

AN ASSESSMENT REPORT ON AN
INDUCED POLARIZATION SURVEY ON THE
OPHIR PROPERTY

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VANCOUVER, B.C.

CLINTON MINING DIVISION
BRITISH COLUMBIA

LATITUDE 51°58'NORTH
LONGITUDE 121°20'WEST
NTS 92P/14W

FOR

ASARCO EXPLORATION COMPANY OF CANADA LIMITED

BY

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

and

S. John A. Cornock, B.Sc.

LLOYD GEOPHYSICS INC.

VANCOUVER, BRITISH COLUMBIA

OCTOBER, 1991

GEOLOGICAL BRANCH
ASSESSMENT REPORT

282
21,982

SUMMARY

From September 3rd to September 19, 1991, Lloyd Geophysics Inc. carried out an Induced Polarization (IP) survey near Lac La Hache, British Columbia on the Ophir Property held under option by Asarco Exploration Company of Canada Limited.

A 7 hole drill programme totalling 550 metres is recommended to further test Zones 1, 2 and 3. No further exploration is recommended for Zone 4.

Additional IP surveying is also recommended where land holdings permit to close off Zone 2 which remains open to the east and south and Zone 3 which is open to the east.

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1.0 INTRODUCTION

From September 3, 1991 to September 19, 1991 Lloyd Geophysics Inc. conducted an Induced Polarization (IP) survey on the Ophir Property near Lac La Hache, British Columbia for Asarco Exploration Company of Canada Limited.

2.0 PROPERTY LOCATION AND ACCESS

The Ophir property is located at 51°58'North latitude and 121°20'West longitude in the Clinton Mining Division, NTS 92P/14W (see Figure 1). Access to the property is via the Murphy Lake Road from Lac La Hache, British Columbia for approximately 23 kilometres north and then east along a secondary road for close to 10 kilometres.

3.0 PROPERTY STATUS AND CLAIM HOLDINGS

The Ophir Property consists of 2 mineral claims - the Ann 1 and Ann 2 (see Figure 2).

4.0 GEOLOGY

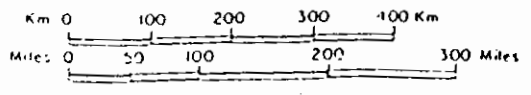
4.1 Regional Geology

The Spout Lake - Timothy Mountain region comprises Triassic age clastic, pyroxene-bearing porphyritic andesites and breccias of the Nicola Group which have been intruded by a complex plutonic assemblage. this assemblage extends from Peach Lake east to Takomkane



Figure 1

ASARCO EXPLORATION COMPANY OF CANADA LIMITED
PROPERTY LOCATION MAP
OPHIR PROPERTY



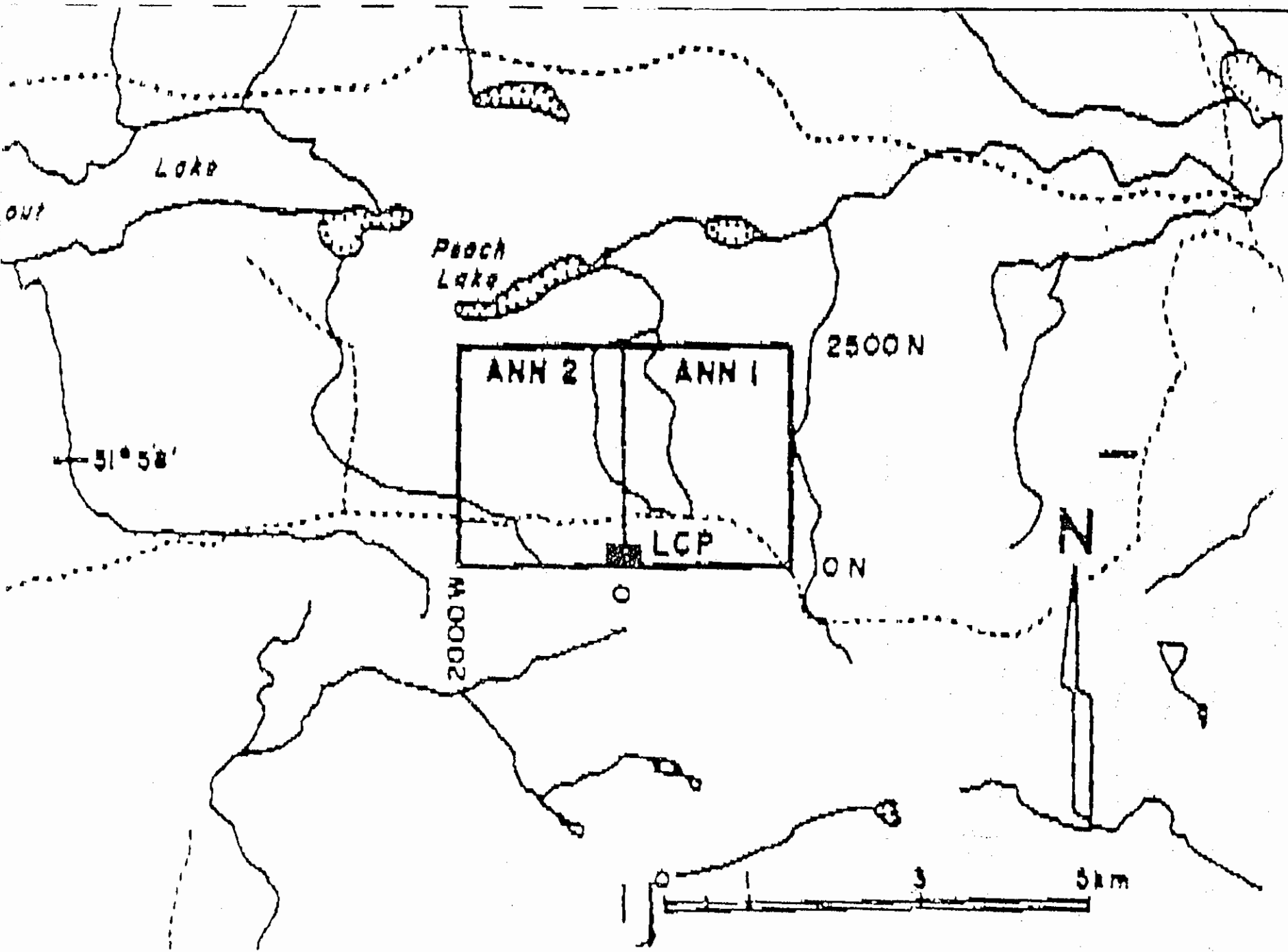


Figure 2 Ophir Claims

Mountain (Campbell, 1961; Campbell and Tipper, 1966). A magnetic high about 8 kilometres in diameter to the south of Peach and Spout Lakes depicts a syenite boss which makes up the westernmost part of the assemblage. Intense metamorphism and metasomatism of fine syenodiorite are present in the Nicola rocks implying a possible contact facies of the main pluton or the syenite boss. Tangent to the eastern rim of the magnetic high is a linear magnetic low which strikes 170° . This low corresponds with sheared rocks found here and probably denotes a major shear zone. Overlaying these rocks, mainly to the west, are Miocene plateau basalt flows.

4.2 Local Geology

The Ophir property is comprised of syenodiorite dykes intruding into rocks of the Nicola Group. Miocene plateau basalts overlie these rocks in many areas.

The Nicola rocks are, upon closer inspection, volcanic tuff breccias with dark green clasts varying in size from 2 to 8 centimetres. Locally throughout the property the rocks vary from argillite to andesitic and basaltic crystal tuffs.

The syenodiorite is a medium-grey rock with a few larger pyroxene crystals scattered randomly throughout. Foliation is common and is oriented by plagioclase laths. Associated with the syenodiorite are small dykes of syenite which intrude into the volcanic rocks and are truncated by the syenodiorite. Small aplitic dykes are also present both in and out of the syenodiorite.

Metamorphism, Metasomatism and Alteration

A contact aureole was formed when the syenodiorite intruded into the volcanic rocks. Kaolinization and incipient growth of epidote is also present, indicating metasomatic alteration.

Alteration occurs in areas where fragments of breccia are replaced with potassium feldspar and some carbonates. This results in the rock being given a pinkish hue. The volcanic rocks are composed of pyroxene crystals set in a granulitic matrix of plagioclase, potassium feldspar, biotite, epidote and minor quartz. However, in the areas of intense alteration, the pyroxene crystals are destroyed to become granoblastic in texture dominated by irregular epidote and actinolite crystals with minor calcite and quartz.

Alteration of the syenodiorite is not intense and is mainly associated with the aplitic dykes and mineralization. Red alteration of the potassium feldspar and plagioclase is common.

Mineralization

Chalcopyrite is the only primary ore mineral of importance. Pyrite and magnetite are also present but very sparse. The chalcopyrite is associated with amphibole, potassium feldspar, tourmaline, aplitic syenite dykes and in dry fractures.

The Ophir property offers a strong resemblance to the Cariboo Bell property near Williams Lake in terms of the rock units and their composition. However, brecciation and alteration are not as intense at Ophir as at the Cariboo Bell.

