S U L . . . . .

In the period from November 21 to December 21, 1965 and from January 3 to February 26, 1966, Canadian Aero Mineral Surveys Limited completed an induced polarization survey on the High Lake property of Steep Rock Iron Mines Ltd. A total of 49.5 line miles of traverses was covered in this period.

A large number of anomalies were indicated and outlined by the present I.P. survey. These anomalies have been grouped into 16 zones with some zones being sub-divided into trends within the zones. In some cases the abnormal polarization responses can be attributed to known causes, but in most cases the nature of the source material is not known.

Drill hole locations have been given for purposes of ... most of the zones, but before drilling is undertaken ... geology and geochemistry are recommended as aids in ...luating the anomalous areas.

REPORT ON INDUCED POLARIZATION SURVEY OF THE HIGH LAKE PROPERTY, EWART TOWNSHIP, ONTARIO FOR STEEP ROCK IRON MINES LTD.

1. INTRODUCTION

In the period from November 21 to December 21, 1965 and from January 3 to February 26, 1966, an induced polarization survey was carried out by Canadian Aero Mineral Surveys Limited on the High Lake property, Ewart Township in north-western Ontario on behalf of Steep Rock Iron Mines Limited. A total of 1375 observations were made for a coverage of 49.5 line miles including some detailing.

The High Lake property consists of 67 claims, a list of which is attached to this report as Appendix 1. The layout of the claim group is indicated on the plan maps showing the apparent chargeabilities in contoured form.

The purpose of the induced polarization survey was to map the sub-surface distribution of metallic sulphide mineralization in order to localize the presence of any copper deposits.

A reprint of the paper entitled "A Decade of Development in Overvoltage Surveying" by Robert W. Baldwin, which is attached to this report describes the phenomena involved and the methods of measurement and interpretation of this type of survey. For the present survey, high sensitivity, D.C. pulse-type equipment was employed with a current on-time of 1.5 seconds and a measuring time of 0.5 seconds.

At each observation point both the primary and secondary voltages are measured. The primary voltages (steady state voltages) are converted by formula to apparent resistivities in units of ohm meters. The secondary voltages (polarization voltages) are measured by integration and then divided by the corresponding primary voltages to obtain the apparent "chargeability", the resulting polarization property characteristic of the region measured. It is expressed in units of milliseconds or millivolt seconds per volt.

The chief application of induced polarization is in the direct detection of disseminated metallic sulphides. However, any transition in conduction from ionic to electronic and vice versa will give rise to IP effects. For this reason all metallic conducting sulphides, including pyrite, pyrrhotite, chalcopyrite and chalcocite, etc. and arsenides will be detectable as well as graphite. The latter may be expected to occur primarily in carbonaceous shales and limestones. Occasionally abnormal IP effects may be experienced from magnetite concentrations and from serpentines. There is no way at present in which IP effects from any one of these sources can be differentiated from those arising from any of the others using the IP data alone.

The gradient array electrode configuration was used throughout the survey employing a potential electrode separation of 200 feet for the reconnaissance work. As a means of detailing certain anomalies a potential electrode spacing of 100 feet was employed at times. The current electrode separation and positioning as well as the survey block layout, are indicated on Plate 1 at a scale of 1" = 400 ft.

A high degree of masking is common in many areas including the Precambrian Shield where good conducting soils overlie highly resistive bedrock. Under such conditions using any of the usual arrays (two-electrode, three-electrode), the electrode spacing must be many times larger than the depth of overburden before the apparent resistivities and chargeabilities become reasonably representative of the bedrock. With such large spacings, one is effectively averaging the physical properties over such a large volume of rock that the ability to detect the presence of moderate sized bodies of mineralization is lost.

Under the same set of conditions, the Gradient Array is both feasible and desirable. It reduces the effect of masking, retains a high degree of resolution for small bodies, has good depth penetration and offers certain practical operational advantages.

II. DISCUSSION OF RESULTS

The results of the IP survey are plotted as combined apparent chargeability and apparent resistivity profiles at the following scales: 1" = 5.0 milliseconds for chargeability, resistivity in ohm meters on a logarithmic scale as shown on the profile plates, 1" = 200 ft. horizontally. For the sake of clarity of presentation, the profiles are not spaced to scale. The profiles are presented on plates 2A, B, C, D and E.

The apparent chargeability results are also presented on plates 3A, B, C and D in contoured form at the scale of 1" = 200 ft. When the Gradient Array electrode configuration is employed, the background chargeability response sometimes varies considerably from survey block to survey block due to non-homogeneous current distributions. The results therefore often must be contoured within the individual blocks. In this particular case very few discrepancies exist between blocks and a relatively uniform background was observed throughout the area.

To aid in the interpretation of the induced polarization survey Steep Rock Iron Mines Ltd. supplied Canadian Aero Mineral Surveys Limited with the results of a ground magnetic survey of the area which was carried out in January 1966 by W. G. Wahl Ltd., Willowdale, Ontario. Geological maps covering most of the survey area were also supplied.

A large number of anomalies were indicated and outlined by the IP survey. These anomalies have been grouped into 16 zones with some zones subdivided into trends within the zones.

A high degree of masking made it impossible to obtain chargeability readings over parts of the grid established on the ice of High Lake as well as over the lake at the east end of the property. Masking effects also made observations impossible in some swampy areas throughout the grid.

In some areas readings were at times very difficult to obtain because of high contact resistances on the potential electrodes and at other times because of extremely low primary voltages. For example, high chargeabilities noted north and east of Zone I are questionable because the primary voltages were so low in magnitude that they could not be measured accurately. Questionable readings are so marked on the chargeability contour plans.

Zones I to XVI will be discussed in turn below.

ZONE I

Zone I (a, b, c, d), which is located in the northeastern quarter of the survey area, appears to be fairly continuous from line 72E (approximately 72 North) to line 112E (approximately 73 North) with an offshoot (Ic) to the northeast. An apparent break in the zone occurs on line 84E where lower apparent chargeabilities were observed, probably due to some masking effect caused by the presence of a swamp between 70 North and 75 North.

Approximately twice background apparent chargeability responses were obtained in correlation with magnetics in the order of 1000 - 5000 gammas. The peak I.P. responses are accompanied by corresponding lower apparent resistivity values from line 92E to 104E. Maximum chargeability responses of about 13.0 milliseconds obtained in Zone I(c) and I(b) indicate a concentration of polarizable material (metallic sulphides) of 1% - 3% average by volume. 2% - 6% disseminated magnetite could give the same magnitude of response and in view of the magnetic correlation, magnetite is probably largely responsible for the higher than normal chargeabilities here. However, a thorough check of any outcrop within Zone I for the presence of metallic sulphides is recommended. If encouraging results are obtained from a geological and/or geochemical check, the zone should be further evaluated by diamond drilling. The zone has best definition on line 104E where some detailed work employing a potential electrode spacing of 100 ft. was carried out. The detailing indicates the zone to have a near surface expression on line 104E at 74 + 50 North. A diamond drill hole to test this section of the zone should be collared at 74 North on line 104E and drilled north along the line at an angle of 45° for 200 - 300 feet.

ZONE II

Zone II is located in the eastern portion of the survey area near the centre of the grid. It extends from line 92E (51 North) to line 116E (55 North). Between line 96E and line 104E this zone is located on the south edge of a magnetic anomaly of 1000 - 2000 gammas.

One diamond drill hole (SA-24) has been completed near the west end of the anomalous zone. However, this hole was drilled approximately along the strike of the zone and near the south edge of the anomaly. Some pyrite and chalcopyrite were apparently intersected in this drill hole, establishing at least the presence of metallic sulphides within the zone. Detailing on line 108E employing a potential electrode spacing of 100 feet indicates that the zone here consists of two parallel bands of mineralization with near surface expressions at 53 + 50 North and 55 + 50 North. D.D.H. SA-24 did not test either of these zones. A single well-defined anomaly peak with relatively low apparent resistivity correlation was obtained on line 100E.

To investigate further the source of the anomalous responses in this zone the following drill holes are suggested.

(i) collar at 52 + 50 North on line 108E; drill north along the line at an inclination of 45° for approximately 200 feet.

(ii) collar at 54 + 50 North on line 108E; drill north along the line at an inclination of 45° for approximately 200 feet.

(iii) collar at 51 North on line 100E and drill north along the line at an inclination of 45° for 200 - 300 feet.

If encouraging results are obtained in the above drilling then Zone II should also be drilled on line 92E.

ZONE III (a, b, c, d)

Zone III is located in the east end of the survey area. It covers most of the region described by the coordinates 30N to 52N, 120E to 136E. III(a) extends the zone west to line 108E just south of the east end of Zone II. Zone III which is outlined by the 10 millisecond contour line coincides almost exactly with the distribution of basic volcanic rocks in this section of the property. Apparent chargeabilities within the zone of 10-12 milli-seconds probably reflect only the slight magnetite content of this rock type. Zone III(b) has been well tested by diamond drill holes E-42, E-43 and E-44.

ZONE IV

Zone IV, located between 45N and 47N on lines 104E, is an interesting anomaly although it is fairly limited in extent. It appears to be situated on the contact between the basic volcanics and the quartz porphyry. Three diamond drill holes, SA-6, SA-7 and SA-8, were collared just outside the anomaly and drilled away from the zone. Apparently all these holes intersected some mineralization. A maximum chargeability response of 16.7 milliseconds at 46N, 104E indicates polarizable material of a concentration of 2% - 4% average by volume. A resistivity "low" was observed in correlation with the I.P. anomaly on line 104E.

ZONE V (a, b)

Zone V is located in the southeast corner of the survey area and appears to be confined to a region in the quartz porphyry mapped as basic volcanics. In general, good correlation exists between the anomalous I.P. responses and a zone of higher magnetics of 5000 - 10,000 gammas. Indications of copper, molybdenum and magnetite have been noted on the ground and in drill holes within Zone V(a). Drill holes HL-1 and HL-2, as well as F-19 and F-20, should indicate the type of polarizable material causing the higher than normal I.P. responses here. Two anomaly peaks of about 14.0 milliseconds within anomaly V(a) at 20 North on line 108E and at 19 North on line 116E have not been checked by drilling. These responses suggest mineralization of 1.5% - 3.5% average by volume. However, these peak responses might be partly due to magnetite.

In Zone V(b) apparent chargeabilities of 14.0 - 15.0 milliseconds were obtained at 17 North on line 124E, 19 North on line 128E, and at 21 North on line 132E. Correlating low apparent resistivities were observed on line 128E and 132E. These peak responses produce an apparent northeast-southwest trend which cuts across the indicated east-west trends suggested by the ground magnetics.

Drill holes SA-17, 18, 19 and SA-20 were collared near the south-western edge of Zone V(b) and drilled towards the south away from the region of peak responses. Apparently both chalcopyrite and molybdenum were intersected in these holes. A diamond drill hole to test the source of this zone should be collared at 20 North on line 128E and drilled south along the line at an inclination of 45°. The peak response of 15.4 milliseconds at 19 North on line 128E suggests a concentration of 2% - 4% average by volume of polarizable material. As for Zone V(a) the response might be caused by a combination of metallic sulphides and magnetite or possibly by magnetite alone.

ZONE VI, ZONE VII, ZONE VIII

Zones VI, VII and VIII are located in the north-western quarter of the survey area 400-800 feet south of the "Northern Ontario Pipe Line".

The pipe line appears to have some effect on the current distribution in that sign reversals were noted on readings adjacent to the line on some of the traverses (25E, 29E, 76E). However, it is not possible to arrive at an explanation which will attribute the anomalous responses of these zones to the pipe line as was considered at the time of the survey. The line would produce an anomaly in places where it is grounded, but such a response would be located immediately over the pipe (e.g. line 72E). Thorough checks of these zones at the position of the peak responses is recommended. Further geological mapping, prospecting, and perhaps geochemistry might assist in determining the cause of this "parallel to the pipeline" trend of anomalies.

Zone VI(a) is open to the west as the peak response of 28.3 milliseconds was obtained at 83 North on line 17E, the most westerly line on the property. The shape of the anomaly peak here suggests a source near surface. 3% - 7% average by volume of polarizable material would be required to give this magnitude of response. No geological information is available for the region of the anomaly.

Zone VI(b) is at the north end of line 29E and does not have sufficient coverage to the north to determine whether the reading of 20.0 milliseconds at 85 North is the peak response or not. Hence in this case the pipe line is a possible source.

Zone VII is a very distinct anomaly traced from 81 North on line 64E to 83 North on line 45E. Although the zone is a very distinct one the quality of some of the readings in this zone leaves some doubt as to the accuracy of the apparent chargeabilities of 58.9 milliseconds at 81 North on line 49E and 27.7 milliseconds at 83 North on line 45E. The masking effect at the north end of both lines 45E and 41E was so severe that it was impossible to determine the west extension of Zone VII. Except for the doubtful observation at 83 North on line 45E, no readings could be obtained in this region. The anomaly occurs in an area mapped as andesites and basalts with one mention of carbonaceous material at the north end of line 53E which makes a graphitic source a possibility. There appears to be quite a bit of outcrop in the area covered by this anomaly, so a careful geological check might give an indication as to the source of the anomalous responses here. Considering the quality of the readings, the best section to check with drilling if drilling is decided upon is on line 57E. At 83 North on this line a peak response of 42.2 milliseconds indicates 4% - 10% average by volume of polarizable material.

ZONE VIII

This anomaly is located 200 - 300 feet south of the pipe line between line 72E and 84E. An apparent chargeability value of 35.9 milliseconds at 81 North on line 76E indicates 2.5% - 4% average by volume of polarizable material. If the geological environment is the same as for Zone VII a careful check for graphitic material is recommended before any drilling of this anomaly peak is undertaken.

ZONE IX

Zone IX was traced from 57N - 61N on line 17E to 61N on line 41E. The zone is still open to the west. The anomaly correlates in general with an area mapped as tuffs with many indications of disseminated pyrite and chalcopyrite along the zone. Because of "masking" the west end of the zone is not well defined, but reliable readings were obtained on lines 29E and 37E where peak responses of about 12.0 milliseconds indicate polarizable material of 1% - 3% average by volume at 63N and 61N respectively. An observation of 15.0 milliseconds at 63N on line 33E is a poor reading and is not considered reliable. A drill hole to test the source material should be collared at 61 + 50 North on line 29E and drilled north along the line for 200 - 300 feet.

ZONE X

Zone X is located just south of anomaly IX in a region of basic volcanic rocks. The higher than normal polarization responses in this zone appear to be related to features mapped as "strong topographic draws". This coupled with the correlating low apparent resistivities suggests an association with shearing. A careful check for the presence of carbonaceous material is recommended.

The peak response of 22.6 milliseconds at 57N on line 29E indicates 2% - 5.5% average by volume of polarizable material here.

ZONE XI (a, b, c)

These three anomalies are located from line 49E to 72E between 56 North and 72 North. All have peak responses of about 12.0 milliseconds suggesting 1% - 3% average by volume of polarizable material. Except for Zone XI(a), considerable outcrop is indicated in the anomalous areas but no trace of metallic sulphides is noted. The anomalies appear to be associated with the volcanic rock rather than the quartz porphyry in this area. The lack of magnetic correlation rules out magnetite as a possible source in this case except at 61N on line 53E where a chargeability of 10.2 milliseconds corresponds with a magnetic response of about 5000 gammas.

Zone XI(a) has its source within highly sheared tuffs mapped in this region.

Zone XI(b), although it appears to cut across the quartz porphyry, has volcanic rocks mapped where the anomalous readings are observed.

Zone XI(c) has a peak value of 12.5 milliseconds at 63 North on line 68E where outcropping volcanics are mapped.

ZONE XII

Zone XII extends from 51 North on line 17E to 53 North on line 41E with a break in the trend of anomalous responses on line 21E. Although the accuracy of some of the observations in this zone is questionable because of the very low range of primary voltages, there is no doubt about the fact that a considerable percentage by volume (5% - 10%) of polarizable material is present. The area of the anomaly is mapped as basic volcanics but as for Zone XI there are no indications of metallic sulphide mineralization. The type of responses obtained suggest a very near surface source and since there is quite a bit of outcrop indicated here a careful ground check of line 25E between 49 North and 54 North and of line 29E between 50 North and 54 North should give some indication as to the source material.

