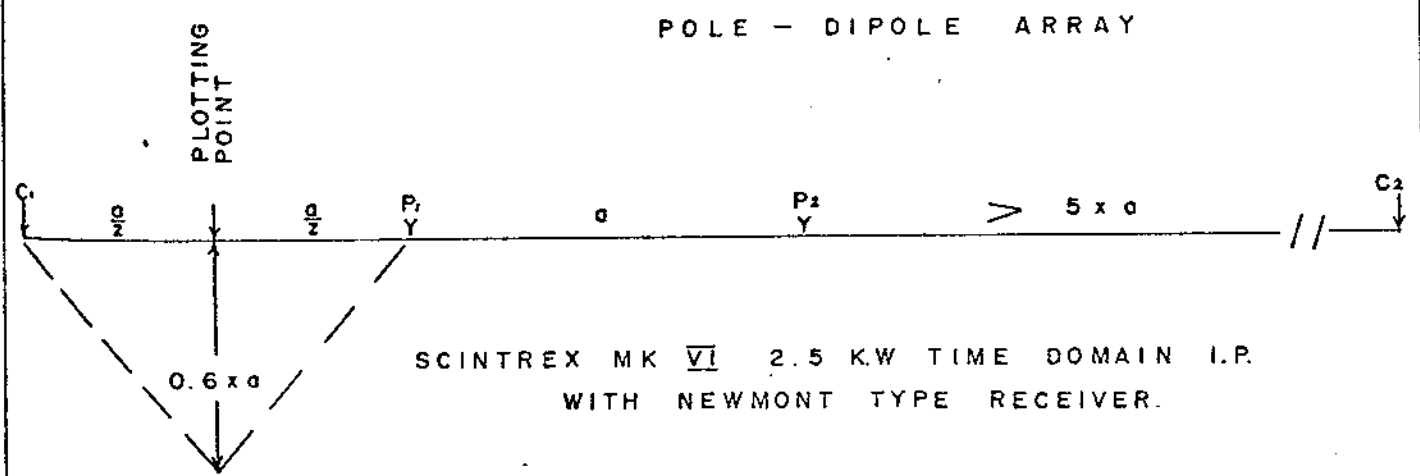
SCINTREX MK VI. 2.5 KW TIME  
DOMAIN 1 P. WITH NEWMONT  
TYPE RECEIVER

Values of \$K^1\$ for stations located in the central (0.6 of the distance \$C\_1C\_2\$) part of the gradient block are given in the graph in Figure 2. Note that the graph will allow the survey to be carried out with any values of the above parameters with the following restrictions:

- (i)  $\frac{x}{\Delta}$  or Z remains less than 0.6
- (ii)  $\frac{d}{\Delta}$  or D remains less than 0.6 and
- (iii)  $\frac{a}{\Delta}$  remains less than 0.10

THE "THREE ELECTRODE ARRAY"

The three electrode array consists of three moving and one stationary electrode. The stationary electrode, a current electrode should be placed in an infinite position for any survey, that is it should be 5 to 10 times the distance of any spacing to be used in the survey, removed from the point of reading. The remaining current and two potential electrodes are moved at equal spacing along the lines. The spacing depends largely on the size of the expected target, its depth and the depth of cover. Depth penetration of the system is approximately  $\frac{2}{3}$  of its spacing. The point of reading is the centre between the current and the first potential electrode. The apparent resistivity is calculated by formula and is expressed in ohm meters. The ratio of secondary over primary voltage times the instrument constant gives the chargeability in milliseconds.



APPENDIXGEOPHYSICAL SURVEYSFLUXGATE MAGNETOMETER MF 1 (SCINTREX)

The MF 1 Fluxgate Magnetometer is a hand held instrument.

It is orientation independent, measures the vertical component of the earth's magnetic field directly in gammas over a range of  $\pm 1,000$  to 100,000 gammas with an accuracy of better than 1%.

Readings are taken and recorded from a top mounted meter after levelling the magnetometer.

Periodic checks are made to base stations for diurnal drift.

These base stations are generally located at the line interception along base lines favouring areas of low magnetic contrast, along shore lines for later winter work and are time controlled, closed in loops. Closures do not exceed 1 to 1½ hours depending on the time of day and will be re-run if deviations are suspect of accidental shock or might be caused by magnetic storms.

Corrections for drift and day to day variations have been applied to the presented data.

PRESENTATION OF SURVEY RESULTS

The data of the magnetometer and gradient array induced polarization survey are shown on eight drawings, all on the scale of 400 feet to 1 inch.

DWG. M 4433-1 & 2: shows the magnetometer data and iso-dynamic contours at 100 gamma intervals.

DWG. IP 4434-1 & 2: shows the chargeability data contoured at 2.0 milliseconds intervals.

DWG. IP 4435-1 & 2: shows the apparent resistivity data contoured at 2,000 ohm metre intervals.

DWG. IP 4436-1 & 2: shows the gradient array data in profile on a vertical scale of 1 inch = 10.0 milliseconds for the chargeability and 1 inch = 10,000 ohm metres for the apparent resistivities.

DWG. IP 3424 to IP 3433: show the data of ten, pole-dipole array induced polarization sections. Horizontal and vertical scales are 200 feet to 1 inch with indicated depth penetration of 0.6 electrode spacing while the vertical scale of the chargeability profile is 1 inch to 10.0 milliseconds and of the apparent resistivities is 1 inch = 20,000 ohm metres.

With the exception of extreme values, the sections are contoured at 2.0 millisecond intervals and the resistivities at 10,000 ohm metres.

## DISCUSSION OF GEOPHYSICAL RESULTS

### The Magnetometer Survey

The data of the magnetometer survey displayed on drawings M 4433-1 and 2 cover the entire line grid of 19.0 line miles.

The magnetic contrast is very low if not flat, no correlation with induced polarization anomalies can be seen and this would discount the presence of pyrrhotite and/or magnetite.

### The Gradient Array IP Survey

Several gradient array spreads were required to cover the area of 16.6 line miles surveyed. The centre of each spread is indicated on the contour maps IP 4434-1 and 2. Areas of overlap are indicated by dual readings and the data may change considerably from spread to spread. The following seven anomalous trends can be seen:

#### Trend 1-North Grid

Consistently anomalous chargeabilities with correlating resistivity lows can be traced from station 11+00 East on line 00 through station 7+00 East on line 12 North to station 4+00 East on line 24 North displaying an average width of 200 feet.

#### Trend 2-South Grid

A narrow, probably steeply dipping anomaly along the south slope of the plateau extends from station 15+00 South on line 4 West, through 15+00 South on line 00 to the base line intersection of line 12 East. Peak chargeabilities are 15.9

milliseconds with corresponding resistivity low.

### Trend 3

A moderately anomalous chargeability trend capped by resistive barren limestone can be seen from station 9+00 South on line 20 West to station 3+00 South on line 4 West.

### Trend 4

Flanked to the north by a resistivity high, probably due to capping also, an anomalous horizon can be traced from station 4+00 South on line 44 West to station 8+00 North on line 24 West with peak chargeabilities a moderate 10.3 milliseconds.

### Trend 5

An anomaly of moderate chargeability over a width of up to 600 feet is indicated from stations 9+00 to 11+00 South on line 44 West, through stations 1+00 to 7+00 South on line 28 West to station 1+00 North on line 16 West. High resistivities correlate with this zone.

### Trend 6

Moderate but consistent anomalous chargeabilities with correlating low resistivities that appear to indicate a flat lying mineralized horizon under moderate cover outlines an area from station 25+00 to 40+00 South on line 8 West that continues to line 20 West between stations 25+00 to 47+00 South and remains open beyond the surveyed area to the Southwest.

### Trend 7

A narrow, steeply dipping, near surface chargeability

high with correlating low resistivities can be seen on the west side and adjacent to a regional fault zone. This anomaly can be traced from station 29+00 South on line 00, through station 12+00 South on line 12 East to station 3+00 North on line 24 East.

#### The Pole-Dipole or Three Electrode Array Survey

To obtain additional detailed depth-controlled information an anomalous area indicated by the gradient array survey, ten survey lines were tested with pole-dipole or three electrode arrays on various electrode spacings.

Apparent chargeabilities, in particular, the background chargeabilities were found to be much lower and the apparent resistivities much higher as compared to the gradient array survey.

The data are presented on drawings IP 3424 to IP 3433 and are discussed below:

#### Section Line 40W (IP3424)

Chargeabilities range from 1.1 to 4.7 milliseconds and apparent resistivities from 3,600 to 37,900 ohm metres.

Trend 4 was confirmed at the base line with moderate anomalous chargeabilities but with considerably higher resistivities.

#### Section Line 24W (IP3425)

Chargeabilities range from 1.2 to 4.9 milliseconds and apparent resistivities from 6,100 to 35,600 ohm metres. Anomalous



trend 5 is indicated a station 2+00 South but correlates with the high resistive horizon.

Section Line 00 (IP3426)

Chargeabilities range from 0.2 to 14.8 milliseconds and apparent resistivities from 800 to 99,700 ohm metres.

Trend 2 was detected at station 15+00 to 16+00 South.

A second anomaly that could be an extension of trend 3 is indicated at station 6+00 South.

A third anomaly, by far the best indication, is located at 38+50 South, however, this would be east of the interpreted fault and is probably underlain by shale.

Section Line 36 NE (IP3427)

Chargeabilities range from 0.2 to 7.5 milliseconds and apparent resistivities from 200 to 27,000 ohm metres.

Anomalous trend 7 was extended to the north by this detailed line and is located at 12+00 West. A secondary anomaly at 6+50 West would be located east of the regional fault and also in shale.

Section Line 8S (IP3428)

Chargeabilities range from 0.1 to 7.5 milliseconds and apparent resistivities from 5,800 to 27,600 ohm metres.

Anomalous trend 1 was extended 800 feet to the south by this line and is located at station 13+00 East.

Section Line 00 (IP3429)

Chargeabilities range from 0.4 to 9.4 milliseconds and apparent resistivities from 3,400 to 28,100 ohm metres.

Trend 1 is indicated by the chargeability anomaly at station 13+00 East and again correlates with a resistivity low on the west flank of underlying high resistive limestone formations.

A parallel secondary trend 8 was detected on this line at station 18+00 East.

Section Line 24N (IP3430)

Chargeabilities range from 0.1 to 9.3 milliseconds and apparent resistivities from 8,400 to 68,800 ohm metres.

Anomalous trend 1 was detected at station 5+00 East and the secondary trend 8 becomes more apparent at station 13+00 East, with peak chargeabilities of 9.3 milliseconds and correlating apparent resistivities of 22,800 ohm metres.

Section Line 28N (IP3431)

Chargeabilities range from 1.7 to 9.2 milliseconds and apparent resistivities from 13,300 to 110,000 ohm metres.

Anomalous trends 1 and 8 were extended and detected at stations 4+00 and 14+00 East.

Section Line 32N (IP3432)

Chargeabilities range from 1.1 to 11.6 milliseconds and apparent resistivities from 1,400 to 31,900 ohm metres.

This line is located on the north slope of the plateau and it appears that trend 1 and 8 merge at depth to form one continuous mineralized horizon with slightly changing dips and various shallow limestone cover.

The anomalous peaks are at stations 6+00 and 12+00 East.

Section Line 36N (IP34433)

Chargeabilities range from 1.4 to 9.5 milliseconds and apparent resistivities from 10,500 to 42,100 ohm metres. The data of this line confirms the merger of trend 1 and 8 to form a continuous horizon from station 5+00 East to station 12+00 East. It also appears that the anomalous horizon is near surface.

CONCLUSION

The induced polarization survey outlined several anomalous trends, that appear to correlate with mineralized limestone horizons that gave rise to anomalous lead and zinc soil values. Inferred from the dips and plunges of the limestone formation, it appears that the mineralized horizon is capped by considerable thickness of barren material with the exception of trends 1, 7 and 8.

RECOMMENDATIONS

To test the anomalies located by the induced polarization survey, trend 1 and 8 on the north grid and trend 7 on the south grid appear to have the least cover and therefore the best potential and should be considered as a prime target. Six drill holes are recommended for the initial follow-up drilling and the sites are:

Northern Grid

Trend 8	Line 32N, 12+00 E
Trend 1	Line 00 , 13+00 E

Southern Grid

Trend 6	Line 4W, 28+00 S
Trend 2	Line 4E, 10+00 S
Trend 4	Line 40W, 13 L
Trend 5	Line 24W, 2+00 S

*H. Beckmann*  
H. Beckmann

Toronto, Ontario  
August 10, 1973



Expiry Date: Mar. 3, 1974

QUALIFICATION OF GEOPHYSICAL STAFF MEMBER  
RIO TINTO CANADIAN EXPLORATION LIMITED

H. Beckmann

Background is primarily electronics (Radio College of Canada)

Starting as Instrument Operator, I have worked with Rio Tinto Canadian Exploration Limited since late 1955, under the supervision of several geophysicists (H. Winkler, D.M. Wagg, J. B. Boniwell and at present with Dr. H. O. Seigel, as consultant).

I have operated and taken part in airborne surveys, including Phase EM, MultiFrequency EM, Input EM, Radio Phase EM, Turam and Magnetometer Surveys.

On ground follow-up or property surveys, I have conducted Horizontal - Vertical Loop EM, Turair EM, Time Domain and Frequency Domain IP, various Magnetometer, Gravity, Self Potential Resistivity and down-hole IP and EM surveys and interpreted and reported on all above mentioned surveys.

Since 1965, I have been in charge of all geophysical surveys for Rio Tinto Canadian Exploration Limited.

I am a member of the European Association of Exploration Geophysicists and an Associate of the American Society of Exploration Geophysicists.

*H. Beckmann*

August 22, 1972

H. Beckmann

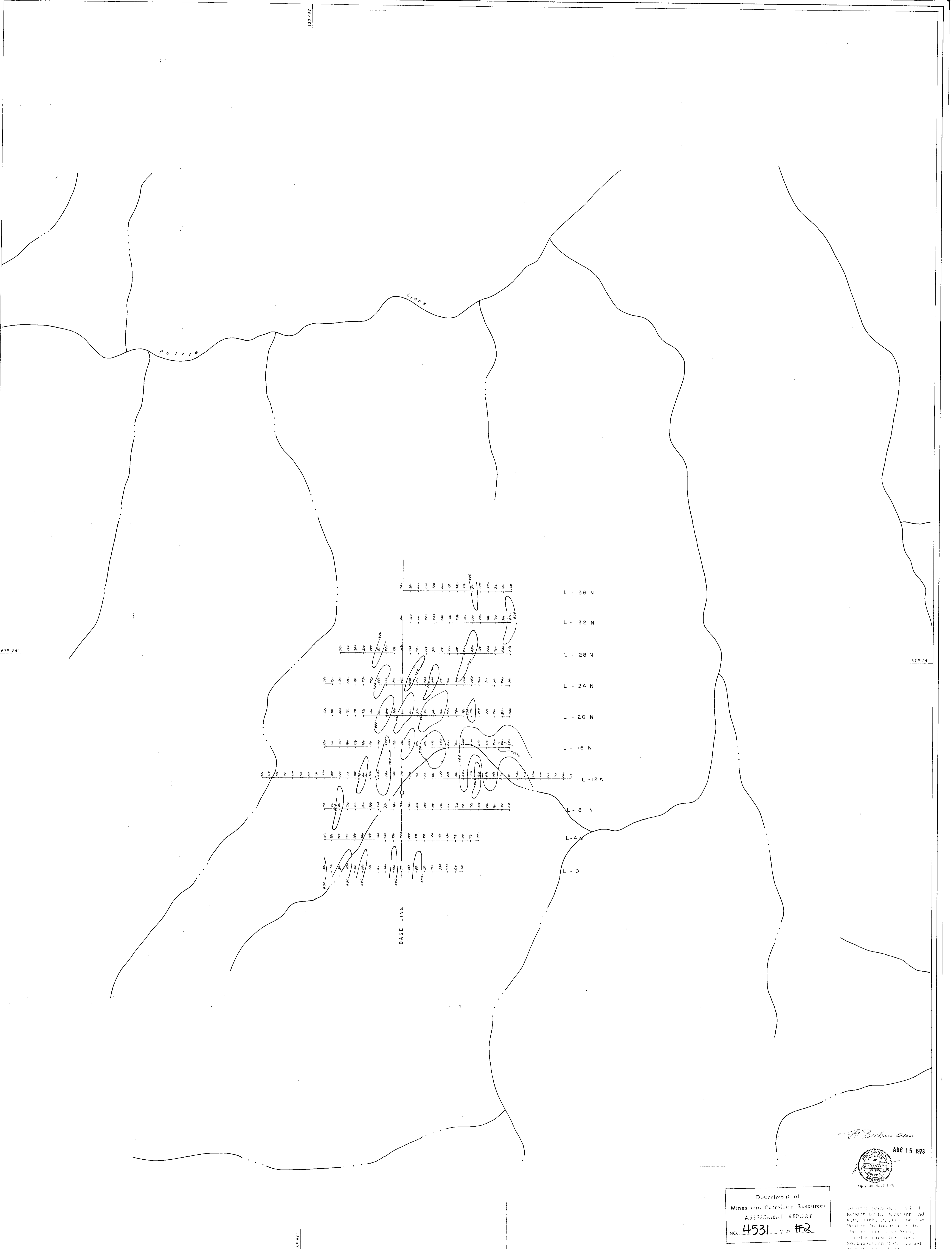


J. Beckman  
N.T.S.  
94-G-5  
AUG 15 1973  
Professional Engineer  
of  
B.C.  
BRITISH  
COLUMBIA

Scale: 5,000 ft.  
ENGINEERING and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4531 MAP #1





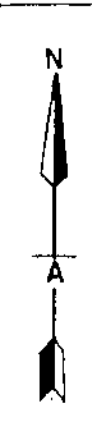


57° 24'

57° 24'

123° 50'

123° 50'



**LEGEND**  
 740 Value in gammas  
 Contour interval in gammas  
 800 Gamma Contour Interval  
 700 = = =  
 Mag. Low

Instrument MF-1 Fluxgate Magnetometer

**KEY**  
 2

N.T.S.  
 94-0-5  
**SCALE**  
 400 0 400 800 1200 1600  
 FEET

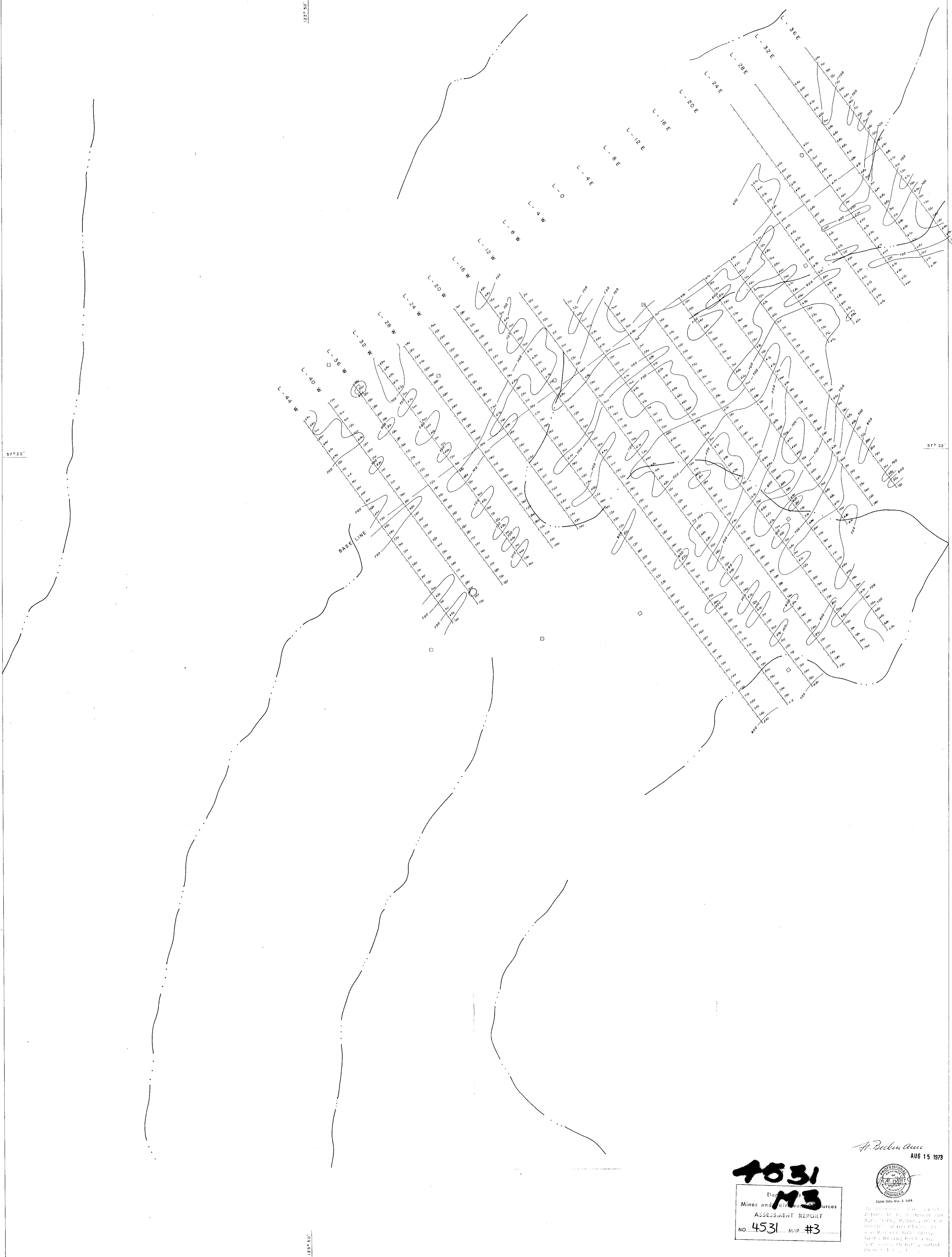
**4531  
 M2**

Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 No. 4531 M.P. #2

*H. Beckman*  
 AUG 15 1973  
  
 Lumpy Date Mar. 3, 1974

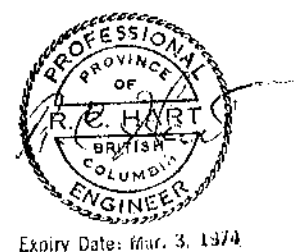
In accordance with Report by H. Beckman and R.C. Hurd, P.Eng., on the Water Option Claims in the Redfern Lake Area, and Mining Division, Saskatchewan R.C., dated August 1967, 1:75.

