4904

92B/13W

GEOPHYSICAL REPORT

of the

INDUCED POLARIZATION SURVEY

on the

MT. SICKER PROPERTY
VICTORIA MINING DIVISION
LONGITUDE 123°45'W; LATITUDE 48°53'N
N.T.S. 92B13

ON BEHALF OF

MOUNT SICKER MINES LTD. (N.P.L.)

CLAIMS SURVEYED

C. F. GROUP 5-8 and 16-18 incl.
GOLDEN ROD (C.G.)
MOLINE FR.(C.G.)
C.P.O.G. MINING LEASE #17

by:

P. P. NIELSEN, B.Sc., GEOPHYSICIST
and
G. C. GUTRATH, B.Sc., P.ENG.

NIELSEN GEOPHYSICS LTD.
Vancouver, B.C.

October, 1973

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INTRODUCTION

During the period from September 18 to October 2, 1973 an Induced Polarization Survey was executed on the Mt. Sicker property by Nielsen Geophysics Ltd. on behalf of Mount Sicker Mines Ltd. (N.P.L.).

The purpose of the survey was to explore the Northeast Zone by delineating pyritic and graphitic zones thought to be spatially related to economic sulphides.

A total of 5 line miles of survey was conducted along lines spaced 400 feet apart using the three electrode array with an electrode separation of 400 feet. One line roughly through the center of the survey grid was also covered using an electrode separation of 200 feet.

Steep terrain, inclimate weather, and thick underbrush in places resulted in slow progress.

LOCATION AND ACCESS

The property is located on the slopes of Mt. Sicker which is located 7 airmiles north of Duncan and 5 miles west of tidewater at Crofton on Vancouver Island. It is situated in the Victoria Mining Division. Co-ordinates are 123°45'W longitude and 48°53'N latitude.

The property is reached by turning off the Vancouver Island highway at a point 7 miles north of Duncan and following a secondary paved raod for approximately one mile westerly and thence by gravelled road for 4 miles up Mt. Sicker to the old mine site which is about 1,200 feet above sea-level. Local access to the Northeast zone is by 4-wheel drive truck.

CLAIMS

The property consists of the following Crown Grants, Mineral Leases, Mineral Claims and Mining Agreements.

Crown Grants

Lot No.	Name
53-G	Estelle
54-G	Westholme
51-G	Blue Bell
50-G	Moline Fraction
4-G	Acme
18-G	Tony
47-G	Hellena
59-G	Westholme Fraction
21-G	Dixie Fraction
44-G	Golden Rod
18-G	Donagan
19-G	XL
63-G	Donald
108-G	Muriel Fraction
87-G	Doubtful Fraction
85-G	Thelma Fraction
86-G	Imperial Fraction
20-G	Herbert Fraction
110-G	Phil Fraction
43-G	NT Fraction
41-G	Magic Fraction
39-G	Richard III
37-G	Key City
35-G	Lenora
36-G	Tyce
60-G	International Fraction

Mineral Leases

M.L. No.	Lot No's.	Date of Lease
13	33G, 34G, 55G, 56G, 64G, 65G, 100G	Dec. 9th, 1969
17	5G, 6G, 7G and 89G	Aug. 3rd, 1970
18	59G	Aug. 3rd, 1970

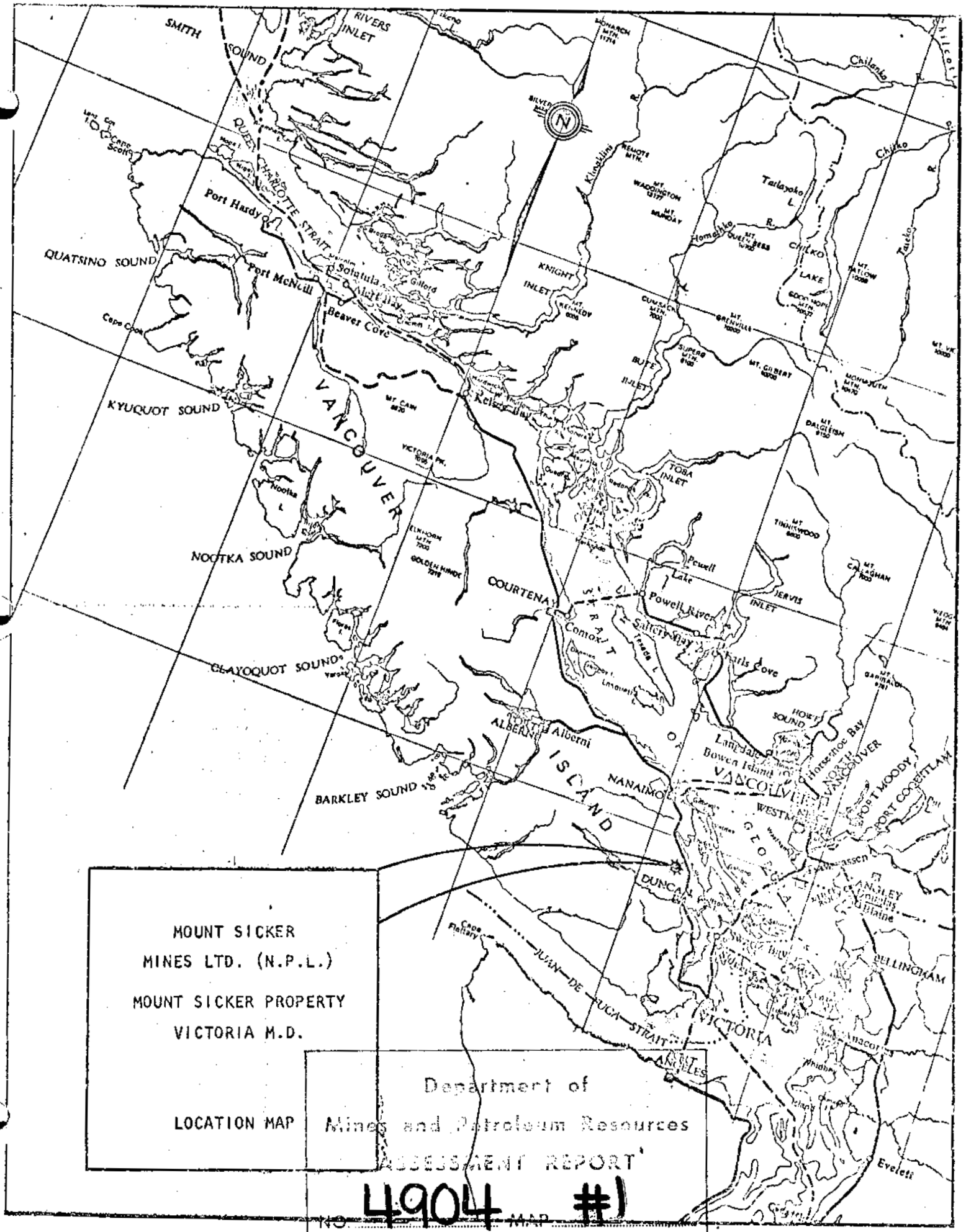
CLAIMS (continued).....

Name	Record Numbers	Record Dates
C.F. Group 1 - 8	14150 - 14159 incl.	Oct. 25th, 1966
C.F. Group 13 - 18	14162 - 14169 incl.	Oct. 25th, 1966
C.F. Group 25 - 28	14185 - 14188 incl.	Dec. 8th, 1966
C.F. Group 29 - 31	14197 - 14199 incl.	Dec. 20th, 1966
C.F. Group 33	14201	Dec. 20th, 1966
C.F. Group Fraction	14174	Oct. 25th, 1966
Dawn 1 & 2	16448 - 16449	Apr. 30th, 1970
B 1 - 4	16372 - 16375 incl.	Apr. 13th, 1970
B 5	16446	Apr. 21st, 1970
B 6 - 22	16376 - 16392 incl.	Apr. 13th, 1970

Mining Agreements

Mining Agreement No. 8 dated October 1st, 1963, between Canadian Pacific Oil and Gas Limited and V.H. Patriarche and assigned by Agreement dated August 1st, 1968 to Mount Sicker Mines Ltd. (N.P.L.) - total 2540 acres, approx.

Mining Agreement No. 73 dated May 1st, 1971, between Canadian Pacific Oil and Gas Limited and Mount Sicker Mines Ltd. (N.P.L.)