A diamond drill hole to test this feature should be collared at 51 + 50 North on line 29E and drilled north along the line at an inclination of 45° for a distance of 200 - 300 feet.

ZONE XIII

Zone XIII is located about 500 feet south of Zone XII. Here apparent chargeabilities in the order of 40.0 - 50.0 milliseconds were observed indicating polarizable material of a concentration of 4.5% - 12% average by volume. However, as in Zone XII, the accuracy of some observations is questionable because of the very low range of primary voltages. The anomaly is open to the west. On line 17E the abrupt change from 42.6 milliseconds at 43 North to -48.0 milliseconds at 45 North is an example of a phenomenon sometimes observed when dealing with a source that comes close to surface and has a flat dip. In this case the near surface expression of the causative body (with a flat dip towards the south) should be in the region 43 North to 44 North on line 17E. At approximately 44 North on line 25E a shear with pyrite and pyrrhotite has been mapped indicating that this type of mineralization is perhaps responsible for the anomaly. A careful geological and geochemical check is recommended in this zone before drilling is undertaken.

If drilling is decided upon it is recommended that the zone be tested on line 25E where the best quality readings were obtained. A peak response here of 25.4 milliseconds indicates 2.5% - 6% average by volume of polarizable material. The drill hole should be collared at 41 + 50 North on line 25E and drilled north along the line at an inclination of 45° for at least 300 feet.

It might be noted that drill holes SE-4, SE-5 and SE-6 on or near the south flank of anomaly XIII intersected some metallic sulphides. Apparent chargeabilities in the region of these holes are in the order of 10 milliseconds indicating 1% - 2% average by volume of polarizable material.

ZONE XIV (a, b, c)

Zone XIV is by far the most extensive anomalous area outlined by the I.P. survey. It covers nearly all of the area between lines 41E and 72E from 34 North to 53 North. Three separate trends XIV (a, b, c) appear to exist within this zone.

As for some of the other zones in this part of the survey area, the accuracy of some of the readings is questionable because of the very low primary voltages observed. However, enough reliable observations were obtained to establish without any doubt the presence of considerable polarizable material in the region of this zone.

Zone XIV is located within an area mapped as quartz porphyry. The presence of pyrite has been established at about 38 North, 43 East; 41 North, 63 East and at about 35 North, 51 East where chalcopyrite and magnetite were also noted.

Zone XIV(a) has a peak response of approximately 30.0 milliseconds at 51 North on lines 57E and 61E near a geological contact between the quartz porphyry and granodiorite. Very low primary voltages (.001 - .005 volts) were observed within this zone making reading very difficult to obtain with accuracy. 3% - 7% average by volume of polarizable material is indicated by the peak responses on lines 57E and 61E. The shape of the anomaly peaks here suggests a source coming close to surface at 51 North and dipping towards the south. Because of the better quality of readings that was obtained on line 57E, drilling of this zone is recommended on this traverse. The hole should be collared on line 57E at 49 + 50 North and drilled toward the north along the line at an inclination of 45° for 200 - 300 feet.

Zone XIV(b) is a 3600 foot long east-west anomaly extending from approximately 43 North on line 41E to 41 North on line 76E. Peak values considered reliable were obtained on line 41E at 44N (22.2 milliseconds) on line 45E at 43N (11.7 milliseconds) on line 61E at 43N (15.7 milliseconds) and on line 64E at 43 North (13.3 milliseconds). Detailed work employing a potential electrode spacing of 100 feet conducted on line 68E over Zone XIV(b) indicated a near surface source at 44 + 50 North where a peak chargeability of 16.3 milliseconds was obtained.

If drilling of this zone is undertaken it should be carried out on one of the above traverses. Questionable peak values were obtained on lines 49E and 53E because of very low primary voltages and high potential electrode contact resistances.

Good quality readings were obtained in Zone XIV(c) except on line 53E. Peak responses of approximately 20.0 milliseconds were observed on line 45E at 39 North and on line 57E at 37 North. Magnetite might be at least partially responsible for the anomalous responses obtained at the west end of anomaly XIV(c) (lines 41E and 45E). However, the peak on line 57E lacks magnetic association.

Apparently some copper mineralization was noted about 500 feet west and slightly south of this anomaly peak.

A drill hole to test the source material here (2% - 5%) should be collared at 38 + 50 North on line 57E and drilled south along the line at 45° for 200 - 300 feet.

ZONE XV

Good quality readings were obtained over this zone of polarizable material. The zone extends from about line 21E at 34 North to line 33E at 41 North. The maximum response was noted on line 29E where chargeabilities of 18 - 19 milliseconds were obtained at 37 North and 38 North. This peak appears to fall on the contact between the basic volcanics and quartz porphyry. Magnetic correlation of 1000 - 2000 gammas exists at this point so some magnetite might contribute to the anomalous response here. A drill hole to check this occurrence should be collared at 36 + 50 North on line 29E and drilled towards the north at an inclination of 45° for a distance of 200 - 300 feet.

ZONE XVI

This narrow zone extends from about line 49E at 29 North to about line 57E at 29 North. Peak responses are about 12.0 milliseconds indicating 1.5% - 3% average by volume of polarizable material. Drill hole SE-1 appears to cut this zone fairly well and the pyrite and chalcopyrite intersected is probably the source of the I.P. responses here.

III. CONCLUSIONS AND RECOMMENDATIONS

Because of the large number of chargeability anomalies obtained of which very few can be explained or partially explained at this time, further work in the form of detailed geological mapping and perhaps geochemistry is recommended as the next step in evaluating the anomalous zones. Where significant anomalous responses were obtained and the nature of the polarizable material is not known, a drill hole location has been given in the event that drilling might be undertaken pending further evaluation by geology and/or geochemistry.

Respectfully submitted

Peer Norgaard, P. Eng.
Geophysicist

OTTAWA, Ontario
16 May 1966

APPENDIX I

The following is a list of the claims comprising the High Lake property of Steep Rock Iron Mines Ltd. and over which an induced polarization survey was conducted by Canadian Aero Mineral Surveys Ltd. in the periods November 21 to December 21, 1965, and January 3 to February 26, 1966.

K 8518, K 8519	2
K 9191	1
K 20694 to K 20697 inclusive	4
K 21479	1
K 23942, K 23943	2
K 23980	1
K 24136, K 24137	2
K 25134	1
K 28659 to K 28661 inclusive, K 28663	4
K 28999 to K 29010 inclusive	12
K 29012 to K 29018 inclusive	7
K 32107, K 32108	2
K 32306, K 32307	2
K 32574	1
K 34700, K 34701	2
K 35777	1
K 36828 to K 36845 inclusive	18
K 36848	1
K 36853	1
K 36917, K 36919	2
	67

File: 63.1996

THE MINING ACT

Assessment Work Credits

Name: STEEROLA EXPLORATIONS LIMITED (claims held by)

Township or Area: EWART TWP.

Number of Assessment work days per claim:

Geophysical 38.8 Induced Polarization   Geological nil

Mining Claims:

K 20694 to K 20697 inclusive	K 32306 & 32307
K 21479	K 32574
K 23942 & 23943	K 34700 & 34701
K 23980	K 35777
K 24136 & 24137	K 36828 to 36845 inclusive
K 25134	K 36848
K 28659 to 28661 inclusive	K 36853
K 28663	K 36917
K 28999 to 29010 inclusive	K 36919
K 29012 to 29018 inclusive	
K 32107 & 32108	

Suite 1405, 302 Bay Street,
Toronto 1, Ontario

August 31, 1966.

Mr. A. T. Avison,
Geologist,
Steep Rock Iron Mines Limited,
Steep Rock, Ontario

Dear Mr. Avison,

Submitted herewith is a report on:

MAGNETOMETER SURVEY

HIGH LAKE

KENORA MINING DIVISION

A ground magnetometer survey was completed over the thirty-seven easternmost claims of the group option from Alcock. The magnetic data extended and confirmed the known geology and mapped rock units and structure in areas of overburden. The high intensity anomalies in claims 32306, 32307, 8518, 8519, 9191 and 28661 may map the loci of copper-molybdenum mineralization. The low intensity anomalies in claims 23942, 20694 and 36835 may be associated with sulphide mineralization. The magnetic data is of prime importance in selecting and defining induced polarization anomalies to be tested further by drilling.

MAGNETOMETER SURVEY

A magnetometer survey was completed over the thirty-seven claims (see attached list) lying north and east of High Lake in Ewart Township, Kenora Mining Division. The field work was completed during the period of January 17 to February 1, 1966. Compilation and interpretation was completed during February and March and the report was written and the assessment work was filed in August 1966.

A Sharpe fluxgate magnetometer measuring the earth's total field values to an accuracy of 10 gammas was employed to record station values at fifty-foot stations on profile lines 400 feet apart. In excess of 3,400 stations were occupied and observed. The field data were adjusted for daily diurnal and the data were reduced to a local datum. The magnetometer data recorded over the claims lying to the west of this group were also reduced to the same datum. The current data and the data previously observed were then contoured to facilitate the interpretation.

The assessment work to be filed covers only the recent field work and on only those claims listed on the attached sheet.

R. Hollingsworth of Savant Lake was the instrument operator, R. Baechler of Atikokan was his assistant and W. G. Wahl of Toronto the consulting geophysicist who supervised the work in the field, reduced, compiled and interpreted the data, and wrote the report.

INTERPRETATION

The magnetometer data mapped the distribution of magnetite and pyrrhotite in the underlying rock. The differing tenor of magnetite in the underlying rock, as shown by change in the magnetic intensities, was caused by changes in rock type, by metamorphism and by metallic mineralization.

The geology of this area was mapped by J. C. Davis and is reported on in Geological Report No.41 of the Ontario Department of Mines. The rock terminology as used by Davis will be followed in writing this report.

The basic volcanic rocks consist of basaltic flows and associated pyroclastics and are characterized by magnetic intensities of from 500 to 5,000 gammas above background. Individual flows and pyroclastic beds are mapped by narrow linear anomalies of different intensities. The flows are narrow and discontinuous and have a uniform and a lower magnetic susceptibility than the associated pyroclastics. The pyroclastic beds have a higher susceptibility and are marked by more abrupt changes in length and width of anomalous zones.

The acid volcanic rocks exposed in the northern part of the claim group are marked by low, uniform changes in magnetic susceptibility and are mapped by an intensity range of from zero to 600 gammas. These rocks are predominantly rhyolite and dacite pyroclastics and are outlined by linear anomalies.

It is most difficult to distinguish the metasedimentary rocks of the Keewatin group from the Crowduck Lake group on the basis of their magnetic characteristics. The metasedimentary rocks are mapped by narrow discontinuous linear anomalous zones with magnetic intensity from zero to 5,000 gammas.

The porphyritic granodiorite is mapped by its low, uniform magnetic susceptibility. The magnetic intensities range from near zero to 500 gammas.

Superimposed on the general magnetic characteristics described above are the increases and decreases in the tenor of magnetite caused by regional and thermal metamorphism and by the addition of magnetite contemporaneous with mineralization. Remnants of volcanic rocks within the granodiorite are marked by a slight increase in the magnetic intensities of the granodiorite. Unassimilated volcanic rocks in contact with the granodiorite have a higher intensity caused through the formation of magnetite during thermal metamorphism.

Copper-molybdenum mineralization in the volcanic rocks, which could be considered as roof pendants in the granodiorite, is associated with zones of magnetite enrichment and these zones are mapped by intensities in excess of 5,000 gammas, as in claims 32306, 32307, 8518, 8519, 9191 and 28661.

Elsewhere in this claim group, small magnetic anomalies of lower intensities may map zones of mineralization, for example in claims 23942 and 20694, and in the northern part of claim 36835.

The magnetic data should be used to extend and confirm the known geology into areas covered by overburden. These data should be used to define and detail the induced polarization anomalies. As sulphides occur as disseminated grains within all of the rock types, the induced polarization data should be used to delineate areas for further investigation by trenching and drilling.

All of which is respectfully submitted.

Sincerely yours,

W. G. WAHL LIMITED

W. G. Wahl, P.Eng.

File: 63.1996

THE MINING ACT

Assessment Work Credits

Name: STEEROLA EXPLORATIONS LIMITED (claims held by)

Township or Area: EWART TWP.

Number of Assessment work days per claim:

Geophysical 10 Magnetometer

Geological nil

Mining Claims:

K 20694 to 20697 incl.
K 21479
K 23942 & 23943
K 23980
K 24136 & 24137
K 25134
K 28659 to28661 incl.
K 28663
K 29014 to 29018 incl.
K 32306 & 32307
K 32574
K 34700 & 34701
K 36834 to 36836 inclusive
K 36841 to 36845 inclusive
K 36848

HIGH LAKE OPTION

EWART TOWNSHIP

KENORA MINING DIVISION

PURPOSE OF REPORT

This report is written as a supplement to the reports of the geophysical contractors covering surveys carried out during the winter of 1965 - 66 on the claim group. The field work involved in the establishment of the grid, linecutting and chaining is described. Previous work in the area and a brief description of the geology and mineralization as presently known is given.

PROPERTY DESCRIPTION

The property consists of 67 contiguous mineral claims in Ewart Township as listed below and shown in Figure 1. The claims are all held by Steerola Explorations Limited a wholly owned subsidiary of Steep Rock Iron Mines Limited. The property was acquired in November 1965 under an agreement with C. A. Alcock, N. R. Alcock, J. A. Porier and R. Longe.

Claim No's	Status	Claim No's	Status
K-8518 - 8519 inc.	Patented	K-28999 - 29010 inc.	Unpatented
K-9191	"	K-29012 - 29018 inc.	"
		K-32107 - 32108 inc.	"
K-20694 - 20697 inc.	Leased	K-32306 - 32307 inc.	"
K-21479	"	K-32574	"
K-23942 - 23943 inc.	"	K-34700 - 34701 inc.	"
		K-35777	"
K-23980	Unpatented	K-36828 - 36845 inc.	"
K-24136 - 24137 inc.	"	K-36848	"
K-25134	"	K-36853	"
K-28659 - 28661 inc.	"	K-36917	"
K-28663	"	K-36919	"

LOCATION AND ACCESS

The claim group covers the north shore of High Lake in Ewart Township. It is approximately 30 miles west of Kenora, Ontario and one mile south of the Trans Canada Highway 17. The property is approximately $1\frac{1}{2}$ miles by $2\frac{1}{2}$ miles in area. The west boundary of the property is $\frac{1}{2}$ mile east of the Manitoba-Ontario provincial boundary. The Shoal Lake road, running south from Highway 17 passes 1 mile to the east of the property. A rough bush road connecting High Lake with the Shoal Lake road crosses the southwestern corner of the property. The Trans Canada pipeline and its service road give access to the northern side of the area.

TOPOGRAPHY

The relief in the High Lake area is about 200 feet but the topography is quite rugged. The low ground is largely flooded by beaver dammed swamps. Jackpine grow on the well drained hill areas with spruce, cedar and balsam in the lower ground. The area was logged over about 1948 and little commercial timber remains.

PREVIOUS WORK

The area has attracted mineral exploration for many years due to the widespread occurrence of gold, copper and molybdenum mineralization. Some limited areas have been intensively drilled but no economic ore bodies have been outlined on the claim group to date.

The geology of the area is covered in the Ontario Department of Mines Geological Report No. 41 by J. C. Davies, 1965, with excellent maps at 1" to ½ mile. The history of the exploration of the area is given in detail. Records of much of this work are available in the Ontario Department of Mines resident geologist's files in Kenora. The most recent mineral exploration in the area was done by Selco Exploration in 1961 in the western part of the claim group. They mapped the claims they held at 1" to 200' and did a magnetometer survey.

LINECUTTING AND CHAINING

The grid cut by Selco Explorations in 1961 in the western part of the area was brushed out, rechained and extended to cover the entire claim group. The baseline of the grid runs east-west magnetic. North-south lines perpendicular to the baseline were cut at 400 foot intervals along the baseline with chainage pickets every 100 feet. These lines were cut to the pipeline road in the north and the shore of High Lake or the property boundary in the south. After freeze-up the lines were extended to the property boundaries on the ice of High Lake and Electrum Lake. The baseline and one north-south line (116E) were surveyed by transit. Tie lines were surveyed on the ice of High Lake and along the pipeline road so that all the north-south lines are tied in by transit survey at three points.

