4169

GEOPHYSICAL REPORT

on the

INDUCED POLARIZATION AND MAGNETOMETER SURVEYS

on the properties of

BELCARRA EXPLORATIONS LTD. (N.P.L.)

and

PRIMER GROUP MINERALS LTD.

MISSEZULA LAKE AREA

SIMILKAMEEN MINING DIVISION

for

RIO TINTO CANADIAN EXPLORATION LTD.

92H/9W, 10E, 15E, 16W

Belcarra Property

Name of Claim	Record Number	Recording Date	Expiry Date
Nel 1-6 incl.	38130-38135 incl.	October 6,1972	October 6,1973
Nel 7-12 incl.	38495-38500 incl.	November 22,1972	November 22,1973
Nel Fr. 1-6 incl.	38136-38141 incl.	October 6,1972	October 6,1973
Nel Fr. 10	39041	December 4,1972	December 4,1973
Lost 1	38419	November 6,1972	November 6,1973
Lost 3	38420	November 6,1972	November 6,1973
Lost 5	38421	November 6,1972	November 6,1973
Lost 7	38422	November 6,1972	November 6,1973
Nellie 1-18 incl.	30142-30159 incl.	February 15,1971	February 15,1975
Nellie 19-31 incl.	32518-32530 incl.	April 13,1971	April 13,1975
Warm 1-8 incl.	34089-34096 incl.	August 16,1971	August 16,1974

Primer Property

O.B. 3-6	21999-22002 incl.	March 22,1968	March 22,1975
O.B. 7&8	22003&22004	March 22,1968	March 22,1981
O.B. 9&10	22005&22006	March 22,1968	March 22,1974
O.B. 11-16 incl.	22007-22012 incl.	March 22,1968	March 22,1976
Bill 5-10 incl.	24716-24721 incl.	May 23,1969	May 23,1981

by

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

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

ATLED EXPLORATION MANAGEMENT LTD.

Vancouver, B. C.

Department of
Mines and Petroleum Resources
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NO. 4169 MAP

December 30,1972

N.T.S. 92H - 9,10,15,16

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ILLUSTRATIONS:

1. INTRODUCTION

Commencing September 1, 1972 a reconnaissance induced polarization survey consisting of 2.75 line-miles was conducted over selected anomalous copper geochemical soil survey lines on some Nellie Claims owned by Belcarra Explorations Ltd. in the Summers Creek, Princeton area.

During the period from November 29 to December 8 an additional 4.9 line miles of I. P. was carried out over the Nellie and Lost claims owned by Belcarra as well as over the adjacent property of Primer Group Minerals Ltd.

A larger area including the above I. P. coverage was ground magnetically surveyed amounting to 30.5 line miles. This work was executed during the period from November 8 to November 29, 1972.

A total of 25 line miles of grid lines were installed to accommodate the above program.

2. LOCATION AND ACCESS

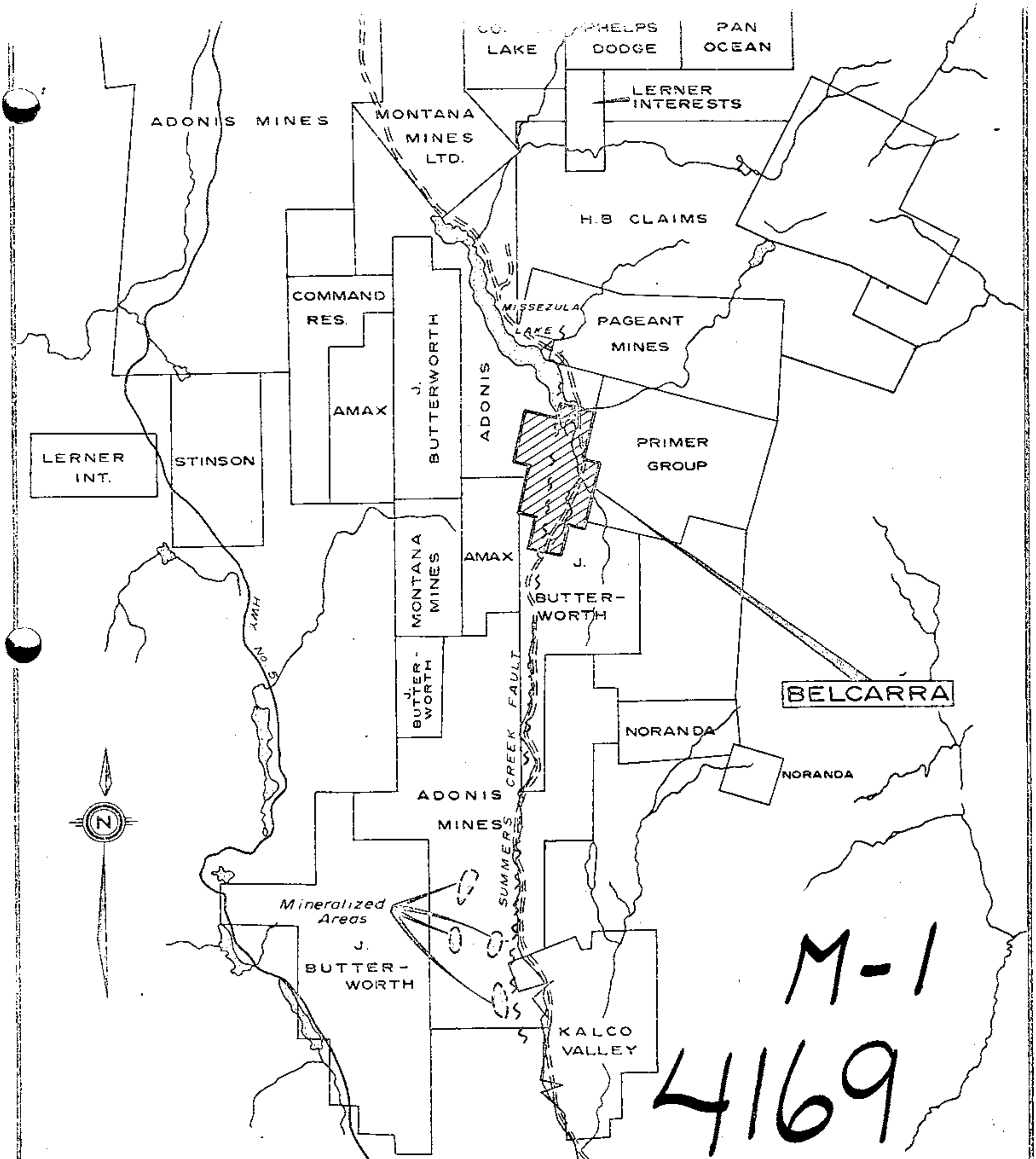
The survey area is situated about 26 miles north of Princeton, B. C. near the headwaters of Summers Creek and 1 1/2 miles south of Missezula Lake. Co-ordinates are 120° 30' W. longitude and 49° 45' N. latitude.

Access is by vehicle over the Summers Creek gravelled road which leaves the Princeton-Merrit Highway about 8 miles north of Princeton. Local access is good with the road transecting the property. Local cat roads and trenches are numerous especially on the western half of the property.

3. TOPOGRAPHY AND GROUND CONDITIONS

Topography can be considered quite variable consisting of creek canyons, rock bluffs and talus slopes. The extreme western and eastern edges of the property occur on more gently rolling terrain at an average elevation of about 4,000 feet A.S.L.. The Summers Creek valley which passes north-south through the centre of the property is at about 3,200 feet A.S.L.

Overburden thicknesses are also quite variable but are not expected to exceed 200 feet. Ground conductivity was generally good at the times of the surveys due to local rain showers and melting snow although contact problems were encountered on the large blocky talus slopes on the western portion of Line 4N and 12N.



BELCARRA EXPLORATIONS LTD. (N.P.L.)

PROPERTY MAP

SCALE

MILES 2 1 0 2 4 MILES

1-M

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P-H

During the later portion of the I. P. survey freezing rain followed by light snow-fall created extremely hazardous conditions on the steeper slopes and resulted in a low rate of coverage.

4. GENERAL GEOLOGY (after D. Malcolm and G. C. Gutrath)

The Princeton area is underlain by Triassic Nicola group sediments, volcanic flows and fragmentals intruded by dikes, sills and plugs of Jurrasic age.

The region is extensively faulted including the prominent north striking Allison Lake, Otter Creek and Summers Creek faults. Numerous north-west and north-east trending faults, shears and breccia zones branch from these major faults.

Copper mineralization is widespread and is generally found in Nicola group rocks associated with intensive faulting and brecciation.

Minerals observed in the claims area are chalcopyrite, chalcocite and pyrite disseminated in a feldspar porphyry andesite flow breccia. A narrow northerly striking chalcocite vein is observed west of Summers Creek and much malachite and azurite staining is observed in a recent trench in a creek canyon on the eastern side of the property.

Most observed mineralization to date occurs between 3,400 and 3,600 feet A.S.L. and appears to favour a single bed and to be fracture controlled.

5. GRID PREPARATION

A total of 25 line miles of lines was installed using axes, topofils and flagging at 100 foot intervals. It was necessary to also use power saws and pickets on some lines.

In order to avoid re-location problems on the hay fields along Summers Creek, the base-line was kept along the foot of the hill on the west side of Summers Creek by a series of offsets.

A tie-line was installed at Stn. 44E from Line 20N to Line 12S.

6. CLAIMS

The geophysical surveys cover some of the Bill and O.B. claims held by Primer Group Minerals Ltd. and the Nellie, Nel, Nel Fractions, Lost, and Warm claims held by Belcarra Explorations Ltd.

It is possible that the survey lines have slightly overlapped onto claims thought to be owned by Sheba Copper Ltd. on the west and J. Butterworth to the south.

All claims are situated in the Similkameen Mining Division.

A detailed location map is included and represents to the best of our knowledge the present status of the various holdings. Data for this map was obtained from record research, personal communications with companies and individuals concerned, a claim-post search in the field by our field staff with the assistance of some of the stakers, and a chain and compass survey. It is recommended that a legal survey be carried out in the near future.

Belcarra Property

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*Warm 1-8 incl.	34089-34096 incl.	August 16,1971	August 16,1974

*Subject to purchase agreement made April 16,1971, between Belcarra Explorations Ltd.(N.P.L.) as purchaser and W.Shopshire, A.D.Broomfield and E.Garrison as vendors.

Primer Property

Name of Claim	Record Number	Recording Date	Expiry Date
O. B. 3-6 incl.	21999-22002 incl.	March 22,1968	March 22,1975
O. B. 7&8	22003&22004	March 22,1968	March 22,1981
O. B. 9&10	22005&22006	March 22,1968	March 22,1974
O. B.11-16 incl.	22007-22012 incl.	March 22,1968	March 22,1976
Bill 5-10 incl.	24716-24721 incl.	May 23,1969	May 23,1981

7. THE MAGNETOMETER SURVEY

(a) General Comments

A total of 30.5 line miles was magnetically surveyed over lines spaced 400 feet and 800 feet apart using a station interval of 100 feet.

(b) Method

The instrument used was a vertical force fluxgate magnetometer which is hand held and levelled using a bubble-level on the face of the instrument.

The magnetometer was held by the aid of a harness to maintain constant height above ground and constant distance from the operator. Readings were taken facing one direction using the most sensitive scale possible.

Loop times of less than two hours were encountered, resulting in good control of the diurnal corrections. A nearby base-station was read at the beginning and end of each day for the day-to-day correlation and to monitor any possible magnetic storms.

(c) Instrumentation

A Scintrex MF-1 Model Fluxgate magnetometer was used. This unit measures the vertical force variations of the earth's magnetic field, displayed in gammas, on a meter having five ranges for a total of ± 100,000 gammas. The MF-1 is very light, is fully portable, has excellent temperature stability, has negligible orientation error and is of rugged construction.

(d) Data Compilation and Presentation

The readings and time of readings were recorded in a metal-free field book and transferred to a planimetric map for contouring after the necessary diurnal and day-to-day corrections were made.

The scale of the contour map is 400 feet. A 250 gamma contour interval has been used. Areas of high susceptibility (i.e. above gammas) are stipled and lows less than gammas are "ticked".

Where applicable, the magnetic results are illustrated in profile form on the chargeability axis of the I. P. profiles. Vertical scale is 1" = 1000 gammas.

(e) Discussion of Magnetometer Results and Interpretation

The magnetometer survey was executed over a large area which includes the area covered by the I. P. survey.

Readings were taken at 100 foot station intervals and contoured at an interval of 250 gammas.

The values map indicates a range of values from -720 γ's at Line 12S; Stn. 4E to +3250 γ's at Line 8N; Stn. 19W for a total relative magnetic relief of 3970 gammas.

A separate map illustrating the contours and interpretation has been included for clarity.

Generally the contours exhibit a northerly trend parallel to the baseline and the Summers Creek valley. This is primarily due to the flow direction of the Nicola volcanics and the strike of the major fault system which, aided by glaciation, has caused the existing steep northsouth terrain on each side of Summers Creek.

Minor inherent northsouth distortions in the data have been caused by rectangular grid bias and the magnetic lows along the base of the steeper topographic slopes. The line-direction is, in retrospect, optimum for the overall property examination.

For purposes of discussion the magnetic contour has been divided into 4 features as follows:

Feature 1 :	*Areas less than 0 gammas (ie. negative gammas)*
Feature 2 :	*Areas between 0 and 500 gammas.*
Feature 3 :	*Areas between +500 and +1000 gammas.*
Feature 4 :	*Areas over +1000 gammas.*

Feature 1

These magnetic lows indicated by "ticks" are due to one or a combination of topographic effects at the base of steep slopes, thick valley fill, and leaching of mafic material along faults and water courses.

The lows along the road at the south end of the grid could be due to at least in part, a limestone bed observed in this area.

Feature 2

Occupies about one third of the survey area. The greatest portion of the Warm claims fall within this range and is thought to represent a unit of fragmental andesites.

Other areas of feature 2 occur along Summers Creek to the north and are believed related to the major N-S Summers Creek fault and thick valley fill.

The most interesting area of this magnitude is coincident with a chargeability conductive zone east of the new showing also trending northsouth. It is thought to be caused by altered, fractured andesites in gradational contact with intrusive diorites to the east.

Feature 3

Rocks west of the 500 gamma contour through the new showing is believed to be principally due to dipping, relatively unaltered andesites and tuffs with a N-S flow direction. The area at the eastern ends of lines 20S to 36N are interpreted as barren intrusive rocks with the possibility of some local basic volcanic capping occuring in areas of feature 4 magnetic responses.

Feature 4

All areas within feature 4 are believed caused by relatively flat lying basic volcanic rocks possibly younger in age than those rocks just mentioned.

Although it is always difficult to distinguish magnetically between faults and contacts a number of faults have been postulated. Supporting information has included field observations of topography, correlation of magnetic, resistivity and chargeability data where applicable, and magnetic contour flexures.

Geological, geochemical and air-photo studies would more meaningfully determine the structure and its possible importance to mineral deposition.

A tectonic analysis of fracture density from airphotos has been carried out on the eastern portion of the survey area by D.A.Chapman. This area and the remaining Primer claims have also been aeromagnetically surveyed by Geo-Ex Surveys Ltd. This information is available but is not covered in this report.

