A GEOPHYSICAL ASSESSMENT REPORT ON GROUND MAGNETOMETER AND INDUCED POLARIZATION SURVEYS ON THE CHUCHI PROPERTY OMENICA MINING DIVISION, BRITISH COLUMBIA

LATITUDE 55°15'NORTH
LONGITUDE 124°32'WEST
NTS 93N/2 AND 93N/7

FOR

BP RESOURCES CANADA LIMITED

BY

John Lloyd, M.Sc., P.Eng.
and
Daniel A. Klit, B.Sc.
LLOYD GEOPHYSICS LIMITED
VANCOUVER, BRITISH COLUMBIA
DECEMBER, 1989

Part 2 of 2

Lloyd Geophysics

SUMMARY

During the period September 4 to 23, 1989, Lloyd Geophysics Limited carried out a Ground Magnetometer and Induced Polarization (IP) survey on the Chuchi Property for BP Resources Canada Limited.

A very strong IP anomaly, 1300 metres long and 450 to 800 metres wide, was detected and has been interpreted as indicative of a strong sulphide system. A 24 hole, 3600 metre diamond drill programme is recommended to test this anomaly.

A number of deep seated sources, most probably caused by sulphides, were also detected. These targets are recommended for drilling at a later date.

Outlining of IP anomalies which appear to exist beyond the edges of the grid area is also recommended.

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1.0 INTRODUCTION

During the period September 4 to September 23, 1989, Lloyd Geophysics Limited carried out a Ground Magnetometer and time domain Induced Polarization (IP) survey on the Chuchi Property for BP Resources Canada Limited, near Chuchi Lake, British Columbia.

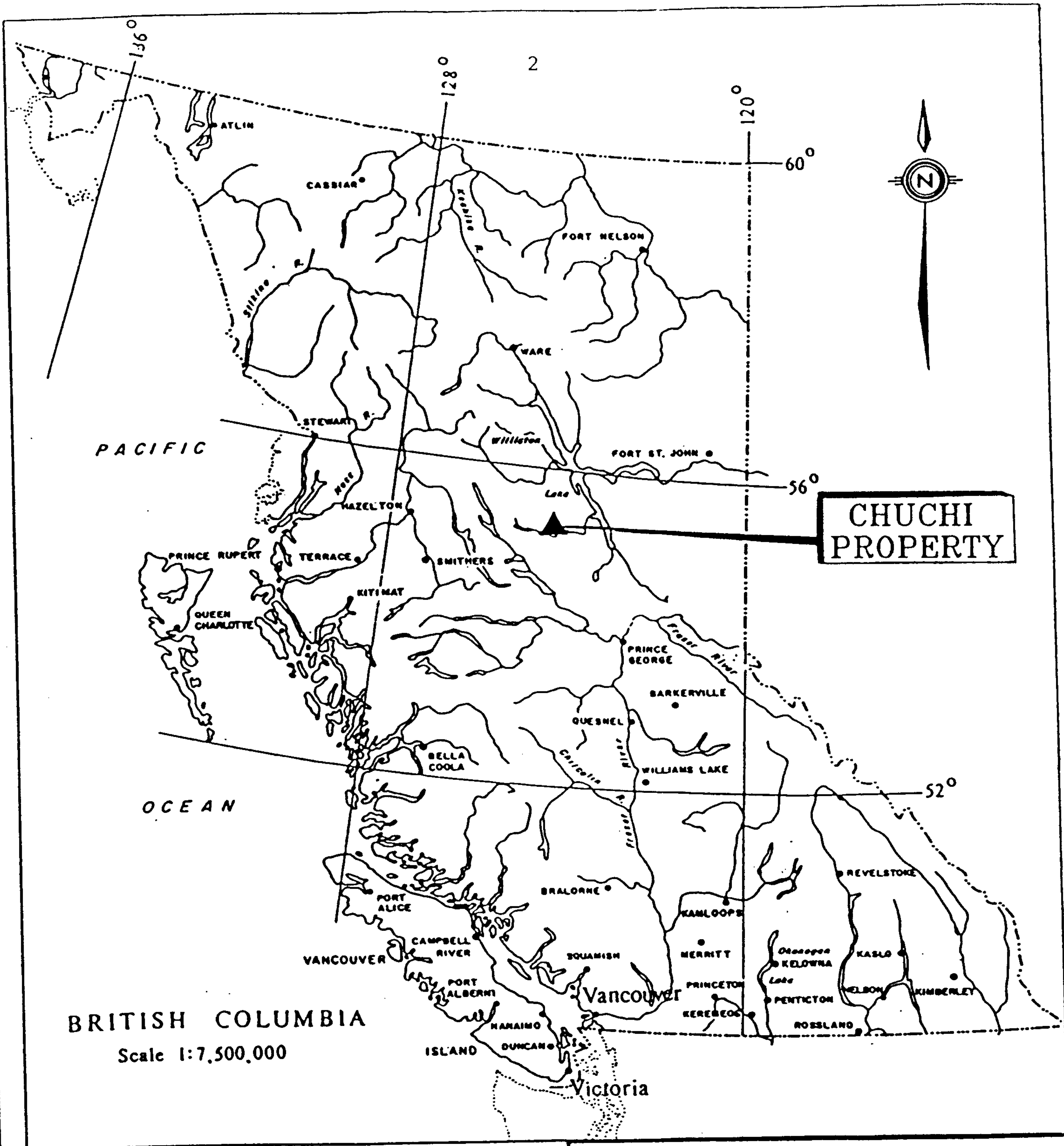
2.0 PROPERTY LOCATION AND ACCESS

The Chuchi Project is located 93 kilometres northwest of Fort St. James in the Omenica Mining Division, NTS 93N/2 and 93N/7, centered on latitude 55°15'North and longitude 124°32'West (Figure 1). Access to the property is 100 kilometres north from Fort St. James via the "Omenica" or "North" road, then west for 14.1 kilometres along the Indata-Manson Creek Forestry Road, then north onto a road leading west for 8.8 kilometres through a previously logged area.

3.0 PROPERTY GEOLOGY

Local geology for the Chuchi grid is based on drill and trench data and rare outcrop. The results suggest a magnetite-rich dioritic to monzonitic intrusive system cutting non-magnetic andesite and volcanic siltstone along a north-northwest structural trend. Bedding in the volcanics, on a property-wide scale is thought to dip at moderate angles to the east. On a local scale, however, bedding attitudes are probably strongly influenced by proximity to intrusive contacts.

The intrusions consist of a single, strongly magnetic diorite porphyry plug, and a probable series of less magnetic, equigranular



BP RESOURCES CANADA LTD.

CHUCHI PROPERTY

PROPERTY LOCATION

DATE	DRAWN BY	FIG 1

to weakly porphyritic monzonite plugs. Indirect evidence from drill core suggests that the diorite porphyry predates the monzonitic rocks. This age relationship also conforms to the usual differentiation sequence from mafic to more felsic rocks. The monzonites contain less magnetite overall than the diorite and the magnetite occurs as more of a breccia infilling.

4.0 INSTRUMENT SPECIFICATIONS

4.1. Ground Magnetometer Survey Equipment

The equipment used was the OMNI PLUS field magnetometer and the OMNI 4 recording base station magnetometer both manufactured by EDA INSTRUMENTS INC., Toronto, Canada.

The system is completely software/microprocessor controlled. A portable proton precession magnetometer measures and stores in memory the total earth's magnetic field at the touch of a key. It also identifies and stores the location and time of each measurement and computes the statistical error of the reading and stores the decay and strength of the signal being measured. Throughout each survey day a similar base station magnetometer measures and stores in memory the daily fluctuations of the earth's magnetic field. The use of two magnetometers eliminates the need for a network of base stations on the grid. At the end of each day the field data is merged with the base station data in the field computer and automatic diurnal corrections are applied to correct the field data, resulting in a very accurate (±5nT) measurement of the earth's total magnetic field.

4.2. The Induced Polarization Survey Equipment

The IP system used to carry out this survey was a time domain measuring system manufactured by Huntec Limited of Toronto, Canada.