RIO TINTO CANADIAN EXPLORATION LIMITED  
 VESTOR OPTION - B. C.  
 REDFERN LAKE AREA  
**MAGNETOMETER SURVEY**  
 July - 1973 H.B., D.S./e.k. DWG. M-4433-1



*H. Becken*  
AUG 15 1973

**4531**  
**M3**  
Department of  
Mines and Technical Resources  
ASSESSMENT REPORT  
NO. 4531 MAP #3



All dimensions shown on this drawing are in feet unless otherwise specified. The Engineer is not responsible for the accuracy of the data or the interpretation of the results. The Engineer's liability is limited to the professional services rendered.

**LEGEND**  
 740 Value in gammas  
 Contour interval in gammas  
 800 Gamma Contour Interval  
 700 " " " " " "  
 Mag. Low

Instrument MF-1 Fluxgate Magnetometer

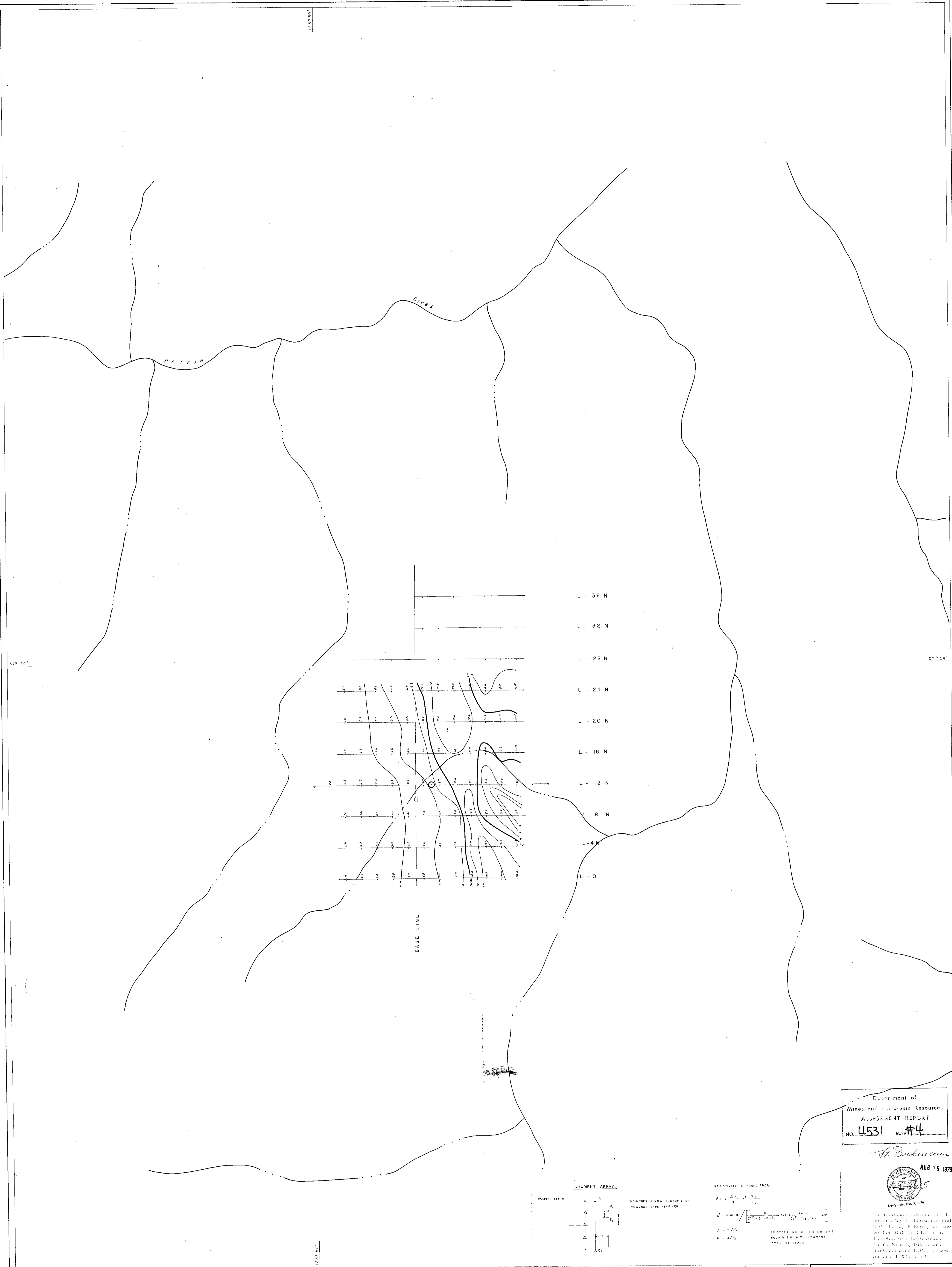
**KEY**  
 1  
 2

N.T.S.  
94-6-5  
SCALE  
400 0 400 800 1200 1600  
FEET

RIO TINTO CANADIAN EXPLORATION LIMITED  
 VESTOR OPTION - B.C.  
 REDFERN LAKE AREA  
**MAGNETOMETER SURVEY**  
 July - 1973 H.B., D.S./e.k. DWG. M-4433-2







57° 24'

57° 24'

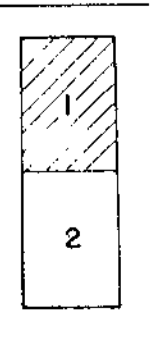
123° 50'

123° 50'

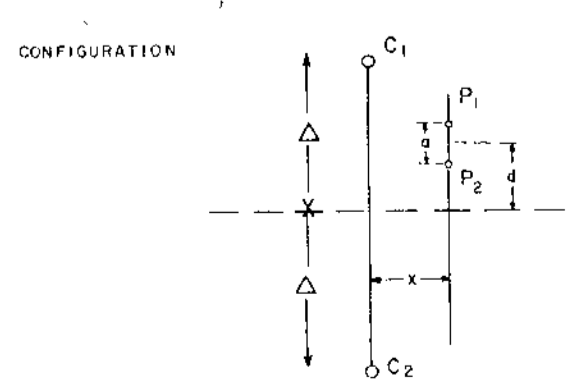
**LEGEND:**

- ⊖ 0.2 Volt in milliseconds
- Center of Current Spread
- Contour interval: 2 milliseconds
- 4 Milliseconds Contour Interval
- 10 " " " "
- 12 " " " "
- Chargeability low

**KEY**



**GRADIENT ARRAY**



SCINTREX 2.5 KW TRANSMITTER  
NEWPORT TYPE RECEIVER

**RESISTIVITY IS FOUND FROM**

$$\rho_a = \frac{\Delta V}{I} \cdot \frac{1}{\frac{1}{2} \left[ \frac{1}{(2^2 + 1)^2} + \frac{1}{(2^2 + 1)^2} \right]}$$

$$I = \frac{V}{Z}$$

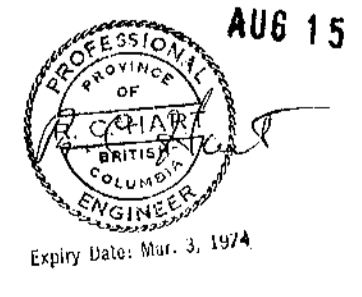
$$D = \frac{L}{\Delta}$$

SCINTREX MK. VI. 2.5 KW. TIME  
CORRECTED I.P. WITH NEWPORT  
TYPE RECEIVER

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4531 MAP #4

H. Beckmann

AUG 15 1973



"The accompanying chargeability report by H. Beckmann and R.C. Hare, P.Eng., on the Vestor Option Claim in the Redfern Lake Area, Cariboo Mining Division, British Columbia, dated August 19th, 1971."



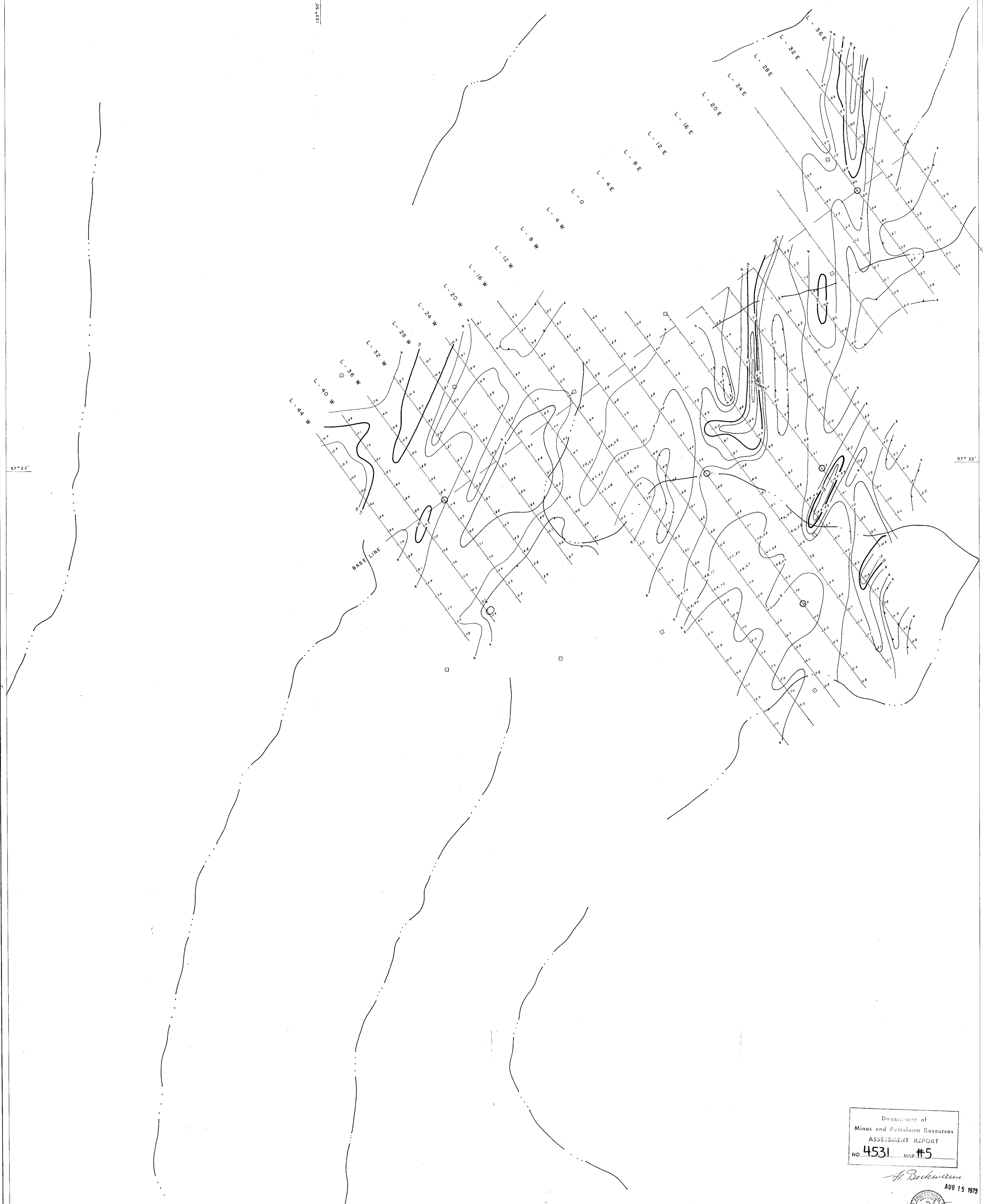
N.T.S.  
94-5-5

**4531  
#4**

**SCALE**

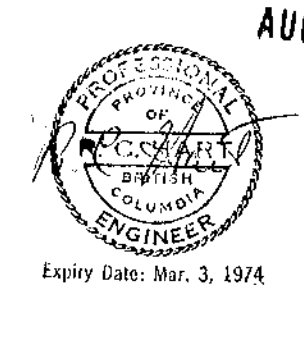


RIO TINTO CANADIAN EXPLORATION LIMITED  
VESTOR OPTION - B. C.  
REDFERN LAKE AREA  
**CHARGEABILITY CONTOURS**  
GRADIENT ARRAY  
July - 1973 H.B., D.S./e.k. DWG. I.P.-4434-1

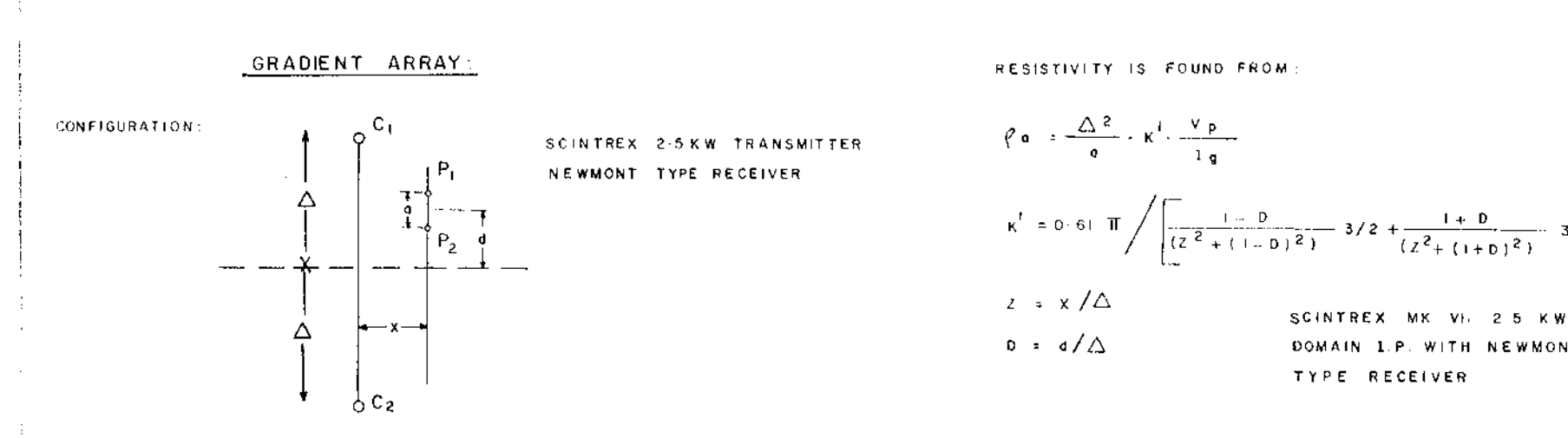


Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 No. 4531 MAP #5

*H. Beckwith*  
 AUG 15 1973



TO accompany report No. 4531, Report by H. Beckwith and J.C. MacL., P.Eng., on the Value Option claim in the Redfern Lake Area, Lord Mining Division, Northeastern B.C., dated August 1968, 1973.



LEGEND:

8.2 Value in milliseconds

Contour interval: 2 milliseconds

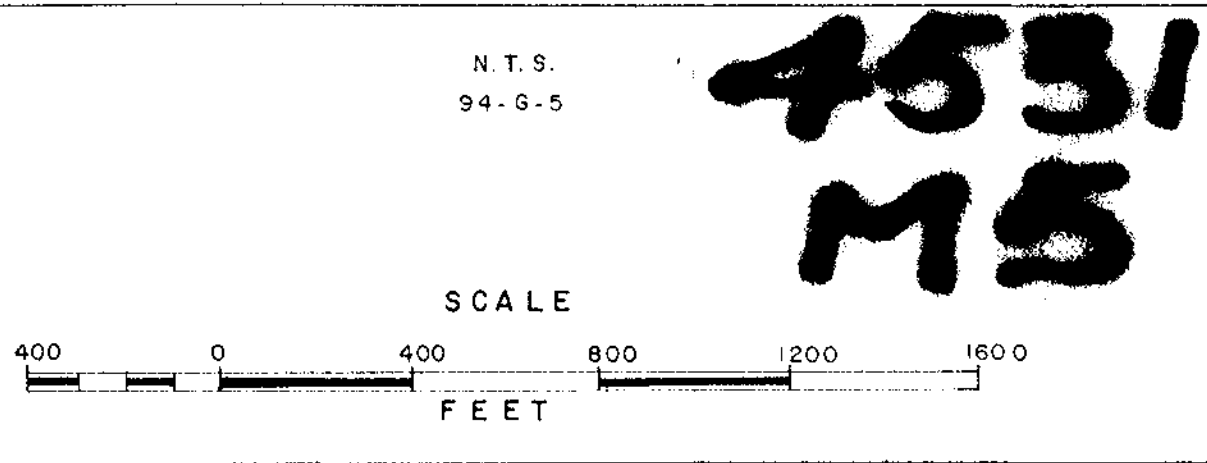
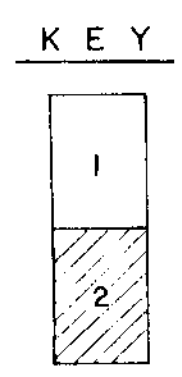
4 Milliseconds Contour Interval

10 " " " "

12 " " " "

Chargeability low

Center of Currents Spread



RIO TINTO CANADIAN EXPLORATION LIMITED

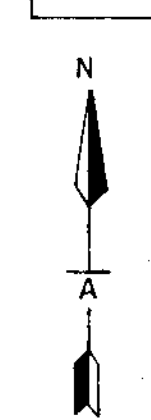
VESTOR OPTION - B.C.