The grid thus established comprises the following:-

Old lines brushed out	13.61 miles
New lines cut	28.10 miles
Chained on lake ice	15.57 miles
Total	57.28 miles

A total of 7.33 miles of these lines have been surveyed by transit. Co-ordinates were assigned to the grid in such a way that all parts of the property are north and east of the origin. All pickets on the lines are marked with the northing and easting. Copies of the draughted grid were supplied to the geophysical contractors so that presentation of data would be uniform and comparable.

INDUCED POTENTIAL SURVEY

The entire claim group was covered by an I.P. survey carried out under contract by Canadian Aero Mineral Surveys. The results of this survey are described in detail in a separate report by the contractor. A number of anomalous zones are indicated by the survey. These anomalies are almost entirely in areas that have not been drilled in the past. Following detailed geological mapping of the anomalous zones, they will be tested by drilling, if warranted.

MAGNETOMETER SURVEY

A magnetometer survey was carried out in those parts of the property not surveyed by Selco Exploration Limited. Sufficient of the Selco magnetometer stations were reoccupied to permit correlation between the two surveys. The magnetometer survey was carried out under the supervision of W. G. Wahl Limited and is described in detail in a separate report.

GEOLOGY

The most detailed geological map and report of the area is the Ontario Department of Mines map by J. C. Davies. This report shows more rock types than were recognized by any of the companies that have explored the area in the past. There is some difficulty in correlating the geological data from previous work due to differences in the rock nomenclature and to the different grids that have been used.

The property is underlain by a group of intermediate volcanic rocks containing lenses of acidic volcanics and sedimentary horizons. These rocks have been intruded by an acidic pluton which varies from quartz feldspar porphyry through granodiorite to quartz diorite. The acid intrusives are probably differentiates of one magma and contain local, partially digested, remnants of the volcanics.

There has been considerable structural deformation of the area which has imposed a regional pattern of foliation striking approximately 075°. Intense shearing in local areas strikes 020° - 090°. Davies' report defines two major east-west faults or shear zones within the property at about 2000N and at 6,500N. The northern shear zone is easily recognized in outcrop in highly foliated tuffs and porphyry. The southern shear probably occurs along a gentle north facing scarp and is more apparent in air photos than on the ground. A number of cross faults striking 020° to 060° deflect this shear so that it follows a sinuous course towards the east from the northeast corner of High Lake. The structural picture is obviously complex and much work remains to be done before it is completely understood.

MINERALIZATION

Gold, copper and molybdenite mineralization occur in both the volcanics and acid intrusives. Silicification and epidotization is generally associated with the cross shearing rather than the major east-west shear zones.

The known gold occurrences are in quartz tourmaline veins in shears. Some pyrite, pyrrhotite and chalcopyrite is locally associated with the gold occurrences. There are indications that magnetite is a distinctive associate mineral with the sulphide mineralization.

Molybdenite occurs in a number of quartz veins on the property. A potentially commercial deposit has been outlined by drilling about 1000 feet south of the property on claims K-8706 - 07. Molybdenite and chalcopyrite are disseminated in shear zones in andesite in the southeastern part of the claim group. Usually quartz veinlettes are also present in these shears.

Chalcopyrite occur in shears and quartz veins and as disseminations in the porphyry. Pyrite is generally associated with the disseminated chalcopyrite. Some week shearing and silicification occur in an area around 2200N; 10,000E - 10,800E where disseminated chalcopyrite in interesting concentrations has been found by trenching.

Pyrite and pyrrhotite with minor chalcopyrite replace sheared volcanics over a width of at least 50 feet at 900N; 2500E. In places the sulphides comprise 30% of the rock.

GEOLOGICAL ASSOCIATION OF CANADA
A. T. AVISON
FELLOW

A. T. Avison

A. T. Avison, Geologist,
Exploration Department,
Steep Rock Iron Mines Limited.

August 1966
Steep Rock Lake, Ontario.

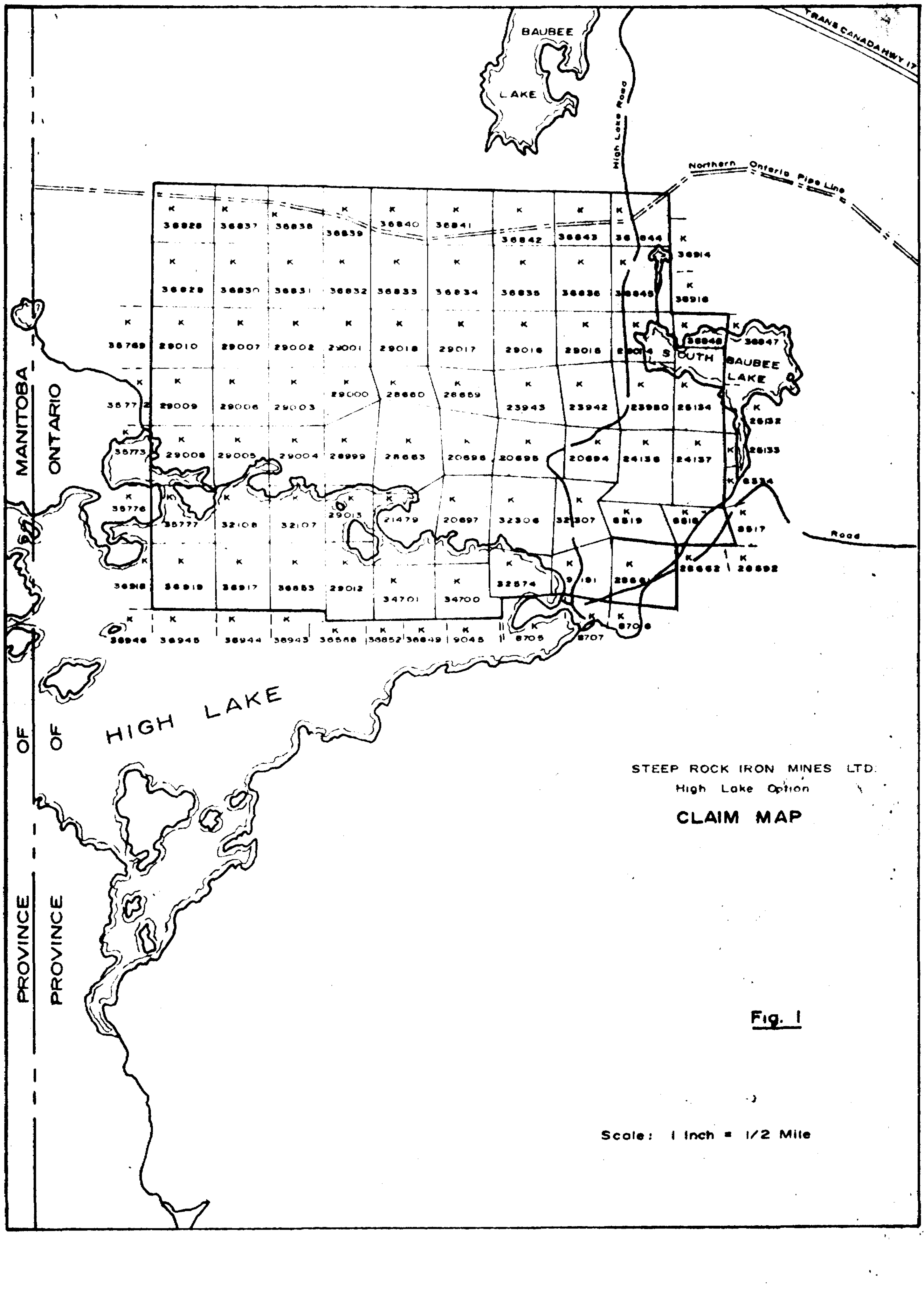
REFERENCES

J. C. Davies - Geology of High Lake-Rush Bay Area,
O.D.M. Geological Report No. 41, 1965

Department of Lands and Forests Air Photos #49-4933-24, 3 - 5.

Assessment Reports in files of Resident Geologist in Kenora

Ontario Department of Mines and Geological Survey of Canada
Geophysical Paper 1191 - Waugh - Sheet 52/E/11.



STEEP ROCK IRON MINES LTD.
High Lake Option

CLAIM MAP

Fig. 1

Scale: 1 Inch = 1/2 Mile

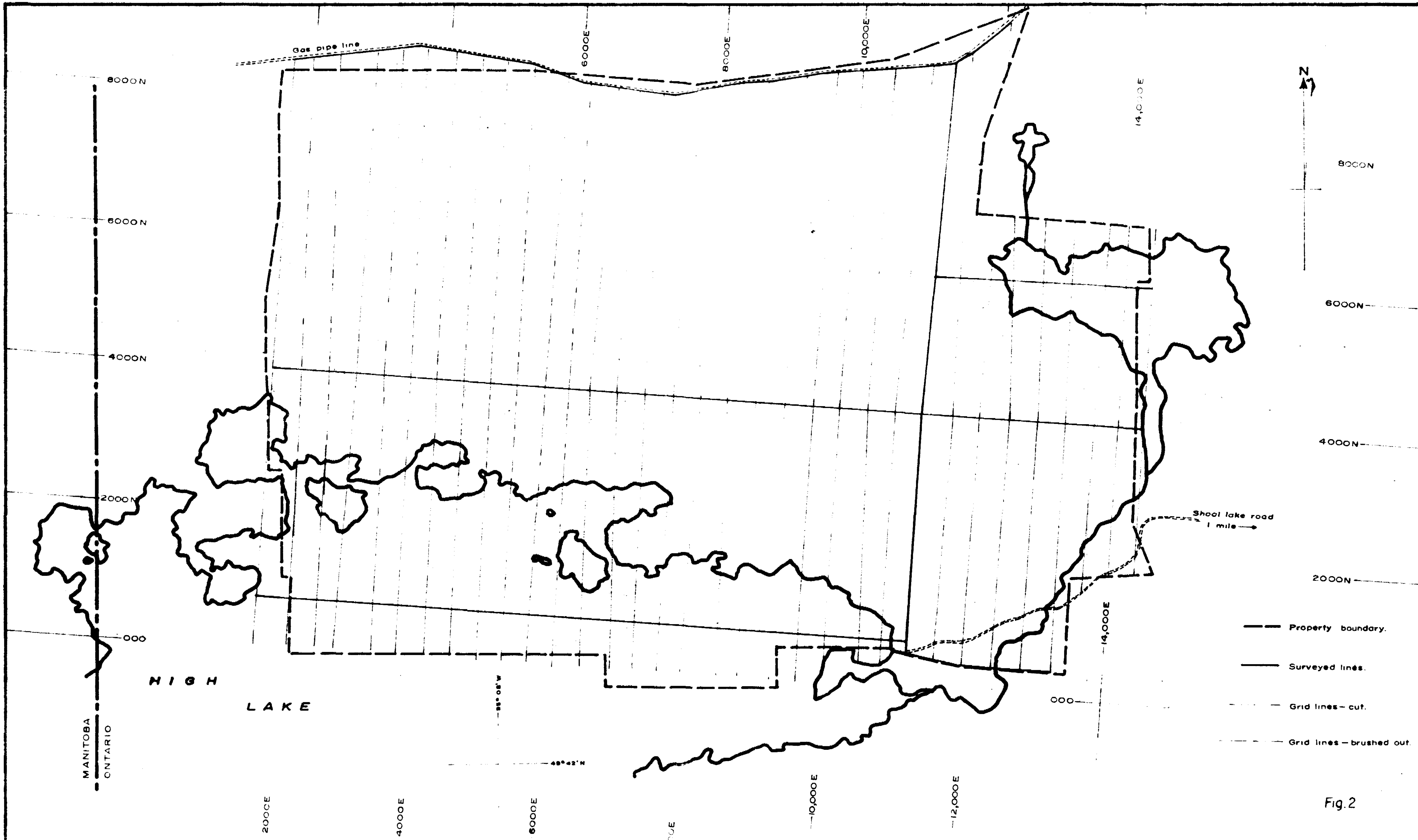
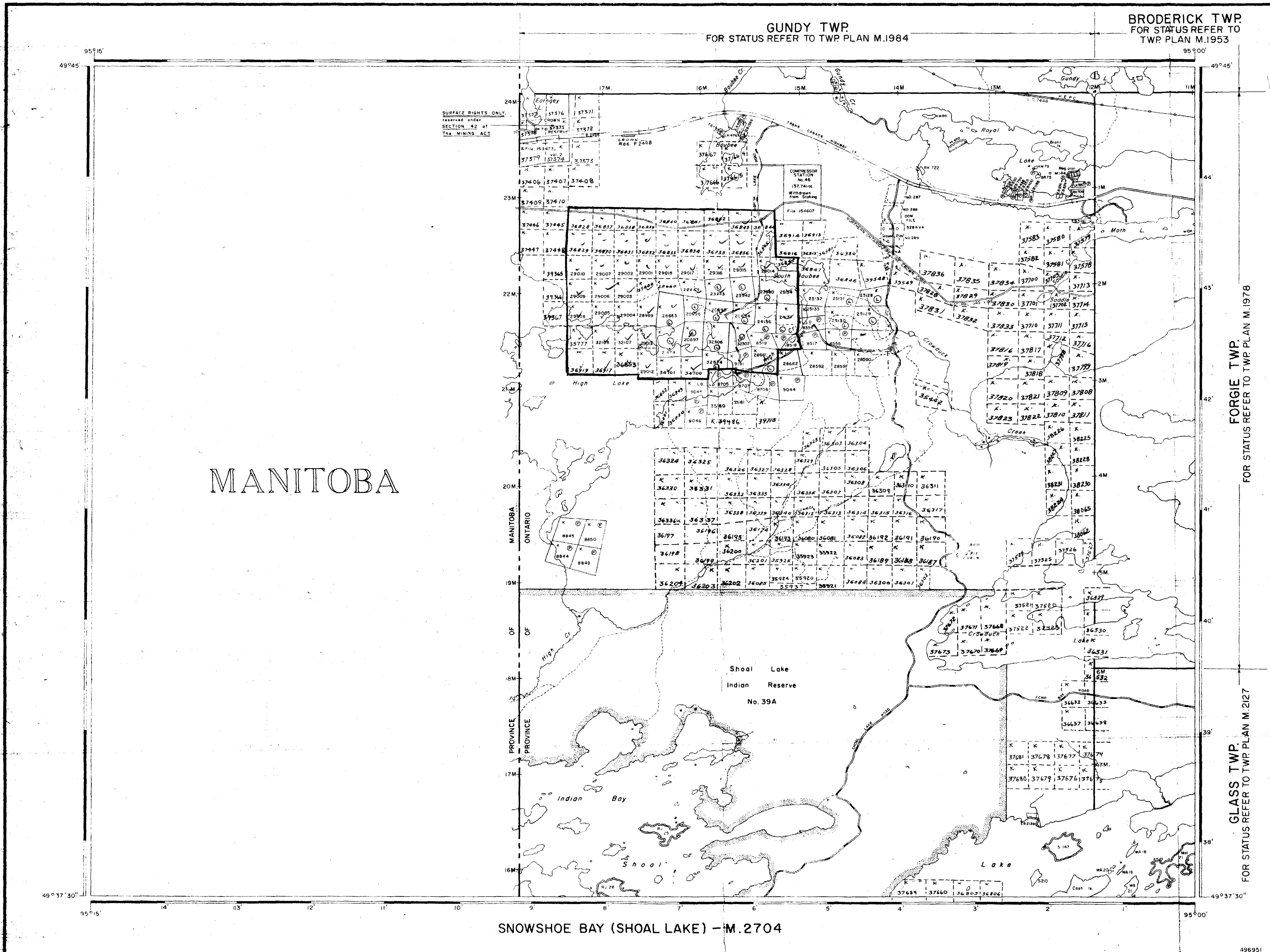


Fig. 2

STEEP ROCK IRON MINES LTD.
HIGH LAKE OPTION
GRID LAYOUT
Scale: 1" = 1320'
DWN by ATA
Date:
N.T.S. Ref: 52/E/11



EWART TWP. AND INDIAN BAY (SHOAL LAKE) AREA

DISTRICT OF KENORA

KENORA MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C.

NOTES

400' surface rights reservation around all lakes and rivers.