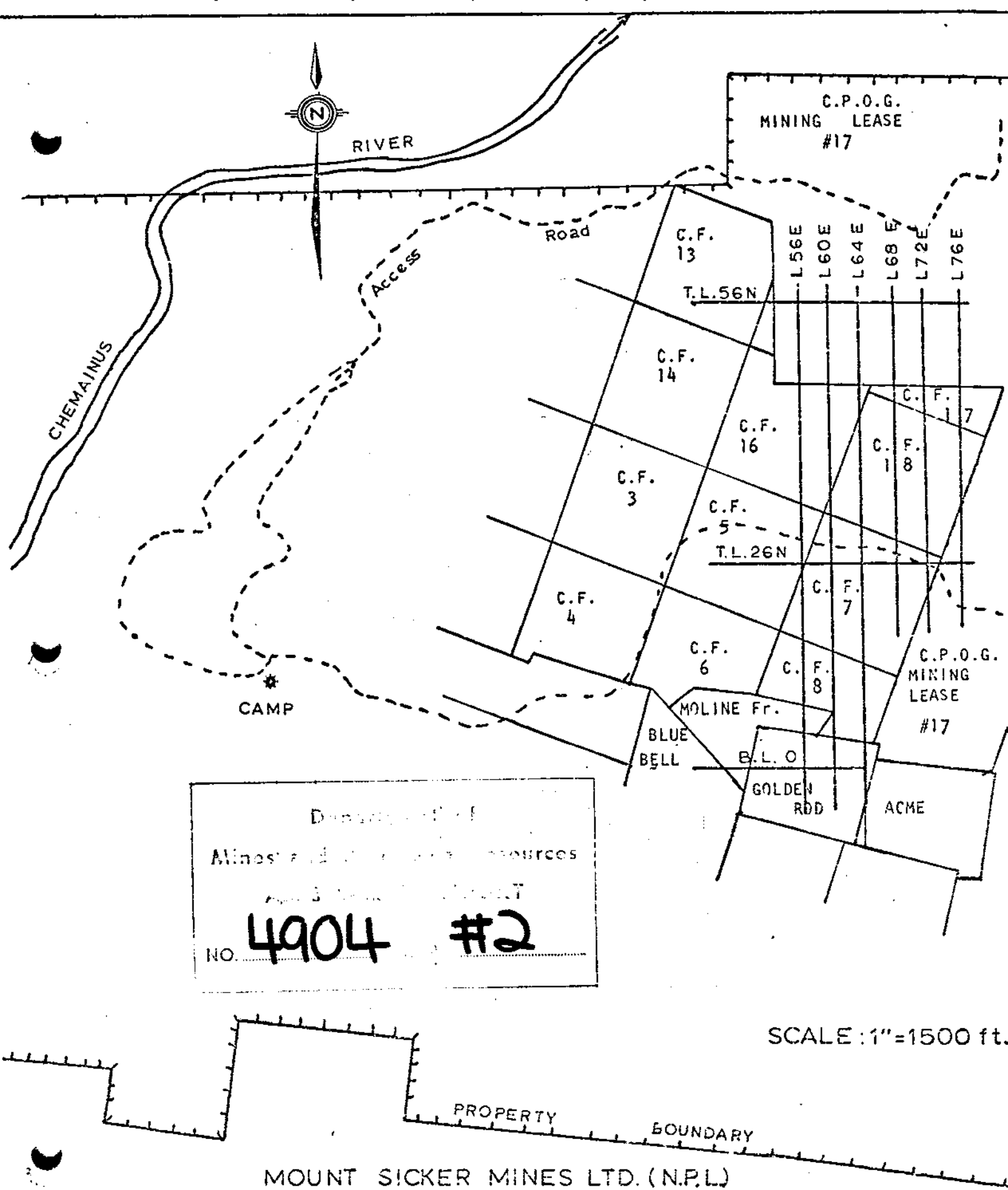
MOUNT SICKER
MINES LTD. (N.P.L.)

MOUNT SICKER PROPERTY
VICTORIA M.D.

LOCATION MAP

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 4904 MAP #1



Mines and Petroleum Resources

NO. 4904 #2

SCALE : 1" = 1500 ft.

MOUNT SICKER MINES LTD. (N.P.L.)

CLAIM & GRID

LOCATION MAP

THE GRID

A grid established during previous investigations was used for the I.P.Survey. 6 lines spaced 400 feet apart having a station interval of 100 feet were surveyed.

Mr. D. Compton, who is intimately familiar with the property assisted by re-flagging and numbering the stations where required.

TOPOGRAPHY AND GROUND CONDITIONS

The survey was conducted on a north facing slope which steepened down-hill.

The vegetation is quite thick consisting primarily of small hemlock, alder and fallen trees.

Throughout most of the survey duration rainfall was continuous which resulted in good electrode-ground contact.

PREVIOUS WORK DONE

Work on the property began as early as 1897 with ore shipments having been made from the Lenora and Tyee claims during the period from 1901 to 1907.

The property was re-opened during the second world war for strategic metals.

Exploration since 1945 has consisted of under-ground and surface geological mapping, trenching, diamond drilling and geophysical surveying.

Geophysical investigations to date have included an EM-16 survey, a Crone "Shootback" E.M.survey, and a magnetometer survey.

Only the Crone E.M. results were available to the writter of this report. The survey was conducted during the 1972 field season by Ducanex Resources Ltd. who optioned the property from Mount Sicker Mines Ltd.

The Horizontal Shootback method was employed using a coil separation of 200 feet and an operating frequency of 1,830 Hz. Portions of the area covered by the present I.P. survey were surveyed by Ducanex but failed to detect any conductors in this area. Depth of investigation of the E.M. survey was of the order of 100 to 130 feet.

GEOLOGY

(after Wm. Sharp, P. Eng. - see reference)

The Mount Sicker Mines Ltd. Claim Group is generally underlain by rocks of the upper Paleozoic Sicker Group. Locally, these comprise andesitic to rhyolitic flow and fragmental volcanics with minor intercalations of sandy to argillaceous sediments. The rock section is generally but variably metamorphosed. The characteristic "derived" rock types comprise chloritic, quartzose, sericitic, talcose, and (locally) graphitic schists. In addition, the general rock section has been intruded by small to large, essentially concordant sills and/or dykes of "Island" diorite and gabbro-diorite.

Formational trends are west-north-westerly to westerly with shearing and folding tending to be localized to the softer and less competent units within the rock section. In addition, at least three strong north east-striking faults effect appreciable displacements of the rock units.

Within the "northeast" copper zone, the site of the recent I.P. Survey, the original composition and textures of much of the "south" schist panel have been modified by a pervasive silicification (and locally strong pyritization).

Typical ore mined in former years consisted of simple massive and banded-massive aggregates of mixed Fe-Cu-Zn-Pb sulphides and barite or quartz gangues within the "mine panel" of quartz-sericite schist and chloritic schists and tuffs. The East-west elongate, flatly-plunging, thicker ore sections were developed within strongly drag-folded parts of the schist panel - frequently close to the contacts of a conspicuous band of (unmineralized) graphite schist.

Within the "northeast" copper zone mineralization thus far exposed typically consists of regular to banded replacements (with subordinate veinlets) of pyrite and associated but subordinate chalcopyrite in silicified schist and chert. This zone of mineralization is geochemically delineated by parallel and east-west trending soil anomalies. These cover 2,500 feet x 500 feet and 1,800 feet x 200 feet p.p.m. and 1,575 p.p.m. respectively.

REFERENCES

1. Minister of Mines, B.C., Annual Reports, 1902, 1943, 1964, 1967.

2. G.E.M. 1969.

3. Geological Reports by W.M. Sharp, P.Eng., (March, 1972) and I.M. Watson, P.Eng., (October, 1972)

4. "Geophysical Report on an Electromagnetic Survey on the Mt. Sicker Property" - P.E.Walcott, P.Eng., (October, 1972)

