REPORT

ON

GEOPHYSICAL - GEOLOGICAL SURVEYS

KENOGAMING TOWNSHIP GOLD PROPERTY

FOR

REBA RESOURCES LIMITED

RECEIVED
JAN 29 1985
MINING LANDS SECTION

Toronto, Ontario
January 1985

W.E. Brereton, P.Eng.
MPH CONSULTING LIMITED

SUMMARY

Ground geophysical surveys (VLF-EM, IP) have been completed on the 18 claim Reba-Kenogaming gold prospect. The geophysical surveying was followed up by prospecting - geological evaluations.

Six discrete IP - anomalous zones were identified. Anomaly "B" is due to disseminated pyrite in mafic tuffs. The ramaining IP zones are interpreted to be due in whole or in part to disseminated magnetite in sheared, altered serpentinite rocks.

Gold assays on rock samples from old surface trenches on Anomaly "B" returned negligible values.

A limited program of backhoe trenching and sampling is recommended as a final evaluation of some of the IP zones.

TABLE OF CC

1.0 INTRODUCTION

Interest in the northeast portion of the Swayze greenstone belt centers around the possibility of finding stratiform pyritic gold deposits in a felsic volcaniclastic-sedimentary center which is present here. Known showings such as the old Dunvegan prospect confirm the potential for the above style of mineralization.

This report describes the results of a geophysical-geological exploration program on an 18 claim property in this area.

The purpose of the work was to investigate on the ground a number of airborne VLF anomalous zones via a program of linecutting, VLF surveying, IP surveying and follow-up prospecting-geological evaluations.

The exploration approach is described, exploration results are presented and recommendations are made to further explore the claims, all in a framework of the geology and previous mining exploration in the area.

2.0 PROPERTY

The property consists of 18 unpatented mining claims in Kenogaming Township, Porcupine Mining Division, Ontario.

The claims are numbered as follows.

Claim Numbers	Recording Date
P700048-053 inclusive	April 5, 1983
P700055-060 inclusive	April 5, 1983
P700298-301 inclusive	April 5, 1983
P700303	April 5, 1983
P699774	April 5, 1983

The property encompasses 720 acres more or less.

By virtue of 60 days of previously filed airborne assessment credits, the claims are in good standing until April 5, 1986 at which time 40 days of assessment credits per claim will be required.

Appendix 1 presents Technical Data Statements in respect of the work described herein.

Details of OMEP program OM84-5-C-84 are presented under separate cover.

3.0 LOCATION, ACCESS AND INFRASTRUCTURE

The property is centered approximately 75 km southwest of the town of Timmins in northeastern Ontario (Figure 1).

Access is relatively good. Highway 101 West passes 13 km to the north of the claim group.

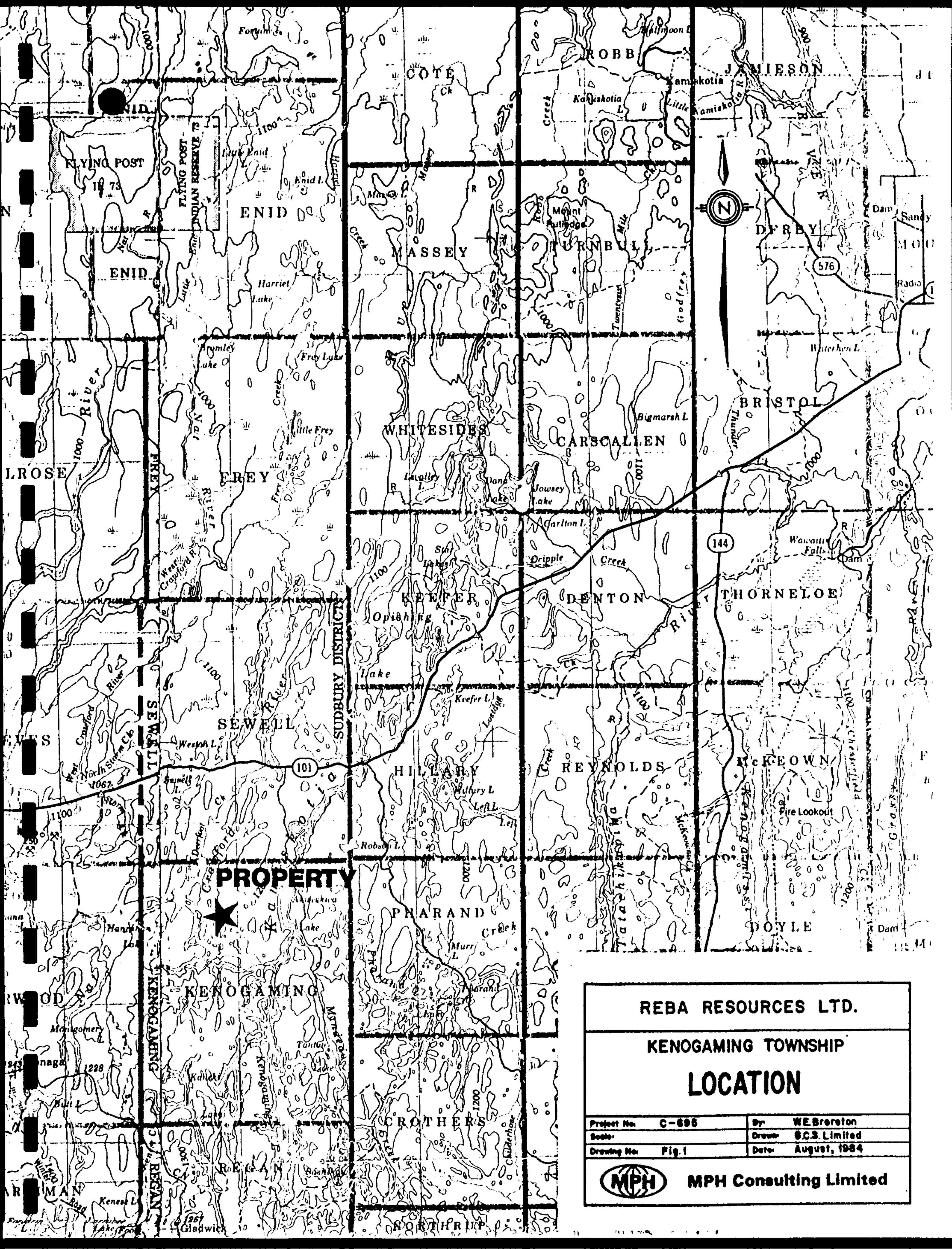
New, good quality gravel roads lead from Highway 101 to the south through the general Kenogaming-Penhorwood area. Numerous subsidiary logging roads extend off these main access roads. One of these leads directly through the Reba property as indicated on the accompanying geophysical maps.

The general area is under active development by a local lumber company (Mallette Lumber) which should ensure continued year round access.

The main line of the Canadian National Railway passes to the southwest of the property.

The main center of service and supply in the region is Timmins with a population of 45,000. All manner of mining equipment, contract services, exploration services, etc. are available here along with a skilled and stable mining work force. The smaller, nearby hamlet of Foleyet offers some food, accomodation and supply services.

Of interest, Orofino Resources Ltd. ultimately plan to construct a mill on their Silk township gold property which might be available to handle ore from other deposits in the immediate area. This is a very attractive consideration for further gold exploration in the north Swayze area. The presence of a nearby custom mill could greatly increase the economic viability of a smaller, otherwise non-economic deposit. The closest custom mills at present are those of Pamour Porcupine Mines Ltd. at Schumacher and Pamour, approximately 85 miles by truck to the east.



PROPERTY
ENID
FLYING POST
FLYING POST INDIAN RESERVE 73
COTE
ROBB
JAMIESON
Kamiskotia
MASSEY
TURNBULL
DEREY
576
FREY
WHITESIDES
CARSCALLEN
BRISTOL
Bigmarsh L
Jowsey Lake
Carlton L
144
KEEFER
DENTON
THORNELOE
SEWELL
SUDBURY DISTRICT
Keefer L
101
HILLARY
REYNOLDS
McKEOWN
Fire Lookout
PHARAND
DOYLE
KENOGAMING
CROTHERS
REGAN
NORTHRUP
Gladwick
Montgomery L
REBA RESOURCES LTD.
KENOGAMING TOWNSHIP
LOCATION
Project No. C-695
Scale:
Drawing No. Fig.1
By: W.E.Brereton
Drawn: B.C.S. Limited
Date: August, 1984
MPH
MPH Consulting Limited

4.0 GEOLOGY AND MINERAL DEPOSITS - NORTH SWAYZE GOLD AREA

4.1 General

The property is located in the northeastern extremity of the Swayze Gold Belt. The Swayze Gold Belt is located southwest of and in rocks grossly equivalent to the Timmins-Porcupine Gold Camp. The Porcupine Camp is located in the west portion of the Abitibi Greenstone Belt of the Canadian Shield. It is the largest gold-producing camp in Canada and one of the largest in the world. During the past seventy years, more than 56.3 million troy ounces of gold have been produced from 18 properties in the area.

The Swayze area contains four past-producing gold mines (Joburke, Tionaga, Halcrow-Swayze and Jerome). Other substantial gold prospects under active exploration/development in addition to Orofino include the Rundle Mine (Sulpetro-Hollinger) in Newton Township, the Kenty Mine in Swayze Township (Cumo Resources-Heron Resources) and the Jerome Mine in Osway Township (Osway Resources).

4.2 History of Exploration and Development

Initial interest in the general region was stimulated by the discovery of two major iron formation bands along the Groundhog River and Woman River in the early 1900's. Following a general waning of interest in iron deposits, gold became the principal metal sought.

Earliest gold discoveries date back to 1909 as prospectors worked westward from the Porcupine Camp which had been discovered that same year.

The first significant gold discovery in the area and subsequent staking rush was made in 1918 on the east shore of Horwood Lake. This became the property of Groundhog Gold Mines Limited in 1934.

Visible gold was discovered on what is now the property of Orofino Resources Limited in the early 1930's. This precipitated another small rush into the region.

Numerous other properties were being actively explored and developed in the Horwood Lake area at this time. The only production during this period was in 1938-39 from the Smith-Thorne (Tionaga) Mine.

Gold was then discovered in 1946 on the Joburke property in Keith Township to the north of Orofino triggering another staking rush in the northern portion of Swayze metasedimentary- metavolcanic belt.

4.3 Geology

The swayze area has been the subject of numerous geological studies since the turn of the century. The most pertinent studies in the present area are those by Laird (1935), Harding (1937), Breaks (1978) and Milne (1972).

The Swayze area represents the western extremity of the Abitibi metasedimentary-metavolcanic ("greenstone") belt of Archean age which extends for several hundred miles east - northeast to the Grenville Front east of Chibougamau.

Swayze greenstone rocks are truncated to the west against the "Kapuskasing High" structural-metamorphic zone.

The present area of interest, the Kenogaming-Penhorwood area, encompasses the northeasternmost extremity of the Swayze greenstone sub-belt.

The present property is contained within a discrete, lenticular pile of felsic volcaniclastic rocks, approximately 13 km long in an east-west direction by 6.5 km wide in the central portion of Kenogaming Township and east-central portion of Penhorwood Township (Ontario Department of Mines Map 2231). the main felsic pile is bounded to the east by the Tanton Lake Fault although a narrow wedge of felsic rocks does extend to the east into adjoining Pharand Township. Rock types include mainly felsic volcaniclastic rocks (tuffs, tuff-breccias, sediments) and some flows. The volcanics are extensively intruded by mafic to ultramafic rocks. A major oxide facies iron formation extends along the entire north boundary of the felsic pile and forms the contact with adjoining mafic metavolcanics. Granitic batholith complexes occur to the east and south.

Extensive areas of mafic-ultramafic intrusives crop out to the west of the property area. One of these hosts the Steetly talc/asbestos mine.

4.4 Mineral Deposits

Economic interest in the area has focussed on gold, silver, asbestos, talc, copper-nickel iron, copper-zinc and barite deposits. There has been economic production of the first four of the above mineral commodities. Gold and silver have been won primarily from structurally-controlled, quartz vein-type deposits, e.g. Joburke mine, Keith Township which produced 66,500 ounces of gold from 1973-1979. Asbestos and, lately, talc are produced at the Steetly Talc Mine in Reeves Township to the northwest of th present property. The Orofino Mine, 40 km southwest of the property was actively explored in 1983-84 with a view to a production decision when gold prices improve. Drill indicated reserves are currently quoted in the range of 1,000,000 tons of 0.17 oz Au/ton.

5.0 REBA PROPERTY - GEOLOGY AND EXPLORATION HISTORY

5.1 Geology

The property is underlain virtually entirely by felsic volcaniclastic rocks with a preponderance of felsic tuff and tuff-breccia (Figure 2).

A small ultramafic body is indicated to be present east of Logie Lake.

A sill-like amphibolite intrusive transects the southwest portion of the group.

Bedrock strikes are essentially east-west with steep to sub-vertical dips.

5.2 Exploration History

There is no record of any detailed exploration on the present property in assessment files.

Other work in the immediate area however is of interest in terms of the Reba claims. The most significant in this regard is probably on the property immediately adjoining to the north and east, namely the Carl Creek-Bearcat Explorations ground which encompasses the old Dunvegan gold-zinc and Jonsmith gold prospects.

Gold was first discovered in the area now encompasses by the Carl Creek property in 1947 by a prospector working for Hoodoo Lake Mines. Subsequent prospecting, trenching and sampling were concentrated on five of their claims where gold discoveries had been made.

PRECAMBRIAN[b]

PROTEROZOIC

LATE MAFIC INTRUSIVE ROCKS

10 Diabase, unsubdivided.
10a Olivine diabase (dikes) Abitibi-type.

9 Diabase, unsubdivided.
9a Quartz diabase (dikes).
9b Porphyritic quartz diabase (dikes).

INTRUSIVE CONTACT

ARCHEAN

LATE FELSIC INTRUSIVE ROCKS

8 Granitic rocks.
8a Biotite-hornblende granodiorite.
8b Biotite granodiorite, biotite quartz monzonite.
8c Xenolithic granodiorite.
8d Diorite, hybrid diorite, syenite.
8e Muscovite-albite trondhjemite.
8f Leucocratic trondhjemite.
8g Pegmatite.
8h Migmatite.

INTRUSIVE CONTACT

EARLY FELSIC INTRUSIVE ROCKS

7 Granitic rocks.
7a Biotite trondhjemite gneiss.
7b Feldspar porphyry, quartz-feldspar porphyry.
7c Quartz porphyry.
7d Hybrid granodiorite gneiss.
7e Migmatite.
7f Hornblende-chlorite-feldspar porphyry.

INTRUSIVE CONTACT

ULTRAMAFIC INTRUSIVE ROCKS

6 Unsubdivided.
6a Grey to green-grey serpentinite.
6b Dark grey to black serpentinite.
6c Coarse blade textured serpentinite (chicken track rock).
6d Mineralogically layered serpentinite.
6e Sheared serpentinite.
6f Asbestos-bearing serpentinite.
6g Chloritic tremolitic serpentinite.†
6h Talcose serpentinite.
6k Rusty carbonatized serpentinite.

INTRUSIVE CONTACT

EARLY MAFIC INTRUSIVE ROCKS

5 Unsubdivided.
5a Tremolitic actinolitic amphibolite.
5b Actinolitic hornblendic amphibolite.
5c Sheared amphibolite.
5d Porphyritic amphibolite.
5e Garnet amphibolite.
5f Dioritic amphibolite.

INTRUSIVE CONTACT

IRON FORMATION

4 Unsubdivided.
4a Magnetite-chert iron formation.
4b Carbonate-chert iron formation.
4c Amphibole-chert iron formation.
4d Garnet-magnetite amphibolite.
4e Chert.
4f Pyritic slate, graphitic slate.

DETRITAL METASEDIMENTS

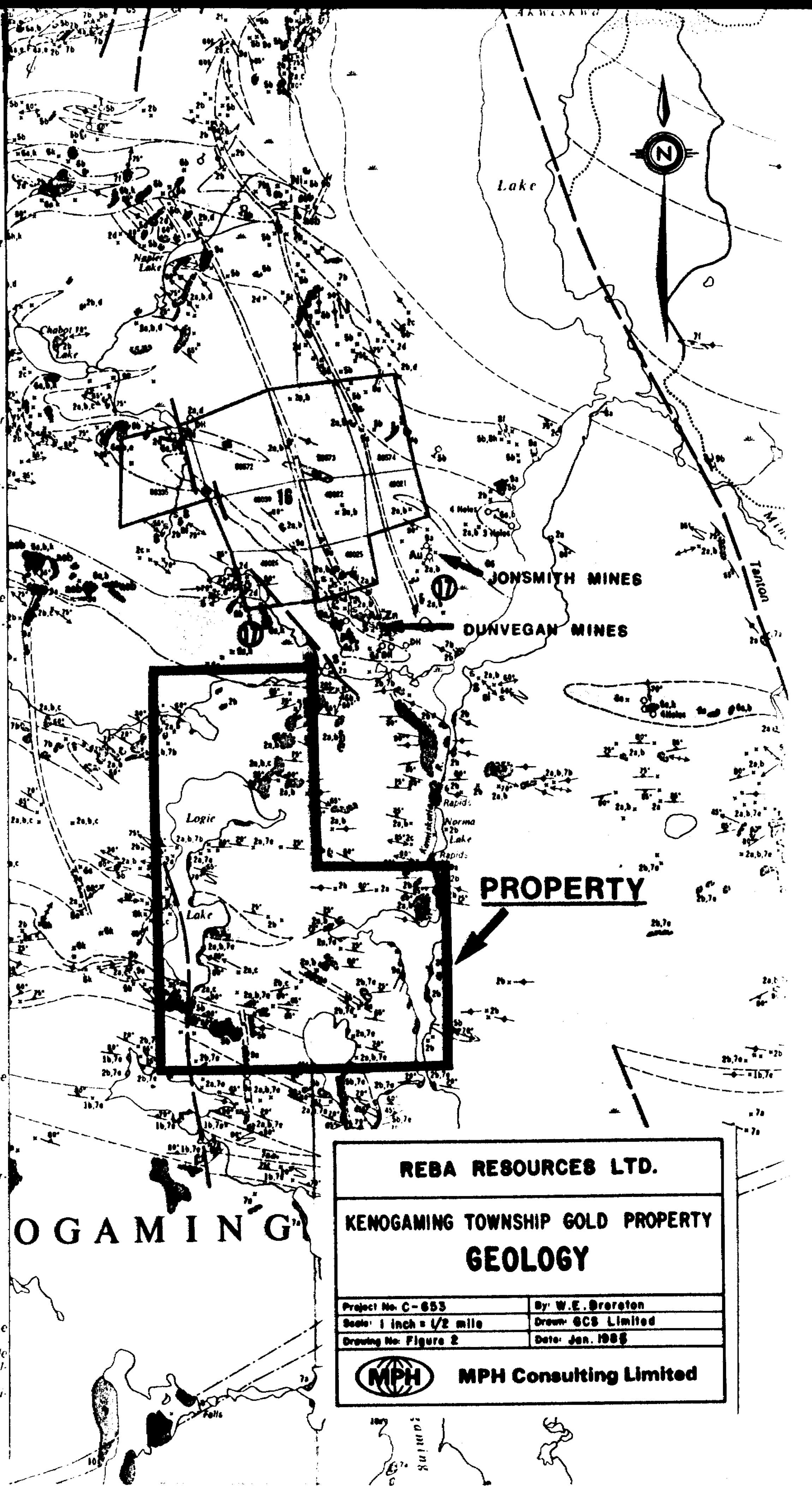
3 Unsubdivided.
3a Greywacke.
3b Conglomerate.
3c Slate, argillite.
3d Phyllite, sericite schist, chlorite schist.
3e Sandstone.

FELSIC TO INTERMEDIATE METAVOLCANICS[c]

2 Unsubdivided.
2a Felsic agglomerate, mafic agglomerate.,
2b Felsic tuff, felsic lapilli tuff.
2c Mafic tuff, mafic lapilli tuff.
2d Felsic flows.
2e Felsic flow breccia.†
2f Garnet amphibiolite.

MAFIC TO INTERMEDIATE METAVOLCANICS[c]

1 Unsubdivided.
1a Light coloured chlorite-tremolite metavolcanics.
1b Dark coloured actinolite-hornblende schistose and gneissose metavolcanics.
1c Chloritic metavolcanic schist, sericite-carbonate metavolcanic schist.
1d Pillowed metavolcanics.
1e Epidotized metavolcanics.†



In 1950 the name of Hoodoo Lake Mines was changed to Dunvegan Mines. In 1951, the old Hoodoo lake trenches were deepened and new trenches excavated. All were sampled for zinc, gold and silver. Up to 0.24 oz Au/ton over 4 ft. and 12.33% Zn over 2 ft. were recorded by this work (OMNR file T-527, Timmins).