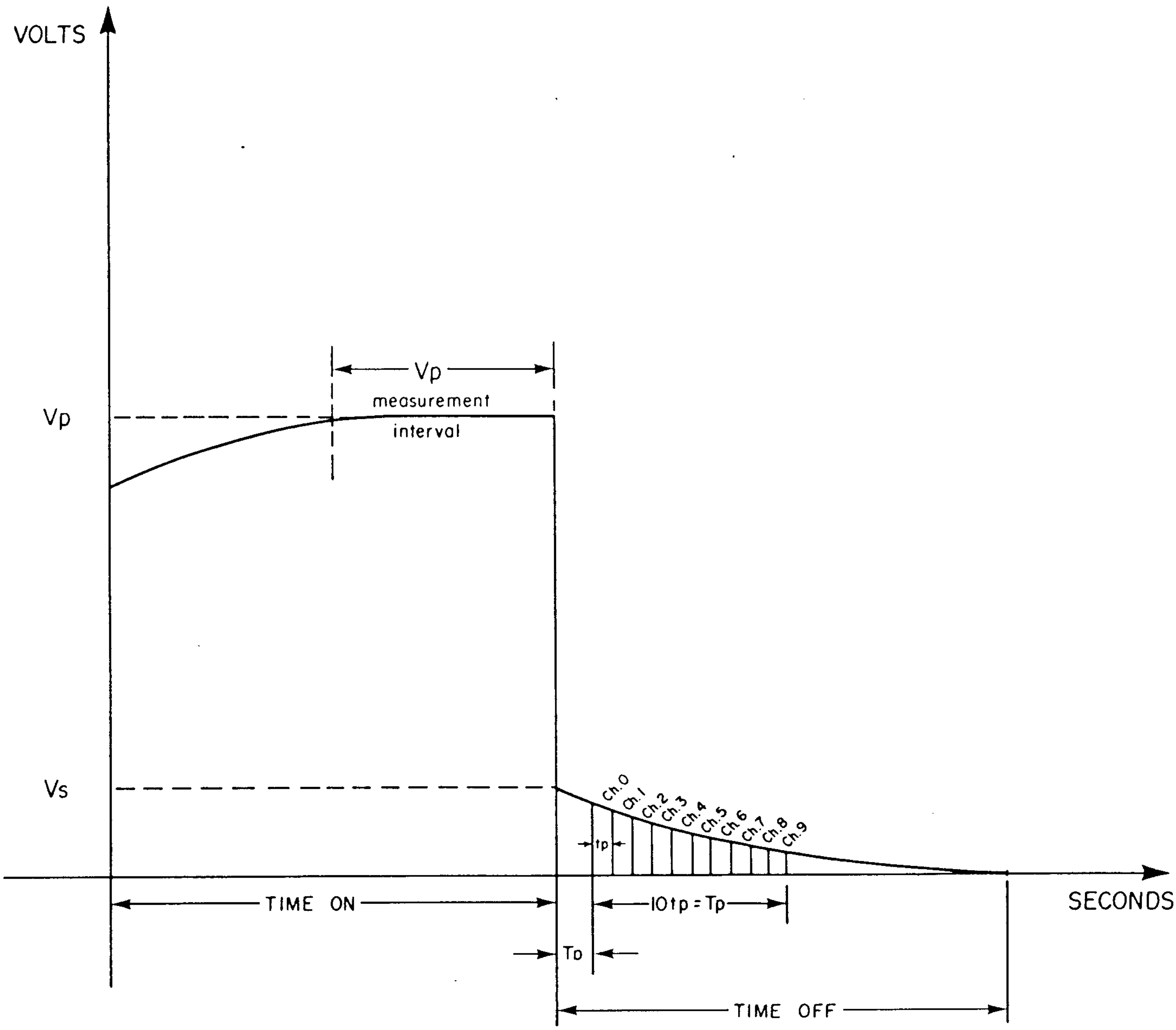
The system consists of a Wagner Leland alternator, driven by a 25 horsepower Onan engine which supplies in excess of 7.5 kilowatts of 3 phase power to the ground at 400 hertz, a Mark II transmitter and TWO Mark IV microprocessor controlled receivers.

The Mark II Transmitter was operated with a cycle time of 8 seconds and the duty cycle ratio: [(time on)/(time on + time off)] was 0.5. This means the cycling sequence of the transmitter was 2 seconds current "on" and 2 seconds current "off" with consecutive pulses reversed in polarity.

The Mark IV receiver is microprocessor controlled, featuring automatic calibration, gain setting, SP cancellation, fault diagnosis and filter tuning. Operation of the instrument is controlled by 3 front panel switches and a keypad for requesting data on the digital display.

The delay time, the integration time and a number of other parameters may also be adjusted, by means of sub-panel switches to accommodate a wide range of geological conditions. Measurements are calculated automatically every 4 to 8 seconds from the averaged waveform which is accumulated in memory at 2,048 sample points.

The instrument has 10 equal chargeability channels, Ch_0, Ch_1, Ch_2, Ch_3, Ch_4, Ch_5, Ch_6, Ch_7, Ch_8, Ch_9 (see Figure 2). These may be recorded individually, selectively or summed up automatically to obtain the total chargeability.



Mark IV Receiver Measurement Parameters

FIGURE 2

The apparent resistivity (ρa) in ohm-metres is calculated on the field computer, using the primary voltage (V_P), the measured current (I_g) and some factor (K) which is dependent on the geometry of the array used.

The instrument parameters chosen for this survey were as follows:

Cycle Time (T_c)	= 8 seconds
Ratio $\frac{\text{(Time On)}}{\text{(Time Off)}}$	= 1:1
Duty Cycle Ratio $\frac{\text{(Time On)}}{\text{(Time On)+(Time Off)}}$	= 0.5
Delay Time (T_D)	= 120 milliseconds
Window Width (t_p)	= 90 milliseconds
Total Integrating Time (T_p)	= 900 milliseconds

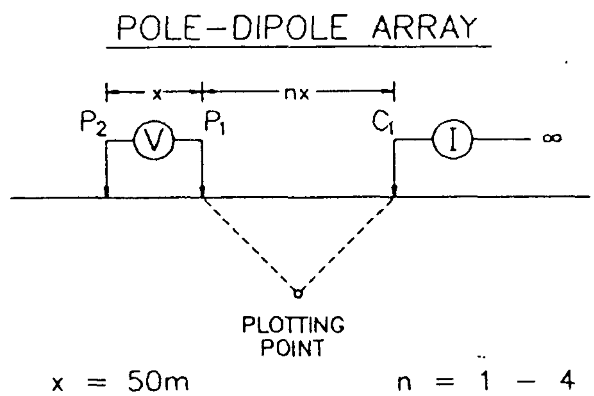
5.0 SURVEY SPECIFICATIONS

5.1. The Ground Magnetometer Survey

The survey was carried out on lines 100 metres apart with readings taken every 12.5 metres.

5.2. The Induced Polarization Survey

The configuration of the POLE-DIPOLE array used for the survey is shown below:



The dipole length (x) is the distance between P_1 and P_2 and determines mainly the sensitivity of the array. The electrode separation (nx) is the distance between C_1 and P_1 and determines mainly the depth of penetration of the array.

On the Chuchi grid the current electrode C_1 was EAST of the potential measuring dipole P_1P_2. Here the lines were 100 metres apart and measurements were taken for x = 50 metres and n = 1, 2, 3 and 4. A test line, 3 North, was read with the current electrode C_1 positioned WEST of the potential measuring dipole P_1P_2.

6.0 DATA PROCESSING

The data collected was processed in the field at the end of each survey day using a portable Compaq 286 computer and an Epson printer.

Using appropriate software, the magnetic field data was corrected for diurnal variations by merging it with the base station magnetic data. For integrity checks and for a quick review of anomalies, the final corrected magnetic data was plotted out in profile form on the printer.

The IP pseudo-sections were plotted out in the field and contoured using in-house software based on the mathematical solution known as kriging.

In the office the data was transferred to mylar using a Compaq 386 computer coupled to either a Hewlett Packard Draftsmaster II Plotter or a DL2400 Fujitsu Printer for the preparation of the final pseudo-sections and contour plan maps.