5. G.S.C. Memoir #13 by C.H. Clapp (1912)
   G.S.C. Memoir #31 by C.H. Clapp (1913)

THE INDUCED POLARIZATION SURVEY

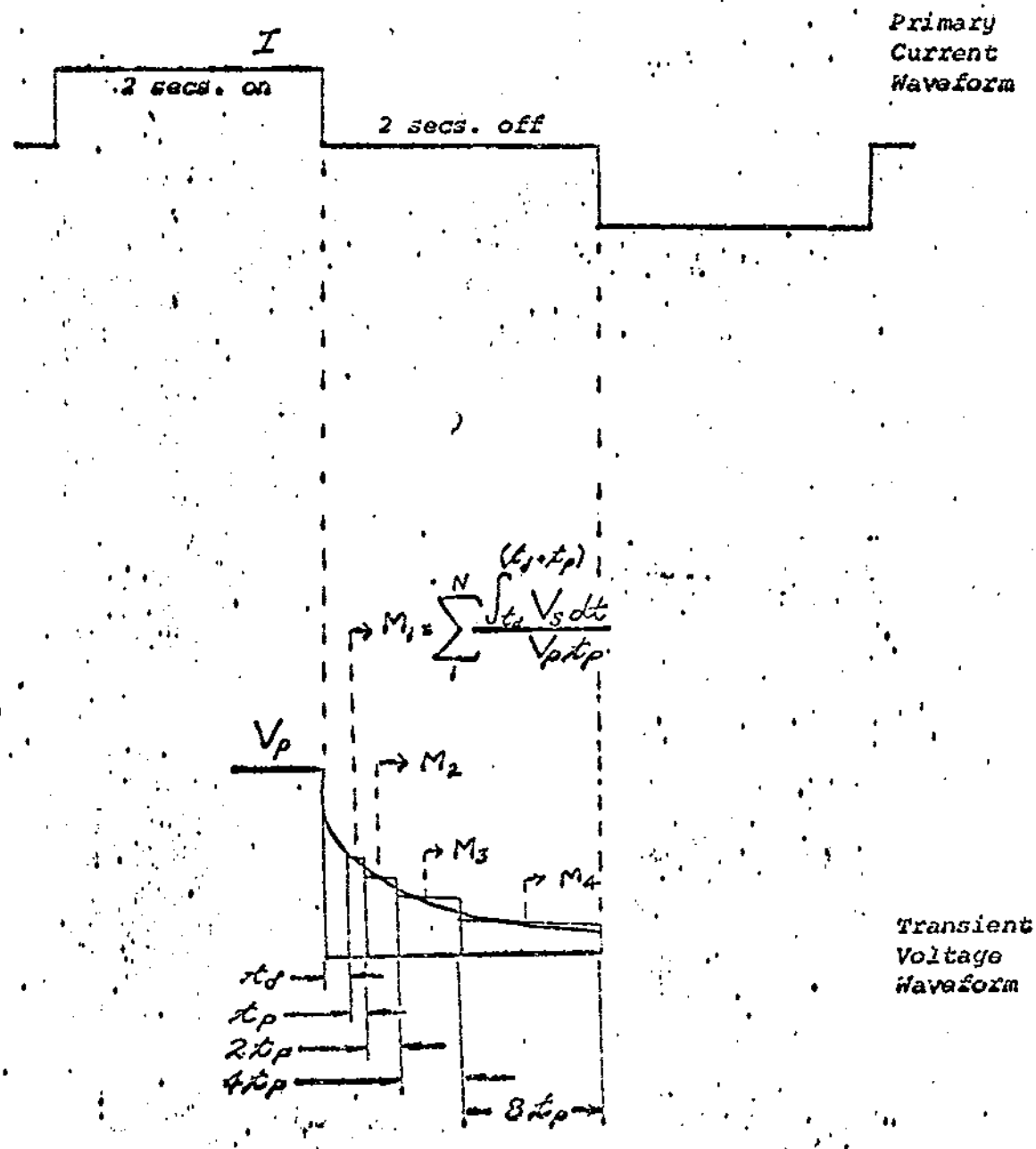
(a) Theory of Method Used

Induced Polarization refers to the polarized distribution of electrical charges throughout a medium to which an electric field has been applied.

When current is passed across an interface between an electrolyte and a metallic conducting body, double layers of charge build up at the interface creating the phenomenum known as "overvoltage" or the "I.P. effect".

This effect can be used for the detection of conducting metallic material such as disseminated sulphides ("porphyry" copper deposits) or massive sulphides containing appreciable amounts of non-conducting sphalerite. Other materials likely to give rise to anomalous responses are pyrite, magnetite, specular hematite, graphite and certain clay-micas such as montmorillonite, vermiculite, saponite and bentonite.

In time-domain (Pulse) I.P., a transmitter injects an alternating square wave signal into the ground at two electrodes C_1 and C_2. The signal seen by the receiver at two other electrodes P_1 and P_2 provides an indication of the apparent chargeability (M_a). By observing the input current (I) and primary "on-time" voltage, (V_p) the apparent resistivity ρ_a is calculated using Ohm's Law and a geometric factor dependent upon the electrode array used and the units (ohm-meters or ohm-feet) desired.



The polarization voltages established during the current "on" time decay (discharge) slowly during the current "off" time. The receiver amplifies and integrates the decay curve at four pre-selected positions in time, normalizes these amplitudes with respect to the primary voltage Vp and presents the results as M_1, M_2, M_3, and M_4 readings on digital display for logging.

The times at which the decay curve is sampled, are selected by means of a switch making it possible to obtain up to 56 distinct points on the decay curve.

This allows one to obtain the actual decay curve shape and to better estimate the size, depth and type of the causative source.

A further step which can be taken is to factor the decay curve to separate the unwanted electromagnetic transient coupling effects and background effects from the true overvoltage effects. This extends the usefulness of the I.P. method in areas of high overburden conductivity. It also assists the geophysicist in distinguishing between effects of metallic and nonmetallic conductive material, between oxides and sulphides, between large and fine-grained particules, and between massive and disseminated portions of a polarizable body.

(b) Theory of the Three Electrode Configuration

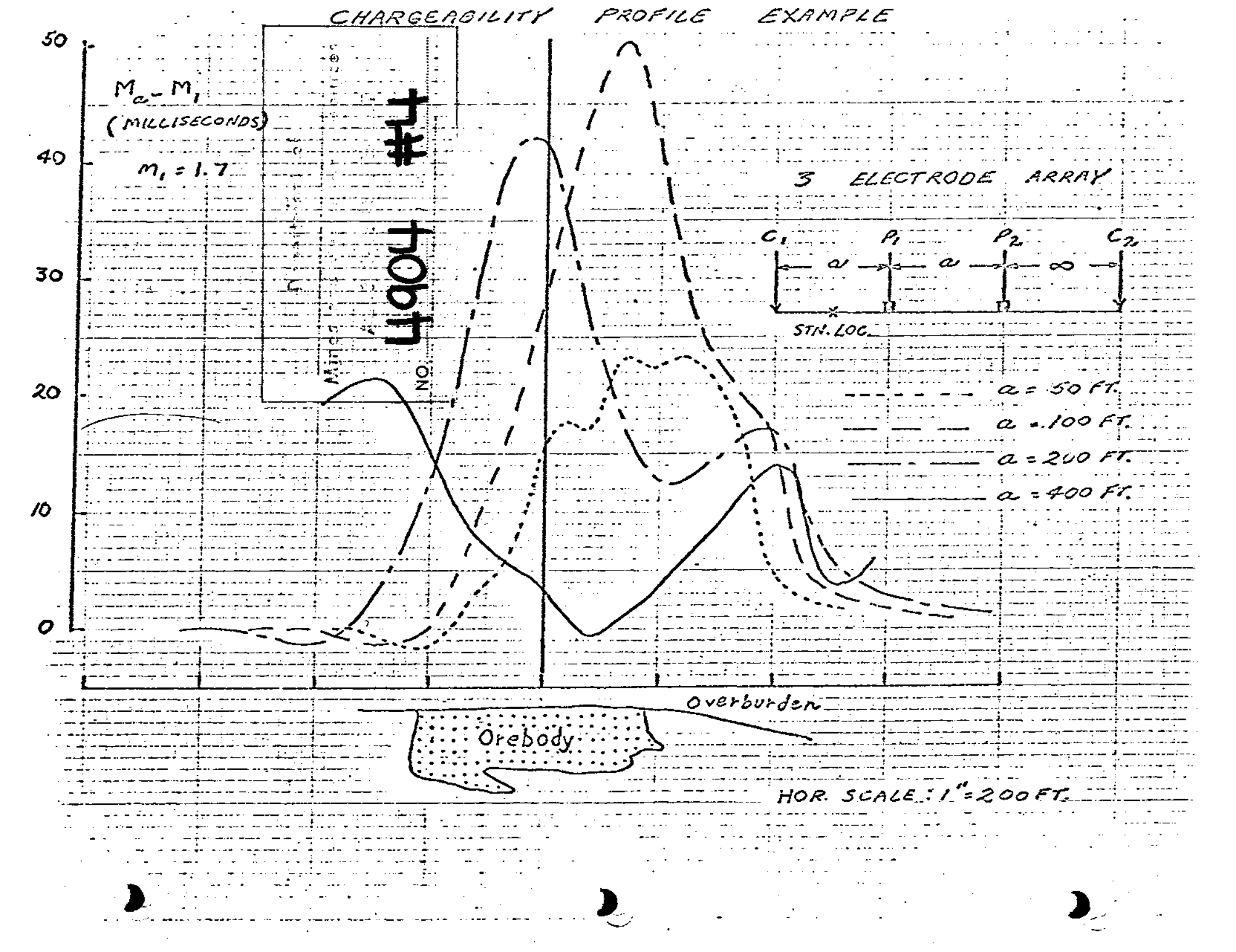
The I. P. response due to a particular distribution of polarizable material is dependent upon the electrode array employed, the geometry of the polarized body and its location relative to the array, and on the resistivity and polarization contrast between the body and surrounding environment.