In 1966, Falconbridge Nickel Mines optioned part of the claim group including the area encompassing the original Hoodoo Lake Mines' gold-zinc showing. Falconbridge drilled eight holes to test this zone along an 800-foot strike length. Thin sphalerite stringers were cut in hole No's 3, 7 and 8 and disseminated pyrite sections in all holes. In DDH #7, one 3.7-ft. section assayed 1.21% Zn, 0.51 oz Ag and 0.03 oz Au per ton, and another 5.2 ft. section assayed 1.03% Zn, 0.55 oz Ag and 0.01 oz Au per ton. The best gold assay was a 3.3 ft. section near the bottom of hole 4 which returned 0.08 oz Au per ton.

Falconbridge also completed ground magnetic, horizontal loop electromagnetic, and self-potential sureys over six of the claims as well as their own adjacent claims. No worthwhile electromagnetic anomalies were detected. The magnetometer survey clearly outlines the ultramafic intrusive bodies as areas of magnetic highs. Falconbridge subsequently drilled a number of holes at scattered points throughout the claim group to test magnetic highs associated with ultramafic intrusives. Disseminated sulphide zones with associated nickel values were found at a number of locations; however, no economic deposits were found.

The felsic volcaniclastics that host the Dunvegan mineralization do not strike onto the Reba claims, the latter property being located to the west and south. The Reba property encompasses a very similar geological setting however and it is reasonable to expect that there is potential for smilar mineralization on the present claims.

The most recent work prior to that described herein consisted of airborne geophysical surveys (Dighem EM, VLF, magnetics) completed over the property on Reba's behalf in the fall of 1983 (Brereton, 1984).

6.0 EXPLORATION PROGRAM - 1984

6.1 Personnel

The following MPH Consulting Limited personnel were involved with the exploration program:

Project Consultant	W.E. Brereton, M.Sc(A), P.Eng.
Field Geophysicist	S. Bate, M.Sc.
Geophysical Operator	Randall Rae
Geophysical Operator	Brad Gauthier
Geophysical Operator	George Ross
Geophysical Operator	Gord Shields

6.2 Field Operations

6.2.1 General

The field program consisted of linecutting, VLF-EM surveying, selective IP surveying and geological-prospecting evaluations.

The VLF surveying was carried out to pinpoint on the ground the VLF anomalies detected by the airborne surveying. It was hoped that some of these might relate to zones of shearing, alteration and pyritization. The IP surveying was designed specifically to test VLF zones for associated sulphide ($\pm$ oxide, graphite) mineralization. VLF-IP zones were subsequently examined as part of a geological-prospecting evaluation of the property.

Field geophysical operations commenced in the winter of 1984 to take advantage of ice cover on the various lakes. Operations were then resumed following break-up with completion of all field work and drafting by the end of October, 1984.

6.2.2 Linecutting

The linecutting was carried out by Ingamar Exploration Ltd. under sub-contract to MPH Consulting Limited.

There was no evidence of any previous linecutting on the property.

A grid was established using an east-west baseline and north-south lines at 120 m intervals so as to completely cover the entire property.

In total 30 km of line was cut, chained and picketed at 20 m intervals.

6.2.3 VLF-EM Survey

The VLF-EM method employs as a source, one of the numerous submarine communications transmitters in the 15 to 25 KHz band located throughout the world. At the surface of the earth these radio waves propogate predominantly in a single mode along the earth-air interface. This mode is known as the "surface wave". Over flat homongenous ground and in the absence of vertical conductive discontinuities, the magnetic field components of this radio wave is horizontal and perpendicular to its direction of propogation.

Where non-horizontal variably conductive structures such as faults, contacts, sulphide bodies, etc. give rise to changes in ground resistivities, secondary modes are generated which produce a vertical magnetic field component. This produces an elliptical polarization of the total field in a plane perpendicular to the direction of propogation.

Commercial VLF instruments enable detection of these conductive disturbances by measuring the tilt angle of the major axis of the polarization ellipse. On flat homogeneous ground the tilt angle will be zero, but in the vicinity of the conducting disturbances, it will acquire a finite value.

Direction of the tilt indicates direction of the disturbing structure. Ability to deduce such parameters as depth, depth extent, dip and width of anomalous structurs is minimal. Fortunately, this does not seriously affect location of structures which can be identified as areas of greatest change in tilt angle per unit of distance.

A Geonics EM-16 unit was used during the present survey utilizing the Cutler, Maine, transmitting station at 17.8 kHz. This station was selected to provide optimum coupling with potential east-west shearing and stratigraphic directions in the area.

Instrument specifications are given in Appendix 2.

The VLF-EM data are presented as profiles with positive to the left and negative to the right such that a true crossover is indicated by the VLF profile crossing a gridline from left to right while looking north up the line (Map 1).

6.2.4 Induced Polarization Survey

The present Reba surveying employed the time-domain method utilizing a dipole-dipole array with an "a" of 40 m and reading n=1 through 5. Measurements were made with a Huntec Mk IV receiver and 2.5 kw transmitter.

A more complete description of the IP method as applied here and instrument specifications are presented in Appendix 2.

7.0 EXPLORATION RESULTS

7.1 VLF-EM Survey (Map 1)

As indicatd by the airborne results, there is a great deal of VLF activity on the claims.

Much of this is closely associated with topographic features such as creeks, lakes, swamp edges, etc. A good example of this is in the northeast portion of the property on claim 700298 where an east-west trending, weak to moderate VLF feature is directly coincident with a creek in a linear swampy valley. This valley is, in turn, probably shear-controlled given the pronounced east-west linearity and parallelism with a prominent known shear direction in the area.

Several VLF features around the north end of Logie Lake are also interpreted to be due to lake bottom conductivity and resistivity contrasts at land/water interfaces.

A number of moderate to strong, often sharply defined VLF axes cross the main, south portion of the block. These strike in a general east-west direction, parallel to known stratigraphy in the area. A bedrock source, possibly with overburden enhancement in some cases, was inferred for virtually all of these features. The bedrock casuative sources were interpreted to be related primarily to zones of east-west shearing. It was decided to thoroughly test this south area with IP to determine if there was any polarizable materials associated with these VLF zones.

7.2 Induced Polarization Survey

The IP results are presented on Maps 2 and 3 and section S-1 to S-14. Six IP zones, "A" to "F", are interpreted from the IP results and are discussed as follows:

Zone "A"

This was one of the strongest of the IP anomalies detected with M_{10} chargeability contrasts of 2.0 msecs or more. A pronounced resistivity low is directly associated with the chargeability anomaly. The overall interpretation was of a discrete zone with substantial polarizable material which extended to depth. A sub-vertical dip was inferred.

Zone "B"

Zone "B" is a relatively attractive, discrete, 2-line feature with M_{10} chargeability contrasts of up to 1.0 msec. A short polarizable body with good depth extent was indicated. There is no pronounced resistivity anomaly indicating, among other things, a relatively low bulk content of conductive/polarizable material.

Zone "C"

Zone "C" is a relatively weak chargeability zone interpreted to be a possible faulted-off west extension of Zone "A".

Zones "D" and "E"

This is a major east-west IP zone with direct VLF coincidence. M_{10} chargeability contrasts of up to 3.0 msecs or more were recorded. As with zone "A", an area of low resistivity values (Map 3) is directly associated with the chargeability effect. The interpretation here was, again, of a discrete relatively narrow sub-vertical east-west zone with substantial polarizable material.

Zone "F"

Zone "F" ix a local, relatively weak chargeability feature to the north of "D-E". There is no noteworthy resistivity correlation.

7.3 Field Examination

The purpose of this work was to generally review property geology and examine in detail particularly the various IP zones as a prelude to possible further work. Results are summarized as follows:

7.3.1 Geology

There is relatively abundant outcrop on the property (10-15%).

Regionally, the 18 claims occur, as noted, within a discrete lenticular pile of intermediate to felsic volcanic rocks of Archean age in the northeast portion of the Swayze Gold Belt of the Abitibi Sub-Province of the Canadian Shield. The rocks here are probably the general time equivalents of those in the Timmins-Porcupine gold camp located some 75 km to the northeast.

Traverses along the picket line grid indicates that the property is underlain by generally well-laminated, steeply dipping, west-northwest trending intermediate/mafic to felsic pyroclastics (ash tuffs, lapilli tuffs, tuff breccia).

There are numerous narrow, generally concordant feldspar porphyry intrusive bodies. These display a characteristics white weathering on outcrop surfaces.

As is common in this general area, there is often abundant, narrow (2-20 cm) quartz zones in outcrop. These are present as stratiform to crosscutting veins, lenticular pods and irregular knobs, patches and lenses. These quartz zones are often variably deformed and display boudinage structures, small scale swirly folding and brittle offset. All of the quartz zones observed were barren of any sulphide mineralization.

7.3.2 Investigation of IP Anomalous Zones

a) ANOMALY "A/C" (from line 3+60W to 8+40W at approximately 7+00S)

The anomaly is coincident with prominent magnetic and VLF anomalies.

Large boulders of altered ultramafic rocks were found at the anomaly intercept near line 4+80W.

An outcrop of magnetite-bearing diabase is coincident with the anomaly on line 6+00W.

The balance of the anomaly to the west is generally coincident with a low valley with no rock exposure.

Conclusions

All factors considered, it appears that the anomaly is related to one of the many magnetite-rich mafic/ ultramafic sills in this area. The strength of the east part of anomaly "A" might suggest some sulphide content along with the magnetite. This however, could be more apt to be nickeliferous rather than auriferous if the interpreted ultramafic setting is correct.

It might be possible to backhoe trench the anomaly in the area of line 4+80W considering the "lay of the land" here.

b) ANOMALY "B" (from line 9+60W to 10+90W at approximately 6+00S)

There is no magnetic or VLF coincidence. The anomaly was seen to be well exposed in outcrop on the hill along the road midway between the above two lines. Present here is a stratiform zone of strongly sheared mafic tuffs approximately 2.5 m across containing pyrite as coarse cubic disseminations (3-5%) and within rusty pyrite-rich bands (20-30%). The zone strikes at az 280° and dips 80°N. There is one prominent, variably boudinaged central rusty pyrite zone ranging in width from 10 cm to 30 cm or more (sample REB-84-01).

Quartz is present in the outcrop particularly at the north edge of the pyrite zone in a number of stratiform, lenticular pods up to 2 m long and 25-30 cm wide (sample REB-84-02). Again boudinaging is evident with individual bondins plunging steeply west.

This quartz-pyrite occurrence has been blasted open by unknown previous workers in the area.

Sampling did not return any gold values of interest (see assay sheet following).

Conclusions

The IP zone is adequately explained by the observed mineralization. No further work is warranted given the lack of gold values. The author has observed several other of these types of zones in the general region which also do not carry any gold.

c) ANOMALY "C" (line 9+60W at 8+00S)

There is no VLF or magnetic coincidence.

There is some outcrop in the anomaly area but there was no obvious explanation of this very weak IP effect.

SWASTIKA LABORATORIES LIMITED
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

Certificate No. 58835 Date: Oct. 11, 1984

Received Oct. 9, 1984 2 Samples of ore

Submitted by M.P.H. Consulting Ltd., Toronto, Ontario proj#C-653

SAMPLE NO.	GOLD PPB
REB-84-01	10
REB-84-02	Nil

Per G. Lebel
G. Lebel, Manager

ESTABLISHED 1928

Conclusions

This is an area of higher ground and could easily be backhoe trenched if desired.

d) ANOMALY "D"-"E" (from line 9+60W to 15+60W at approximately 4+00S)

There is generally direct VLF and partial magnetic coincidence with this very strong IP anomalous zone.

Outcrop was found between and on either side of lines 12+00W to 13+20W. This consisted of altered ultramafic (serpentinite). The rock was generally massive with some sheared sections. It was variably magnetite-bearing. The balance of the IP zone was either under lake to the west or under a low swampy area to the east.

Conclusions

The probable cause of the IP anomalous zone is disseminated magnetite in serpentinite. The strength of the IP response suggests that there may also be some associated sulphide, but as noted previously, this might be more apt to be nickelferous.

e) ANOMALY "F" (from line 9+60W to 13+20W at approximately 2+50S)

There is generally direct magnetic/VLF coincidence.

The anomaly is under a low swampy area and is not exposed although there is some serpentinite very near by on the shore of Logie Lake.

Weak IP intercepts both to the west and east along this same trend are under the lake or low ground.

Conclusions

The IP zone probably could not be trenched. Such is probably not warranted in any event in that the IP zone is probably due to disseminated magnetite in serpentinite.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Programs of airborne and ground geophysical surveying successfully located a number of VLF-IP anomalous zones on the 18 claim Reba Kenogaming gold prospect.

I am of the opinion that virtually all of the IP $\pm$ VLF zones investigated with the exception of Anomaly "B" are due in whole or in part to disseminated magnetite in sheared, altered serpentinite rocks. Anomaly "B" is related to pyrite in mafic tuffs. Sampling of the latter mineralization did not return any gold values of interest.

I would recommend that a limited further program be carried out consisting of backhoe trenching and rock trenching and blasting, the latter only if warranted, on the east portion of Anomaly "A" and possibly Anomaly "C" and "D". Total cost for this assuming some rock work and assaying should be no more than $5,000.00.

Respectfully submitted,

W. E. Brereton, P.Eng.
MPH Consulting Limited

Toronto, Ontario
January, 1985

CERTIFICATE OF QUALIFICATIONS

I, William E. Brereton, of Toronto, Ontario, do hereby certify that:

1. I am a consulting geologist with an office at 120 Adelaide Street West, Suite 2406, Toronto, Ontario M5H 1T1, Canada.

2. I obtained an Honours B.Sc. degree in Geology and Physics from Queen's University in 1971 and an M.Sc.(A) in Mineral Exploration from McGill University in 1977.

3. I have practised my profession continuously since graduation and have been in private independent practice since 1977.

4. I am a member of the Association of Professional Engineers of the province of Ontario.

5. Exploration work described herein was carried out under my direct supervision.

6. I have no interest in Reba Resources Ltd. or the Kenogaming property, nor do I expect to receive or acquire any such interest.

Toronto, Ontario
January, 1985

William E. Brereton, P.Eng.
MPH Consulting Limited
Toronto, Ontario, Canada

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Milne, J.G.; 1972
Geology of the Kukatush - Sewell Lake ARe, Ont. Div. Mine Geol. Report 97.

APPENDIX 1

Ministry of Natural Resources

Ontario

File ____________

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Linecutting, VLF-EM, Geology

Township or Area Kenogaming Twp.

Claim Holder(s) Robert J. Sheppard

620-885 Dunsmuir St., Vancouver, B.C.

Survey Company MPH Consulting Limited

Author of Report W.E. Brereton

Address of Author 2406-120 Adelaide St. West, Tor. Ont.

Covering Dates of Survey 10/02/84 to 30/12/84
(linecutting to office)

Total Miles of Line Cut 18

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
--Electromagnetic	20
--Magnetometer	
--Radiometric	
--Other	
Geological	40
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer ______ Electromagnetic ______ Radiometric ______
(enter days per claim)

DATE: January 17/85 SIGNATURE: [signature]
Author of Report or Agent

Res. Geol. ____________ Qualifications 2.1310

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
P	699774
P	700048
P	700049
P	700050
P	700051
P	700052
P	700053
P	700055
P	700056
P	700057
P	700058
P	700059
P	700060
P	700298
P	700299
P	700300
P	700301
P	700303

If space insufficient, attach list

TOTAL CLAIMS 18

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS If more than one survey, specify data for each type of survey

Number of Stations ______ Number of Readings ______
Station interval ______ Line spacing ______
Profile scale ______
Contour interval ______

MAGNETIC

Instrument ______
Accuracy -- Scale constant ______
Diurnal correction method ______
Base Station check-in interval (hours) ______
Base Station location and value ______

ELECTROMAGNETIC

Instrument Geonics VLF EM-16
Coil configuration ______
Coil separation ______
Accuracy ±1%
Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line
Frequency Cutter, Maine 24.0 kHz
(specify V.L.F. station)
Parameters measured Inphase and quadrature of VLF field

GRAVITY

Instrument ______
Scale constant ______
Corrections made ______

Base station value and location ______

Elevation accuracy ______

INDUCED POLARIZATION / RESISTIVITY

Instrument ______
Method ☐ Time Domain ☐ Frequency Domain
Parameters – On time ______ Frequency ______
– Off time ______ Range ______
– Delay time ______
– Integration time ______
Power ______
Electrode array ______
Electrode spacing ______
Type of electrode ______

APPENDIX 2

EM16

VLF Electromagnetic Unit

oneered and patented exclusively by Geonics Limited, the LF method of electromagnetic surveying has been proven to be a major advance in exploration geophysical instrumentation.

nce the beginning of 1965 a large number of mining companies have found the EM16 system to meet the need for a simple, light and effective exploration tool for mining ophysics.

The VLF method uses the military and time standard VLF transmissions as primary field. Only a receiver is then used to easure the secondary fields radiating from the local conctive targets. This allows a very light, one-man instrument to do the job. Because of the almost uniform primary field, od response from deeper targets is obtained.

e EM16 system provides the *in-phase* and *quadrature* components of the secondary field *with the polarities indicated.*

erpretation technique has been highly developed particularly to differentiate deeper targets from the many surface indications.

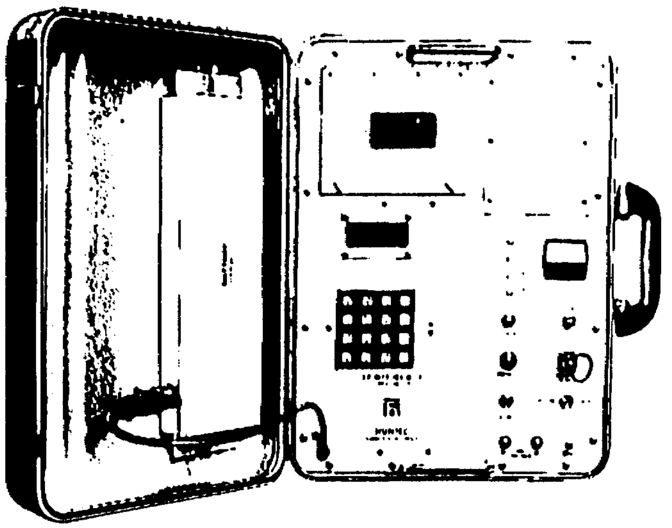
nciple of Operation
e VLF transmitters have vertical antennas. The magnetic signal component is then horizontal and concentric around the transmitter location.

Specifications

Source of primary field	VLF transmitting stations.
nsmitting stations used	Any desired station frequency can be supplied with the instrument in the form of plug-in tuning units. Two tuning units can be plugged in at one time. A switch selects either station.
erating frequency range	About 15-25 kHz.
Parameters measured	(1) The vertical in-phase component (tangent of the tilt angle of the polarization ellipsoid). (2) The vertical out-of-phase (quadrature) component (the short axis of the polarization ellipsoid compared to the long axis).
thod of reading	In-phase from a mechanical inclinometer and quadrature from a calibrated dial. Nulling by audio tone.
le range	In-phase ± 150%; quadrature ± 40%.
Readability	± 1%.
Reading time	10-40 seconds depending on signal strength.
Operating temperature range	−40 to 50° C.
Operating controls	ON-OFF switch, battery testing push button, station selector, switch, volume control, quadrature, dial ± 40%, inclinometer dial ± 150%.
Power Supply	6 size AA (penlight) alkaline cells. Life about 200 hours.
Dimensions	42 x 14 x 9 cm (16 x 5.5 x 3.5 in.)
Weight	1.6 kg (3.5 lbs.)
Instrument supplied with	Monotonic speaker, carrying case, manual of operation, 3 station selector plug-in tuning units (additional frequencies are optional), set of batteries.
Shipping weight	4.5 kg (10 lbs.)

GEONICS LIMITED Designers & manufacturers of geophysical instruments
2 Thorncliffe Park Drive, Toronto/Ontario/Canada

M-4 Induced Polarization Receiver



DESCRIPTION

The Huntec M-4 is a microprocessor based receiver for time and frequency domain IP and complex resistivity measurement. It is

Easy to operate. One switch starts a measurement, of up to 29 quantities simultaneously. The optional Cassette DataLogger records them all in seconds. Calibration, gain setting and SP buckout are all automatic.

Reliable. Using advanced digital signal processing techniques, the M-4 delivers consistently accurate data even in noisy, highly conductive areas. For mechanical reliability it is packaged in a rugged aluminum case for backpack or hand carrying.

Versatile. The operator may adjust delay and integration times, operating frequency and other measurement parameters, to adapt to a wide range of survey conditions and requirements. An independent reference channel facilitates drillhole and underground work, and guarantees transmitter-receiver synchronization in high-noise conditions.

