2770

A GEOPHYSICAL REPORT ON
AN INDUCED POLARIZATION SURVEY
WENDY, PAC AND COY CLAIMS GROUPS
GRAND FORKS, B.C. (49°, 118°, S.W.)
- for -
THE GRANBY MINING COMPANY LIMITED
July 10 to September 5, 1970
- by - 82E/2E
A. R. Dodds, B.Sc., P.Geoph.
J. B. Prendergast, M.A., P.Eng.

REPORT ON

AN INDUCED POLARIZATION SURVEY

OVER

WENDY, PAC AND COY CLAIMS GROUPS

FOR

THE GRANBY MINING COMPANY LIMITED

BY

KENTING EARTH SCIENCES

CALGARY, ALBERTA

OCTOBER 1970

TABLE OF CONTENTS

ACCOMPANYING MAPS			SCALE	LOCATED
#1 Location Map				
WENDY GRID:-				
#2 Dwg. 1227D-1		Apparent Chargeability Contours	1":400'	Map Pocket
#3	-2	Apparent Resistivity Contours	"	"
#4	-3	Claim Map	"	"
	-4 to 7	Detail Profiles, Lines		Fold-outs
PAC GRID:-				
#5 Dwg. 1227E-1		Apparent Chargeability Contours	1":200'	Map Pocket
#6	-2	Apparent Resistivity Contours	"	"
#7	-3	Claim Map	"	"
COY GRID:-				
Dwg. 1227G-1 to 4		Profiles, Lines 0,4S,8S,12S		Fold-outs
#8	-5	Anomaly Map	1":200'	Map Pocket

INTRODUCTION

This report discusses an Induced Polarization Survey carried out by Kenting Earth Sciences for The Granby Mining Company Limited over the Wendy, Pac and Coy Claim Groups, Grand Forks, British Columbia. This work was done between July 10th and September 5th, 1970, the specific days spent on each property being listed in the Appendix to this report.

The location of each claim group is shown on the Location Map. Access to all areas is by good bush roads.

The purpose of the surveys was to prospect for economic sulphide mineralization similar to that being mined at Phoenix (see Location Map). Tests run over the ore zones at this location in 1967 demonstrated that they yield chargeability highs without definite resistivity expression.

The reconnaissance data for Wendy and PAC claim groups are presented in the form of contoured maps of apparent chargeability and apparent resistivity. Data for the Coy group and for lines detailed with more than one electrode separation are presented in profile form.

SURVEY SPECIFICATIONS

Equipment

The Induced Polarization equipment used for this survey operates in the time domain and is manufactured by Huntec Limited in Toronto. The following specifications apply:-

Type of Current	Direct Current, broken at periodic intervals.
Period	1.5 seconds "current on" and 1.0 seconds "current off". Alternate pulses have reverse polarity.
Delay Time	15 milliseconds
Integrating Time	400 milliseconds
Maximum Power Available	7.5 kilowatts
Maximum Current Available	8.0 amperes

Measurements taken in the field are:

1. The current flowing through the current electrodes C_1 and C_2.
2. The primary voltage Vp, between measuring electrodes during "current on" time.
3. The apparent chargeability, Ma, which is the secondary voltage between the measuring electrodes during the "current off" time referenced to Vp.

The apparent resistivity is calculated by dividing Vp by the current and multiplying by the geometrical factor appropriate to the electrode array being used.

The apparent chargeability differs somewhat from that measured with the Mark I receiver (used for earlier surveys). The following equation is approximate:

$$Ma\ (Mk\ II) = Ma\ (Mk\ I) \times 1.5$$

This change results from different instrument paramaters.

Electrode Configuration

The pole-dipole electrode array was used for this survey. In this array, one current electrode, C_1, and the two potential electrodes, P_1 and P_2, are moved in unison along the survey lines. The second current electrode, C_2, is placed sufficiently far from the moving electrodes that it does not affect the direction of current flow within the moving array. The electrode separation, "a", is defined as the distance between electrodes C_1 and P_1, and controls the depth penetration of the array. The length of the potential dipole must be less than or equal to "a", and is generally kept in a constant ratio, e.g. a/2 or a/4, for a survey area.

For the Wendy and Coy surveys, the reconnaissance work was done using an "a" value of 400 feet, keeping the potential dipole at a/2. Detailing, to provide additional data for interpretation purposes, was done with "a" values of 200 feet and 600 feet.

All of the work on the Pac area was effectively detailing of earlier work, consequently an "a" value of 200 feet and a station interval of 100 feet on Lines 200 feet apart were used.

INTERPRETATION

WENDY GRID

The I.P. survey over this area shows generally high chargeabilities throughout, tailing off to low values at the south end of Lines 44E to 56E. The readings reach a peak in a discontinuous east-west belt through the centre of the area, lacking clear boundaries and reaching values of over 60 milliseconds. There are considerable variations within this belt and outside it, in some cases isolated high or low readings and in others forming more regional fluctuations.

Random fluctuations of a few milliseconds are not uncommon in areas of high background chargeability, and can be caused by such things as a small change in overburden thickness or an increase or decrease in fracturing of bedrock. The result of this is that the weaker anomalies, caused by narrow or deep sources, may not be detectable in such an area. There are, at present, no techniques for resolving this problem. Thus surveys over high background chargeability areas, such as this, are not as sensitive as those over areas of flat, low background levels.

The belt of high chargeabilities does not appear to correlate with any particular rock-types, although the intrusive rocks generally show lower than average chargeabilities for the area, with some exceptions. Therefore no conclusions can be drawn regarding background chargeabilities for different rock-types or preferred hosts for sulphide mineralization. Likewise, the resistivity variations from medium to high range do not appear to be related to changes in rock-type or chargeability level. The only feature of the geology, other than sulphide showings, which appears to be reflected in the geophys-

ical work is a fault extending from 10+00S on Line 32E to 18+00N on Line 68E. This feature marks a break in the belt of high chargeabilities, and may be the indirect cause of this break.

All of the survey results, both reconnaissance and detail, indicate that the sources of higher chargeability are extensive and, therefore, relatively weak. However, since very high chargeabilities were recorded, a relative weakness here can still indicate up to 8% sulphides by volume so that the anomalies are still geophysically interesting. The extensive areas showing over 40 milliseconds chargeability could indicate up to 5% sulphides under thin overburden or rock cover, or even more if buried under an appreciable amount of cover.

The detail lines for this area were chosen principally to test anomalies that could result from a discrete source with higher potential sulphide content, with the secondary objective of obtaining further information on areas showing generally high chargeabilities without an apparent focus.

Line 24E was detailed to test the chargeability peak at 8+00N. The results indicate an extensive source within 50 feet of surface, as shown under the detail profile. The extension of this detailing at the north end into the large 40 millisecond area shows that this feature, in this location anyway, is very close to surface. It is therefore concluded that the area outlined by the 40 millisecond contour is underlain by rocks containing widespread sulphide mineralization, the sulphide content varying from a possible 5% average under the lower chargeabilities to a possible 8% near the 60 millisecond peaks. The core or logs of drill-holes W-1, W-3 and W-4 should assist in evaluating this interpretation and in deciding on the possible significance of the zone from an economic viewpoint. If further

drilling is contemplated, it is considered that vertical holes between 8+00N and 10+00N on this line would be optimum for testing the region of highest potential sulphide content.

Detailing on Lines 72E and 80E was designed to examine the strongest and most continuous anomaly located in the survey, extending from Line 68E to Line 88E at about station 16+00N. This anomaly appears to be terminated at the west end by a fault and to peter out at the east end, possibly swinging south towards another peak. The anomaly appears to cut across the geological strike of the area, coinciding with intrusive basic rocks at the west end, then underlain by a belt of argillite and terminating at the east end in andesite. The west end of an extensive band of sulphide showings partially coincides with the east end of the anomaly and may give some indication as to the cause. Data on both detail lines indicate a wide source within 50 feet of surface. There is some indication of a northerly dip under Line 72E and of a southerly dip under Line 80E. Extensive dissemination of at least 3% and possibly 8% sulphides is expected, with corresponding increases in these percentages if the source is not continuous. The known sulphides in the area are too narrow to be the cause of the whole anomaly, besides which the source is not expected to outcrop. Drilling is therefore recommended to test these sources, the following two initial holes being suggested:-

DDH-1 - Collared between 14+00N and 16+00N on Line 72E and drilled vertically for a hole length of 400 feet.

DDH-2 - Collared at 15+00N on Line 80E and drilled at 60°N for a hole length of at least 300 feet.

Additional testing of this anomaly would depend on the results of this drilling.

Detailing on Line 108E was done to further define a weaker anomaly within the

high chargeability belt, but one which showed indications of coming from a more concentrated source. The detailing confirms these indications, a relatively narrow source being interpreted on the flank of a strong resistivity low, as shown under the detail profile. This source is expected to extend to the east edge of the grid (Line 116E) and may continue westerly to the more extensive high chargeabilities measured on Lines 88E and 92E. It is recommended that this anomaly be tested by a drill-hole collared at 5+30N on Line 108E and drilled at 60°N along line for a hole length of 300 feet.

One other area of high chargeabilities warrants specific comment. This zone extends from Line 84E to Line 96E at 4+00N, with a peak at 2+00N on the two centre lines, and may continue to the north to link up with the strong extensive anomaly located there. Further detailing may be warranted here, to comprise the use of additional electrode separations on Line 92E.

PAC GRID

This area was first surveyed using the I.P. technique in 1966 (Report by A. R. Dodds and C. W. Faessler dated February 1967). The original results showed complex anomalies with apparently small strike extent and drilling of these anomalies was, in many cases, unsuccessful in locating the sources. This was attributed to poor definition, and it was therefore decided to re-survey the area using a line spacing of 200 feet and an electrode spacing of 200 feet. These paramaters provide improved lateral resolution and increase the chances of determining the continuity and strike of the sources.

To facilitate comparison between the two sets of results, the anomalies are identified by the same figures as used in the original report. The actual chargeability values cannot be directly compared, since different types of receivers were used for the

two surveys and there is no exact conversion factor. However tests have shown that readings with the Mark II receiver used for this survey can be expected to be approximately 50% higher than those obtained with the Mark I receiver. Partly for the reason, and partly because chargeability and resistivity levels vary to some extent depending on seasonal ground conditions, some of the original work was duplicated so that a complete picture could be provided.

The improved resolution of these survey parameters can be seen in the chargeability contour map. In some cases the anomalies show more continuity between survey lines while in others, anomalies, thought originally to be continuous, are shown to be divided. The original west edge of Zone A is basically confirmed. The anomalies within Zone A will be discussed individually.

Anomaly A-1 has been greatly clarified by this survey. Some degree of continuity is shown from Line 14S to Line 12N, with the main core between Lines 6S and 2N. It may be semi-continuous with A-2 in marking the west edge of Zone A, and could indicate mineralization along a contact. The anomaly is the most extensive on the property and one of the strongest, and therefore warrants close analysis.

Since the main source of this anomaly is expected to be at least 100 feet below surface (in spite of some conflicting evidence on Line 0), the source is under or near the peak chargeability readings on the 200 foot electrode spacing. Thus the contouring shows one possible solution to the distribution of chargeable material in the sub-surface. An alternative solution is two parallel mineralized bands, one extending from 9+00E on Line 4N to 17+00E on Line 6S and the other from 11+50E on Line 2S to 20+00E on Line 14S. Both solutions seem equally well founded and have clear resistivity lows, the actual source being

probably more complex than either one. Further north the source appears to get deeper, a depth of burial of 200 feet being expected under Lines 8N and 12N. The necessary information for depth determinations is lacking on the southern extension, the possibilities being either a source at a depth of at least 100 feet under the peak readings or a lateral movement of the source of 50 to 100 feet east of the position shown on the contour map.