7.0 DATA PRESENTATION

The data collected from the survey described in this report are presented in 16 pseudo-sections and 5 contour plan maps as follows:

Pseudo-Sections

Line No.	Dwg. No.
10400N	89293-1
10500N	89293-2
10600N	89293-3
10700N	89293-4
10800N	89293-5
10900N	89293-6
11000N	89293-7

Line No.	Dwg. No.
11100N	89293-8
11200N	89293-9
11300N	89293-10
11400N	89293-11
11500N	89293-12
11600N	89293-13
11700N	89293-14
11800N	89293-15
3N	89293-16

Contour Plan Maps

Chargeability N = 1	89293-17
Resistivity N = 1	89293-18
Chargeability 10 Point Triangular Filter	89293-19
Resistivity 10 Point Triangular Filter	89293-20
Total Field Magnetic Contours	89293-21

8.0 DISCUSSION OF RESULTS

An IP response depends largely on the following factors:

1. The volume content of sulphide minerals

2. The number of pore paths that are blocked by sulphide grains

3. The number of sulphide faces that are available for polarization

4. The absolute size and shape of the sulphide grains and the relationship of their size and shape to the size and shape of the available pore paths

5. The electrode array employed

6. The width, depth, thickness and strike length of the mineralized body and its location relative to the array

7. The resistivity contrast between the mineralized body and the unmineralized host rock

The sulphide content of the underlying rocks is one of the critical factors that we would like to determine from field measurements. Experience has shown that this is both difficult and unreliable because of the large number of variables, described above, which contribute to an IP response. The problem is further complicated by the fact that rocks containing magnetite, graphite, clay minerals and variably altered rocks produce IP responses of varying amplitudes.

A detailed study has been made of the pseudo-sections which accompany this report. These pseudo-sections are not sections of the electrical properties of the sub-surface strata and cannot be treated as such when determining the depth, width and thickness of a zone which produces an anomalous pattern.

From this study the anomalies selected are shown on the individual pseudo-sections and are classified into 4 groups. These are definite, probable and possible anomalies and anomalies which have a deeper source.

This classification is based partly on the relative amplitudes of the chargeability and to a lesser degree on the resistivity response. Of equal importance in this classification is the overall anomaly pattern and the degree to which this pattern may be correlated from line to line, provided of course that the correlation is not so extensive along strike so as to most probably represent only the subcrop of a geological formation.

The exploration target here is a gold, copper-gold deposit associated with certain alkaline intrusive bodies. Intrusives of this nature and associated gold and copper-gold deposits occur in the 800 kilometre long regionally extensive early Mesozoic volcanic-sedimentary Quesnel Belt. Such deposits are the recently discovered Mt. Milligan gold, copper-gold deposits located approximately 35 kilometres southwest of the Chuchi property.

Ground geophysical methods have been used successfully, although somewhat indirectly to search for such deposits. The most useful combination of methods to date is one of ground magnetometer, induced polarization and resistivity surveys. The chargeability (IP) measurements generally outline the distribution of sulphides and along with magnetics are the most useful geophysical data for follow up drilling.

The IP survey outlined a very strong well regarded chargeability anomaly. This anomaly is outlined on both chargeability and both resistivity maps and also on the total field magnetic contour map.

The anomaly trends west northwest, is approximately 1300 metres long and varies in width from about 450 to 800 metres. The chargeability response within the zone is generally greater than 30 milliseconds, with parts of the zone reaching values in excess of 60 milliseconds. The chargeability background within the grid area varies from about 10 to 20 milliseconds.

The boundary on the "northeast" of the anomaly deflects rapidly from an east-west direction to a north-south direction at about 9900E, 11060N. This boundary appears to coincide with an interpreted structural break as indicated by the ground magnetics. This means that the strong magnetic high, which most probably represents magnetite rich intrusive rocks, straddles the chargeability boundary. This situation is not dissimilar to the overall geological/geophysical picture associated with the MBX zone of the Mt. Milligan deposits.

During the fall of 1989 an initial 3 hole diamond drill programme was aimed at testing coincident IP, magnetic and copper/gold soil geochemical anomalies in a geological setting of mineralized diorite and monzonite porphyry intrusive rocks. The approximate location of these 3 holes is as follows.

Hole No.	Northing	Easting	Azimuth	Angle	Length (m)
7	11070N	10050E	180°	-46°	211
8	11100N	9850E	284°	-47°	214
9	11100N	9650E	065°	-65°	188

Assays from these 3 holes are shown below:

Hole No.	From/To (m)	Interval (m)	Cu %	Au Oz/T
89-7	38 - 138	100	0.28	0.009
including	54 - 98	44	0.35	0.014
including	82 - 98	16	0.71	0.039*
including	122 - 138	16	0.39	0.013*
89-8	152 - 200	48	0.25	0.007
including	156 - 162	6	0.43	0.016
including	186 - 200	14	0.31	0.011
89-9	172 - 186	14	0.14	0.008

*Denotes fire assay results

Based on these encouraging drill results, the excellent geological setting and the extensive nature of the very strong, well regarded, chargeability anomaly an aggressive drilling programme is warranted to test further what now looks like a significant gold, copper-gold porphyry system.

Lying outside this well developed IP anomaly are a number of targets that are strongly developed at deeper levels. It is possible that these targets are not isolated from, but more likely connected to, the main anomaly. In a well planned drill programme some of these targets should be drill tested.

9.0 CONCLUSIONS AND RECOMMENDATIONS

Based mainly of the IP data, and to a lesser extent on the geology and the results of the 1989 drilling, an additional 24 diamond drill holes are recommended to further test the extent of what has now been interpreted as a strong sulphide system.

Hole No.	Line No.	Station No.	Angle	Depth (m)
1	10900N	10000E	Vertical	150
2	10900N	10100E	Vertical	150
3	10900N	10200E	Vertical	150
4	10900N	10300E	Vertical	150
5	10800N	10300E	Vertical	150
6	10800N	10200E	Vertical	150
7	10800N	10100E	Vertical	150
8	10800N	10000E	Vertical	150
9	11200N	9500E	Vertical	150
10	11200N	9600E	Vertical	150
11	11200N	9700E	Vertical	150
12	11200N	9800E	Vertical	150
13	11100N	9500E	Vertical	150
14	11100N	9600E	Vertical	150
15	11100N	9700E	Vertical	150
16	10800N	9700E	Vertical	150
17	10800N	9800E	Vertical	150
18	10800N	9900E	Vertical	150
19	10700N	9700E	Vertical	150
20	10700N	9800E	Vertical	150
21	10700N	9900E	Vertical	150
22	10500N	10100E	Vertical	150
23	10500N	10200E	Vertical	150
24	10500N	10300E	Vertical	150

Regardless of the success of this recommended drill programme certain deep seated anomalies, which are indicated only on the pseudo-sections, should also be drill tested.

Finally, where land holdings permit additional IP surveying to the north, south and west of the grid area is recommended to close off the existing IP anomaly or outline those IP anomalies which appear to be developing beyond the boundaries of the present grid area.

Respectfully Submitted,
LLOYD GEOPHYSICS LIMITED

John Lloyd

John Lloyd, M.Sc., P. Eng.

Daniel A. Klit

Daniel A. Klit, B.Sc.