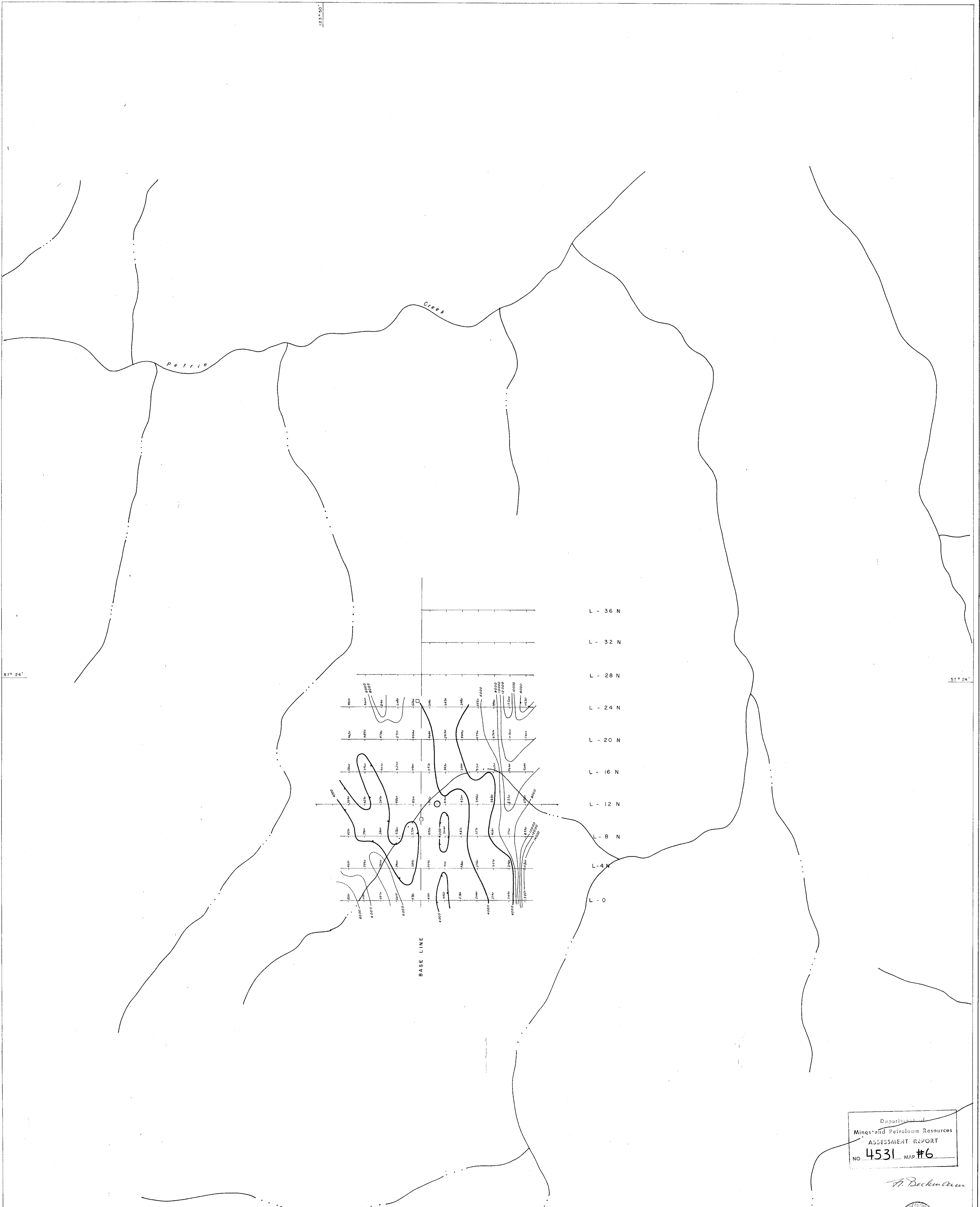
REDFERN LAKE AREA

CHARGEABILITY CONTOURS

GRADIENT ARRAY

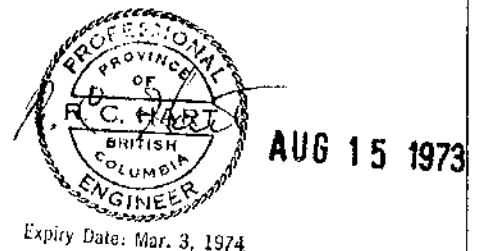
July - 1973 H.B., D.S./e.k. DWG. I.P.-4434-2



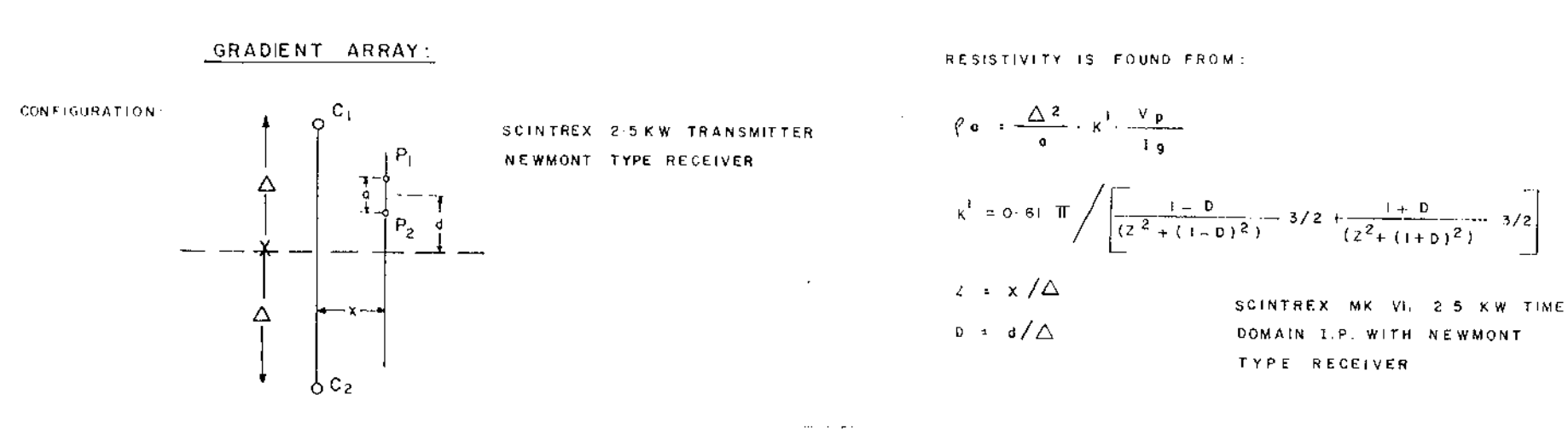


Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4531 MAP #6

H. Beckman



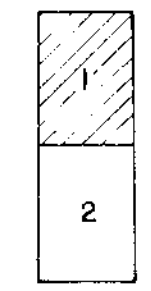
To accompany Geophysical Report by H. Beckman and R.C. Haet, P.Eng., on the Weston Option Claims in the Redfern Lake Area, Laramie Division, Northwestern B.C., dated August 19th, 1973.



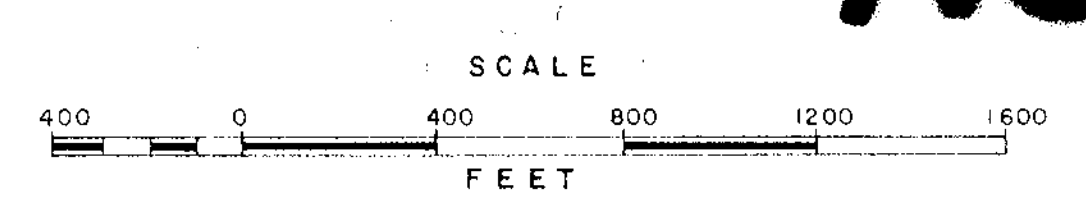
LEGEND:

- 6610 Value in ohmmetres
- Contour interval: 2000 ohmmetres
- 2000 Ohmmetres Contour Interval
- 4000 " " "
- 6000 " " "
- Resistivity low
- Center of Current Spread

KEY



N.T.S.  
94-G-5



**4531  
#6**

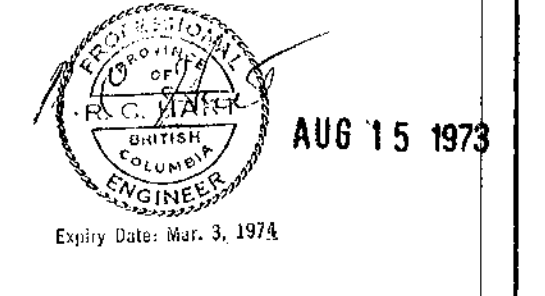
RIO TINTO CANADIAN EXPLORATION LIMITED  
VESTOR OPTION - B. C.

REDFERN LAKE AREA  
RESISTIVITY CONTOURS  
GRADIENT ARRAY



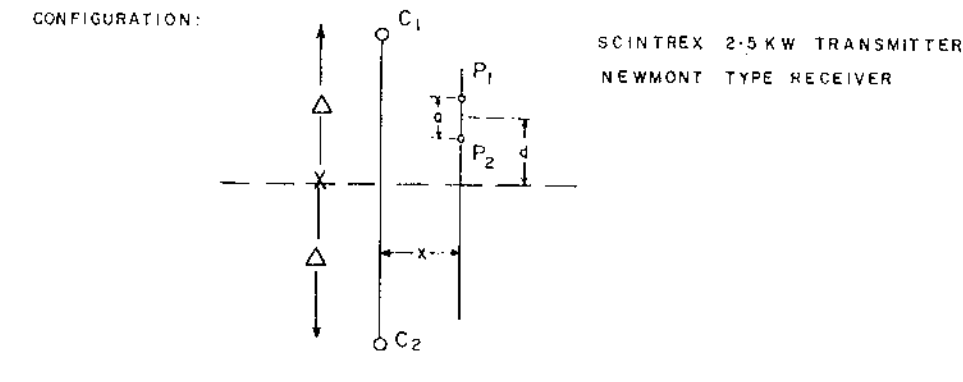
Department of  
 Mines and Technical Surveys  
 ASSESSMENT REPORT  
 No. 4531 M.C.P. #7

*H. Beckmann*



This report was prepared and  
 Report by H. Beckmann and  
 R.C. Waterhouse, P.Eng., on the  
 Vector Option Claims in  
 the Redfern Lake Area,  
 Fort St. John District,  
 Northwest B.C., dated  
 August 10th, 1973.

GRADIENT ARRAY



RESISTIVITY IS FOUND FROM:

$$\rho = \frac{V}{I} \cdot \frac{1}{\frac{1}{2\pi} \left( \frac{1}{r_1} + \frac{1}{r_2} \right)}$$

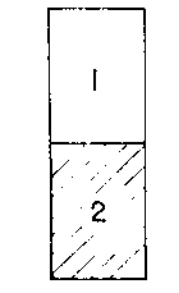
SCINTREX 40-0 KW TRANSMITTER  
 NEWMONT TYPE RECEIVER

LEGEND:

- 5100 Value in ohmmetres
- Contour Interval: 2000 ohmmetres
- 2000 Ohmmetres Contour Interval
- 4000 " " " "
- 6000 " " " "
- Resistivity low

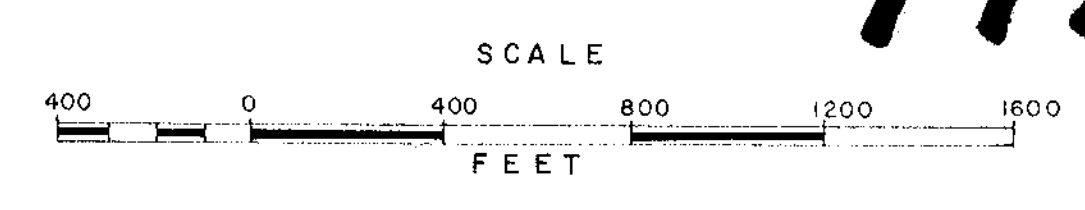
○ Center of Currents Spread

KEY



N.T.S.  
 94-G-5

**4531  
 M7**



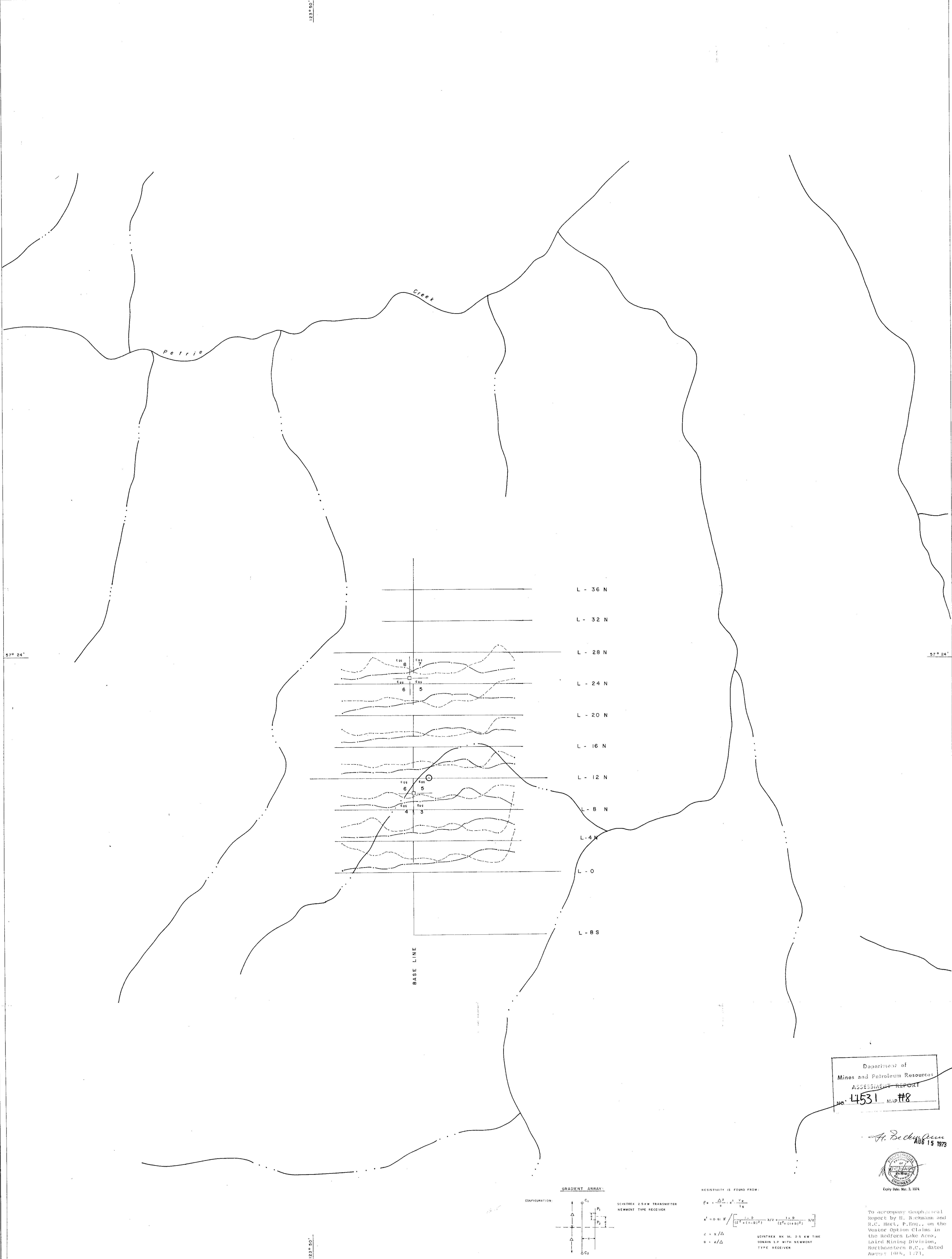
RIO TINTO CANADIAN EXPLORATION LIMITED

VESTOR OPTION - B.C.

REDFERN LAKE AREA  
 RESISTIVITY CONTOURS

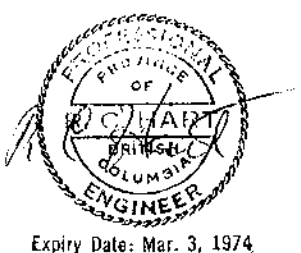
GRADIENT ARRAY  
 July - 1973 H.B., D.S./e.k. DWG. I.P.-4435-2





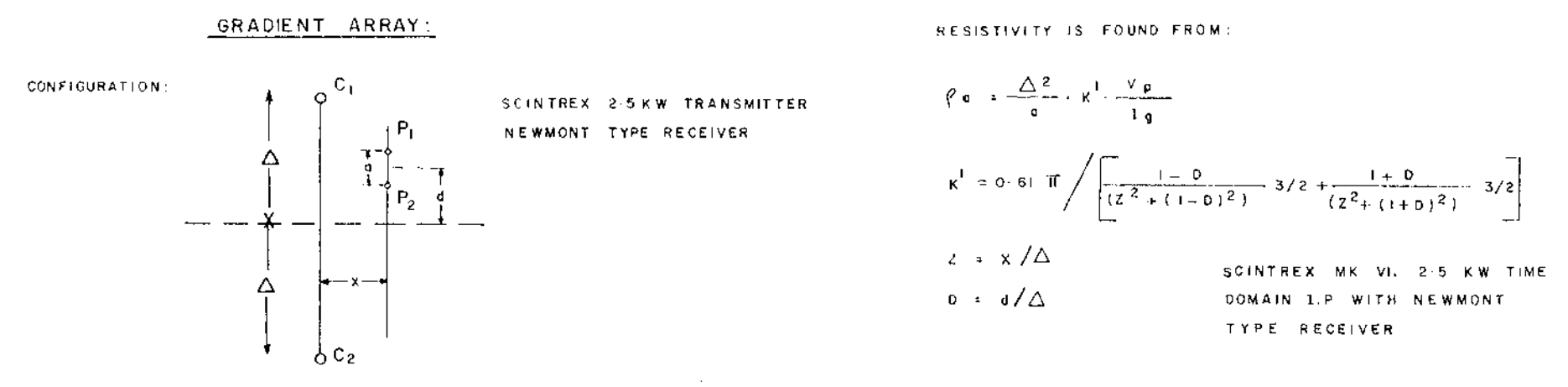
Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4531 MAP #8

*H. De la Roche*  
AUG 15 1973

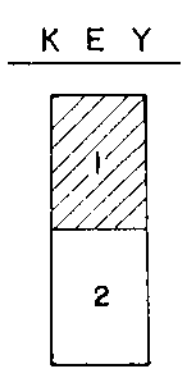


Exp. Date: Mar. 3, 1974

To accompany Geophysical Report by H. Beckmann and R.C. Huet, P.Eng., on the Vektor Option Claims in the Redfern Lake Area, Laird Mining Division, Northeastern B.C., dated August 1973.

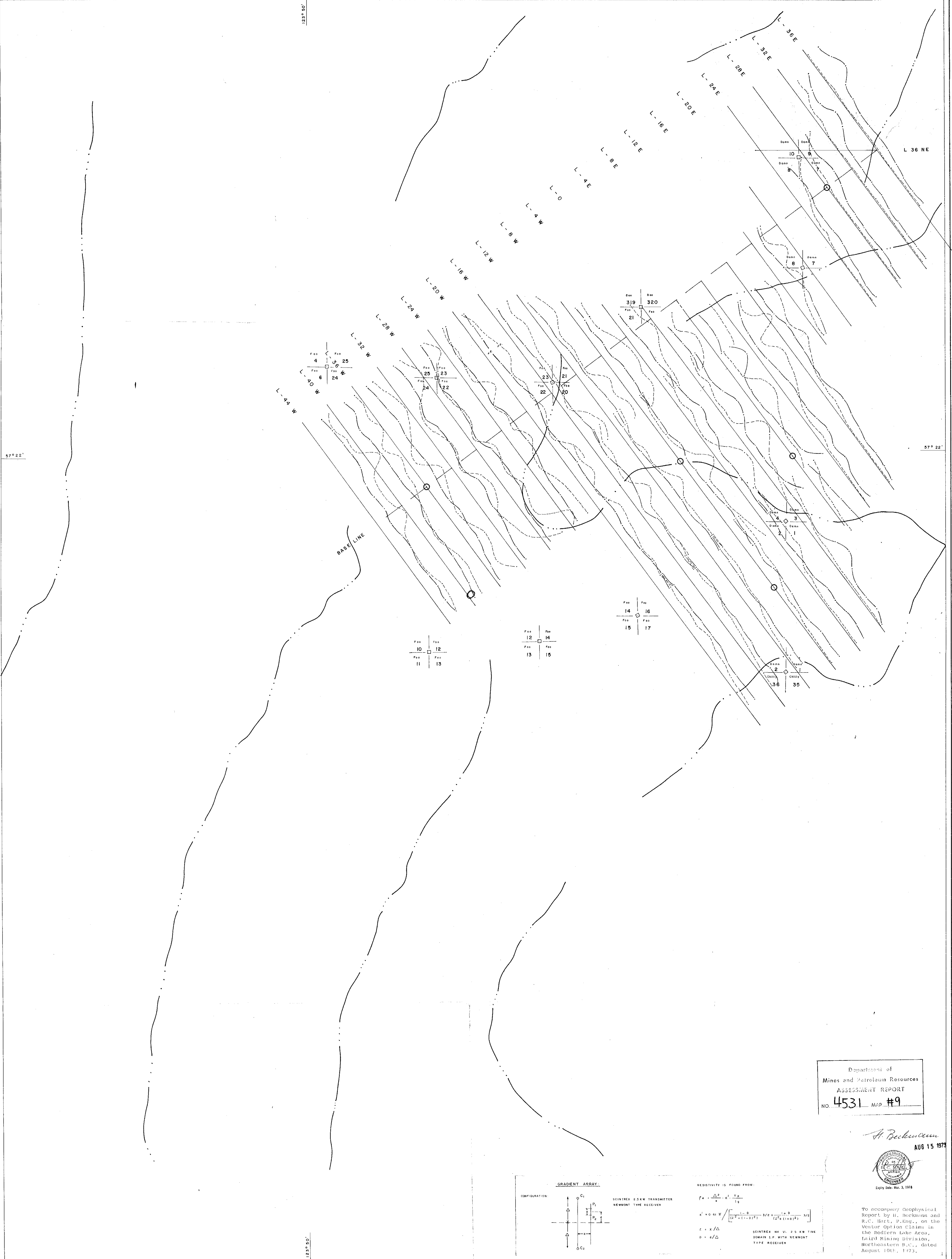


**LEGEND:**  
 Chargeability Profile Scale: 1" = 20 milliseconds  
 Resistivity Profile Scale: 1" = 10,000 ohmmetres  
 ○ Center of Current Spread  
 ⊕ Claim post located