8. THE INDUCED POLARIZATION SURVEY

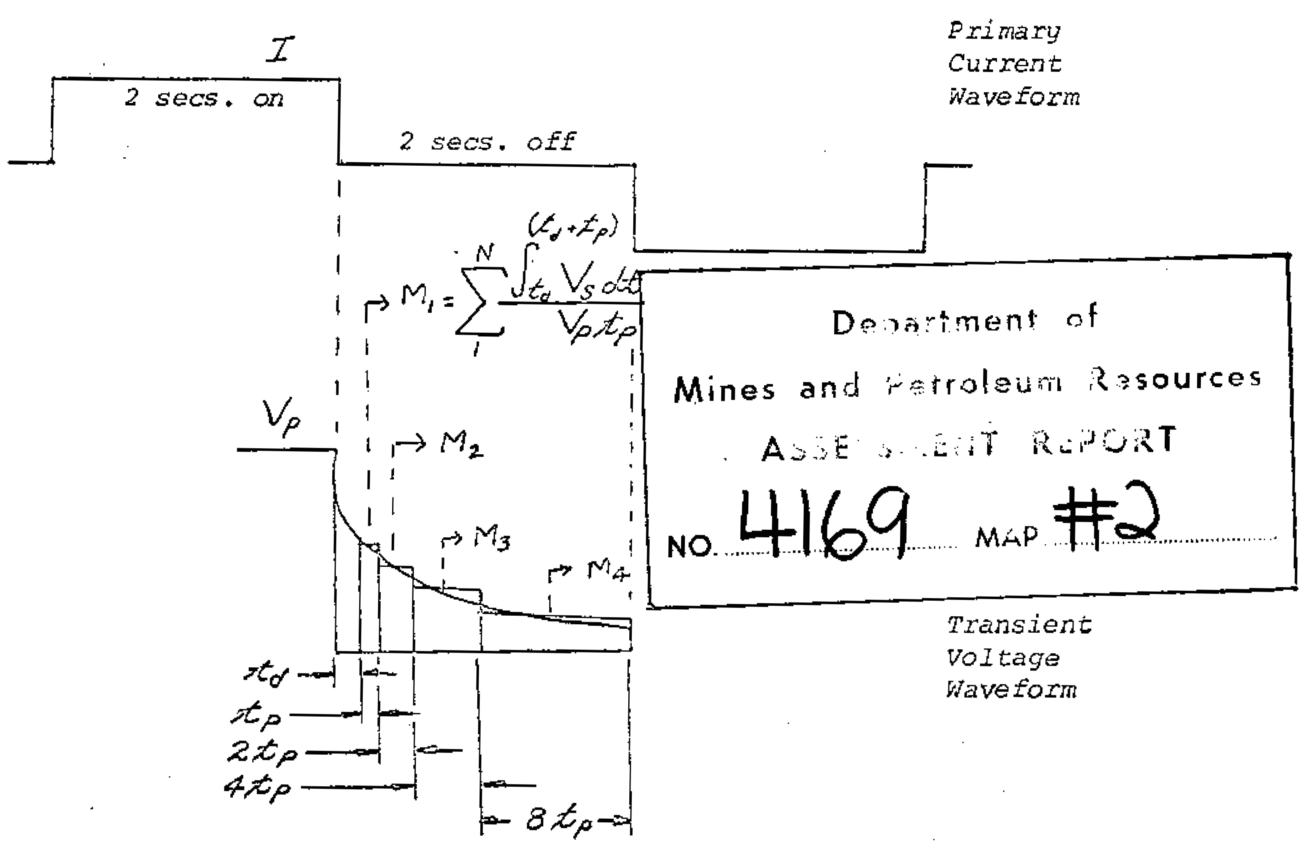
(a) Theory of Method Used

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.



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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 which is important for quantitative chargeability determinations and for better qualitative interpretations as to concentration, shape, size, depth and type of 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 non-metallic conductive material, between oxides and sulphides, between large and fine-grained particules, and between massive and disseminated portions of a polarizable body.

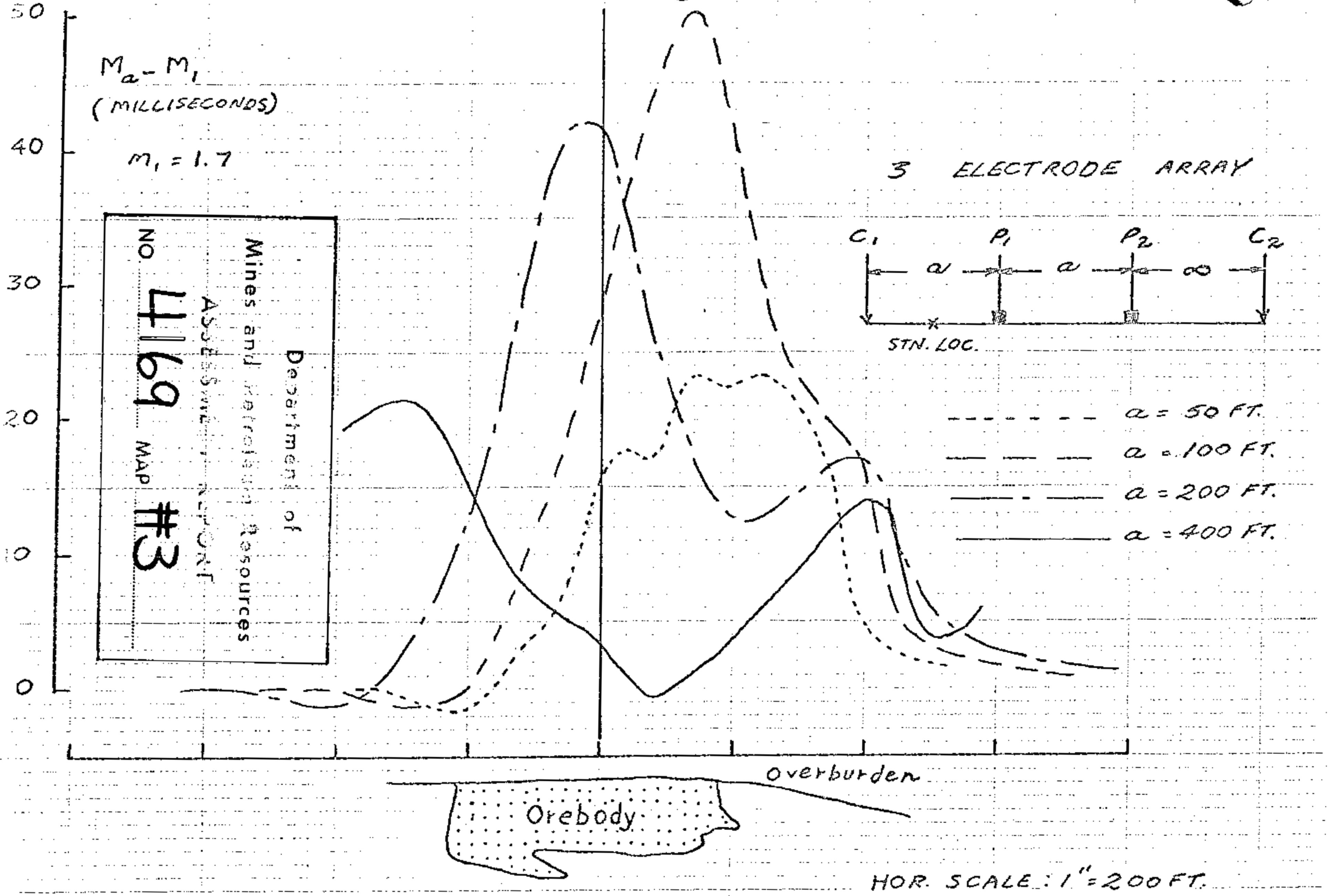
(b) Theory of the 3-array Electrode Configuration

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 asymmetrical 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.

CHARGEABILITY PROFILE EXAMPLE



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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.

(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 6a 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 East of the potential electrodes on the west lines and to the west of P_1 and P_2 on the east lines.

(ii) Measurements Taken in the Field

1. The Primary voltage Vp between the 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) integrating time t_p = 60 msecs.
   - (c) basic period t_c = 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 resolution.
- Greater than 10 megohm input impedance.

Specifications

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

Self Potential: MAXIMUM $\pm$ 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 Pulse type transmitter alternator is a high-powered, 7.5 Kilowatt system utilizing the following:

- Solid state power control and switching 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

1. Transmitter

Output:	100 to 3250 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.

2. Alternator

Output:	18 K.V.A. 120/208 volts 3 phase 400 Hz. 52 amps/phase.
Engine:	2 cylinder, 4 cycle, air-cooled 16.5 H.P. ONAN at 3600 R.P.M.
Alternator:	3600 R.P.M. direct driven Bendix with sealed bearings and rotating field.
Dimensions:	42 in. x 17 in. x 26 in.
Weight:	225 lbs.

8.

(e) DATA PRESENTATION

1. Calculations

(i) The apparent resistivity ρ_a is calculated by dividing V_p 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 composite chargeability parameter (called M_c) for contouring purposes.

$$M_c \, {}^{t_f}_{t_d} = t_p \, (M_1 + 2M_2 + 4M_3 + 8M_4) \times .01$$

Where M_c = 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

2. Profiles

The composite chargeability M_c is plotted at a vertical scale of 1" = 5 msecs. and ρ_a is plotted at a vertical scale of 1" = 500 ohm-meters.

Lines for which an "a" spacing of 400 feet was used are plotted at a horizontal scale of 1" = 400 feet. The two lines on the old grid are at a horizontal scale of 1" = 200 feet (i.e. "a" = 200 feet)

3. Contours

All apparent resistivity and composite chargeability values for electrode separations of 200 and 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 biase 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.

The contour plans, therefore, serve to illustrate in a general way the area of interest, the strike of the polarized body and the possible lateral changes in physical properties of the sub-surface.

(f) DISCUSSION OF I.P. RESULTS AND INTERPRETATION

1. General Discussion

The east-west oriented survey lines 8S to 12N inclusive were surveyed using a reconnaissance electrode spacing of 400 feet to obtain maximum depth detection for large targets while maintaining sufficient resolution for possible smaller near-surface targets of economic significance.

Two traverses using a 200 foot electrode separation were made along old grid lines in the vicinity of a chalcocite vein known as the "old" showing. It is located on the Nellie #8 claim southwest of the Shopshire farm. Their location is shown relative to the new grid although the results are not contoured due to the smaller electrode separation used and the resulting extreme grid bias.

Line 4S was re-run using a 200 foot "a" spacing over the anomalous section from Stn. 27E to 42E and is discussed under "Profiles".

Lines 4N and 12N west of the baseline were run to test the copper geochemical anomaly below the ridge near the top of talus slopes. Coverage was limited by the difficulty in negotiating the rugged terrain.

A traverse using a wide electrode separation of 800 feet was carried out along the valley floor from Stn. 8N to Stn. 20S to test for a deeply buried sulphide deposit and to see if the old and new showing areas could possibly be directly connected.

Although the eastern "new" showing area has been more fully covered, the survey is still considered to be of a reconnaissance nature with the principal purpose being to delineate the conductive zone prior to actually spotting drill holes. The northern coverage should now merge with an older I.P. survey but the zone is still open to the south and southeast.

2. Resistivity Contours

The resistivity portion of the survey ranges in value from 90 ohm meters at Line 12N Stn. 18E to 2922 ohm-meters at Line 20N Stn. 36E yeilding a total relief of 2832 ohm-meters.

Interpretation is difficult due to marked charges in terrain and varying water content of the sub-surface over the survey area.

The high ρ_a's along the western portion of Line 4N are thought to be due primarily to the large blocky talus although talus is also present on Line 12N where resistivity values are much lower. The only explanation at this time is that the talus on Line 4N could be thicker or underlain by a more highly fractured rock.

A long, narrow low (below 300 ohm meters) trends north-south through the center of the map. The eastern 300 ohm meter contour appears to define the western extent of a zone of"favourable" alteration, fracturing and, possibly, mineralization as observed at the "new" showing.

Generally, the "favourable" area lies between 300 and 500 ohm meters. This intermediate resistivity zone widens and is still open to the south and southeast.

A region of higher resistivities (i.e. above 500 ohm meters) lying further east of this feature could be due to a barren intrusive core.

3. Chargeability Contours

The composite chargeability values vary from 2.9 msecs. at Line 4N Stn. 8E to 14.9 msecs. on the Line 4S at Stn. 33E. Background is estimated to be about 5.5 msecs with values greater than 8.0 msecs. considered to be of interest and possibly related to sulphide mineralization.

Two main conductive zones have been partially delineated.

(i) On the west side of Summers Creek a copper geochemical anomaly was tested by I.P. along Line 12N and Line 4N up talus slopes and through some precipitous rock bluffs.

The Line 4N traverse converged onto Line 0 as shown on the map making the line separation spread from 800 to 1,200 feet. None-the-less the chargeability readings support the geochemical results and indicate the need for further work on this feature. Malachite stained float on the talus slope along Line 12N between stations 11W and 14W contained visible amounts of sulphides and epidote alteration.

The contour map illustrates a very coarsely gridded anomalous chargeability trend striking SSW and widening towards an area of rusty fractured rock exposed by old bulldozer trenching on Lines 2S to 6S near the crest of the hill.

(ii) The eastern conductive zone is represented by the 8.0 msec. contour which is presently arcuate in shape and closely conforms to the intermediate resistivity zone discussed above.

The western limit of this zone passes through the new showing and appears to be striking northerly towards a mineralized area on the Primer ground in the Line 36N area. The conductive zone is open to the north and southeast.

Three areas A,B, and C which are above 12.0 msecs. chargeability have been observed within this zone.

The northernmost one on Line 20N could be the southern limit of a sulphide zone on the Primer claims covered by an older I.P. survey executed by Seigel Associates Ltd.

To correlate the two survey results (chargeability) one must consider the changes or possible differences in survey parameters which include line direction, type of array, electrode separation, transmitter cycling times and receiver integration times. The parameters used by Atled are given on the profiles and I.P. contour maps. Resistivity results should, however, closely agree.

Chargeability high B which is about 2 1/2 times estimated background response peaks at Line 4N Stn. 24E which is approximately 700 feet SE and on strike from the two sub-parallel dikes exposed at the "new" showing.

The third high chargeability feature C is located 1,200 feet to the southeast of B and on strike with B and the "new" showing. B and C have about the same surface area and chargeability amplitude and exhibit a subtle northeasterly elongation normal to the general strike of the zone, as outlined by the 10.0 msec. contour which is in turn sub-parallel to the dike system and peak line-up just mentioned.

There is a possibility that this northeasterly elongation is the down dip expression of a northwesterly striking sulphide zone with a flat north-easterly dip.

Sub-lows between these peaks expecially between A and B are invariably found to coincide with creek gulleys and possibly represent areas of increased leaching of sulphides along faults.

4. Profiles

(i) Line 2N old Grid. - a = 200 feet

This line passes over the chalcocite vein at Stn. 3+70W (from main road). The vein (veins?) strike N15°E and dip 40° to 60° to the west.

The chargeability profile gives a miximum response of 15.3 msecs. at Stn. 5+00W which is 130 feet to the west of the exposed mineralization. This is the point at which the array is centered on the maximum volume of polarizable material present on this line segment. Although some skewness due to the assymetrical array is possible it is felt that this peak represents either a widening of the vein down dip or a separate polarizable body to the west.

The resistivity peak of 1100 ohm meters at Stn. 3+00W could reflect the eastern boundary of the shear and fault system postulated for the old showing area or be caused by a highly resistive dike.

(ii) <u>Line 6S Old Grid</u> a = 200 feet

This line was surveyed to test for possible southerly extensions and enlargements of the mineralization encountered on Line 2N.

The chargeability profile is very flat and uninteresting save for the slight increase in value at the eastern extremity of the line.

A background of 6.0 msecs. is assigned to this area for an "a" spacing of 200 feet.