Highly accurate. With a frequency bandwidth of 100 Hz and noise-cancelling digital signal stacking, the M-4 delivers very precise results. The details are summarized in a table overleaf.

Sensitive. The same features that make the M-4 accurate allow detection of very weak signals. The Huntec receiver requires lower transmitter power than any other, for a given set of operating conditions. Automatic correction for drifts in self-potential and gain allow long stacking times for significant signal-to-noise improvements.

Intelligent. Under the control of a powerful 16-bit microprocessor, the M-4 calibrates and tests itself between measurements. Coded error messages, flashed onto the display, inform the operator of any malfunction.

The M-4 Receiver is complemented by Huntec's new M-4 transmitters, which offer precisely timed constant-current output and both time and frequency domain waveforms, compatible with the receiver's accuracy and multi-mode measurement capabilities. The RL-2 Reference Isolator connects any IP transmitter to the receiver's reference channel. The GeoPort field computer reads, stores and processes data from M-4 cassettes.

Contact Huntec for more information on the benefits offered by the M-4 product line.

FEATURES

- Time and Frequency domain IP and Complex Resistivity operation
- Simultaneous Time domain and Complex Resistivity measurement
- Automatic calibration
  - gain setting
  - SP cancellation
  - fault diagnosis
  - filter tuning
- Independent reference channel for drillhole and underground work
- 33 quantities, displayable on large 3½ digit low-temperature liquid-crystal readout
- Analogue meter for source resistance measurement
- 10^9 ohms differential input resistance
- 8 hours continuous operation with replaceable, rechargeable nickel-cadmium battery pack (2 supplied)
- Optional Cassette DataLogger fits inside case, has read-after-write error checking. Up to 350 stations per tape.
- Conveniently packaged for backpacking or hand carrying
- 100 Hz bandwidth, fine time-resolution
- Advanced digital signal stacking
- Delivers reliable, accurate data in noisy, highly conductive areas.

huntec (70) LIMITED

1750 BRIMLEY RD.,
SCARBOROUGH
ONTARIO,
CANADA M1P 4X7
PHONE:
(416) 299-4100
TELEX: 06-963640

SPECIFICATIONS

Inputs

Signal Channel

Range:	5×10^{-5} to 10 volts. Automatic ranging. Overload indication
Resistance:	Greater than 10[illegible] ohms differential
Bandwidth:	100 Hz
SP Cancellation:	−5 to +5 volts (automatic)
Protection:	Low-leakage diode clamps, gas discharge surge arrestors, replaceable fuses.

Reference Channel

Level:	500 mV minimum, 10 volts peak maximum, overload indication
Resistance:	2 x 10[illegible] ohms differential

Controls and Functions

Operating Controls

Keypad:	16 keys, calculator format, function associated with each key.
Reference Registers:	Keypad may be used to store up to ten 3½ digit numeric values with floating decimal point, to represent station number, line number, operator, time, date, weather, transmitter current, etc. for recording on cassette.

Programming Controls

Sub-panel:	All programming controls are on a covered sub-panel, not accessible during normal operation.
Thumbwheel Switches:	Select delay time t_D in milliseconds, chargeability window t_p in milliseconds; operating frequency; PFE frequency ratio.

Displayable Quantities

Time domain:	Primary voltage; self-potential; chargeability (total or each of 10 windows of equal width); phases of odd harmonics 3 to 15; amplitudes of odd harmonics 1 to 15; cycle count; repeating display of polarization potential and total chargeability.
Freq.domain:	Primary amplitude; Percent Frequency Effect; self-potential; cycle count.
Complex Resistivity:	Phases of odd harmonics 3 to 15; amplitudes of odd harmonics 1 to 15; fundamental phase (with ref. input); cycle count.
Any mode:	Battery voltage, Frequency error.

Outputs

Displays

Digital Display:	3½ digit, low-temperature liquid crystal display. Indicates measurement results and diagnostic error messages.
Analogue Meter:	Ohms scale for source resistance; also gives qualitative indication of signal-to-noise ratio.

Cassette DataLogger (Optional)

Description:	Accommodated within M-4 chassis. If not acquired with receiver, may be retrofitted by user at any time. Two recording modes:
Partial:	All sub-panel settings, measurement results, and contents of reference registers are recorded (2 seconds recording time).
Full:	As in partial mode, but also recorded is one cycle of averaged signal waveform (28 seconds recording time). If external reference is used, one cycle of reference waveform is also recorded (60 seconds recording time). Extra memory and software available to average and store the reference waveform for advanced offline resistivity computation.
Format:	ANSI/ECMA/ISO standard for saturation recording: 80 bytes/record, all data recorded in ASCII code.
Verification:	Read-after-write data verification (automatic)

Mechanical

M-4 Receiver with battery pack:	45 cm x 33 cm x 14 cm, 10.0 kg
M-4 Receiver with battery pack and Cassette DataLogger:	Dimensions as above, 11.0 kg
Replaceable Battery pack:	33 cm x 11 cm x 4.5 cm, 3 kg

Environmental

Temperature:	Operation: −20°C to +55°C Storage: −40°C to +70°C
Humidity:	Moisture-proof, operable in light drizzle.
Altitude:	−1,525 m to +4,775 m
Shock, Vibration:	Suitable for transport in bush vehicles.

OUTPUT ACCURACY AND SENSITIVITY

	milliradians	volts	volts	volts	seconds	%
	2 milliradians 1)	1% [illegible] 40Hz 2% to 80Hz	±1%	±1%	0.1% 2)	[illegible] 3) full scale
	0.01 milliradians	10[illegible] volts	10[illegible] volts	10[illegible] volts	10[illegible] seconds	0.001% full scale

1) Frequency domain mode: at harmonic frequencies up to 15 Hz, increases to not more than 5 milliradians at 80 Hz.
Time domain mode: at harmonic frequencies up to 7.5 Hz, increases to not more than 5 milliradians at 30 Hz.

2) of total OFF time

3) Full scale defined as 100% PFE.

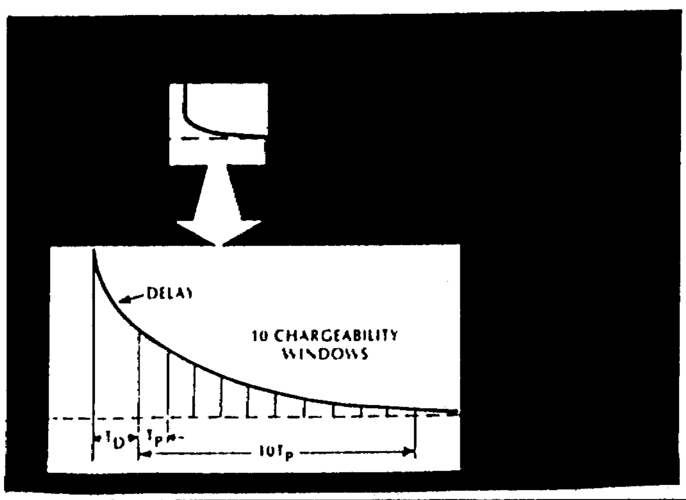
Cassette Data: recorded in ASCII, 9 digits with decimal point fixed for four decimal digits.

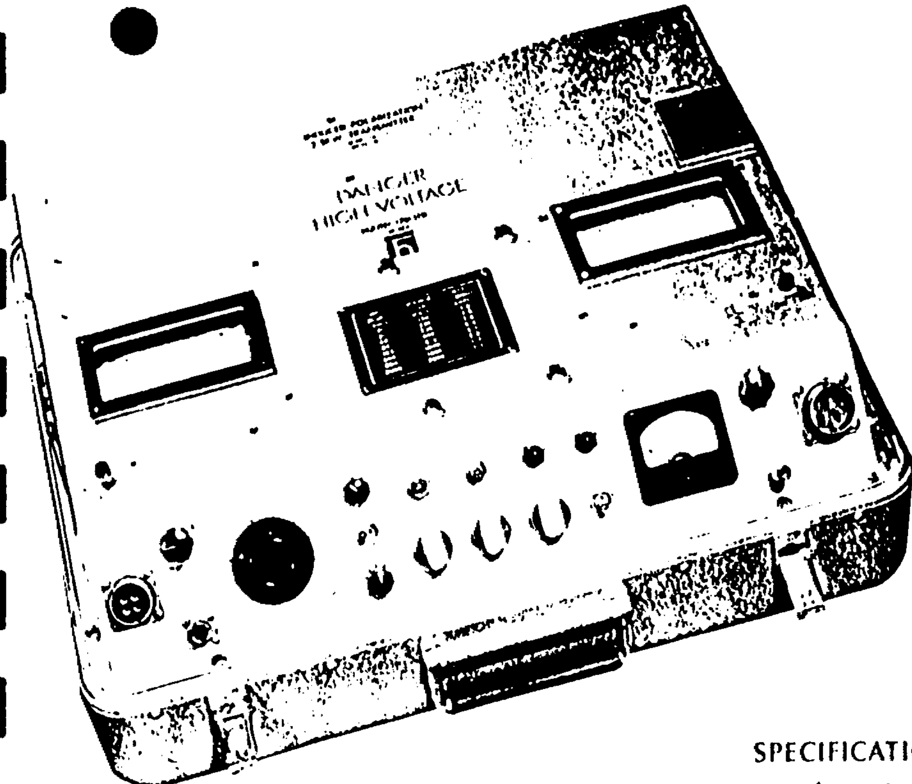
Display Data: 3½ digits, floating decimal point

Resolution of averaged waveform limited by A/D converter to one part or 4096 x (square root of cycle count).

Resolution of reference waveform (not averaged) limited by available memory to one part in 256. Additional memory and averaging software available as option.

CHARGEABILITY WINDOWS





M-4 SERIES

Induced Polarization/ Resistivity 2.5 kW Transmitter

SPECIFICATIONS

Mark-4 2.5 kW Transmitter

A) Power input:	96 — 144 V line to line 3 phase 400 Hz (from Huntec generator set)
B) Output:	Voltage: 150 — 2200 V dc in 8 steps Current: 0.2 — 7 A regulated**
C) Current regulation:	Less than ±0.1% change for ±10% load change
D) Output frequency:	0.0625 Hz to 1 Hz (time domain, complex resistivity) 0.0625 Hz to 4 Hz (frequency domain) selectable from front panel An additional range of frequencies between 0.78 and 5.0 Hz is available and can be selected by an internal switch.
E) Frequency accuracy:	±50 ppm −30°C to + 60°C
F) Output duty cycle: $T_{on}/(T_{on}+T_{off})$	0.5 to 0.9375 in increments of 0.0625 (time domain) 0.9375 (complex resistivity) 0.75 (frequency domain)
G) Output current meter:	Two ranges: 0-5 A and 0-10 A
H) Ground resistance meter:	Two ranges: 0-10 kΩ and 0-100 kΩ
I) Input voltage meter:	0-150 V
J) Dummy load:	Two levels: 500 W and 1.75 kW
K) Temperature range:	−34°C to + 50°C
L) Size:	53 cm x 43 cm x 29 cm
M) Weight:	26 kg

**Smaller currents are obtainable, but outside the current regulation range the transmitter voltage is regulated, not the current.

DESCRIPTION

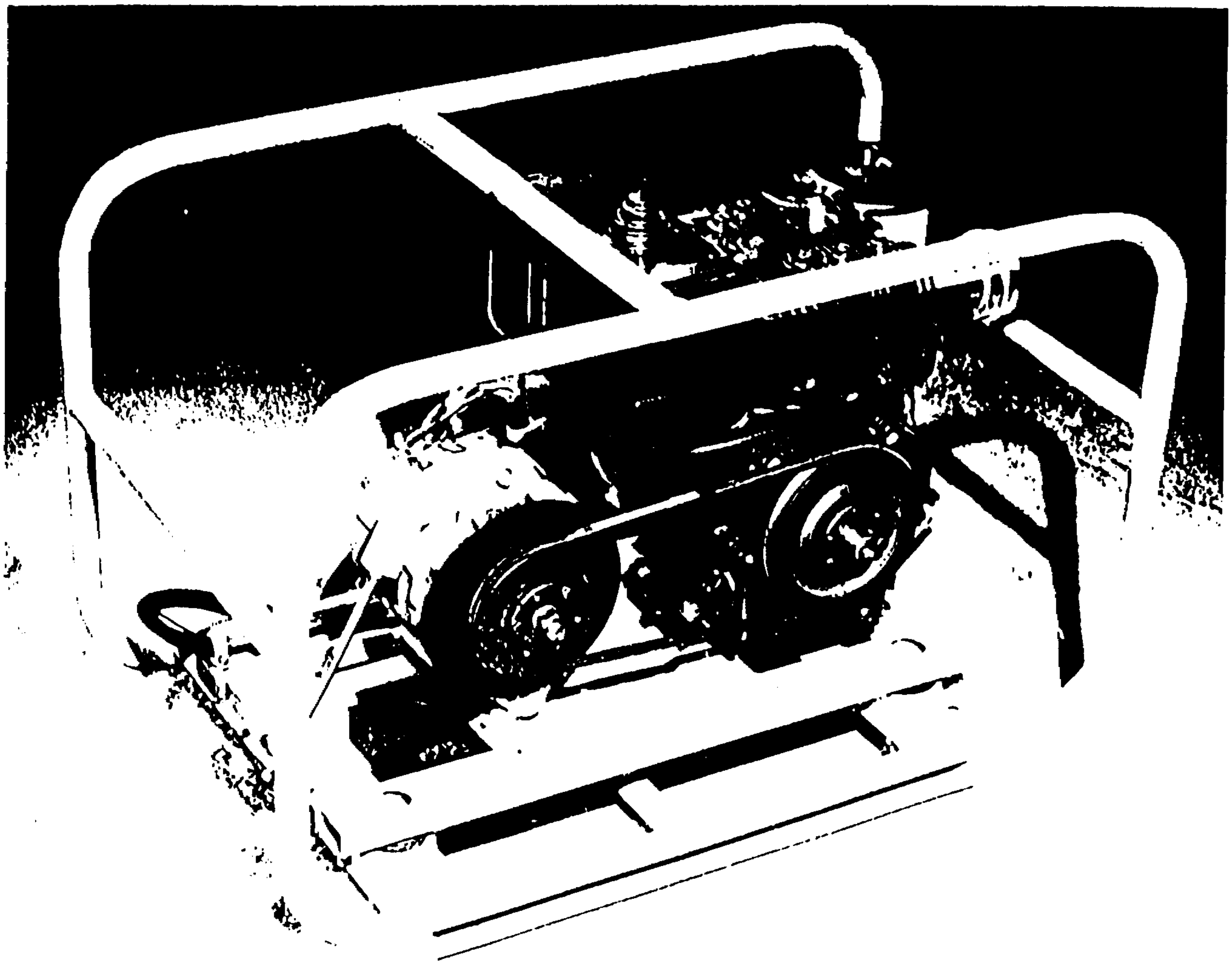
The HUNTEC M-4 2.5 kW Induced Polarization transmitter is designed for time domain, frequency domain (PFE) and complex resistivity applications. The unit converts primary 400 Hz ac power from an engine-alternator set to a regulated dc output current, set by the operator. Current regulation eliminates output waveform distortion due to electrode polarization effects. It is achieved in the transmitter by varying the alternator field currents. The transmitter is equipped with dummy loads to smooth out generator load variations.

FEATURES

- Solid-state switching for long life and precise timing.
- Open circuit during the "off" time ensures no counter current flow.
- Resistance measurement for load matching.
- Precision crystal controlled timing.
- Failsafe operation protects against short-circuit and overvoltage.
- Automatic regulation of output current eliminates errors due to changing polarization potential and load resistance.

huntec

1750 BRIMLEY ROAD
SCARBOROUGH
ONTARIO
CANADA M1P 4X7
PHONE:
(416) 299-4100



SPECIFICATIONS

M-4 2.5 kW Engine Driven Alternator

Output:	120 V ac 400 Hz 3.5 kVA maximum
Engine:	6 kW air cooled, single cylinder four cycle piston engine with manual start
Fuel:	Regular grade gasoline, tank capacity 3.8 L to give 4 h duration
Alternator:	Delta connected heavy duty automobile type, belt driven, air cooled
Construction:	Tubular protective carrying frame with resiliently mounted engine and alternator
Size:	51 cm x 48 cm x 76 cm
Weight (dry):	61 kg

APPENDIX 2

NOTES ON IP/RESISTIVITY SURVEYS

a) General

Induced Polarization (IP)/resistivity surveys are commonly conducted in the time domain and frequency domain, and less frequently, as spectral or complex resistivity measurements. There are a variety of geometrical arrays that can be employed.

The following discussion sets out in some detail the principles and procedures of the IP method as related to the present survey.

b) Time Domain Method

In the time domain a modified, square-wave current consisting of "on/off/on/off" cycles of equal duration is transmitted into the ground through a pair of electrode (current dipole). The primary (V_p) and secondary (V_s) voltages generated in the ground are measured at another pair of electrodes (potential dipole). The primary voltage, measured during the "on" current cycles, is a function of the electrical resistivity of the ground. The secondary voltage, measured during "off" current cycles, is the IP effect which reflects the amount of polarizable minerals, such as metallic sulphides, graphite, etc., in the ground.

The apparent resistivity of the ground is not directly measured, but is obtained by a mathematical formula utilizing the primary voltage value, the current output from the transmitter at the same instant and a geometrical constant dependent on the array type being used.

$$a = \frac{Vp}{I} \times aF$$

where a = apparent resistivity in ohm-meters
Vp = primary voltage (volts)
I = transmitted current (amps)
a = electrode spacing in meters
F = geometrical factor depending on the electrode array used.

The Huntec Mk IV system measures the secondary voltage or IP effect at 10 time intervals of equal width. The width of the time window (Tp) and the length of the delay (Td) between the start of an "off" cycle and the beginning of the IP measurement are adjustable to suit the conditions of the survey. In the present survey, these were set at 60 msec and 100 msec, respectively, and the IP effect was recorded for each of five individual time windows (M_2, M_4, M_6, M_8 and M_{10}) and for the total decay voltage (M_T). The secondary voltage divided by the primary voltage yields the parameter chargeability in milliseconds. The M_10 and M_6 chargeabilities have been utilized to plot the present survey results.

The decay curve constructed from the ten chargeability observations is generally in the form of an exponential decay curve. It frequently can be split into two portions - an early fast decay portion and a later slow decay portion. The fast decay portion is generally due to inductive effects, while the later slow decay predominantly reflects true polarization effects. In theory chargeability is the value of the slow decay extrapolated backwards to the instant of transmitter shut-off.

c) Survey Arrays

A number of different arrays are available for carrying out IP measurements. The ones generally used in mineral exploration are the dipole-dipole, pole-dipole and the gradient array. The first of these were used for the Reba surveying and is discussed in more detail as follows:

Dipole-Dipole Array

This array is one of the most commonly used arrays in IP and is the only one used with time-domain, frequency-domain and spectral surveys.

The system employs four moving electrodes. The two current electrodes C_1 and C_2 and the two potential or measuring electrodes P_1 and P_2 have the same separation, called the 'a' spacing. The interval between the current and potential pair is generally some fixed multiple 'n' of this 'a' spacing. Measurements with the dipole-dipole array are plotted at the mid-point of the array.

As the 'n' value is increased, (i.e., as the current and potential dipoles are moved farther and farther apart), this has the effect of increasing the depth of exploration. While this is typically quoted as being one half of the total array length, actual depth of exploration is strongly dependent on the distribution of resistivity in the ground and is often much less than half the array length, particularly if conductive overburden is present.

Advantages

1. The system has low inductive coupling because the current wires and reading wires can be kept separated.

2. Anomalies are symmetrical.

3. Sensitivity and resolution are good where 'a' and 'n' are chosen appropriately relative to the target dimensions and depth.

Disadvantages

1. Operations can be slow since all four electrodes are moved along the survey line.

2. Electrical contact can be especially difficult in areas with highly resistive surficial materials, such as dry sand, permafrost or exposed bedrock.

3. Primary (V_p) and secondary (V_s) voltages are lower than with other arrays which can cause measurement difficulties and lack of penetration in areas of high surface conductivity.

d) Presentation

Induced Polarization/resistivity data taken with a multi-spaced dipole-dipole array are generally plotted as pseudosections with each measurement plotted at the intersection of a 45° diagonal drawn from the center of the transmitting and receiving dipoles for each value of the separation. Plotting in this manner builds up a vertical section of data points. The term pseudosection is used because the plotted depth does not represent the actual depth of exploration for that measurement. This actual depth depends on the electrical properties of the ground.