The original drilling of this anomaly was done on Line 0 collared at about 12+50E and 14+00E, both holes dipping east at 45°. It is now felt that part of the data on which these holes were based, from the 100 foot electrode separation, may have been misleading and that the holes overshot the target. It is therefore suggested that a third hole be drilled, collared at 11+00E on Line 0 and drilled parallel to the first two, i.e. dipping 45°E. The alternative to this would be a hole to cover the possibility of an easterly dipping source, collared at 14+00E and dipping 45°W. There is little to choose between these two alternatives from a geophysical viewpoint. Further drilling, if warranted, should move south, as the source appears to have better continuity in this direction.

Anomaly A-2 is divided into two parts. The northern part, which originally showed on Lines 16S and 20S, now appears to be located primarily between these lines, explaining the lack of success in drill-holes PAC Numbers 9 and 10 on Line 16S. This also explains the apparent depth of the source, which is partly lateral. This source in any case appears relatively weak and of small extent, and does not warrant further investigation. The southerly part is stronger with better continuity. It appears to be fairly shallow, the optimum target, on limited information available, being 200 feet below 3+00E (from Baseline 1B) on Line 26S. Drilling should be from west to east.

Anomaly A-3 was not covered by this survey, a source having already been located by drilling. However it is picked up on the east edge of the grid and would appear, from this information, to link up with A-7 to the north.

Anomaly A-4 was weak in the original survey and is also weak in this one. However it now links up with a more extensive anomaly on Line 6N, and may be an off-shoot of A-1. A weak extensive source is probable, striking roughly parallel to the survey line. Further investigation should depend on drilling results from A-1.

Anomaly A-5 was not fully covered by this survey, but now appears stronger and more extensive than in the original survey. The strike is roughly parallel to A-1, and the source is expected to be at shallow depth. Although drilling on available information is somewhat risky, a hole collared at 22+00E on Line 4N and dipping 45°E should intersect the source.

One other anomaly, located in Zone B and designated B-1, was not considered to warrant a mention in the original report. However the zone shows up on both surveys, following Lines 24S and 26S from 10+00E to 23+00E and then swinging south across Line 28S. The anomaly is weak but extensive, probably within 200 feet of surface and varies considerably over its extent. It is not considered to be a prime target.

COY GRID

The survey over this area covered parts of Lines 0, 4S, 8S and 12S with a 400 foot electrode separation at 200 foot station intervals only. A degree of ambiguity must therefore remain in the interpretation because these specifications do not give sufficient resolution to permit differentiation between shallow and deep, or complex and single sources.

Also, because of "double peaking" phenomena, the location of the source in the horizontal plane cannot have an accuracy of better than $\pm$ 200 feet. For these reasons, only the outlines within which the sources are expected to be located are given, rather than specific source locations. These outlines are shown underneath the data profile for each line.

Line 0 shows chargeability highs at each end, the centre section showing low chargeability and high resistivity. The chargeability highs have the characteristics of either wide, weak, shallow sources or more concentrated sources at a depth, or lateral distance, of at least 200 feet.

The data on Line 4S is more complex, giving a jagged profile which is more characteristic of shallow sources. The strongest response is obtained just east of the baseline, at which point the chargeability profile would fit the curve for a shallow (less than 200 feet) source centred at 5+00E. It would also appear, from the resistivity data, that there may be a change in rock type at about this point. The higher chargeabilities at the east and west ends of this line, particularly the latter, are indicative of extensive, weak, shallow sources.

The profiles on Line 8S are generally similar to those on Line 4S, with the interpreted contact at about 2+50E. The possible shallow, concentrated source is at 1+50W on this line, on the low resistivity side of the contact. The possible extensive weak source is again present at the west end of the line, but the east end now shows more characteristics of a deeper source with higher sulphide content potential at about 8+50E.

The anomalies on Line 12S, although quite strong, could be caused by either shallow or deep sources. They again occur in, or near, the low resistivity portion of this

line, which is narrower than the similar features on lines to the north.

Besides the data profiles, a plan map of the lines surveyed is provided, showing the anomalous zones and possible trends of these zones between the survey lines. These trends are necessarily tentative, bearing in mind the scarcity of data and the small area surveyed.

It is understood that an extension of this survey is planned for the next field season. This work will probably clarify the picture over the area already surveyed and permit a better evaluation of these anomalies. It is suggested that no detailing be done before the whole reconnaissance program has been completed.

SUMMARY

WENDY GRID

The survey over this area shows generally high chargeabilities, with a discontinuous east-west belt of peak readings extending through the centre of the area. Three of the strongest peaks within this belt were detailed on four lines, the results indicating that all of the high chargeabilities, with one exception, are caused by extensive sources. The exception is the anomaly at 6+00N on Line 108E, where a more concentrated source is expected.

Although the sources are extensive, the chargeabilities are sufficiently high to warrant drilling, potential sulphides contents of the order of 5 to 8 percent being possible over large areas. It has been recommended that the results of drill-holes W-1, W-3 and W-4 be carefully analyzed for possible causes of the general high chargeabilities and that four additional holes be drilled to test specific peak zones.

PAC GRID

All of the work on this grid constituted detailing of a survey conducted in 1966. The narrower electrode separation used shows the location and extent of the anomalies far more clearly. One anomaly in particular, which was drilled unsuccessfully in 1967, has now been shown to have good continuity and additional drilling has been recommended. Two other anomalies, one of which was drilled unsuccessfully earlier, are now more accurately located and new drilling targets have been spotted. Of the other three anomalies, one has been drilled and a source located, and the others are not considered to warrant further work unless or until other information indicates otherwise.

The clarity and resolution of this data indicates the advantages of using a narrower electrode separation for reconnaissance in this area. This was also mentioned by Mr. Finney with respect to Line Grid 1 in his 1968 report. The disadvantages, of course, are reduced depth penetration and the desirability of closer spaced readings and survey lines, increasing the cost of surveying. However detailing in virtually all areas has shown an adequate, if not the strongest, response in the 200 foot electrode separation, and the use of these survey parameters for any area of major interest where overburden is known to be thin, should be carefully considered.

COY GRID

The work here comprised only reconnaissance surveying on four lines. Several anomalies are present, together with an interpreted contact, but the precise location, depth and continuity between lines of these anomalies are in doubt. It has been suggested that the decision regarding desirable detail lines be made after the remainder of this grid has been covered by reconnaissance work.

Respectfully submitted,

KENTING EARTH SCIENCES
Western Division

A. R. Dodds, B.Sc., P.Geoph.

J. B. Prendergast, M.A., P.Eng.

PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO
J. B. PRENDERGAST

May 28, 1971

ASSESSMENT CREDIT DATA

CLAIMS SURVEYED

The following mineral claims were surveyed in whole or in part:-

WENDY GRID:-

Wendy	1-14	
	15-18	Fractions
	B2 & 3	Fractions
Val	3 & 4	Fractions
Hartford	L1057	
Hartford	L1061	Fraction
Bona Vista	L1553	Fraction
Legal Tender	L1551	
Ranger	L1060	
J & R	L1059	
Murray	L718	Fraction
Silver Star	L1550	
Black Bear	L1236	
Black Bear	L3556	Fraction
Bank of England	L1235	
Monarch	L701	
Missing Link	L979	
War Eagle	L678	
Grey Eagle	L793	
Aetna	L978	
Nettie Cotton	L1460	
Coy	8	

PAC GRID:-

Pac	46-48
	50-52

MILES SURVEYED

The following table lists the line-miles covered and number of readings taken at each electrode separation over each grid:-

	Electrode Separation	Station Interval	Miles	Readings
Wendy Grid	200'	100	1.36	76
	400'	200	23.20	648
	600'	100	0.61	34
	Total		25.17	758
PAC Grid	200'	100	7.80	430
Coy Grid	400'	200	1.97	56

TIMING

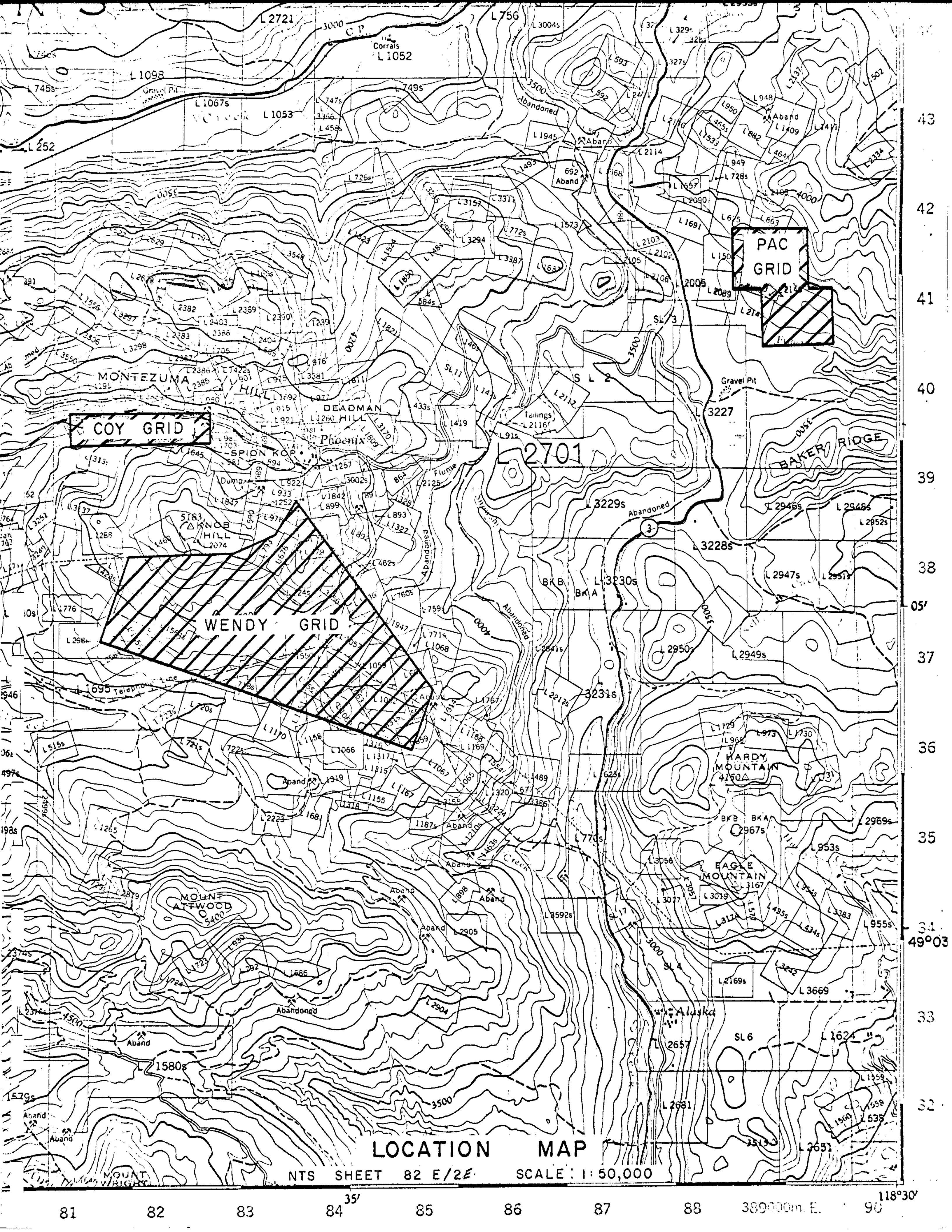
The following days were spent surveying each of the properties:-

Wendy Grid	July 10 to August 8, 1970) September 2 to 5 , 1970)	29 days
PAC Grid	August 23 to Sept. 1, 1970	10 days
Coy Grid	August 9-12, 1970	4 days