The resistivity profile exhibits a bi-modal peak centered at 3+00W which is likely due to the intersection of two structural features or due to a sub-parallel fault just to the north of this line. Further detailed coverage would be required to remove this ambiguity.

(iii) <u>Baseline Stn. 8N - 20S</u> a = 800 feet

The chargeability values rise slightly from 4.0 msecs at Stn. 20S to 9.2 msecs. at 4N. This sub-anomalous reading could be due to the same cause as the higher values encountered. 400 feet to the west on Line 4N. The traverse has shown that there is no polarizable bodies under the valley fill within the 2,800 feet surveyed and has suggested there is no connection between the chalcocite vein and the "new" showing highs.

(iv) <u>Line 8S</u> a = 800 feet

The Mc readings begin to increase in value at Stn. 26E at the base of a westerly sloping hill, peaks to 12.1 msecs., then averages about 10.0 msecs.out to the eastern end of the line where the hill has begun to flatten out.

The Mc peak at Stn. 28E appears to line up with the Stn. 26E peak on adjacent Line 4S although the principals of contouring rectangularly gridded data show it as being the southwest extension of the Mc high at Stn. 32E, 33E. The writer feels that the profile line-up might be valid in this case. An intermediate line would be required to settle this argument.

The ρ_a and γ profiles are quite flat and uninteresting. The slightly higher magnetic readings from Stn. 4E to 11E occur on the south side of a creek which crosses the line at Stn. 11+50E. It appears to be a local feature on the contour map and does not represent a different rock type on each side of the entire length of the creek.

The upstream extension of the gulley mentioned below crosses Line 8S at Stn. 43E.

(v) <u>Line 4S</u> a = 200 feet, 400 feet

The highest Mc values of the survey on the 400 ft. spacing occurs on this line at Stn. 32E.

A deep gulley crosses the line in a northwest direction at Stn. 37E and is thought to be related to a fault.

Comparison of the results of the two electrode spacings indicate a continuation and increase of polarized material with depth.

The high ρ_a reading at Stn. 36E (a = 200 feet) is likely invalid due to a very low applied current caused by a poor electrode contact.

The ρ_a (a = 200 feet) results otherwise correlate well with those for a = 400 feet. These observations supported by field observations suggest an overburden thickness of less than 100 feet.

The ρ_a peaks at Stn. 30E could be related to a dike system similar to or a continuation of that observed at the "new" showing.

An excellent correlation exists between Lines 4S and 8S which can be noticed by overlaying one profile on the other and then shifting the Line 8S profile 200 feet to the left (west).

There is a slight magnetic depression at Stn. 30E. The magnetic profile is of little interest on this line within the conductive zone except that one would expect a flat response of this nature within an altered rock unit containing relatively homogenous disseminations of non-magnetic sulphides such as pyrite and/or chalcopyrite. This seems to be the case throughout the Mc conductive zone and it is further evidence that the I.P. is not responding to either magnetite or pyrrhotite.

The minimal thicknesses of overburden over most of the anomalous area also outrate the possibility that the I.P. is responding to conductive overburden.

(vi) <u>Line 0</u> a = 400 feet

The best fit between Line 0 and 4N in the anomalous Mc area is obtained by overlying the Line 4N profile and shifting it 400 feet to the left of Line 0. It is then apparent that the broad Mc response centered at Stn. 28E is a continuation of the high peak at Stn. 32E on adjacent line 4S. The peaks on either side correlate well as does the ρ_a peak at Stn. 26E which is interpreted as being due to increased fracturing due to a dike as discussed above.

As is the case on Lines 8S and 4S, there is a subtle increase in magnetic gradient on the eastern flank of these ρ_a peaks. The magnetics, however, are quite flat over the area of Mc interest.

(vii) Line 4N   a = 400 feet

NOTE: This line converges onto Line 0 to the west. See contour map.

The two Mc peaks west of the baseline could be the result of double-peaking whereby the causative source is approximately at Stn. 6+00W and the top of the body is less than 300 feet deep. This feature is coincident with a resistivity high and a magnetic low and downslope from high copper soil values. Narrower "a" spacings should be carried out along this section of the line.

A broad anomalous Mc zone exists approximately between Stn. 20E and 34E and possibly out to Stn. 41E. This feature peaks to 14.1 msecs. at Stn. 24E. The broad, flat magnetic and resistivity response over this zone is thought to be, at least in part due to the poor angle of the survey line to the strike of the conductive body.

The coincident ρ_a and γ peaks at Stn. 8E are due to a dipolar dike-like feature crossing this line at Stn. 9E. It appears to be of no direct economic significance.

(viii) Line 8N   a = 400 feet

The interesting portion of this line is from Stn. 16E to Stn.33E where a number of local Mc peaks are observed on a broad sub-anomalous peak. It is apparent from the Mc contour map that this line marks the northern limit of the conductive zone outlined by the 1.0 msecs. contour and that these peaks represent edge-effects or inter-fingerings of rocks containing higher sulphide content.

The high ρ_a peak at Stn. 20E is thought to be the result of increased fracturing caused by dikes just to the west.

Again the magnetics are very flat through this area. The higher magnetics from 3E to 16E are likely due to basic volcanics.

(ix) Line 12N   a = 400 feet

The chargeability portion of the profile is of little interest and therefore this line is discussed only briefly. The main creek passing through the new showing crosses Line 12N at Stn. 21+50E which is represented by a peak Mc due to double-peaking. If so, the causative source would be at Stn. 24E with the depth to center about 300 feet. Further detail would be required to confirm this possibility.

The higher magnetic values in the Stn. 8E area are probably due to the basic volcanics mentioned above.

(x) Line 16N   a = 400 feet

The 9.0 msec. Mc peak at Stn. 14E appears to be a small local feature of little economic interest.

The main conductive zone has pinched out somewhat, occupies the Stn. 24E to Stn. 36E area and is of sub-anomalous amplitude. The main "new" showing creek crosses this line at Stn. 21E.

No further detail is required on this line.

(xi) Line 20N   a = 400 feet

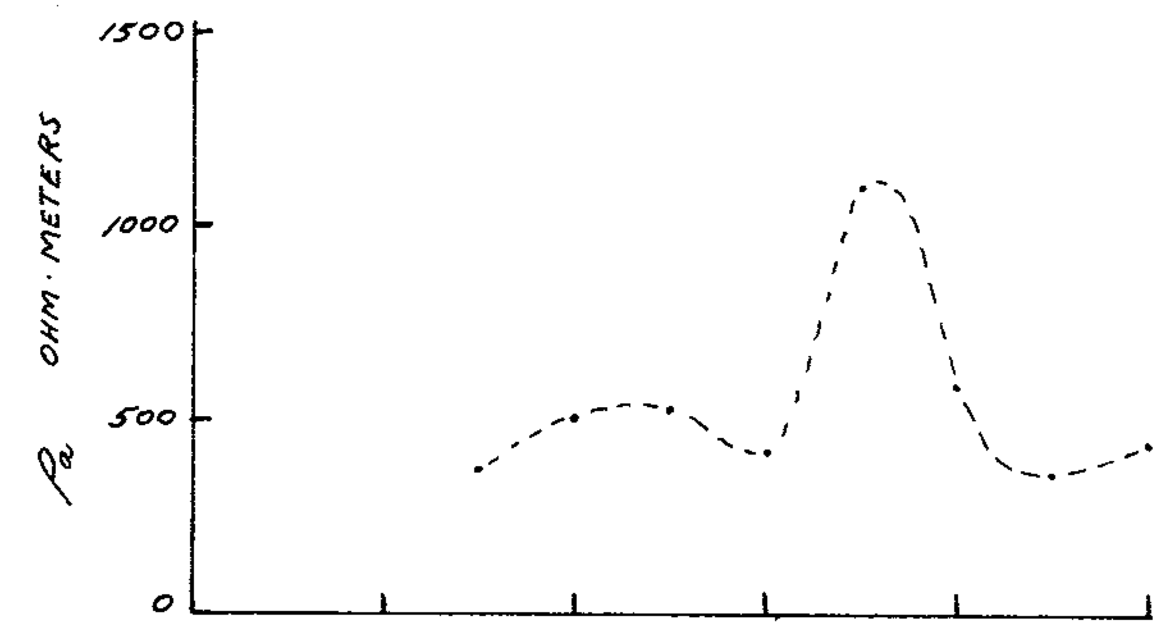
The conductive zone is again widening on this line and is between Stn. 21E and Stn. 42E with a maximum Mc amplitude of about 13.5 msecs at Stn. 27E. This peak conforms to a ρ_a peak of 685 ohm-meters.

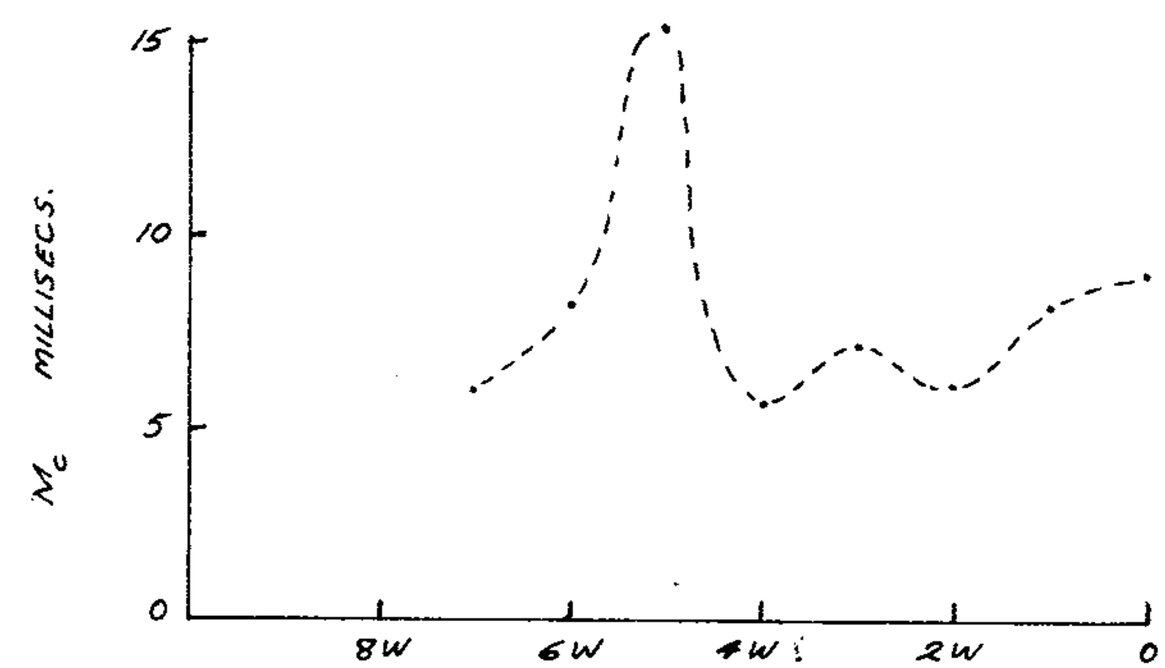
A very high ρ_a peak occurs at Stn. 36E. Although it is a single value high, field notes show that adequate current had been induced into the ground.

There is a possibility of a N-S trending dike-like feature crossing this line at Stn. 37E.

The survey line runs along a creek bed for much of its length which could be caused by a fault and could partially account for the flat magnetic response.

A similar profile with perhaps a higher Mc amplitude is expected on Line 24N.





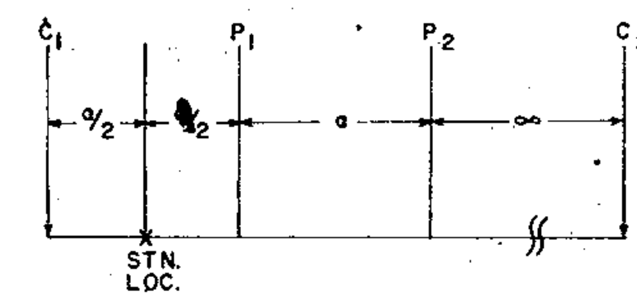
PROFILE LINE 2N OLD GRID

APPARENT RESISTIVITY & CHARGEABILITY

4169

LEGEND

THREE ELECTRODE ARRAY



a = 400 ft.

a = 200 ft.

INSTRUMENT PARAMETERS

Tx ON 2.0 SECONDS

Tx OFF 2.0 SECONDS

DELAY (td) = 240 MILLISECONDS

INTEGRATE = 900 MILLISECONDS

BELCARRA EXPLORATIONS LTD. (N.P.L.)

NELLIE CLAIMS

SUMMERS CREEK - PRINCETON AREA

200 0 200

Scale in feet

SIMILKAMEEN M.D. N.T.S. 92H-9,10,15,16

TO ACCOMPANY REPORT BY

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OCT. 1972 VANCOUVER, B.C.

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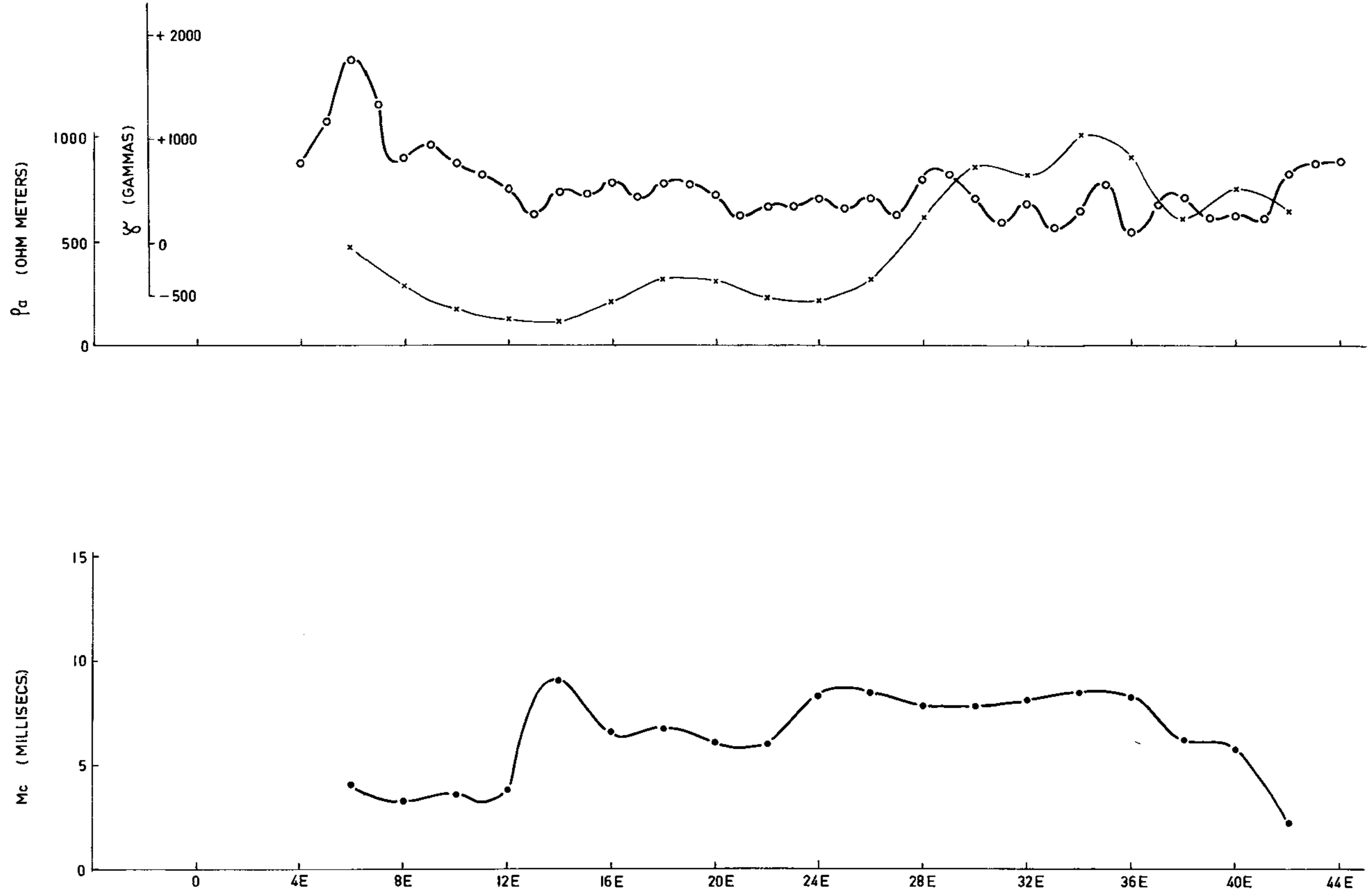