Although anomalies are asymmetrical and the anomaly peaks do not always fall directly over the center of the causative source, the advantages of the 3-array more than outweigh this one disadvantage. This array requires only three men on the survey line, has good depth penetration, responds well to both flat-lying and steeply-dipping bodies and permits a minimum number of electrode spacings to be used during reconnaissance surveying resulting in faster coverage.

As mentioned above, contour maps of the data should be treated with caution and are used to enhance the interpretation made primarily from the profiles. An example of a typical multiple electrode spacing response over a sulphide lens is included to illustrate the asymetrical nature of this array as well as to point out the phenomenum of "double-peaking" which occurs when the electrode spacing is larger than the depth to the center of the body. The larger peak occurs when the first potential electrode (P_1) is in the vicinity of the body.

The maximum anomaly is obtained for the spacing equal to the depth to the center of an idealized sphere, although spacings of 3/4 to 1 1/2 times the depth give at least 90% of the maximum likely anomaly.

The use of two or more spacings gives a more reliable estimate of depth, attitude and continuity with depth. An accurate estimate of resistivity and polarization of the body cannot be made since the variables of size, conductivity, and polarizability cannot be separated, hence the term "apparent" chargeability is used.


CHARGEABILITY PROFILE EXAMPLE
50
40
30
20
10
0
$M_a - M_1$
(MILLISECONDS)
$M_1 = 1.7$
LIGHT #4
3 ELECTRODE ARRAY
C_1
P_1
P_2
C_2
a
a
∞
STN. LOC.
a = 50 FT.
a = 100 FT.
a = 200 FT.
a = 400 FT.
Overburden
Orebody
HOR. SCALE: 1" = 200 FT.

(c) Field Procedure

(i) Electrode Configuration Used

A 3 - electrode array was used whereby the current electrode C_1 and two potential electrodes, P_1 and P_2, were separated by a distance "a" from each other and moved in unision along the survey lines taking measurements at regular intervals. The second current electrode C_2 is fixed at "infinity" (∞) which is a minimum distance of 5a to the nearest station measured.

The station location is halfway between the current electrode C_1 and the nearest potential electrode P_1. All lines were surveyed with C_1 to the rear of the potential electrodes as the three men moved along the survey lines.

(ii) Measurements Taken in the Field

1. The primary voltage Vp between the measuring measuring (potential) electrodes during "current on".
2. The current flowing through the current electrodes C_1 and C_2.
3. Four pre-selected gates called M factors (M_1, M_2, M_3 and M_4) using timing settings of:
   (a) delay time t_d = 240 msecs.
   (b) basic integration time t_p = 60 msecs.
   (c) total integration time t_t = 900 msecs.
   (d) basic period t = 8 secs. (2 secs. On and 2 secs. Off).

(d) Equipment Description and Specifications

(i) Receiver

The Huntec MKIII Receiver is a portable, remote sensing pulse-type instrument incorporating the following features:

- Adjustable timing cycle.
- Up to 56 distinct sample points measured on the decay curve.
- Automatic S.P. buck-out.
- Direct digital read out of Vp and M factors including sign.
- High noise rejection allows operation in Vp levels down to 30 micro volts with 0.1 micro-volt resolutions.
- Greater than 10 megohm input impedance.

Specifications

- Sensitivity: $Vp=10^{-7}$ to 10^{-6} volts for low noise 1% resolution.
  $Vp=10^{-6}$ to 10 volts for 0.1% resolution.
  Total range 30×10^{-6} volts to 10 volts in 11 ranges.

- Self Potential MAXIMUM ± 1 volt.
- Power consumption: 0.7 ampere at 12 volts.
- Demensions: 16" x 9" x 5 3/4".
- Weight: 12.5 lbs. (without battery pack).

(ii) Transmitter - Alternator

The Huntec Pluse type transmitter alternator is a high-powered, 7.5 Kilowatt system utilizing the following:

- Solid state power control and switiching mechanism.
- Produces high currents into low resistance loads.
- Accurate and adjustable timing using Crystal Clock.
- Voltage regulator with push-button field energizer.
- Dummy Load.
- 2 cylinder ONAN engine driving a Bendix alternator.

Specifications

- Transmitter
  - Output: 100 to 3,250 volts in 10 steps
    16 amps maximum.
  - Cycling Rates: Normally 2 sec. ON, 2 sec. OFF.
  - Demensions: 21 in. x 17 in. x 17 in.
  - Weight: 75 lbs.

Specifications (continued...)

- Alternator
  - Output: 18 K.V.A. 120/208 volts 3 phase 400 Hz. 52 amps/phase.
  - Engine: 2 cyclinder, 4 cycle, air-cooled 16.5 H.P. ONAN at 3,600 R.P.M.
  - Alternator: 3,600 R.P.M. direct driven Bendix with sealed bearings and rotating field.
  - Demensions: 42 in. x 17 in. x 26 in.
  - Weight: 225 lbs.

(e) Data Presentation

1. Calculations

(i) The apparent resistivity ρ_a is calculated by dividing Vp by I and multiplying by a factor appropriate to the electrode array used and the ohm-meter units desired.

(ii) The four M factors were weighted and added to obtain a single apparent chargeability parameter (called M_a) for contouring purposes.

$$M_a \begin{matrix} t_f \\ t_d \end{matrix} = t_p \ (M_1 + 2M_2 + 4M_3 + 8M_4) \times .01$$

where M_a = milliseconds

t_d = initial delay time

t_f = final time at end of $M_4 = t_d + 15\ t_p$

t_p = integrating time of M_1

(f) Profiles

The apparent chargeability M_a is plotted at a vertical scale of 1" = 20 msecs. and ρ_a, is plotted at a vertical scale of 1" = 1000 ohm-meters.

All lines were surveyed using an "a" spacing of 400 feet and are plotted at a horizontal scale of 1" = 400 feet.

The profile for a = 200 feet is also included for Line 64E.

(g) Contours

All apparent resistivity and apparent chargeability values for electrode separations of 400 feet have been plotted on the values and contour maps at a horizontal scale of 1" = 400 feet.

The reader is cautioned as to the errors inherent within this type of data presentation which include:

(i) Upslope displacement of readings over steep terrain.

(ii) Grid bias or contour elongation due to rectangular sampling interval used.

(iii) "Double peaking" phenomenum in which causative source is located between "highs".

(iv) Some skewness of anomaly peaks due to assymetrical array used.

(v) Topographic or terrain effects in resistivity data.

DISCUSSION OF RESULTS AND INTERPRETATION

A. APPARENT RESISTIVITY CONTOUR MAP

The apparent resistivity (ρ_a) readings varied from a low of 450 ohm-meters at Line 56E; Stn. 12N to a high of 4280 ohm-meters at Line 76E; Stn. 14N for a total relief of 3830 ohm-meters over the survey area.

A general WNW trend is observed with high ρ_a's occurring south of Tie-Line 26N and a zone of ρ_a's (less than 1,000 ohm-meters) to the north of this tie-line. A local low is situated just south of Tie-Line 26N on Lines 68E, 72E and 76E and is generally coincident with apparent chargeabilities (M_a) in excess of 30 millisecs. This feature appears to be related to a westerly striking band of schists containing high concentrations of pyrite and graphite with, possibly, minor chalco-pyrite.

B. APPARENT CHARGEABILITY CONTOUR MAP

The apparent chargeability values range from 6.5 milliseconds at Line 64E; Stn. 20N to 63.0 milliseconds at Line 76E; Stn. 20 N, giving a total M_a relief of 57.5 milliseconds.

A background of 15 milliseconds is assigned to the survey area and all values in excess of 25 milliseconds are considered anomalous. All areas above 15 milliseconds could reflect sulphide-bearing rocks.

The hachured zone of M_a's in excess of 25 milliseconds, which is still open to the east, pinches out to the west at Line 64E into a dike or vein-like feature which, when compared to the resistivity contours, could represent sulphides and/or graphite along the contact between two rock-types.

A fault is interpreted to the east of and parallel to Line 60E.

As mentioned above, the areas above 30 milliseconds M_a are likely due to mainly pyrite and graphite which have been observed outcropping in this region.