High Lake Road ... Private road

Shoal Lake Road ... Maintained by the Department of Highways

DATE OF ISSUE
NOV 24 1960
ONTARIO DEPT. OF MINES

ONT. DEPT. OF MINES MINING LANDS BR.
THIS MAP FOR CHECKING PURPOSES ONLY - MUST NOT BE SOLD.

PLAN NO. M.1975

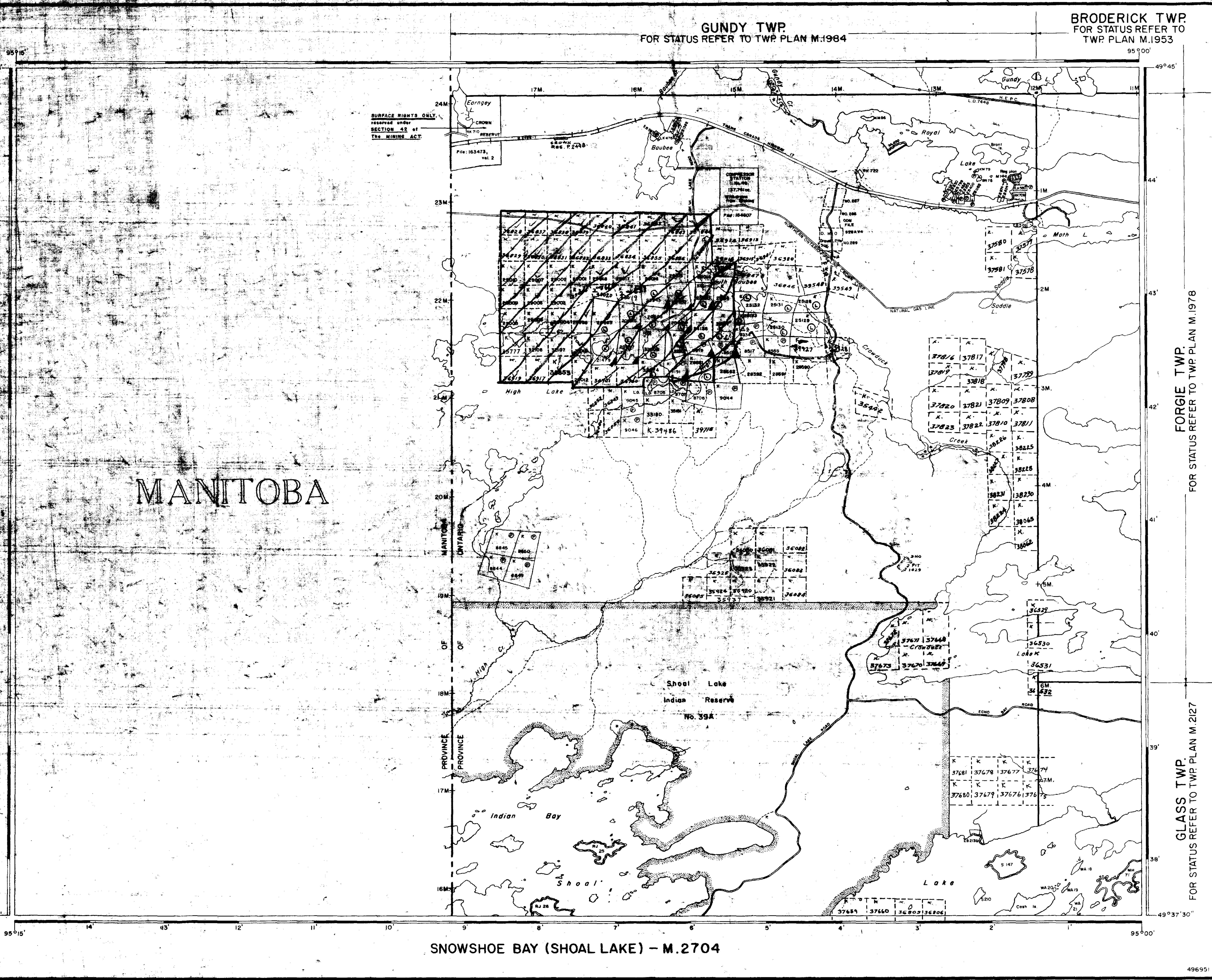
DEPARTMENT OF MINES
— ONTARIO —

496951

TRIM LINE

200

M.1975 EWART TWP and INDIAN BAY (SHOAL LAKE) AREA M.1975



EWART TWP.
AND
INDIAN BAY
(SHOAL LAKE) AREA

DISTRICT OF KENORA

KENORA MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C.

NOTES

400' surface rights reservation around all lakes and rivers.

High Lake Road	Private road
Shoal Lake Road	Maintained by the Department of Highways

DATE OF ISSUE
FEB 28 1967
ONTARIO DEPT. OF MINES

ONT. DEPT. OF MINES
MINING LANDS BR.
THIS MAP FOR CHECKING PURPOSES ONLY – MUST NOT BE SOLD.

PLAN NO. M.1975

DEPARTMENT OF MINES
– ONTARIO –

PLATE I

STEEP ROCK IRON MINES LTD.

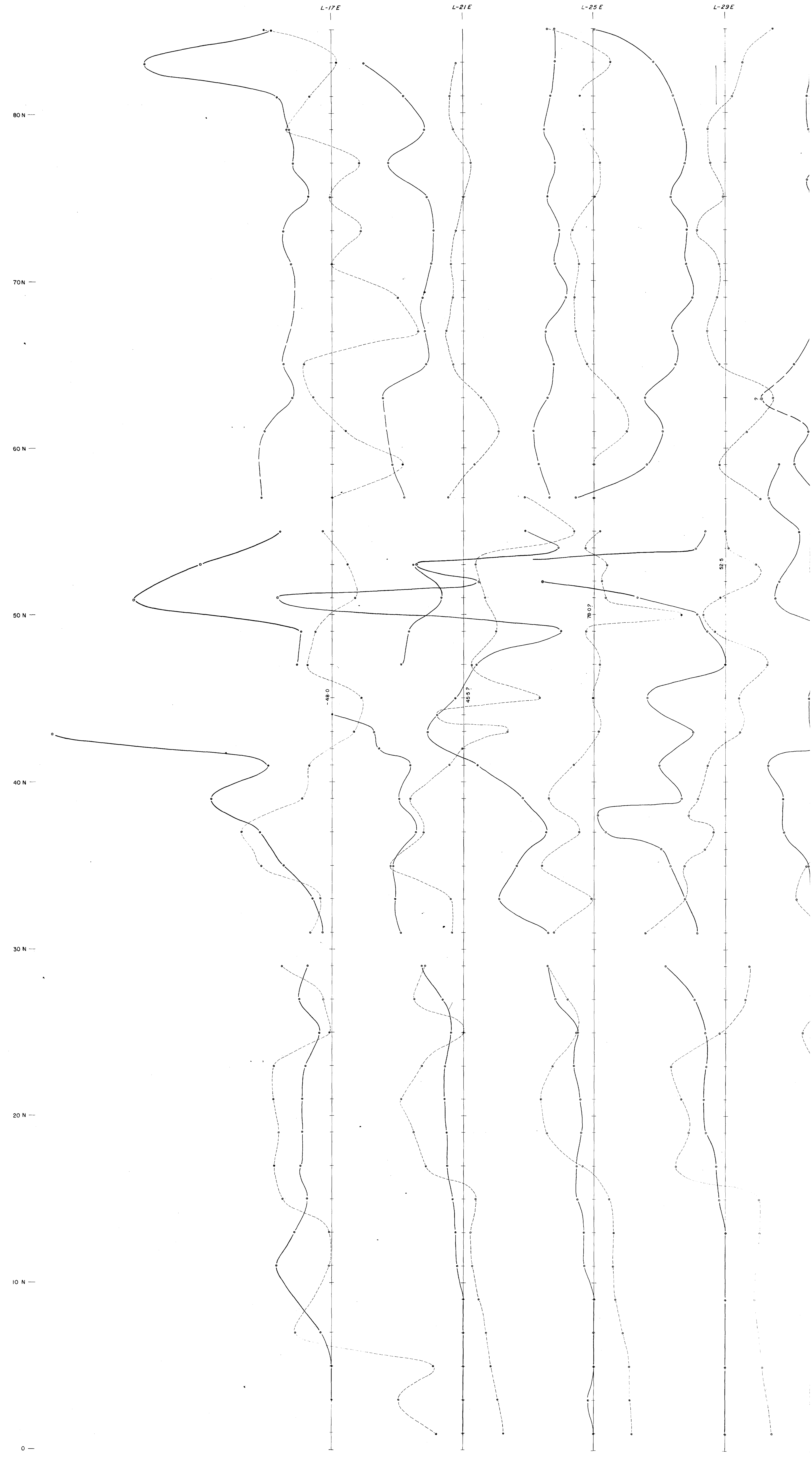
C. ALCOCK, OPTION, HIGH LAKE, KENORA MIN. DIV.

SURVEY BLOCK LAYOUT

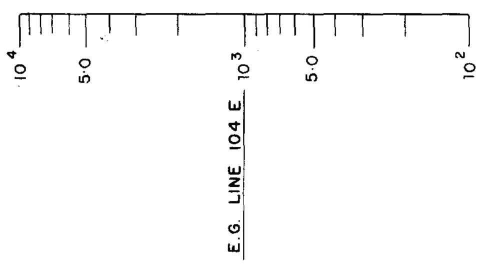
CURRENT ELECTRODE POSITIONS

DATE: February, 1966 s.s.s.	APP:
SCALE: 1 Inch = 400 Feet	

220



RESISTIVITY SCALE
ohm-meters



LEGEND

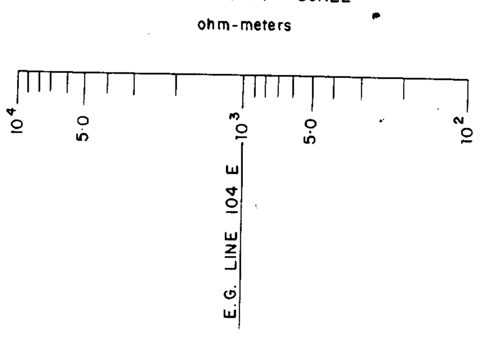
ELECTRODE CONFIGURATION........GRADIENT ARRAY
POTENTIAL ELECTRODE SPACING..........P_1 & P_2=200'
CURRENT ELECTRODE SPACING.......AS INDICATED

CHARGEABILITY ⊙——⊙ RESISTIVITY ⊙- - - -⊙

SCALE

APPARENT CHARGEABILITY.....1"= 5·0 MILLISECONDS
APPARENT RESISTIVITY.................LOGARITHMIC
HORIZONTAL SCALE...................1" = 200'
(NOTE: LINES NOT SPACED TO SCALE)

NOVEMBER 21 - DECEMBER 21 1965
JANUARY 3 - FEBRUARY 26 1966



LEGEND

ELECTRODE CONFIGURATION......... GRADIENT ARRAY
POTENTIAL ELECTRODE SPACING........... P_1 & P_2 = 200'
CURRENT ELECTRODE SPACING........ AS INDICATED

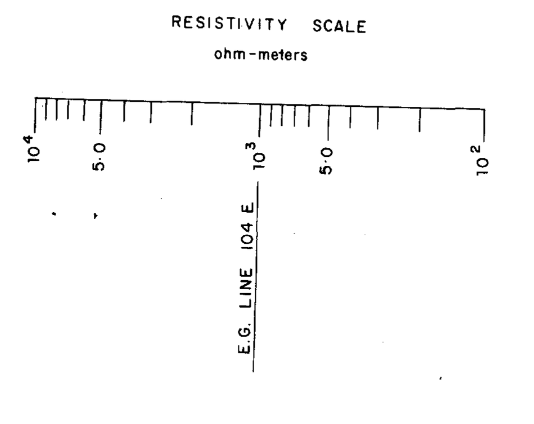
CHARGEABILITY ⊙———⊙ RESISTIVITY ⊙– – – –⊙

SCALE

APPARENT CHARGEABILITY......1" = 5·0 MILLISECONDS
APPARENT RESISTIVITY.................. LOGARITHMIC
HORIZONTAL SCALE..................... 1" = 200'
(NOTE: LINES NOT SPACED TO SCALE)

NOVEMBER 21 – DECEMBER 21 1965
JANUARY 3 – FEBRUARY 26 1966

240



LEGEND

ELECTRODE CONFIGURATION........ GRADIENT ARRAY

POTENTIAL ELECTRODE SPACING........... P_1 & P_2=200'

CURRENT ELECTRODE SPACING........AS INDICATED

CHARGEABILITY ⊙——⊙ RESISTIVITY ⊙– – – –⊙

SCALE

APPARENT CHARGEABILITY.....1" = 5·0 MILLISECONDS

APPARENT RESISTIVITY.................LOGARITHMIC

HORIZONTAL SCALE....................1" = 200'

(NOTE: LINES NOT SPACED TO SCALE)

NOVEMBER 21 – DECEMBER 21 1965

JANUARY 3 – FEBRUARY 26 1966


L-96 E
L-100 E
L-104 E
L-108 E
L-112 E
80 N
70 N
60 N
50 N
40 N
30 N
20 N
10 N
0
23.4 ?
16.6 ?
23.4 ?
36.4 ?
MASKING
22.0 ?
70.0 ? 35.0 ?
δ = 100'
N.R.
RESISTIVITY SCALE
ohm-meters
E.G. LINE 104 E
LEGEND
ELECTRODE CONFIGURATION........ GRADIENT ARRAY
POTENTIAL ELECTRODE SPACING............ P1 & P2 = 200'
CURRENT ELECTRODE SPACING........ AS INDICATED
CHARGEABILITY RESISTIVITY
SCALE
APPARENT CHARGEABILITY..... 1" = 5.0 MILLISECONDS
APPARENT RESISTIVITY................ LOGARITHMIC
HORIZONTAL SCALE.......................1" = 200'
(NOTE: LINES NOT SPACED TO SCALE)
NOVEMBER 21 - DECEMBER 21 1965
JANUARY 3 - FEBRUARY 26 1966