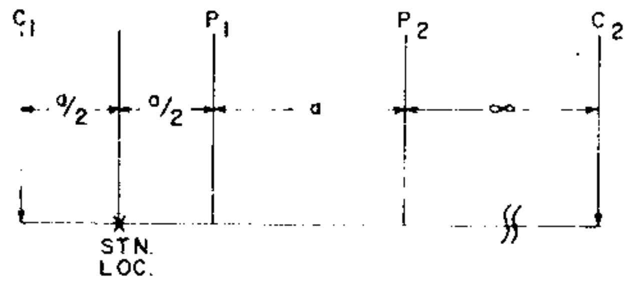
PROFILE LINE 16 N

APPARENT RESISTIVITY, CHARGEABILITY & MAGNETIC SUSCEPTIBILITY

4169

LEGEND

THREE ELECTRODE ARRAY



a = 200 feet   a = 400 feet

CHARGEABILITY •—•—•

RESISTIVITY ×—×—×

o—o—o MAGNETIC SUSCEPTIBILITY

INSTRUMENT PARAMETERS

DELAY (td) = 240 MILLISECONDS

INTEGRATE = 900 MILLISECONDS

Tx PERIOD = 8 secs. (2.0 secs. ON + 2.0 secs. OFF)

BELCARRA EXPLORATIONS LTD. (N.P.L.)
NELLIE CLAIMS
SUMMERS CREEK - PRINCETON AREA

400 0 400
Scale in feet

SIMILKAMEEN M.D.   N.T.S. 92H - 9,10,15,16

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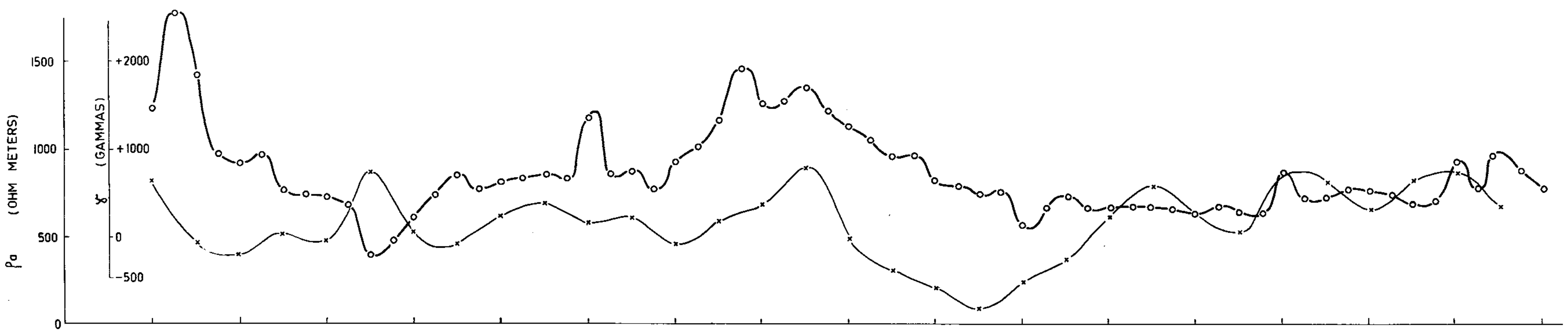
PROFILE LINE 12 N

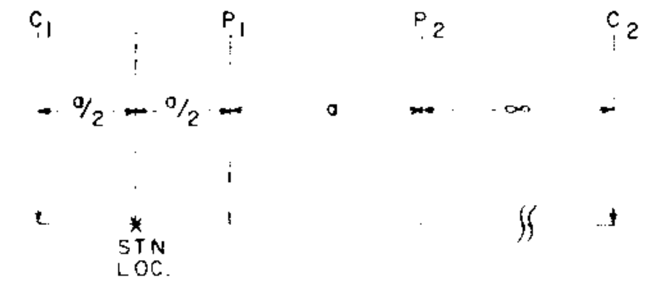
APPARENT RESISTIVITY, CHARGEABILITY & MAGNETIC SUSCEPTIBILITY



4169

LEGEND

THREE ELECTRODE ARRAY



a = 200 feet   a = 400 feet

CHARGEABILITY •——•——•

RESISTIVITY x——x——x

o——o——o MAGNETIC SUSCEPTIBILITY

INSTRUMENT PARAMETERS

DELAY (td) = 240 MILLISECONDS

INTEGRATE = 900 MILLISECONDS

Tx PERIOD = 8 secs. (2.0 secs. ON + 2.0 secs. OFF)

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NELLIE CLAIMS

SUMMERS CREEK - PRINCETON AREA

400

Scale in feet

SIMILKAMEEN M.D.   NTS 92H-9,10,15,16

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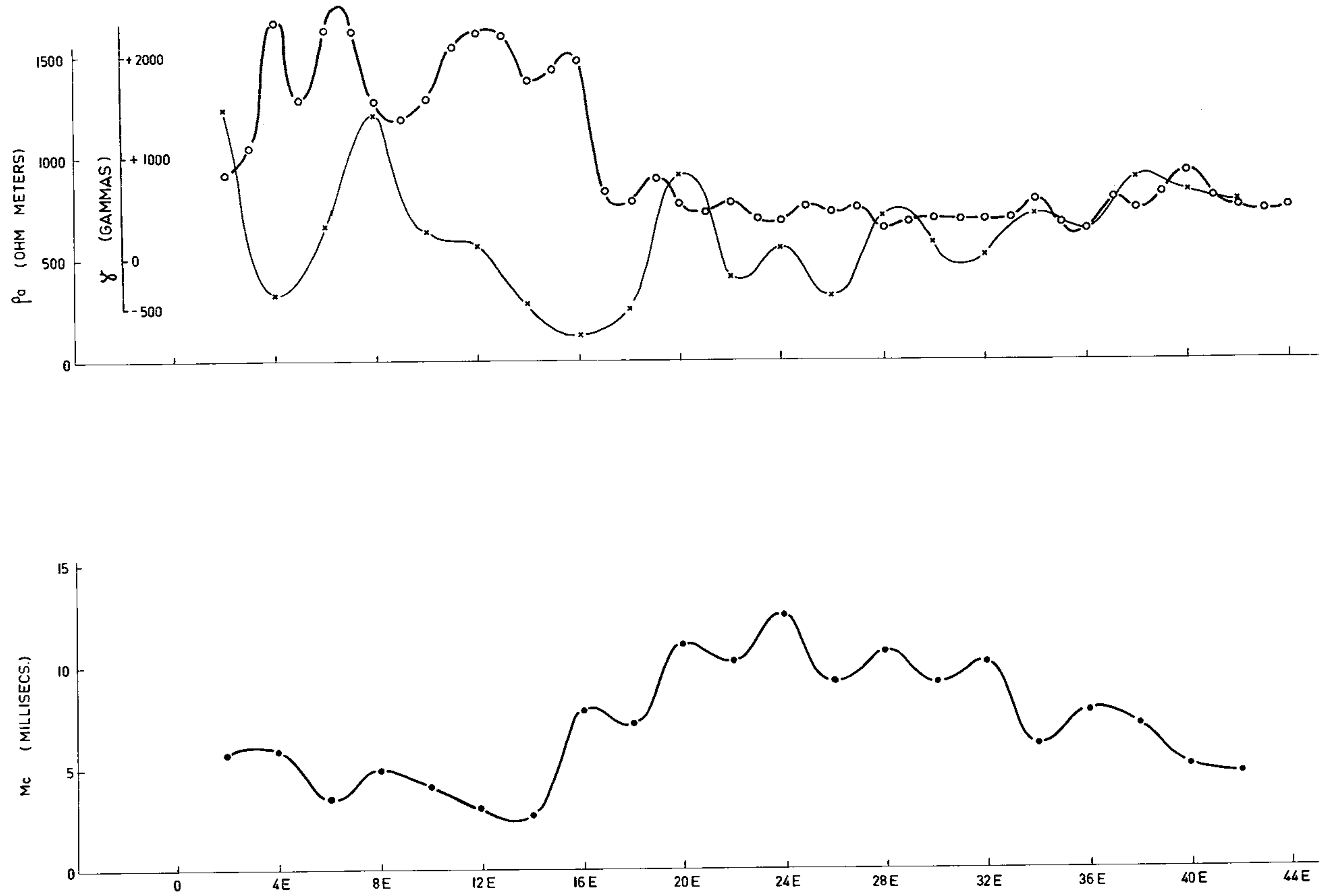


PROFILE LINE 8N

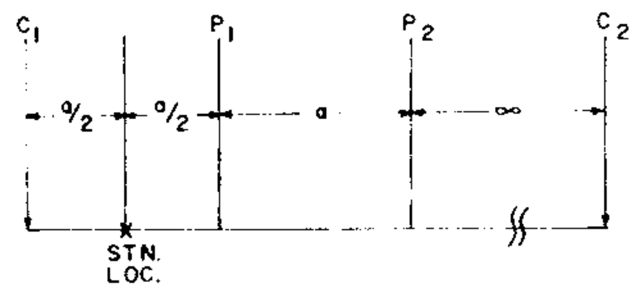
APPARENT RESISTIVITY CHARGEABILITY

& MAGNETIC SUSCEPTIBILITY

4169

LEGEND

THREE ELECTRODE ARRAY



a = 200 feet

a = 400 feet

CHARGEABILITY ●—●—●

RESISTIVITY ×—×—×

○—○—○ MAGNETIC SUSCEPTIBILITY

INSTRUMENT PARAMETERS

DELAY (td) = 240 MILLISECONDS

INTEGRATE = 900 MILLISECONDS

Tx PERIOD = 8 secs. (2.0 secs. ON + 2.0 secs. OFF)

BELCARRA EXPLORATIONS LTD. (N.P.L.)

NELLIE CLAIMS

SUMMERS CREEK - PRINCETON AREA

400 0 400

Scale in feet

SIMILKAMEEN M.D.

N.T.S. 92H-9,10,15,16

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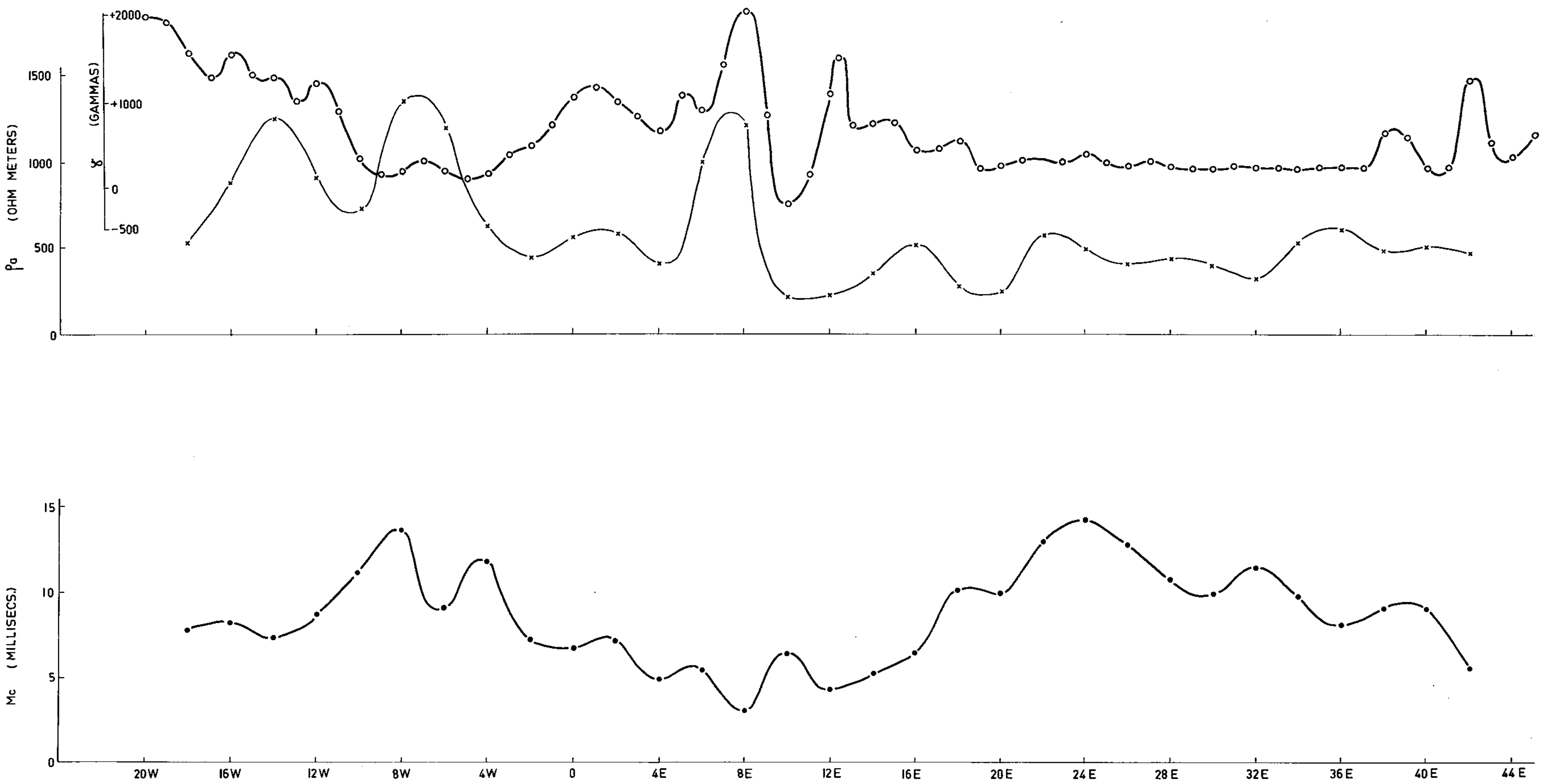
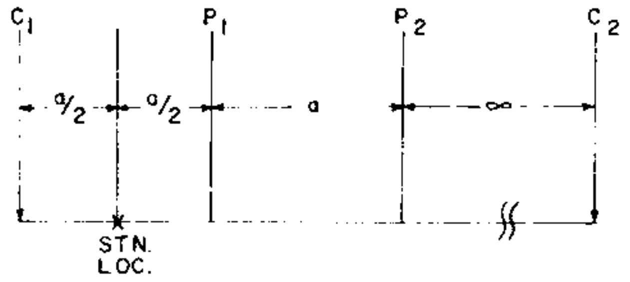


PROFILE LINE 4N

APPARENT RESISTIVITY CHARGEABILITY
& MAGNETIC SUSCEPTIBILITY

LEGEND 4169

THREE ELECTRODE ARRAY



a = 200 feet a = 400 feet

CHARGEABILITY
RESISTIVITY
MAGNETIC SUSCEPTIBILITY

INSTRUMENT PARAMETERS

DELAY (td) = 240 MILLISECONDS

INTEGRATE = 900 MILLISECONDS

Tx PERIOD = 8 secs. (2.0 secs. ON + 2.0 secs. OFF)