C. RESISTIVITY-CHARGEABILITY CORRELATION

In view of the fact that the Mt. Sicker property is thought to be a massive sulphide environment, one would expect a distinct high M_a - low ρ_a pattern over such a deposit. Because the relationship between M_a and ρ_a is quite variable over the survey area, the field data was normalized by dividing M_a by ρ_a and multiplying by an appropriate constant for contouring purposes. The resultant "normalized I.P." values are analagous to the so-called "metal factor" and their contouring represents another possible description of the metallic distribution of the sub-surface. The complete normalized contours are not included in this report as they were an interpretive aid only. However, areas of high normalized I.P. are illustrated on the Resistivity Contour Map.

Two elongate, sub-parallel normalized I.P. zones are observed in the southeastern grid quadrant which are open to the east and are terminated to the west at Line 66E. A smaller zone occurs on Line 76E between Stn. 36N and Stn. 40N. This feature is also open to the east.

D. PROFILES

The profiles for Lines 64E to 76E inclusive are very similar. The lines are terminated at each end in a high ρ_a - low M_a environment.

The most pronounced feature is the excellent high M_a low ρ_a correlation in the Stn. 20E to 22E areas on the three easternmost lines. This coincident feature is thought to be caused by a near-massive, steeply dipping band of pyrite and/or graphite approximately 150 feet in width.

Just to the north and parallel to this feature is another zone of good high M_a - low ρ_a correlation. The axis of this conductive zone is along Stn. 27N from Line 68E to and beyond Line 76E. From a geophysical point of view, the trench on Line 60E from about Stn. 27N to Stn. 29N is in a relatively uninteresting area.

A traverse using an electrode separation of 200 feet was run along Line 64E to test the very subtle increase in chargeabilities observed on the wider 400 foot electrode coverage carried out initially. This subtle feature strikes east-west centered at Stn. 42N on all lines. The results of this traverse are shown on the "profile" for Line 64E and indicate the possibility of a deeply buried, narrow zone of disseminated conductive material at Stn. 42N. The poor high M_a - low ρ_a correlation suggests that the causative source is of little economic interest.

CONCLUSIONS AND RECOMMENDATIONS

The chargeability portion of the I.P. Survey has partially delineated a conductive zone thought to be primarily related to sulphides. This zone extends from surface to an unknown depth and is still open to the east and, possibly to the west.

The high resistivity areas are likely due to rock unit #5, a gabbro, as mapped by I. Watson.

Three areas of good high chargeability - low resistivity correlation have been observed in the southeastern grid quadrant and are deservant of further exploration. These features are elongated east-west and are all open to the east. The two southerly features are coincident with copper geochemical soil anomalies in excess of 150 ppm and surface rocks of quartz sericite schist.

Depth investigations have been made to 400 feet for large conductive bodies. Narrow, dike-like bodies whose depth to top is greater than 200 feet could have escaped detection.

Due to the nature of known deposits on other portions of the property whereby dips of the mineral deposits can vary with depth and because of the slope of the terrain it is recommended that a series of overlapping angled holes be drilled along Line 76E to test the two southernmost normalized I.P. anomalies which are coincident with copper

geochemical highs. The holes should be drilled -45°to -60° to the south.

The results of this initial drilling program will determine if further geophysical investigations are warranted on the property.

Respectfully submitted,

P. P. Nielsen, B.Sc., Geophysicist

G. C. Gutrath, B.Sc., P.Eng.

NIELSEN GEOPHYSICS LTD.

APPENDICES

PERSONNEL

P. P. Nielsen, B.Sc., Geophysicist - Supervisor and writer of report.

A. Scott, B.Sc., Geophysicist - Crew-chief and I. P. operator.

R. Klanjseck)
Wm. Chase) - I. P. Crewmen
L. Fee)

D. Compton - Survey line re-habilitator

COSTS

The following is a summary of Nielsen Geophysics Ltd. charges for conducting 5.34 line miles of i.P. (including detail) on the Mt. Sicker property.

1. Men and Equipment 6.5 days @ $350/day.....	$ 2,275
2. Food and Accommodation 26 man/days @ $15/man/day.....	390
3. Transportation (4 wheel drive truck)....	305
4. Line improvement.....	80
5. Report.....	450
TOTAL COST	$ 3,500

ENGINEER'S CERTIFICATE

I, GORDON C. GUTRATH, of 3636 Lakedale Avenue, in the Municipality of Burnaby, in the Province of British Columbia, DO HEREBY CERTIFY:-

1. That I am a consulting geologist with a business address of #420-475 Howe Street, Vancouver 1, B. C.
2. That I am a graduate of the University of British Columbia where I obtained my B.Sc. in geological science in 1960.
3. That I am a Registered Professional Engineer in the Geological Section of the Association of Professional Engineers in the Province of British Columbia.
4. That I have practised my profession as a geologist for the past twelve years, and
5. That I have no interest in the property with which this report is concerned, nor do I expect to receive any such interest. I have no interest in the securities of Mount Sicker Mines Ltd. (N.P.L.)

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA G. C. GUTRATH

Gordon C. Gutrath, D.Sc., P.Eng.

DATED at the City of Vancouver, Province of British Columbia, this 19th day of November, 1973.

STATEMENT OF AUTHOR'S QUALIFICATIONS

I DO HEREBY STATE:

1. I am the author of this report.

2. I have been actively and responsibly involved in mining exploration using airborne, ground and computer applied geophysics in Canada and the United States for the past nine years.

3. I graduated with a B.Sc. degree in Geophysics from the University of British Columbia in 1969.

4. I am President, Nielsen Geophysics Ltd. with business address at 420-475 Howe Street, Vancouver 1, B. C.

5. I am a member of the Society of Exploration Geophysicists, the Canadian Institute of Mining and Metallurgy and the B. C. Geophysical Society.

Signed _____
P. P. Nielsen

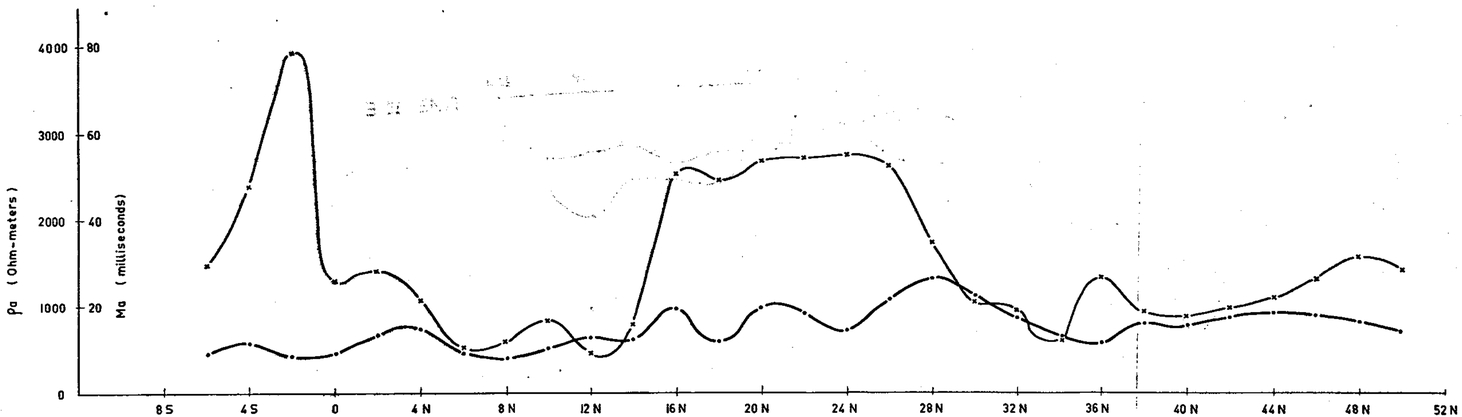
Date Nov 19/73

PROFILE LINE

APPARENT RESISTIVITY & CHARGEABILITY

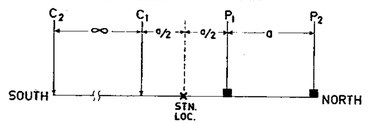
NO. 4904

INDUCED POLARIZATION SURVEY



LINE 56 E

THREE ELECTRODE ARRAY



a = 200 feet a = 400 feet

CHARGEABILITY (Ma)

RESISTIVITY (ρa)

I.P. INSTRUMENT PARAMETERS

Tx ON	2.0	SECONDS
Tx OFF	2.0	SECONDS
DELAY (td)	240	MILLISECONDS
INTEGRATE	900	MILLISECONDS

MOUNT SICKER MINES LTD. (N.P.L.)

MT. SICKER PROPERTY

DUNCAN AREA, B.C.

400 0 400

Scale in feet

VICTORIA M.D.

N.T.S. 92 B/13

4904

P. P. NIELSEN, B.Sc., GEOPHYSICIST &
G.C. GUTRATH, B.Sc., P.Eng., GEOLOGIST

NIELSEN GEOPHYSICS LTD.