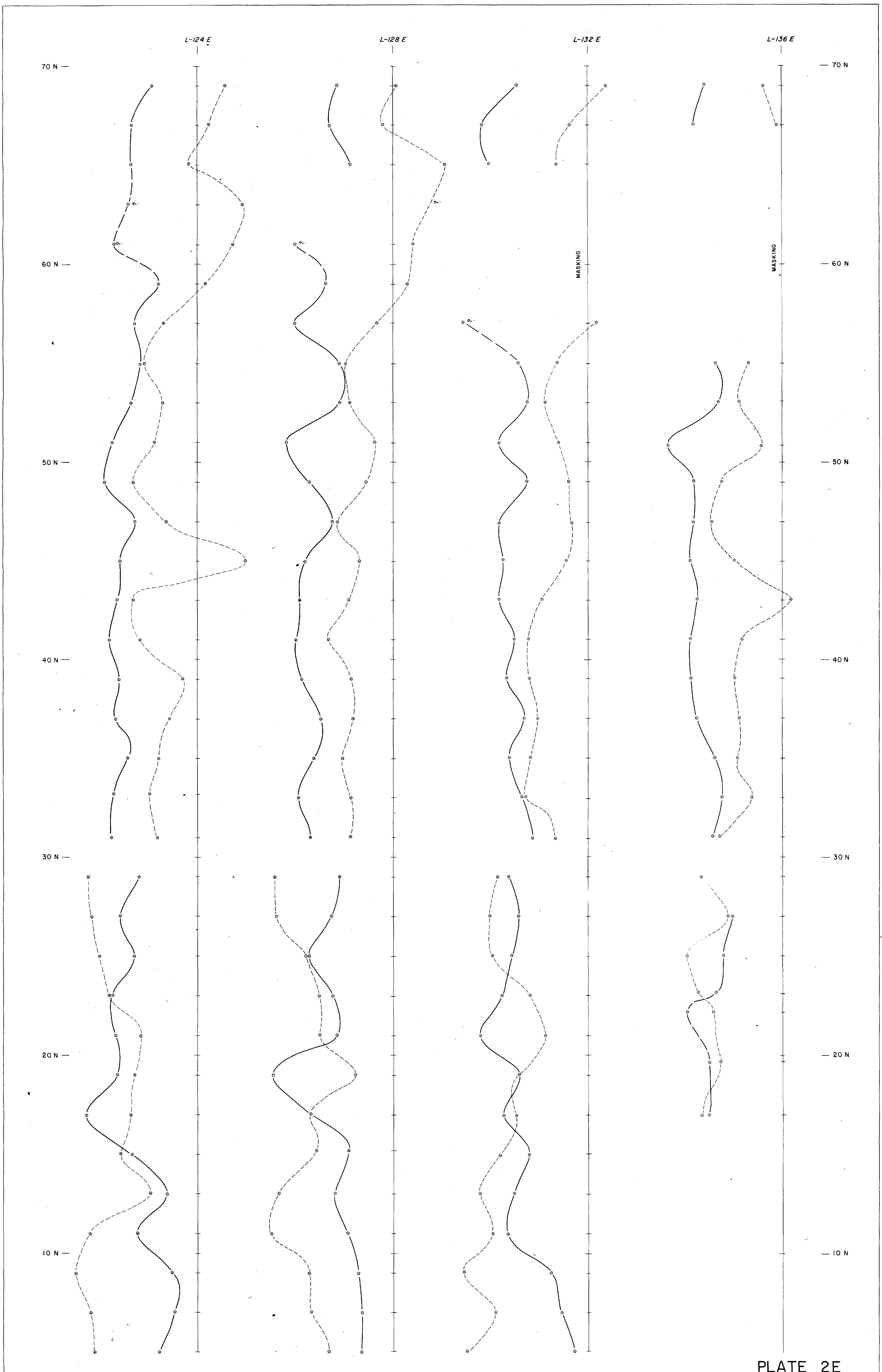
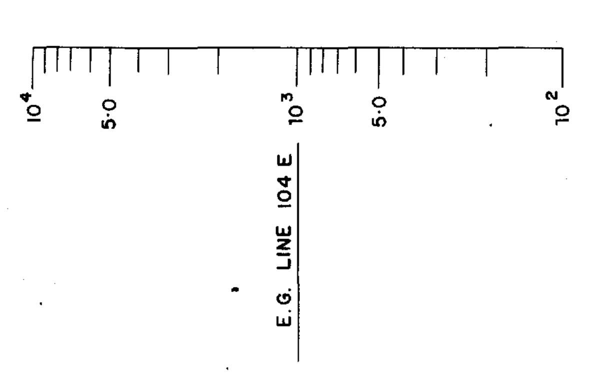


PLATE 2E

RESISTIVITY SCALE
ohm-meters



LEGEND

ELECTRODE CONFIGURATION......... GRADIENT ARRAY
POTENTIAL ELECTRODE SPACING........... P_1 & P_2 = 200'
CURRENT ELECTRODE SPACING........ AS INDICATED

CHARGEABILITY ⊙———⊙ RESISTIVITY ⊙- - - - -⊙

SCALE

APPARENT CHARGEABILITY.....1" = 5·0 MILLISECONDS
APPARENT RESISTIVITY.................LOGARITHMIC
HORIZONTAL SCALE...................1" = 200'
(NOTE: LINES NOT SPACED TO SCALE)

NOVEMBER 21 – DECEMBER 21 1965
JANUARY 3 – FEBRUARY 26 1966

(APPROX.)

INDUCED POLARIZATION SURVEY

PROFILE PRESENTATION

HIGH LAKE AREA, ONTARIO

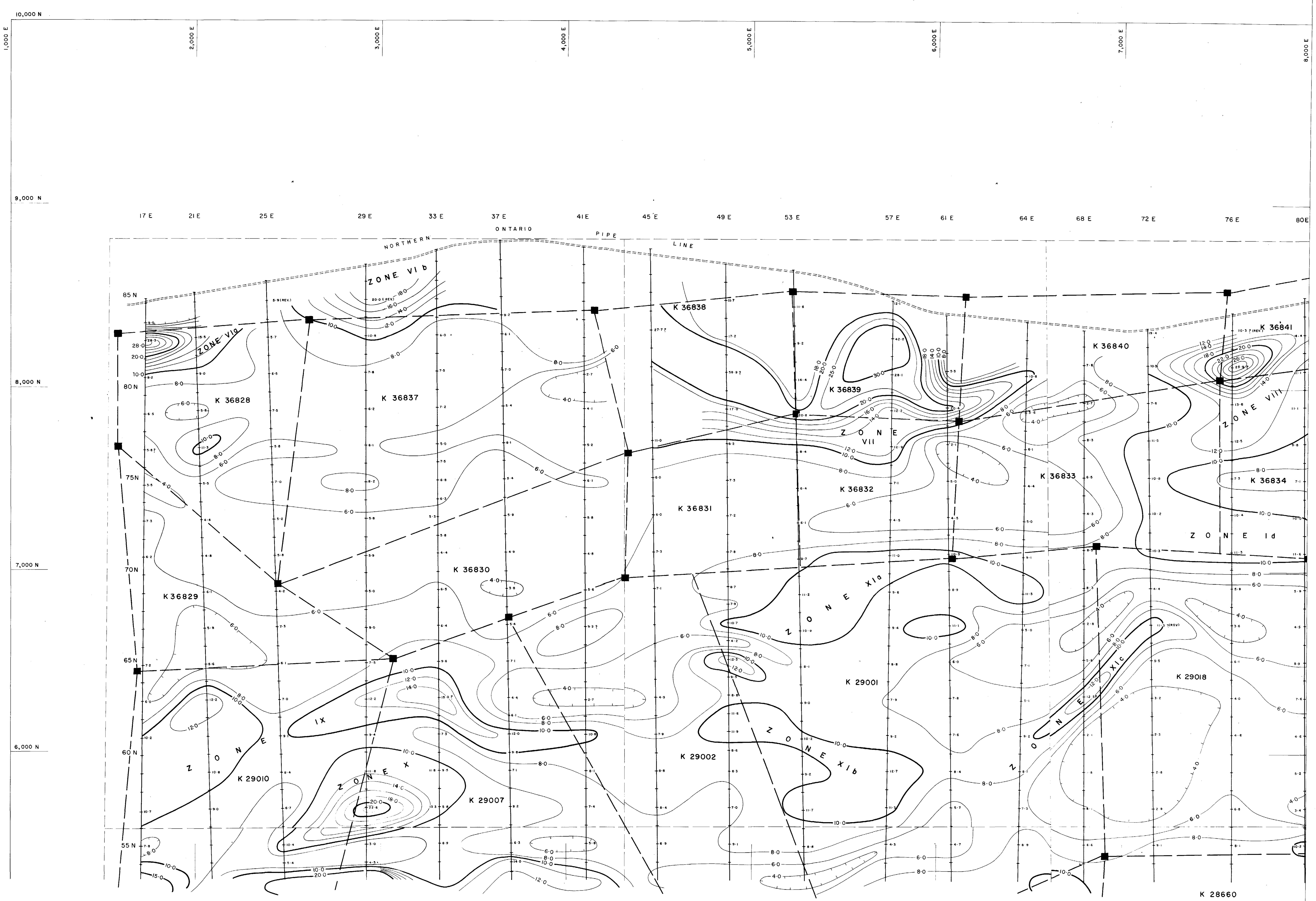
FOR

STEEP ROCK IRON MINES LTD.

BY

CANADIAN AERO Mineral Surveys LTD.
OTTAWA & TORONTO
ONT. CANADA.

C.A.M.S.-6019



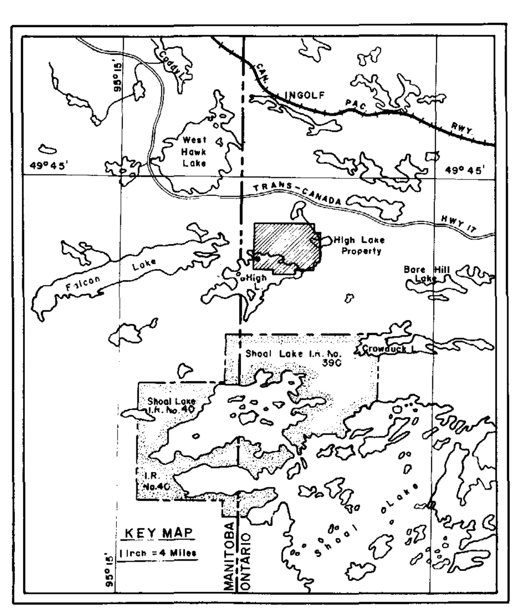


PLATE 3A

INDUCED POLARIZATION SURVEY

CHARGEABILITY CONTOUR PLAN

HIGH LAKE AREA, ONTARIO

FOR

STEEP ROCK IRON MINES LTD.

BY

CANADIAN AERO Mineral Surveys LTD.
OTTAWA & TORONTO ONT, CANADA

LEGEND

ELECTRODE CONFIGURATION........GRADIENT ARRAY
POTENTIAL ELECTRODE SPACING........200 FEET
CURRENT ELECTRODE SPACING.........4000' & 5000'
INDEX CONTOUR
INTERMEDIATE CONTOUR
CONTOUR INTERVAL..............2·0 MILLISECONDS

SCALE
1 INCH = 200 FEET

(APPROX.)

NOVEMBER 21 - DECEMBER 21 1965
JANUARY 3 - FEBRUARY 26 1966

63.1996

280

C.A.M.S. - 6019

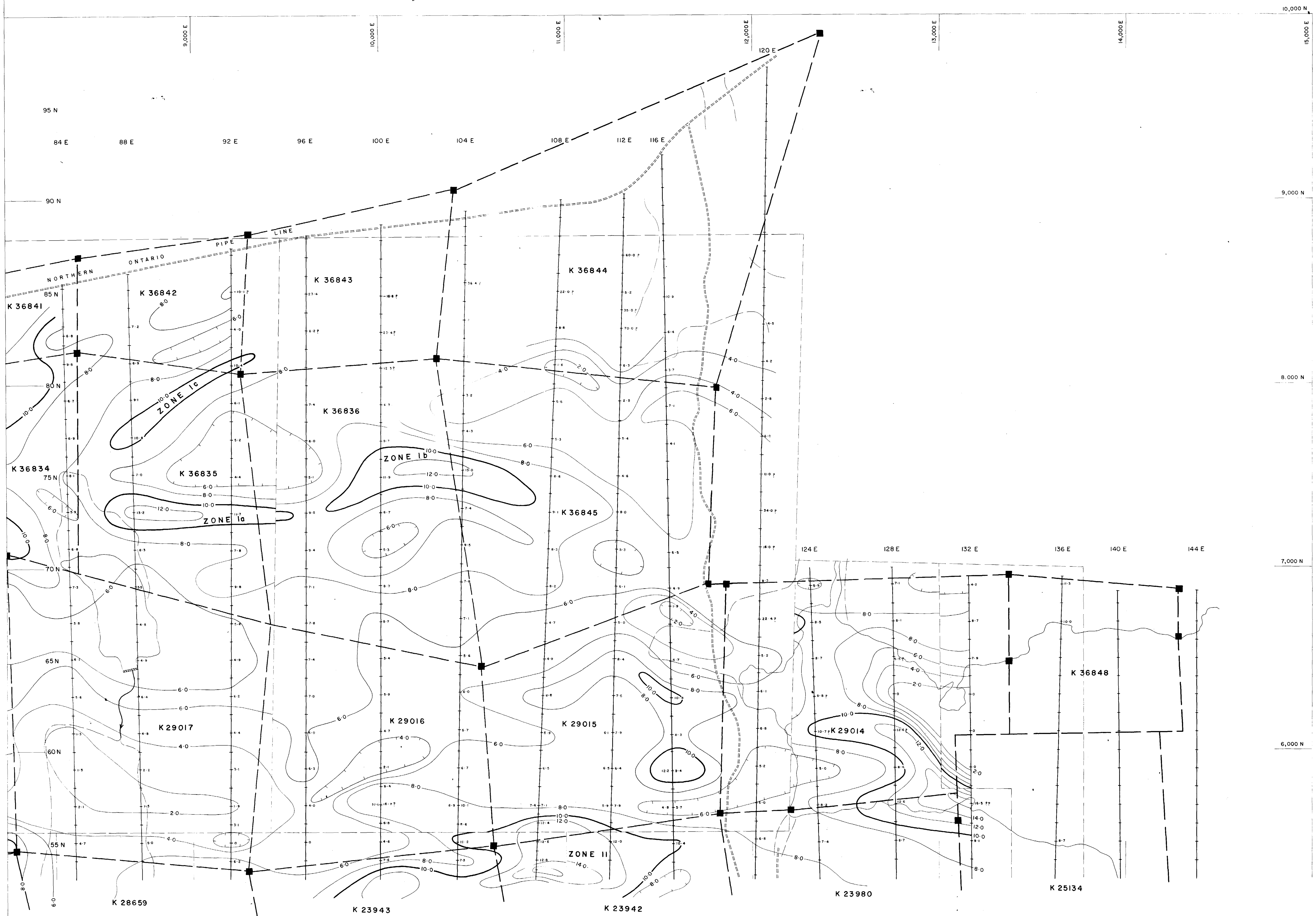


PLATE 3B

LEGEND

ELECTRODE CONFIGURATION .... GRADIENT ARRAY
POTENTIAL ELECTRODE SPACING .... 200 FEET
CURRENT ELECTRODE SPACING .... 4000' & 5000'
INDEX CONTOUR ....
INTERMEDIATE CONTOUR ....
CONTOUR INTERVAL .... 2·0 MILLISECONDS

SCALE
1 INCH = 200 FEET

(APPROX.)

NOVEMBER 21 - DECEMBER 21 1965
JANUARY 3 - FEBRUARY 26 1966

INDUCED POLARIZATION SURVEY

CHARGEABILITY CONTOUR PLAN

HIGH LAKE AREA, ONTARIO

FOR

STEEP ROCK IRON MINES LTD.

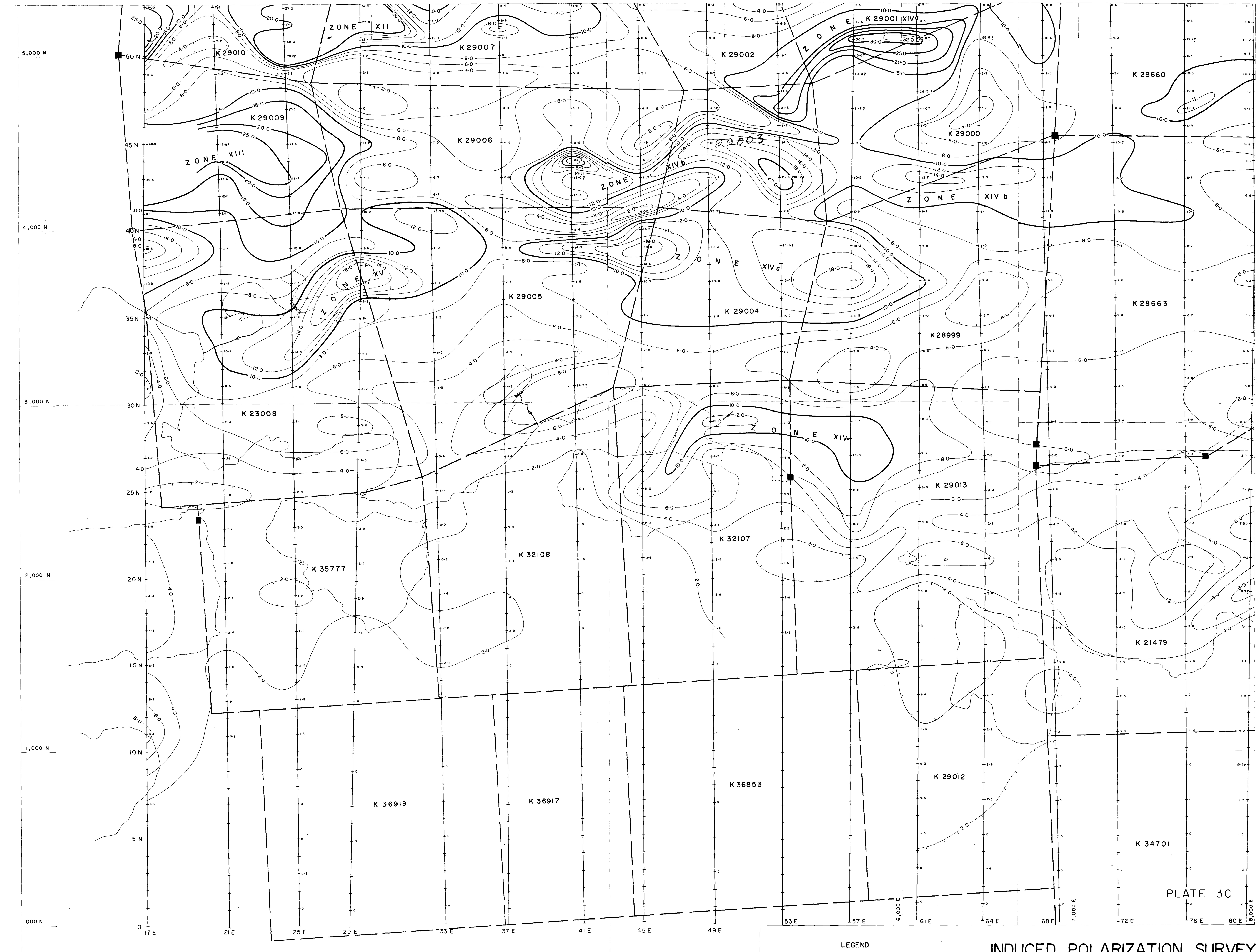
BY

CANADIAN AERO Mineral Surveys LTD.
OTTAWA & TORONTO ONT. CANADA

63.1996

C.A.M.S. - 6019

290



INDUCED POLARIZATION SURVEY

CHARGEABILITY CONTOUR PLAN

HIGH LAKE AREA, ONTARIO

FOR

STEEP ROCK IRON MINES LTD.