PERSONNEL

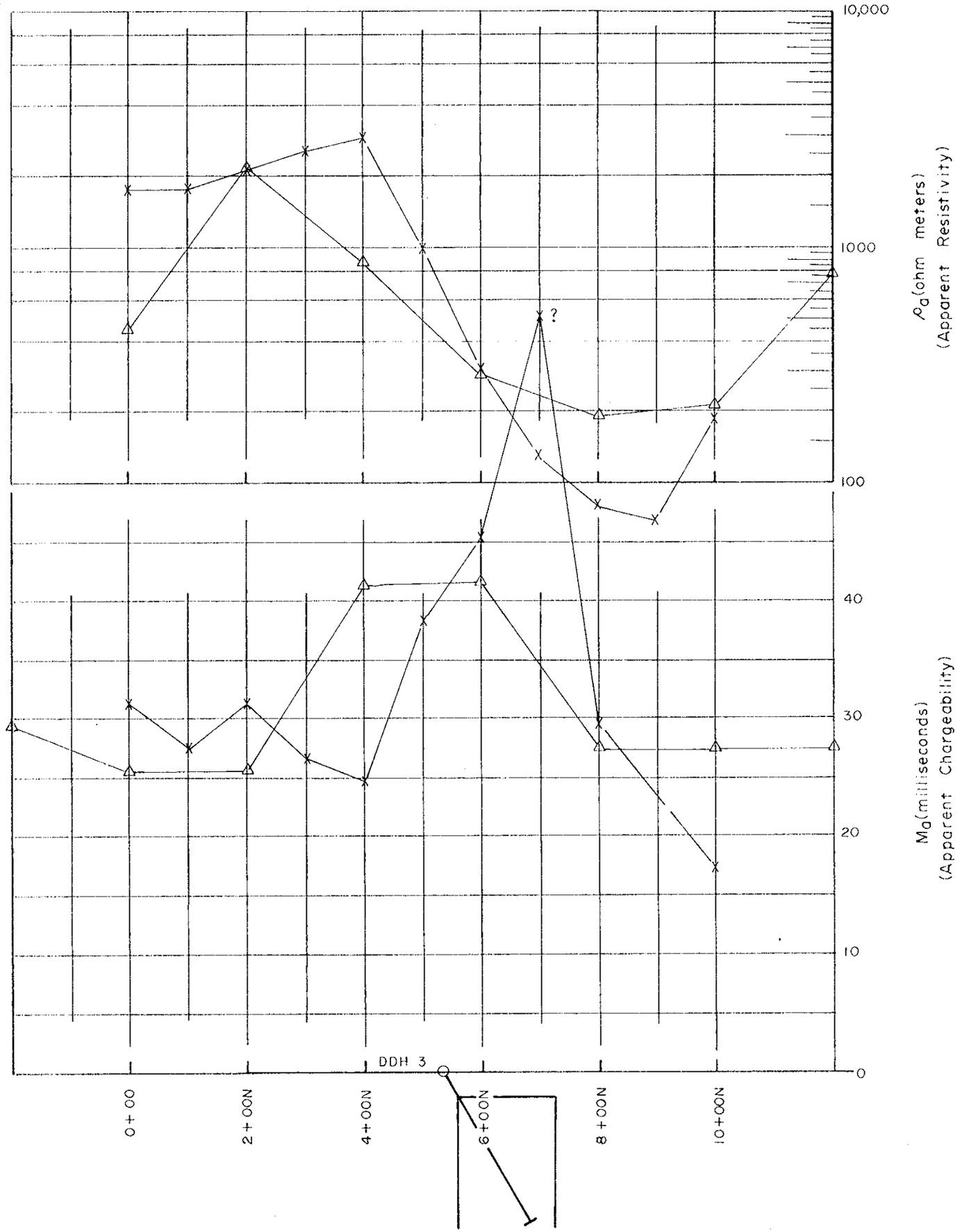
The following personnel were employed on the survey:-

Name	Position	Period	Rate/Day	Charges
D. Ragan	Party Chief	July 10 - Aug. 12, 1970) Aug.23 - Sept. 5, 1970)	$80.00	$ 3,440.00
G. Teske	Operator	July 10 - Aug. 12, 1970) Aug.23 - Sept. 5, 1970)	$66.00	2,838.00
J. Wilson	Asst. Oper.	July 10 - 23, 1970	$40.00	480.00
G. Simard	" "	July 31 - Aug. 12, 1970) Aug. 23 - Sept. 5, 1970)	$40.00	1,080.00
B. Ragan	" "	July 19 - Aug. 12, 1970) Aug.23 - Sept. 5, 1970)	$30.00	1,090.00
A.R.Dodds	Geophysicist	Aug. 24-26, 1970) Oct. 14-26, 1970)	$135.00	1,350.00
M. Cole	Draftsman	Sept. 17 - Oct. 26, 1970	$75.00	1,425.00
G. McVeigh	Typist	Oct. 21, 16, 1970	$25.00	41.50
I.P. Unit		July 10 - Aug. 12, 1970) Aug.23 - Sept. 5, 1970)	$58.00	2,494.00
Vehicle		ditto	$20.00	860.00
Board, Lodging, etc.		"		1,616.86
			TOTAL	$16,715.36



LOCATION MAP

NTS SHEET 82 E/2E SCALE 1:50,000



INDUCED POLARIZATION SURVEY

DETAIL PROFILE: LINE - 108E

THE GRANBY MINING COMPANY LIMITED

WENDY CLAIM GROUP, GRAND FORKS, B. C.

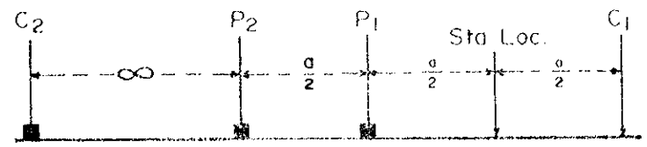
LEGEND

INTERPRETED CAUSATIVE BODY

RECOMMENDED D.D HOLE

a = 50'
a = 100'
a = 200'
a = 400'

POLE - DIPOLE ARRAY



2770

Horizontal Scale: 1 inch : 200 feet

Vertical Scales:

Chargeability — 1 inch : 10 milliseconds

Resistivity — 2 inches: 1 logarithmic cycle (ohm-meters)

INSTRUMENT PARAMETERS

ON	1·5 secs.
OFF	1·0 secs
DELAY	0·015 secs.
INTEGRATE	0·4 secs

To accompany report by:

Andrew R. Dodds, B.Sc. P.Geoph.

Geophysicist

PROFESSIONAL ENGINEER PROVINCE OF B. C.

Expiry Date: May 20, 1970

Oct 20/70

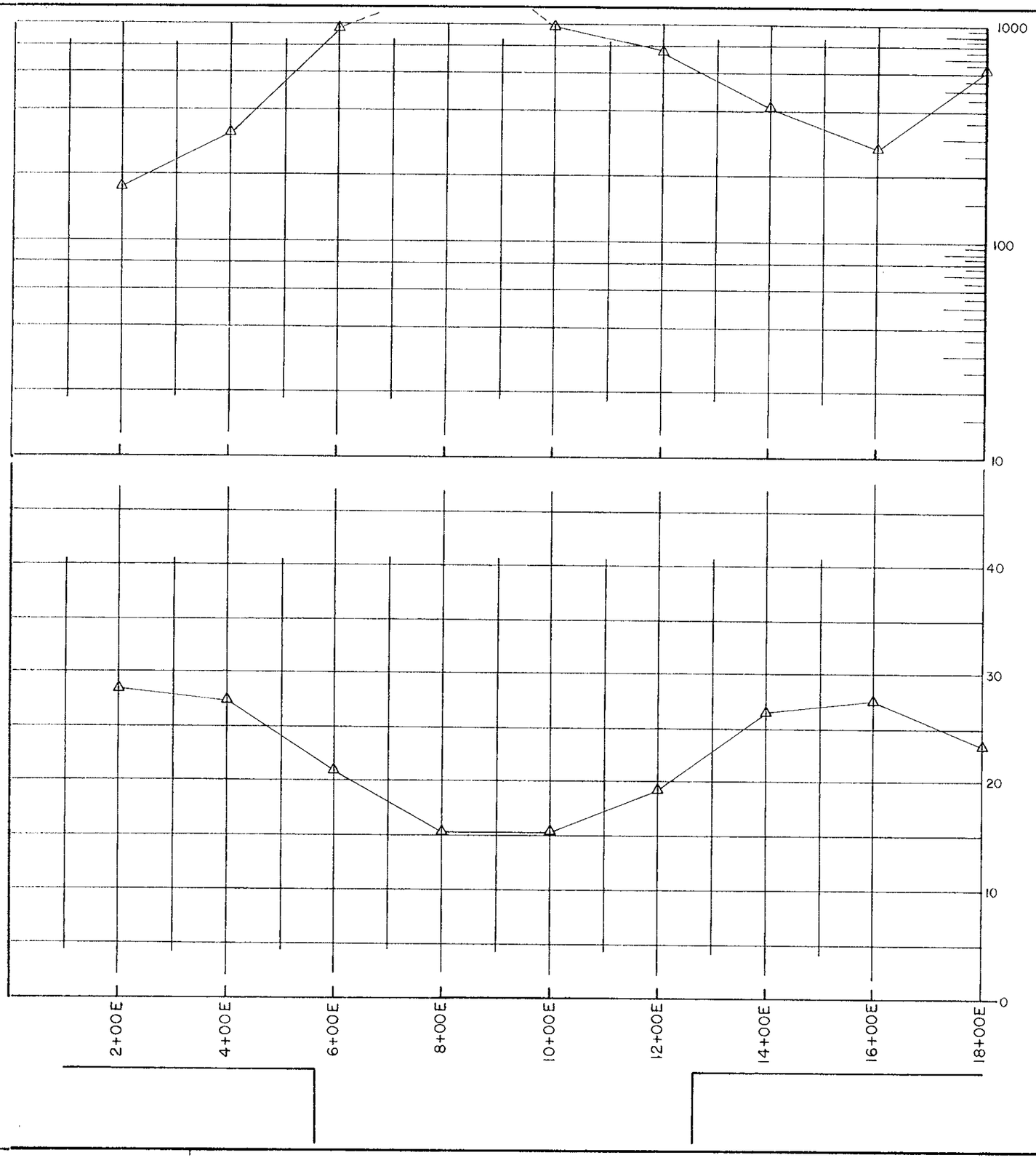
KENTING EXPLORATION SERVICES LIMITED

Earth Sciences Division

CALGARY CANADA

JOB Nº PC 1227D

DWG Nº 1227D-7



INDUCED POLARIZATION SURVEY

DETAIL PROFILE: LINE - 0 S

THE GRANBY MINING COMPANY LIMITED

COY CLAIM GRID, GRAND FORKS, B.C.

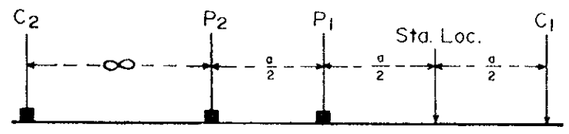
LEGEND

INTERPRETED CAUSATIVE BODY

RECOMMENDED D.D.HOLE

a = 50'
a = 100'
a = 200'
a = 400'

POLE - DIPOLE ARRAY



Horizontal Scale: 1 inch : 200 feet.

Vertical Scales:

Chargeability — 1 inch : 5 milliseconds

Resistivity — 2 inches: 1 logarithmic cycle (ohm-meters)

INSTRUMENT PARAMETERS

ON	1.5 secs.
OFF	0.5 secs.
DELAY	0.015 secs.
INTEGRATE	04 secs.