Vancouver, B.C.
December, 1989

APPENDICES

Lloyd Geophysics

(A)

PERSONNEL EMPLOYED ON SURVEY

Name	Occupation	Address	Date
J Lloyd	Geophysicist	Lloyd Geophysics Limited 1110-625 Howe Street Vancouver, B.C. V6C 2T6	Dec 18-21/89
D Klit	Geophysicist	"	Sep 19-21/89 Dec 15-19/89
J Cornock	Geophysicist	"	Sept 4-23/89
F Dziuba	Geophysicist	"	Sept 4-23/89
M Reiser	Geophysicist	"	Sept 4-23/89
B Waddington	Geophysical Technician	"	Sep 19-21/89
J Carver	Helper	"	Sept 4-23/89
F Von Heyking	Helper	"	Sept 4-23/89

Lloyd Geophysics

(B)

COST OF SURVEY AND REPORTING

Lloyd Geophysics Limited contracted the IP data acquisition on a per diem basis, the magnetic data on a per kilometre basis plus mobilization charges. Truck charges, living and travelling expenses, data processing, computer plotting, map reproduction and report writing were additional charges. These charges are broken down as follows:

Combined IP and Magnetometer Survey

Mobilization/Demobilization (Travel Time)	$	3,875.00
Truck Charges		2,258.35
Data Acquisition Charges		28,025.00
Living and Travelling Expenses		3,297.73
Data Processing And Computer Plotting		1,900.00
Consumables and Reproduction Costs		524.25
Interpretation And Report Writing		1,400.00
TOTAL COSTS	$	41,280.33

(C)

CERTIFICATION OF SENIOR AUTHOR

I, John Lloyd, of 1110-625 Howe Street, in the City of Vancouver, in the Province of British Columbia, do hereby certify that:

1. I graduated from the University of Liverpool, England in 1960 with a B.Sc. in Physics and Geology, Geophysics Option.

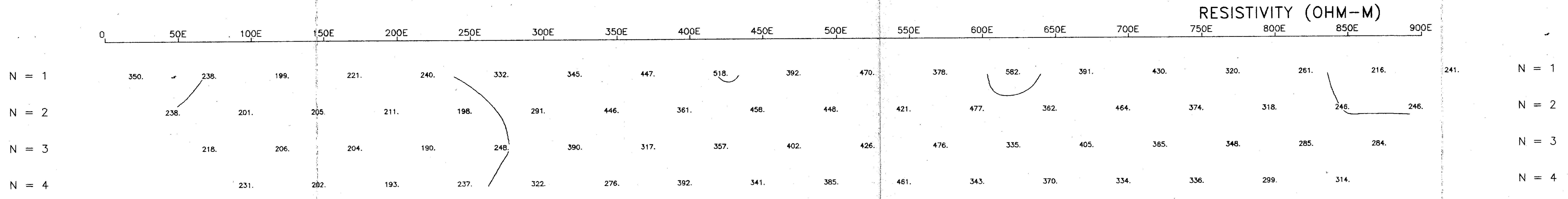
2. I obtained the diploma of the Imperial College of Science and Technology (D.I.C.), in Applied Geophysics from the Royal School of Mines, London University in 1961.

3. I obtained the degree of M.Sc. in Geophysics from the Royal School of Mines, London University in 1962.

4. I am a member in good standing of the Association of Professional Engineers in the Province of British Columbia, the Society of Exploration Geophysicists of America, the European Association of Exploration Geophysicists and the Canadian Institute of Mining and Metallurgy.

5. I have been practising my profession for over twenty-five years.

Vancouver, B.C.
December, 1989



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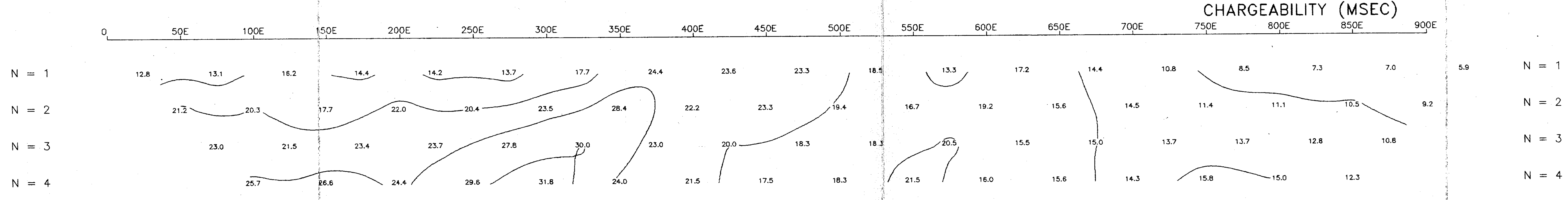
20,018

Part 2 of 2



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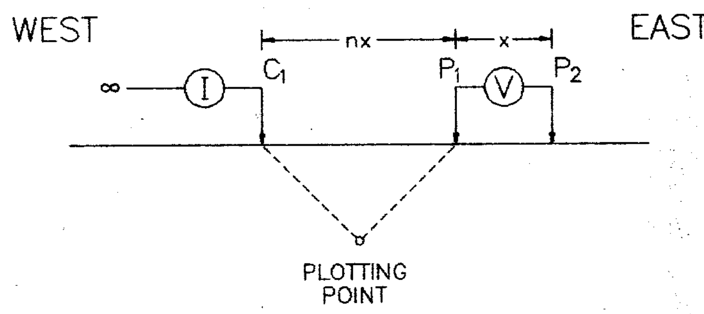
CHUCHI PROJECT

Omenica Mining Division

LINE: 3N

POLE-DIPOLE ARRAY



x = 50m n = 1 - 4

CURRENT ELECTRODE C_1 WEST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

- DEFINITE
- PROBABLE
- POSSIBLE
- AT DEPTH

SCALE 1 : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm-m)

DATE SURVEYED: Sept.23, 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293-16

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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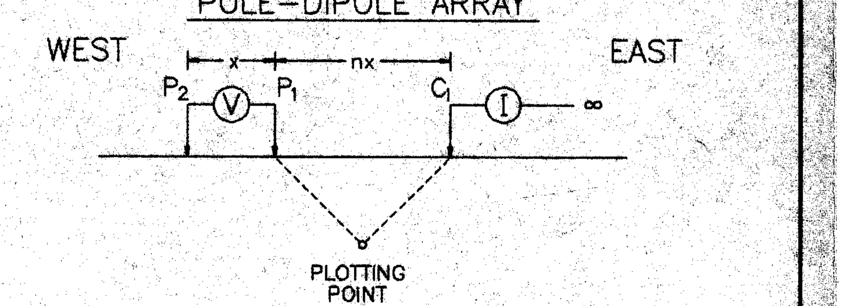
BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

LINE: 11800N

POLE-DIPOLE ARRAY



x = 50m   n = 1 - 4

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

- DEFINITE
- PROBABLE
- POSSIBLE
- AT DEPTH

SCALE 1 : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm-m)

DATE SURVEYED: Sept.22, 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293-15

BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

LINE: 11700N

POLE–DIPOLE ARRAY

WEST — EAST

PLOTTING POINT

x = 50m n = 1 – 4

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE
AT DEPTH

SCALE 1 : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm–m)

DATE SURVEYED: Sept. 21, 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293–14

GEOLOGICAL BRANCH
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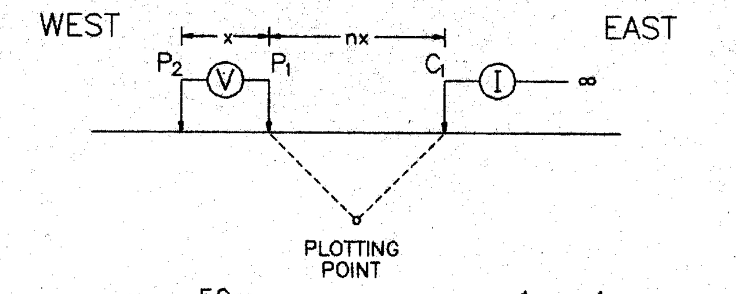
BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

LINE: 11600N

POLE-DIPOLE ARRAY



x = 50m n = 1 - 4

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE
AT DEPTH

SCALE 1 : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm-m)

DATE SURVEYED: Sept.20, 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293-13

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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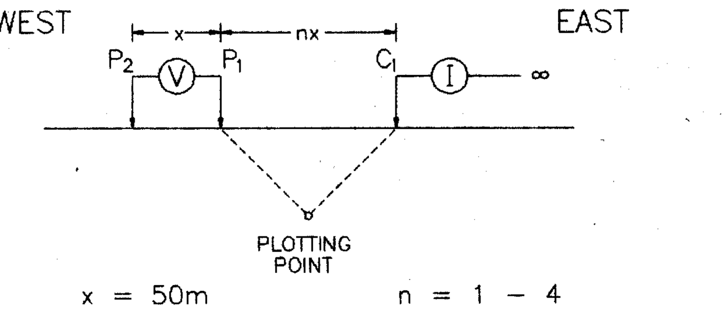
BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

LINE: 11500N

POLE–DIPOLE ARRAY



x = 50m n = 1 – 4

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE
AT DEPTH

SCALE 1 : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm–m)

DATE SURVEYED: Sept.18,19 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293–12