BELCARRA EXPLORATIONS LTD. (N.P.L.)
NELLIE CLAIMS
SUMMERS CREEK - PRINCETON AREA

400 0 400
Scale in feet

SIMILKAMEEN M.D. N.T.S. 92H-9,10,15,16

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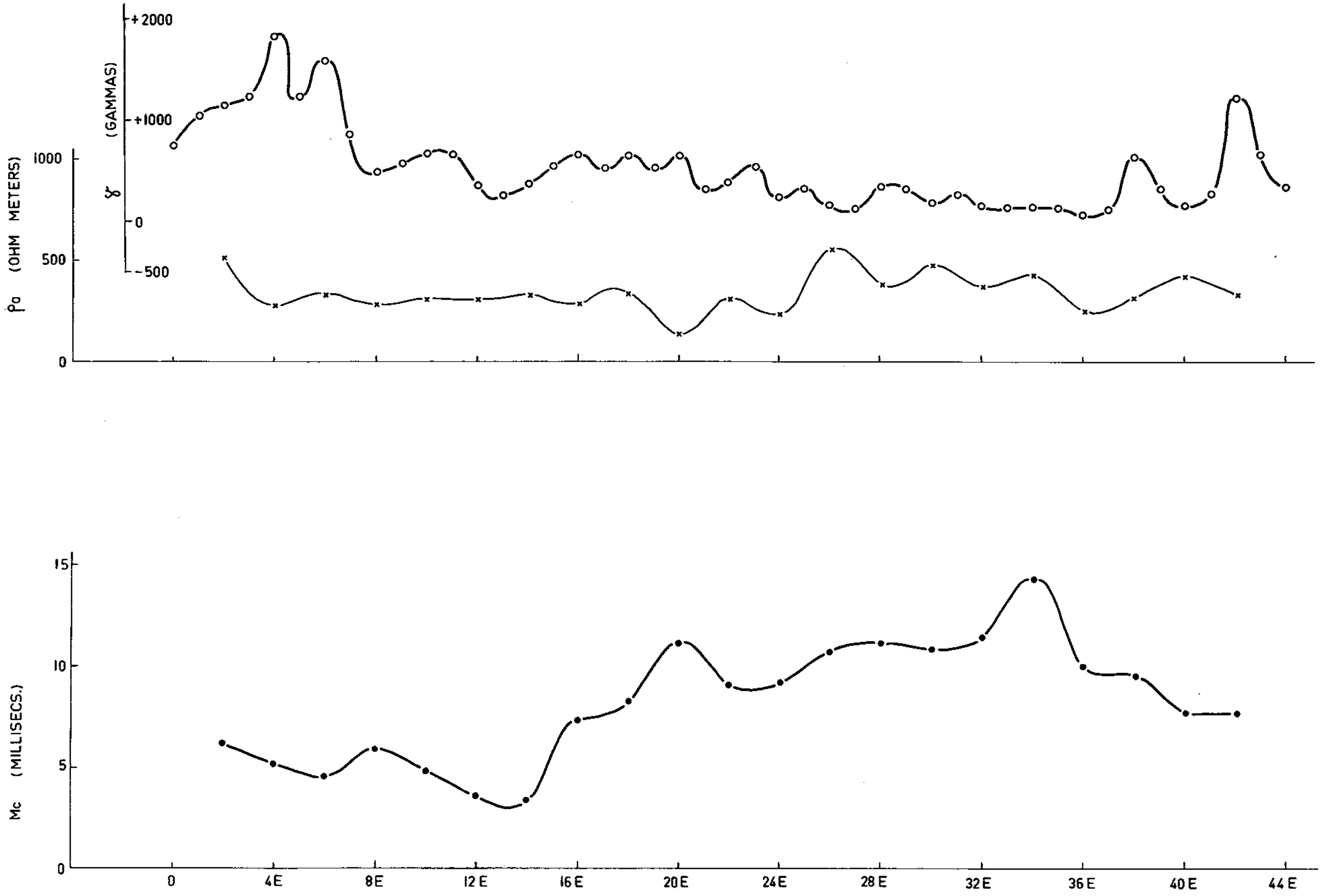


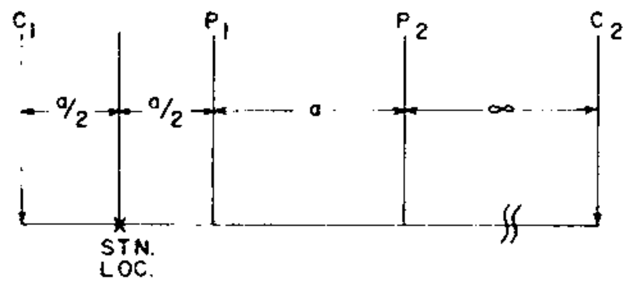
PROFILE LINE 0

APPARENT RESISTIVITY, CHARGEABILITY & MAGNETIC SUSCEPTIBILITY

4169

LEGEND

THREE ELECTRODE ARRAY



a = 200 feet   a = 400 feet

CHARGEABILITY ●—●—●

RESISTIVITY ×—×—×

○—○—○ MAGNETIC SUSCEPTIBILITY

INSTRUMENT PARAMETERS

DELAY (td) = 240 MILLISECONDS

INTEGRATE = 900 MILLISECONDS

Tx PERIOD = 8 secs. (2.0 secs. ON + 2.0 secs. OFF)

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NELLIE CLAIMS

SUMMERS CREEK - PRINCETON AREA

400 0 400

Scale in feet

SIMILKAMEEN M.D.   N.T.S. 92H - 9,10,15,16

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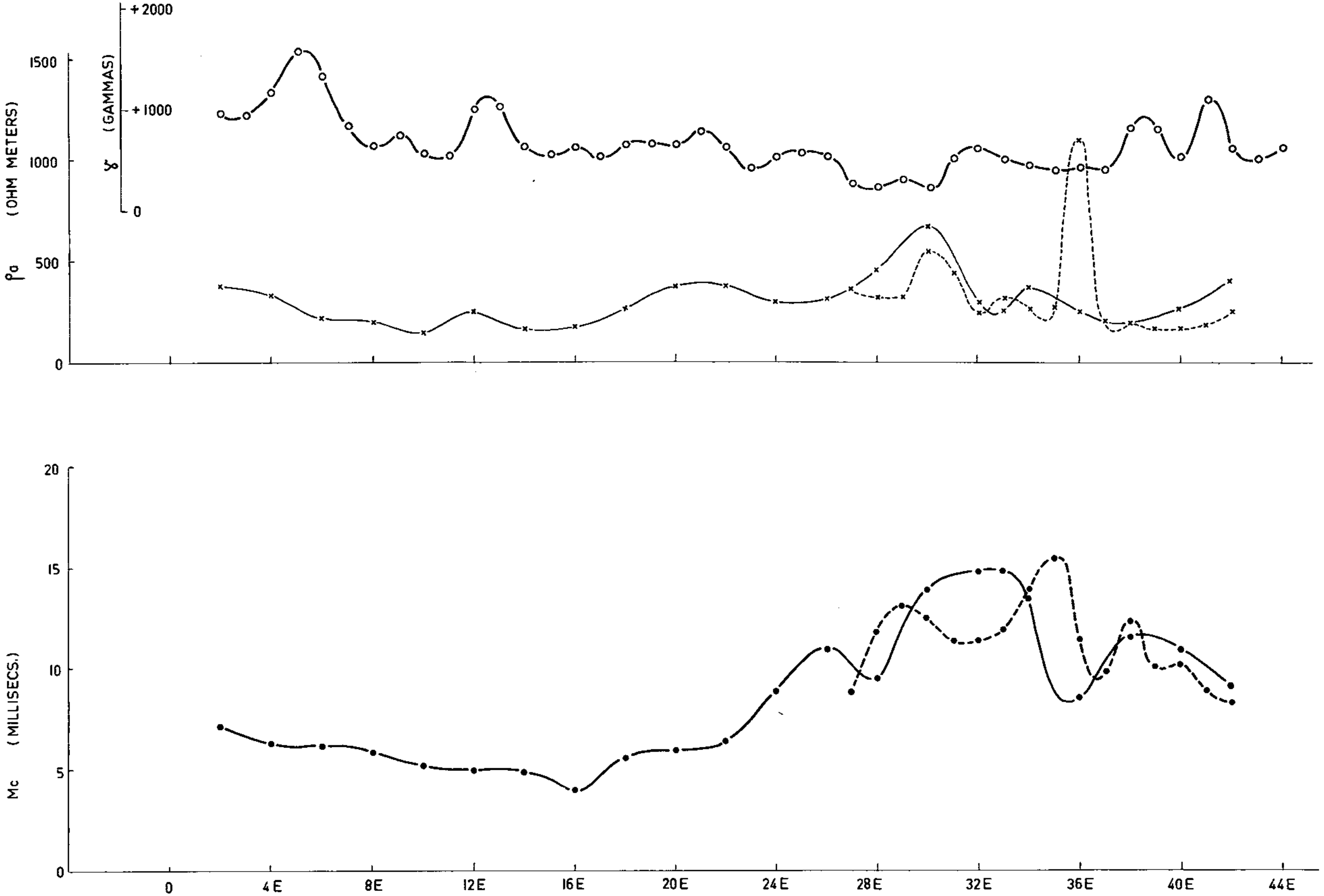


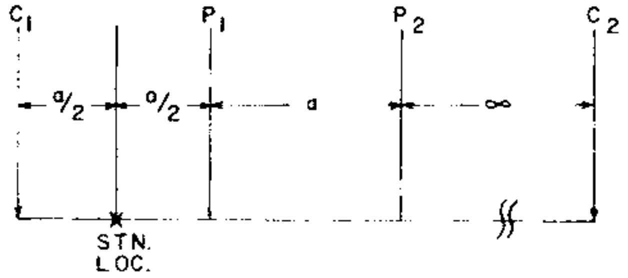
PROFILE LINE 4 S

APPARENT RESISTIVITY, CHARGEABILITY & MAGNETIC SUSCEPTIBILITY

4169

LEGEND

THREE ELECTRODE ARRAY



	a = 200 feet	a = 400 feet
CHARGEABILITY	●----●----●	●——●——●
RESISTIVITY	×-----×-----×	×——×——×

o——o——o MAGNETIC SUSCEPTIBILITY

INSTRUMENT PARAMETERS

DELAY (td) = 240 MILLISECONDS

INTEGRATE = 900 MILLISECONDS

Tx PERIOD = 8 secs. (2.0 secs. ON + 2.0 secs. OFF)

BELCARRA EXPLORATIONS LTD. (N.P.L.)
NELLIE CLAIMS
SUMMERS CREEK - PRINCETON AREA

400 0 400
Scale in feet

SIMILKAMEEN M.D.

N.T.S. [illegible] 15,16

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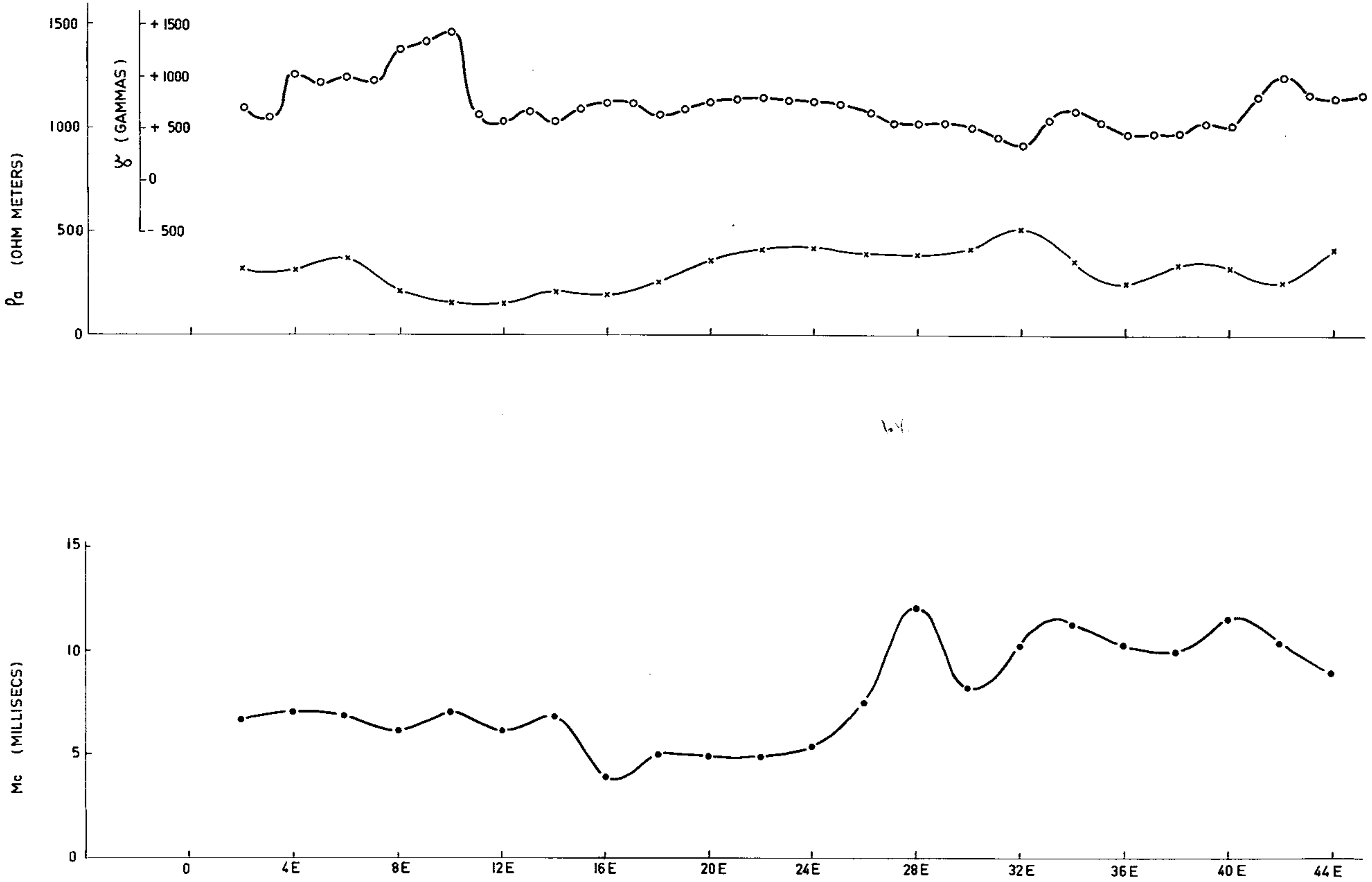
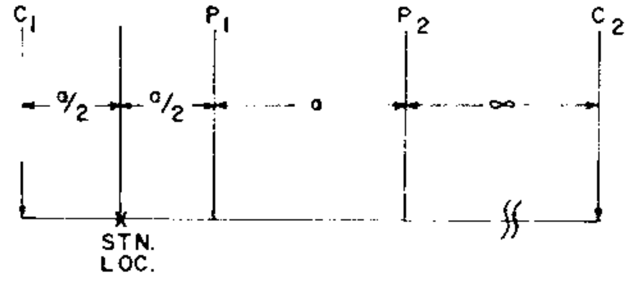
PROFILE LINE 8 S