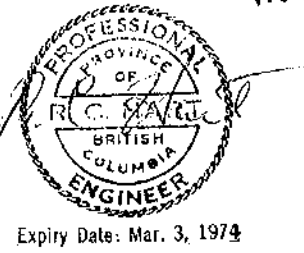
N.T.S. 94-G-5  
**4531**  
**M8**  
 SCALE 1:200  
 400 0 400 800 1200 1600  
 FEET

RIO TINTO CANADIAN EXPLORATION LIMITED  
 VESTOR OPTION - B. C.  
 REDFERN LAKE AREA  
 I. P. PROFILES  
 GRADIENT ARRAY  
 July - 1973 H.B., D.S. / s.k. DWG. I.P. - 4436-1

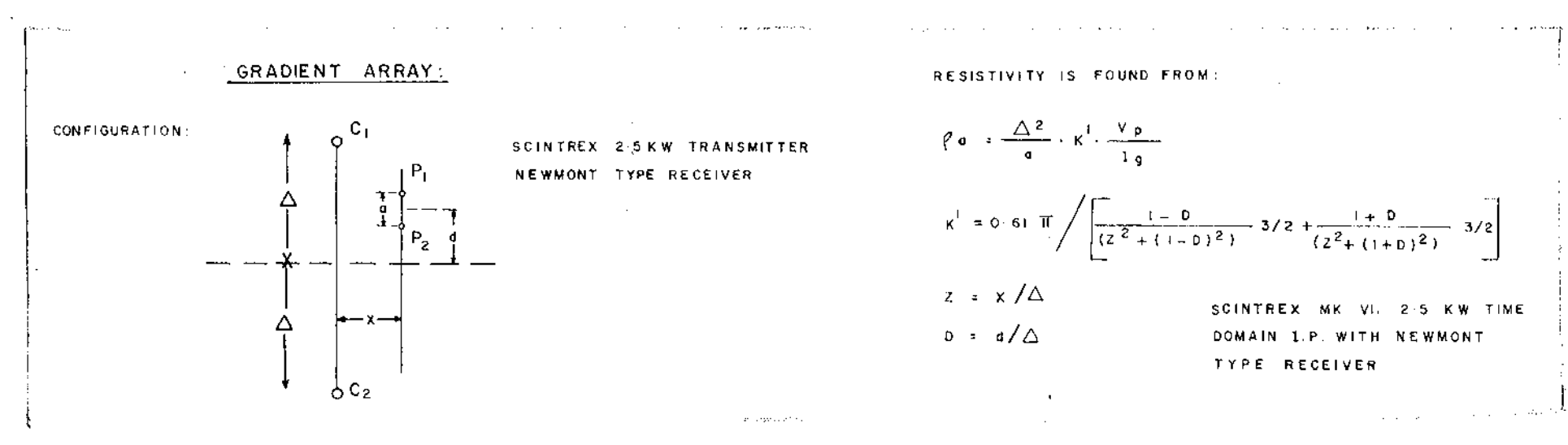


Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4531 MAP #9

*H. Beckmann*  
AUG 15 1973



To accompany Geophysical  
Report by H. Beckmann and  
R.C. Hart, P.Eng., on the  
Vestor Option Claims in  
the Redfern Lake Area,  
Tailed Mining Division,  
Northernmost B.C., dated  
August 19th, 1973.



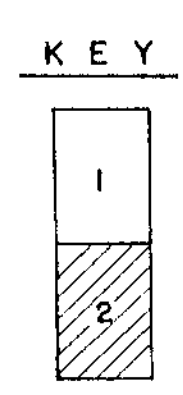
**LEGEND:**

Chargeability Profile Scale: 1" = 20 milliseconds

Resistivity Profile Scale: 1" = 10,000 ohmmetres

○ Center of Currents Spread

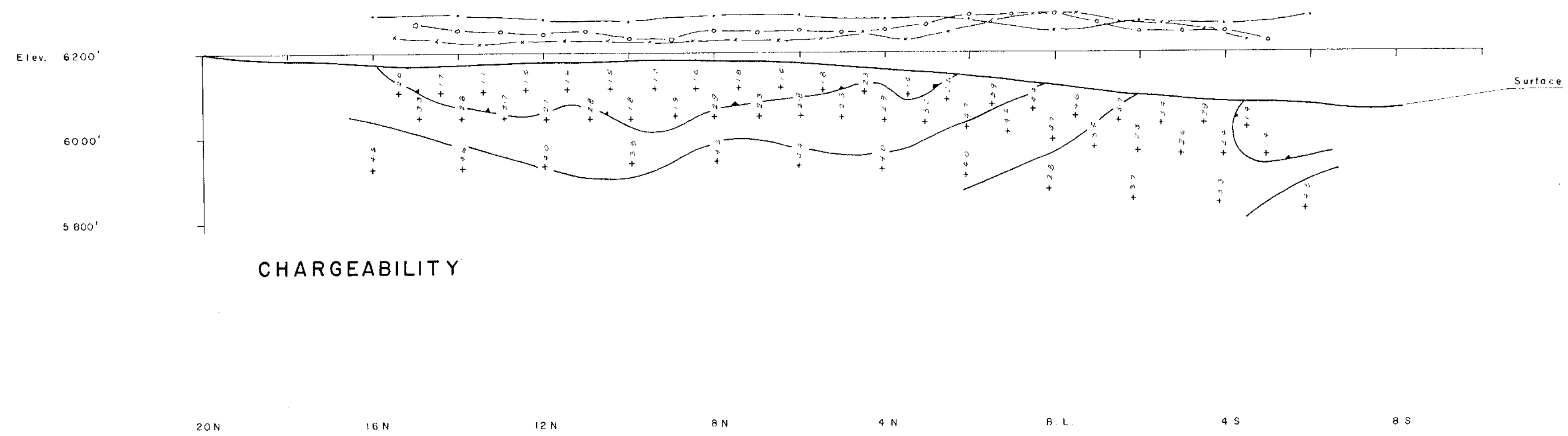
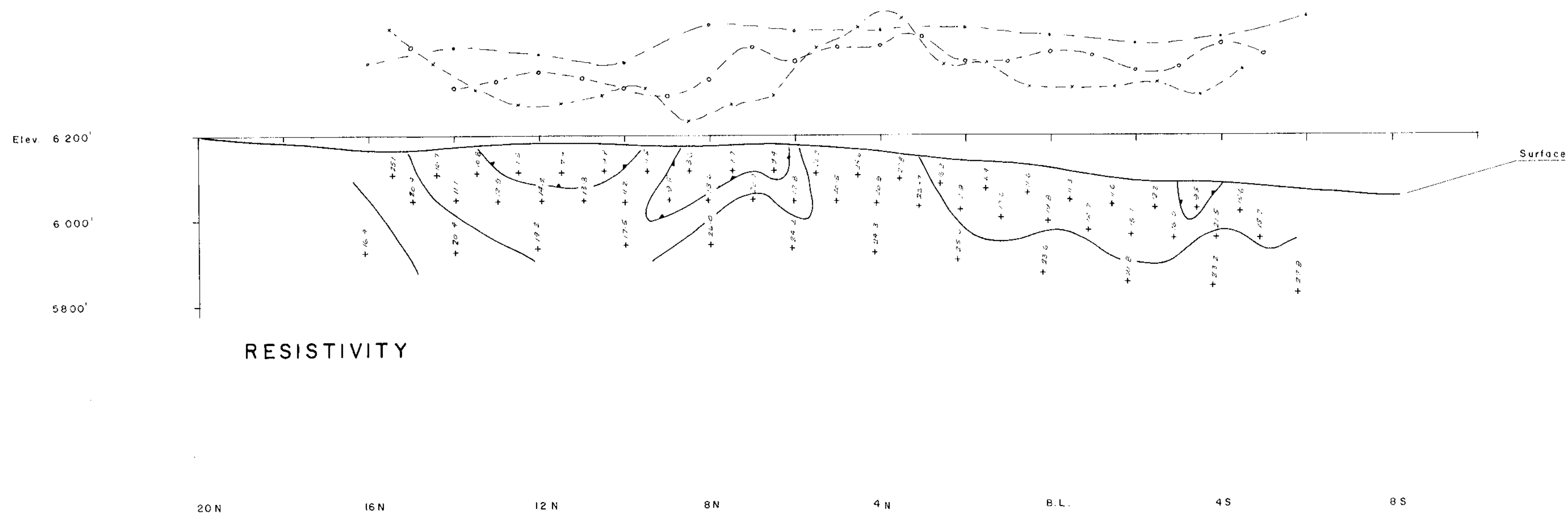
⊕ Claim post located



N.T.S. 94-0-5 **4531 M9**

SCALE  
400 0 400 800 1200 1600  
FEET

RIO TINTO CANADIAN EXPLORATION LIMITED  
VESTOR OPTION - B.C.  
REDFERN LAKE AREA  
I.P. PROFILES  
GRADIENT ARRAY  
July - 1973 H.B., D.S. / e.k. DWG.I.P.-4436-2



*H. Beckmann*  
 AUG 15 1973  
 ENGINEER  
 Expiry Date: Mar. 3, 1978

Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 4531 MAP #10

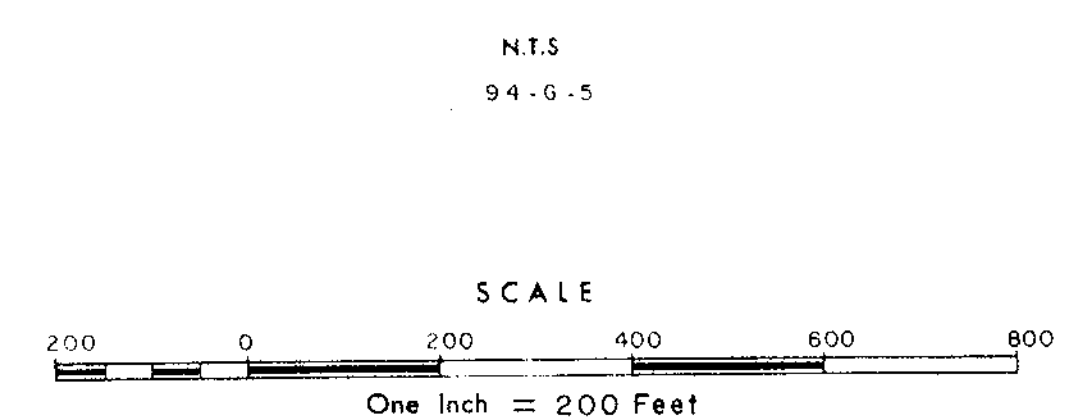
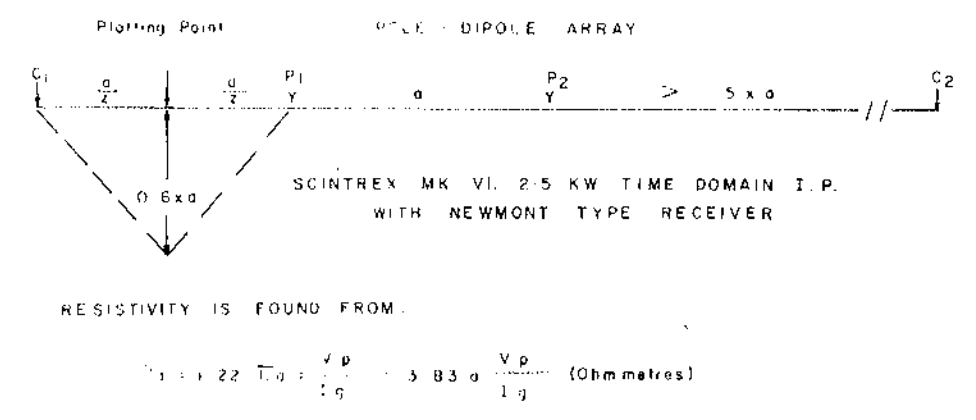
**4531-170** LINE 40 W

To a company Geophysical  
 Report by H. Beckmann and  
 R. J. Hart, P.Eng., on the  
 Vestor Option Claims in  
 the Redfern Lake Area,  
 Inland Mining Division,  
 Northeastern B.C., dated  
 11th, 1973.

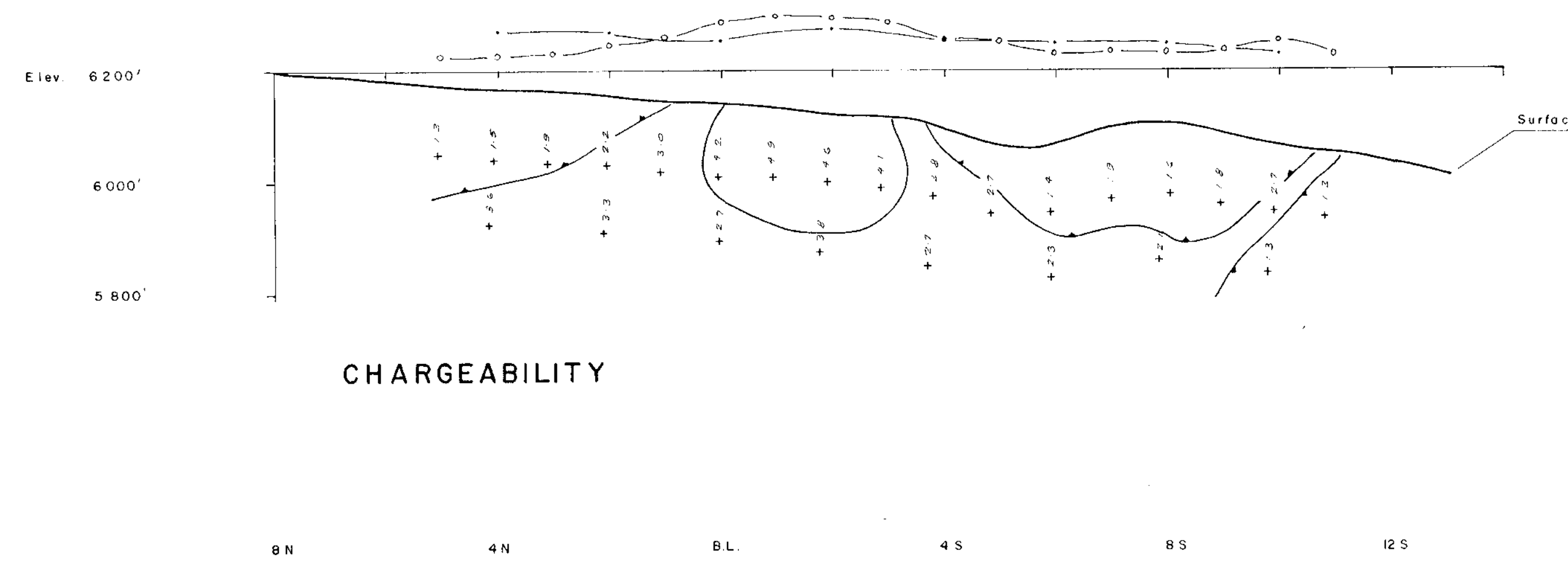
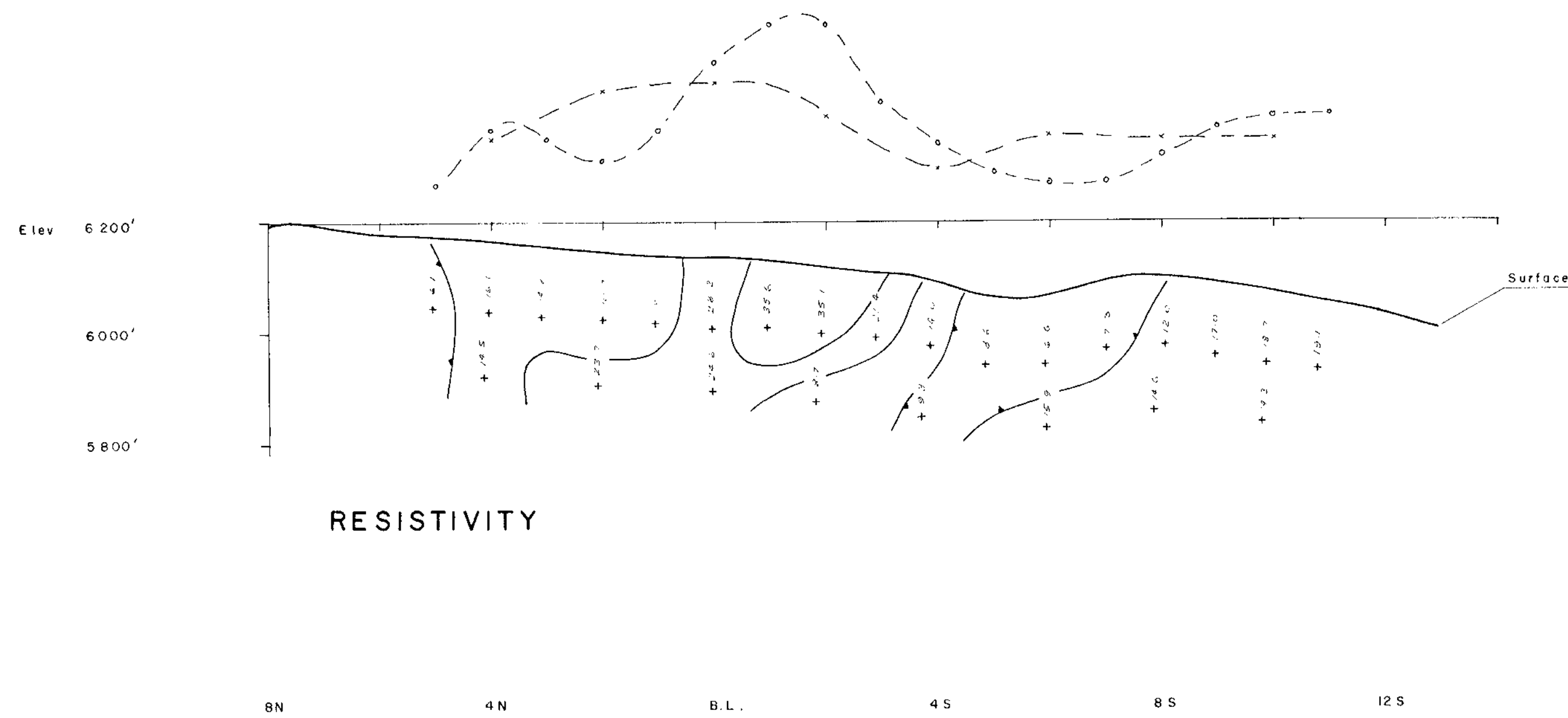
**LEGEND**

Chargeability Profile scale: 1" = 10 milliseconds  
 Electrode spacing: a = 400' x-----x  
 a = 200' o-----o  
 a = 100' x-----x  
 Chargeability reading in milliseconds  
 Contours interval = 2 milliseconds  
 Current electrode to the North

Resistivity Profile scale: 1" = 20,000 ohm metres  
 Electrode spacing: a = 400' x-----x  
 a = 200' o-----o  
 a = 100' x-----x  
 Resistivity reading—thousands ohm metres (ie 17.7 = 17,700)  
 Contours interval = 10,000 ohm metres



RIO TINTO CANADIAN EXPLORATION LIMITED		
VESTOR OPTION - B.C.		
REDFERN LAKE AREA (SOUTH GRID)		
I. P. PROFILES & SECTIONS		
THREE ELECTRODE ARRAY		
Aug., 1973	H.B., D.S. /ek	DWG. I.P. 3424



*J. Beckmann*  
AUG 15 1973

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4531 MAP #11

**4531-M11**

To accompany Geophysical  
Report by H. Beckmann and  
R.C. Hart, P.Eng., on the  
Vestor Option Claims in  
the Redfern Lake Area,  
Faird Mining Division,  
Northeastern B.C., dated  
August 10th, 1973.