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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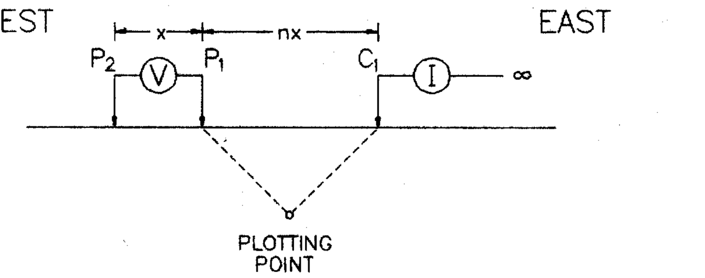
CHUCHI PROJECT

Omenica Mining Division

LINE: 11400N

POLE–DIPOLE ARRAY



x = 50m n = 1 – 4

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE	▬▬▬
PROBABLE	■■■■■
POSSIBLE	//////////
AT DEPTH	••••••••

SCALE 1 : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm–m)

DATE SURVEYED: Sept. 17, 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293–11

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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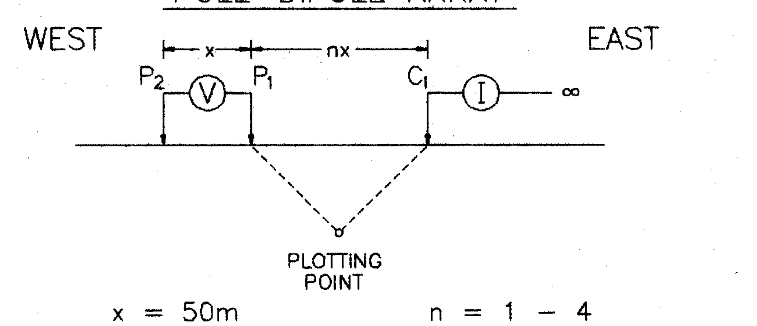
BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

LINE: 11300N

POLE-DIPOLE ARRAY



$x = 50m$ $n = 1 - 4$

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE
AT DEPTH

SCALE 1 : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm-m)

DATE SURVEYED: Sept. 16,17, 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293-10

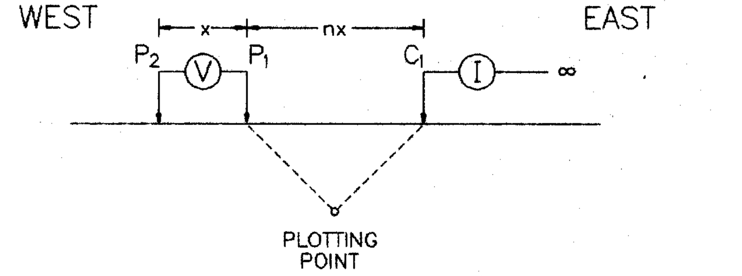
BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

LINE: 11200N

POLE–DIPOLE ARRAY



x = 50m n = 1 – 4

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE
AT DEPTH

SCALE 1 : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm–m)

DATE SURVEYED: Sept. 14,16, 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293–9

RESISTIVITY (OHM-M)

GEOLOGICAL BRANCH ASSESSMENT REPORT

20,018

Part 2 of 2

CHARGEABILITY (MSEC)

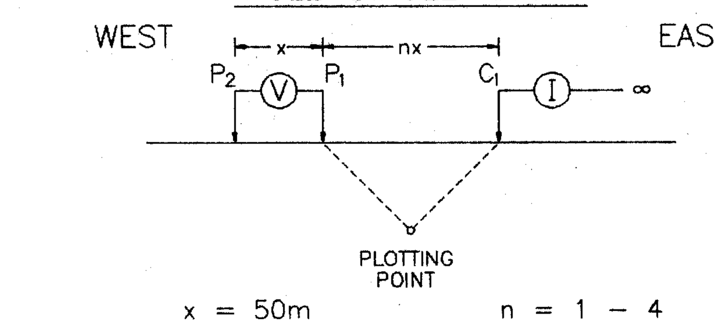
BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

LINE: 11100N

POLE–DIPOLE ARRAY



x = 50m n = 1 – 4

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE
AT DEPTH

SCALE 1 : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm–m)

DATE SURVEYED: Sept.13,14 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293–8

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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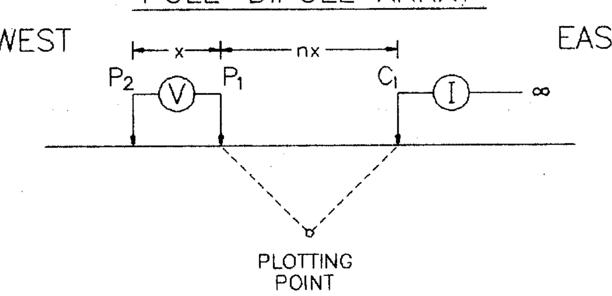
BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

LINE: 11000N

POLE–DIPOLE ARRAY



x = 50m n = 1 – 4

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE
AT DEPTH

SCALE 1 : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm–m)

DATE SURVEYED: Sept.12,13 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293–7

GEOLOGICAL BRANCH
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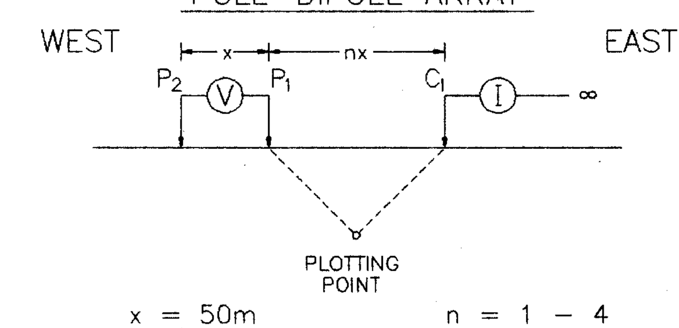
BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

LINE: 10900N

POLE–DIPOLE ARRAY



x = 50m n = 1 – 4

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE
AT DEPTH

SCALE 1 : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm–m)

DATE SURVEYED: Sept.12, 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293–6

GEOLOGICAL BRANCH
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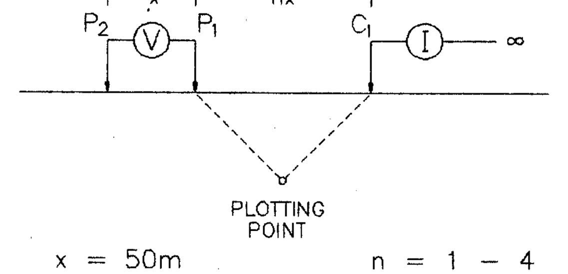
BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

LINE: 10800N

POLE-DIPOLE ARRAY



x = 50m n = 1 – 4

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE
AT DEPTH

SCALE 1 : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm–m)

DATE SURVEYED: Sept.10, 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293–5

GEOLOGICAL BRANCH
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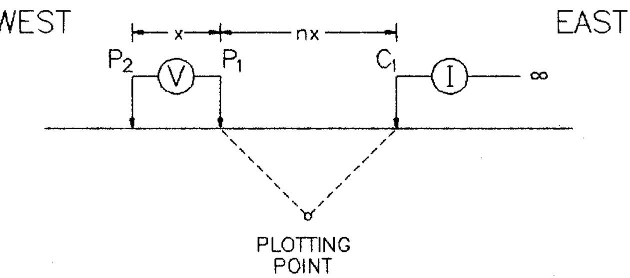
BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

LINE: 10700N

POLE–DIPOLE ARRAY



x = 50m   n = 1 – 4

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE
AT DEPTH

SCALE 1 : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm–m)

DATE SURVEYED: Sept.9, 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293–4

GEOLOGICAL BRANCH
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BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

LINE: 10600N

POLE-DIPOLE ARRAY

WEST — EAST

PLOTTING POINT

x = 50m n = 1 - 4

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE
AT DEPTH

SCALE 1 : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm-m)

DATE SURVEYED: Sept.8, 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293-3