APPARENT RESISTIVITY, CHARGEABILITY & MAGNETIC SUSCEPTIBILITY



LEGEND 4169

THREE ELECTRODE ARRAY



a = 200 feet a = 400 feet

CHARGEABILITY •—•—•

RESISTIVITY x—x—x

o—o—o MAGNETIC SUSCEPTIBILITY

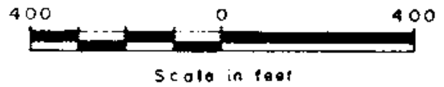
INSTRUMENT PARAMETERS

DELAY (td) = 240 MILLISECONDS

INTEGRATE = 900 MILLISECONDS

Tx PERIOD = 8 secs. (2.0 secs. ON + 2.0 secs. OFF)

BELCARRA EXPLORATIONS LTD. (N.P.L.)
NELLIE CLAIMS
SUMMERS CREEK - PRINCETON AREA



SIMILKAMEEN M.D. N.T.S. 92H-9,10,15,16

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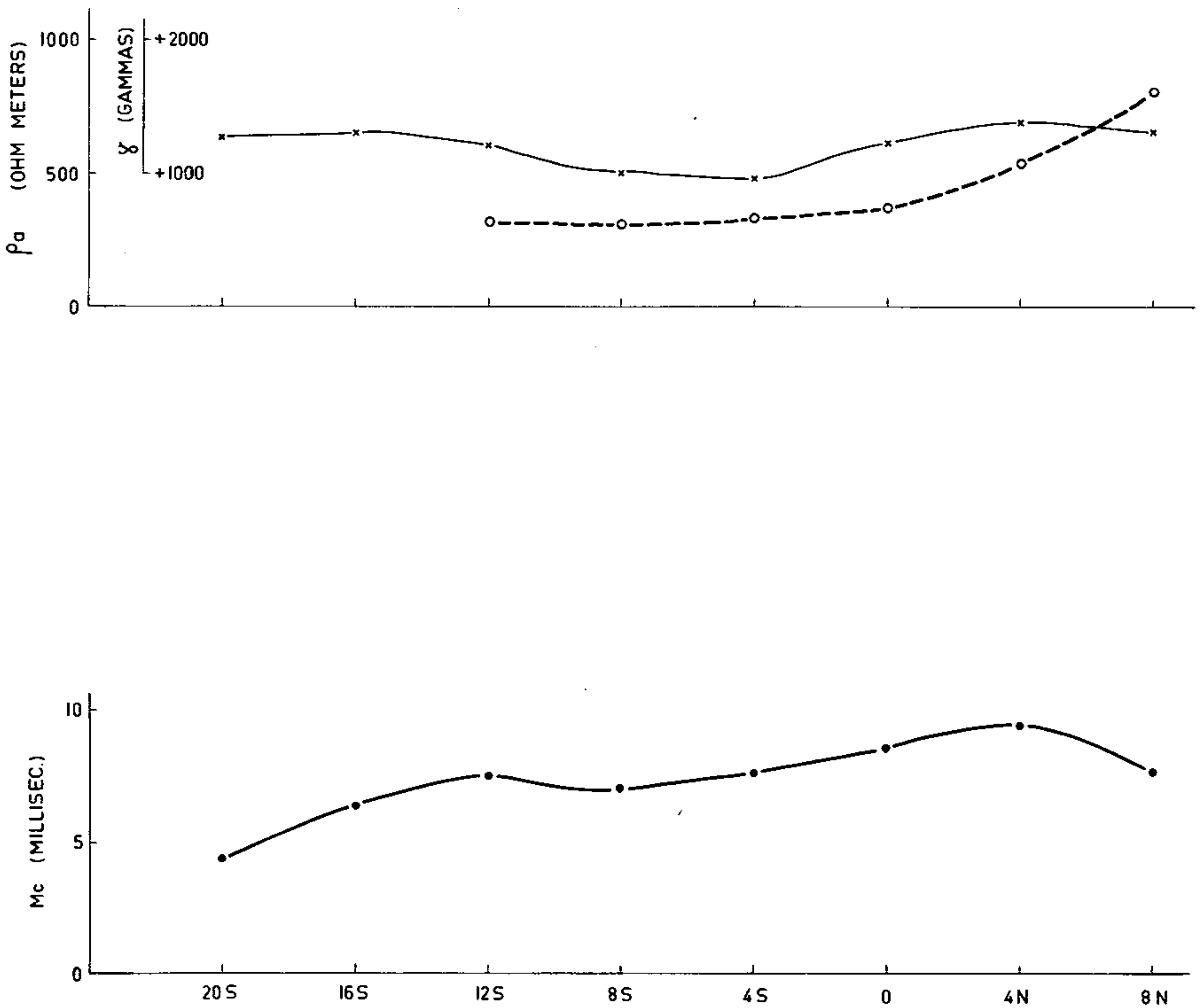
PROFILE LINE BASELINE

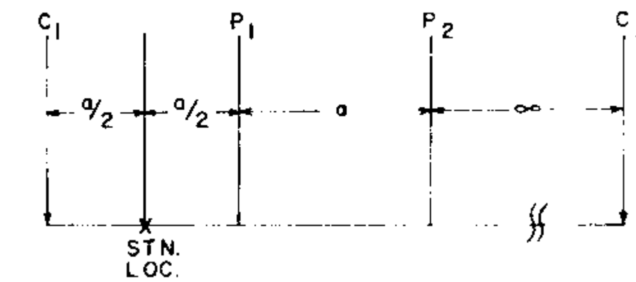
APPARENT RESISTIVITY, CHARGEABILITY & MAGNETIC SUSCEPTIBILITY

4169



LEGEND

THREE ELECTRODE ARRAY



●———● CHARGEABILITY } a = 800 feet

×———× RESISTIVITY } a = 800 feet

○– – –○ MAGNETIC SUSCEPTIBILITY

INSTRUMENT PARAMETERS

DELAY (td) = 240 MILLISECONDS

INTEGRATE = 900 MILLISECONDS

Tx PERIOD = 8 secs. (2.0 secs. ON + 2.0 secs. OFF)

BELCARRA EXPLORATIONS LTD. (N.P.L.)

NELLIE CLAIMS

SUMMERS CREEK - PRINCETON AREA

400 0 400

Scale in feet

SIMILKAMEEN M.D.

N.T.S. 92H-9,10,15,16

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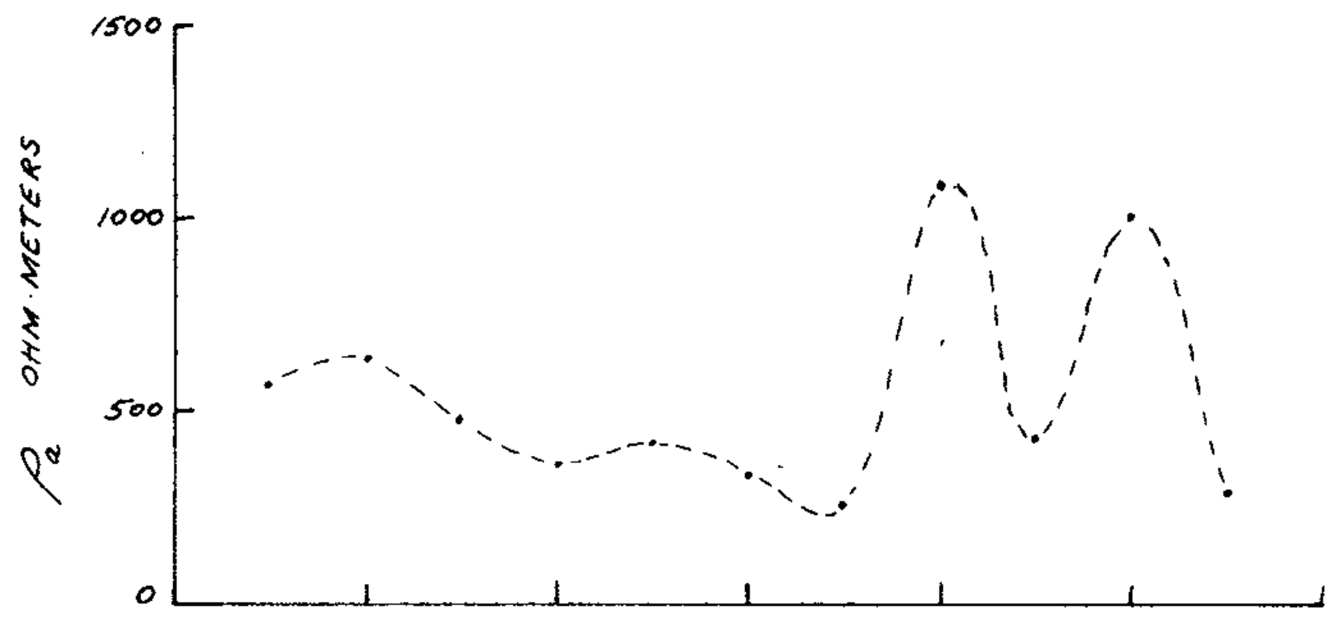
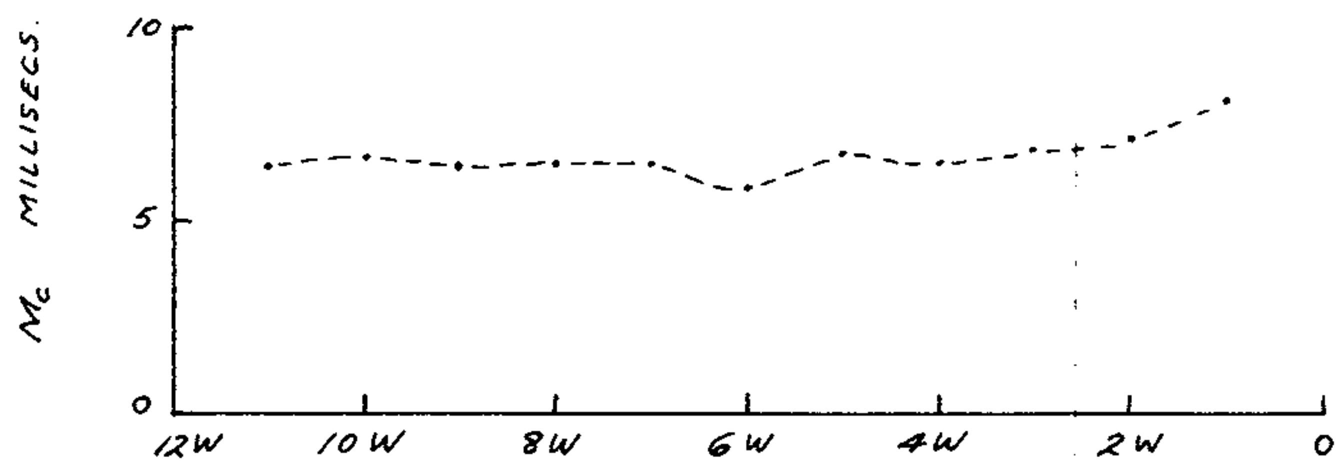




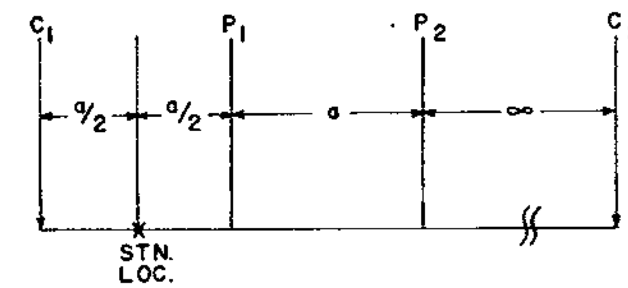
PROFILE LINE 6S OLD GRID

APPARENT RESISTIVITY & CHARGEABILITY

4169

LEGEND

THREE ELECTRODE ARRAY



a = 400 ft.

a = 200 ft.

INSTRUMENT PARAMETERS

Tx ON 2.0 SECONDS

Tx OFF 2.0 SECONDS

DELAY (td) = 240 MILLISECONDS

INTEGRATE = 900 MILLISECONDS

BELCARRA EXPLORATIONS LTD. (N.P.L.)

NELLIE CLAIMS

SUMMERS CREEK - PRINCETON AREA

200 0 200

Scale in feet

SIMILKAMEEN M.D.

N.T.S. 92H-9,10,15,16

TO ACCOMPANY REPORT BY

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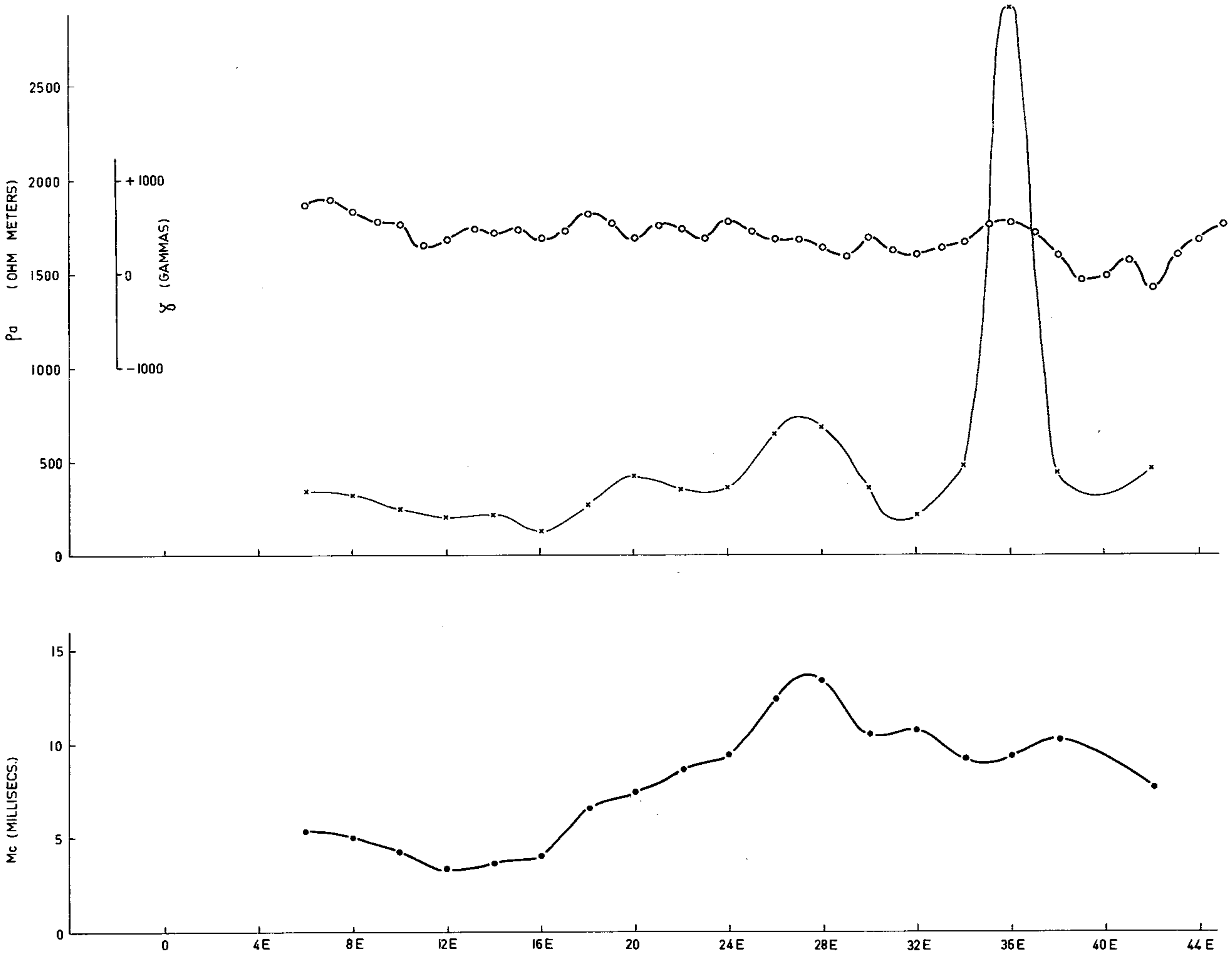


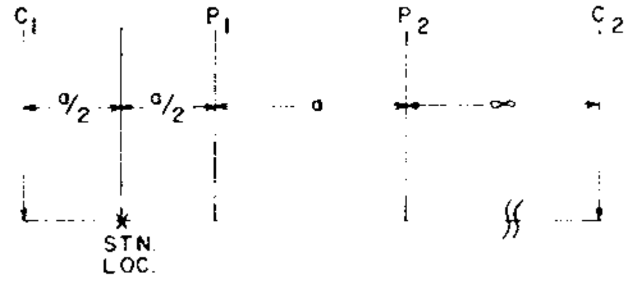
PROFILE LINE 20 N

APPARENT RESISTIVITY, CHARGEABILITY & MAGNETIC SUSCEPTIBILITY

4169

LEGEND

THREE ELECTRODE ARRAY



a = 200 feet a = 400 feet

CHARGEABILITY ●—●—●

RESISTIVITY ×—×—×

○—○—○ MAGNETIC SUSCEPTIBILITY

INSTRUMENT PARAMETERS

DELAY (td) = 240 MILLISECONDS

INTEGRATE = 900 MILLISECONDS

Tx PERIOD = 8 secs. (2.0 secs. ON + 2.0 secs. OFF)

BELCARRA EXPLORATIONS LTD. (N.P.L.)
NELLIE CLAIMS
SUMMERS CREEK - PRINCETON AREA

400 0 400
Scale in feet

SIMILKAMEEN M.D. NTS 92H-9,10,15,16

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PROVINCE OF BRITISH COLUMBIA
G. C. GUTHRATH

9. CONCLUSIONS AND RECOMMENDATIONS

All the work carried out to date and particularly the Induced Polarization Survey has indicated three areas deservant of further investigation.