To accompany report by:

Andrew R Dodds BSc. P.Geoph.
Geophysicist

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA

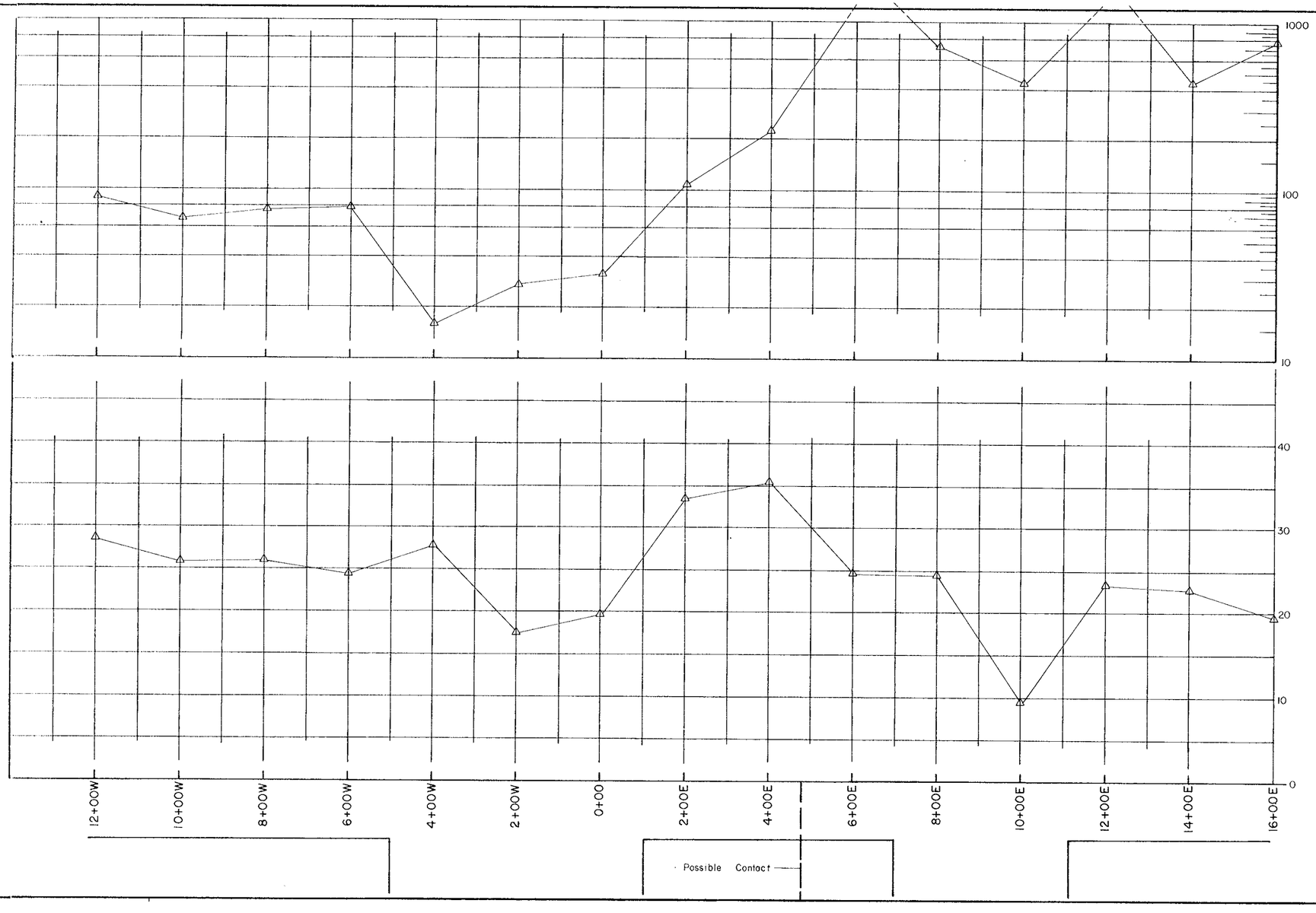
Expiry Date: May 28, 1971

Oct 20/70

KENTING EXPLORATION SERVICES LIMITED
Earth Sciences Division
CALGARY CANADA

JOB No. PC 1227

DWG No. 1227G/2



INDUCED POLARIZATION SURVEY

DETAIL PROFILE: LINE - 4S

THE GRANBY MINING COMPANY LIMITED

COY CLAIM GRID, GRAND FORKS, B.C.

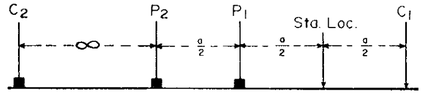
LEGEND

INTERPRETED CAUSATIVE BODY

RECOMMENDED D.D HOLE

a = 50'
a = 100'
a = 200'
a = 400'

POLE - DIPOLE ARRAY



Horizontal Scale: 1 inch : 200 feet.

Vertical Scales:

Chargeability — 1 inch : 5 milliseconds

Resistivity — 2 inches: 1 logarithmic cycle (ohm-meters)

INSTRUMENT PARAMETERS

ON	1.5 secs.
OFF	0.5 secs.
DELAY	0.015 secs.
INTEGRATE	0.4 secs.

To accompany report by:

Andrew R. Dodds B.Sc. P.Geoph.
Geophysicist

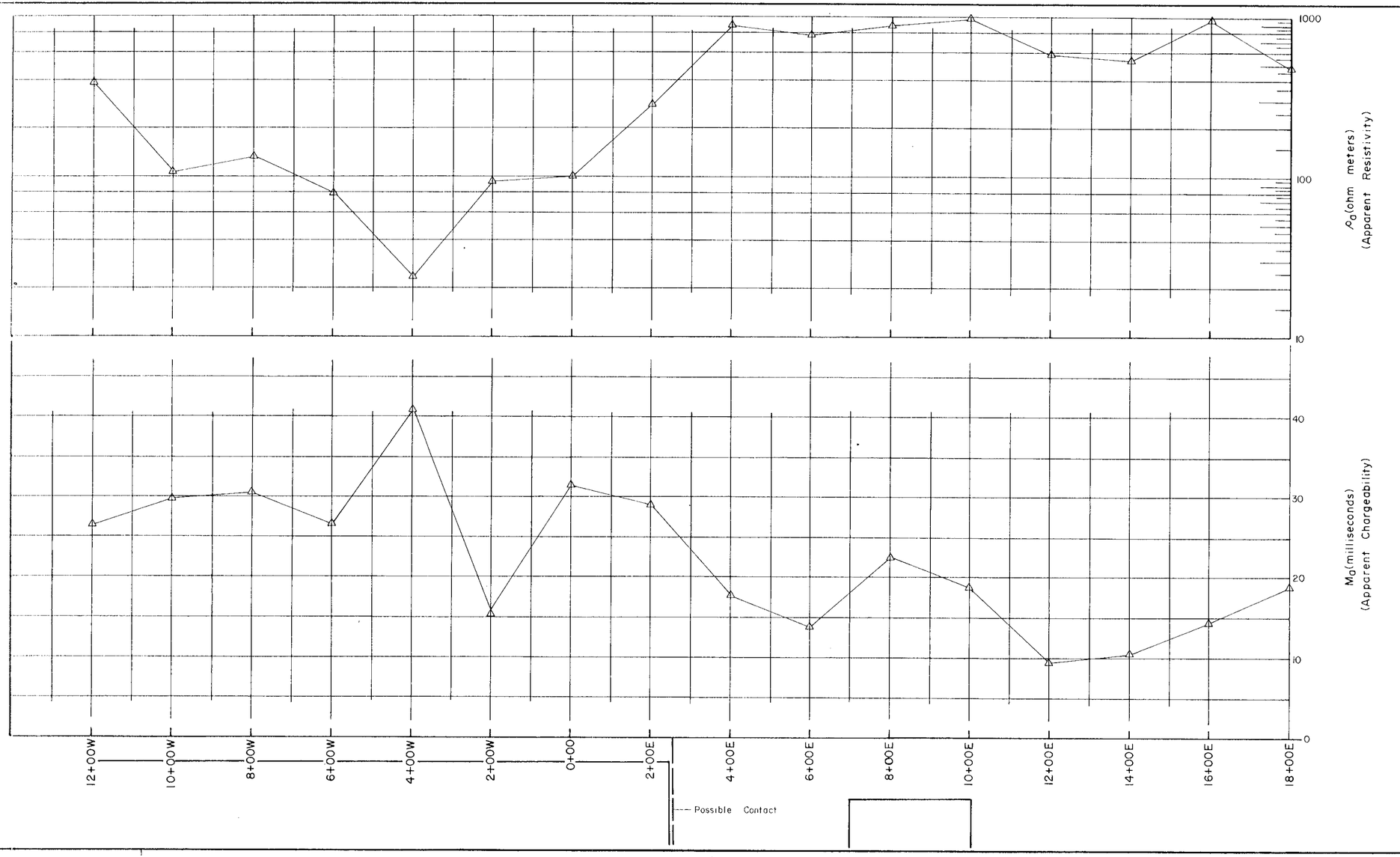
PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA
Expiry Date: May 28, 1970

Oct 28/70

KENTING EXPLORATION SERVICES LIMITED
Earth Sciences Division
CALGARY CANADA

JOB No. PC 1227

DWG No. 1227G/3



INDUCED POLARIZATION SURVEY

DETAIL PROFILE: LINE - 8S

THE GRANBY MINING COMPANY LIMITED

COY CLAIM GRID, GRAND FORKS, B.C.

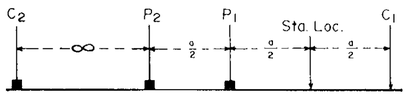
LEGEND

INTERPRETED CAUSATIVE BODY

RECOMMENDED D.D HOLE

a = 50'
a = 100'
a = 200'
a = 400'

POLE - DIPOLE ARRAY



Horizontal Scale: 1 inch : 200 feet.

Vertical Scales:

Chargeability — 1 inch: 5 milliseconds

Resistivity — 2 inches: 1 logarithmic cycle (ohm-meters)

INSTRUMENT PARAMETERS

ON	1.5 secs.
OFF	0.5 secs.
DELAY	0.015 secs.
INTEGRATE	0.4 secs.

To accompany report by:

Andrew R. Dodds B.Sc. P.Geoph.
Geophysicist

PROFESSIONAL ENGINEER PROVINCE OF ONTARIO J. B. PETERHAST

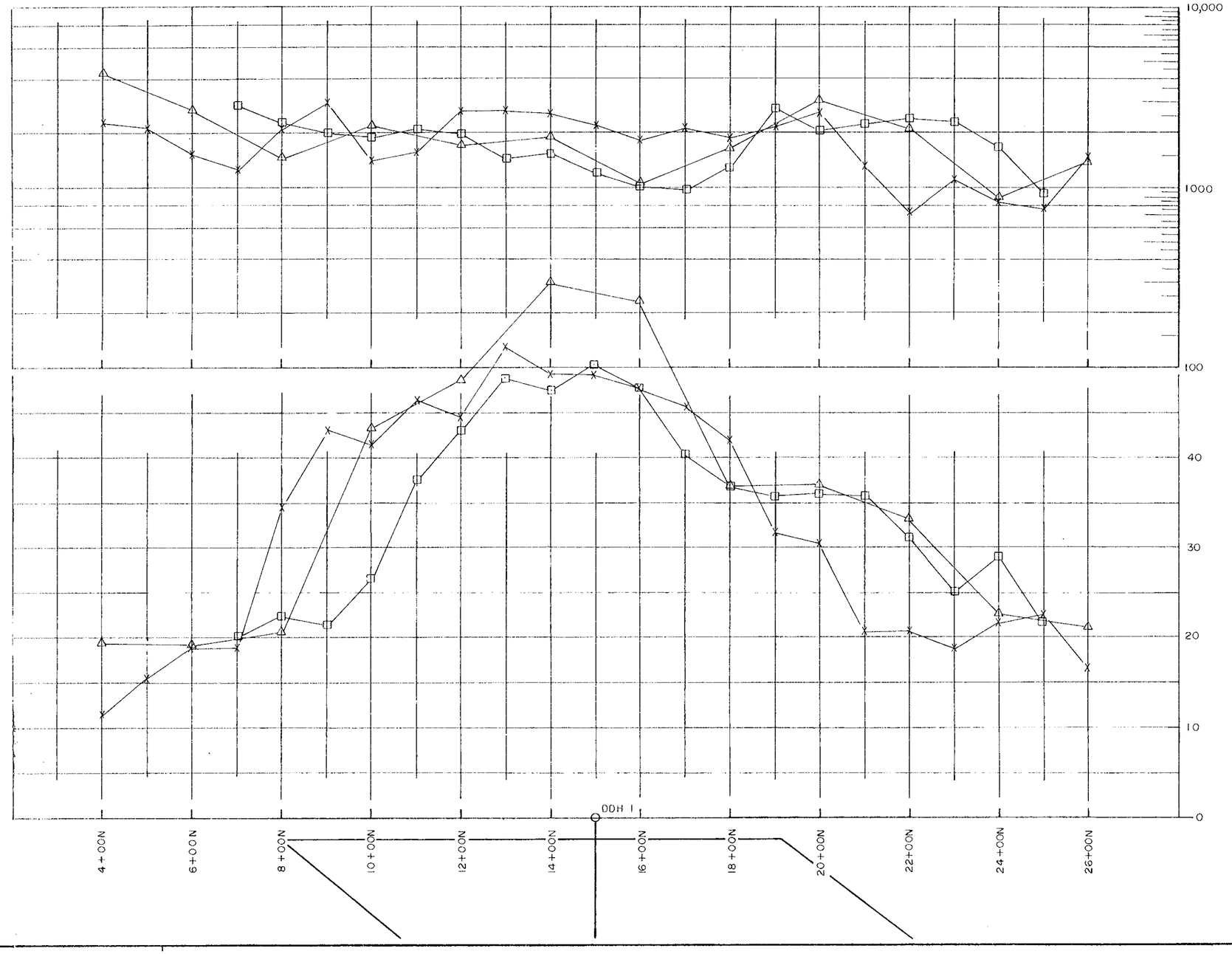
Expiry Date: May 28, 1971

Oct 28/70

KENTING EXPLORATION SERVICES LIMITED
Earth Sciences Division
CALGARY CANADA

JOB No. PC 1227

DWG No. 1227G/4



INDUCED POLARIZATION SURVEY

DETAIL PROFILE: LINE - 72E

THE GRANBY MINING COMPANY LIMITED

WENDY CLAIM GROUP, GRAND FORKS, B. C.

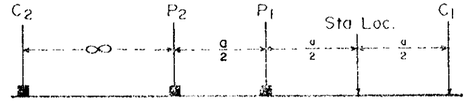
LEGEND

INTERPRETED CAUSATIVE BODY

RECOMMENDED D D HOLE

a = 50'
a = 100'
a = 200'
a = 400'
a = 600'

POLE - DIPOLE ARRAY



Horizontal Scale 1 inch 200 feet

Vertical Scales:

Chargeability — 1 inch: 10 milliseconds

Resistivity — 2 inches: 1 logarithmic cycle (ohm-meters)

INSTRUMENT PARAMETERS

ON	1·5 secs.
OFF	1·0 secs.
DELAY	0·015 secs
INTEGRATE	0·4 secs

To accompany report by:

Andrew R. Dodds, B Sc. P.Geoph.

Geophysicist.

PROFESSIONAL ENGINEER PROVINCE OF B. C.

Expiry Date: May 28, 1971

Oct 29/70

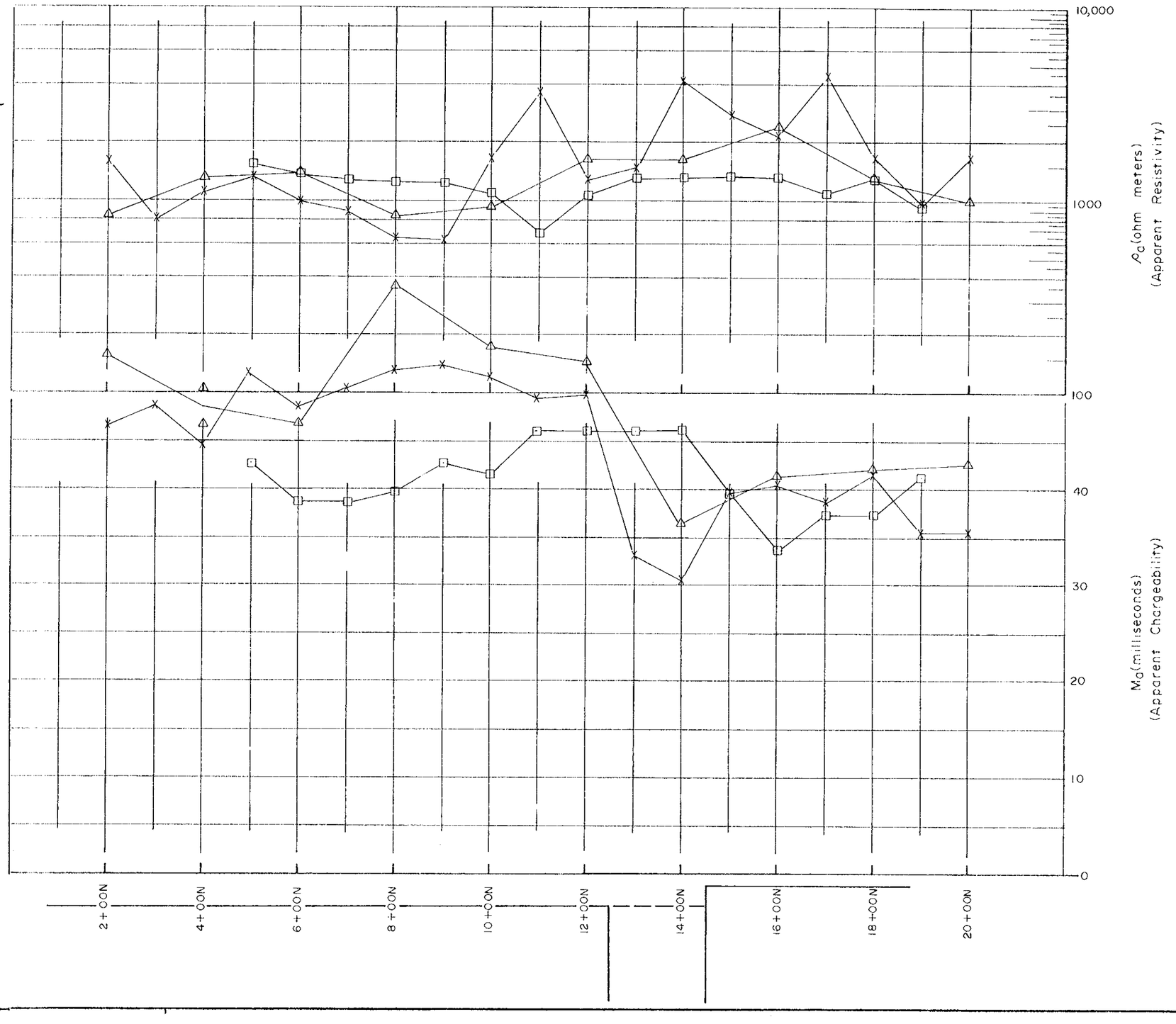
KENTING EXPLORATION SERVICES LIMITED

Earth Sciences Division

CALGARY CANADA

JOB Nº PC 1227D

DWG Nº 1227D-5



INDUCED POLARIZATION SURVEY

DETAIL PROFILE: LINE - 24E

THE GRANBY MINING COMPANY LIMITED

WENDY CLAIM GROUP, GRAND FORKS, B.C.

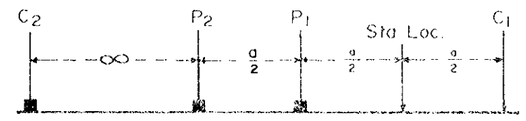
LEGEND

INTERPRETED CAUSATIVE BODY

RECOMMENDED D.D. HOLE

a = 50'
a = 100'
a = 200'
a = 400'
a = 600'

POLE - DIPOLE ARRAY



Horizontal Scale: 1 inch : 200 feet

Vertical Scales:

Chargeability — 1 inch : 10 milliseconds

Resistivity — 2 inches : 1 logarithmic cycle (ohm-meters)

INSTRUMENT PARAMETERS

ON	1.5 secs
OFF	1.0 secs
DELAY	0.015 secs
INTEGRATE	0.4 secs

To accompany report by:

Andrew R. Dodds, B.Sc. P.Geoph
Geophysicist

PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO
B. BRENDER CAST

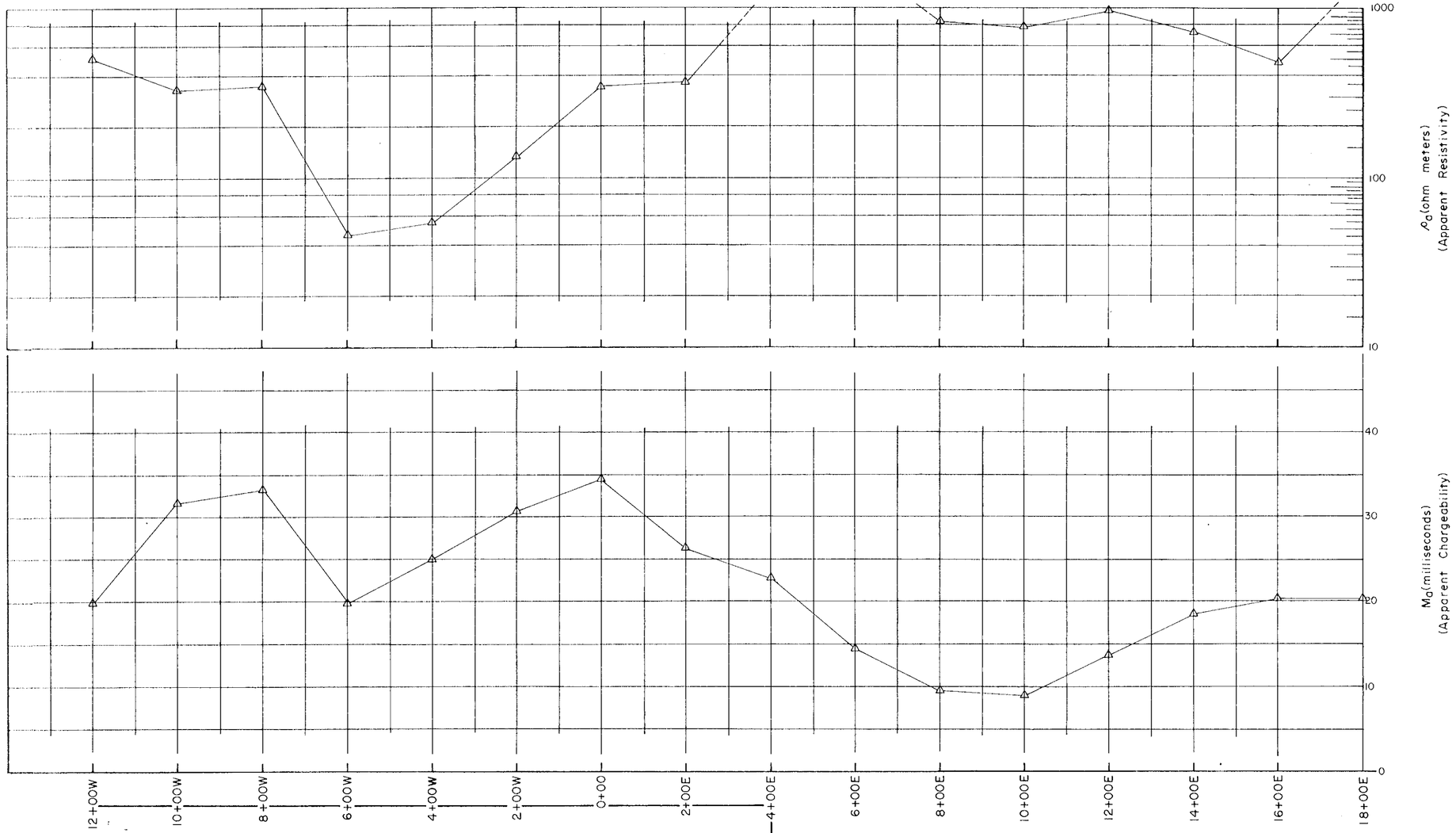
Expiry Date: May 28, 19/1

Oct 28/20

KENTING
EXPLORATION SERVICES LIMITED
Earth Sciences Division
CALGARY CANADA

JOB Nº PC 1227D

DWG Nº 1227D-4



INDUCED POLARIZATION SURVEY

DETAIL PROFILE: LINE - 12 S

THE GRANBY MINING COMPANY LIMITED

COY CLAIM GRID, GRAND FORKS, B.C.