5.0 INSTRUMENT SPECIFICATIONS

The IP system used to carry out this survey was a time domain measuring system manufactured by Hunttec 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.

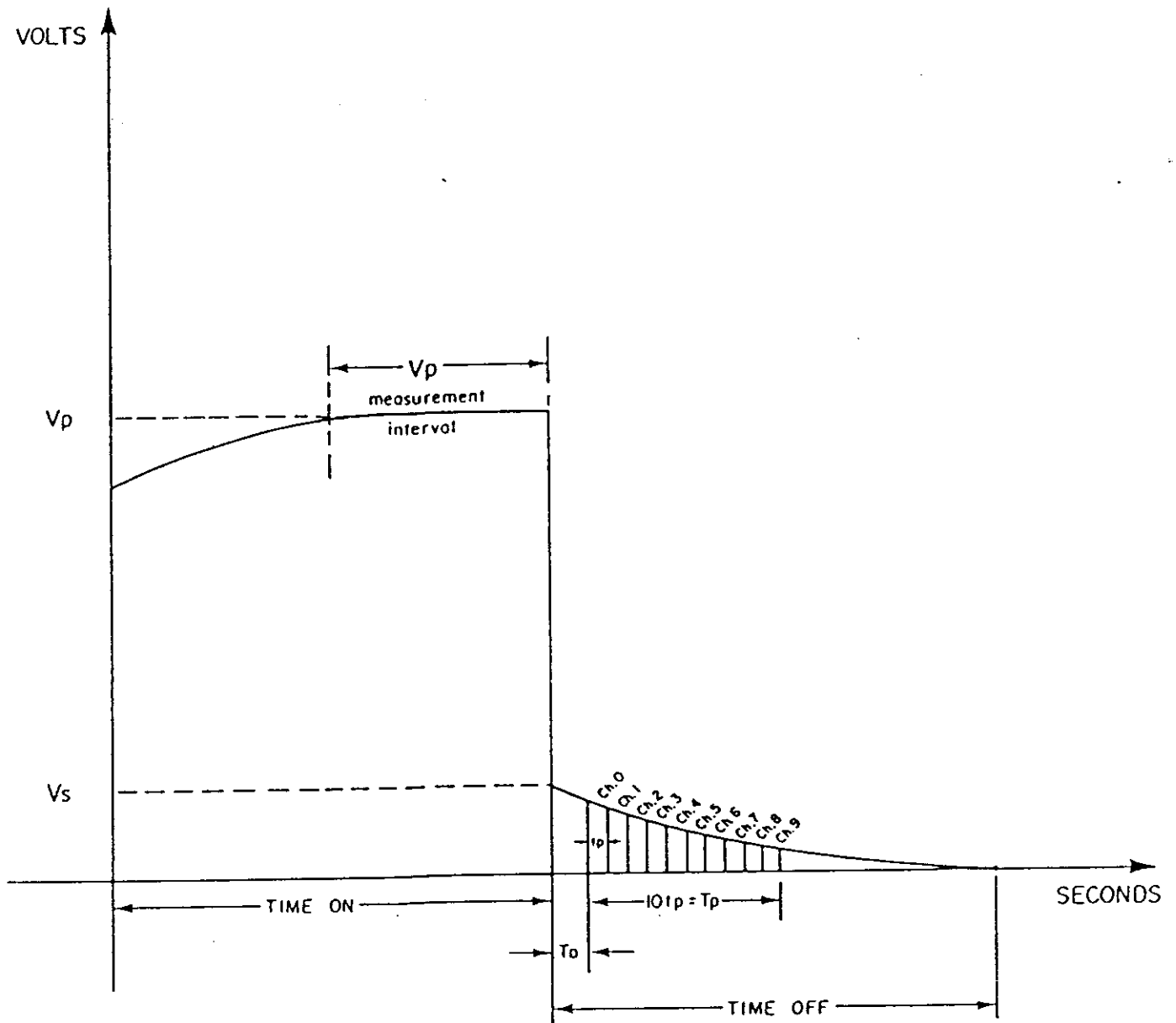
The Mark II Transmitter was operated with a cycle time of 8 seconds and the duty cycle ratio: [(time on)/(time on + time off)] was 0.5. This means the cycling sequence of the transmitter was 2 seconds current "on" and 2 seconds current "off" with consecutive pulses reversed in polarity.

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, Ch₀, Ch₁, Ch₂, Ch₃, Ch₄, Ch₅, Ch₆, Ch₇, Ch₈, Ch₉ (see Figure 3). These may be recorded individually, selectively or summed up automatically to obtain the total chargeability.

The apparent resistivity (ρ_a) in ohm-metres is calculated on the field computer, using the



MARK IV RECEIVER MEASUREMENT PARAMETERS

Figure 3

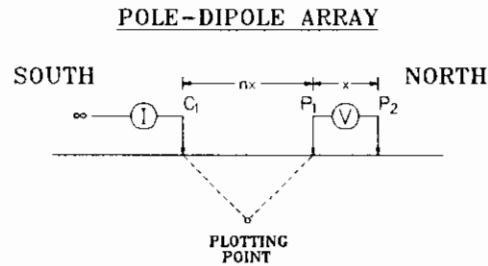
primary voltage (V_p), the measured current (I_g) and some factor (K) which is dependent on the geometry of the array used.

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

6.0 SURVEY SPECIFICATIONS

The IP survey was accomplished using a POLE-DIPOLE array with the current electrode, C_1 SOUTH of the potential dipole (P_1P_2) as shown below:



$$x = 50 \text{ metres} \quad n = 1, 2, 3 \text{ and } 4$$

Measurements were taken for $x = 50$ metres and $n = 1, 2, 3$ and 4 on lines 200 metres apart. 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.

7.0 DATA PROCESSING

The data collected was processed in the field at the end of each survey day using a portable computer/printer system. Pseudo-sections were plotted regularly for a review of anomalies, to check data integrity and for inspection by the client. These pseudo-sections were plotted, contoured and printed using in-house software based on the mathematical solution known as kriging.

In the Vancouver office the data was transferred to mylar using a Compaq 386 computer coupled to a Hewlett Packard Draftmaster II plotter for preparation of sections and contour maps.

8.0 DATA PRESENTATION

The data gathered from the IP survey described in this report are presented on 14 pseudo-sections, 2 Contour Maps and a Geologic Interpretation Map as follows:

Pseudo-Sections

<u>Line No.</u>	<u>Dwg. No.</u>	<u>Line No.</u>	<u>Dwg. No.</u>
0	91325-18	1200E	91325-24
200E	91325-19	1400E	91325-25
400E	91325-20	1600E	91325-26
600E	91325-21	1800E	91325-27
800E	91325-22	2000E	91325-28
1000E	91325-23		

Plan Maps

Chargeability 10 Point Triangular Filter	91325-29
Resistivity 10 Point Triangular Filter	91325-30
*Local Geology Interpretation Map	91325-31

*Geological Interpretation is based on the writers' interpretation of geophysical data, drill hole information, geological reports and verbal discussions with Mr. Tom Horning of Asarco Exploration Limited (Spokane).

9.0 DISCUSSION OF RESULTS

The Ophir Property was discovered in 1966 from a reconnaissance soil geochemistry survey. Since that time a number of exploration programmes have been undertaken in order to determine its potential as a mineral deposit.

In 1967 a standard airborne magnetic survey (flight altitude of 1000 feet) was conducted by Lockwood Survey Corporation Ltd. and published by the Department of Energy, Mines and Resources, Ottawa.

In the early 1970's a small reconnaissance IP survey was carried out along the shore of Peach Lake and resulted in the detection of some anomalies.

Lloyd Geophysics Inc. has now completed the 1991 IP survey south of the original IP grid and is the topic now to be discussed in further detail.

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

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 presence of magnetite, graphite, clay minerals and variably altered rocks
6. The electrode array employed
7. The width, depth, thickness and strike length of the mineralized body and its location relative to the array
8. The resistivity contrast between the mineralized body and the unmineralized host rock

Based on this comparison the IP method is an excellent exploration tool to search for a similar deposit on this property.

The anomalies selected from the analysis of the data are shown on the individual pseudo-sections and are classified into 4 groups. These are definite, probable and possible and anomalies which have a deeper source.

This classification is based partly on the relative amplitudes of the chargeability and on the resistivity response which has shown to be a very useful parameter in this geologic scenario. The IP signatures provided line to line correlation of responses enabling the writer to produce a geological interpretation map based on the geophysical data as well as from drill hole information, geologic reports and from communication with the Client.

The extent of basaltic rocks over this property makes interpretation a little more complex as some deeper responses may be masked by the basalt. However 4 main zones showing a strong IP response have been delineated (see Dwg. No. 91325-29).

Zone 1

This zone covers an area of approximately 600 metres by 600 metres and has chargeabilities ranging from 9 to almost 40 milliseconds with a background of around 3 milliseconds.

There is a sharp change in resistivity across this anomaly from 400 ohm-metres to 1200 ohm-metres indicating a fault and/or geologic contact. Percussion drill hole information from P91-12 and P91-14 confirm the existence of a fault/contact as P91-12 encountered syenodiorite while P91-14 encountered basaltic rocks.