VANCOUVER, B.C.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
G. C. GUTRATH

OCTOBER, 1973

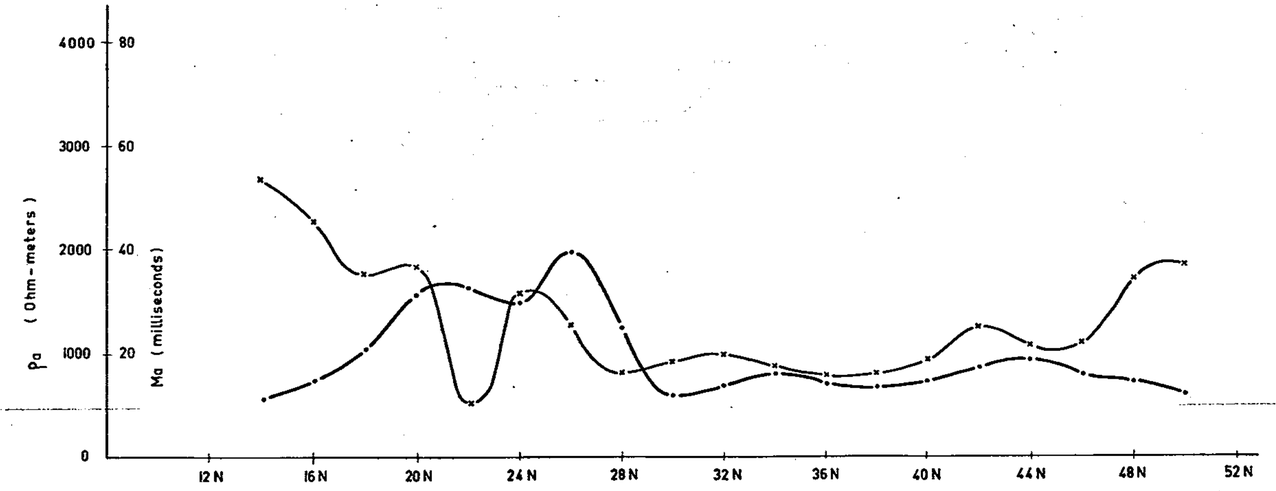
DRAWN BY: NCL

PROFILE LINE

APPARENT RESISTIVITY & CHARGEABILITY

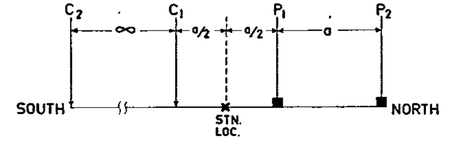
NO. 4904

INDUCED POLARIZATION SURVEY



LINE 68 E

THREE ELECTRODE ARRAY



I.P. INSTRUMENT PARAMETERS

Tx ON	2.0	SECONDS
Tx OFF	2.0	SECONDS
DELAY (td)	240	MILLISECONDS
INTEGRATE	900	MILLISECONDS

MOUNT SICKER MINES LTD. (N.P.L.)

MT. SICKER PROPERTY

DUNCAN AREA, B.C.

400 0 400

Scale in feet

VICTORIA M.D.

N.T.S. 92 B/13

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G.C. GUTRATH, B.Sc., P.Eng., GEOLOGIST

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4904

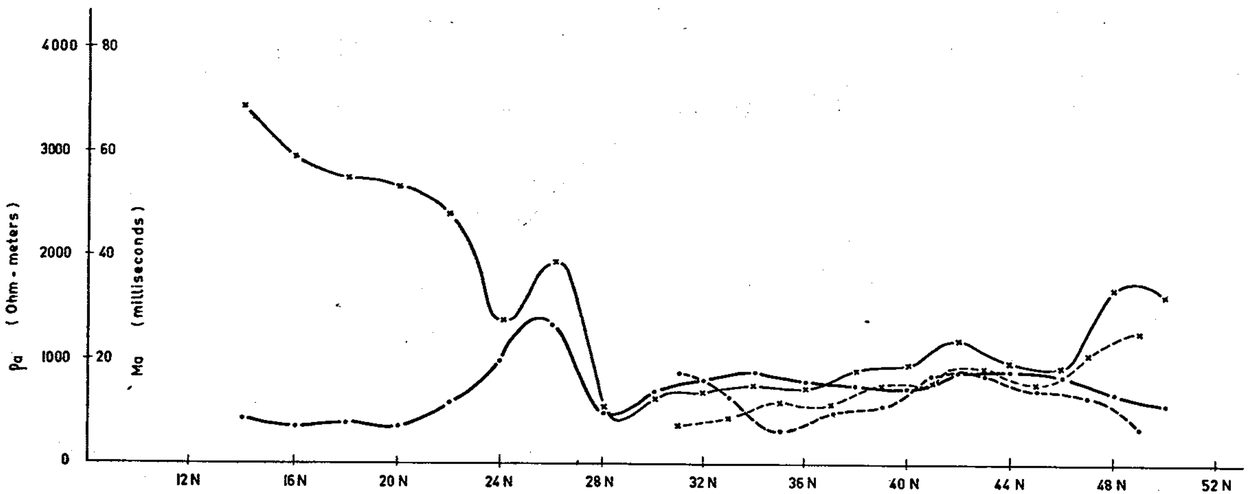
CTOBER, 1973

PROFILE LINE

APPARENT RESISTIVITY & CHARGEABILITY

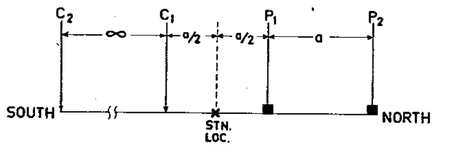
INDUCED POLARIZATION SURVEY

NO. 4904



LINE 64 E

THREE ELECTRODE ARRAY



a = 200 feet a = 400 feet

CHARGEABILITY (Ma)

RESISTIVITY (ρa)

I.P. INSTRUMENT PARAMETERS

Tx ON	2.0	SECONDS
Tx OFF	2.0	SECONDS
DELAY (td)	240	MILLISECONDS
INTEGRATE	900	MILLISECONDS

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400 0 400

Scale in feet

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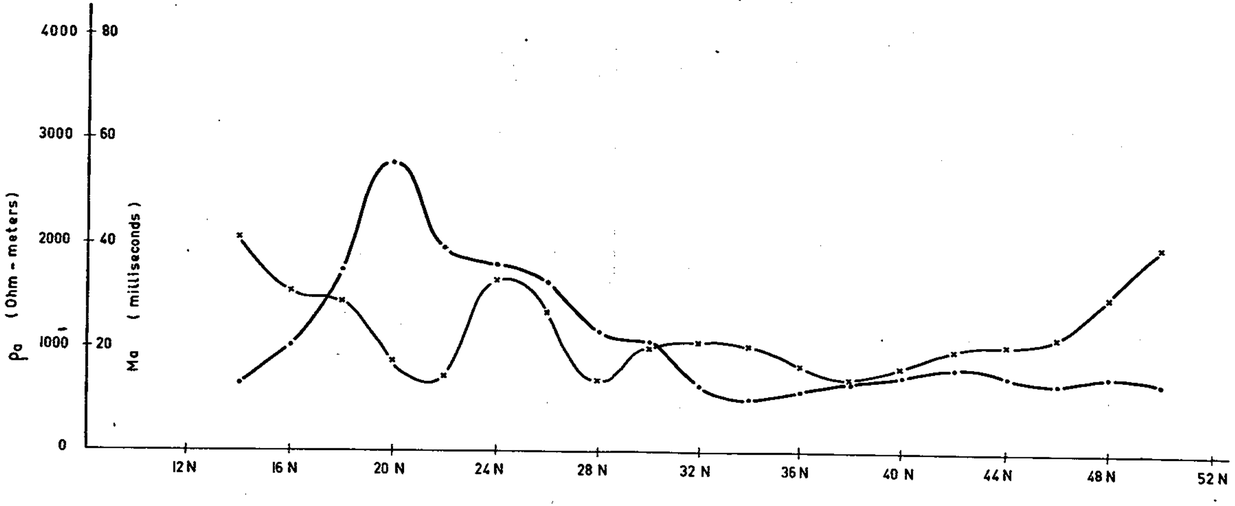
PROFILE LINE

APPARENT RESISTIVITY & CHARGEABILITY

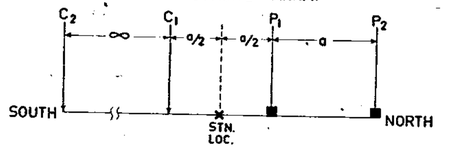
INDUCED POLARIZATION SURVEY

NO. 4904



LINE 72 E

THREE ELECTRODE ARRAY



a = 200 feet a = 400 feet

CHARGEABILITY (Ma)

RESISTIVITY (ρa)

I. P. INSTRUMENT PARAMETERS

Tx ON	2.0	SECONDS
Tx OFF	2.0	SECONDS
DELAY (td)	240	MILLISECONDS
INTEGRATE	900	MILLISECONDS

MOUNT SICKER MINES LTD. (N.P.L.)
MT. SICKER PROPERTY
DUNCAN AREA, B.C.