The prime target area is southeast of and immediately adjacent to the "new" showing at Line 8N Stn.17+50E where chargeability results suggest the strong likelihood of sulphides occupying an area in excess of 2000 feet by 1000 feet.

This chargeability high as well as the area to the north on Line 20N are thought to represent areas containing appreciable amounts of sulphides within a broader arcuate conductive zone coincident with a gradational contact between a dioritic intrusive to the east and a sequence of Nicola andesites and tuffs to the west.

The magnetic susceptibilities of the interpreted altered Volcanics, intrusive dikes and plug are quite constant but are observed to be generally lower than the andesitic rocks just west of the new showing and on the west side of Summers Creek. Interbedded tuffs are thought to yield about the same magnetic response as the dioritic intrusive rocks.

The continuous north-south trending 500 gamma contour passing through the new showing delineates the western edge of interest and correlates well with the chargeability and resistivity results in this area.

The other two areas of interest are west of Summers Creek and consist of the old known chalcocite vein and the chargeability high on Line 0 - 4N.

The possibility of a separate body occuring west of the vein or a widening at depth of the vein as suggested above requires confirmation.

The contoured anomaly (Mc) on Line 0 - 4n also requires further investigation.

The first priority for further work is the "new" showing area. The I.P. survey should be continued to the south starting the traverses roughly at the above mentioned 500 gamma contour and progressing east. Detailed coverage using "a" spacings of 500, 200 and possibly 100 feet should be executed over the higher responses to determine optimum drill targets.

It remains to be seen if the forthcoming geochemical results will assist in the locating of drill holes but a drill program should not be implemented until these results are available.

However, if present circumstances should allow, a vertical hole could be spotted at Line 4S Stn. 31+00E to test this chargeability high.

The results of this hole will determine if further holes should be stepped out along the Mc highs or if a zonal relationship might exist whereby the better Cu values might occur on the flank of the chargeability highs. That is, there is a distinct possibility that the highest Mc values reflect higher concentrations of pyrite and that this pyrite is related to adjacent zones of chalcopyrite or other sulphides of economic significance.

Respectfully submitted,

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

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
G. C. GUTRATH

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

ATLED EXPLORATION MANAGEMENT LTD.

APPENDIX

STATEMENT OF AUTHOR'S QUALIFICATIONS

I DO HEREBY STATE THAT:

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 Western Canada and the United States for the past seven years.*

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

4. *I am presently Manager, Geophysical Division, Atled Exploration Management LTD., at #420 - 475 Howe Street, Vancouver, 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*

P.P.Nielsen

Date *30 January 1973*

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, British Columbia.

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 ten years, and

5. That I have no interest, direct or indirect, in the property with which this report is concerned, nor do I expect to receive any such interest.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
G. C. GUTRATH

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

DATED at the City of Vancouver, Province of British Columbia, this day of , 1972.

PERSONNEL

1. *Magnetometer Survey*

   J. P. Henry - Magnetometer Operator

2. *Induced Polarization Survey*

   Geophysicist Operator - P. P. Nielsen, B.Sc.
   Field Assistants - G. Baker
   - S. Visser
   - H. Huckson
   - R. Klanjscek
   - Wm. Culbert
   - M. Leevers
   - P. Fortier
   - H. P. Winzeler

3. *Linecutting*

   G. Baker
   K. Harper
   H. P. Winzeler
   R. Klanjscek
   H. Huckson
   J. R. Lerner

4. *Supervision*

   G. C. Gutrath, P. Eng.

DOMINION OF CANADA:

PROVINCE OF BRITISH COLUMBIA.

TO WIT:

In the Matter of THE COSTS INCURRED EXECUTING LINECUTTING AND GEOPHYSICAL SURVEYS ON THE PROPERTIES OF BECLARRA EXPLORATIONS LTD. AND PRIMER GROUP MINERALS LTD.

I, P. P. NIELSEN

of 785 Premier Street, North Vancouver, B. C.

in the Province of British Columbia, do solemnly declare that the following minimal costs apply and include costs of men, equipment, supplies, transportation food and accommodation, administration and supervision.

1. Magnetometer Survey	
30.5 miles @ $41.80/mile	$ 1,275.00
2. Induced Polarization Survey	
7.65 miles $950.59/mile	7,272.00
3. Linecutting	
25 miles @ $106.40/mile	2,660.00
4. Administration - Supervision and Reports	
(a) Supervision - 10 days @ $150.00/day	1,500.00
(b) Reports	1,135.00
	$ 13,842.00

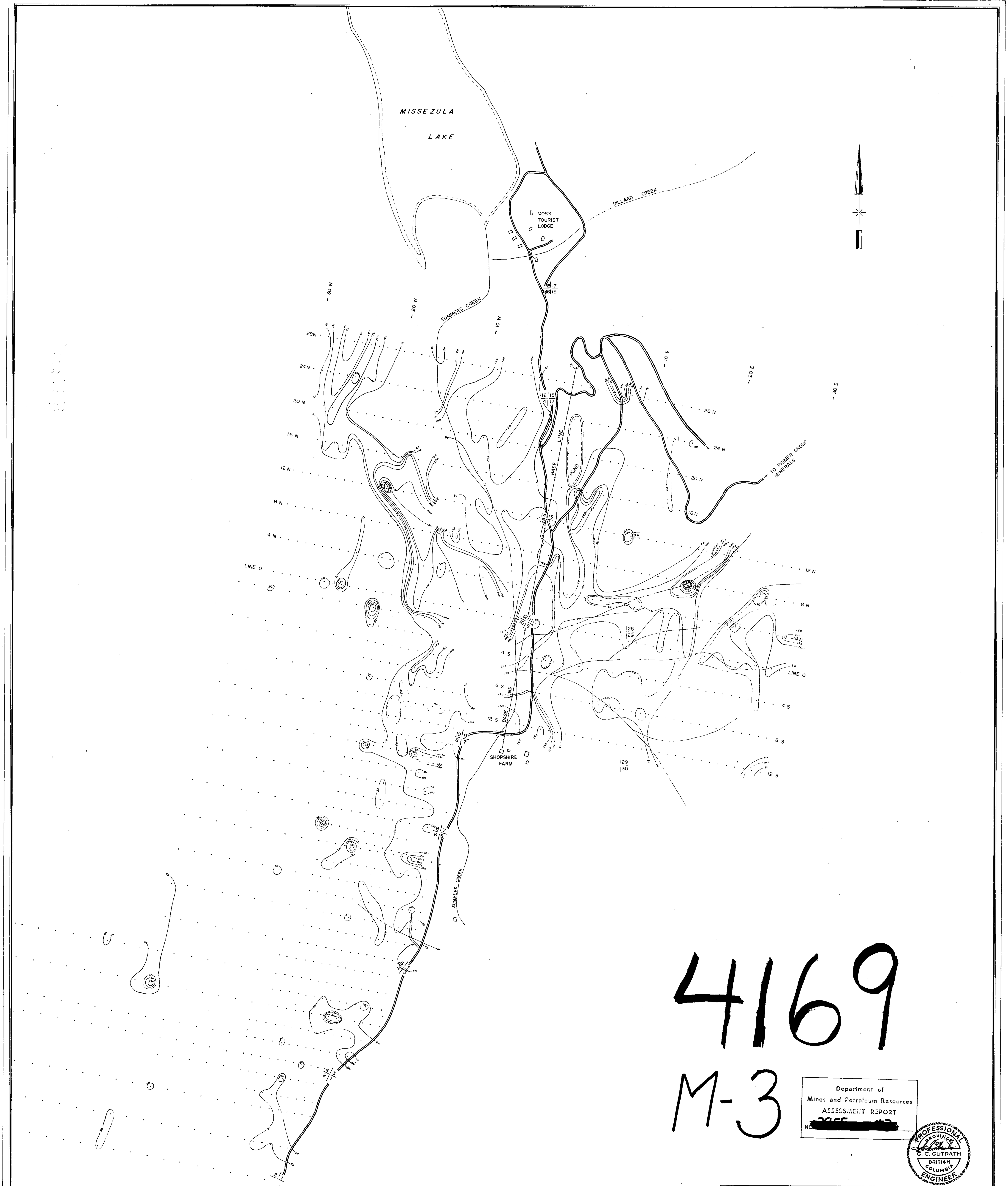
And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City of Vancouver, in the Province of British Columbia, this 31st day of January, 1973, A.D.

P.P. Nielsen.

B. Arwin

A Commissioner for taking Affidavits for British Columbia or ~~A Notary Public in and for the Province of British Columbia.~~



4169

M-3

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. [redacted]

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
G. C. GUTRATH

BELCARRA EXPLORATIONS LTD. (N.P.L.)
KAMLOOPS, B.C.

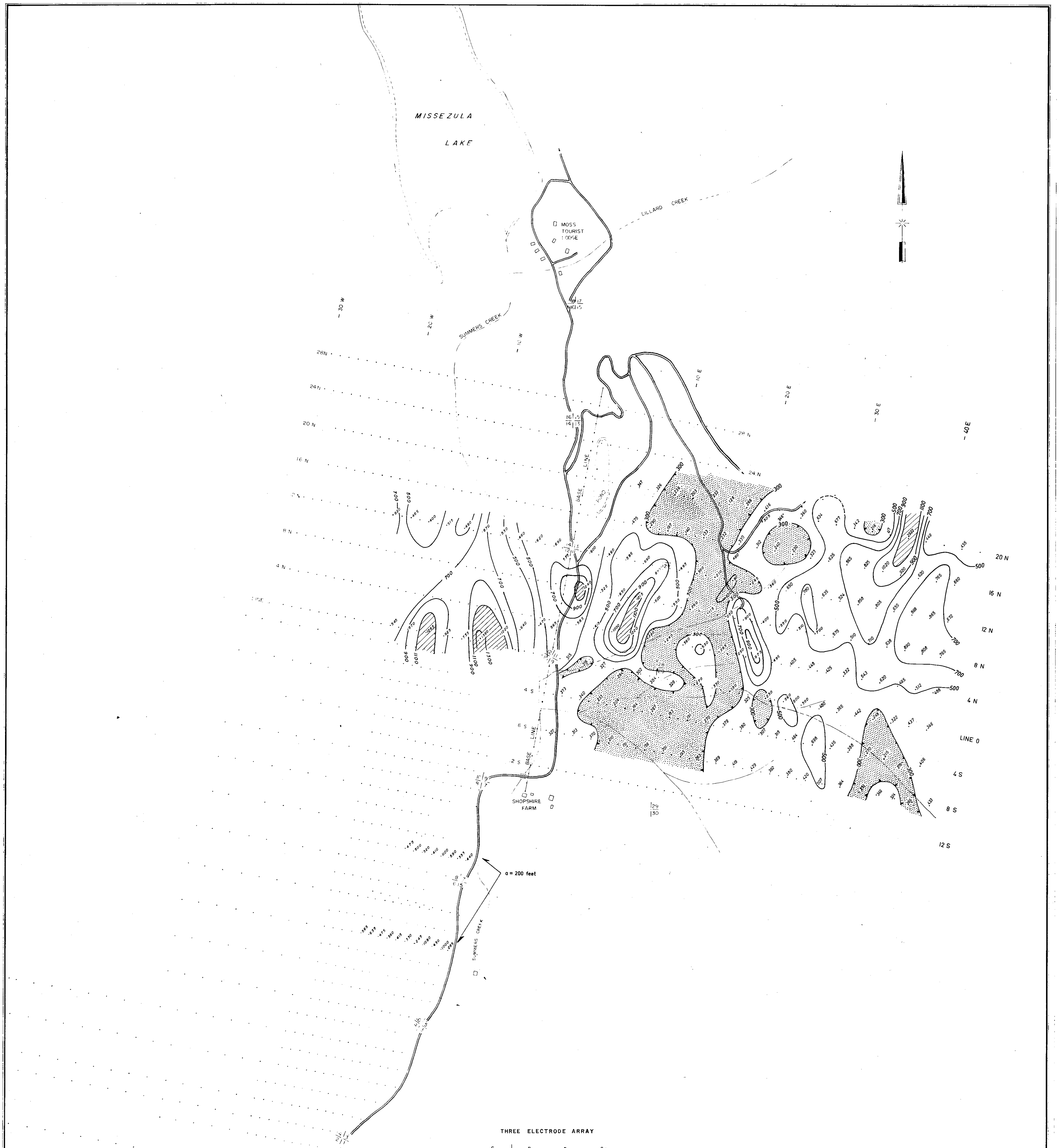
NELLIE MINERAL CLAIMS
GEOCHEMICAL SURVEY - COPPER
CONTOUR MAP

SIMILKAMEEN MINING DIVISION — N.T.S. 92-H-9,10,15,16

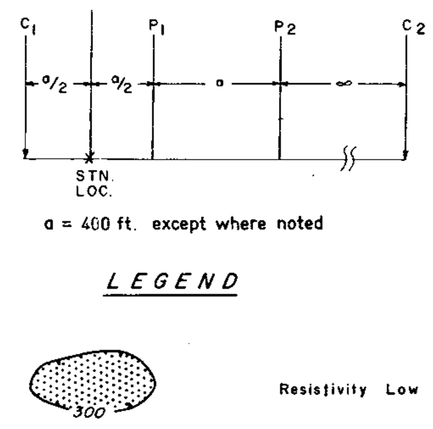
ATLED EXPLORATION MANAGEMENT LIMITED

DATE: JULY, 1972 — DRAWN: J.R.L.

200 0 400 800
Scale in feet



THREE ELECTRODE ARRAY



a = 400 ft. except where noted

LEGEND

Resistivity Low (300)

Resistivity High (1100)

CONTOUR INTERVAL 200 Ohm-meters

INSTRUMENT USED: HUNTEC MK. III Rx. With 7.5 KW. Power Source.