BY

CANADIAN AERO Mineral Surveys LTD.
OTTAWA & TORONTO ONT., CANADA

LEGEND

ELECTRODE CONFIGURATION .... GRADIENT ARRAY
POTENTIAL ELECTRODE SPACING .... 200 FEET
CURRENT ELECTRODE SPACING .... 4000' & 5000'
INDEX CONTOUR ....
INTERMEDIATE CONTOUR ....
CONTOUR INTERVAL .... 2·0 MILLISECONDS

SCALE

1 INCH = 200 FEET

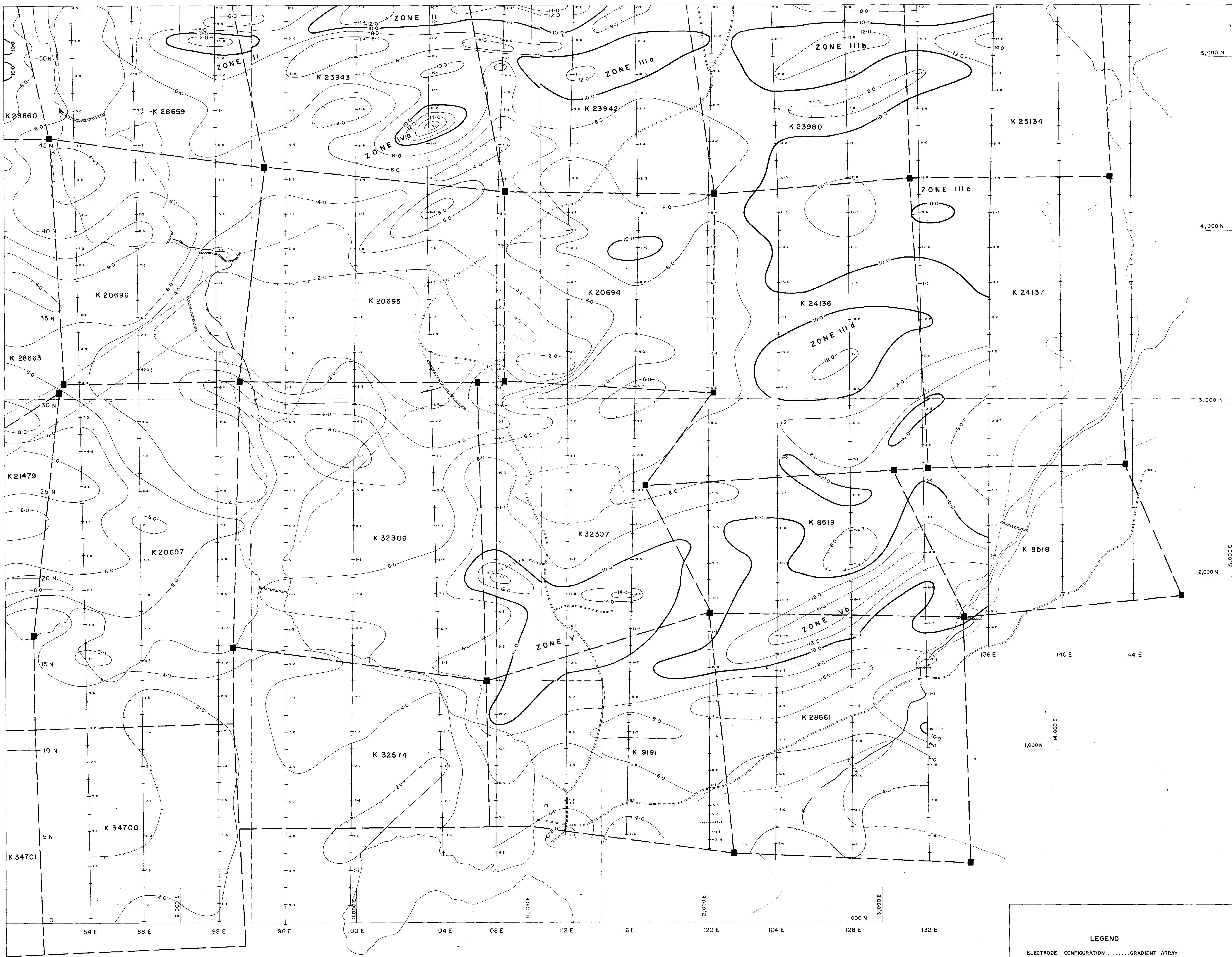
(APPROX.)

NOVEMBER 21 – DECEMBER 21 1965
JANUARY 3 – FEBRUARY 26 1966

63.1996

C.A.M.S. - 6019

300



INDUCED POLARIZATION SURVEY

CHARGEABILITY CONTOUR PLAN

HIGH LAKE AREA, ONTARIO

FOR

STEEP ROCK IRON MINES LTD.

BY

CANADIAN AERO Mineral Surveys LTD.
OTTAWA & TORONTO ONT. CANADA

LEGEND

ELECTRODE CONFIGURATION.........GRADIENT ARRAY
POTENTIAL ELECTRODE SPACING........200 FEET
CURRENT ELECTRODE SPACING........4000' & 5000'
INDEX CONTOUR
INTERMEDIATE CONTOUR
CONTOUR INTERVAL..............2·0 MILLISECONDS

SCALE
1 INCH = 200 FEET

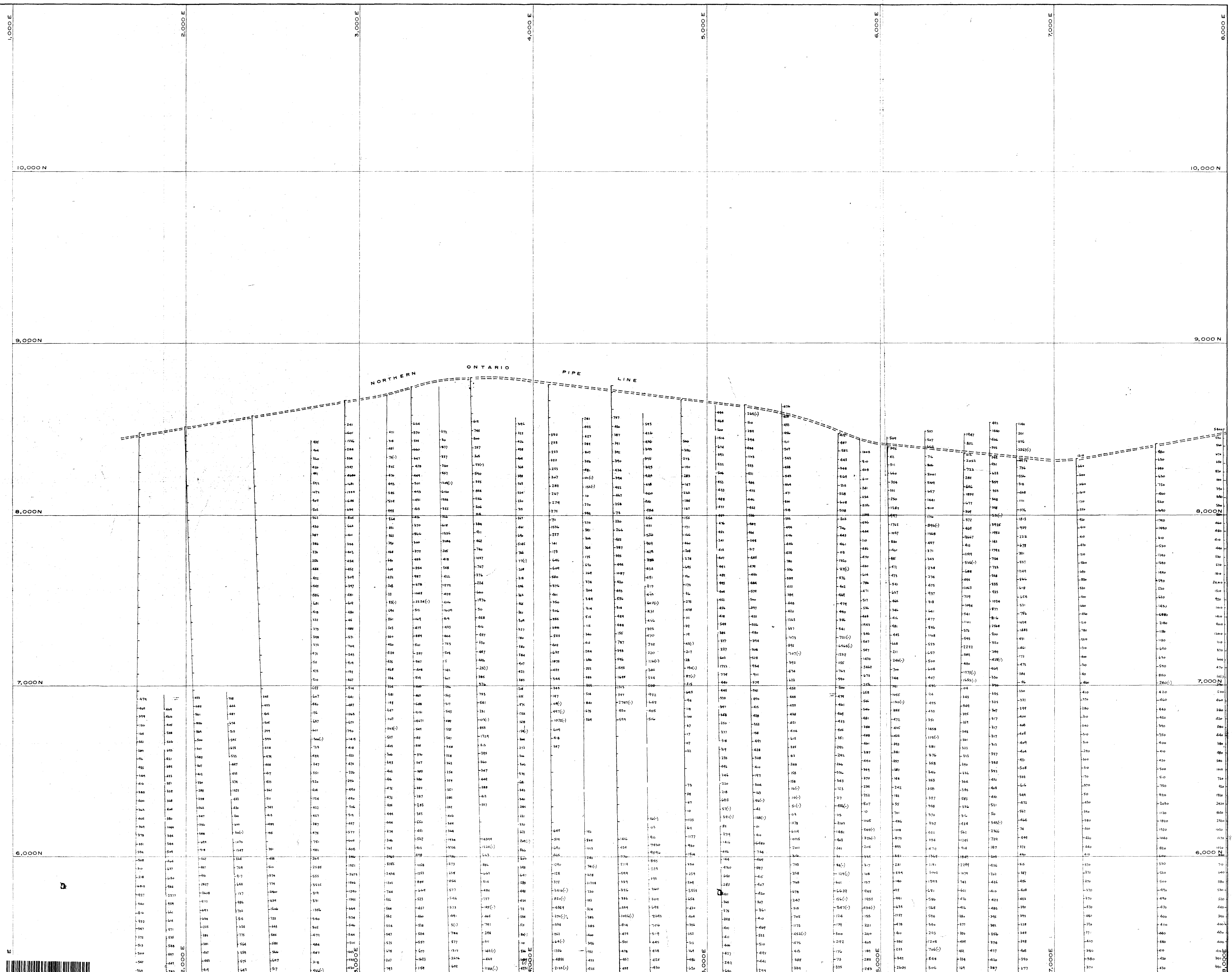
(APPROX.)

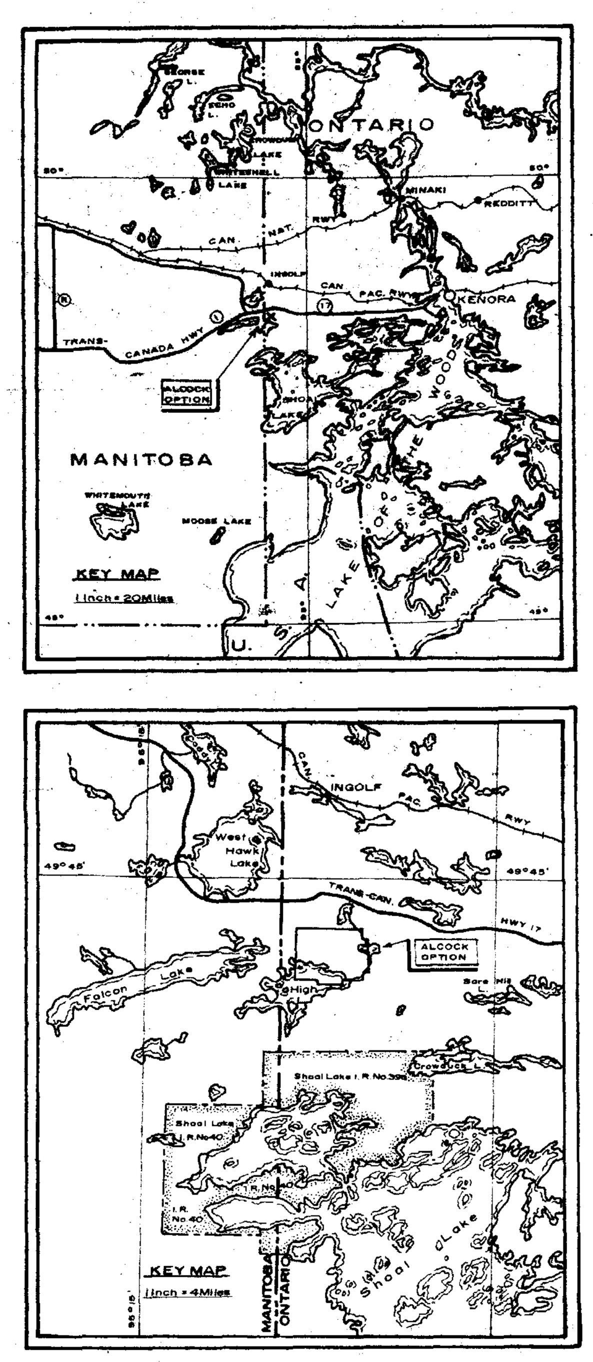
NOVEMBER 21 – DECEMBER 21 1965
JANUARY 3 – FEBRUARY 26 1966

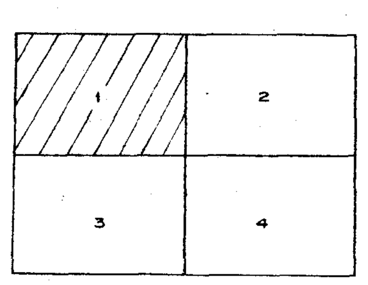
63.1994

310

C.A.M.S. - 6019







SCALE OF FEET

0 50 100 200 300 400

N.T.S. REFERENCE 52 – E/11

STEEP ROCK IRON MINES LTD.