400 0 400
Scale in feet

VICTORIA M.D.

N.T.S. 92 B/13

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OCTOBER, 1973

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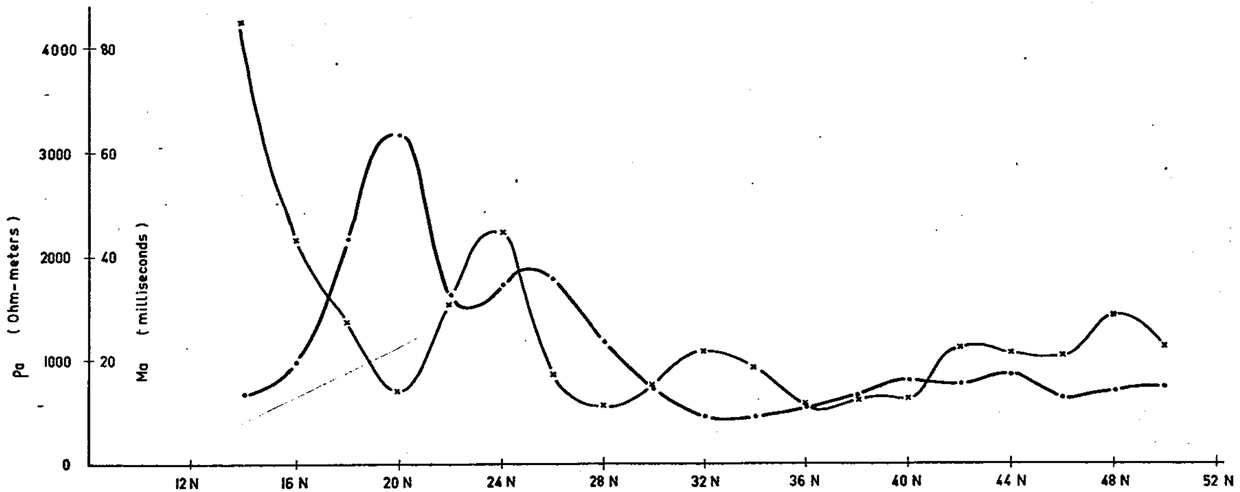
PROFILE LINE

APPARENT RESISTIVITY & CHARGEABILITY

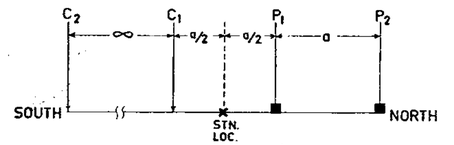
NO. 4904

INDUCED POLARIZATION SURVEY



LINE 76 E

THREE ELECTRODE ARRAY



I. P. INSTRUMENT PARAMETERS

Tx ON	2.0	SECONDS
Tx OFF	2.0	SECONDS
DELAY (td)	240	MILLISECONDS
INTEGRATE	900	MILLISECONDS

MOUNT SICKER MINES LTD. (N.P.L.)
MT. SICKER PROPERTY
DUNCAN AREA, B.C.

400 0 400
Scale in feet

VICTORIA M.D.

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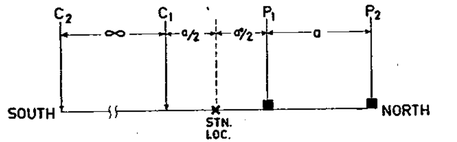
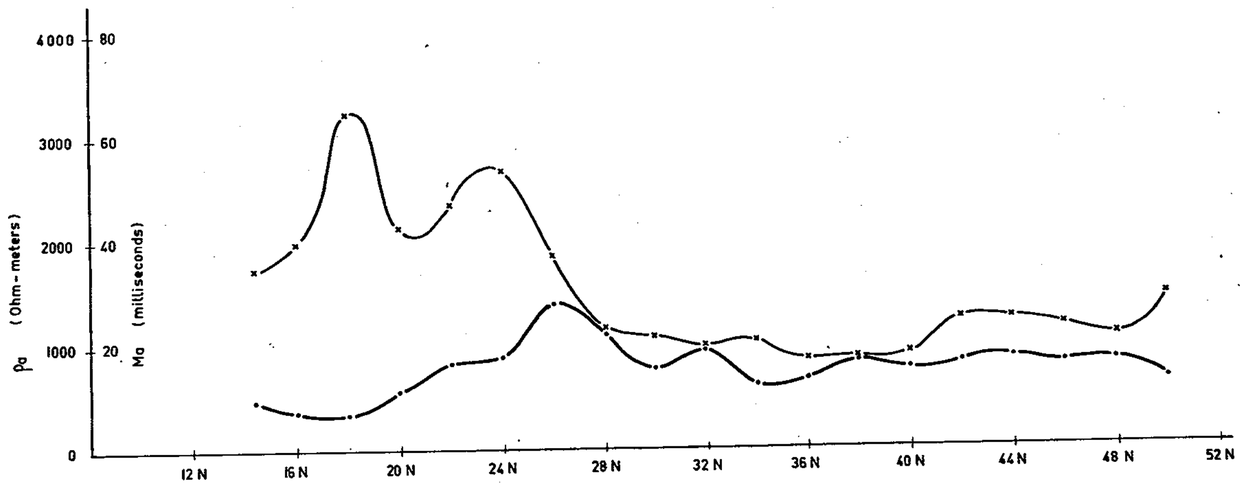
PROFILE LINE

APPARENT RESISTIVITY & CHARGEABILITY

INDUCED POLARIZATION SURVEY

THREE ELECTRODE ARRAY





LINE 60 E

I.P. INSTRUMENT PARAMETERS

Tx ON	2.0	SECONDS
Tx OFF	2.0	SECONDS
DELAY (td)	240	MILLISECONDS
INTEGRATE	900	MILLISECONDS

MOUNT SICKER MINES LTD. (N.P.L.)
MT. SICKER PROPERTY
DUNCAN AREA, B.C.

400 0 400
Scale in feet

VICTORIA M.D.

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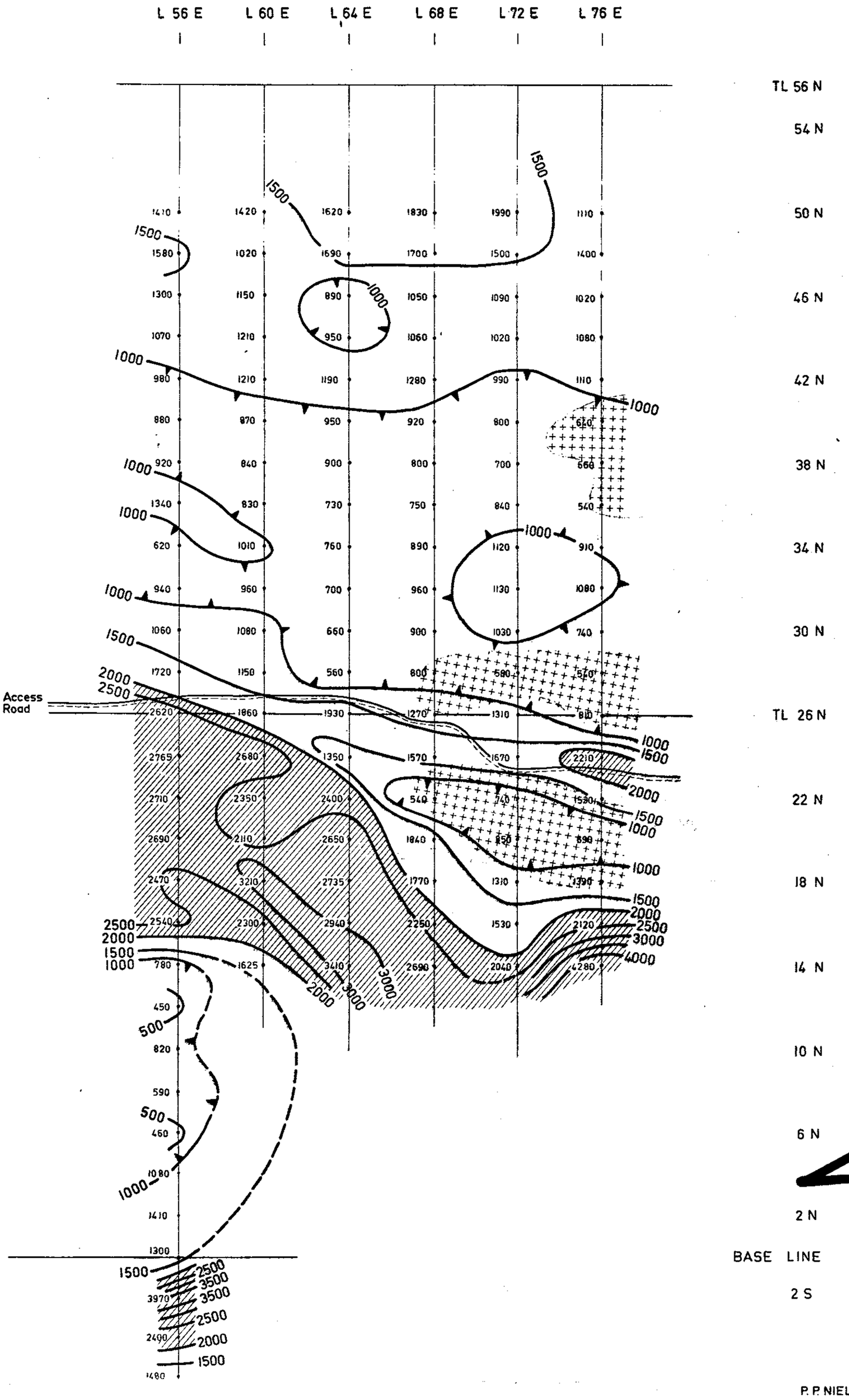