GEOLOGICAL BRANCH
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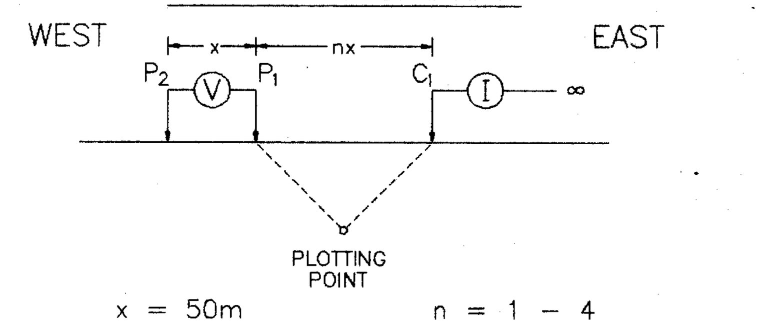
BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

LINE: 10500N

POLE-DIPOLE ARRAY



x = 50m n = 1 - 4

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE
AT DEPTH

SCALE 1. : 2000

CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm-m)

DATE SURVEYED: Sept. 7,1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293-2

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BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

LINE: 10400N

POLE-DIPOLE ARRAY

WEST — EAST

PLOTTING POINT

x = 50m n = 1 – 4

CURRENT ELECTRODE C_1 EAST OF POTENTIAL DIPOLE P_1P_2

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE
AT DEPTH

SCALE 1 : 2000

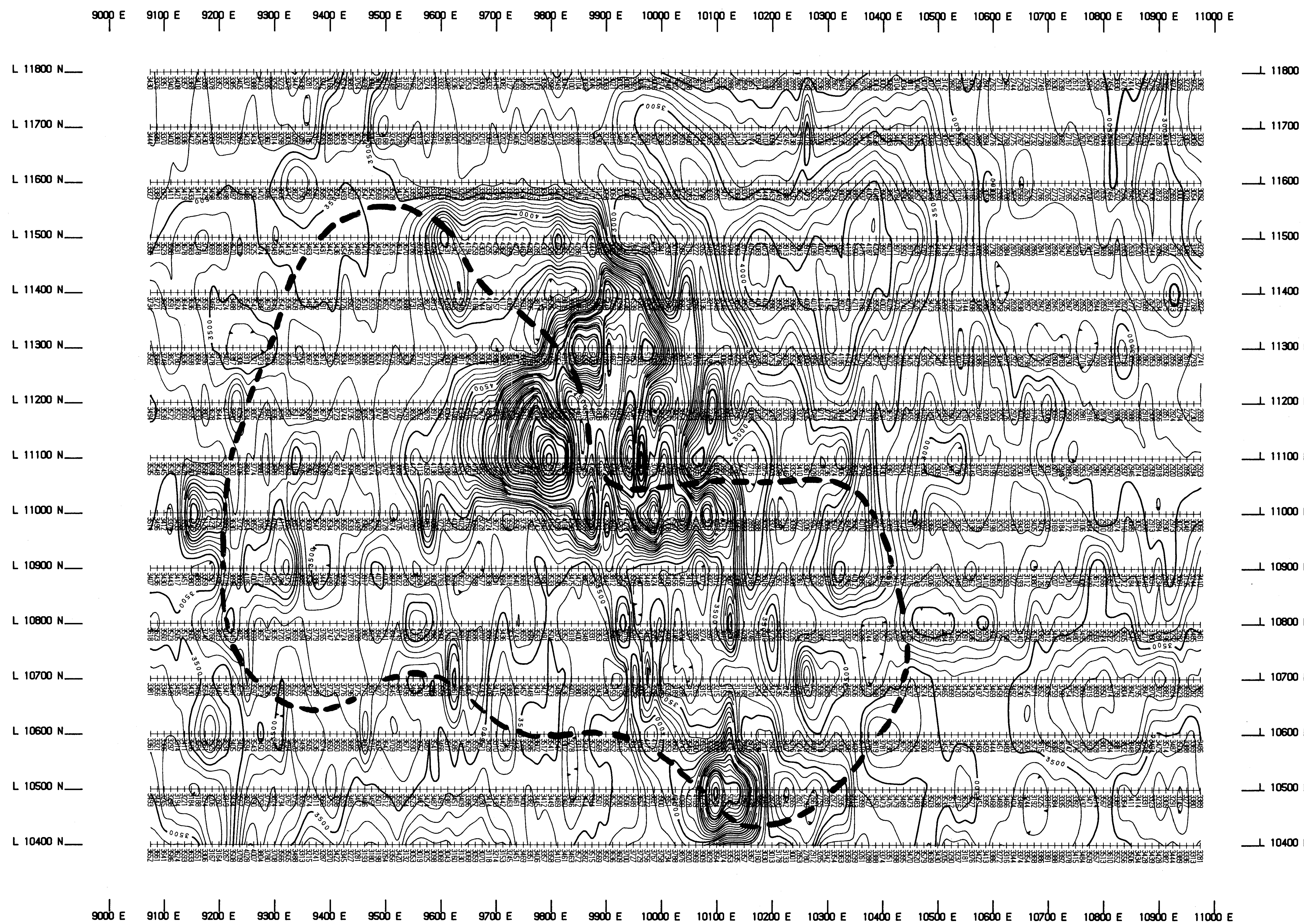
CONTOUR INTERVALS
APP.CHARGEABILITY : 5.0 (msec)
APP.RESISTIVITY : 250 (ohm-m)