C. ALCOCK OPTION, HIGH LAKE, KENORA MIN. DIV.

MAGNETOMETER SURVEY

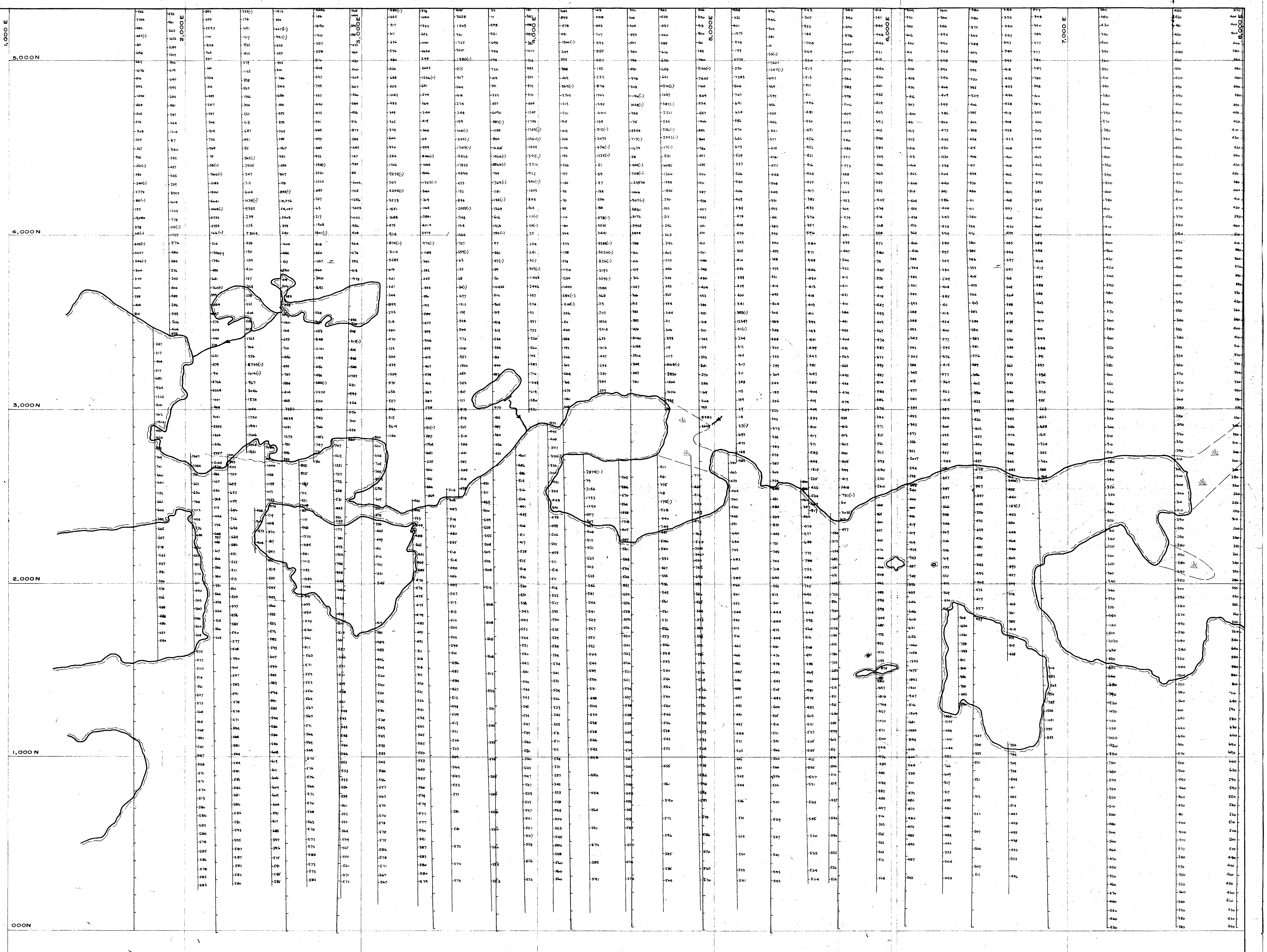
Station Values in Gammas

DATE: January, 1966 S.S.S.	APP:
SCALE: 1 Inch = 200 Feet	

63.1996

320


9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
14,000 E
10,000 N
9,000 N
8,000 N
15,000 E
7,000 N
6,000 N
NORTHERN ONTARIO PIPE LINE
1
2
3
4
N.T.S. REFERENCE 52-E/1
STEEP ROCK IRON MINES LTD.
C. ALCOCK, OPTION, HIGH LAKE, KENORA MIN. DIV.
MAGNETOMETER SURVEY
Total Field Values in Gammas
DATE: January, 1966
SCALE: 1 Inch = 200 Feet
APP.
330
63.1996



SCALE OF FEET
0 50 100 200 300 400

N.T.S. REFERENCE 52 - E/11

STEEP ROCK IRON MINES LTD.

C. ALCOCK OPTION, HIGH LAKE, KENORA MIN. DIV.

MAGNETOMETER SURVEY

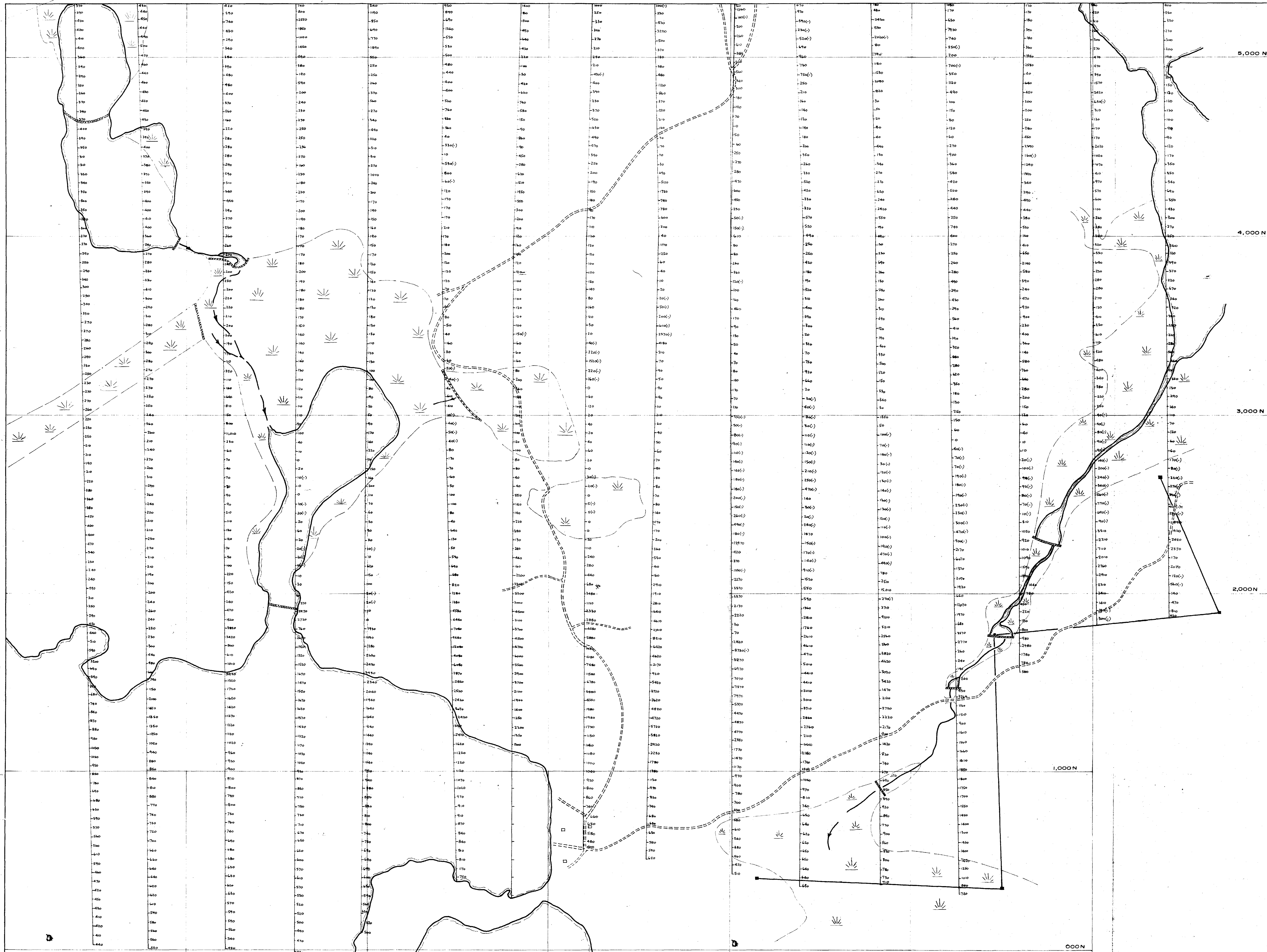
Station Values in Gammas

DATE: January, 1966

SCALE: 1 inch = 200 Feet

63.1996

340



N.T.S. REFERENCE 52 - E/11

STEEP ROCK IRON MINES LTD.

C. ALCOCK OPTION, HIGH LAKE, KENORA MIN. DIV.

MAGNETOMETER SURVEY

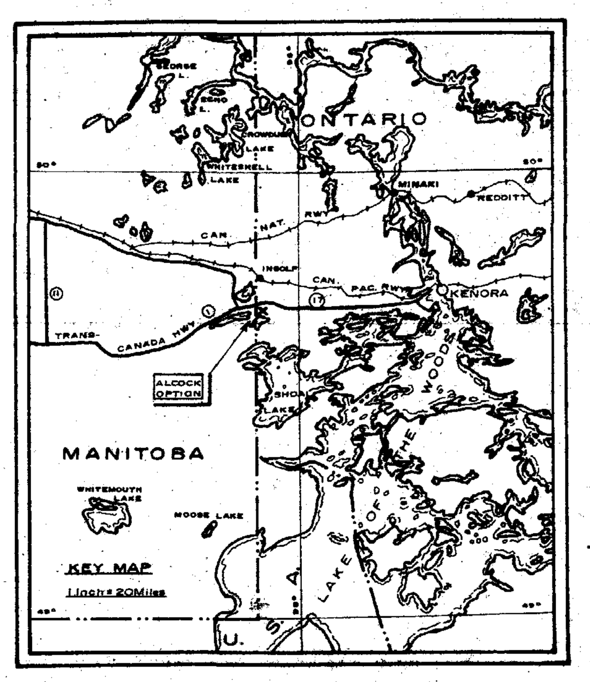
Total Field Values in Gammas

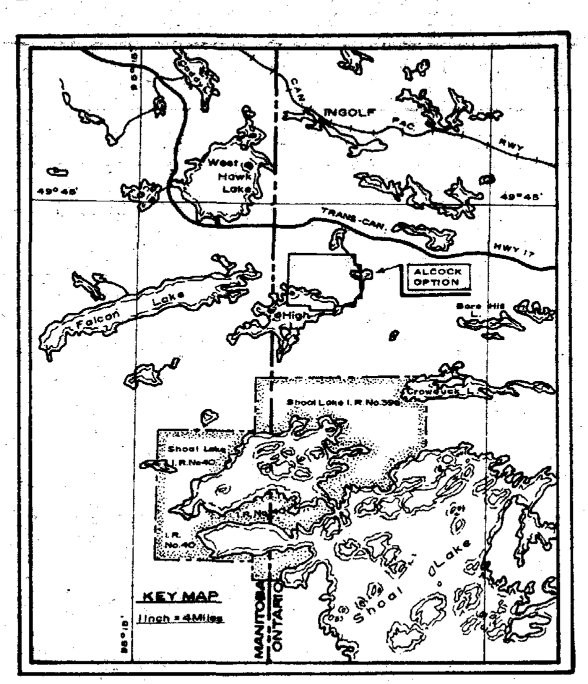
DATE: January, 1966	S.S.S.	APP.
SCALE: 1 Inch = 200 Feet		

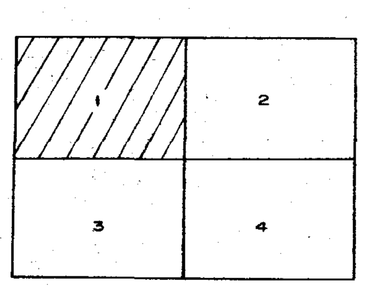
63.1996

350

	10,000 gammas and over
	9,000 gammas — 10,000 gammas
	8,000 gammas — 9,000 gammas
	7,000 gammas — 8,000 gammas
	6,000 gammas — 7,000 gammas
	5,000 gammas — 6,000 gammas
	4,000 gammas — 5,000 gammas
	3,000 gammas — 4,000 gammas
	2,000 gammas — 3,000 gammas
	1,000 gammas — 2,000 gammas
	500 gammas — 1,000 gammas
	0 gammas — 500 gammas
	Less than 0 gammas



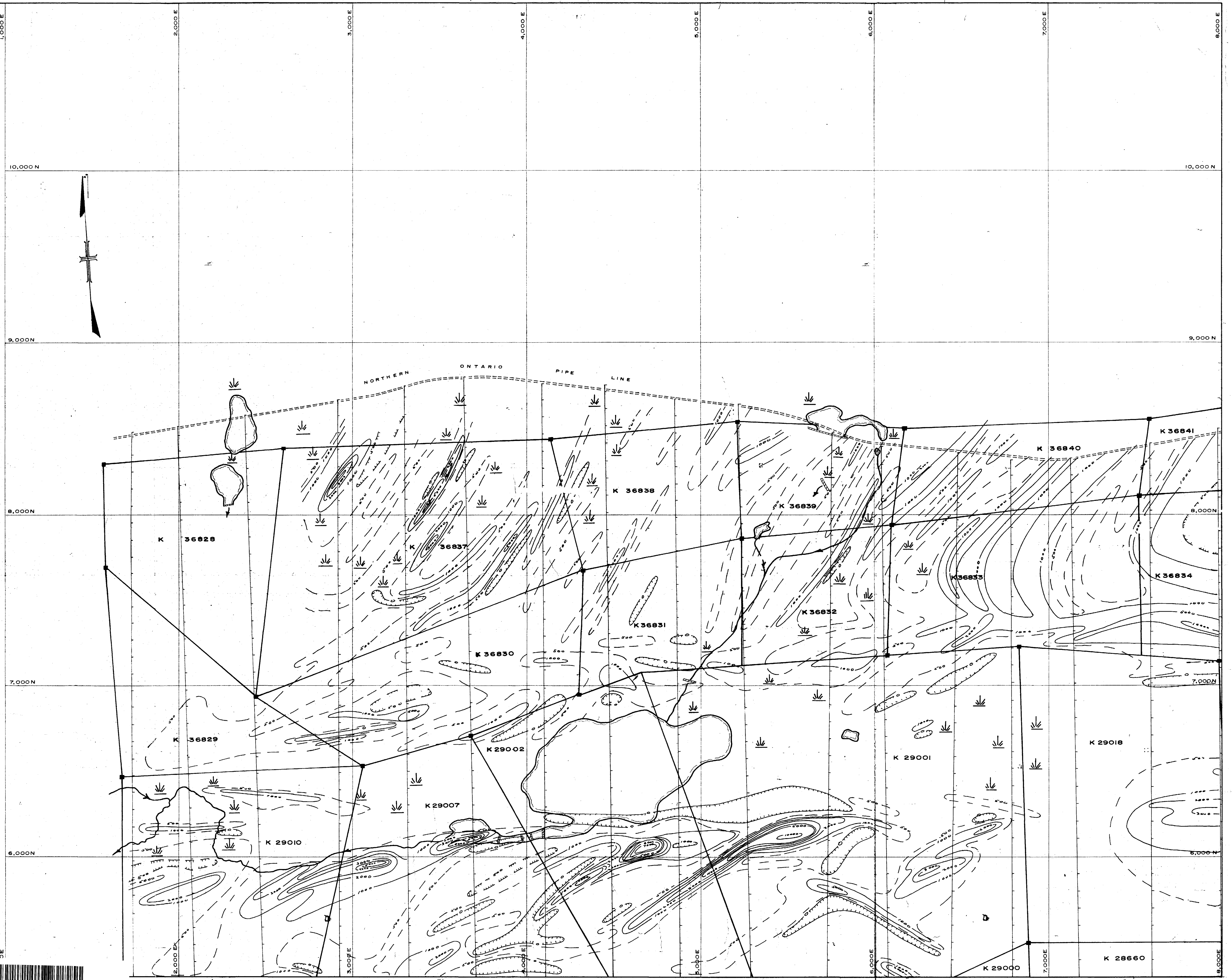




SCALE OF FEET

0 50 100 200 300 400

N.T.S. REFERENCE 52 - E/11



STEEP ROCK IRON MINES LTD.

C. ALCOCK OPTION, HIGH LAKE, KENORA MIN. DIV.

MAGNETOMETER SURVEY

Contour Interval 1000 Gammas

DATE: APRIL , 1966

SCALE: 1 Inch = 200 Feet

APP:

360

STEEP ROCK IRON MINES LTD.