The data presented in the pseudosections is typically contoured at semilogarithmic intervals ... 1.0, 1.5, 2.0, 3.0, 5.0, 7.5, 10.0 ... rather than at linear intervals because of the large range in the recorded data.

Data taken with a multi-spaced pole-dipole array are also typically plotted in pseudosection form, with the active (moving) current electrode and the midpoint of the potential dipole utilized to form the 45° diagonals.

Note that data taken with several different dipole lengths may be combined and plotted as a composite pseudosection, thereby displaying both shallow and deep anomalies simultaneously. Where overlapping data points are less than fully consistent, contouring (and interpretation) favours the values taken with the shorter dipole.

For the gradient array, resistivity and chargeability values are plotted as profiles at the mid-point of the potential dipole.

e) Interpretation

Multi-spaced dipole-dipole (or pole-dipole) data enable delineation of the location, depth and properties of a resistivity or chargeability anomaly. Just as the pseudosection plot is not a true depth section, it is also important to bear in mind that the values recorded and plotted are apparent resistivity and chargeability, which are the actual resistivity and chargeability of the ground only if the earth is homogeneous. In the all-important causes of narrow and/or deep targets, the recorded (apparent) values may bear only a slight indication of the intrinsic values of the target. It is a critical part of the interpretive process to estimate the intrinsic resistivity and chargeability of the causative sources from the apparent values, in addition to determining the geometry and location of the source.

With the gradient array, interpretability as to depth and intrinsic properties is reduced, although repeat surveys with several different dipole lengths can give some qualitative indication of depth.

f) Additional Remarks

The detectability of a conductive and/or polarizable body with IP is a function of its size and intrinsic electrical properties vis-a-vis the size and type of electrode array. Hence, targets that are very small or deep (relative to the scale of the electrode array) may be undetectable. Consequently, multiple coverage with several different arrays may be required to define shallow, narrow sources and to detect larger targets at depth.

Since IP and resistivity are techniques that reflect the averaged response of a volume of rock, resolution is a function of the array type and size. Typically, with the dipole-dipole array, two conductors or two polarizable sources separated by less than a dipole length cannot be resolved as individual responses.

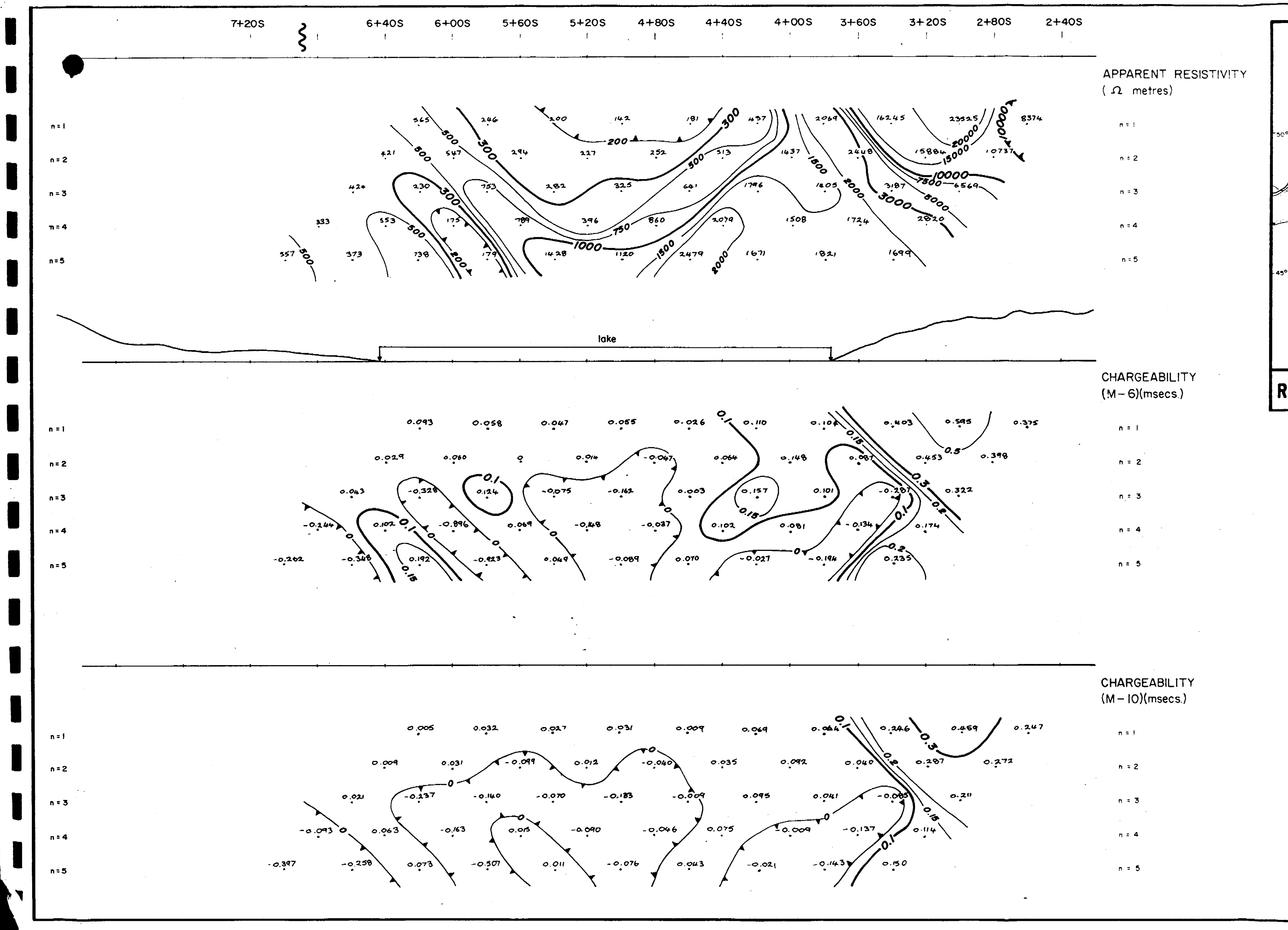
Geologic sources that yield low resistivities are fairly numerous and include. connected zones of sulphides and graphite, clays and other water-saturated unconsolidated materials, intense hydrothermal alteration; and fault gouge.

Sources of IP anomalies are more restricted. They include: most metallic sulphides, graphite, some oxides and to a lesser extent, clays and zeolites. Under favourable conditions, targets or formations containing a few tenths of a per cent sulphides are detectable.

Finally, polarizable targets that very highly resistive or very conductive may yield nil or negligible IP responses. In the former case, no current can flow through the rock mass. In the latter case, the conductor acts as a dead short, so that virtually no secondary decay voltage is observed.

Despite the complexity of survey procedures and interpretation, IP has demonstrated excellent effectiveness in exploration for various types of sulphide-bearing ore deposits in the 30 years since its original implementation. More recently, following the discovery of the Hemlo gold deposits, increasing use has been made of IP in exploration for gold.

APPENDIX 3



7+20S
6+40S
6+00S
5+60S
5+20S
4+80S
4+40S
4+00S
3+60S
3+20S
2+80S
2+40S
APPARENT RESISTIVITY
(Ω metres)
n=1
n=2
n=3
n=4
n=5
lake
CHARGEABILITY
(M-6)(msecs.)
CHARGEABILITY
(M-10)(msecs.)

2+40S

APPARENT RESISTIVITY
(Ω metres)

n = 1

n = 2

n = 3

n = 4

n = 5

8374

CHARGEABILITY
(M−6)(msecs.)

0.375

n = 1

n = 2

n = 3

n = 4

n = 5

CHARGEABILITY
(M−10)(msecs.)

0.247

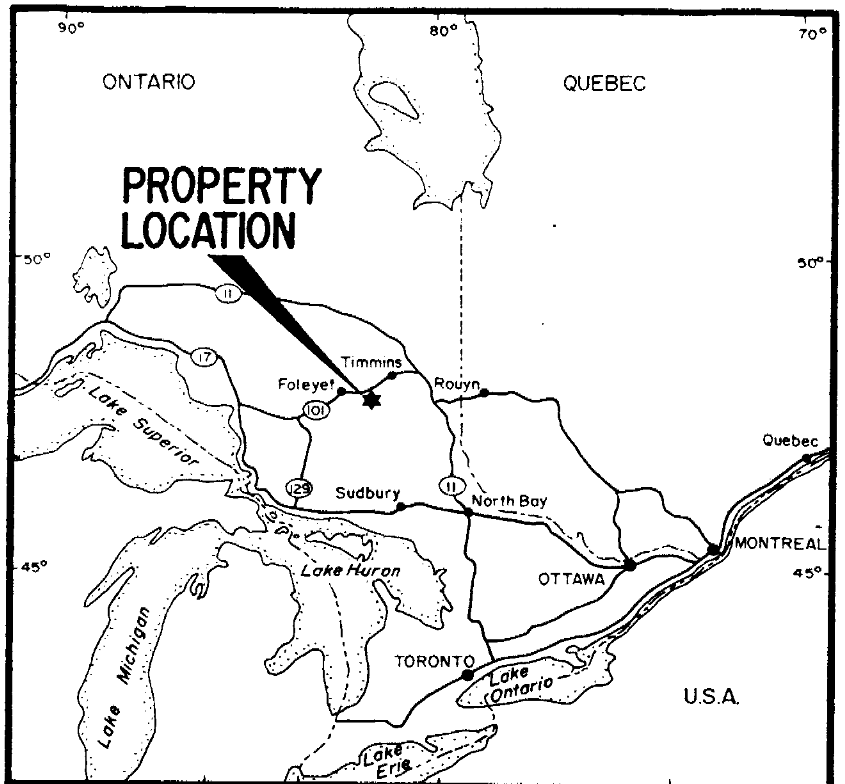
n = 1

n = 2

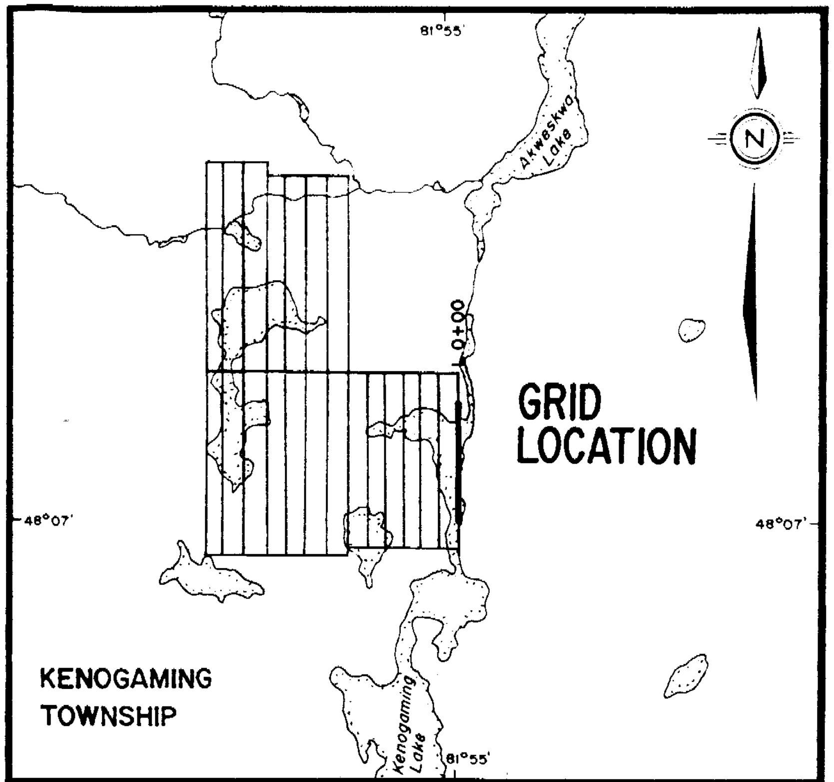
n = 3

n = 4

n = 5



REGIONAL LOCATION MAP SCALE 100 0 100 200 300 400 500 KILOMETRES



DETAILED LOCATION MAP SCALE 1 0 1 KILOMETRES

L E G E N D

TRANSMITTER Huntec 2.5 kw

RECEIVER Huntec Mk IV

DOUBLE DIPOLE ARRAY

C_1 ⟵ a ⟶ C_2 na P_1 ⟵ a ⟶ P_2

Station ↑ Location

a = 40m. n = 1,2,3,4,5

—500— Apparent Resistivity Contour Level

—1.0— Chargeability Contour Level

〰 〰 Fault/Contact

SCALE
20 0 20 40 60 80 100
METRES

REBA RESOURCES LTD.

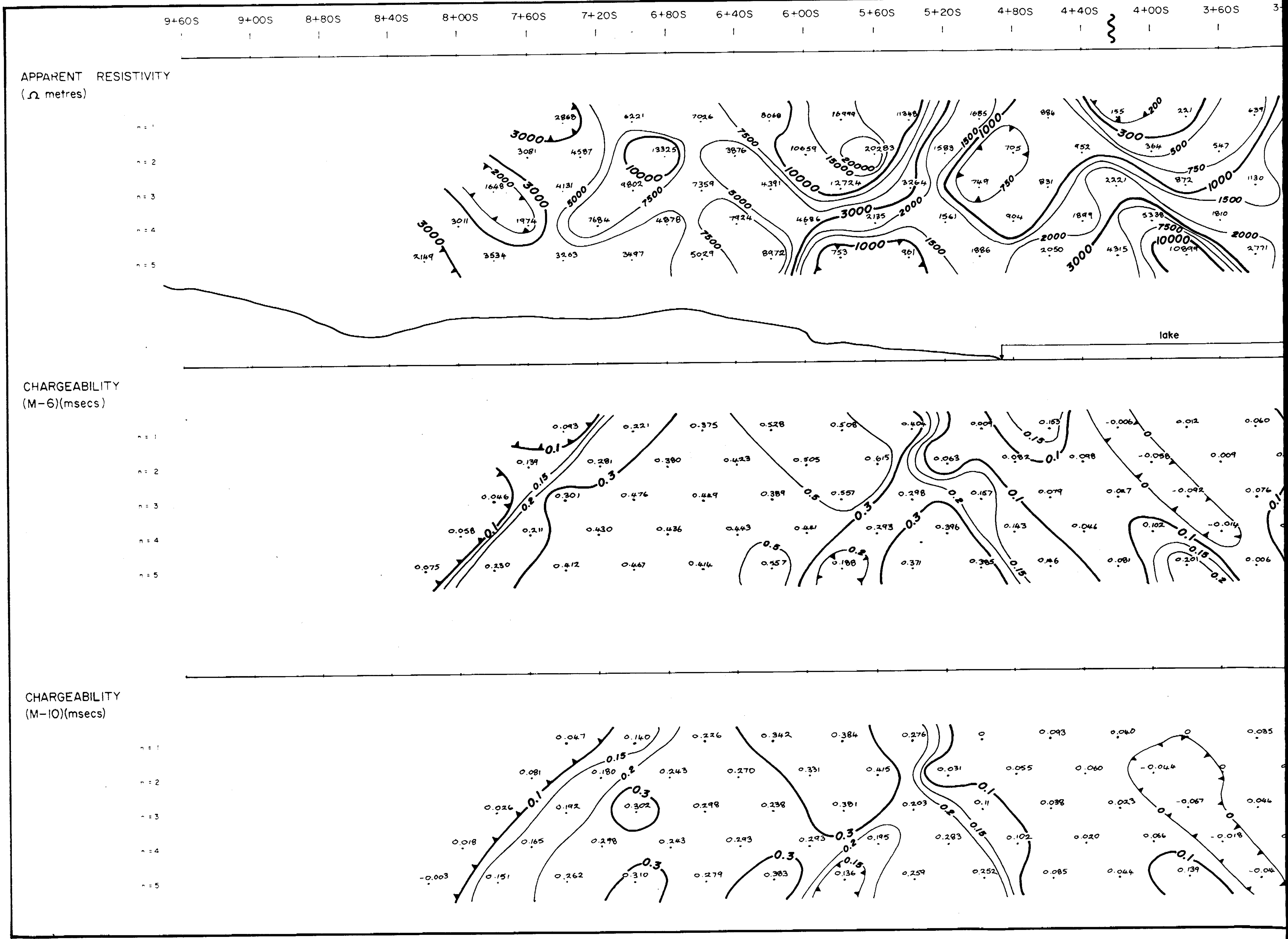
KENOGAMING TOWNSHIP PROJECT

I.P. PSEUDOSECTION

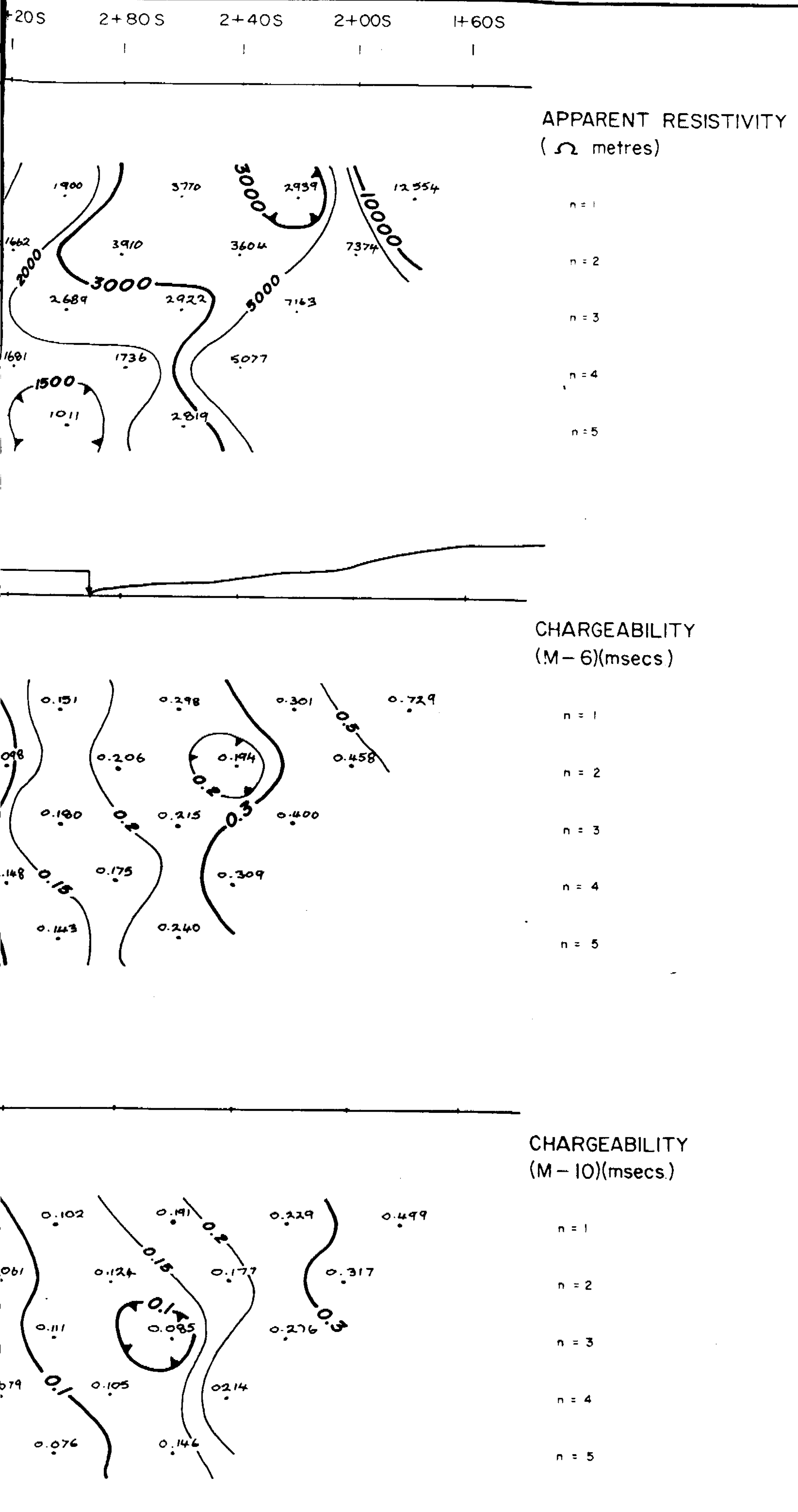
LINE 0+00

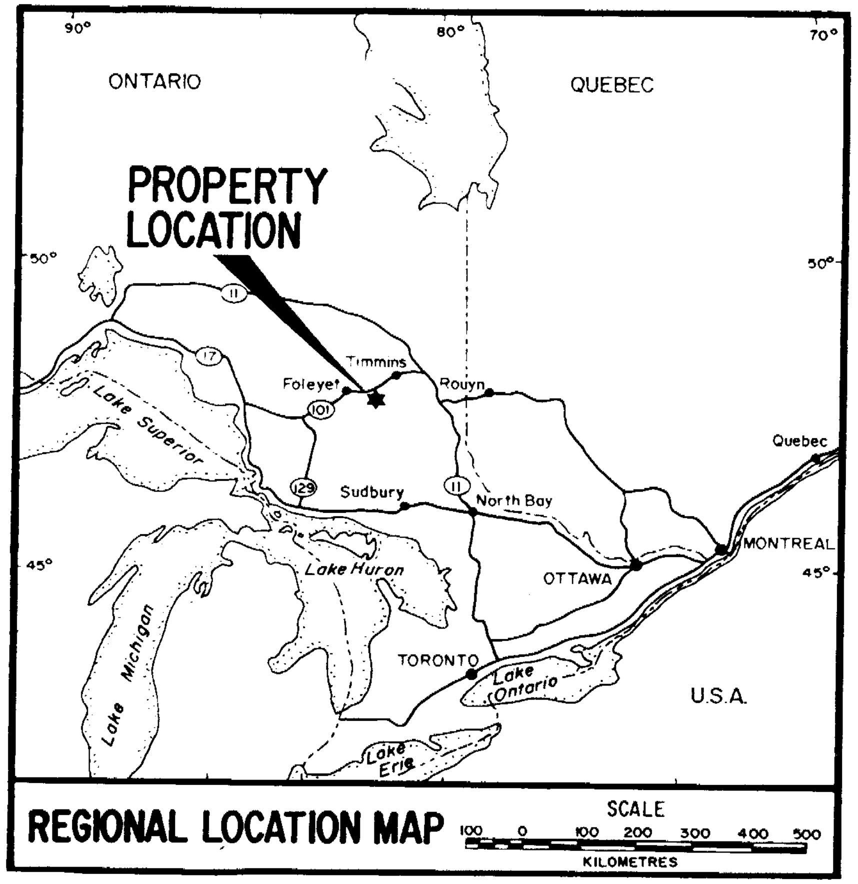
Project No:	C−653	By:	S. Bate
Scale:	1:2,000	Drawn:	G.C.S. Limited
Drawing No:	S−1	Date:	August, 1984