DATE SURVEYED: Sept.6, 1989
Tx: Huntec Mk2 Model 7500
Rx: Huntec Mk4

LLOYD GEOPHYSICS LIMITED

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 89293-1



GEOLOGICAL BRANCH
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LEGEND

CONTOUR INTERVALS

———	100 nT
———	500 nT
———	2500 nT

BASE LEVEL OF 56500 nT REMOVED FROM ALL READINGS

INSTRUMENT

EDA OMNI PLUS
EDA OMNI IV BASESTATION

To Accompany a Report by
JOHN LLOYD M.Sc., P. Eng.
December 1989

SCALE 1 : 5000
100 0 100 (metres) 200 300 400

BP RESOURCES CANADA LIMITED

CHUCHI PROJECT
Omenica Mining Division

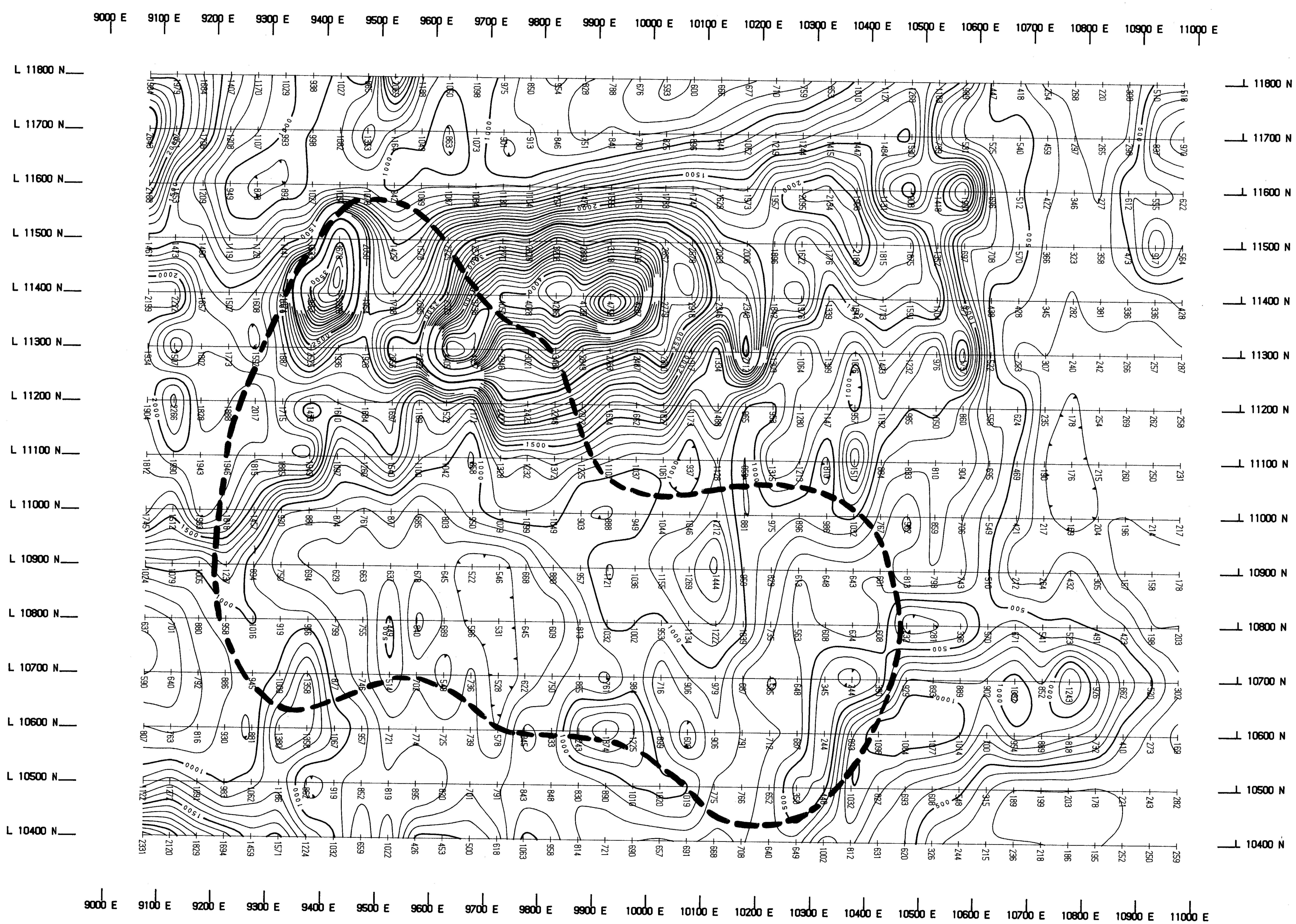
TOTAL FIELD MAGNETIC CONTOURS

NTS 93N/2 and 93N/7

Map Scale 1 : 5000 Drawing : 89293-21

LLOYD GEOPHYSICS LIMITED

FIGURE 17: Ground Magnetometer Survey: Copper-Gold Zone



GEOLOGICAL BRANCH
ASSESSMENT REPORT

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LEGEND

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY

DIPOLE SEPARATION : 50 METERS

CURRENT ELECTRODE EAST OF POTENTIAL DIPOLE

CONTOUR INTERVALS

thin	100 OHM-M
medium	500 OHM-M
thick	2500 OHM-M

To Accompany a Report by

JOHN LLOYD M.Sc., P. Eng.

December 1989

SCALE 1 : 5000

100 0 100 (metres) 200 300 400

BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

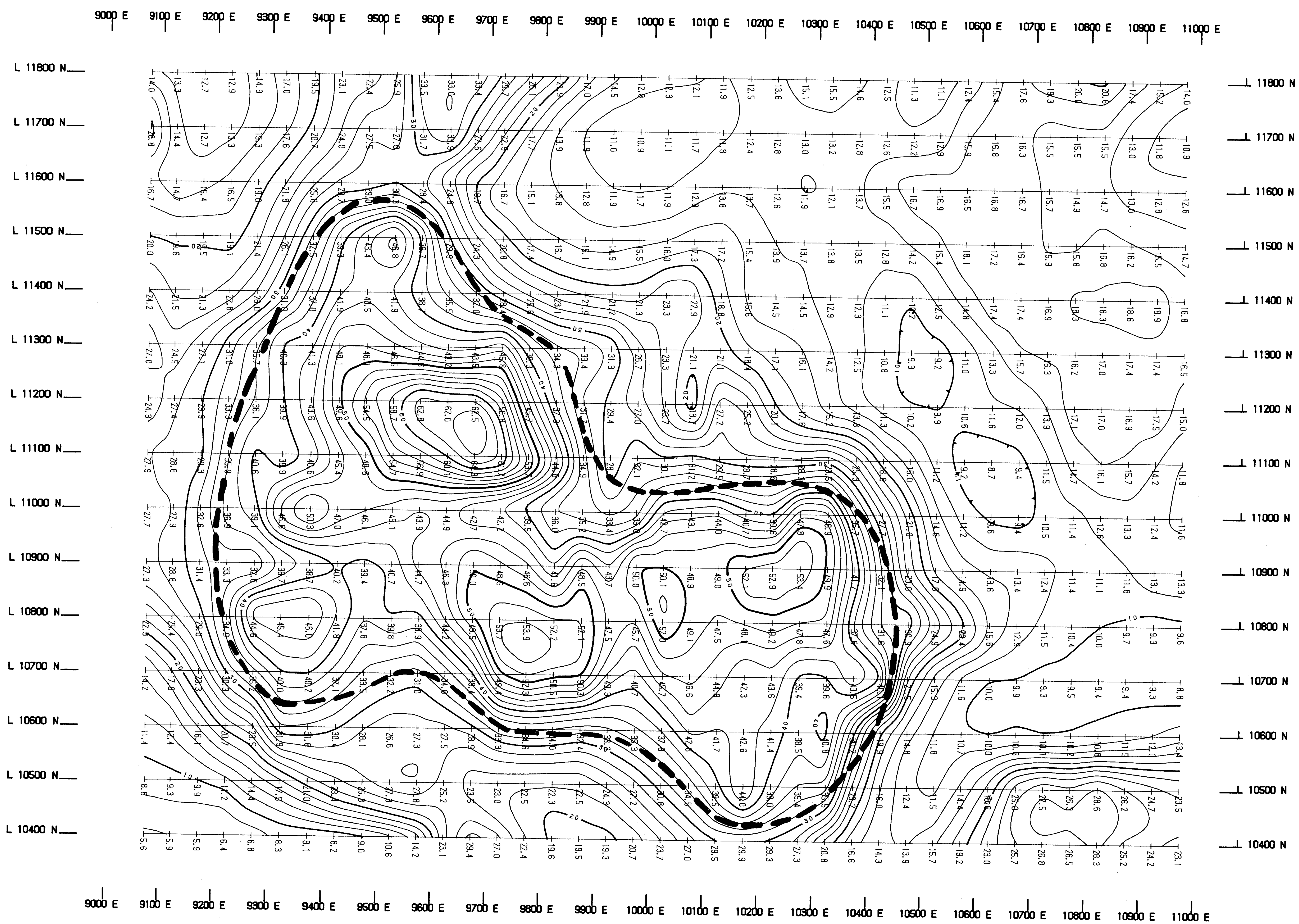
Omenica Mining Division

RESISTIVITY
10 POINT TRIANGULAR FILTER

NTS 93N/2 and 93N/7

Map Scale 1 : 5000 Drawing : 89293-20

LLOYD GEOPHYSICS LIMITED



GEOLOGICAL BRANCH ASSESSMENT REPORT

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LEGEND

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY

DIPOLE SEPARATION : 50 METERS

CURRENT ELECTRODE EAST OF POTENTIAL DIPOLE

CONTOUR INTERVALS

———	2.0 MSEC
———	10.0 MSEC
———	50.0 MSEC

To Accompany a Report by

JOHN LLOYD M.Sc., P. Eng.