LINE 24 W

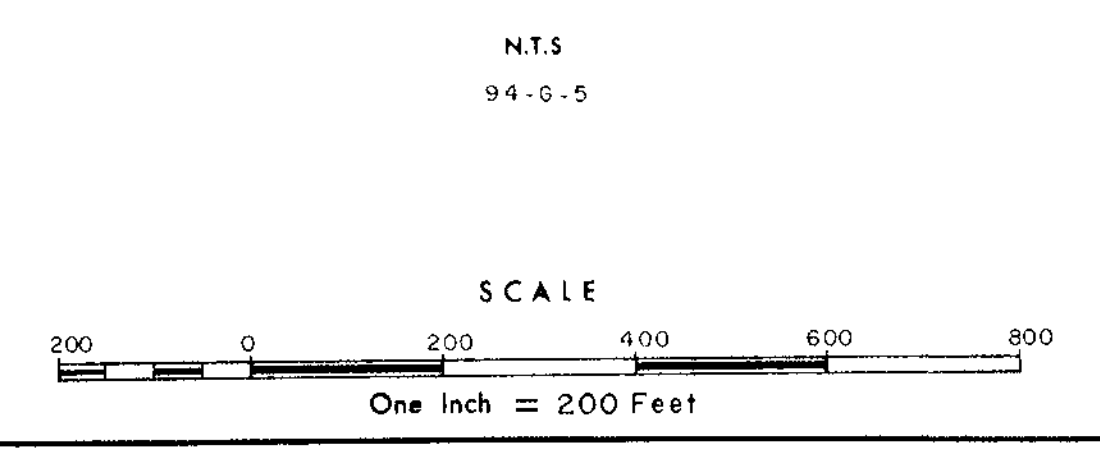
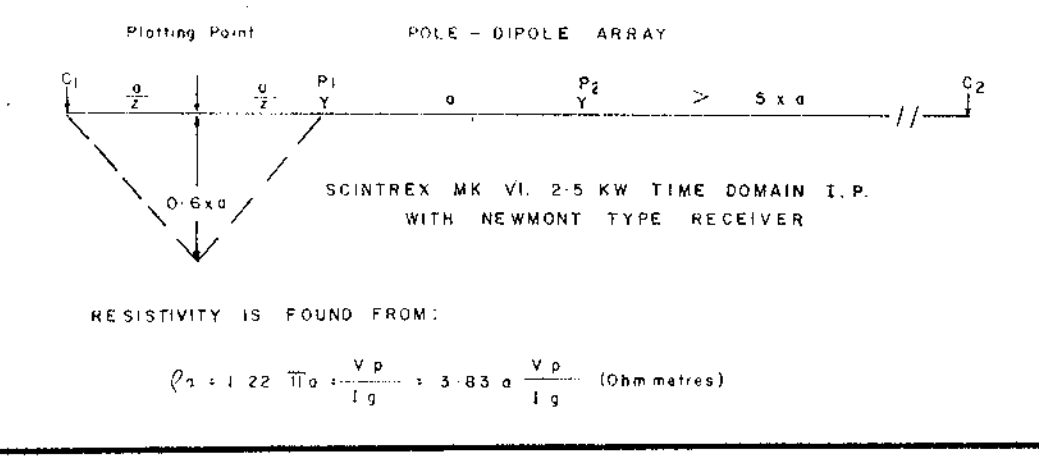
**LEGEND**

Chargeability Profile scale: 1" = 10 milliseconds  
Electrode spacing: a = 400' ————  
a = 200' ○—○—○—○—○—○—  
a = 100' x—x—x—x—x—x—x—x—

Chargeability reading in milliseconds  
Contours interval = 2 milliseconds  
Current electrode to the North

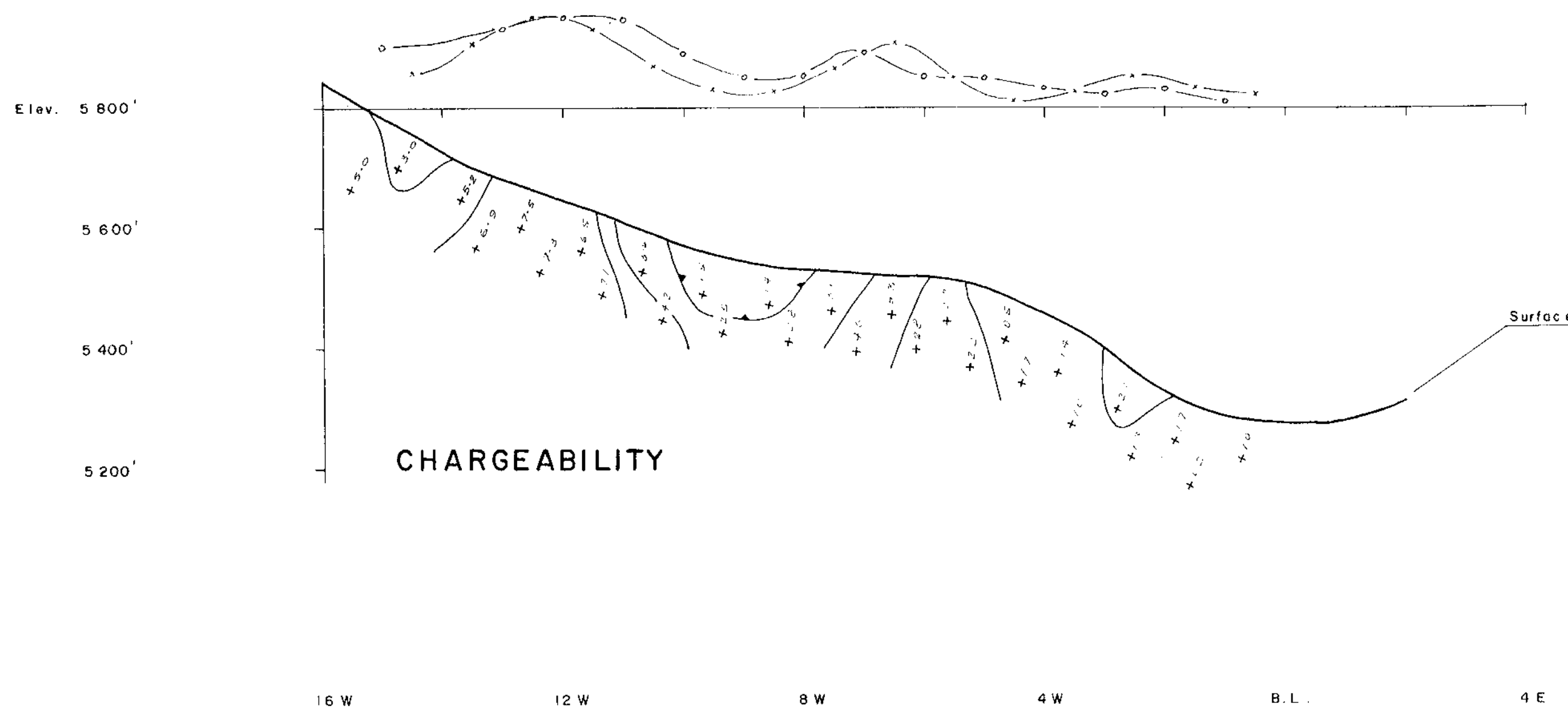
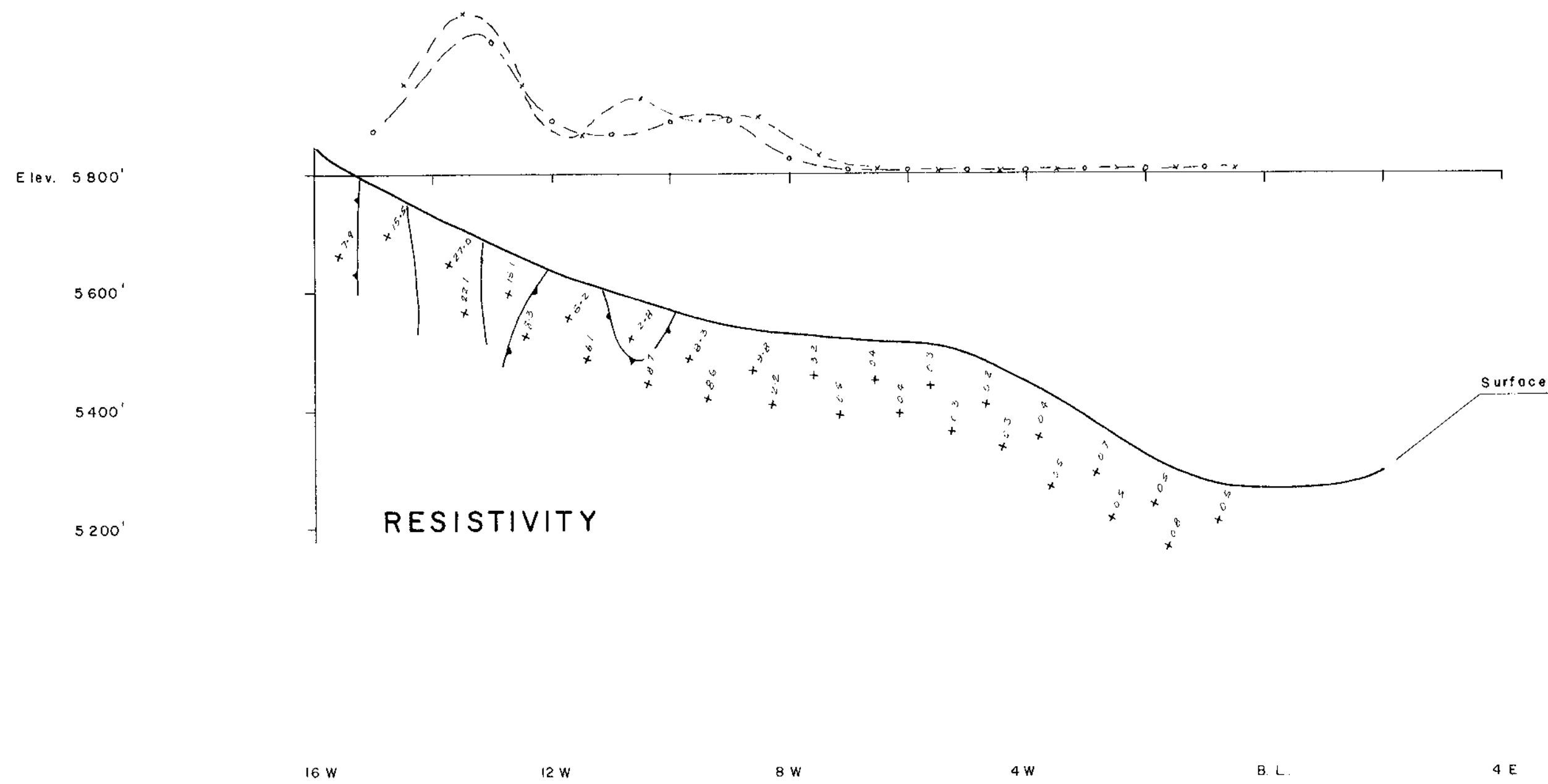
Resistivity Profile scale: 1" = 20,000 ohmmetres  
Electrode spacing: a = 400' ————  
a = 200' ○—○—○—○—○—○—  
a = 100' x—x—x—x—x—x—x—x—

Resistivity reading—thousands ohmmetres (ie 17.7 = 17,700)  
Contours interval = 10,000 ohm metres



RIO TINTO CANADIAN EXPLORATION LIMITED		
VESTOR OPTION - B. C.		
REDFERN LAKE AREA (SOUTH GRID)		
I. P. PROFILES & SECTIONS		
THREE ELECTRODE ARRAY		
Aug., 1973	H.B., D.S. / ek.	DWG. I.P. 3425





Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. **4531** MAP #13  
 H. Beckmann  
 AUG 15 1973  
 PROFESSIONAL  
 CHARTERED  
 ENGINEER  
 Expire Date: Mar. 3, 1974

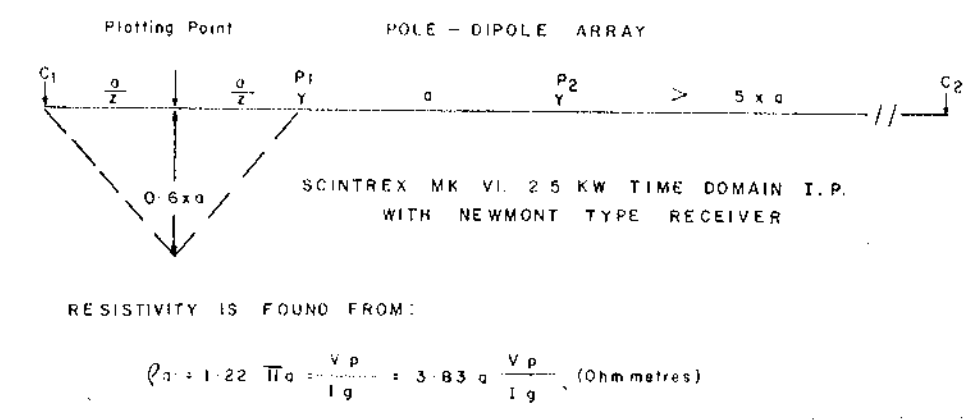
**4531-M13** LINE 36 N.E.

To accompany Geophysical  
 Report by H. Beckmann and  
 R.C. Hart, P.Eng., on the  
 Vestor Option Claims in  
 the Redfern Lake Area,  
 Laird Mining Division,  
 Northeastern B.C., dated  
 August 10th, 1973.

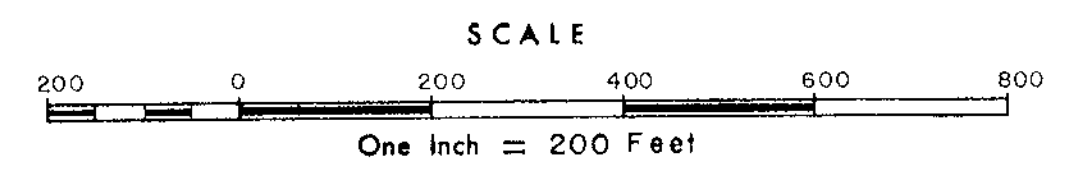
**LEGEND**

Chargeability Profile scale: 1" = 10 milliseconds  
 Electrode spacing: a = 400' (---o---o---)  
 a = 200' (---o---o---)  
 a = 100' (---x---x---)  
 Chargeability reading in milliseconds  
 Contours interval = 2 milliseconds  
 Current electrode to the East

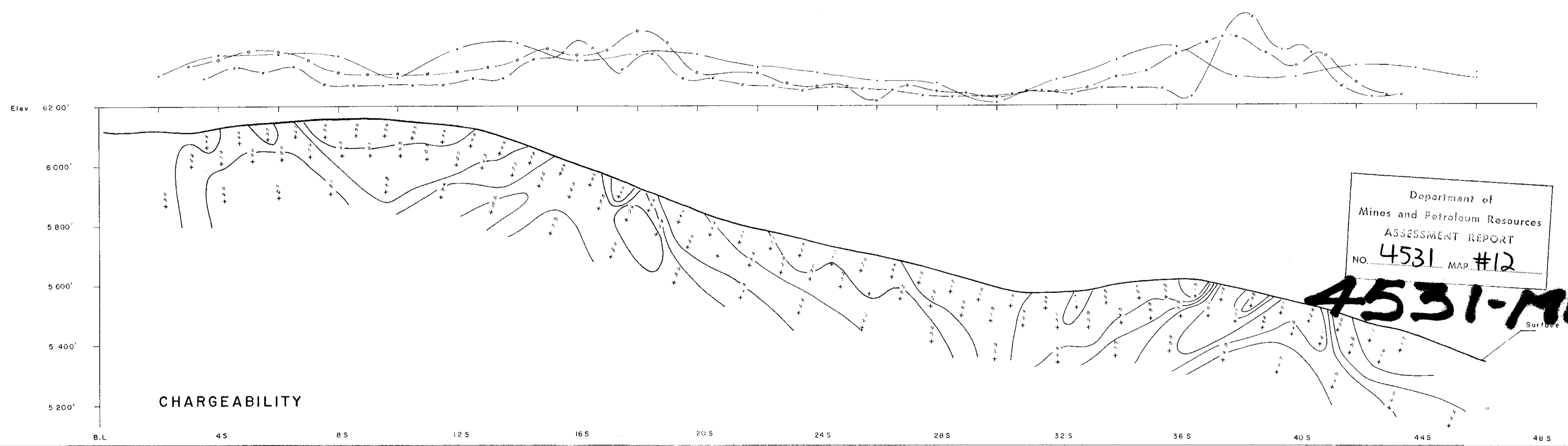
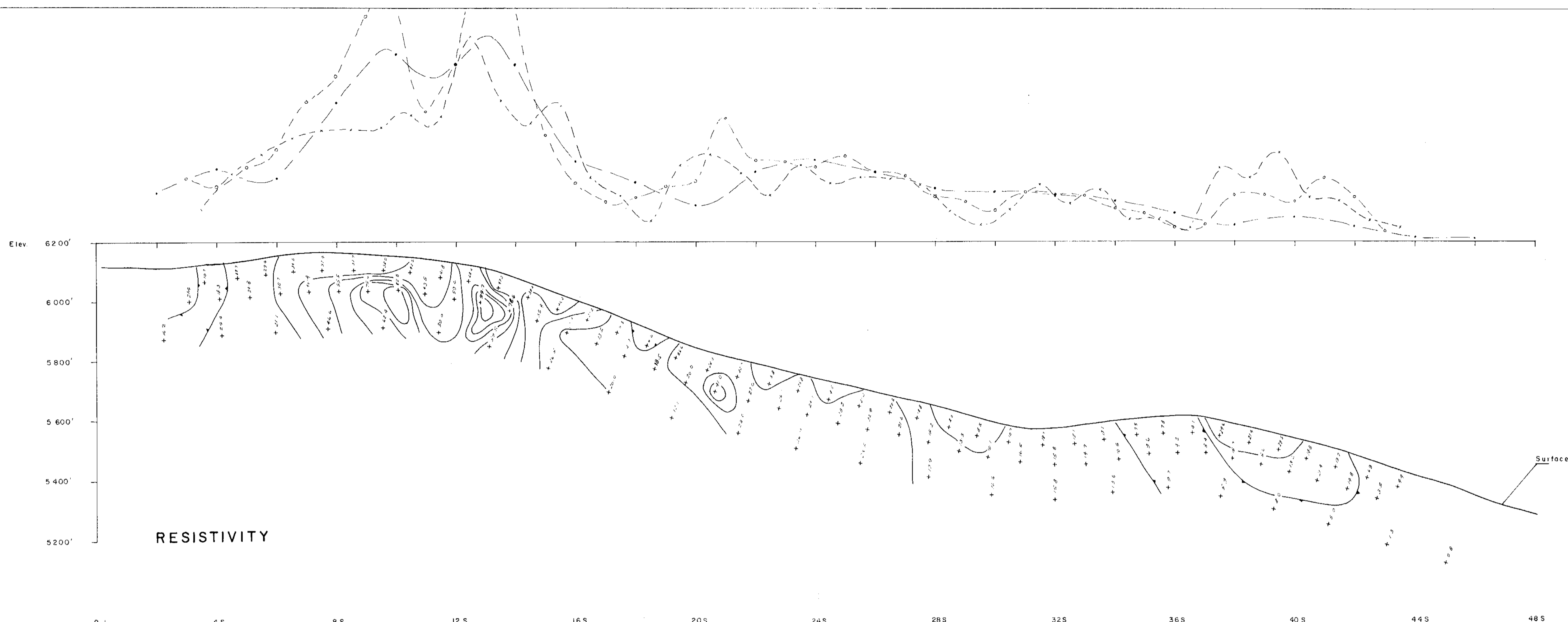
Resistivity Profile scale: 1" = 20,000 ohmmetres  
 Electrode spacing: a = 400' (---o---o---)  
 a = 200' (---o---o---)  
 a = 100' (---x---x---)  
 Resistivity reading—thousands ohmmetres (ie 17.7 = 17,700)  
 Contours interval = 10,000 ohm metres



N.T.S  
94-G-5



RIO TINTO CANADIAN EXPLORATION LIMITED		
VESTOR OPTION - B.C.		
REDFERN LAKE AREA (SOUTH GRID)		
I.P. PROFILES & SECTIONS		
THREE ELECTRODE ARRAY		
Aug, 1973	H.B., D.S. / e.k.	DWG. I.P. 3427



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4531 MAP #12

*H. Beckmann*  
AUG 15 1973  
PROFESSIONAL  
ENGINEER  
H.C. HART  
BRITISH  
COLUMBIA  
ENGINEER  
Expiry Date: Mar. 3, 1974

**4531-MIR**

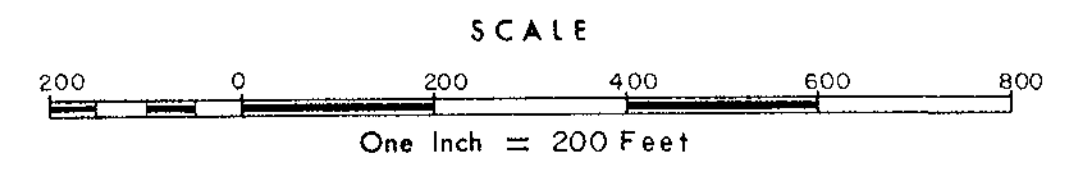
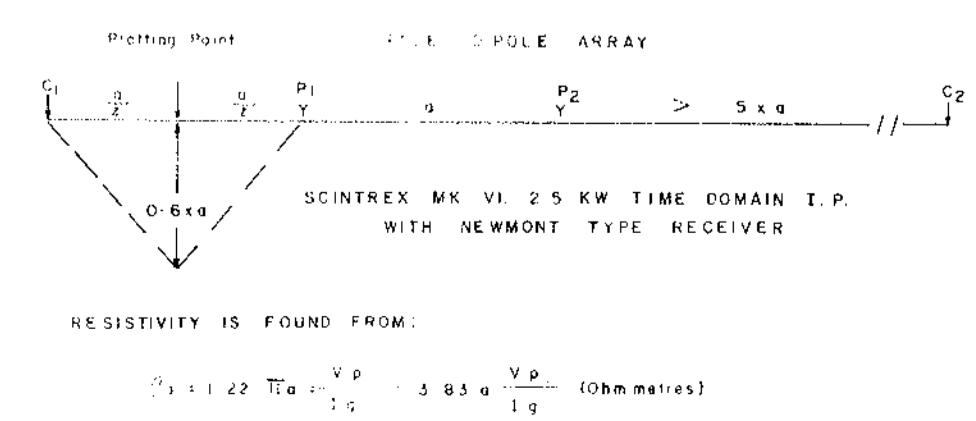
To accompany Geophysical  
Report by H. Beckmann and  
R.C. Hart, P.Eng., on the  
Vestor Option Claims in  
the Redfern Lake Area,  
Faird Mining Division,  
Northeastern B.C., dated  
August 10th, 1973.