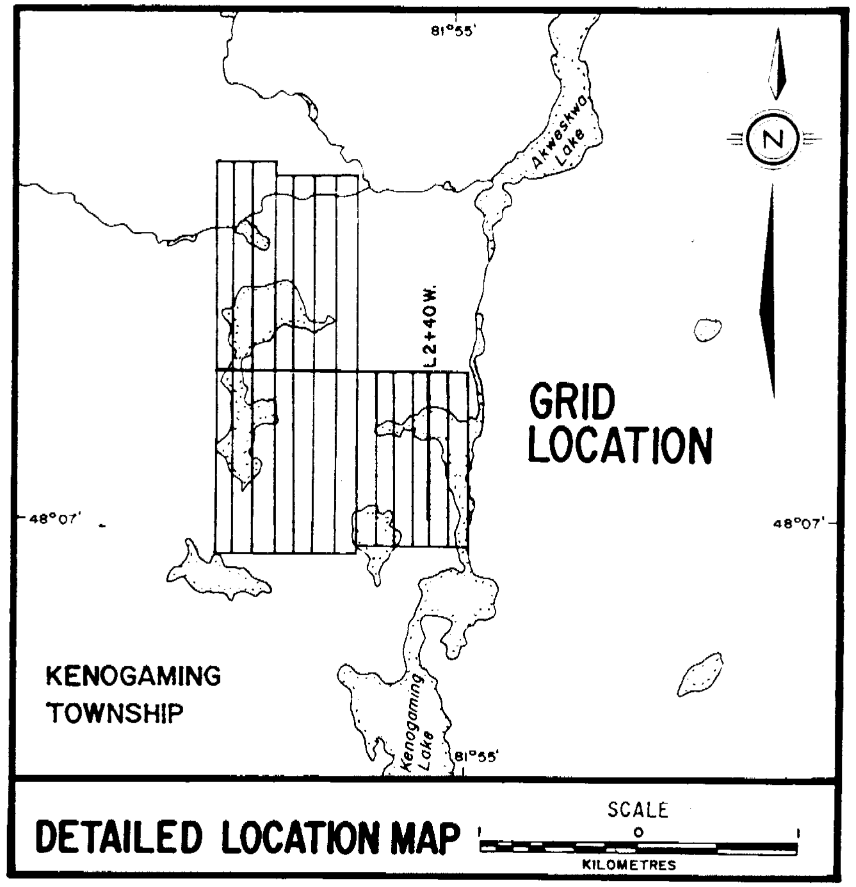
MPH Consulting Limited



9+60S 9+00S 8+80S 8+40S 8+00S 7+60S 7+20S 6+80S 6+40S 6+00S 5+60S 5+20S 4+80S 4+40S 4+00S 3+60S
APPARENT RESISTIVITY
(Ω metres)
n = 1
n = 2
n = 3
n = 4
n = 5
lake
CHARGEABILITY
(M–6)(msecs)
n = 1
n = 2
n = 3
n = 4
n = 5
CHARGEABILITY
(M–10)(msecs)
n = 1
n = 2
n = 3
n = 4
n = 5







LEGEND

TRANSMITTER Huntec 2.5 kw

RECEIVER Huntec Mk IV

DOUBLE DIPOLE ARRAY

C_1 ← a → C_2 na P_1 ← a → P_2

Station ↑ Location

a = 40m. n = 1,2,3,4,5

——500—— Apparent Resistivity Contour Level

——10—— Chargeability Contour Level

∿∿ ∿∿ Fault/Contact

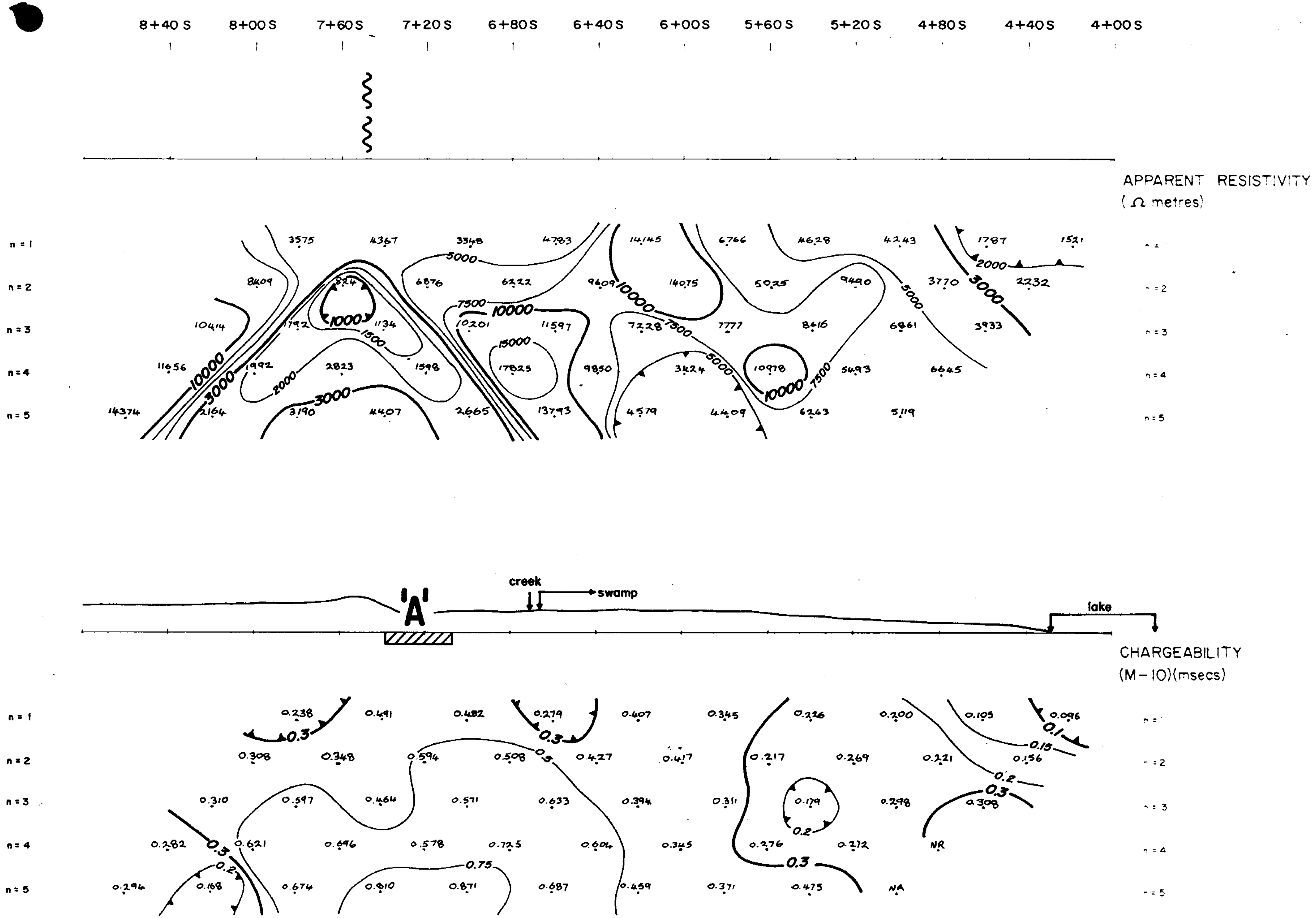
SCALE

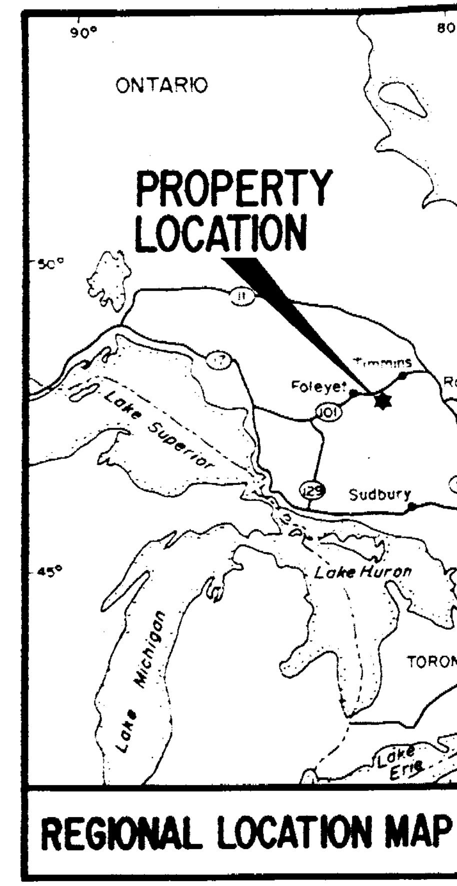
20 0 20 40 60 80 100

METRES

REBA RESOURCES LTD.			
KENOGAMING TOWNSHIP PROJECT			
I.P. PSEUDOSECTION			
LINE 2+40 WEST			
Project No:	C-653	By:	S. Bate
Scale:	1:2,000	Drawn:	G.C.S. Limited
Drawing No:	S-2	Date:	August, 1984

MPH Consulting Limited





L E G

TRANSMITTER

RECEIVER

DOUBLE DIP

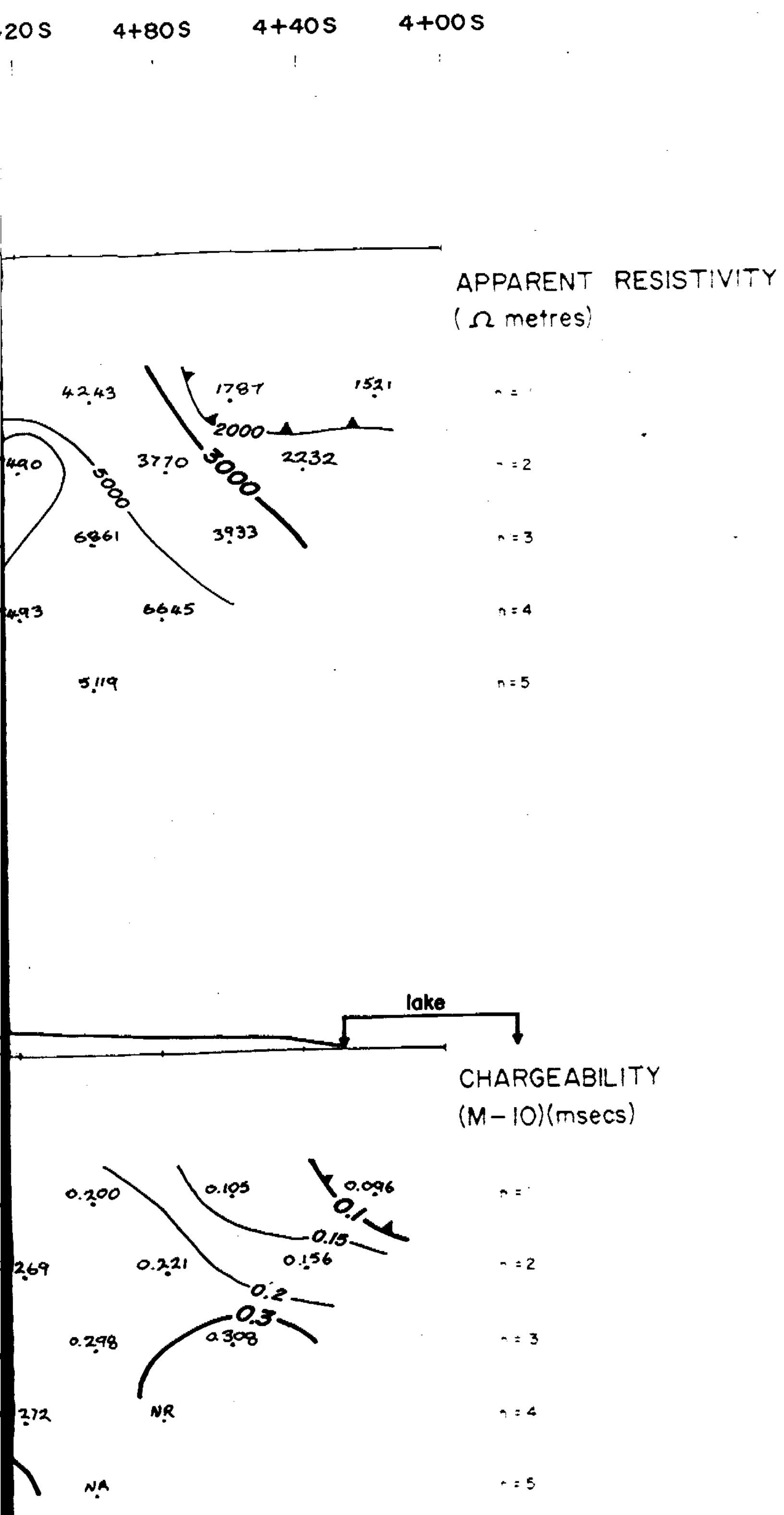
a = 40m

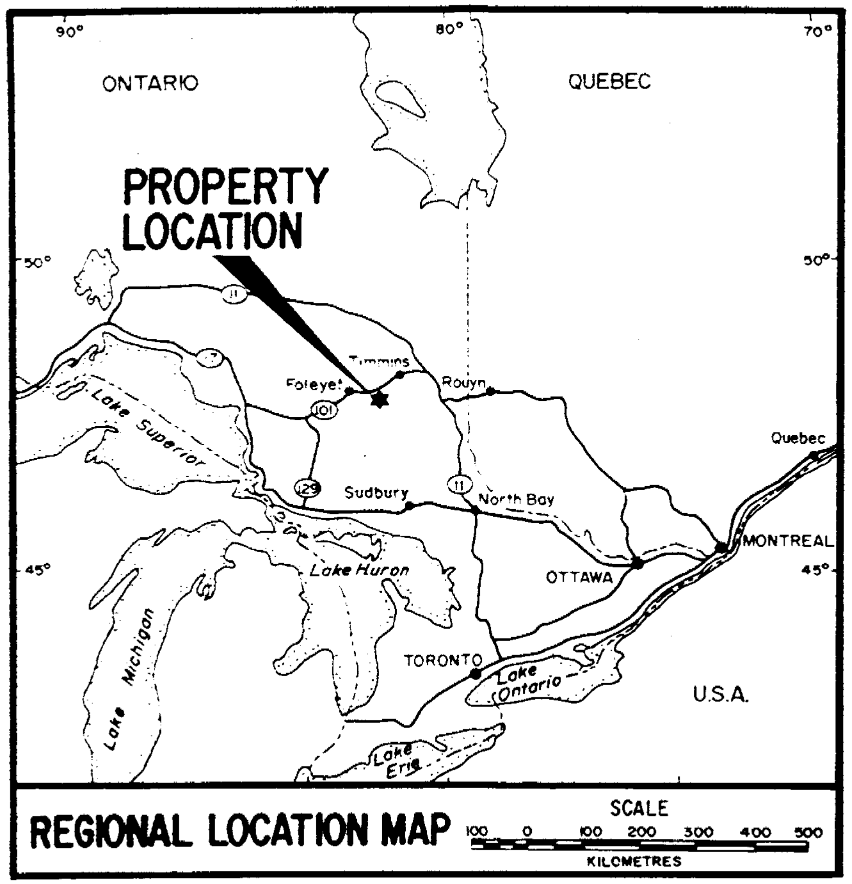
500 Apparent

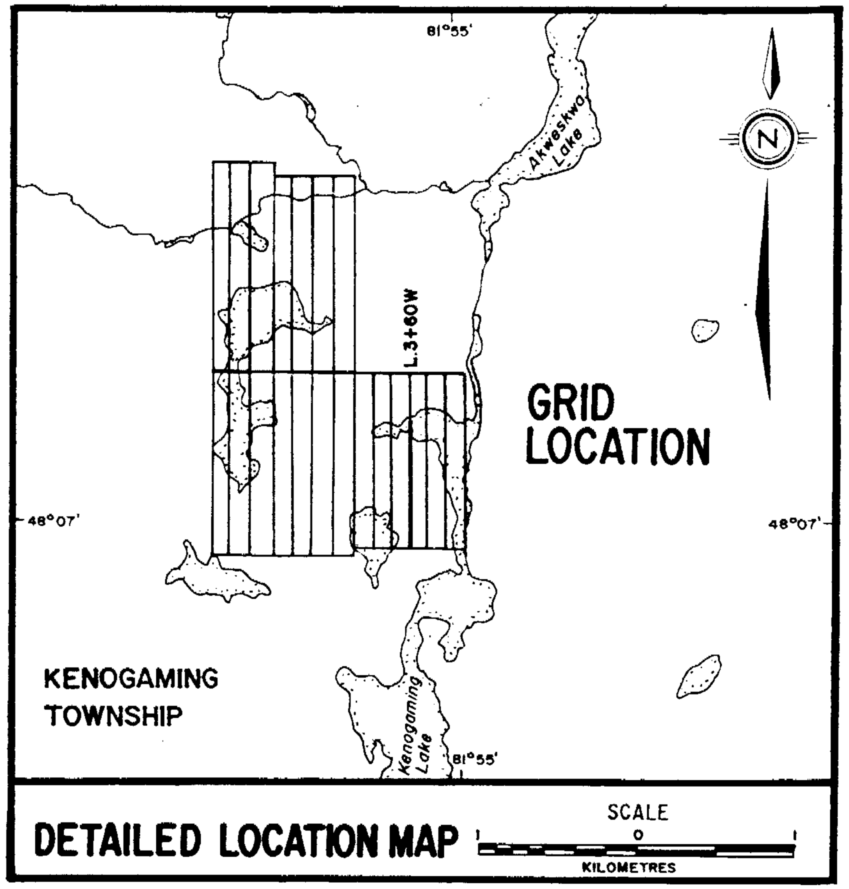
0 Chargeabili

Strong / We

Fault / Con







LEGEND

TRANSMITTER Huntec 2.5 kw

RECEIVER Huntec Mk IV

DOUBLE DIPOLE ARRAY

C_1 — a — C_2 na P_1 — a — P_2

Station Location

a = 40m n = 1,2,3,4,5

500 Apparent Resistivity Contour Level

0 Chargeability Contour Level

Strong / Weak Anomaly

Fault / Contact

SCALE

20 0 20 40 60 80 100

METRES

REBA RESOURCES LTD.