The syenodiorite found in P91-12 has been interpreted to extend for another 900 metres to the east and is recommended for further exploration by drilling.

Zone 2

This zone could be considered an extension of Zone 1 but due to its stronger chargeability response (up to 50 milliseconds) it will be treated as a separate entity.

Experience has shown that in many cases chalcopyrite and lesser amounts of pyrite are often found on the flanks of strong chargeability anomalies with the strong central core of these anomalies being caused mainly by pyrite. A reasonable understanding of the geology and alteration is necessary to assess this situation.

Drill holes P91-10-, P91-11 and P91-16 were collared outside the core of the anomaly and intersected about 50% syenodiorite and 50% basalt.

In Zone 4 a chargeability response similar to the chargeability response over the core of this

anomaly returned strong concentration of pyrite in basalts in holes P91-07 and P91-08.

Line 1600E at 350N shows a strong chargeability response associated with a narrow zone of low relative resistivity suggesting a dyke-like structure. This target is worthy of further exploration by drilling.

<u>Hole</u>	<u>Location</u>	<u>Attitude</u>	<u>Depth (metres)</u>
1	1600E/350N	-90°	100
2	1600E/425N	-90°	100
3	1600E/500N	-90°	100

Where land holdings permit, additional IP is also recommended to the east and south to close off the anomaly.

Zone 3

A moderately defined pant-leg signature indicates a shallow and probably a fairly narrow structure.

Drilling is recommended to test this structure at the following coordinates.

<u>Hole</u>	<u>Location</u>	<u>Attitude</u>	<u>Depth (metres)</u>
1	1600E/1500N	-90°	50
2	1600E/1600N	-90°	50
3	1600E/1700N	-90°	50

Additional coverage by IP is also recommended to determine the extent of the anomaly picked up on line 2000E at 1300N.

Zone 4

This zone is characterized by chargeabilities ranging from 6 to over 40 milliseconds with a background of around 4 milliseconds with resistivities ranging from 400 to 700 ohm-metres.

Drill holes P91-07 and P91-08 encountered basalts and basaltic crystal tuffs with strong hydrothermal alteration and a high percentage of pyrite. This response is consistent throughout this zone with no indications of other structures.

If drill assay results show no promising results then no further exploration by drilling is recommended. If results do show adequate values then step-out holes 100 metres from P91-07 are recommended to the east.

10.0 CONCLUSIONS AND RECOMMENDATIONS

From a study of the IP data described in this report, it has been concluded that of the 4 chargeability anomalies detected during the course of the survey, 3 of them are worthy of further exploration by drilling.

Initially, 550 metres of drilling is recommended over 7 holes as listed below:

<u>Hole</u>	<u>Location</u>	<u>Attitude</u>	<u>Depth (metres)</u>
<u>Zone 1</u>			
1	1000E/400N	-90°	100
<u>Zone 2</u>			
2	1600E/350N	-90°	100
3	1600E/425N	-90°	100
4	1600E/500N	-90°	100
<u>Zone 3</u>			
5	1600E/1500N	-90°	50
6	1600E/1600N	-90°	50
7	2000E/1700N	-90°	50


To pin point the locations of the intrusive dykes and dry fractures it is recommended that some of these targets be tested again with a pole-dipole IP array with a dipole length of 25 metres and $x = 1, 2, 3, 4, 5$ and 6 . This would provide an adequate depth penetration with an increase in sensitivity.

Respectfully Submitted,
LLOYD GEOPHYSICS INC.



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

Geophysicist



S. John A. Cornock, B.Sc.

Geophysicist

(A)

PERSONNEL EMPLOYED ON SURVEY

<u>Name</u>	<u>Occupation</u>	<u>Address</u>	<u>Dates</u>
J Lloyd	Geophysicist	LLOYD GEOPHYSICS INC. 1503-1166 Alberni Street Vancouver, B.C. V6E 3Z3	Nov 1/91
J Cornock	Geophysicist	"	Sept 3-19/91 Oct 28-31/91
J Warne	Geophysicist	"	Sept 7-19/91
J Carver	Geophysical Technician	"	Sept 3-19/91
A Lloyd	Geophysical Technician	"	Sept 3-6/91
C Bilquist	Helper	"	Sept 3-19/91
F VonHeyking	Helper	"	Sept 3-19/91

(B)

COST OF SURVEY AND REPORTING

Lloyd Geophysics Inc. contracted the IP data acquisition on a per diem basis. The mobilization/demobilization of a 5 man crew and equipment was at a fixed cost. Living and travelling expenses, truck charges, data processing, consumables and map reproduction and interpretation and report writing were additional costs. The breakdown of these costs was as follows:

IP Data Acquisition	\$ 20,400.00
Mobilization/Demobilization	775.00
Living & Travelling Expenses	4,280.94
Truck Charges	2,004.13
Data Processing	300.00
Consumables and Map Reproduction	309.00
Interpretation and Report Writing	<u>1,200.00</u>
Sub-Total	\$ 29,269.07
G.S.T.	<u>2,048.83</u>
TOTAL	\$ <u>31,317.90</u>

(C)

CERTIFICATION OF SENIOR AUTHOR

I, John Lloyd, of 1503-1166 Alberni 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.

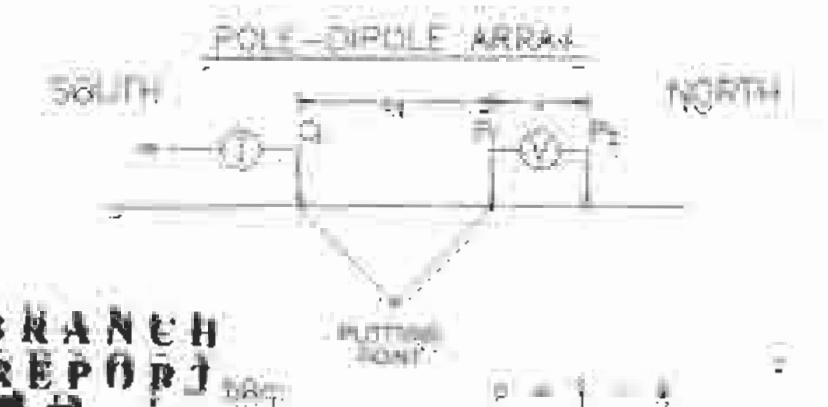
Vancouver, B.C.

October, 1991

ASARCO EXPLORATION
COMPANY OF CANADA

LAC LA HASHE PROJECT
Dipole Grid

LINE: 0

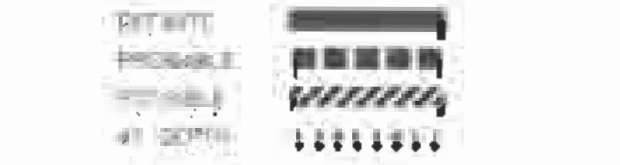


GEOLOGICAL BRANCH
ASSESSMENT REPORT

21,982

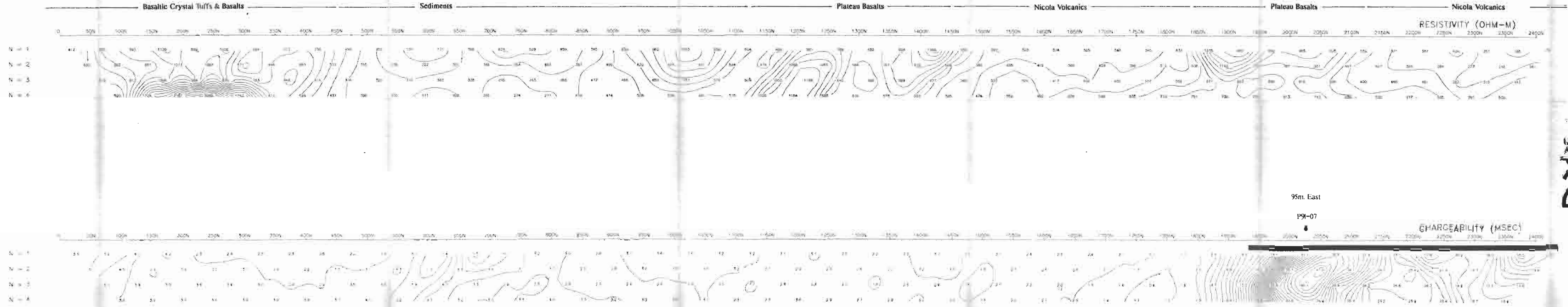
CURRENT ELECTRODE C1 SOUTH
POTENTIAL DIPOLE P1P2

SURFACE PROJECTION
OF ANOMALOUS ZONES



CONTOUR INTERVAL: 1.0 (msec)
APP. CHARGEABILITY: 100 (msec)
APP. RESISTIVITY: 100 (ohm-m)
DATE SURVEYED: 1982-05-19
BY: H. M. & M. B. F. S. D.