THREE ELECTRODE ARRAY

a = 400 feet

LEGEND

NORMALIZED I.P. ANOMALOUS AREA

HIGH ρa AREA

LOW ρa AREA

CONTOUR INTERVAL: 500 OHM METERS

INSTRUMENT PARAMETERS

INSTRUMENT USED:
HUNTEC MK III RECEIVER WITH 7.5 KW POWER SOURCE

SPECIFICATIONS:
TRANSMITTER TIMING: 2 secs. ON & 2 secs. OFF
RECEIVER DELAY TIME: 240 msecs.
BASIC INTEGRATING PERIOD: 60 msecs.
TOTAL INTEGRATING TIME: 900 msecs.

4904
M6

To accompany report by:
P.P. NIELSEN, B.Sc., Geophysicist &
G.C. GUTRATH, B.Sc., P.Eng.

P.P. Nielsen

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
G. C. GUTRATH

MOUNT SICKER MINES LTD. (N.P.L.)

MT. SICKER PROPERTY

DUNCAN AREA B.C.

INDUCED POLARIZATION SURVEY APPARENT RESISTIVITY VALUES & CONTOUR MAP

VICTORIA M.D. N.T.S. 92 B 13

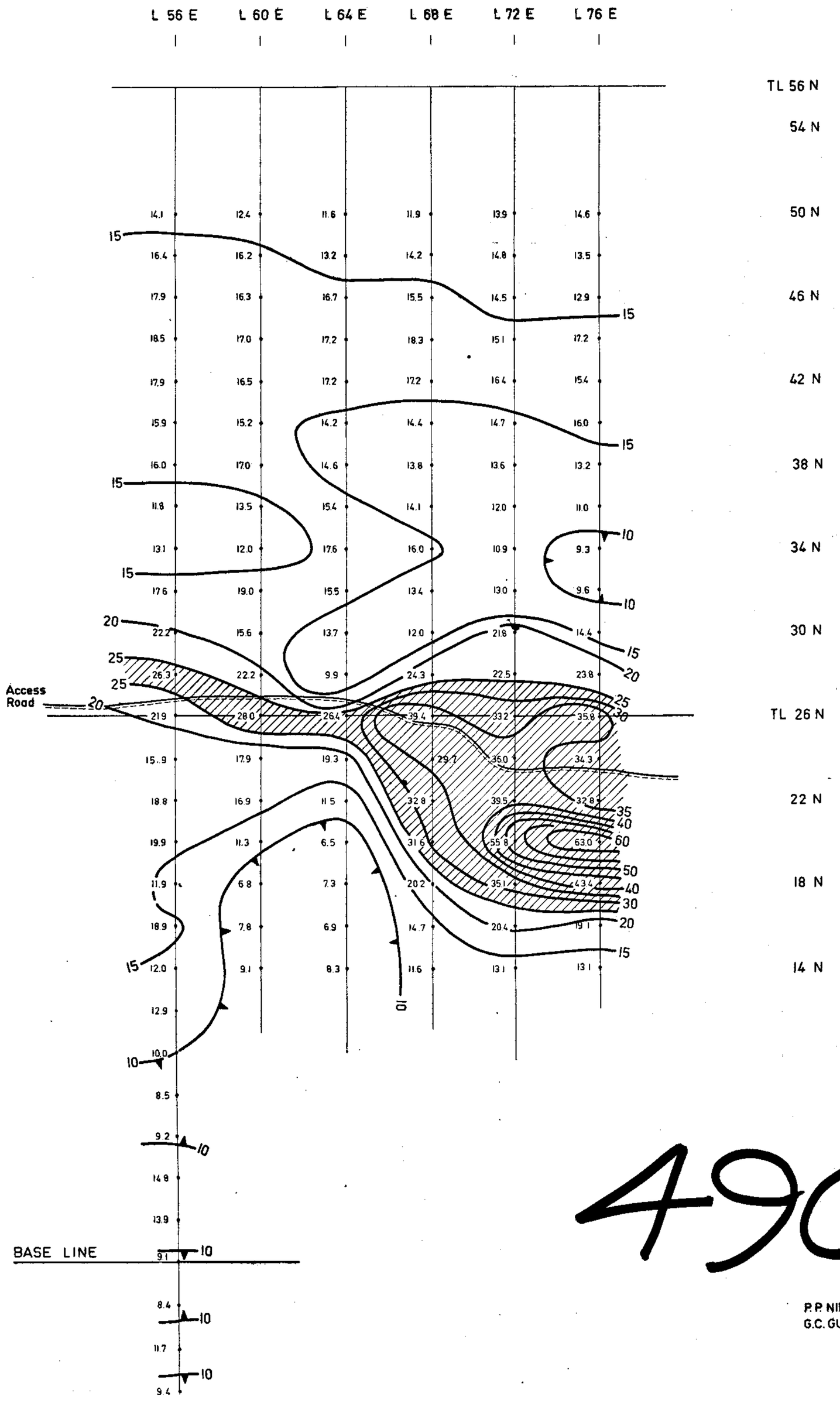
NIELSEN GEOPHYSICS LTD.

VANCOUVER, B.C.

400 0 400 800

Scale in feet

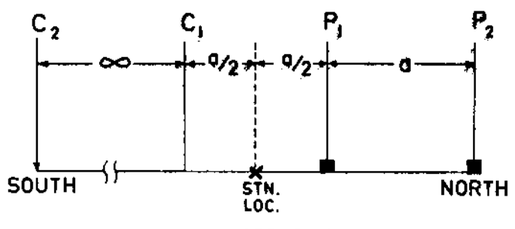
DATE: OCTOBER 1973 DRAWN BY: NCL



4904 M5

To accompany report by:
P.P. NIELSEN, B.Sc., Geophysicist &
G.C. GUTRATH, B.Sc., P.Eng.

THREE ELECTRODE ARRAY



a = 400 feet

LEGEND

HIGH Ma AREA

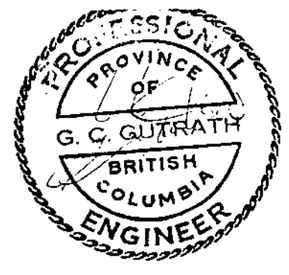
LOW Ma AREA

CONTOUR INTERVAL: 5 millisecs.

INSTRUMENT PARAMETERS

INSTRUMENT USED:
HUNTEC MK III RECEIVER WITH
7.5 KW POWER SOURCE

SPECIFICATIONS:
TRANSMITTER TIMING: 2 secs. ON & 2 secs. OFF
RECEIVER DELAY TIME: 240 msecs.
BASIC INTEGRATING PERIOD: 60 msecs.
TOTAL INTEGRATING TIME: 900 msecs.



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MT. SICKER PROPERTY

DUNCAN AREA B.C.

INDUCED POLARIZATION SURVEY
APPARENT CHARGEABILITY
VALUES & CONTOUR MAP

VICTORIA M.D. N.T.S. 92 B 13

NIELSEN GEOPHYSICS LTD.

VANCOUVER, B.C.

400 0 400 800
Scale in feet

DATE: OCTOBER 1973 DRAWN BY: NCL