LINE 0

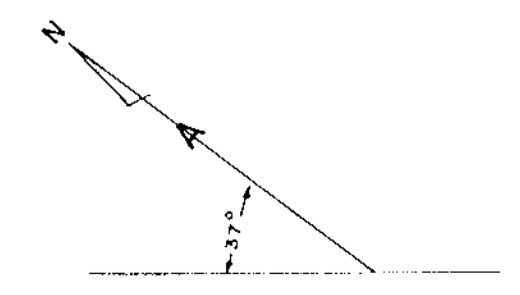
**LEGEND**

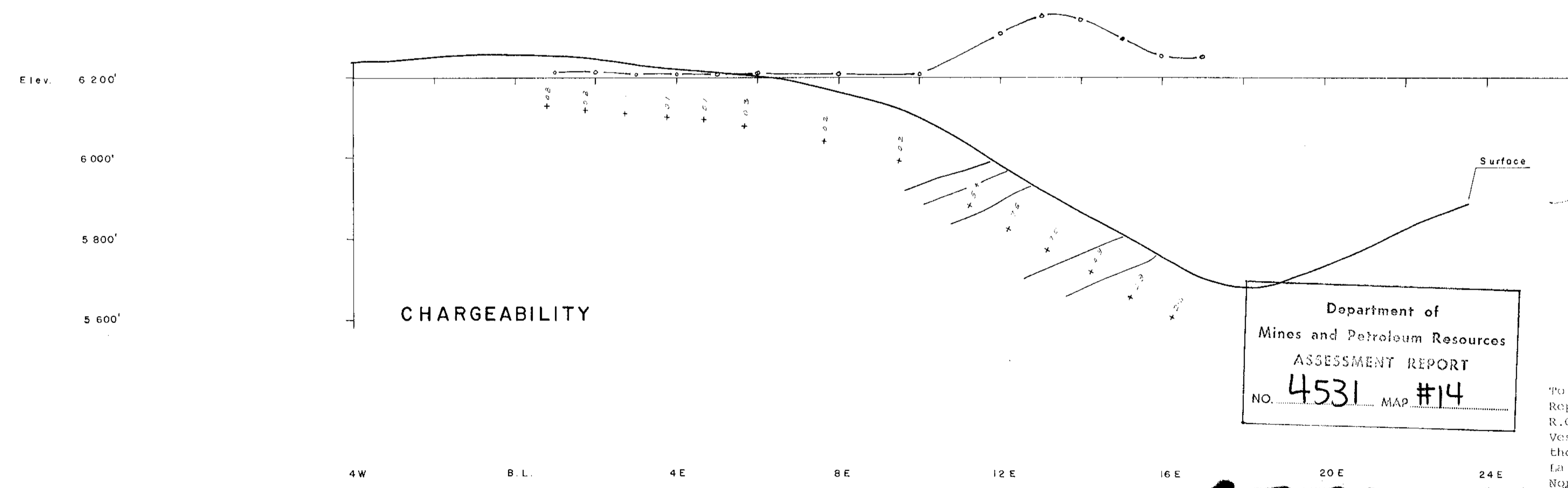
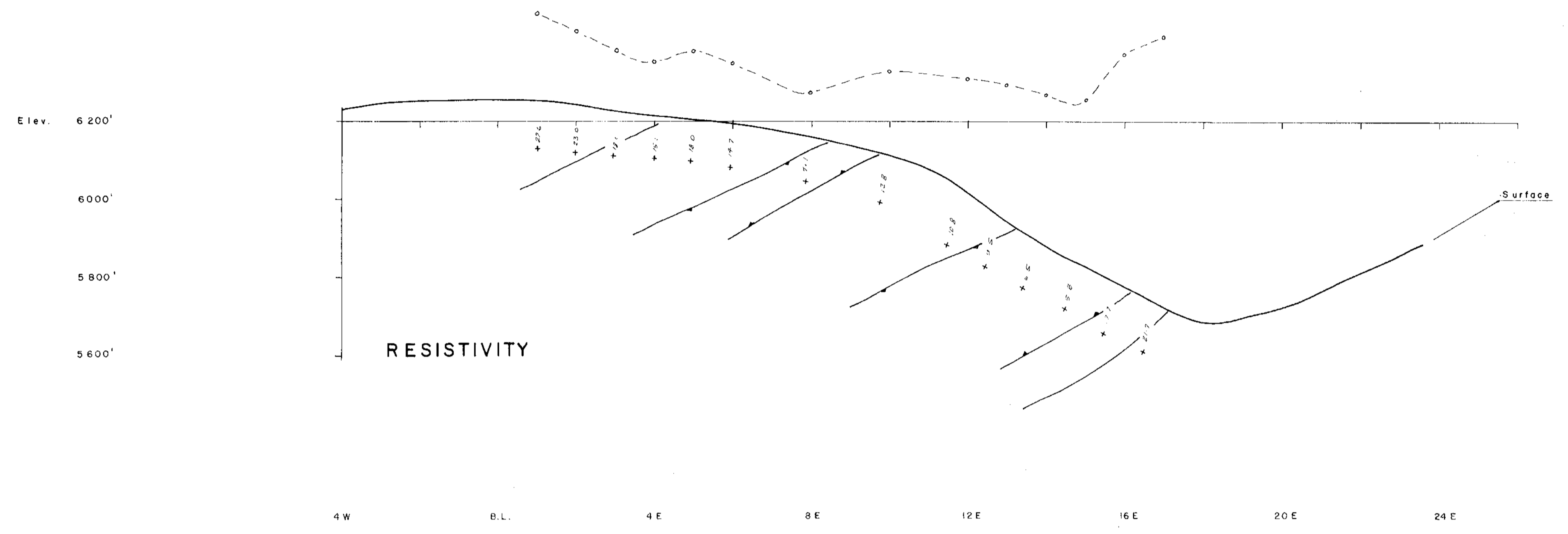
Chargeability Profile scale:  $t'' = 10$  milliseconds  
Electrode spacing:  $a = 400'$  ————  
 $a = 200'$  ○——○——○  
 $a = 100'$  x——x——x  
Chargeability reading in milliseconds  
Contours interval = 2 milliseconds

Resistivity Profile scale:  $\rho'' = 20,000$  ohmmetres  
Electrode spacing:  $a = 400'$  ————  
 $a = 200'$  ○——○——○  
 $a = 100'$  x——x——x  
Resistivity reading—thousands ohmmetres (ie 17.7 = 17,700)  
Contours interval = 10,000 ohm metres



RIO TINTO CANADIAN EXPLORATION LIMITED	
VESTOR OPTION - B.C.	
REDFERN LAKE AREA (SOUTH GRID)	
I. P. PROFILES & SECTIONS	
THREE ELECTRODE ARRAY	
Aug., 1973	H.B., D.S. / e.k. DWG. I.P. 3426





Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4531 MAP #14

*H. Beckmann*  
AUG 15 1973  
PROFESSIONAL  
ENGINEER  
R. C. HART  
BRITISH  
COLUMBIA  
EXPIRY DATE: MAR. 3, 1974

To accompany Geophysical  
Report by H. Beckmann and  
R.C. Hart, P.Eng., on the  
Vestor Option Claims in  
the Redfern Lake Area,  
Laird Mining Division,  
Northeastern B.C., dated  
August 10th, 1973.

**4531-MM** LINE 8 S.

**LEGEND**

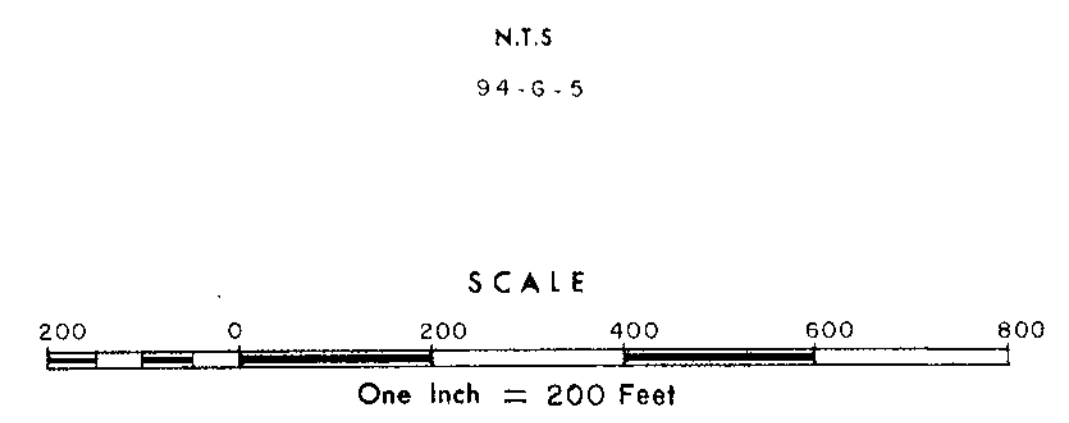
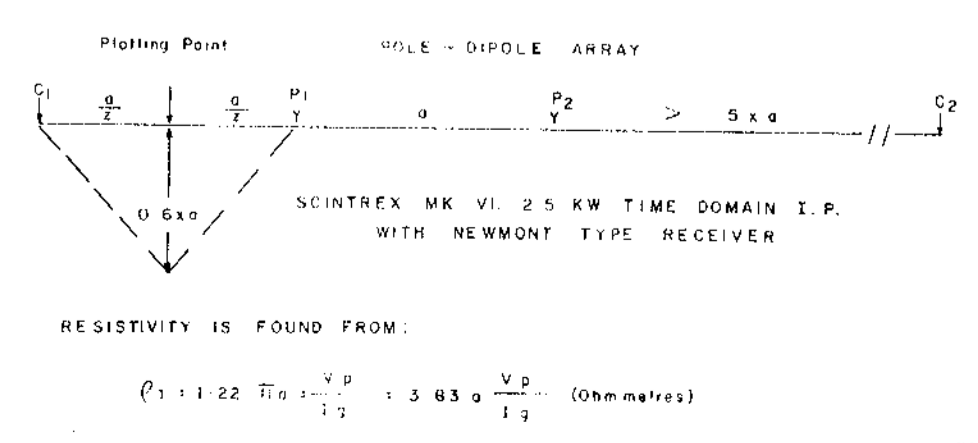
Chargeability Profile scale: 1" = 10 milliseconds  
Resistivity Profile scale: 1" = 20,000 ohmmetres

Electrode spacing: a = 400' (---x---x---x---)  
a = 200' (---o---o---o---o---)  
a = 100' (---x---x---x---x---)

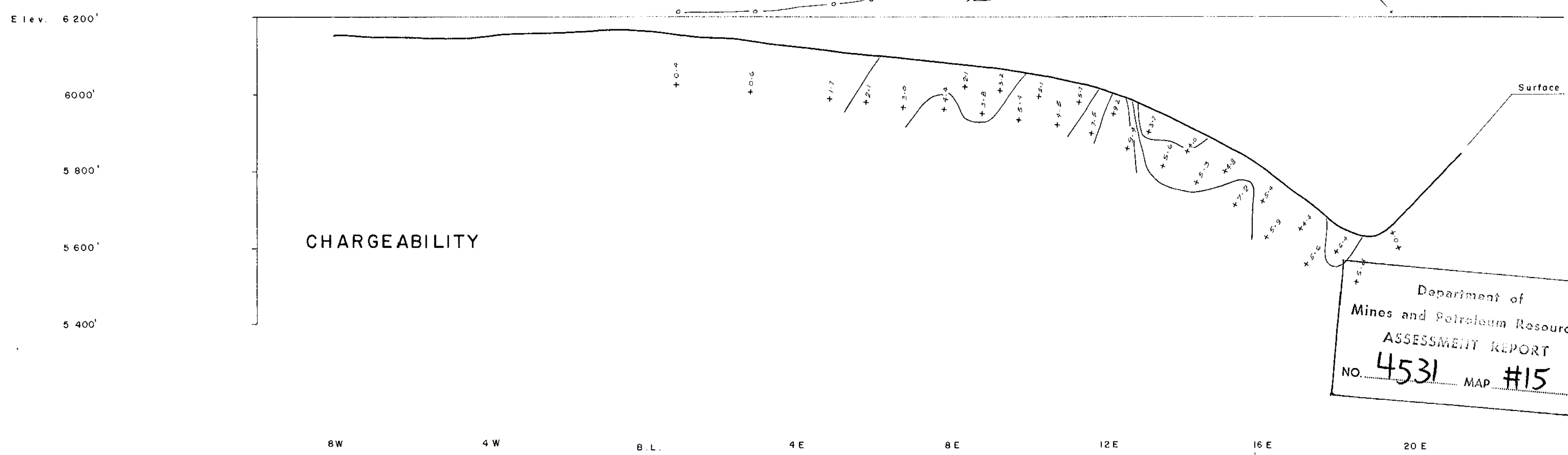
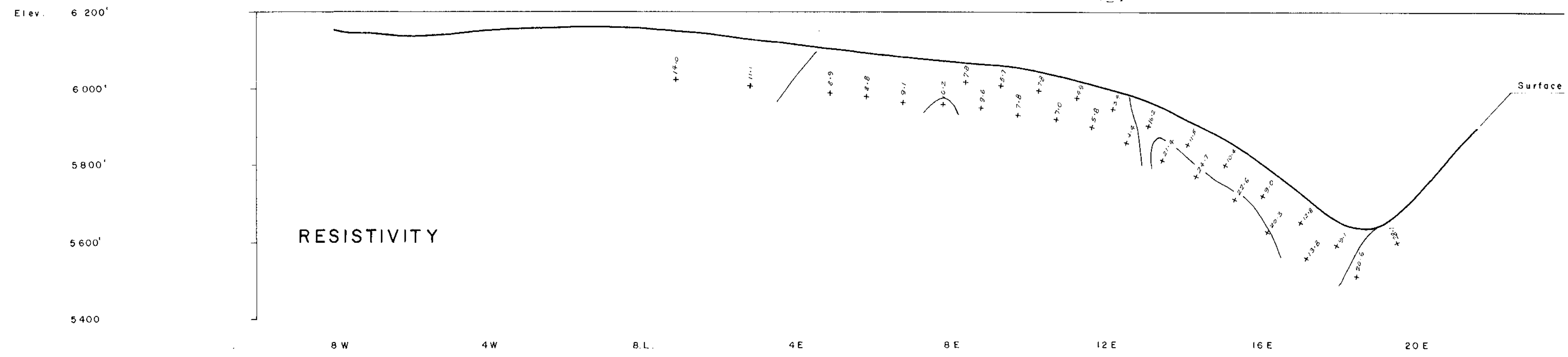
Chargeability reading in milliseconds  
Contours interval = 2 milliseconds

Resistivity reading—thousands ohmmetres (ie 17.7 = 17,700)  
Contours interval = 10,000 ohm metres

Current electrode to the East



RIO TINTO CANADIAN EXPLORATION LIMITED		
VESTOR OPTION - B. C.		
REDFERN LAKE AREA (NORTH GRID)		
I. P. PROFILES & SECTIONS		
THREE ELECTRODE ARRAY		
Aug., 1973	H.B., D.S. / e.k.	DWG. I.P. 3428



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4531 MAP #15

*H. Beckmann*  
AUG 15 1973  
PROFESSIONAL ENGINEER  
R.C. HART  
BRITISH COLUMBIA  
ENGINEER  
Expiry Date: Mar. 3, 1974

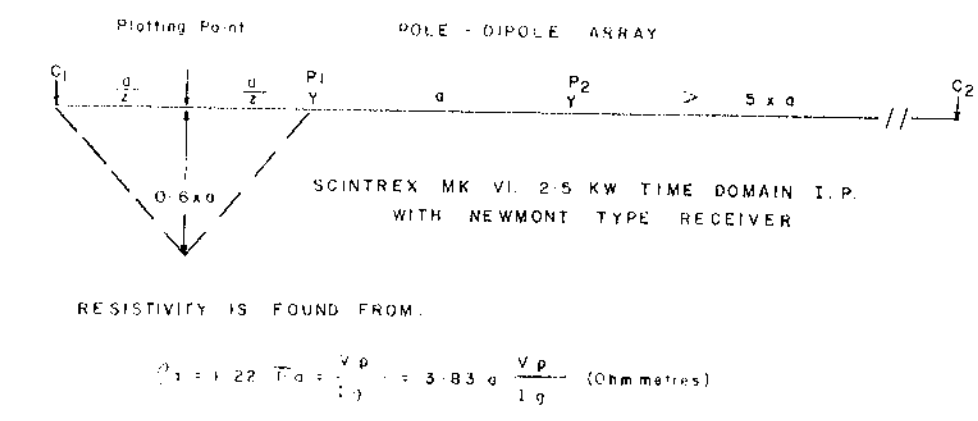
To accompany Geophysical Report by H. Beckmann and R.C. Hart, P.Eng., on the Vestor Option Claims in the Redfern Lake Area, Faird Mining Division, Northeastern B.C., dated August 10th, 1973.