C. ALCOCK, OPTION, HIGH LAKE, KENORA MIN. DIV.

MAGNETOMETER SURVEY

Contour Interval 1000 Gammas

DATE: APRIL, 1966 | APP:

SCALE: 1 inch = 200 Feet

370


K 29010
K 29007
K 29002
K 29001
K 28660
K29009
K 29006
K 29003
K 29000
K29008
K 29004
K 28999
K 28663
K29005
K 32108
K 32107
K29013
K 21479
K 35777
K 36917
K 36853
K 29012
K 34701
K -36919
5,000 N
4,000 N
3,000 N
2,000 N
1,000 N
OOON
1,000 E
2,000 E
3,000 E
4,000 E
5,000 E
6,000 E
7,000 E
8,000 E
10,000 gammas and over
9,000 gammas — 10,000 gammas
8,000 gammas — 9,000 gammas
7,000 gammas — 8,000 gammas
6,000 gammas — 7,000 gammas
5,000 gammas — 6,000 gammas
4,000 gammas — 5,000 gammas
3,000 gammas — 4,000 gammas
2,000 gammas — 3,000 gammas
1,000 gammas — 2,000 gammas
500 gammas — 1,000 gammas
0 gammas — 500 gammas
Less than 0 gammas
SCALE OF FEET
N.T.S. REFERENCE 52 - E/II
STEEP ROCK IRON MINES LTD.
C. ALCOCK OPTION, HIGH LAKE, KENORA MIN. DIV.
MAGNETOMETER SURVEY
Contour Interval 1000 Gammas
DATE APRIL, 1966
SCALE 1 inch = 200 Feet
380


ELECTRUM LAKE
5,000 N
4,000 N
3,000 N
2,000 N
15,000E
K 28659
K 28660
K 28663
K 20696
K 21479
K 20697
K 34700
K 23943
K 23942
K 23980
K 25134
K 20695
K 20694
K 24136
K 24137
K 32306
K 32307
K 8519
K 8518
K 32574
K 9191
K 28661
10,000 gammas and over
9,000 gammas — 10,000 gammas
8,000 gammas — 9,000 gammas
7,000 gammas — 8,000 gammas
6,000 gammas — 7,000 gammas
5,000 gammas — 6,000 gammas
4,000 gammas — 5,000 gammas
3,000 gammas — 4,000 gammas
2,000 gammas — 3,000 gammas
1,000 gammas — 2,000 gammas
500 gammas — 1,000 gammas
0 gammas — 500 gammas
Less than 0 gammas
STEEP ROCK IRON MINES LTD.
MAGNETOMETER SURVEY
Contour Interval 1000 Gammas
APRIL
390

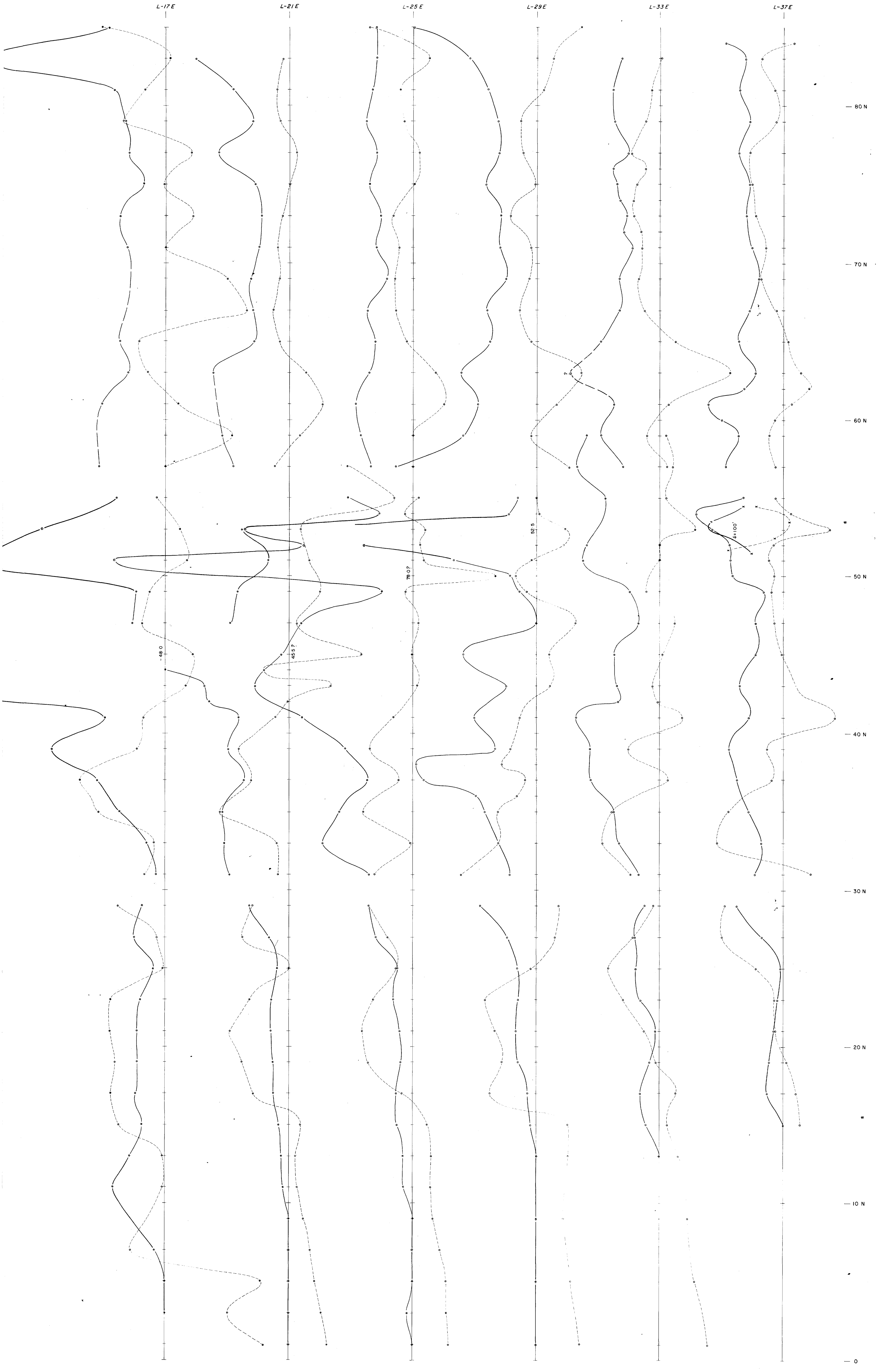


PLATE 2A

RESISTIVITY SCALE
ohm-meters

LEGEND

ELECTRODE CONFIGURATION........GRADIENT ARRAY
POTENTIAL ELECTRODE SPACING..........P_1 & P_2=200'
CURRENT ELECTRODE SPACING.......AS INDICATED

CHARGEABILITY RESISTIVITY

SCALE

APPARENT CHARGEABILITY.....1"= 5·0 MILLISECONDS
APPARENT RESISTIVITY................. LOGARITHMIC
HORIZONTAL SCALE...................1" = 200'
(NOTE: LINES NOT SPACED TO SCALE)

NOVEMBER 21 - DECEMBER 21 1965
JANUARY 3 - FEBRUARY 26 1966

(APPROX.)

INDUCED POLARIZATION SURVEY

PROFILE PRESENTATION

HIGH LAKE AREA, ONTARIO

FOR

STEEP ROCK IRON MINES LTD.

BY

CANADIAN AERO Mineral Surveys LTD.
OTTAWA & TORONTO
ONT. CANADA

C.A.M.S.– 6019

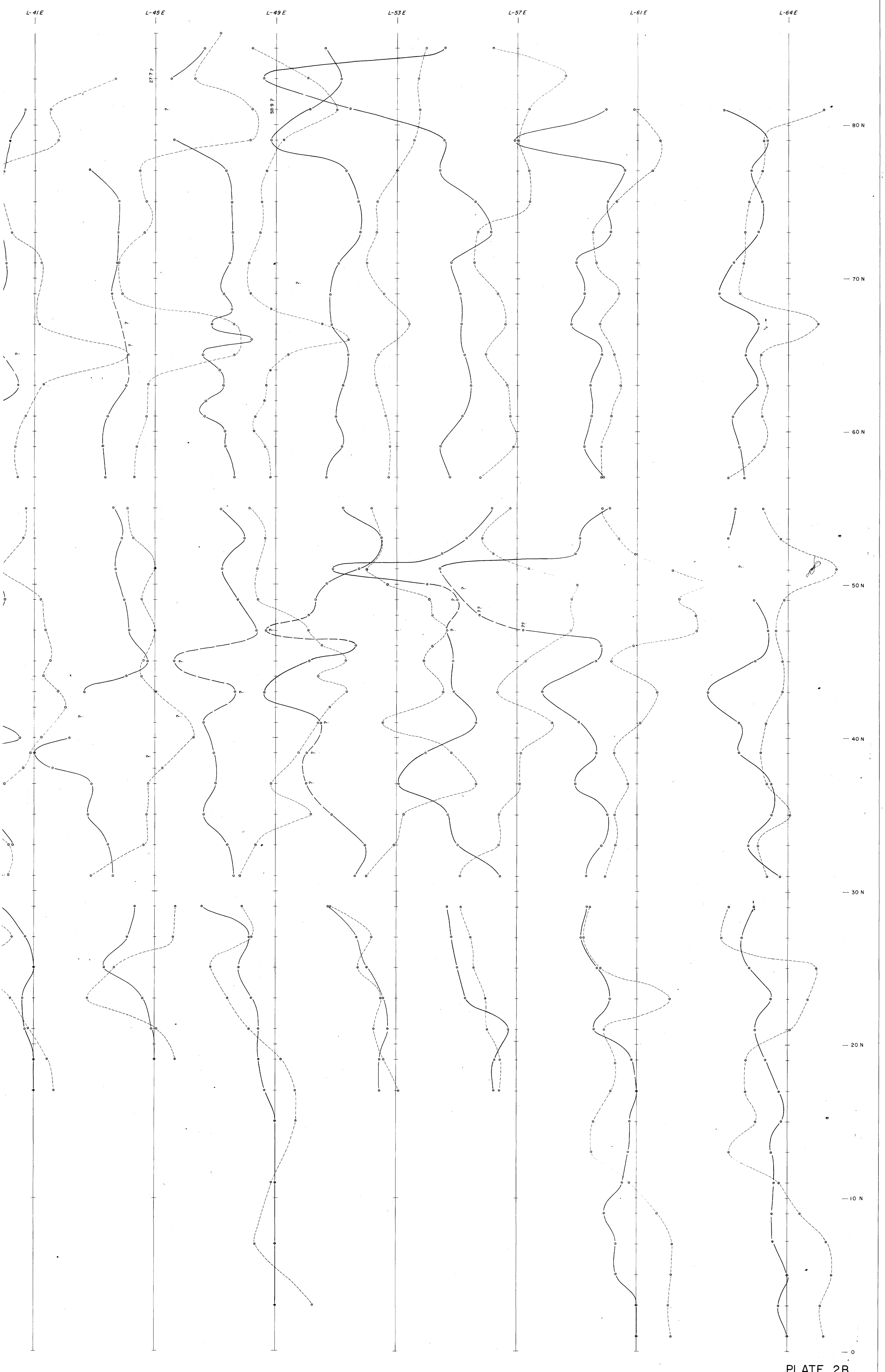
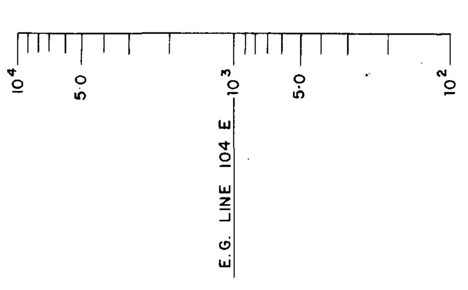


PLATE 2B



LEGEND

ELECTRODE CONFIGURATION......... GRADIENT ARRAY

POTENTIAL ELECTRODE SPACING........... P_1 & P_2 = 200'

CURRENT ELECTRODE SPACING........ AS INDICATED

CHARGEABILITY ⊙——⊙ RESISTIVITY ⊙- - - -⊙

SCALE

APPARENT CHARGEABILITY...... 1" = 5.0 MILLISECONDS

APPARENT RESISTIVITY.................. LOGARITHMIC

HORIZONTAL SCALE..................... 1" = 200'

(NOTE: LINES NOT SPACED TO SCALE)

NOVEMBER 21 – DECEMBER 21 1965
JANUARY 3 – FEBRUARY 26 1966

N (APPROX.)

INDUCED POLARIZATION SURVEY

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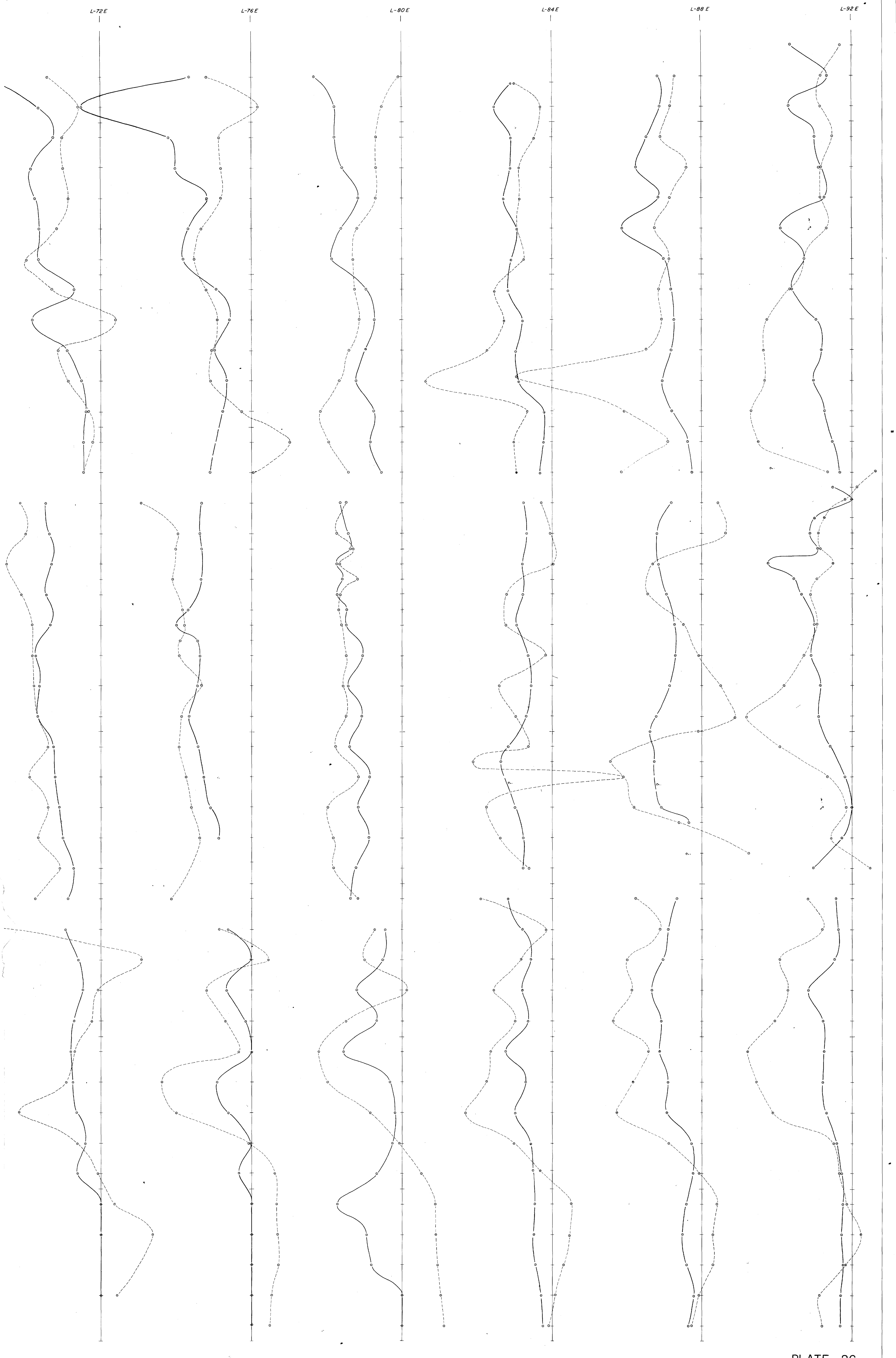
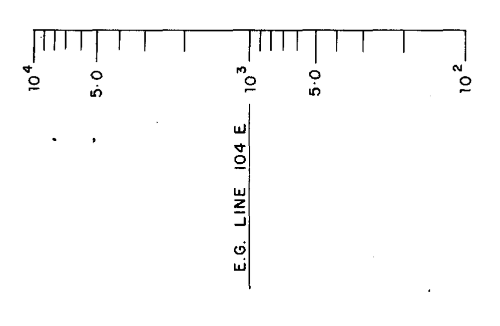


PLATE 2C



LEGEND

ELECTRODE CONFIGURATION......... GRADIENT ARRAY
POTENTIAL ELECTRODE SPACING............ P_1 & P_2 = 200'
CURRENT ELECTRODE SPACING........AS INDICATED

CHARGEABILITY RESISTIVITY

SCALE

APPARENT CHARGEABILITY......1" = 5·0 MILLISECONDS
APPARENT RESISTIVITY....................LOGARITHMIC
HORIZONTAL SCALE....................1" = 200'
(NOTE: LINES NOT SPACED TO SCALE)

NOVEMBER 21 – DECEMBER 21 1965
JANUARY 3 – FEBRUARY 26 1966

(APPROX.)

INDUCED POLARIZATION SURVEY

PROFILE PRESENTATION
HIGH LAKE AREA, ONTARIO

FOR

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