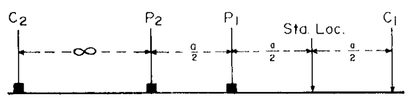
LEGEND

INTERPRETED CAUSATIVE BODY

RECOMMENDED D.D.HOLE.

a = 50'
a = 100'
a = 200'
a = 400'

POLE - DIPOLE ARRAY



Horizontal Scale: 1 inch : 200 feet.

Vertical Scales:

Chargeability — 1 inch: 5 milliseconds

Resistivity — 2 inches: 1 logarithmic cycle (ohm-meters)

INSTRUMENT PARAMETERS

ON	1.5 secs.
OFF	0.5 secs.
DELAY	0.015 secs.
INTEGRATE	0.4 secs.

To accompany report by:

Andrew R. Dodds B.Sc. P.Geoph.
Geophysicist

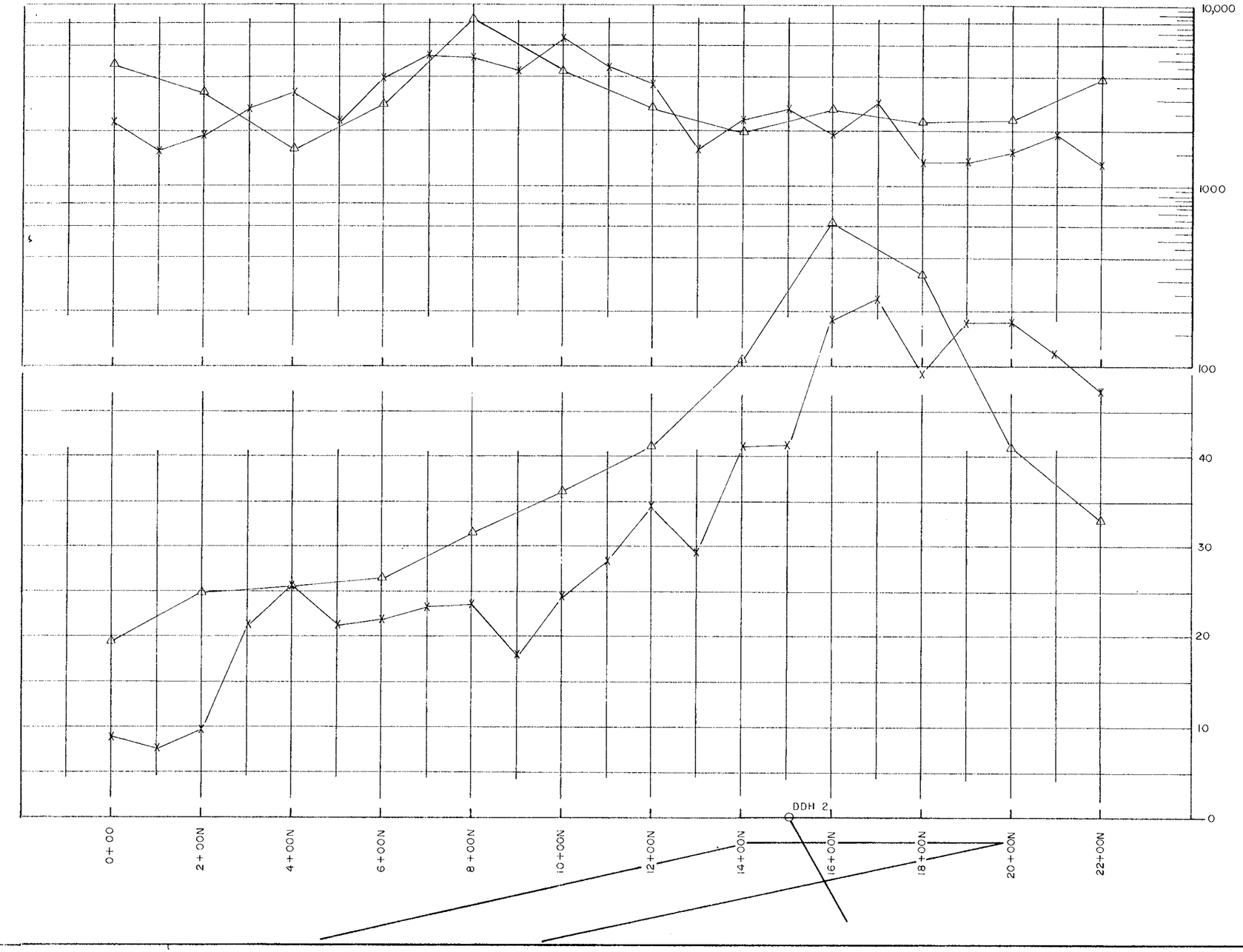
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
Expiry Date: May 28, 1970

Oct 28/70

KENTING
EXPLORATION SERVICES LIMITED
Earth Sciences Division
CALGARY CANADA

JOB No. PC. 1227

DWG No. 1227 G/1



INDUCED POLARIZATION SURVEY

DETAIL PROFILE: LINE - 80E

THE GRANBY MINING COMPANY LIMITED

WENDY CLAIM GROUP, GRAND FORKS, B. C.

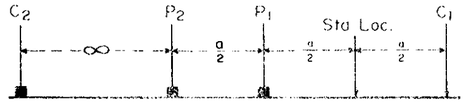
LEGEND

INTERPRETED CAUSATIVE BODY

RECOMMENDED D.D.H.OLE

a = 50'
a = 100'
a = 200'
a = 400'

POLE - DIPOLE ARRAY



Horizontal Scale: 1 inch : 200 feet

Vertical Scales

Chargeability — 1 inch : 10 milliseconds

Resistivity — 2 inches : 1 logarithmic cycle (ohm-meters)

INSTRUMENT PARAMETERS

ON	1·5 secs.
OFF	1·0 secs.
DELAY	0·015 secs
INTEGRATE	0·4 secs

To accompany report by:

Andrew R. Dodds, B.Sc. P.Geoph.
Geophysicist

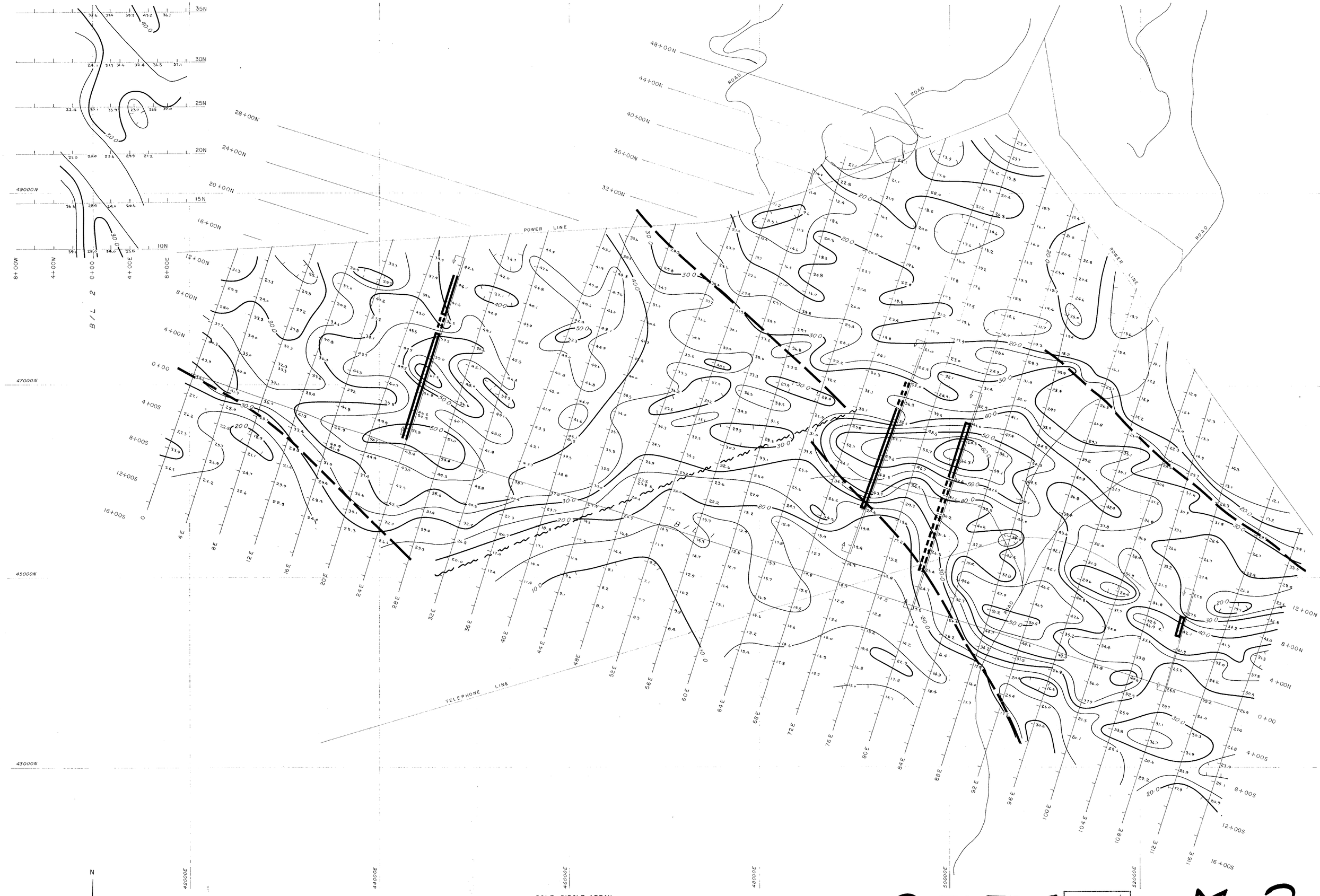
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. G. PEARCE
Expiry Date: May 28, 1970

Oct 29/70

KENTING
EXPLORATION SERVICES LIMITED
Earth Sciences Division
CALGARY CANADA

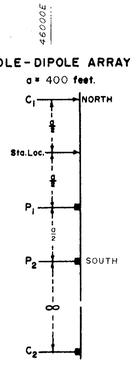
JOB Nº PC 1227D

DWG Nº 1227D-6



N

POLE-DIPOLE ARRAY
a = 400 feet.



LEGEND

PORTION OF LINE COVERED BY DETAIL SURVEYING

APPROXIMATE OUTLINE OF ANOMALOUS ZONE

INTERPRETED LOCATION OF ANOMALOUS SOURCE FROM DETAILING

INSTRUMENT PARAMETERS

ON	1·5 secs.
OFF	1·0 secs.
DELAY	0·015 secs.
INTEGRATE	0·4 secs.

2770

M-2

THE GRANBY MINING COMPANY LIMITED

WENDY CLAIM GROUP, GRAND FORKS, B.C.