SPECIFICATIONS: 2 seconds on & 2 seconds off. Delaytime: 240 milliseconds. Integrate Time: 900 milliseconds.

To Accompany Report By P. P. Nielsen, B.Sc., Geophysicist. & G.C. Guthroth, B.Sc., P.Eng., Geologist

Department of Mines and Petroleum Resources ASSESSMENT REPORT NO. 4169 MAP #7

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G.C. GUTRATH

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NELLIE MINERAL CLAIMS

INDUCED POLARIZATION SURVEY

APPARENT RESISTIVITY VALUES & CONTOUR MAP

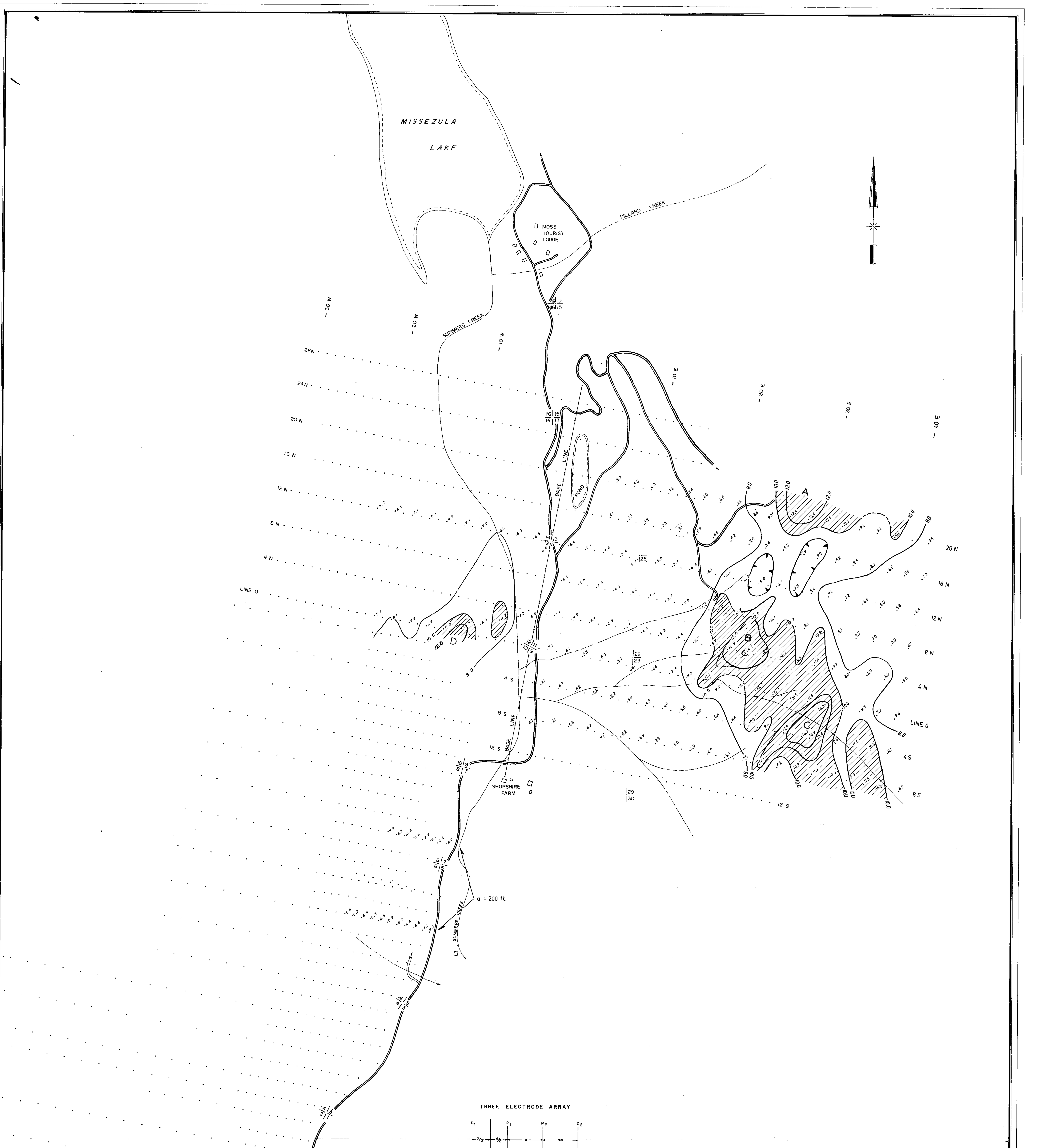
SIMILKAMEEN MINING DIVISION — N.T.S. 92-H-9, 10, 15, 16

ATLED EXPLORATION MANAGEMENT LIMITED

DATE: Dec, 1972 — DRAWN: NCL

400 0 400 800

Scale in feet



THREE ELECTRODE ARRAY

a = 400 ft except where noted

LEGEND

Anomalous Chargeability Area

CONTOUR INTERVAL: 2.0 Milliseconds

INSTRUMENT USED: HUNTEC MK. III Rx. With 7.5 KW. Power Source.

SPECIFICATIONS: 2 seconds on & 2 seconds off. Delaytime: 240 milliseconds. Integrate Time: 900 milliseconds.

To Accompany Report By P. P. Nielsen, B.Sc., Geophysicist, & G. E. Gutrath, B.Sc., P.Eng. Geologist

Department of Mines and Petroleum Resources ASSESSMENT REPORT NO. 4169 MAP #6

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA

BELCARRA EXPLORATIONS LTD. (N.P.L.)

NELLIE MINERAL CLAIMS

INDUCED POLARIZATION SURVEY

CHARGEABILITY VALUES & CONTOUR MAP

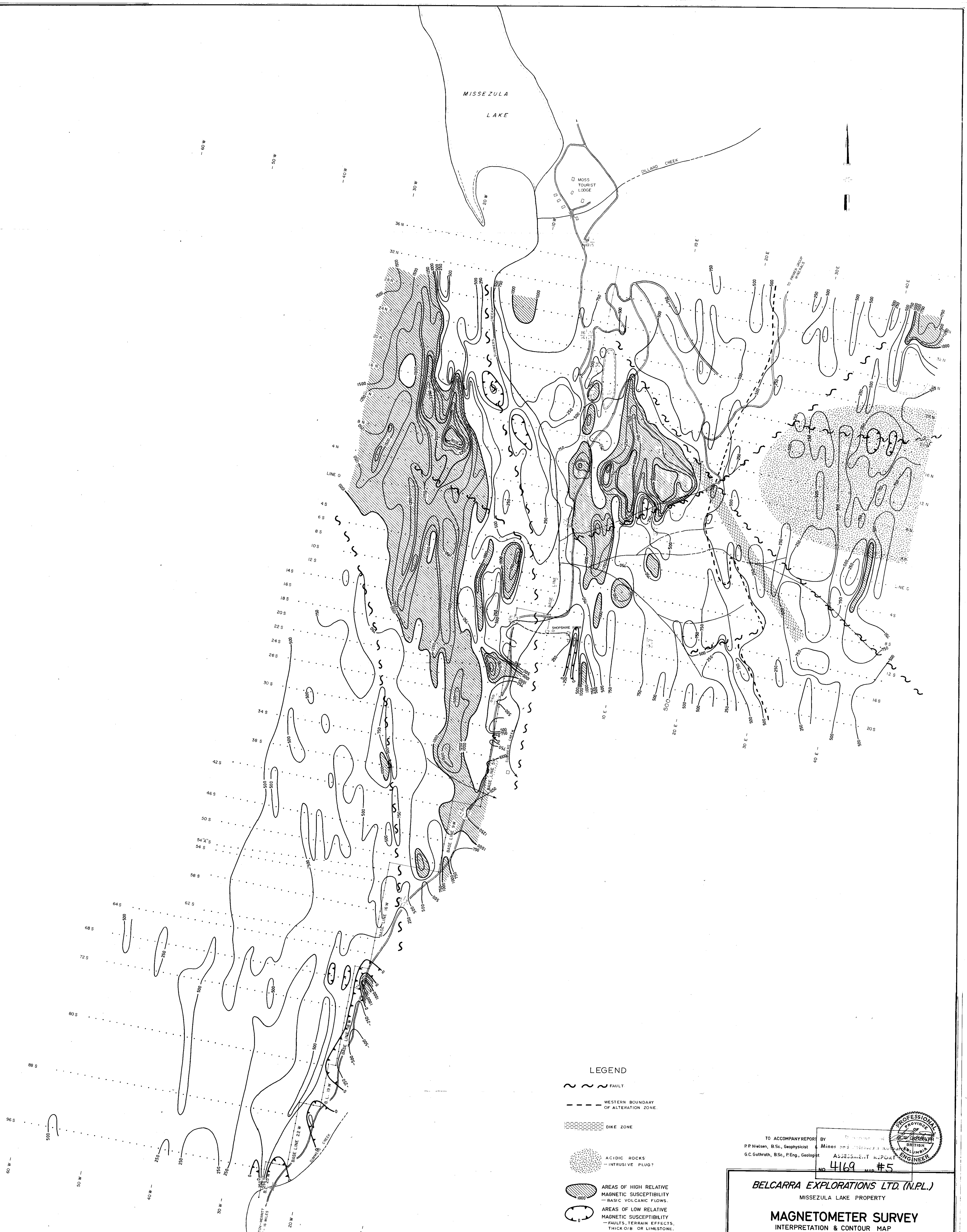
SIMILKAMEEN MINING DIVISION — N.T.S. 92-H-9,10,15,16

ATLED EXPLORATION MANAGEMENT LIMITED

DATE: Dec, 1972 — DRAWN: NCL

400 0 400 800

Scale in feet



TO ACCOMPANY REPORT BY
P.P. Nielsen, B.Sc., Geophysicist &
G.C. Guthroth, B.Sc., P.Eng., Geologist

Mines and ... Resources
ASSESSMENT REPORT
NO. 4169 MAP #5

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA G.C. GUTHRATH

BELCARRA EXPLORATIONS LTD. (N.P.L.)

MISSEZULA LAKE PROPERTY

MAGNETOMETER SURVEY

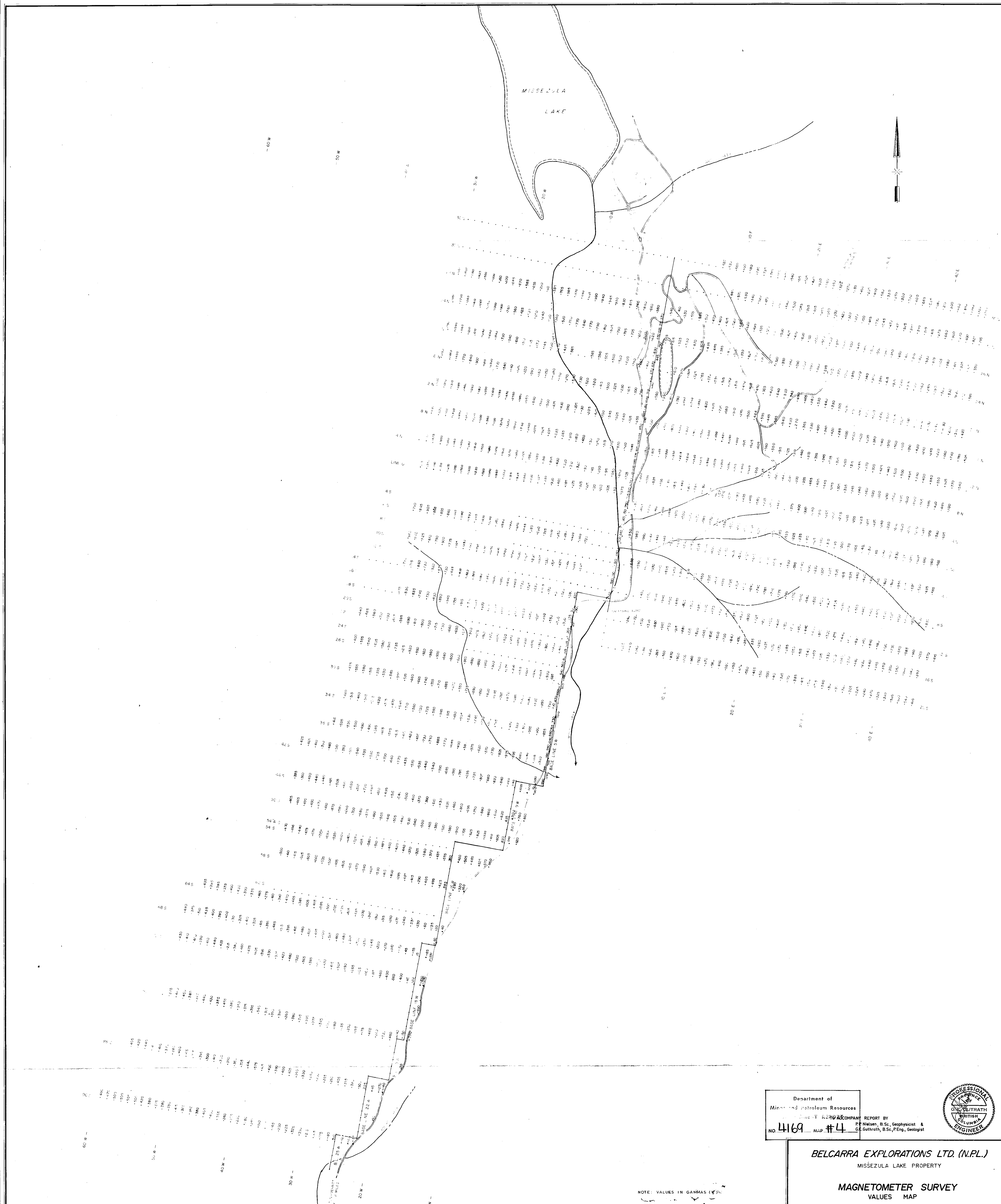
INTERPRETATION & CONTOUR MAP

SIMILKAMEEN MINING DIVISION — N.T.S. 92-H-9,10,15,16

ATLED EXPLORATION MANAGEMENT LTD.

DATE: DECEMBER, 1972 — DRAWN: NCL

400 0 400 800
scale in feet



Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4169 MAP #4

TO ACCOMPANY REPORT BY
P.P. Nielsen, B.Sc., Geophysicist &
G.C. Guthrath, B.Sc., P.Eng., Geologist

PROFESSIONAL ENGINEER – PROVINCE OF BRITISH COLUMBIA – G.C. GUTHRATH

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MISSEZULA LAKE PROPERTY

MAGNETOMETER SURVEY
VALUES MAP

SIMILKAMEEN MINING DIVISION — N.T.S. 92-H-9,10,15,16

ATLED EXPLORATION MANAGEMENT LTD.

DATE: DECEMBER, 1972 — DRAWN: NCL

400 0 400 800
scale in feet

LEGEND

- SURVEYED CLAIM POST
- UNSURVEYED OR ASSUMED CLAIM POST
- LAPSED CLAIM BOUNDARY

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4169 MAP #8

TO ACCOMPANY REPORT BY:
P.P. NIELSEN, B.Sc., Geophysicist.

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

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G.C. GUTRATH

BELCARRA EXPLORATIONS LTD. (N.P.L.)

MISSEZULA LAKE PROPERTY

CLAIM LOCATION MAP

CHAIN AND COMPASS SURVEY

SIMILKAMEEN MINING DIVISION — N.T.S. 92-H-9,10,15,16

ATLED EXPLORATION MANAGEMENT LTD.

DATE: NOVEMBER, 1972 — DRAWN: J.R.L.

400 0 400 800
scale in feet