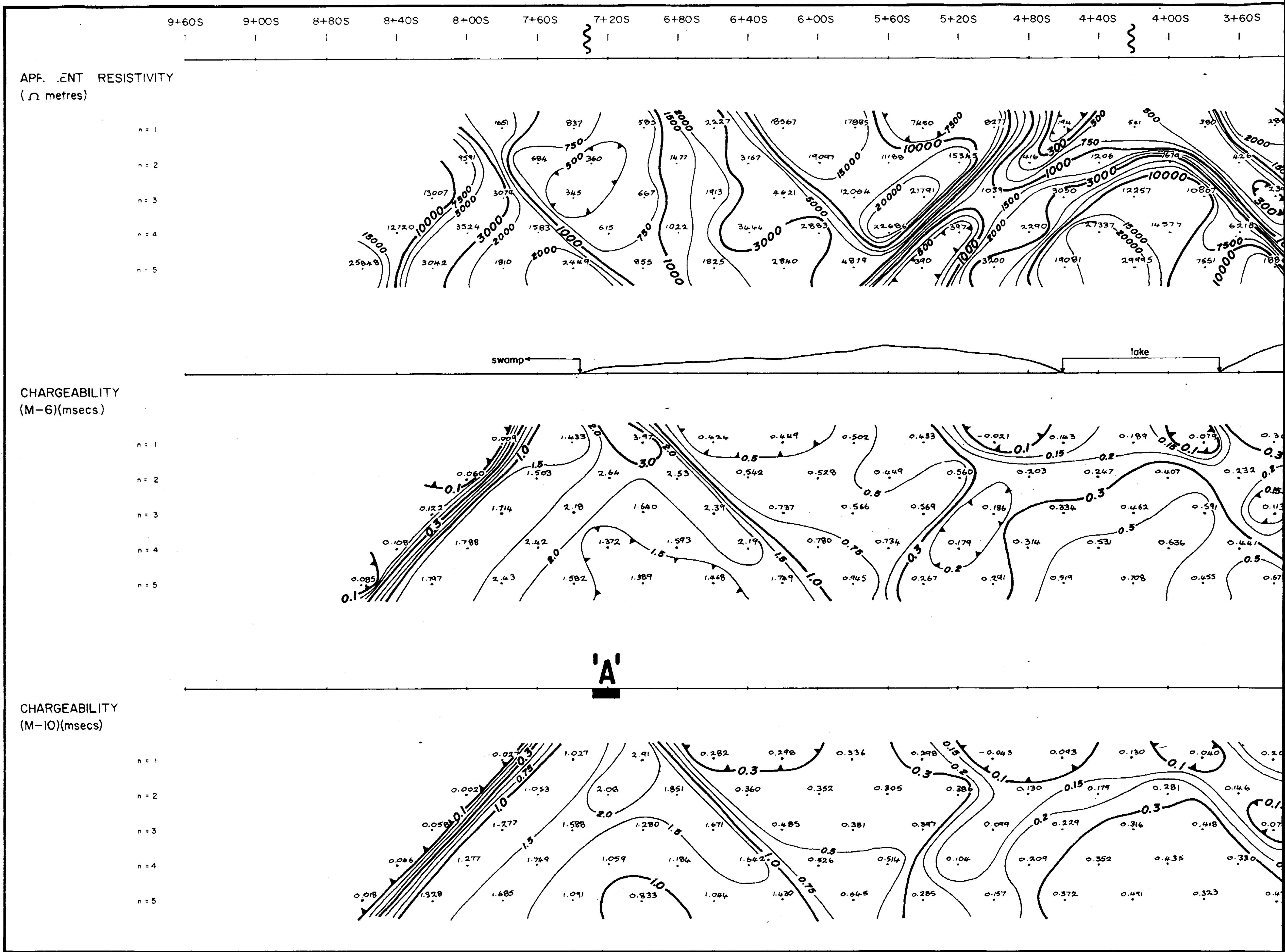
KENOGAMING TOWNSHIP PROJECT

I.P. PSEUDOSECTION

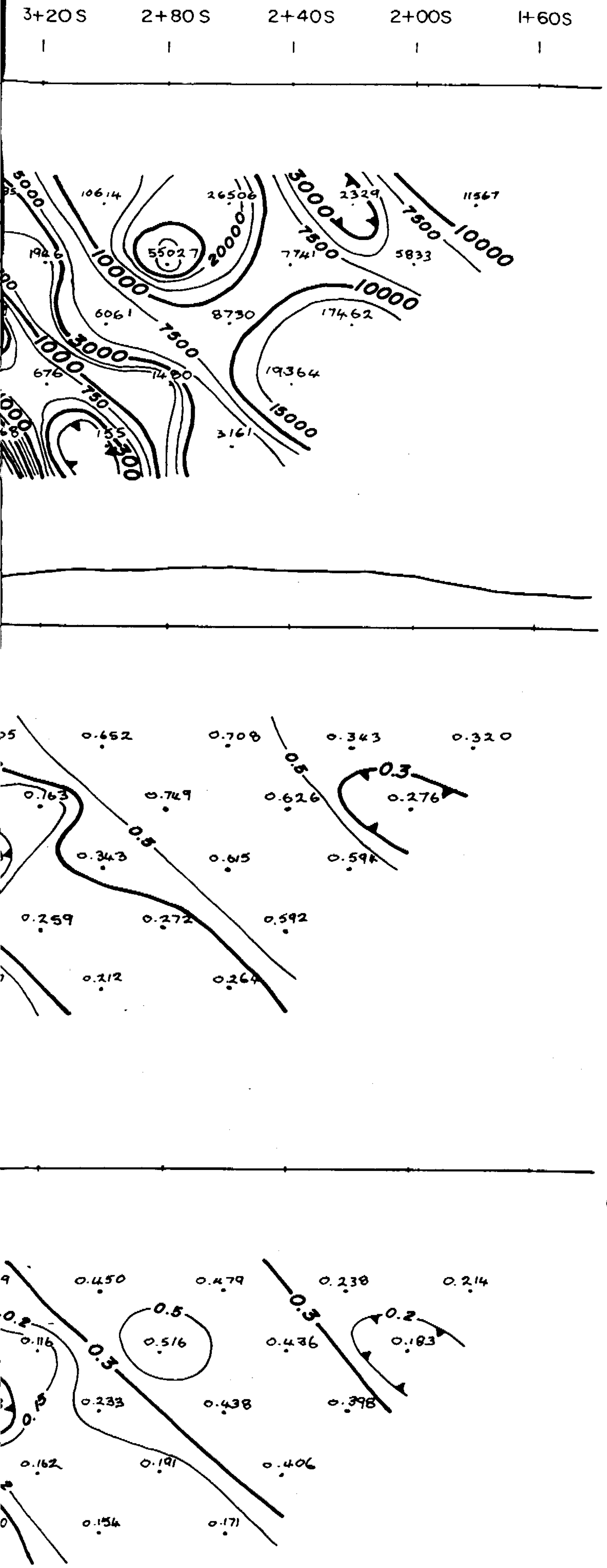
LINE 3+60 WEST

Project No.	C-653	By:	S. Bate
Scale:	1:2,000	Drawn:	G.C.S. Limited
Drawing No.	S-3	Date:	August, 1984

MPH Consulting Limited



9+60S
9+00S
8+80S
8+40S
8+00S
7+60S
7+20S
6+80S
6+40S
6+00S
5+60S
5+20S
4+80S
4+40S
4+00S
3+60S
APP. .ENT RESISTIVITY
(Ω metres)
n = 1
n = 2
n = 3
n = 4
n = 5
swamp
lake
CHARGEABILITY
(M-6)(msecs)
n = 1
n = 2
n = 3
n = 4
n = 5
'A'
CHARGEABILITY
(M-10)(msecs)
n = 1
n = 2
n = 3
n = 4
n = 5



APPARENT RESISTIVITY
(Ω metres)

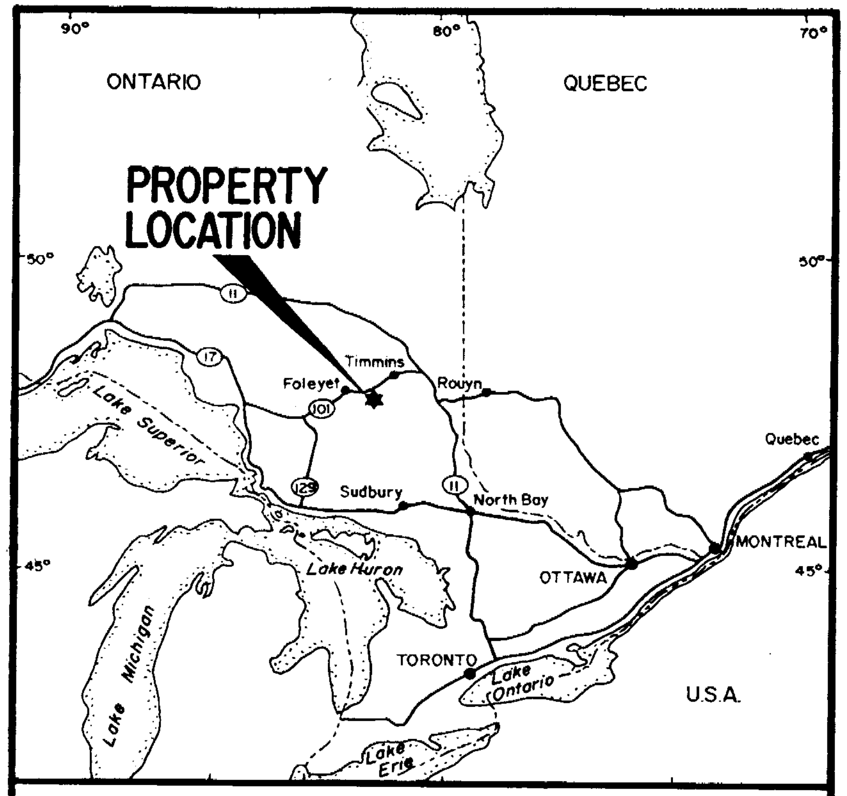
n = 1
n = 2
n = 3
n = 4
n = 5

CHARGEABILITY
(M-6)(msecs)

n = 1
n = 2
n = 3
n = 4
n = 5

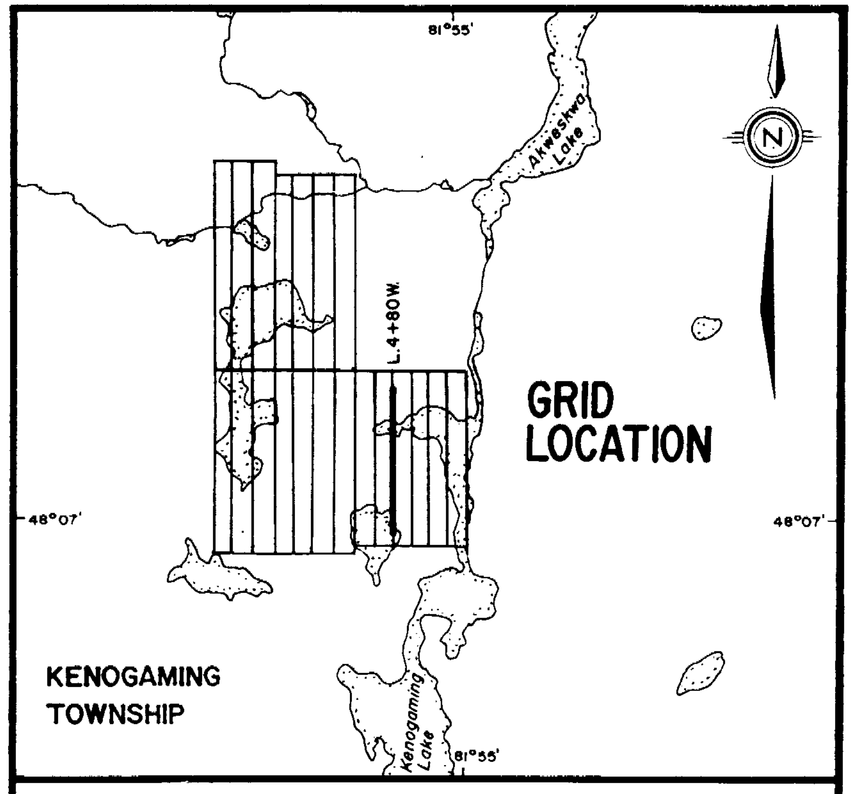
CHARGEABILITY
(M-10)(msecs.)

n = 1
n = 2
n = 3
n = 4
n = 5



REGIONAL LOCATION MAP

SCALE 100 0 100 200 300 400 500 KILOMETRES



DETAILED LOCATION MAP

SCALE 1 0 1 KILOMETRES

LEGEND

TRANSMITTER Huntec 2.5 kw

RECEIVER: Huntec Mk IV

DOUBLE DIPOLE ARRAY

C_1 —a— C_2 na P_1 —a— P_2

Station ↑ Location

a = 40m. n = 1,2,3,4,5

—500— Apparent Resistivity Contour Level

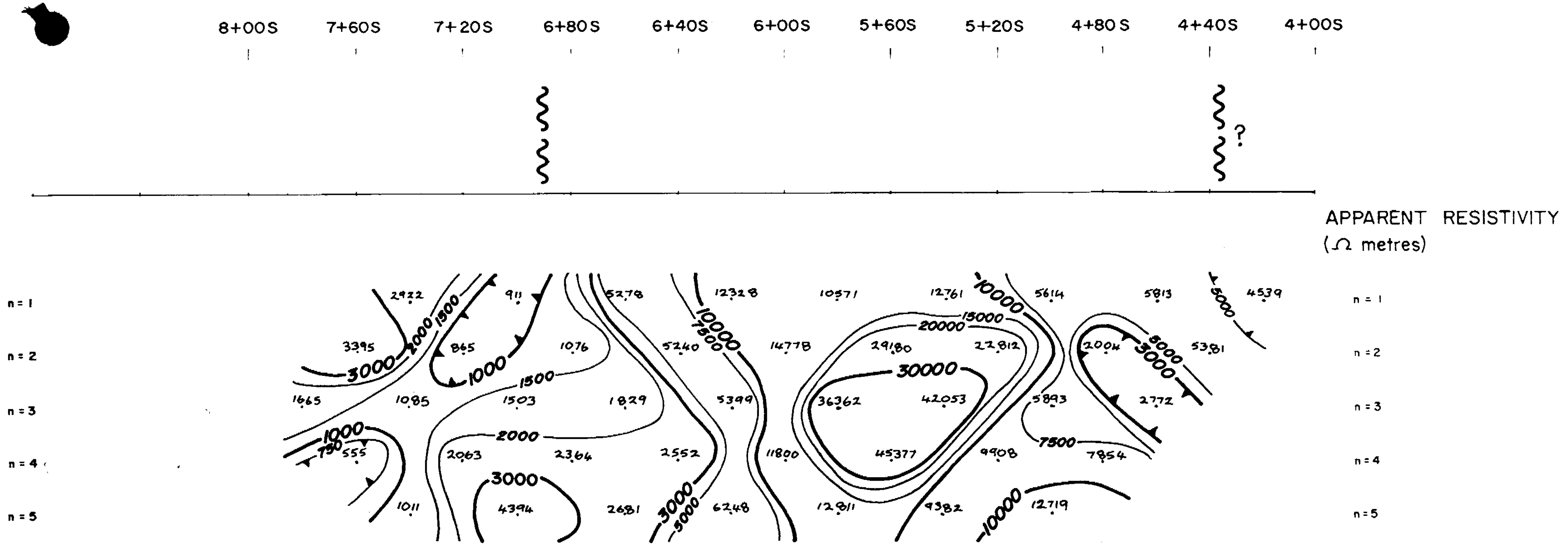
—1.0— Chargeability Contour Level

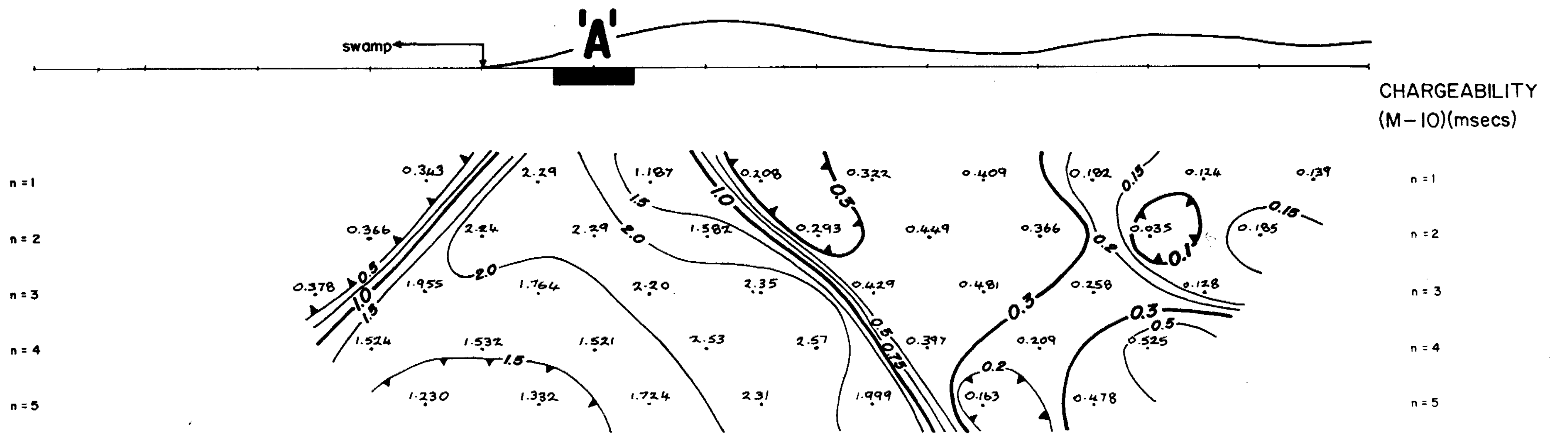
Strong / Weak Anomaly

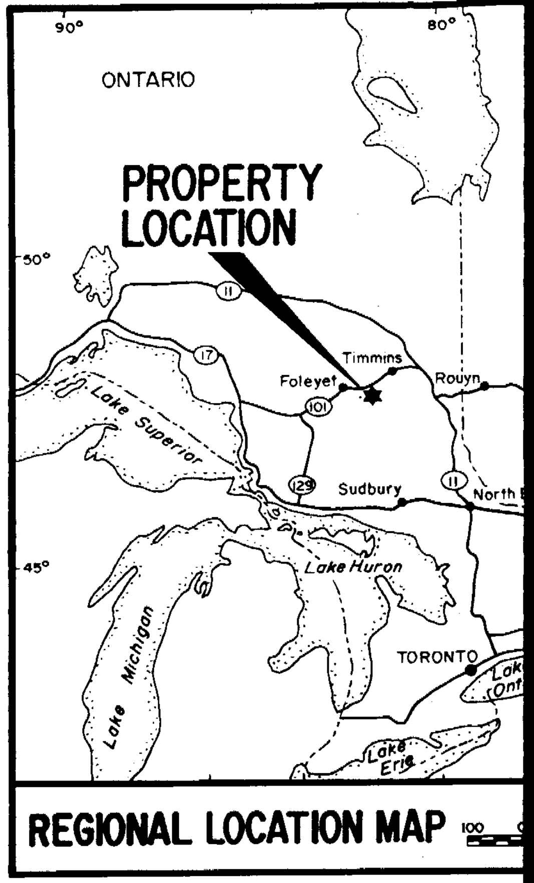
Fault/Contact

SCALE 20 0 20 40 60 80 100 METRES

REBA RESOURCES LTD.	
KENOGAMING TOWNSHIP PROJECT	
I.P. PSEUDOSECTION	
LINE 4+80 WEST	
Project No: C-653	By: S. Bate
Scale: 1:2,000	Drawn: G.C.S. Limited
Drawing No: S-4	Date: August, 1984
MPH Consulting Limited	







LEGEN

TRANSMITTER Hu

RECEIVER Hu

DOUBLE DIPOLE

C_1 — a — C_2 na

Station ↑ Location

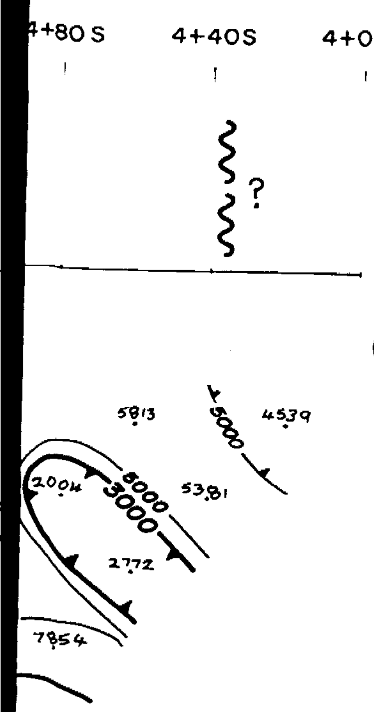
a = 40m

500 Apparent Resis

1.0 Chargeability C

Strong / Weak An

Fault/Contact



APPARENT RESISTIVITY
(Ω metres)