INDUCED POLARIZATION SURVEY

APPARENT CHARGEABILITY CONTOURS

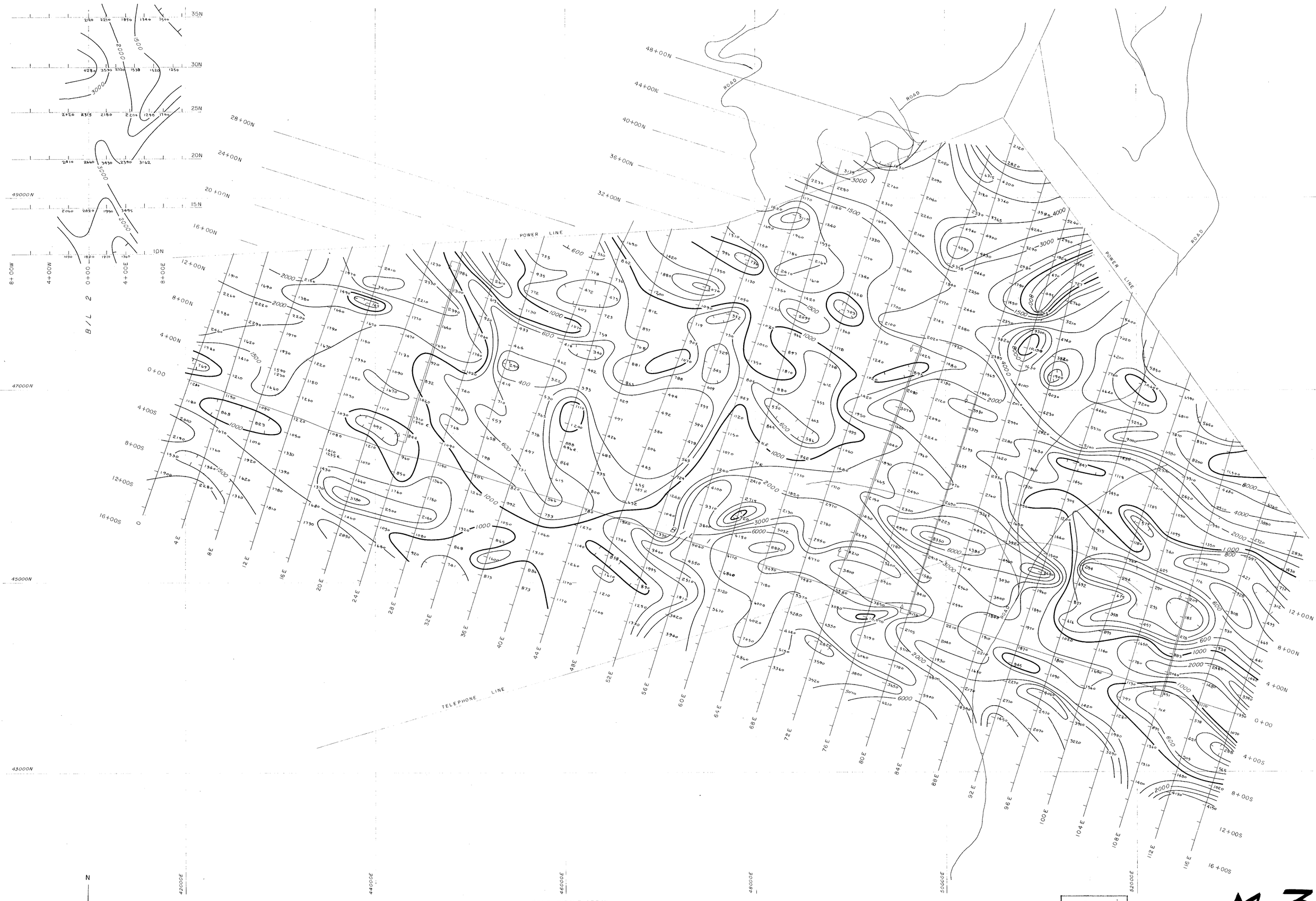
CONTOUR INTERVAL = 5·0 milliseconds.

To accompany report by:

A. R. Dodds, B.Sc., Geophysicist.

KENTING EXPLORATION SERVICES LIMITED
Earth Sciences Division
CALGARY CANADA

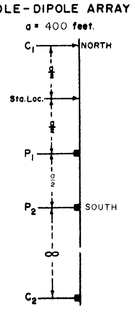
SCALE: 1 inch = 400 feet	DRAWN: M.C	DATE: August 1970
JOB No. P.C. 1227		DWG. No. 1227D-1



N

POLE-DIPOLE ARRAY

a = 400 feet.



LEGEND

PORTION OF LINE COVERED BY DETAIL SURVEYING

INSTRUMENT PARAMETERS

ON	1.5 secs.
OFF	1.0 secs.
DELAY	0.015 secs.
INTEGRATE	0.4 secs.

2770

M-3

THE GRANBY MINING COMPANY LIMITED

WENDY CLAIM GROUP, GRAND FORKS, B.C.

INDUCED POLARIZATION SURVEY

APPARENT RESISTIVITY CONTOURS

Contours at (logarithmic intervals) 150, 200, 300, 400, 600, 800, 1000 etc., ohm-meters.

To accompany report by:

A. R. Dodds, B.Sc., Geophysicist.

KENTING
EXPLORATION SERVICES LIMITED
Earth Sciences Division
CALGARY CANADA

SCALE: 1 inch = 400 feet	DRAWN: M.C.	DATE: August 1970
JOB No.: P.C. 1227		DWG. No.: 1227D-2

THE GRANBY MINING COMPANY LIMITED

WENDY CLAIM GROUP, GRAND FORKS, B.C.

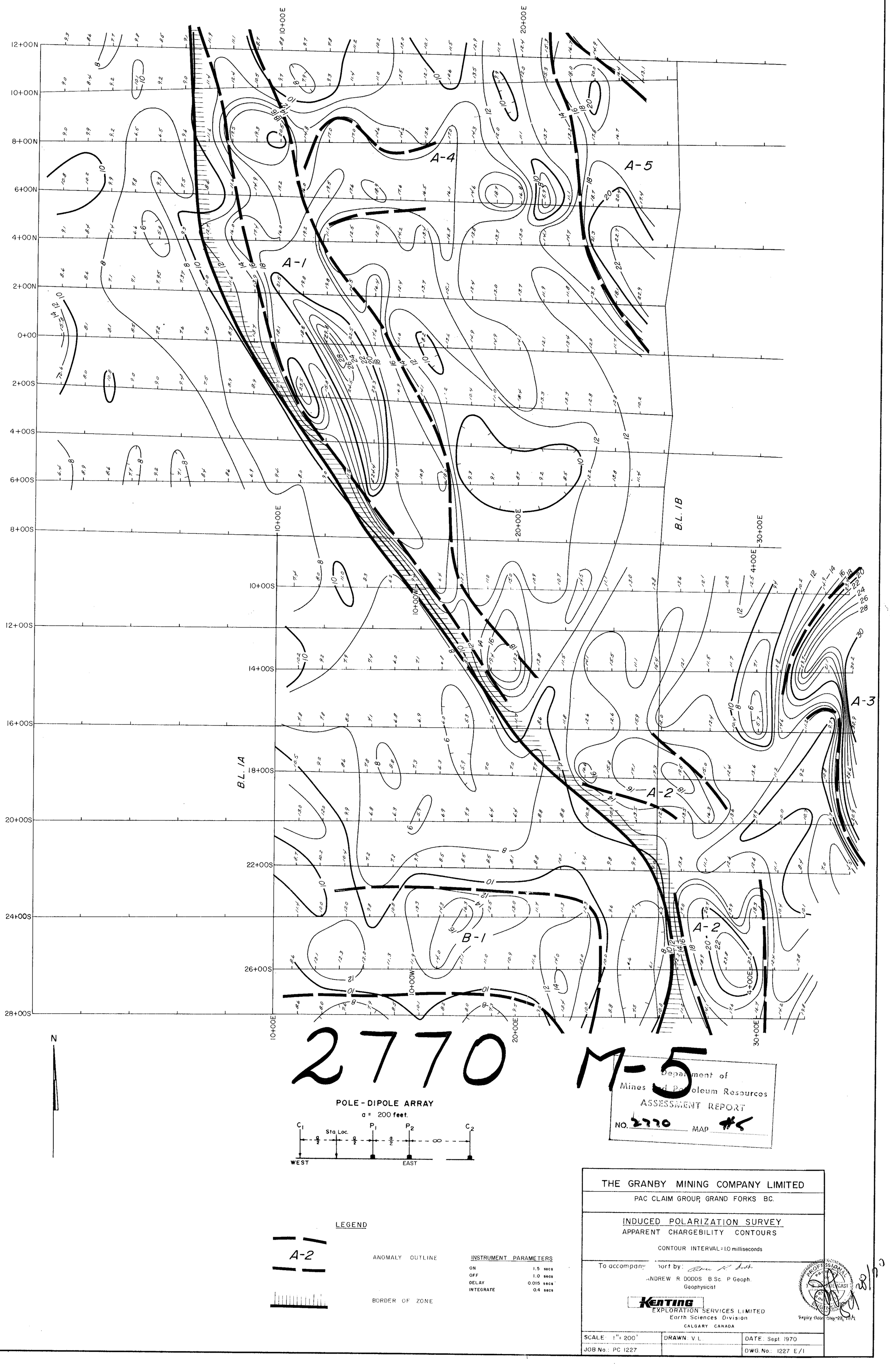
CLAIMS MAP

To accompany report by:

A. R. Dodds, B.Sc., Geophysicist.

KENTING EXPLORATION SERVICES LIMITED
Earth Sciences Division
CALGARY CANADA

SCALE: 1 inch = 400 feet	DRAWN: M.C.		DATE: August 1970
JOB No.: P.C. 12270			DWG. No.: 12270-3



2770

M-5

POLE - DIPOLE ARRAY

a = 200 feet.

LEGEND

A-2 ANOMALY OUTLINE

BORDER OF ZONE

INSTRUMENT PARAMETERS

ON	1.5 secs
OFF	1.0 secs
DELAY	0.015 secs
INTEGRATE	0.4 secs

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2770 MAP #5

THE GRANBY MINING COMPANY LIMITED

PAC CLAIM GROUP, GRAND FORKS B.C.