LLOYD GEOPHYSICS INC.
INDUCED POLARIZATION SURVEY

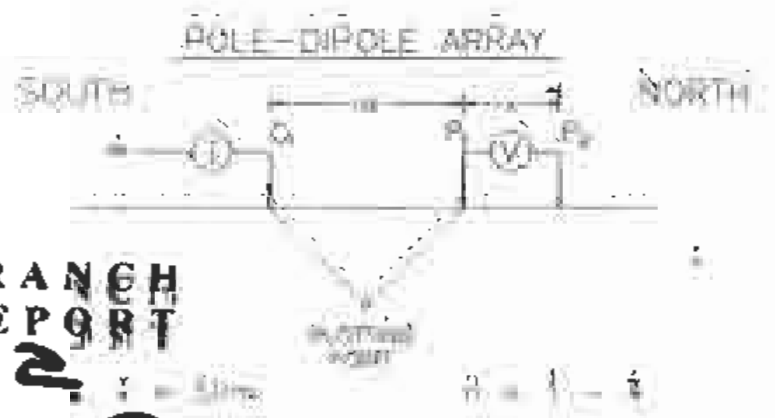


ASARCO EXPLORATION
COMPANY OF CANADA

LAC LA HASHE PROJECT

Epit 892

LINE: 200E



GEOLOGICAL BRANCH
ASSESSMENT REPORT

~~200E~~
21,982

CURRENT ELECTRODE C1 SOUTH
POTENTIAL ELECTRODE P1

SURFACE PROJECTION
OF APPARENT RESISTIVITY



SCALE 1:2500

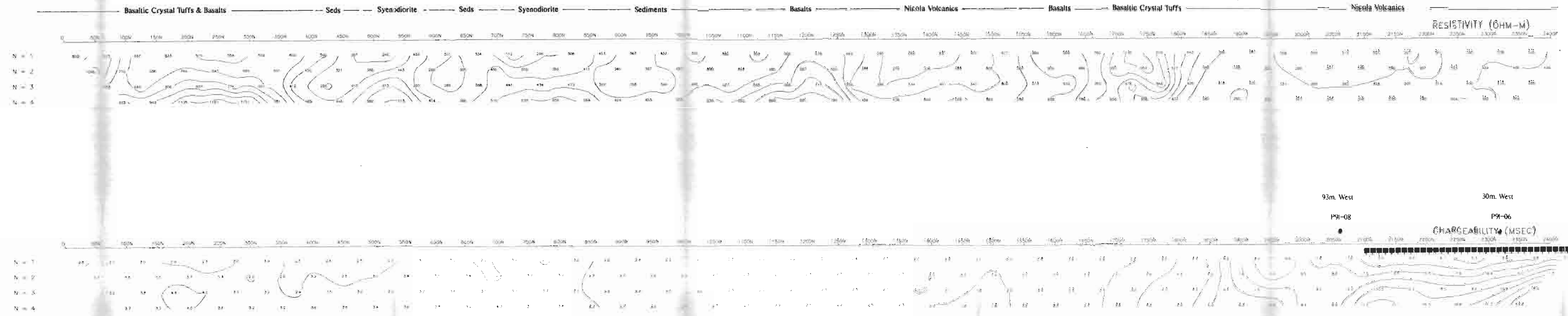
LOCATION INTERVALS
APPARENT RESISTIVITY (100 ohm-m)
CHARGEABILITY (100 msec)

DATE SURVEYED: Sep 26-1991
BY: RUSSEL MAJ, MSc, PhD
PL: GPH-1147

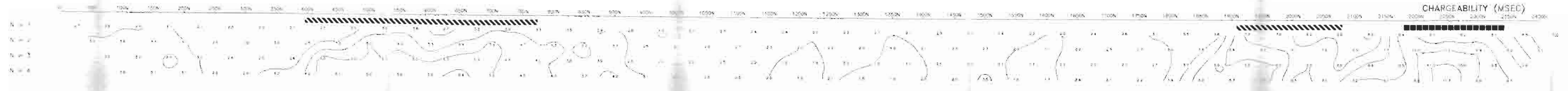
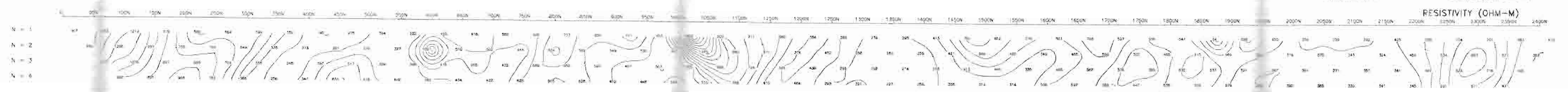
LLOYD GEOPHYSICS INC.

INDUCED POLARIZATION SURVEY

DRAWING NUMBER: 61325-10



Basaltic Crystal Tuffs — Basalts — Andesitic Tuffs & Seds — Basalts — Basaltic Crystal Tuffs — Basalts — Nicola Volcanics — Basalts — Nicola Volcanics — Basaltic Crystal Tuffs (?)



GEOLOGICAL BRANCH
ASSESSMENT REPORT
~~APPENDIX 2~~
21,982

CURRENT ELECTRODE C - SOUTH
OF POTENTIAL DIPOLE PP1

SURFACE PROJECTION
OF ANOMALOUS ZONES

IDENTITY: [Symbol]
PROBABLE: [Symbol]
PROBABLE AT DEPTH: [Symbol]

SCALE: 1:2500

DIAGRAMS BY: [Symbol]
APP-CHARGEABILITY: 1.0 (msec)
APP-RESISTIVITY: 100 (ohm-m)

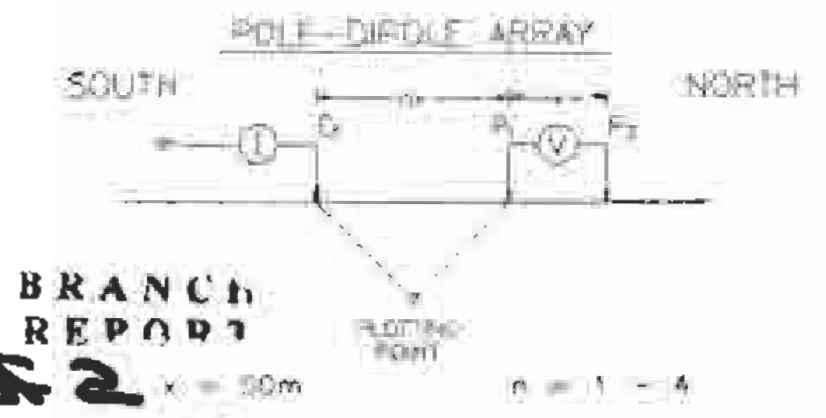
SITE SURVEYED: [Symbol]
By: [Symbol] [Symbol] [Symbol] [Symbol]
By: EDA 9-0