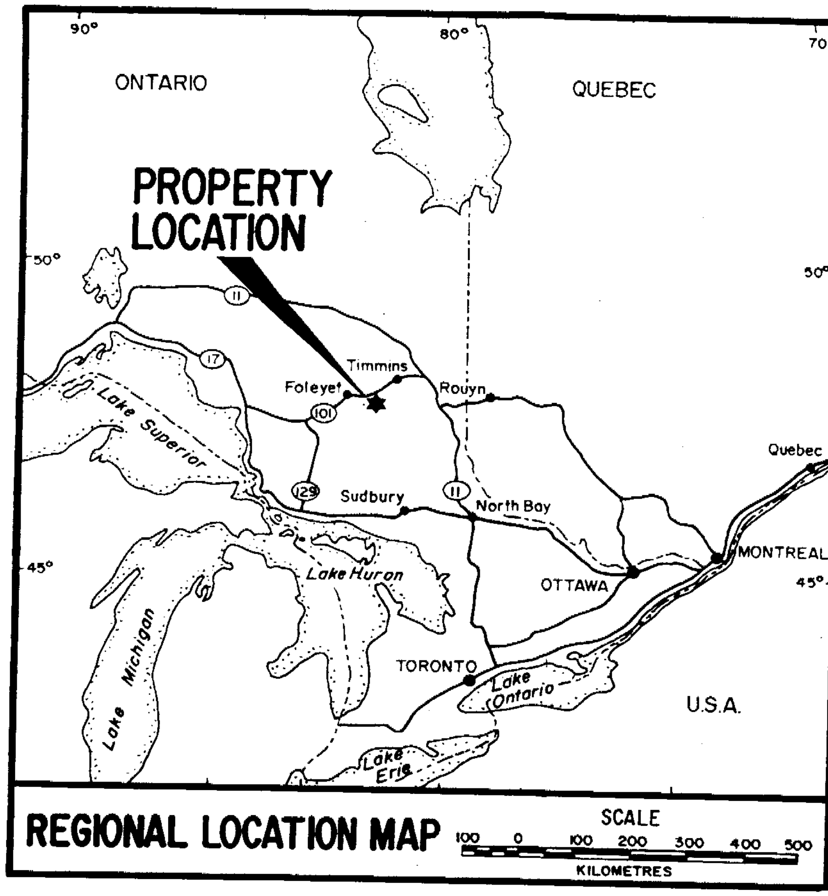
n = 1

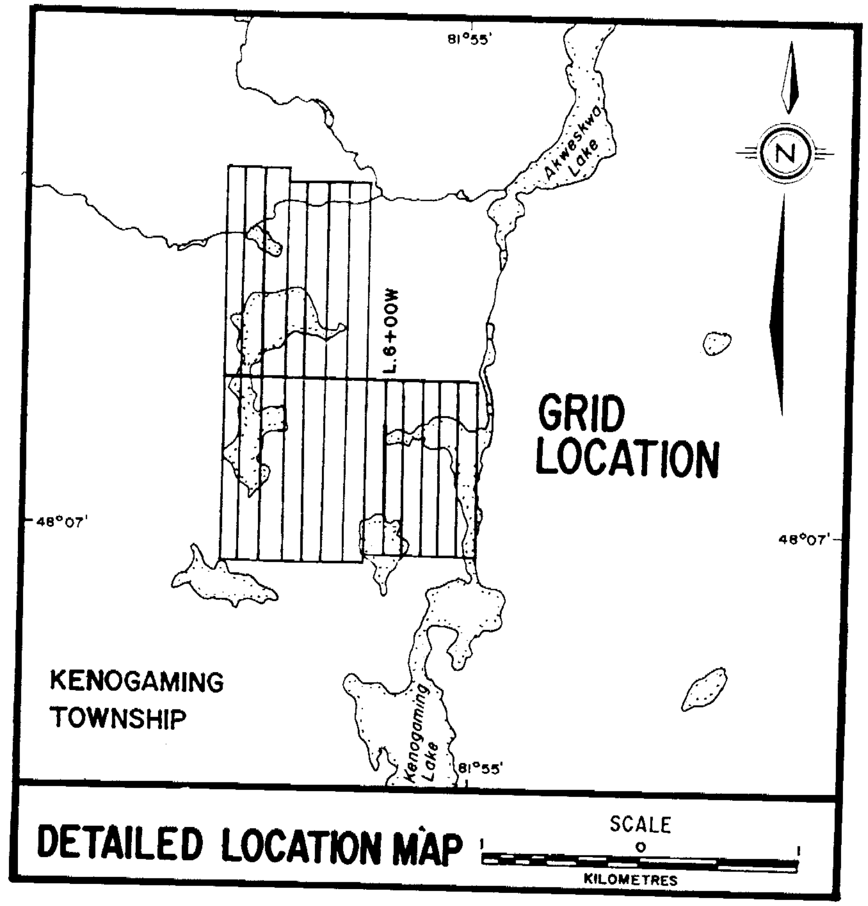
n = 2

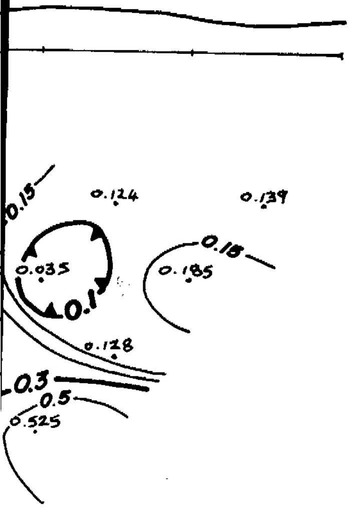
n = 3

n = 4

n = 5







CHARGEABILITY
(M−10)(msecs)

n = 1

n = 2

n = 3

n = 4

n = 5

LEGEND

TRANSMITTER Huntec 2.5 kw

RECEIVER: Huntec Mk IV

DOUBLE DIPOLE ARRAY

C_1 —— a —— C_2 na P_1 —— a —— P_2

Station ↑ Location

a = 40m n = 1,2,3,4,5

—500— Apparent Resistivity Contour Level

—1.0— Chargeability Contour Level

Strong / Weak Anomaly

Fault / Contact

SCALE

20 0 20 40 60 80 100

METRES

REBA RESOURCES LTD.

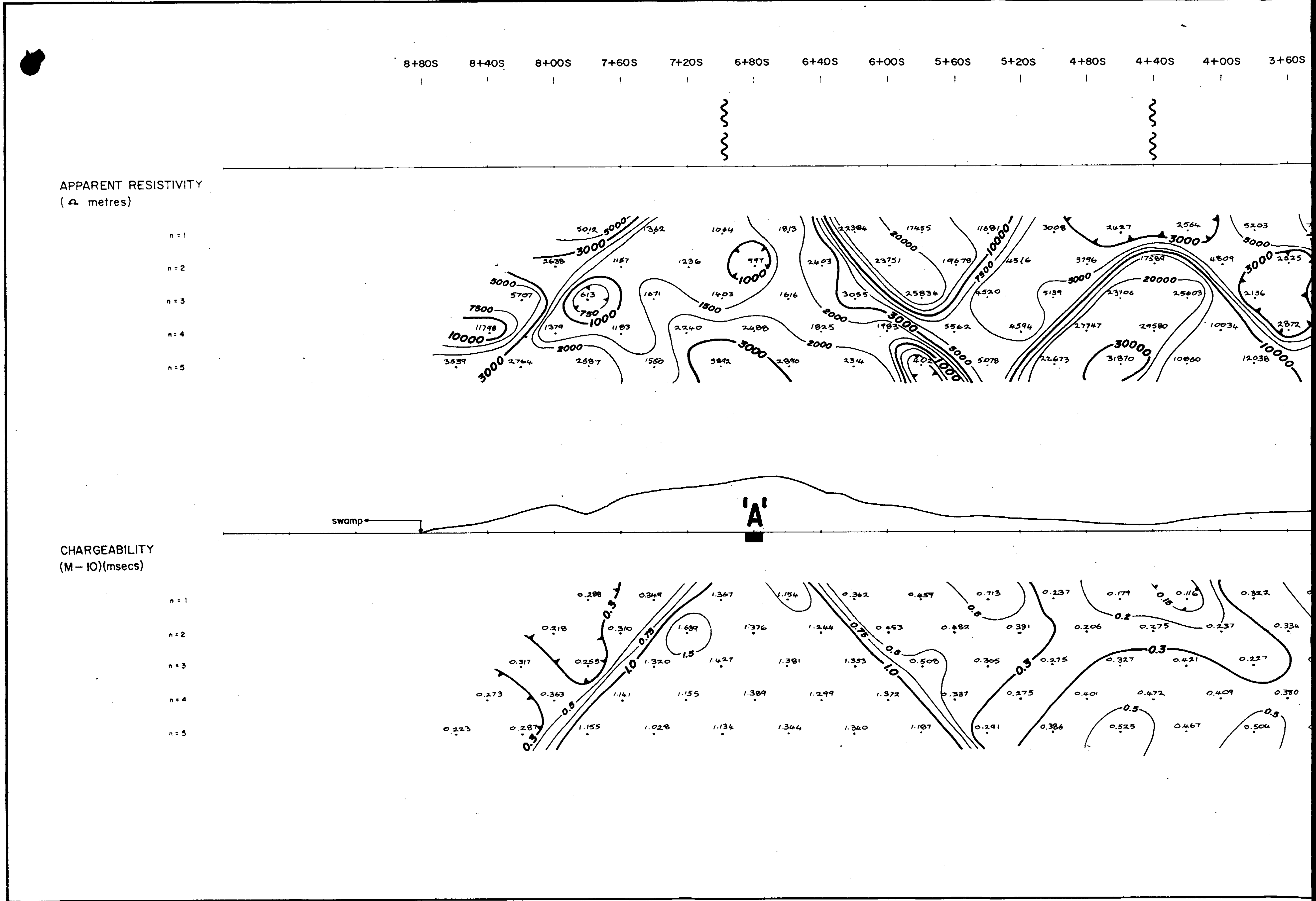
KENOGAMING TOWNSHIP PROJECT

I.P. PSEUDOSECTION

LINE 6+00 WEST

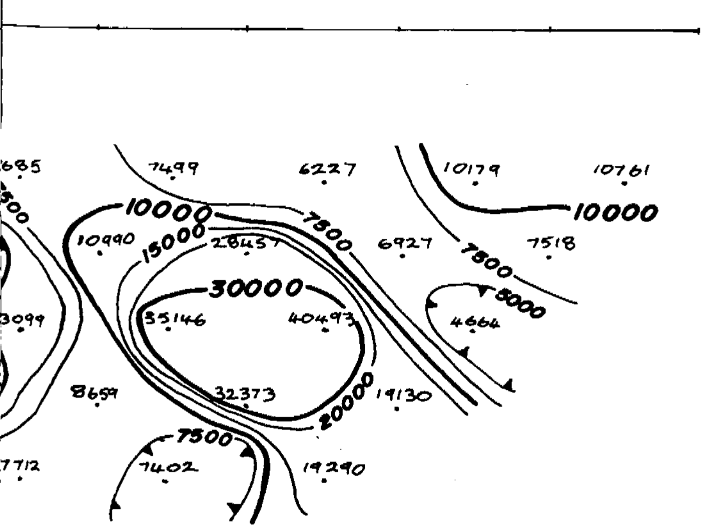
Project No.	C-653	By:	S. Bate
Scale:	1:2,000	Drawn:	G.C.S. Limited
Drawing No.:	S-5	Date:	August, 1984

MPH Consulting Limited



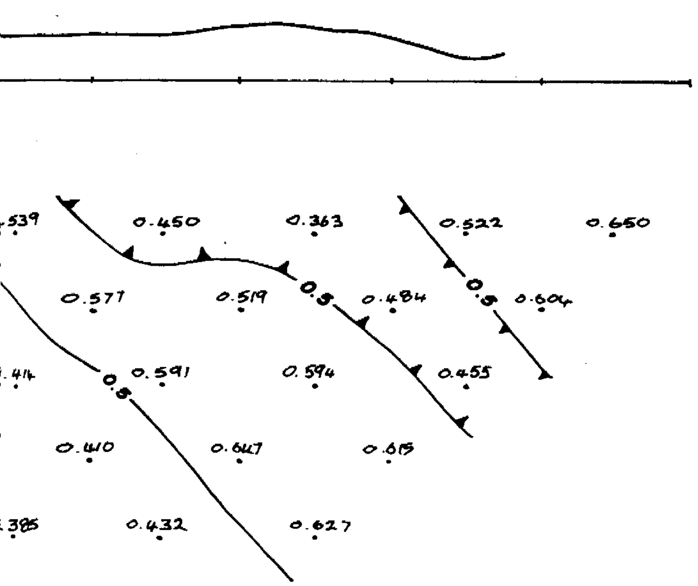
8+80S
8+40S
8+00S
7+60S
7+20S
6+80S
6+40S
6+00S
5+60S
5+20S
4+80S
4+40S
4+00S
3+60S
APPARENT RESISTIVITY
(Ω metres)
n = 1
n = 2
n = 3
n = 4
n = 5
swamp
'A'
CHARGEABILITY
(M – 10)(msecs)
n = 1
n = 2
n = 3
n = 4
n = 5

3+20S 2+80S 2+40S 2+00S 1+60S



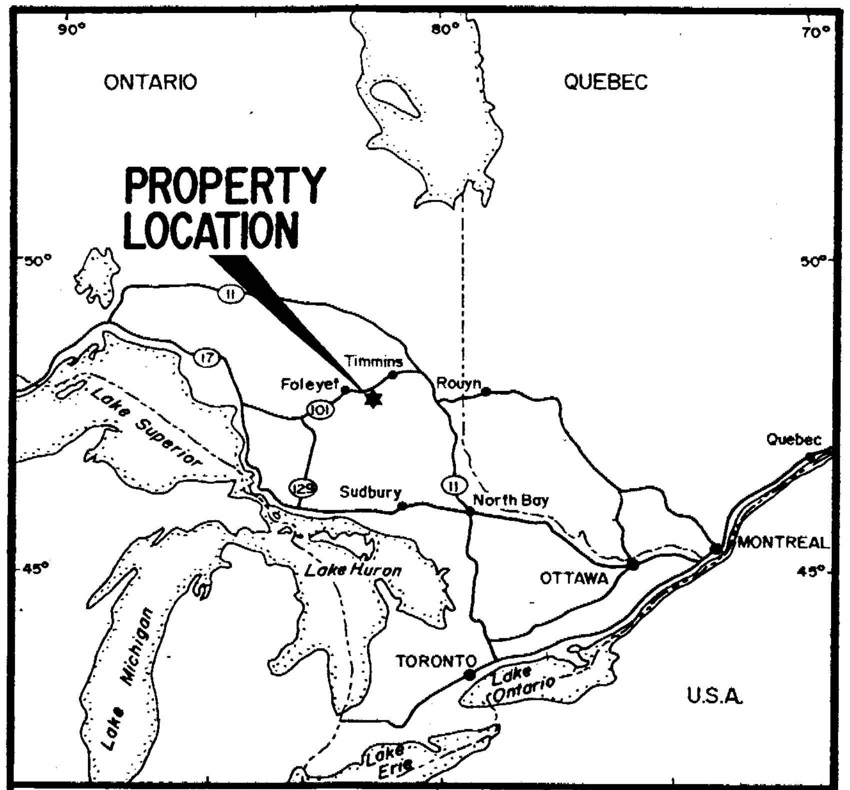
APPARENT RESISTIVITY
(Ω metres)

n = 1
n = 2
n = 3
n = 4
n = 5



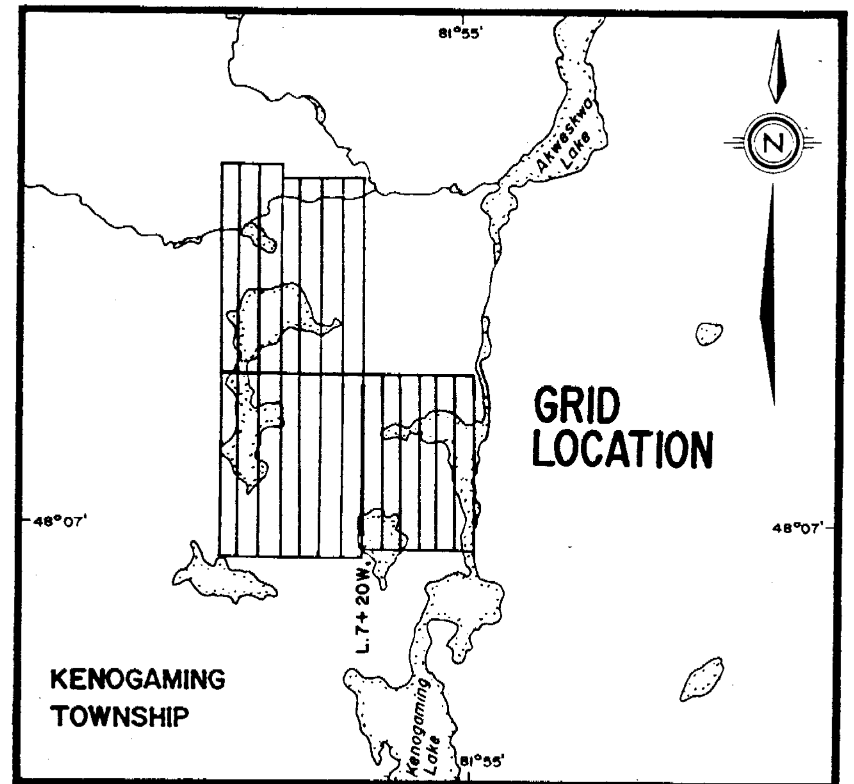
CHARGEABILITY -
(M-10)(msecs)

n = 1
n = 2
n = 3
n = 4
n = 5



REGIONAL LOCATION MAP

SCALE 100 0 100 200 300 400 500 KILOMETRES



DETAILED LOCATION MAP

SCALE 1 0 1 KILOMETRES

LEGEND

TRANSMITTER: Huntec 2.5 kw

RECEIVER: Huntec Mk IV

DOUBLE DIPOLE ARRAY

C_1 —a— C_2 na P_1 —a— P_2

Station ↑ Location

a = 40m n = 1,2,3,4,5

—500— Apparent Resistivity Contour Level

—1.0— Chargeability Contour Level

Strong/Weak Anomaly

Fault/Contact

SCALE
20 0 20 40 60 80 100
METRES

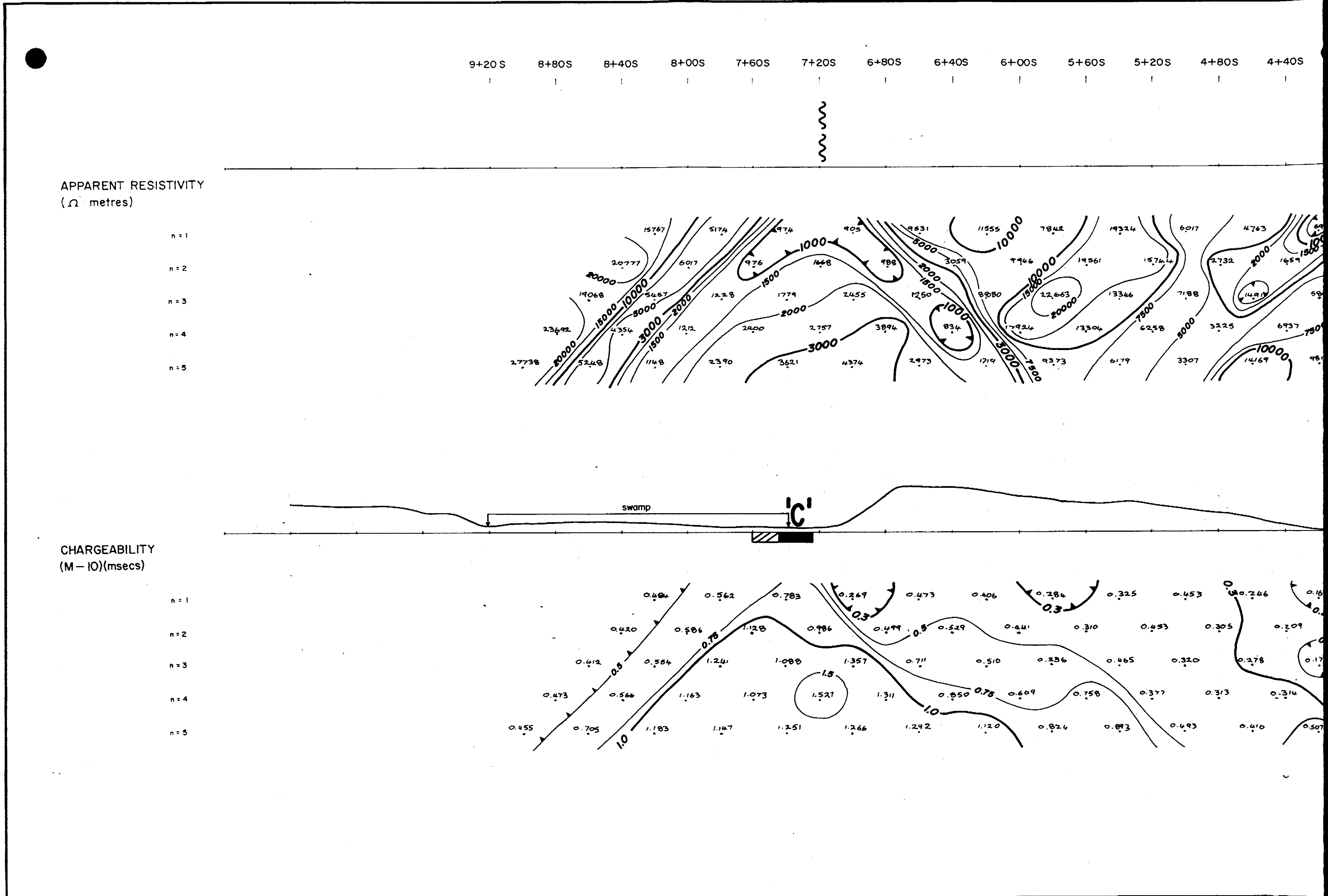
REBA RESOURCES LTD.