LINE 0

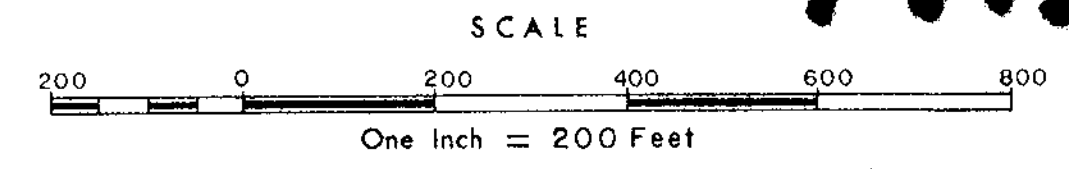
LEGEND

Chargeability Profile scale: 1" = 10 milliseconds  
Electrode spacing: a = 400' (---), a = 200' (o---o---o), a = 100' (x---x---x)  
Chargeability reading in milliseconds  
Contours interval = 2 milliseconds  
Current electrode to the East

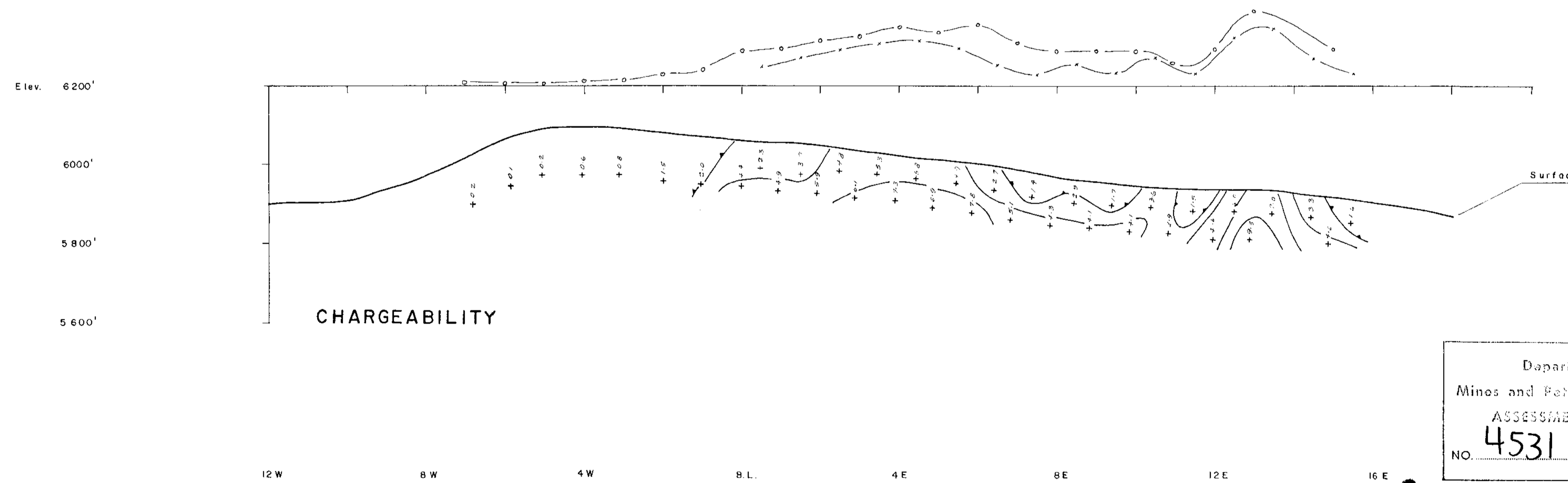
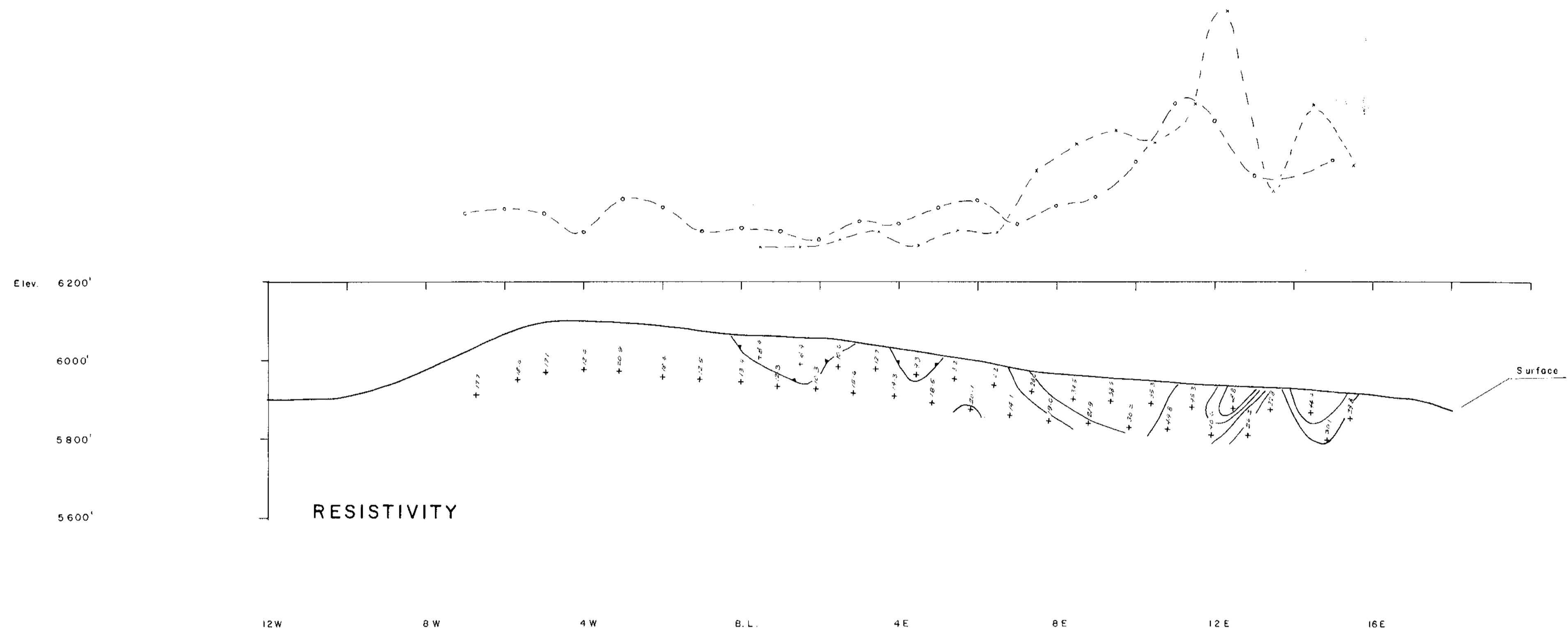
Resistivity Profile scale: 1" = 20,000 ohmmetres  
Electrode spacing: a = 400' (---), a = 200' (o---o---o), a = 100' (x---x---x)  
Resistivity reading—thousands ohmmetres (ie 17.7 = 17,700)  
Contours interval = 10,000 ohm metres



N.T.S. 94-G-5  
**4531**  
**M15**



RIO TINTO CANADIAN EXPLORATION LIMITED	
VESTOR OPTION - B.C.	
REDFERN LAKE AREA (NORTH GRID)	
I.P. PROFILES & SECTIONS	
THREE ELECTRODE ARRAY	
Aug., 1973	H.B., D.S. / e.k. DWG. I.P. 3429



*H. Beckmann*  
 AUG 15 1973  
 PROFESSIONAL  
 PROVINCIAL  
 OF  
 R. C. HART  
 CONSULTING  
 ENGINEER  
 Expiry Date: Mar. 3, 1974

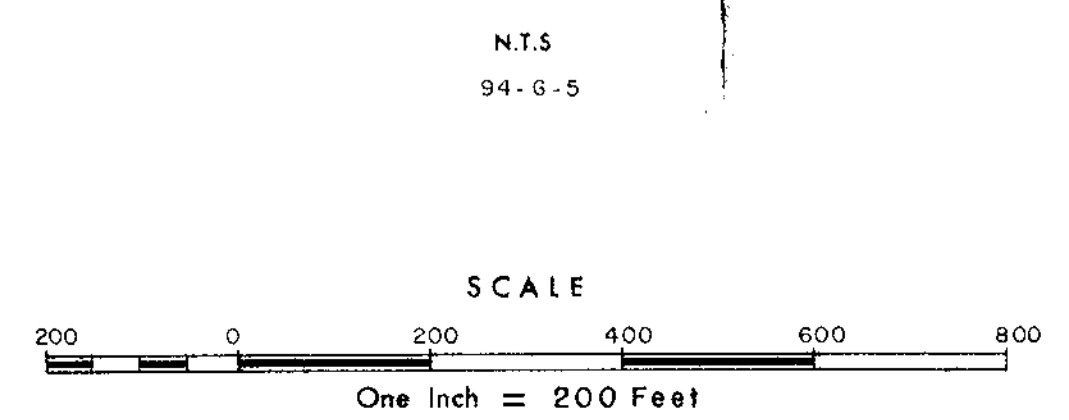
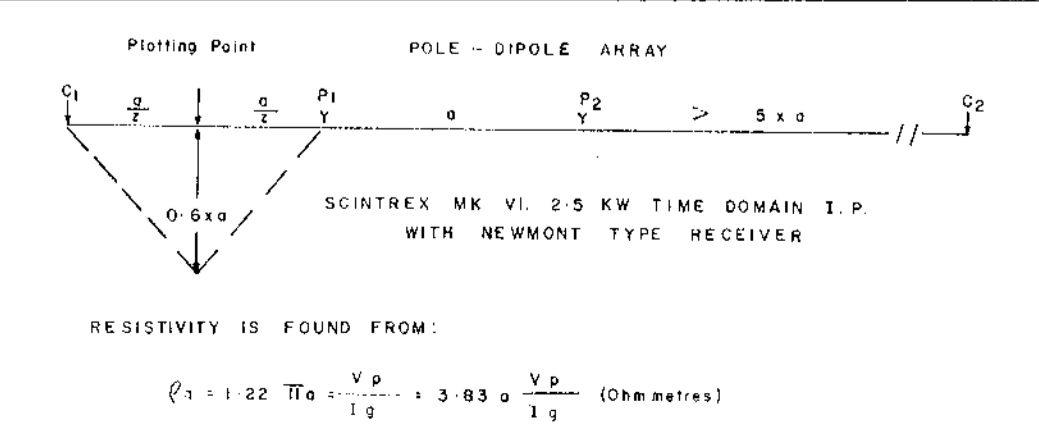
Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 4531 MAP #16

**4531-1916** LINE 24 N.

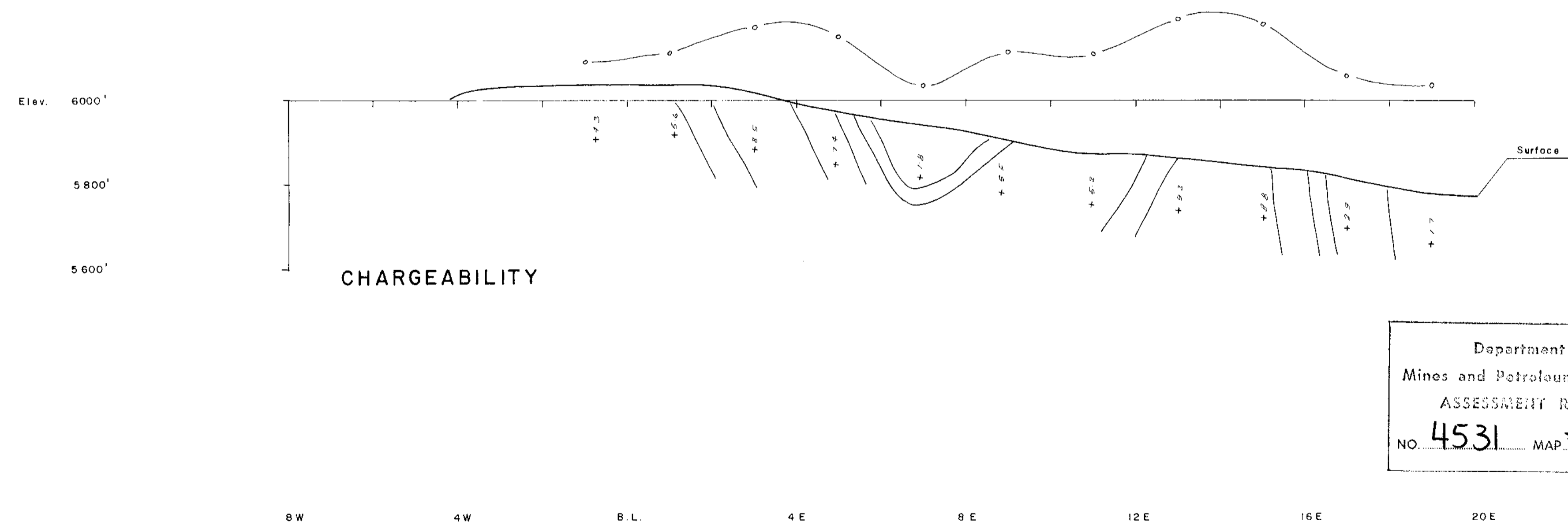
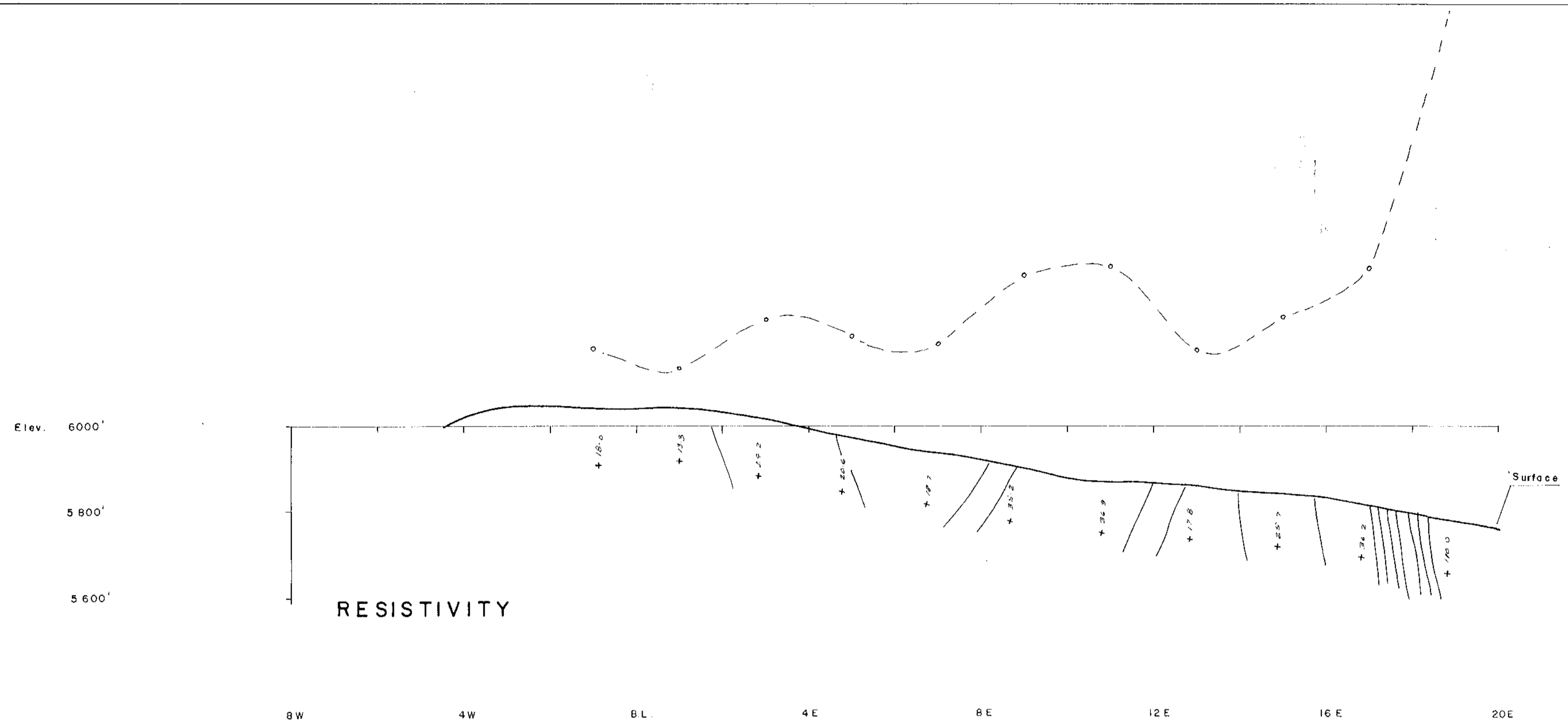
To accompany Geophysical  
 Report by H. Beckmann and  
 R.C. Hart, P.Eng., on the  
 Vestor Option Claims in  
 the Redfern Lake Area,  
 Laird Mining Division,  
 Northeastern B.C., dated  
 August 10th, 1973.

**LEGEND**  
 Chargeability Profile scale: 1" = 10 milliseconds  
 Electrode spacing: a = 400' - - - - -  
 a = 200' o - - - - -  
 a = 100' x - - - - -  
 Chargeability reading in milliseconds  
 Contours interval = 2 milliseconds  
 Current electrode to the East

Resistivity Profile scale: 1" = 20,000 ohmmetres  
 Electrode spacing: a = 400' - - - - -  
 a = 200' o - - - - -  
 a = 100' x - - - - -  
 Resistivity reading - thousands ohmmetres (ie 17.7 = 17,700)  
 Contours interval = 10,000 ohm metres



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REDFERN LAKE AREA (NORTH GRID)		
I. P. PROFILES & SECTIONS		
THREE ELECTRODE ARRAY		
Aug, 1973	H.B., D.S. / e.k.	DWG. I.P. 3430



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ASSESSMENT REPORT  
NO. 4531 MAP #17

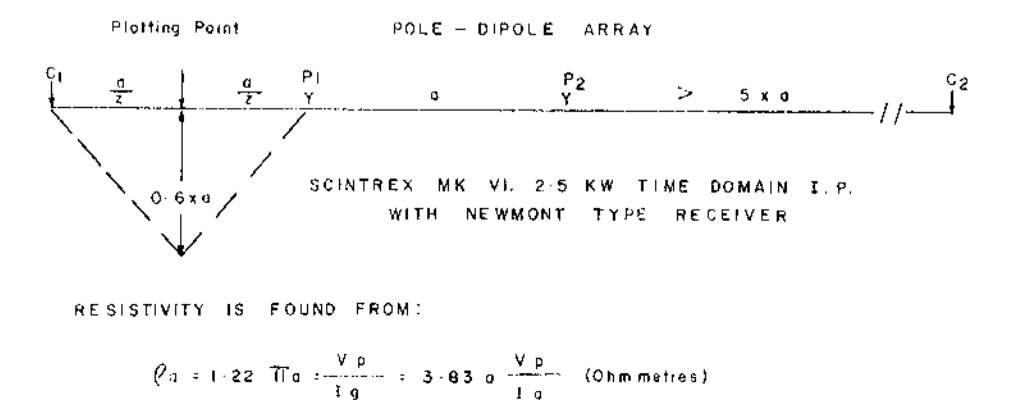
*H. Beckmann*  
AUG 15 1973  
PROFESSIONAL  
R. C. HART  
BRITISH  
ENGINEER  
Expiry Date: Mar. 3, 1974

To accompany Geophysical  
Report by H. Beckmann and  
R.C. Hart, P.Eng., on the  
Vector Option Claims in  
the Redfern Lake Area,  
Laird Mining Division,  
Northeastern B.C., dated  
August 17th, 1973.

LINE 28 N.