December 1989

SCALE 1 : 5000

100 0 100 (metres) 200 300 400

BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

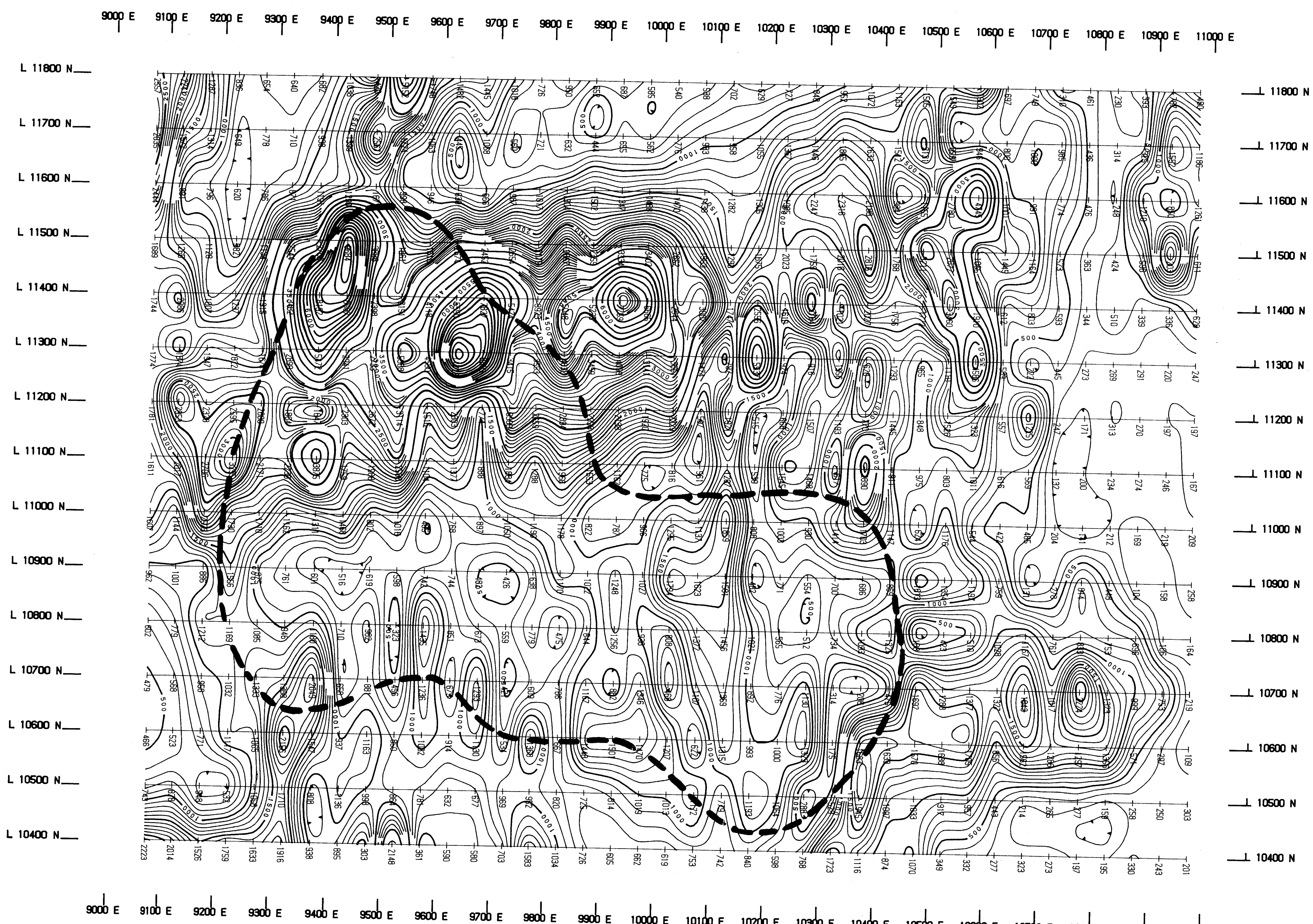
Omenica Mining Division

CHARGEABILITY
10 POINT TRIANGULAR FILTER

NTS 93N/2 and 93N/7

Map Scale 1 : 5000 Drawing : 89293-19

LLOYD GEOPHYSICS LIMITED



GEOLOGICAL BRANCH
ASSESSMENT REPORT

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LEGEND

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY

DIPOLE SEPARATION : 50 METERS

CURRENT ELECTRODE EAST OF POTENTIAL DIPOLE

CONTOUR INTERVALS

100 OHM-M

500 OHM-M

2500 OHM-M

To Accompany a Report by

JOHN LLOYD M.Sc., P. Eng.

December 1989

SCALE 1 : 5000

100 0 100 (metres) 200 300 400

BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

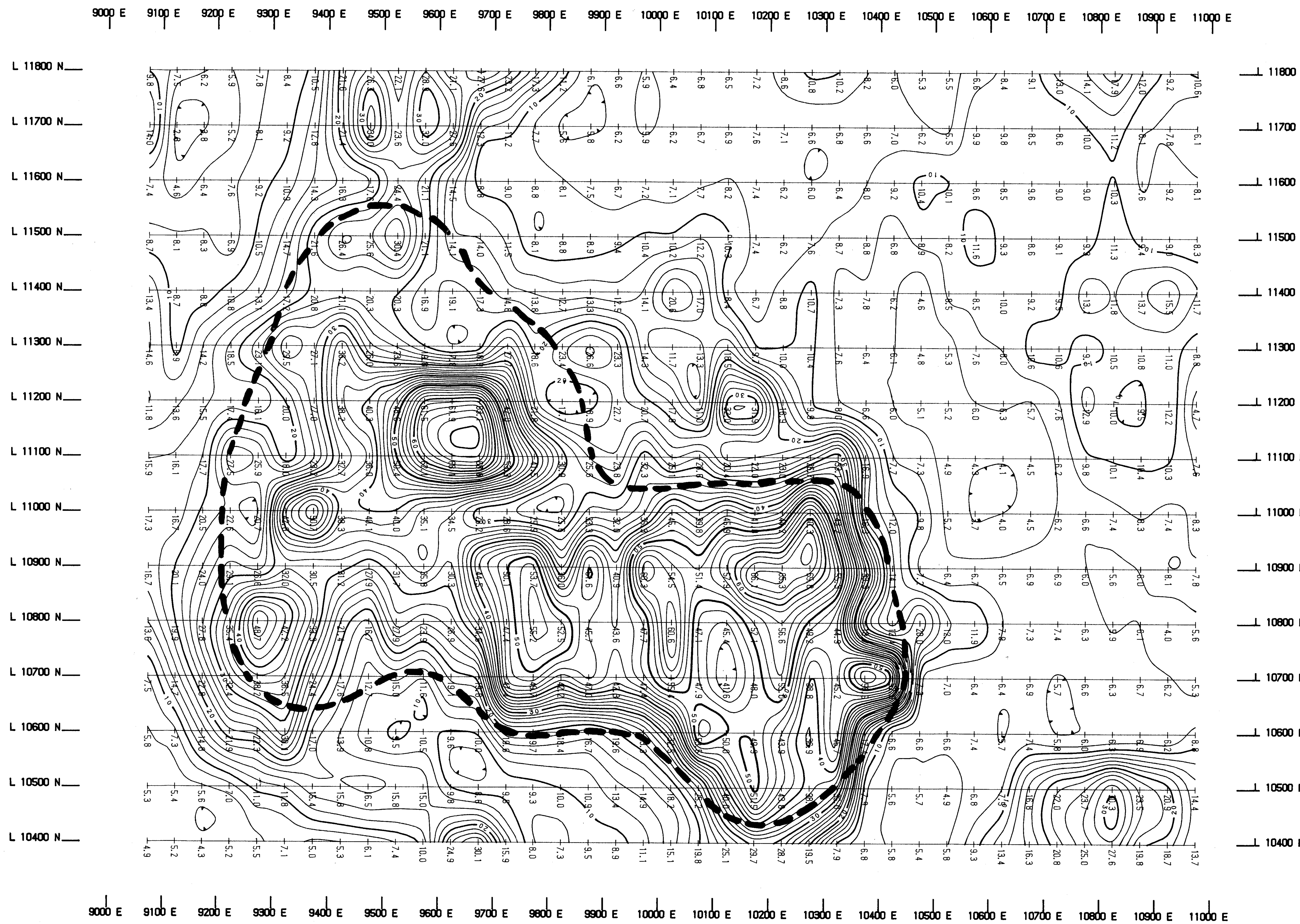
Omenica Mining Division

RESISTIVITY N = 1

NTS 93N/2 and 93N/7

Map Scale 1 : 5000 Drawing : 89293-18

LLOYD GEOPHYSICS LIMITED



GEOLOGICAL BRANCH
ASSESSMENT REPORT

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LEGEND

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY

DIPOLE SEPARATION : 50 METERS

CURRENT ELECTRODE EAST OF POTENTIAL DIPOLE

CONTOUR INTERVALS

2.0 MSEC

10.0 MSEC

50.0 MSEC

To Accompany a Report by

JOHN LLOYD M.Sc., P. Eng.

December 1989

SCALE 1 : 5000

100 0 100 (metres) 200 300 400

BP RESOURCES CANADA LIMITED

CHUCHI PROJECT

Omenica Mining Division

CHARGEABILITY N = 1

NTS 93N/2 and 93N/7

Map Scale 1 : 5000 Drawing : 89293-17

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