ASARCO EXPLORATION
COMPANY OF CANADA

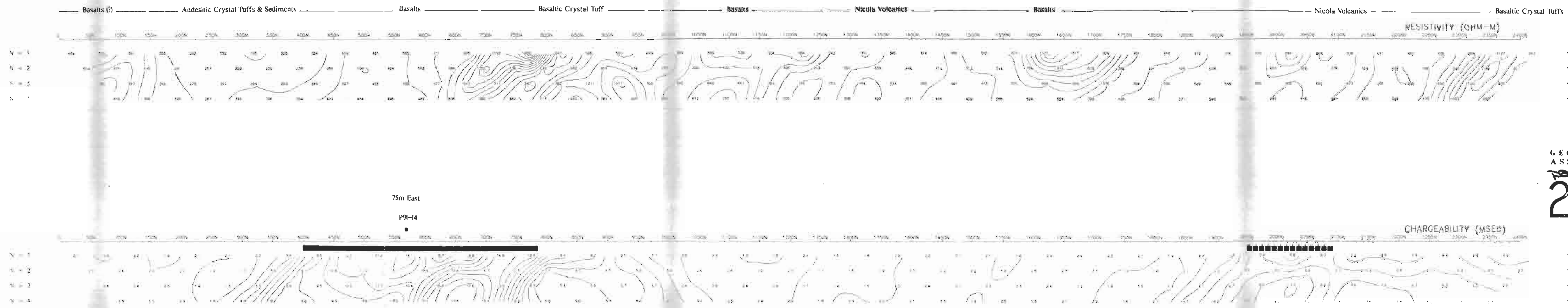
LAC LA HACHE PROJECT

Uplift Grid

LINE: 400E



LLOYD GEOPHYSICS INC.
INDUCED POLARIZATION SURVEY
DRAWING NUMBER: 97325-30

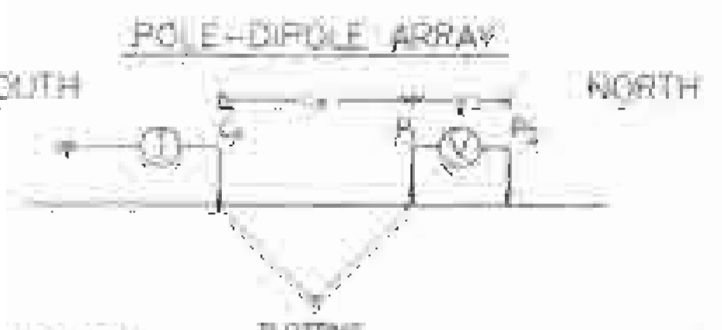


ASARCO EXPLORATION
COMPANY OF CANADA

LAC LA HACHE PROJECT

Copier Grid

LINE: 600E



GEOLOGICAL BRANCH
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CURRENT ELECTRODE G: SOUTH
POTENTIAL DIPOLE P-P2

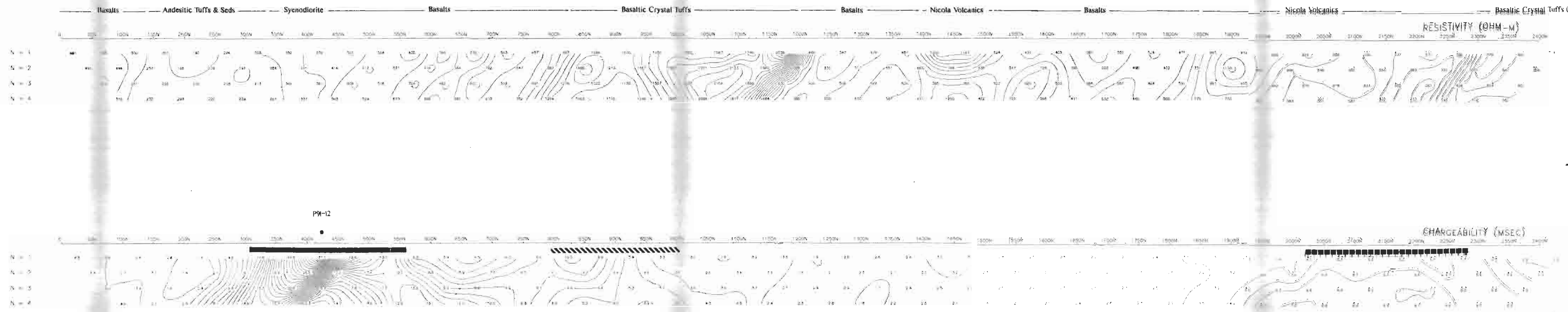


DATE: 1988
BY: [unclear]
APP: [unclear]
SCALE: 1:2000
SYSTEM: [unclear]
BY: [unclear]
APP: [unclear]
DATE: [unclear]
BY: [unclear]
APP: [unclear]

LLOYD GEOPHYSICS INC.

INDUCED POLARIZATION SURVEY

DRAWING NUMBER: 91225-21

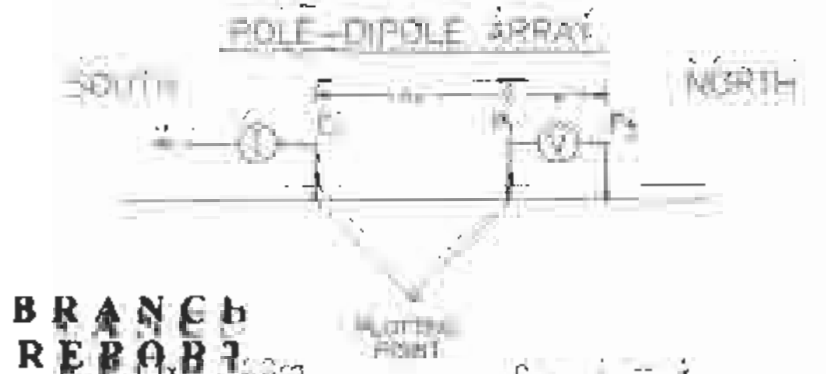


ASARCO EXPLORATION
COMPANY OF CANADA

LAC LA HACHE PROJECT

Optic Grid

LINE: 800E



GEOLOGICAL BRANCH
ASSESSMENT REPORT

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ELECTRODE A SOUTH
POTENTIAL DIPOLE PA

SMALL PROJECTION
OF APPROPRIATE SCALE



SCALE: 1:2000

CONTACT RESISTANCE
AND CALCULATED
APP RESISTIVITY

DATE SURVEYED: Sep 10, 1991

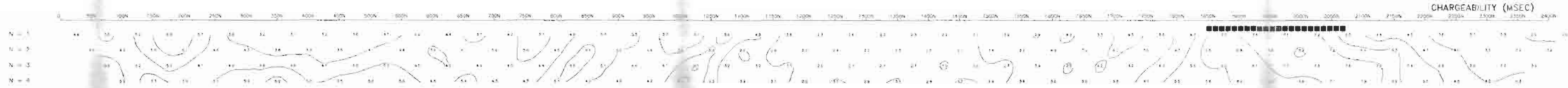
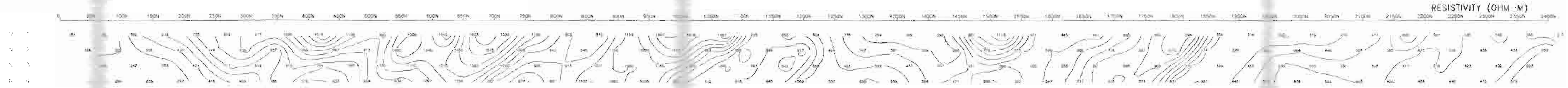
BY: [Signature]

LLOYD GEOPHYSICS INC.

INDUCED POLARIZATION SURVEY

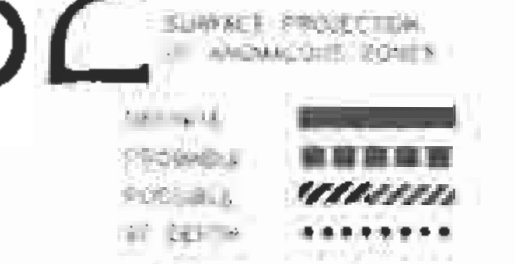
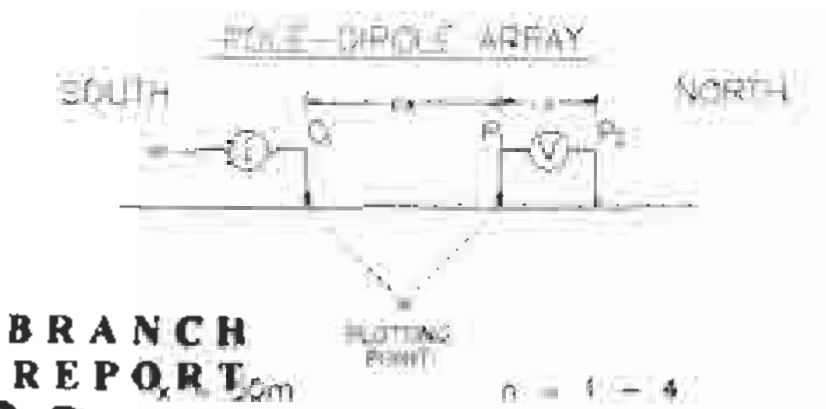
DRAWING NUMBER: 91325-22

Andesitic Crystal Tuff & Sands Basalt Syenodiorite Basalt Basaltic Crystal Tuffs Basalts Basaltic Crystal Tuffs Syeno. Basalts Volcanics Basalts



GEOLOGICAL BRANCH
ASSESSMENT REPORT

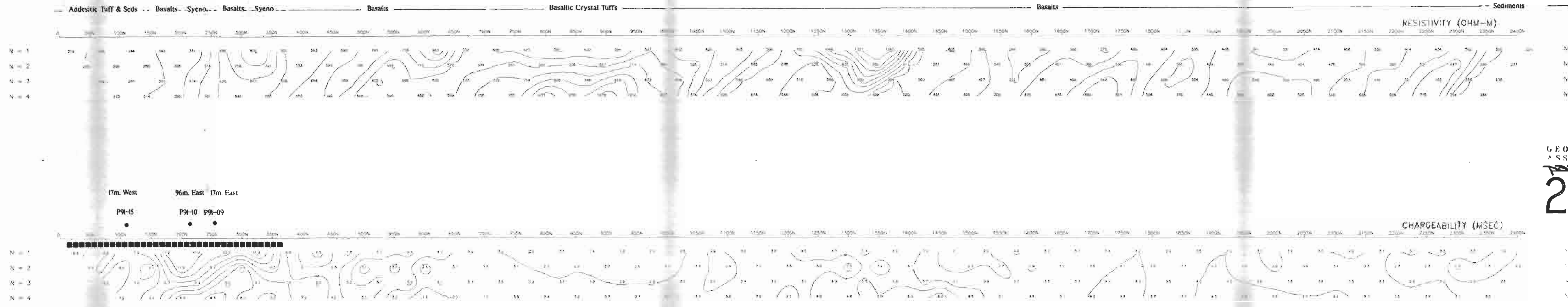
21,982
CURRENT ELECTRODE C SOUTH
OF POTENTIAL DIPOLE NP2