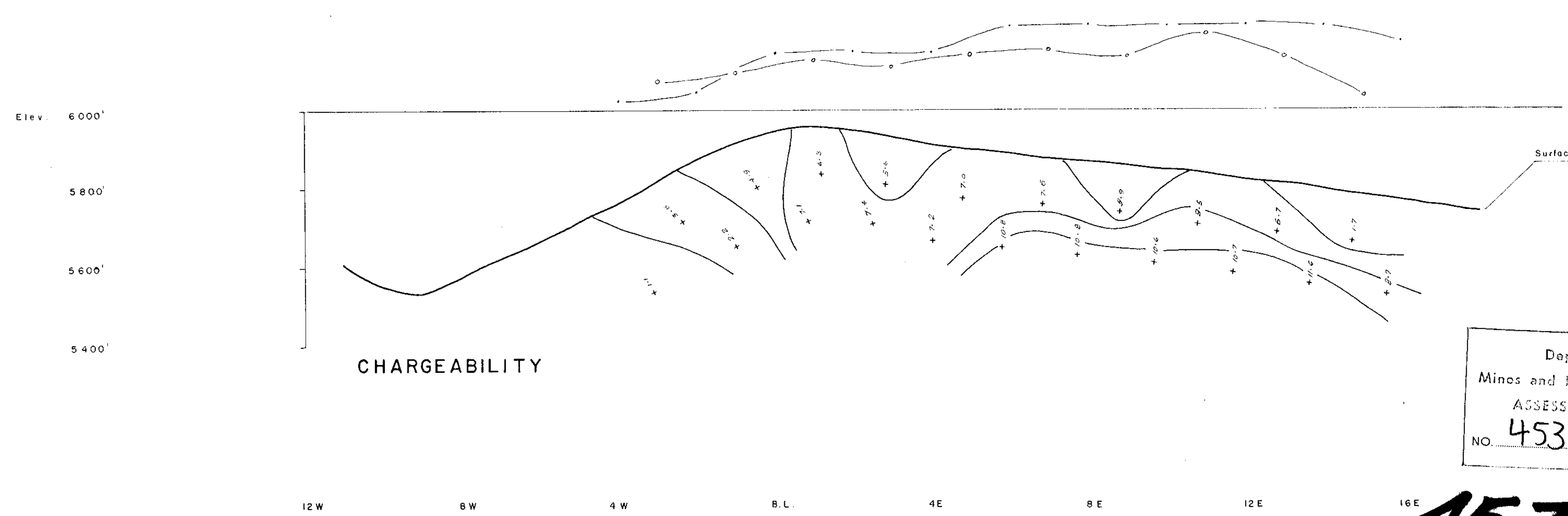
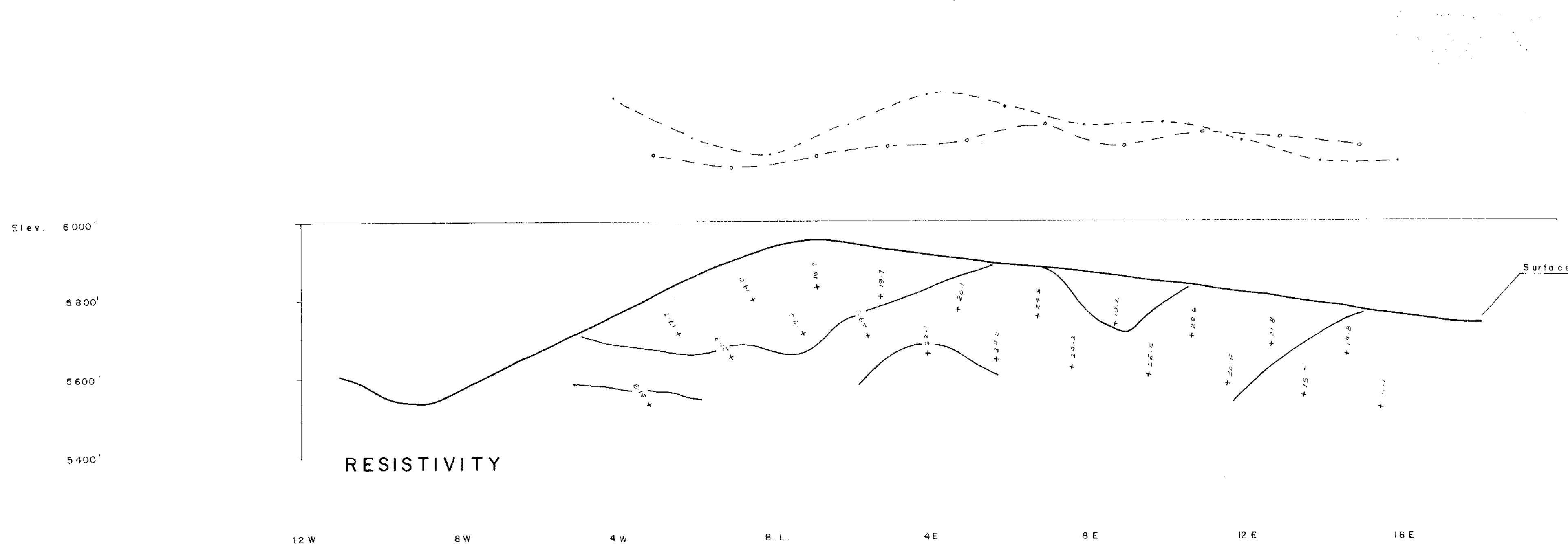
**LEGEND**  
Chargeability Profile scale: 1" = 10 milliseconds  
Electrode spacing: a = 400' ————  
a = 200' o-----o  
a = 100' x-----x  
Chargeability reading in milliseconds  
Contours interval = 2 milliseconds  
Current electrode to the East

Resistivity Profile scale: 1" = 20,000 ohmmetres  
Electrode spacing: a = 400' ————  
a = 200' o-----o  
a = 100' x-----x  
Resistivity reading—thousands ohmmetres (ie 17.7 = 17,700)  
Contours interval = 10,000 ohm metres



N.T.S.  
94-G-5  
**4531**  
**M17**  
SCALE  
200 0 200 400 600 800  
One Inch = 200 Feet

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Aug., 1973 H.B., D.S. / e.k. DWG. I.P. 3431



H. Beckmann  
 AUG 15 1973  
 PROFESSIONAL ENGINEER  
 R.C. HART  
 BRITISH COLUMBIA  
 ENGINEER  
 Expiry Date: Mar. 3, 1974

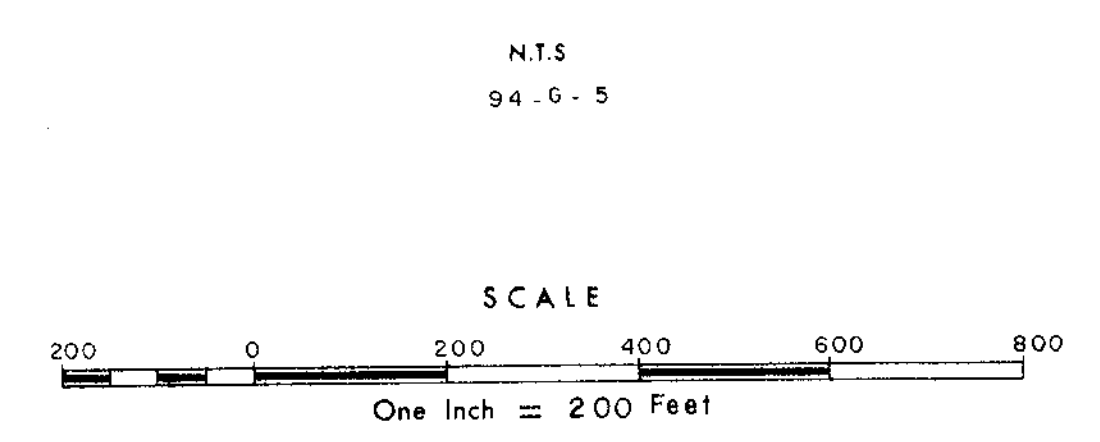
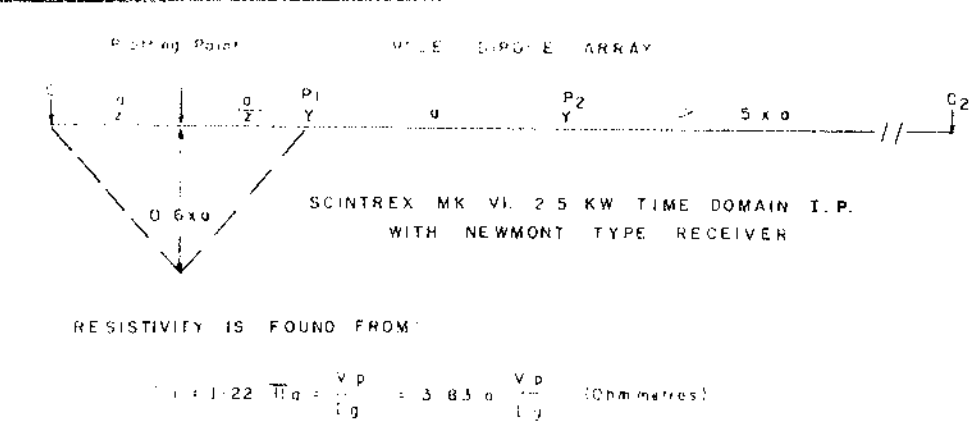
Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 4531 MAP #18

To accompany Geophysical  
 Report by H. Beckmann and  
 R.C. Hart, P.Eng., on the  
 Vestor Option Claims in  
 the Redfern Lake Area,  
 Laird Mining Division,  
 Northeastern B.C., dated  
 August 19th, 1973.

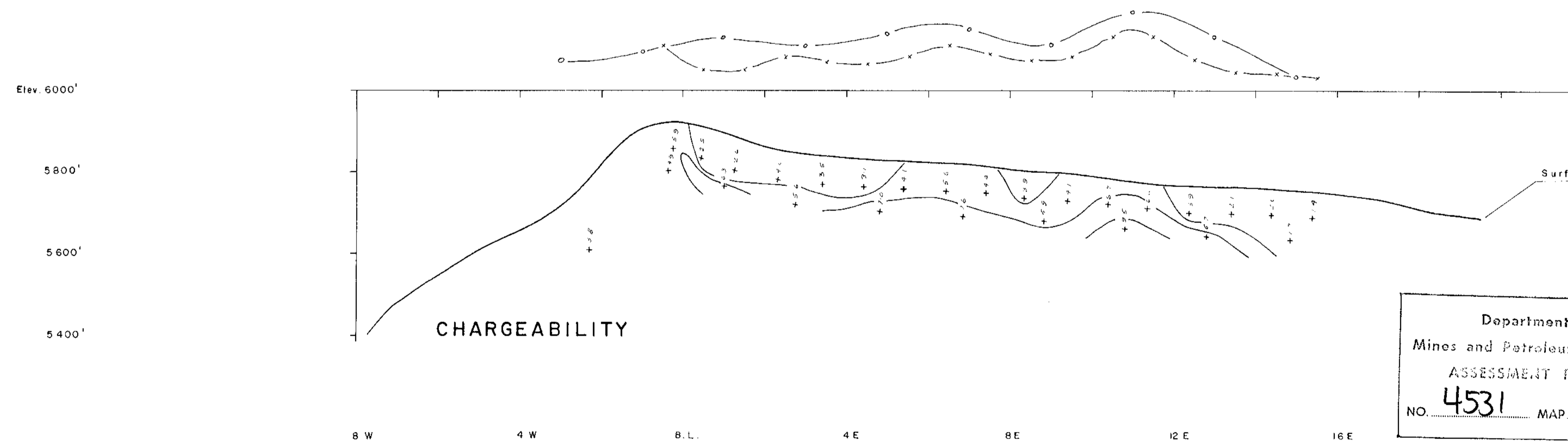
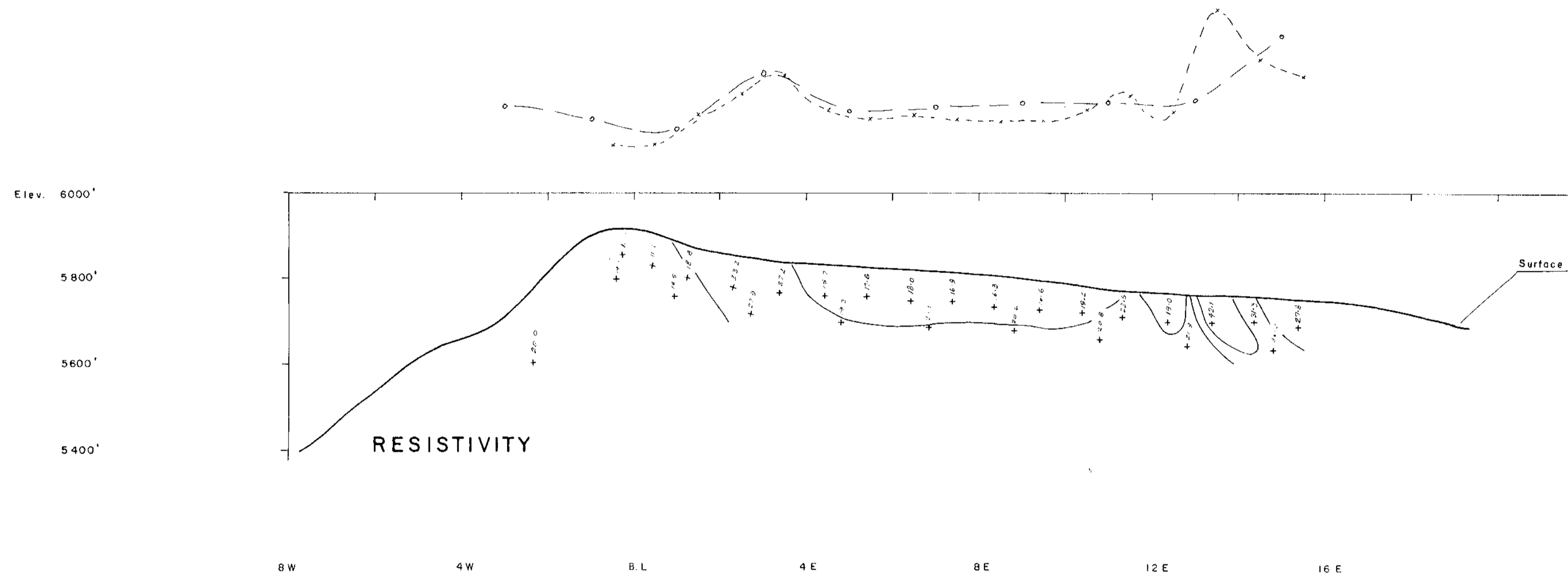
**4531-M18** LINE 32 W

**LEGEND**  
 Chargeability Profile scale: 1" = 10 milliseconds  
 Electrode spacing: a = 400' x-----x  
 a = 200' o-----o  
 a = 100' x-----x  
 Chargeability reading in milliseconds  
 Contours interval = 2 milliseconds  
 Current electrode to the East

Resistivity Profile scale: 1" = 20,000 ohmmetres  
 Electrode spacing: a = 400' x-----x  
 a = 200' o-----o  
 a = 100' x-----x  
 Resistivity reading - thousands ohmmetres (ie 17.7 = 17,700)  
 Contours interval = 10,000 ohm metres



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NO. 4531 MAP #19

*H. Beckmann*  
AUG 15 1973  
PROFESSIONAL  
ENGINEER  
R.C. HART  
COLUMBIA  
BRITISH COLUMBIA  
Expiry Date: Mar. 3, 1974

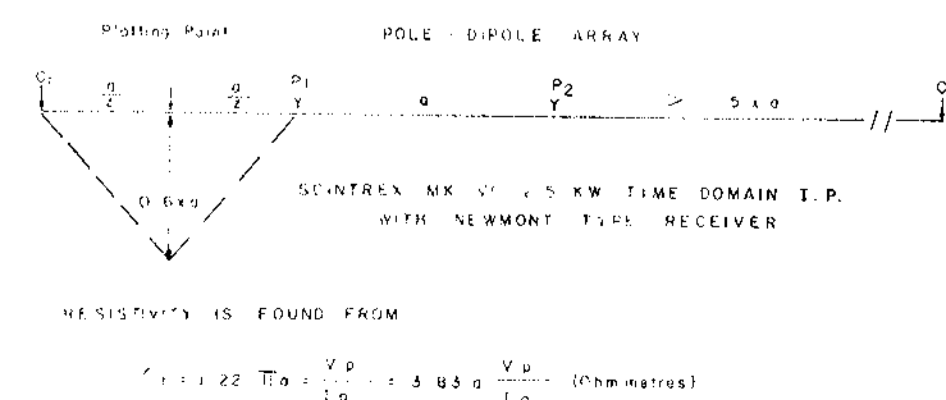
To accompany Geophysical  
Report by H. Beckmann and  
R.C. Hart, P.Eng., on the  
Vestor Option Claims in  
the Redfern Lake Area,  
Laird Mining Division,  
Northeastern B.C., dated  
August 10th, 1973.

**4531-M19** LINE 36 N.

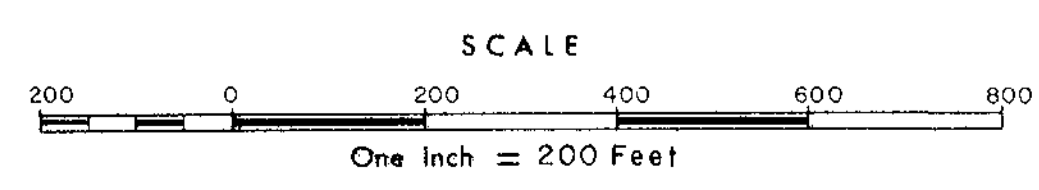
**LEGEND**

Chargeability Profile scale: 1" = 10 milliseconds  
Electrode spacing: a = 400' (---) (---)  
a = 200' (---) (---)  
a = 100' (---) (---)  
Chargeability reading in milliseconds  
Contours interval = 2 milliseconds  
Current electrode to the East

Resistivity Profile scale: 1" = 20,000 ohmmetres  
Electrode spacing: a = 400' (---) (---)  
a = 200' (---) (---)  
a = 100' (---) (---)  
Resistivity reading—thousands ohmmetres (ie 17.7 = 17,700)  
Contours interval = 10,000 ohmmetres

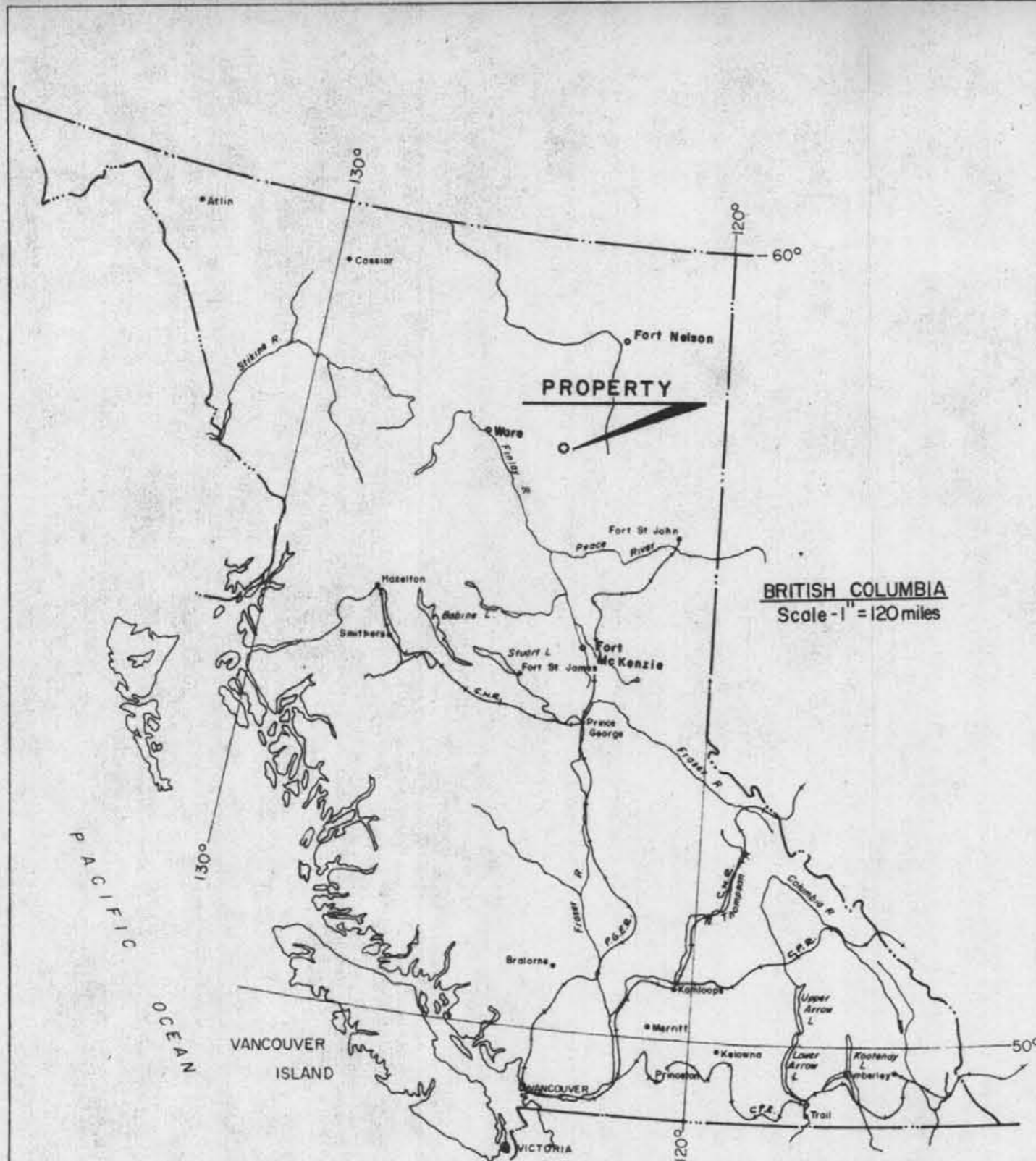


N.T.S.  
94-G-5



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THREE ELECTRODE ARRAY	
Aug., 1973	H.B., D.S. / e.k. DWG. I.P. 3433





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ASSESSMENT REPORT  
NO. 4531 Map #20

To accompany Geophysical  
Report by H. Beckmann and  
R.C. Hart, P.Eng., on the  
Vestor Option Claims in  
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Laird Mining Division,  
Northeastern B.C., dated  
August 10th, 1973.

N.T.S.  
94-G-5

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VESTOR OPTION - B.C.  
REDFERN LAKE AREA  
LOCATION MAP  
July - 1973 R.A.B. / e.k. DWG L-2632