INDUCED POLARIZATION SURVEY
APPARENT CHARGEBILITY CONTOURS

CONTOUR INTERVAL = 1.0 milliseconds

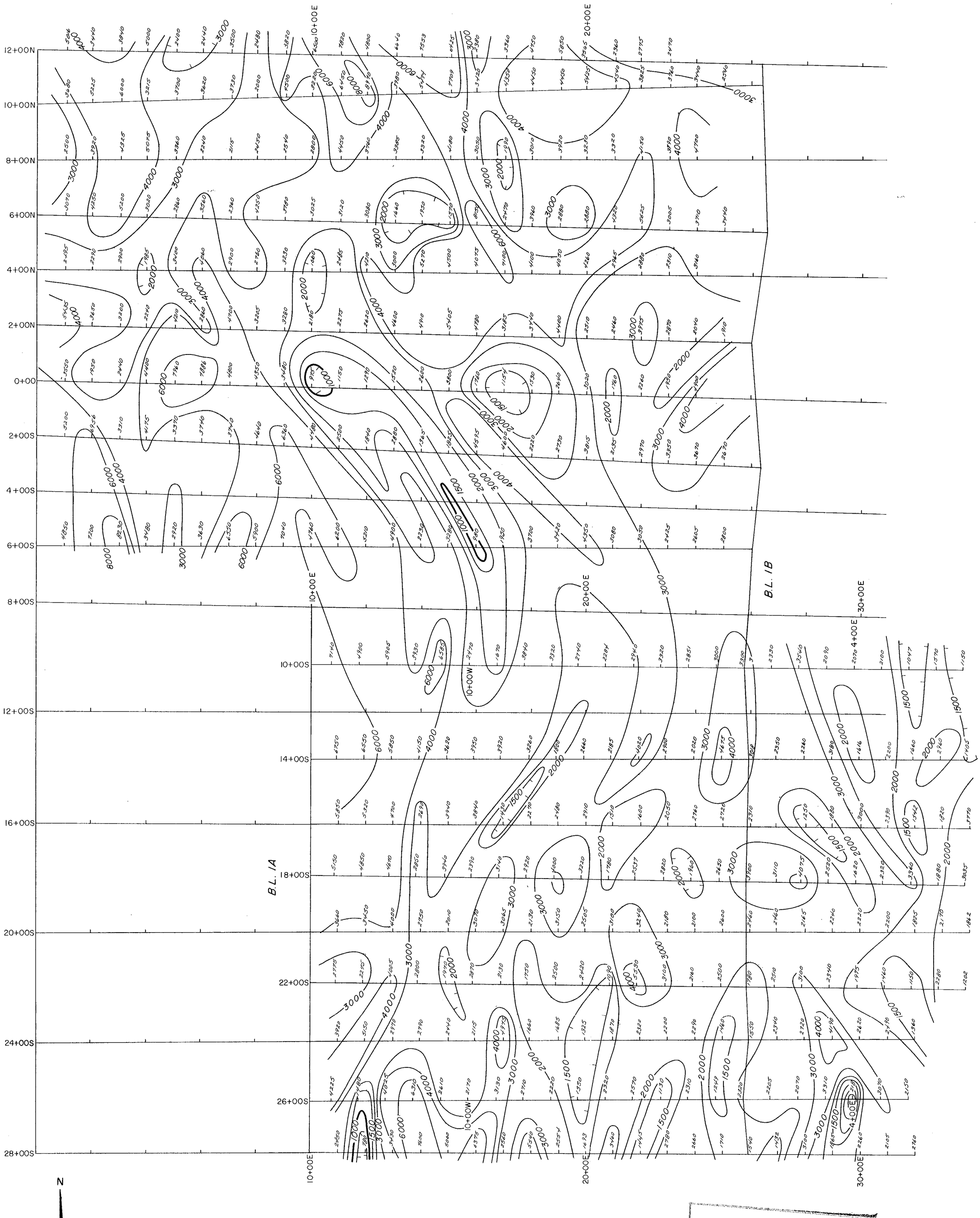
To accompany report by: Andrew R. Dodds

ANDREW R. DODDS B.Sc. P.Geoph.
Geophysicist

KENTING EXPLORATION SERVICES LIMITED
Earth Sciences Division
CALGARY CANADA

Expiry Date May 28, 1971

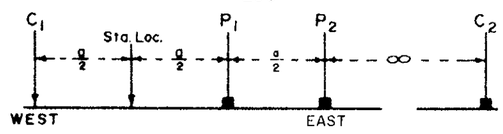
SCALE: 1" = 200'	DRAWN: V.L.	DATE: Sept. 1970
JOB No.: PC 1227		DWG. No.: 1227 E/1



N

POLE - DIPOLE ARRAY

a = 200 feet.



LEGEND

INSTRUMENT PARAMETERS	
ON	1.5 secs
OFF	1.0 secs
DELAY	0.015 secs
INTEGRATE	0.4 secs

2770 M-6

THE GRANBY MINING COMPANY LIMITED

PAC CLAIM GROUP, GRAND FORKS B.C.

INDUCED POLARIZATION SURVEY

APPARENT RESISTIVITY CONTOURS

Contours at (logarithmic intervals): 150, 200, 300, 400, 600, 800, 1000 etc.

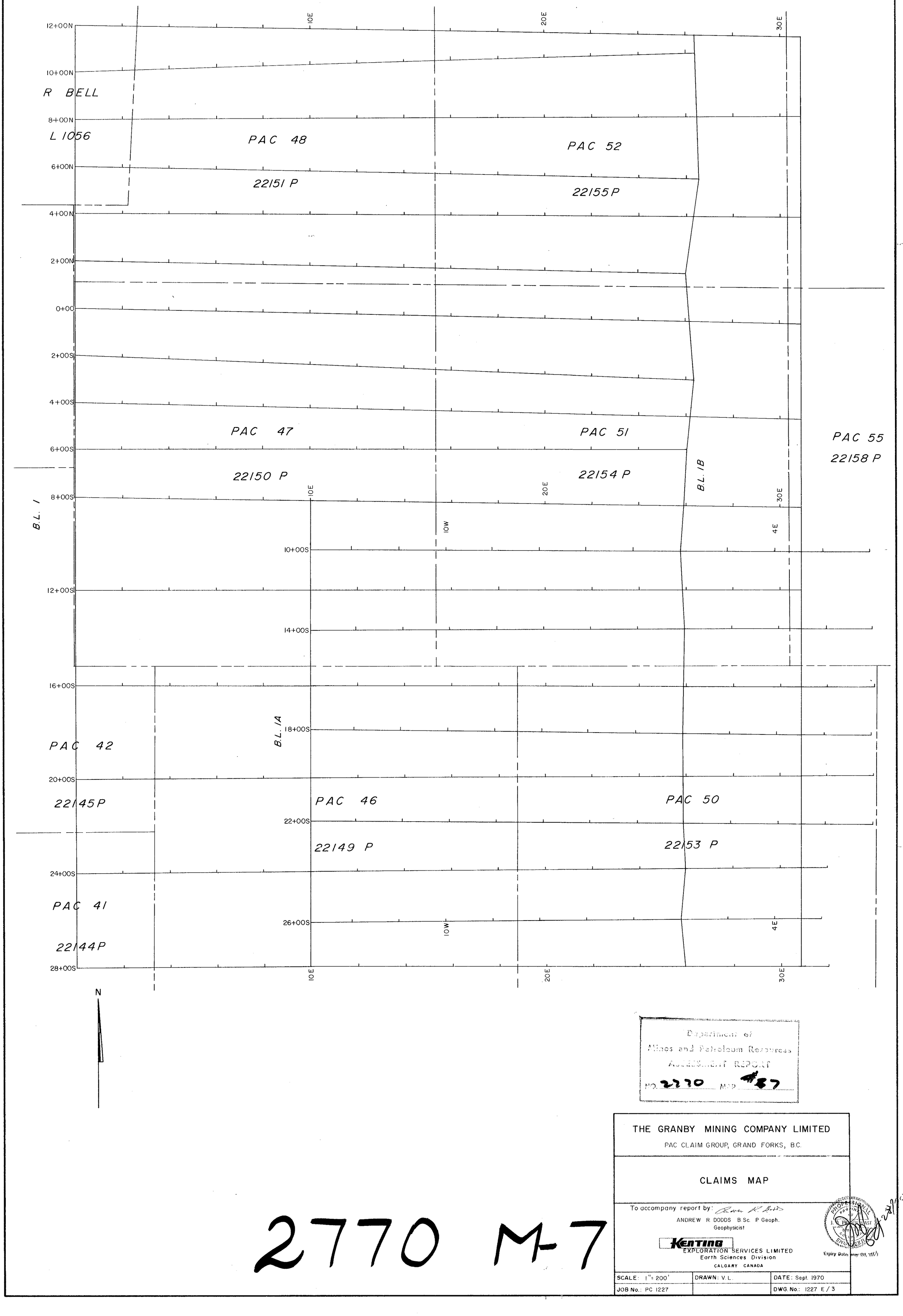
ohm – meters

To accompany report by:
ANDREW R. DODDS B.Sc. P.Geoph.
Geophysicist

KENTING
EXPLORATION SERVICES LIMITED
Earth Sciences Division
CALGARY CANADA

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA
Expiry Date: May 28, 1971

SCALE: 1" = 200'	DRAWN: V.L.	DATE: Sept. 1970
JOB No.: PC 1227		DWG No.: 1227 E/2



THE GRANBY MINING COMPANY LIMITED

PAC CLAIM GROUP, GRAND FORKS, B.C.

CLAIMS MAP

To accompany report by:

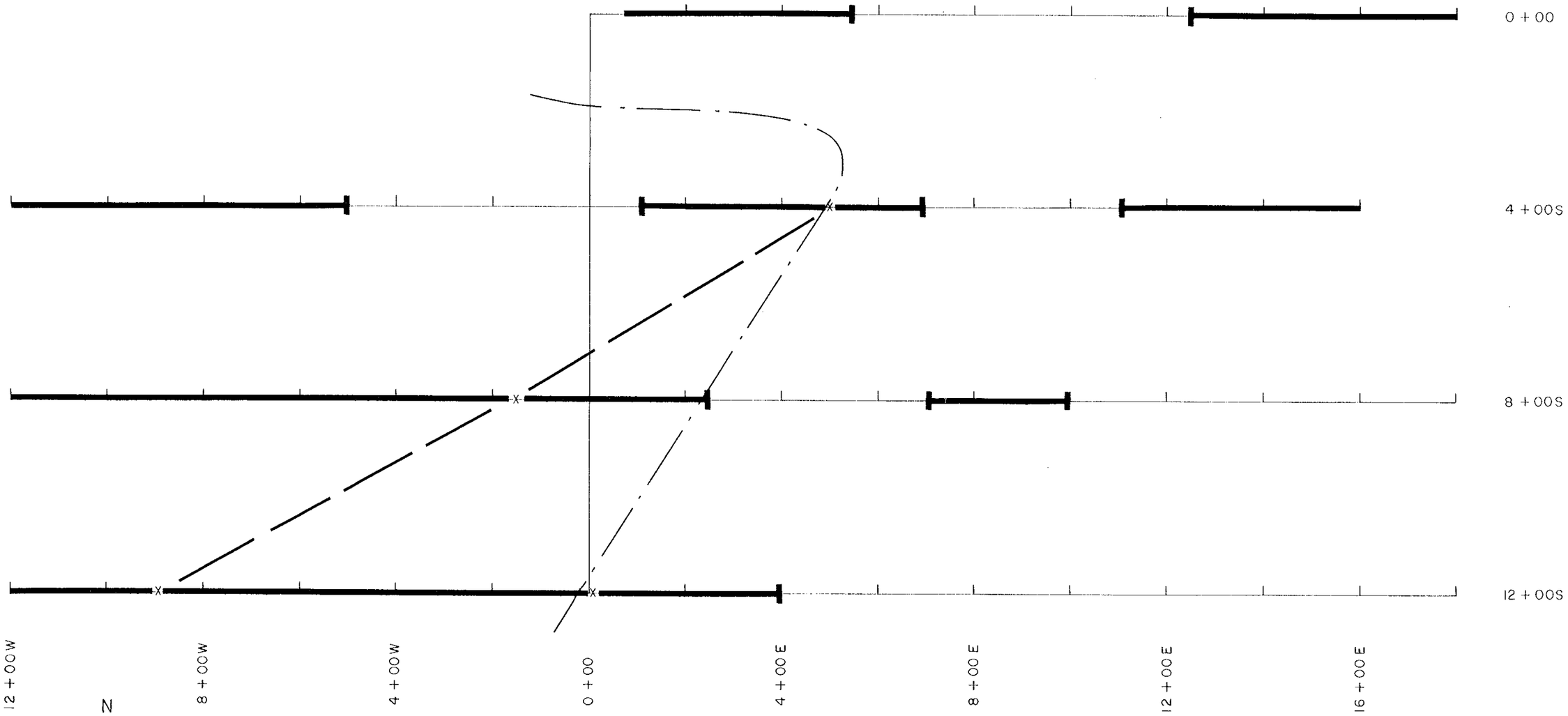
ANDREW R. DODDS B.Sc. P.Geoph.
Geophysicist

KENTING
EXPLORATION SERVICES LIMITED
Earth Sciences Division
CALGARY CANADA

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA
Expiry Date: May 30, 1971

SCALE: 1"= 200'	DRAWN: V.L.	DATE: Sept. 1970
JOB No.: PC 1227		DWG. No.: 1227 E / 3

2770 M-7



N

LEGEND

ANOMALOUS CHARGEABILITY ZONE

POSSIBLE ANOMALOUS CHARGEABILITY TREND

OUTLINE OF LOW RESISTIVITY ZONE (CONTACT ?)

2770 M-8

PROFESSIONAL ENGINEER PROVINCE OF B.C. PREMIER ARGAST

Expiry Date: May 2, 1971

Aug 28/70

THE GRANBY MINING COMPANY LIMITED

COY CLAIM GROUP, GRAND FORKS, B.C.

INDUCED POLARIZATION SURVEY

ANOMALY MAP

To accompany report by: Andrew R. Dodds

ANDREW R. DODDS B Sc., P Geoph.
Geophysicist.

KENTING EXPLORATION SERVICES LIMITED
Earth Sciences Division
CALGARY CANADA

SCALE: 1"= 200'	DRAWN: M. C.	DATE: OCT. 1970
JOB No.: P.C. 1227G		DWG. No.: 1227G - 5