SCALE 1:2500

CONTOUR INTERVALS
RESISTIVITY 100 OHM-M
CHARGEABILITY 10 MSEC
DATE SURVEYED: 1987.11.2-1987.11.2
BY: GSA/PLA

LLOYD GEOPHYSICS INC.
INDUCED POLARIZATION SURVEY
DRAWING NUMBER 91325-23

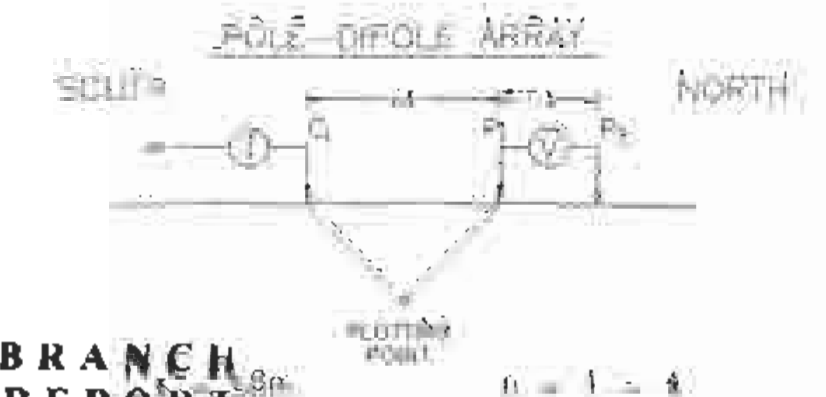


ASARCO EXPLORATION
COMPANY OF CANADA

LAG LA HACHE PROJECT

Grid G1d

LINE: 1200E



GEOLOGICAL BRANCH
ASSESSMENT REPORT

21,982

CURRENT ELECTRODE (C) SOUTH
POTENTIAL DIPOLE (P)S

SURFACE PROJECTION
OF ANOMALOUS ZONES

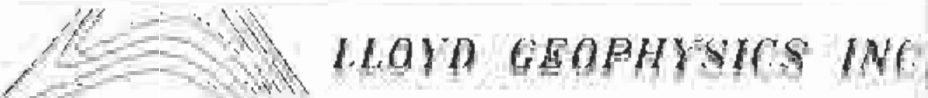


SCALE 1:2500

COPYING BY BRANCH
APP. CHARGEABILITY 14.0 (msec)

RESISTIVITY 100 (ohm-m)

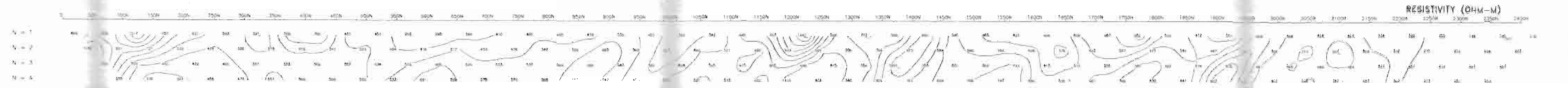
DATE SURVEYED: 1981.12.11.1981
T.S. NUMBER: M22 MOD: 1200E
BY: 204 P-2



INDUCED POLARIZATION SURVEY

DRAWING NUMBER: 91 525-24

Basalts — Syeno. Dyke — Basalts — Syenodiorite — Basalts — Sediments



GEOLOGICAL BRANCH
ASSESSMENT REPORT

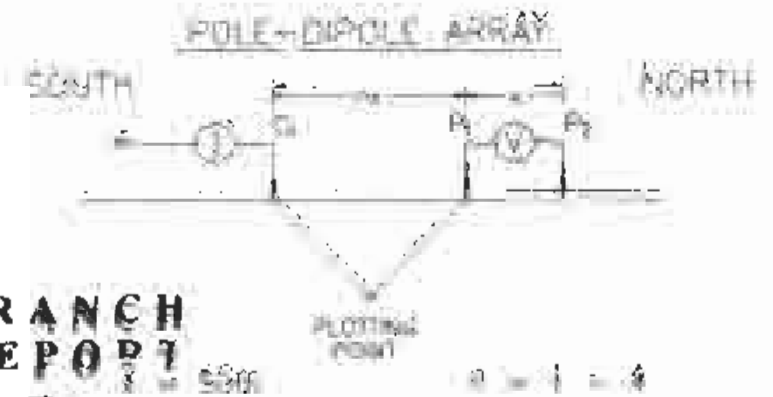
21,982

ASARCO EXPLORATION
COMPANY OF CANADA

LAC LA HACHE PROJECT

Appar. Unit

LINE: 1400E



SENT. ELECTRODE C₁ SOUTH
POTENTIAL DIPPLE (P₂)

SURFACE PROJECTION
OF ANOMALOUS ZONES



CONTOUR INTERVAL: 1.0 (ohm-m)
APP. CHARGEABILITY: 100 (msec)

SITE SURVEYED: 10/15/99
BY: J. H. W. & M. M. M. 7500
SC: 204 W-10

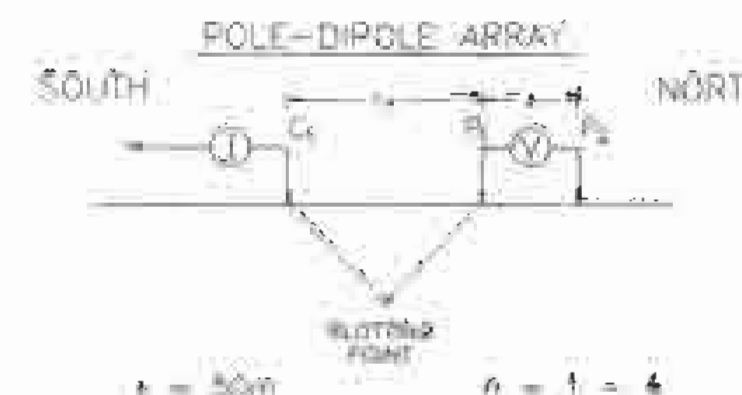
LLOYD GEOPHYSICS INC.
INDUCED POLARIZATION SURVEY
DRAWING NUMBER: 91-321-65

ASARCO EXPLORATION
COMPANY OF CANADA

LAC LA HACHE PROJECT

Ohm Grid

LINE: 1600E



GEOLOGICAL BRANCH
ASSESSMENT REPORT

21,982

DEPTH ELECTRODE IS SOUTH
OF POTENTIAL DIPOLE PP2

SURFACE PROJECTION
OF ANALYSIS ZONE

DEFINITE
PROBABLE
POSSIBLE
AT DEPTH

SCALE 1 : 2500

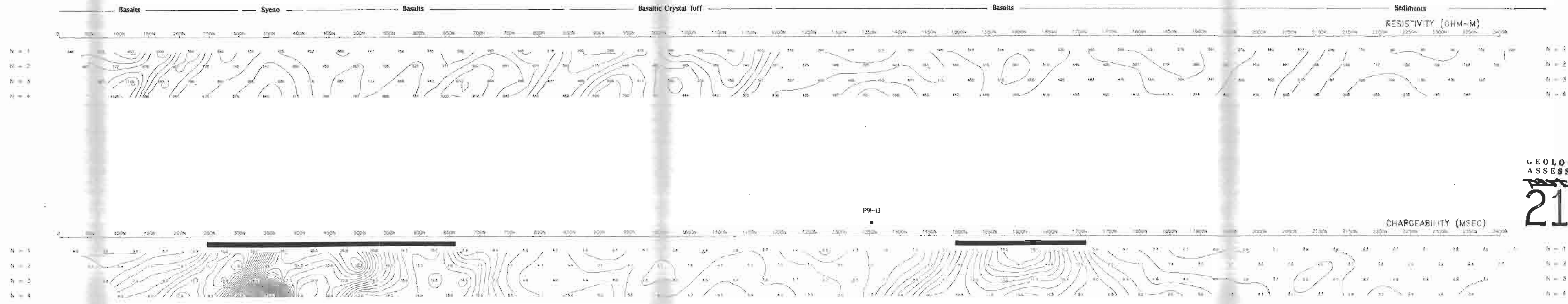
CONTOUR INTERVALS
50% CHARGEABILITY (1 : 3 msec)
100% RESISTIVITY (100 Ohm-m)

DATE SURVEYED: Sept 16, 1994
By: William MacIsaac (WMS)
Re: 824-171-0

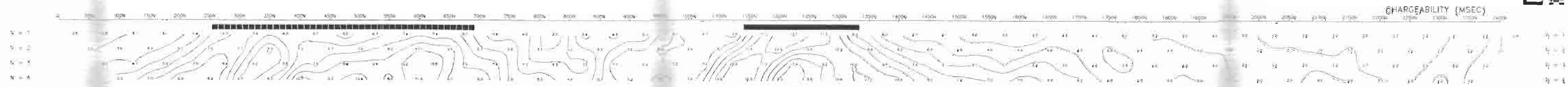
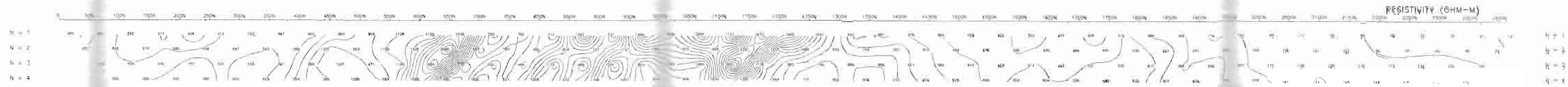
LLOYD GEOPHYSICS INC.

INDUCED POLARIZATION SURVEY

DRAWING NUMBER: 91325-26



Basalts Basaltic Crystal Tuffs Basalts Sediments



GEOLOGICAL BRANCH
ASSESSMENT REPORT
CURRENT ELECTRODE S SOUTH
OF POTENTIAL DIPOLE PPS

21,982
DURABLE PROJECTION
OF NOMADIC ZONE



SCALE: 1:2000

CONTOUR INTERVALS
APP. CHARGEABILITY 1.0 msec
APP. RESISTIVITY 100 ohm-m

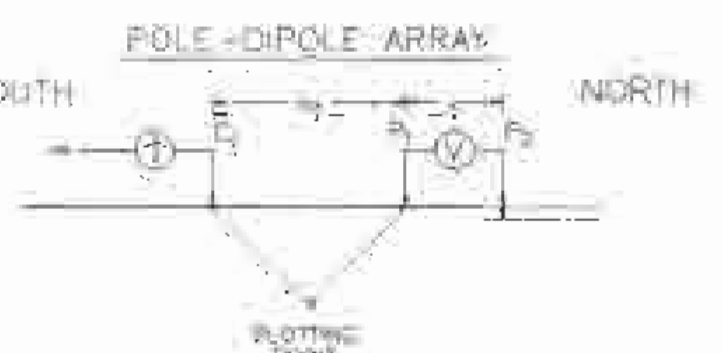
DATE SURVEYED: Sep 15, 1994
BY: GUYTON, P.L. & BROWN, J.M.
BY: EDA 41-8

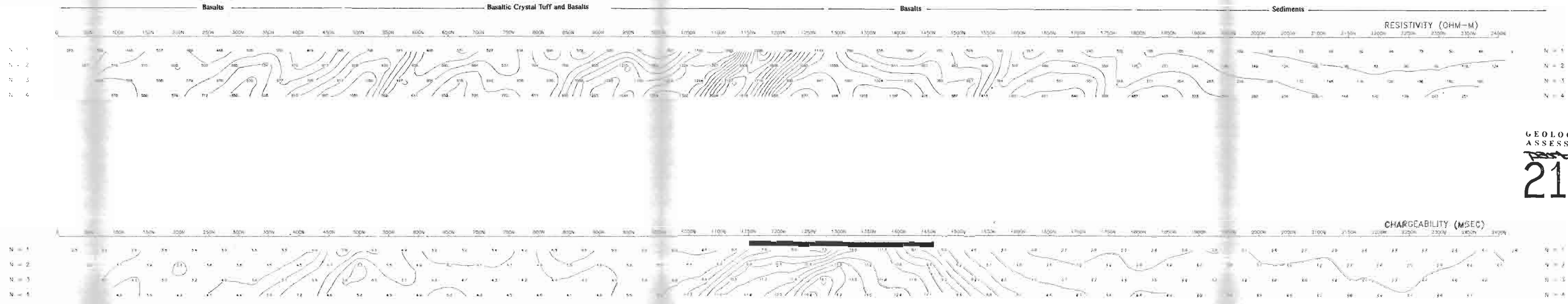
LLOYD GEOPHYSICS INC.
INDUCED POLARIZATION SURVEY
DRAWING NUMBER: 01325-27

ASARCO EXPLORATION
COMPANY OF CANADA

LAG LA HACHE PROJECT
Dipole Grid

LINE: 1800E





ASARCO EXPLORATION
COMPANY OF CANADA

LAG LA HAGHE PROJECT

Opitit Grid

LINE: 2000E



GEOLOGICAL BRANCH
ASSESSMENT REPORT

21,982

Plotting Point

Current Electrode C SOUTH

Potential Dipole P₁

Surface Projection of Anomalous Zone

- DEFINITE ██████████
- PROBABLE ██████████
- POSSIBLE ██████████
- AT-DEPTH ██████████

SCALE 1:2500

CONTOUR INTERVALS

APP. RESISTIVITY 10 (ohm-m)

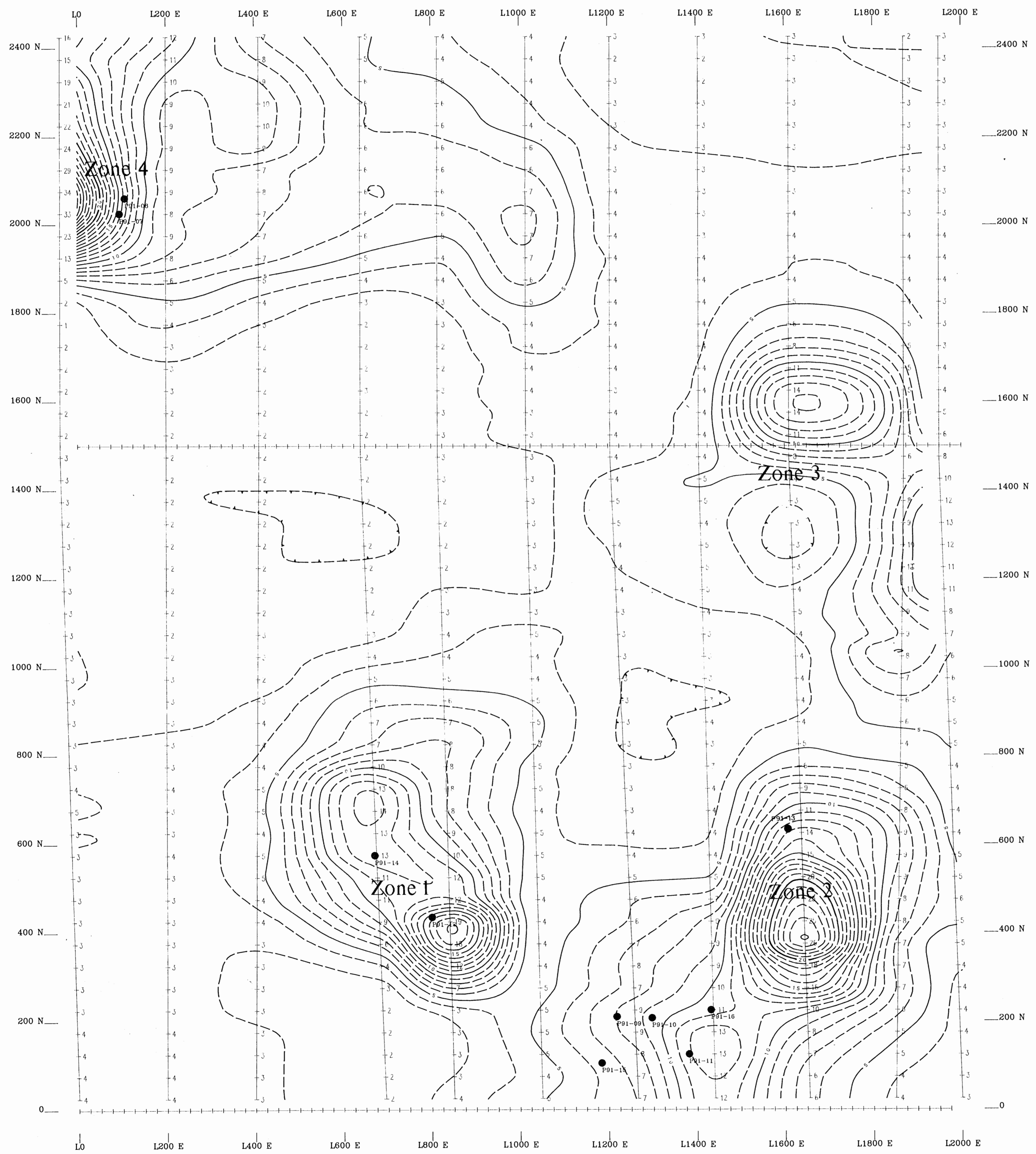
APP. CHARGEABILITY 100 (msec)

DATE SURVEYED Aug 18, 1991

By: [Name] M.S. Wood 7501

By: DGA P-15

LLOYD GEOPHYSICS INC.
INDUCED-POLARIZATION SURVEY
Geophysical Services



LEGEND
 INDUCED POLARIZATION SURVEY
 POLE-DIPOLE ARRAY
 DIPOLE SEPARATION : 50 METRES
 CURRENT ELECTRODE SOUTH OF POTENTIAL DIPOLE

CONTOUR INTERVALS
 - - - - - 1.0 MSEC
 ———— 5.0 MSEC
 ———— 20.0 MSEC

Scale 1:5000
 100 0 100 200 300
 (metres)

A.R. 21982
 2 of 2

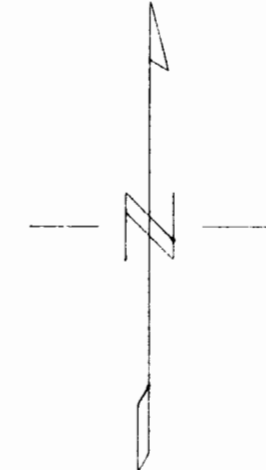
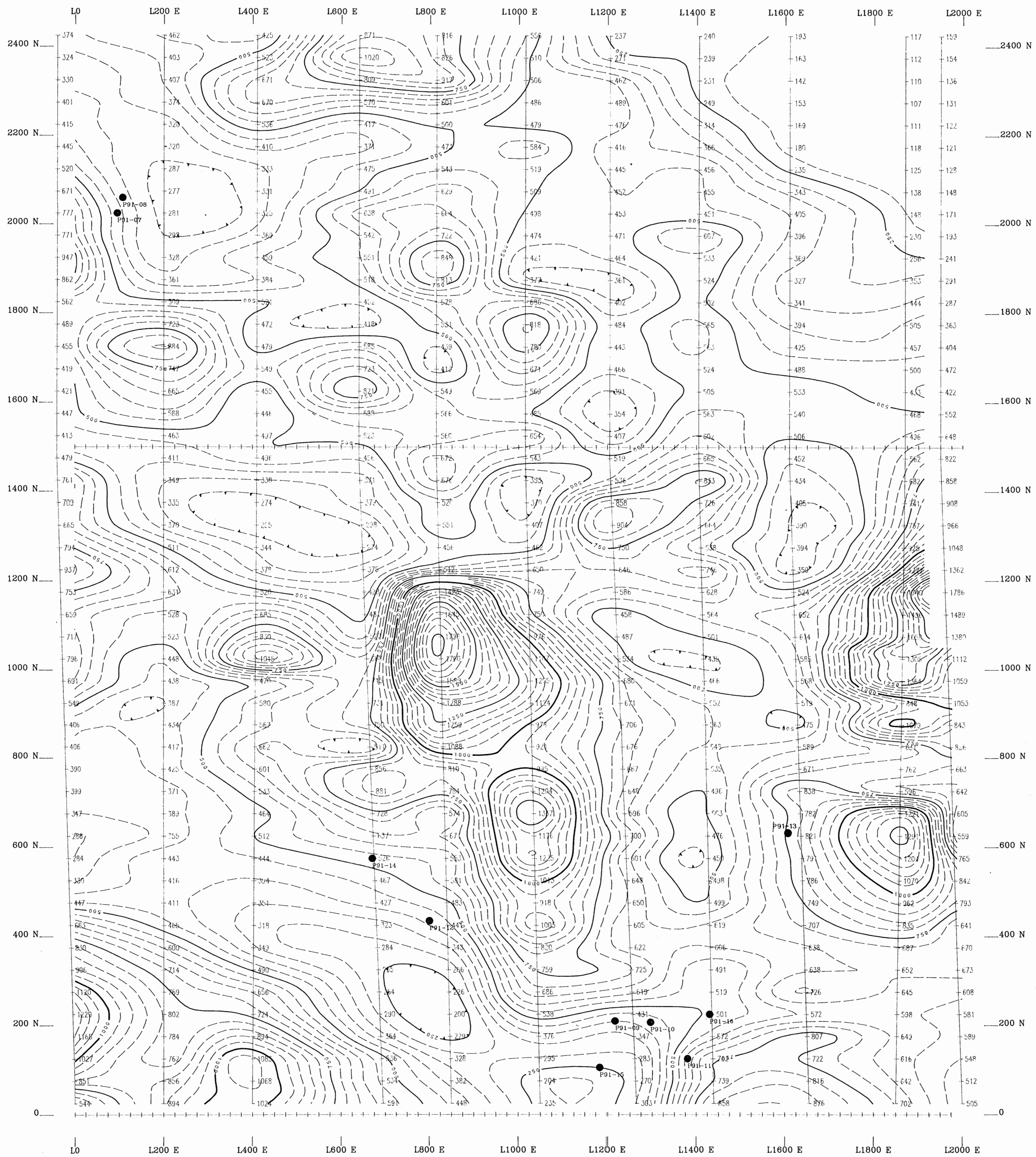
ASARCO EXPLORATION COMPANY
 OF CANADA LIMITED

LAC LA HACHE PROJECT
 Ophir Property

CHARGEABILITY TEN POINT
 TRIANGULAR FILTER

Clinton Mining Division
 Map Scale 1:5000 Drawing: 91325-29
 NTS 92P/14W

LLOYD GEOPHYSICS INC.



LEGEND

INDUCED POLARIZATION SURVEY
 POLE-DIPOLE ARRAY
 DIPOLE SEPARATION : 50 METRES
 CURRENT ELECTRODE SOUTH OF POTENTIAL DIPOLE

CONTOUR INTERVALS

- 50 OHM-M
- 500 OHM-M
- 1000 OHM-M

Scale 1:5000
 100 0 100 200 300
 (metres)

A.R. 21982
2 of 2

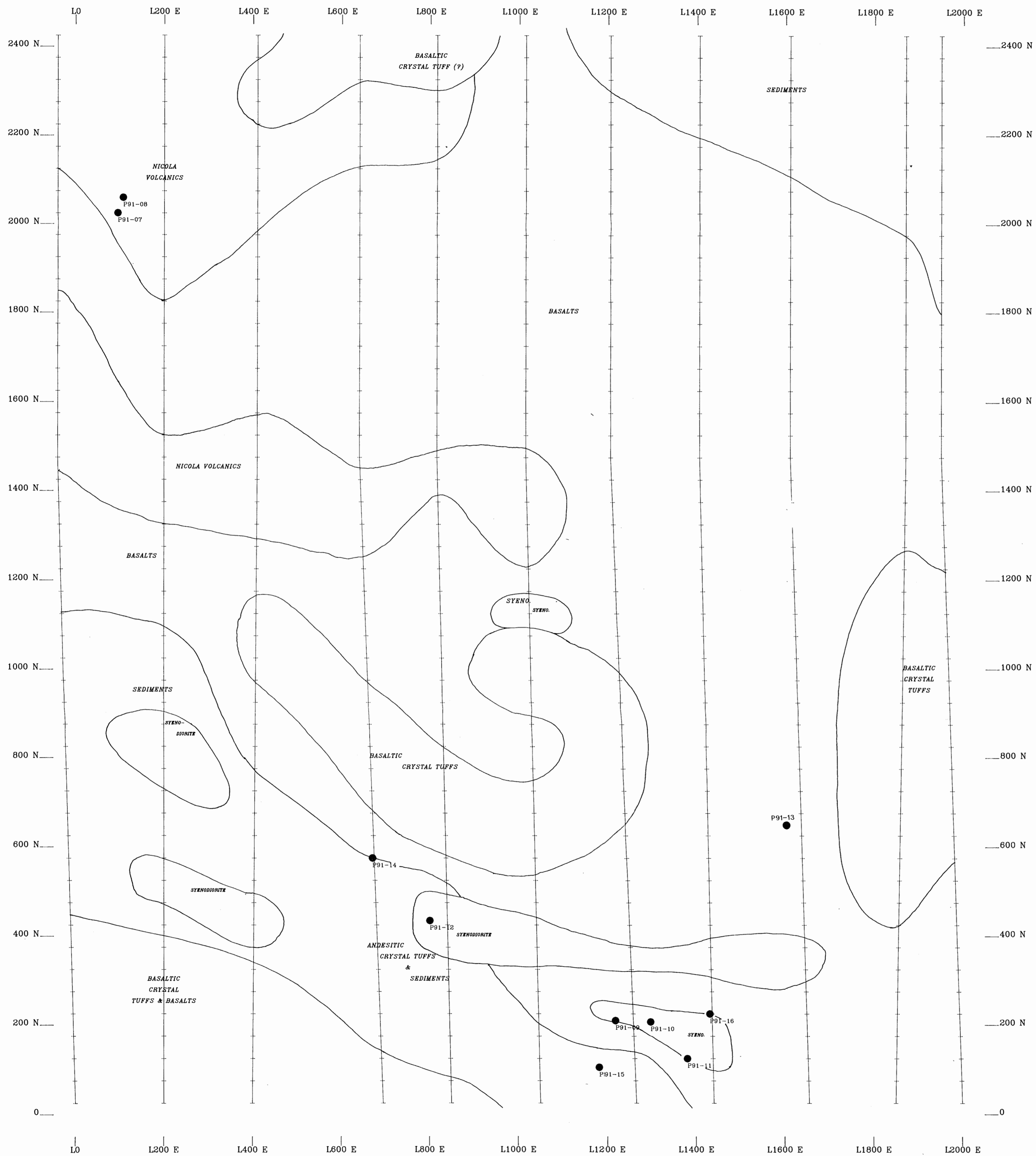
ASARCO EXPLORATION COMPANY
 OF CANADA LIMITED

LAC LA HACHE PROJECT
 Ophir Property

RESISTIVITY TEN POINT
 TRIANGULAR FILTER

Clinton Mining Division
 Map Scale 1:5000 Drawing: 91325-30
 NTS 92P/14W

LLOYD GEOPHYSICS INC.



Geology Based Strictly On Writers' Interpretation Of
 Geophysical Data, Drill Hole Information
 And Verbal Information From Client

Scale 1:5000
 100 0 100 200 300
 (metres)

A.R. 21982
2 of 2

ASARCO EXPLORATION COMPANY
 OF CANADA LIMITED

LAC LA HACHE PROJECT
 Ophir Property

**LOCAL GEOLOGY
 INTERPRETATION**

Clinton Mining Division
 Map Scale 1:5000 Drawing: 91325-31
 NTS 92P/14W

LLOYD GEOPHYSICS INC.