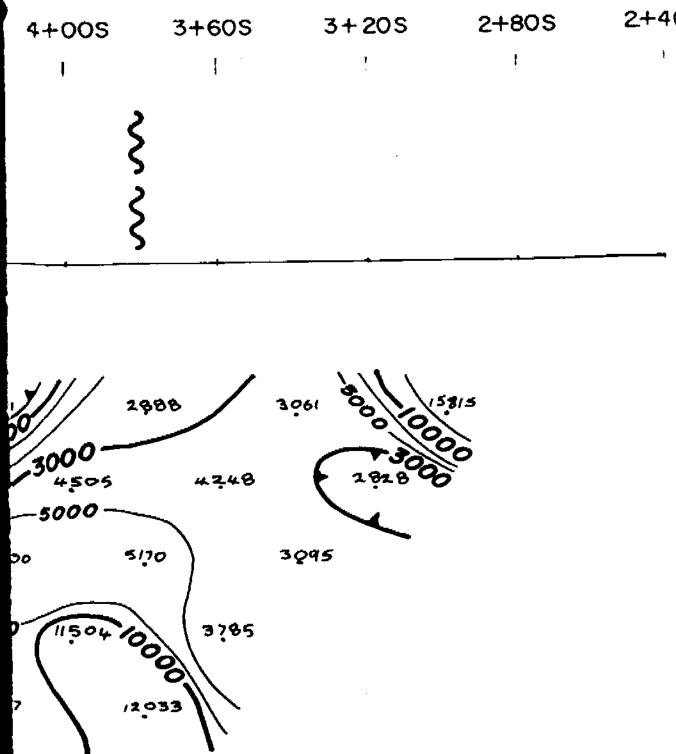
KENOGAMING TOWNSHIP PROJECT

I.P. PSEUDOSECTION
LINE 7+20 WEST

Project No:	C-653	By:	S. Bate
Scale:	1:2,000	Drawn:	G.C.S. Limited
Drawing No:	S-6	Date:	August, 1984

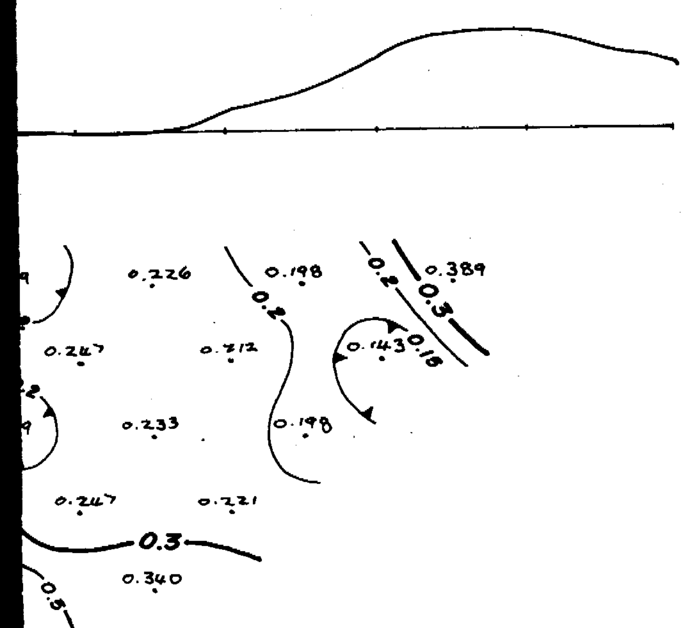
MPH Consulting Limited


9+20 S
8+80S
8+40S
8+00S
7+60S
7+20S
6+80S
6+40S
6+00S
5+60S
5+20S
4+80S
4+40S
APPARENT RESISTIVITY
(Ω metres)
n = 1
n = 2
n = 3
n = 4
n = 5
swamp
'C'
CHARGEABILITY
(M – 10)(msecs)
n = 1
n = 2
n = 3
n = 4
n = 5



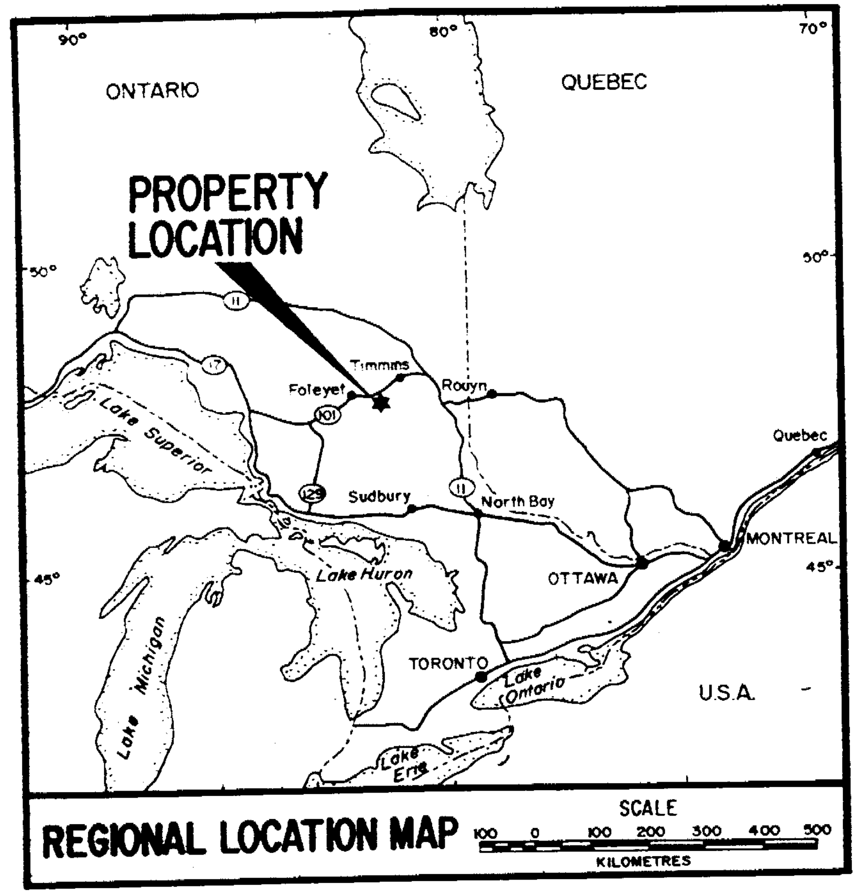
APPARENT RESISTIVITY
(Ω metres)

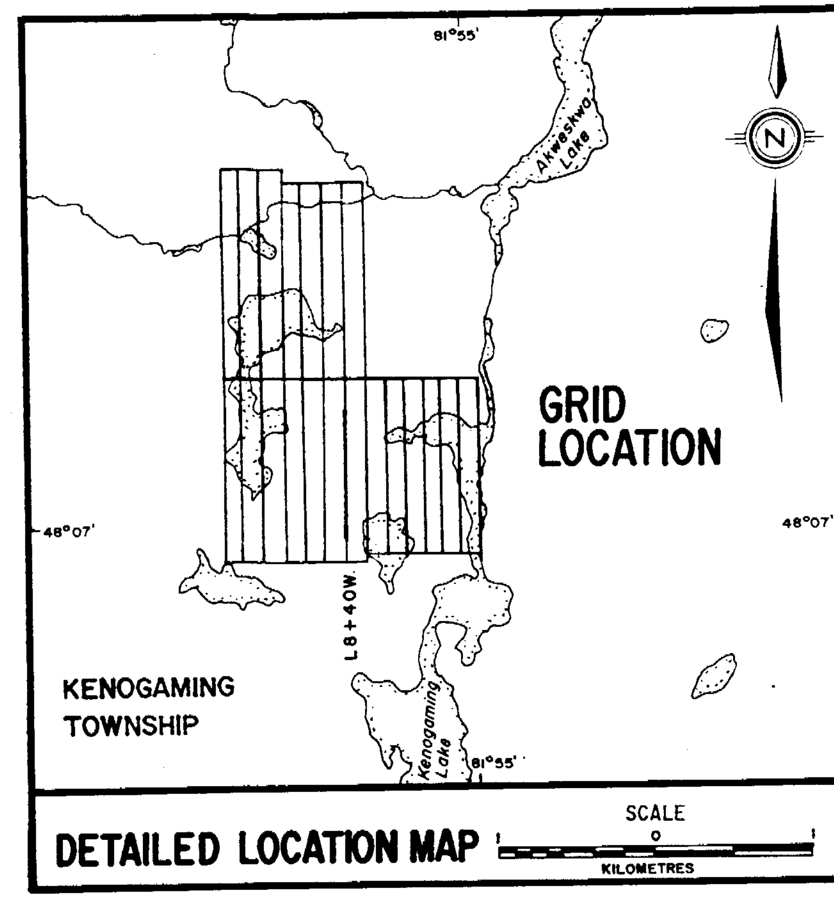
n = 1
n = 2
n = 3
n = 4
n = 5



CHARGEABILITY
(M – 10)(msecs)

n = 1
n = 2
n = 3
n = 4
n = 5





LEGEND

TRANSMITTER Huntec 2.5 kw

RECEIVER Huntec Mk IV

DOUBLE DIPOLE ARRAY

C_1 —a— C_2 na P_1 —a— P_2

Station ↑ Location

a = 40m n = 1,2,3,4,5

—500— Apparent Resistivity Contour Level

—10— Chargeability Contour Level

Strong / Weak Anomaly

Fault / Contact

SCALE

20 0 20 40 60 80 100

METRES

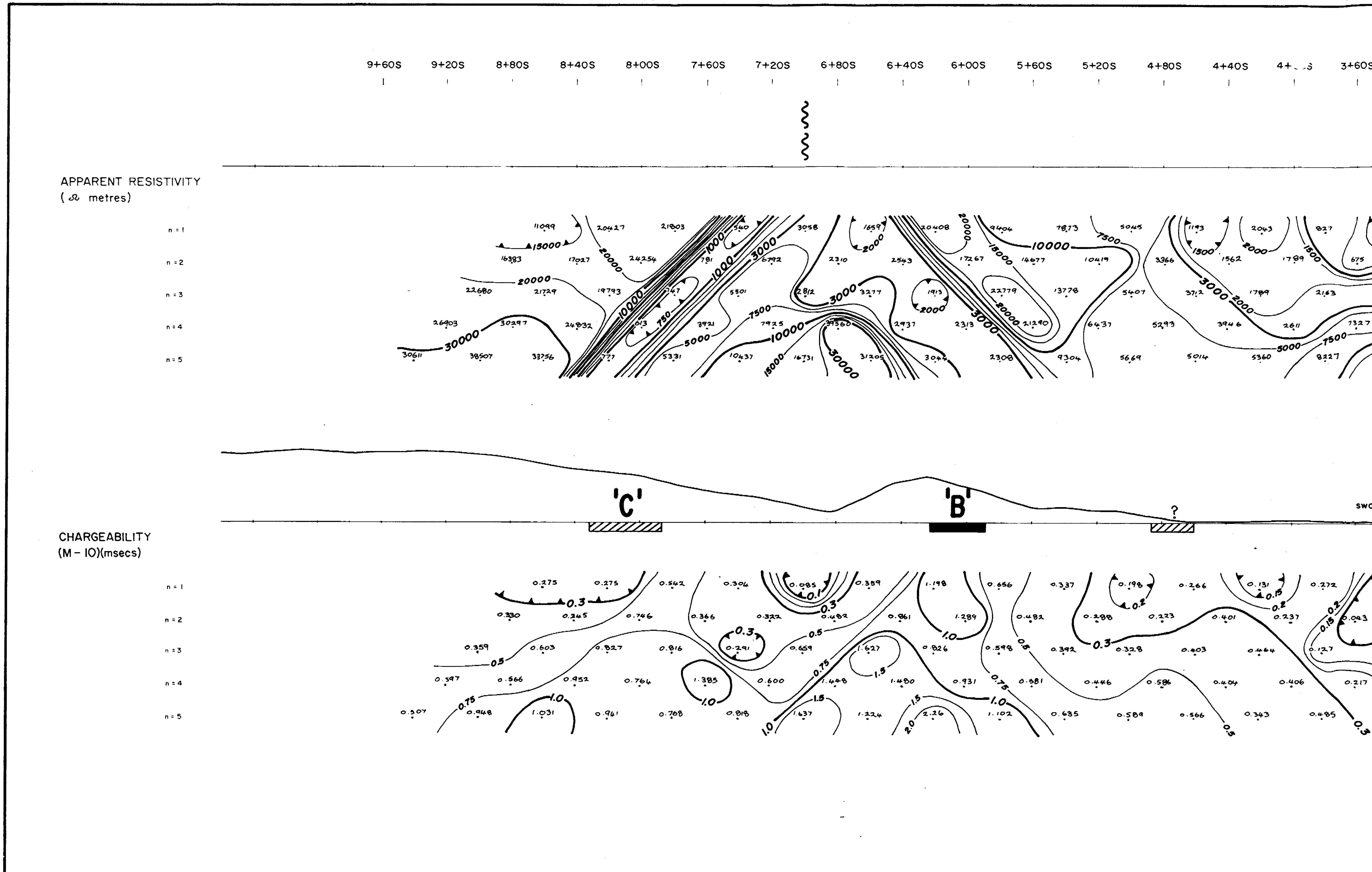
REBA RESOURCES LTD.

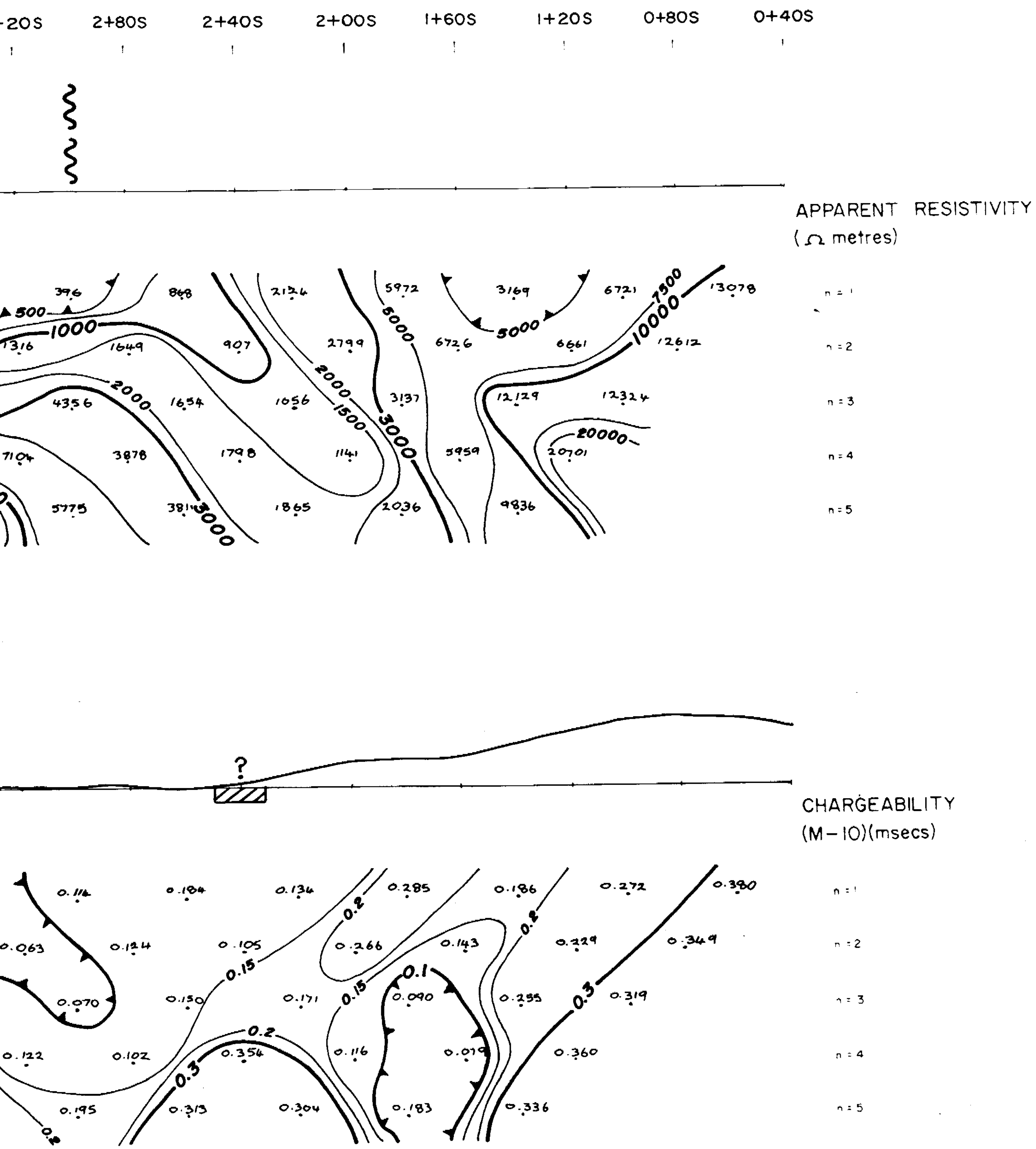
KENOGAMING TOWNSHIP PROJECT

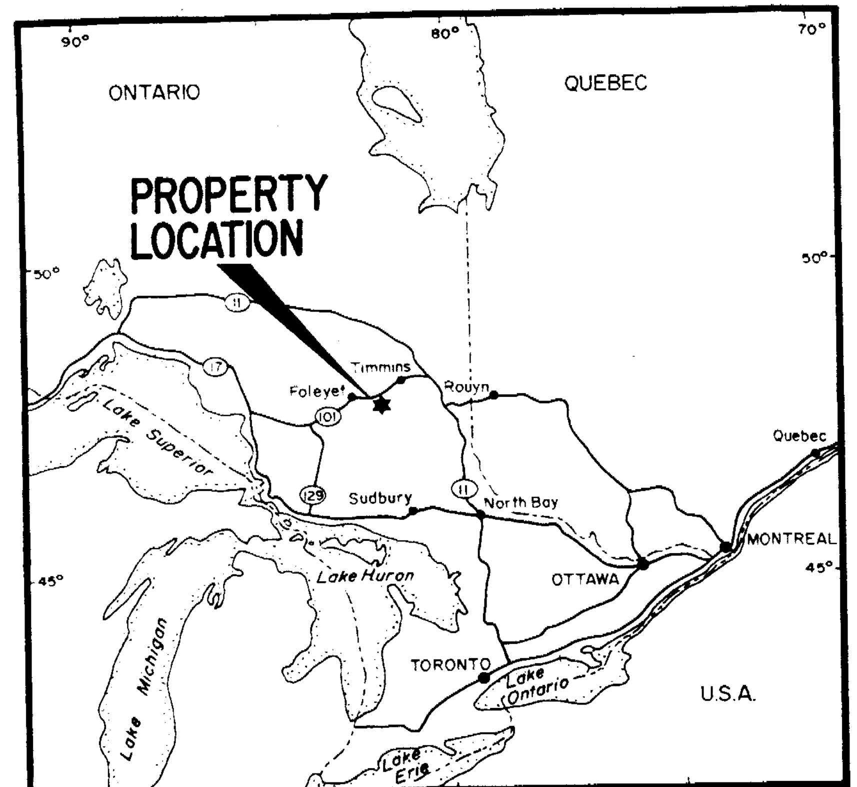
I.P. PSEUDOSECTION
LINE 8+40 WEST

Project No:	C – 653	By:	S. Bate
Scale:	1:2,000	Drawn:	G.C.S. Limited
Drawing No:	S-7	Date:	August, 1984

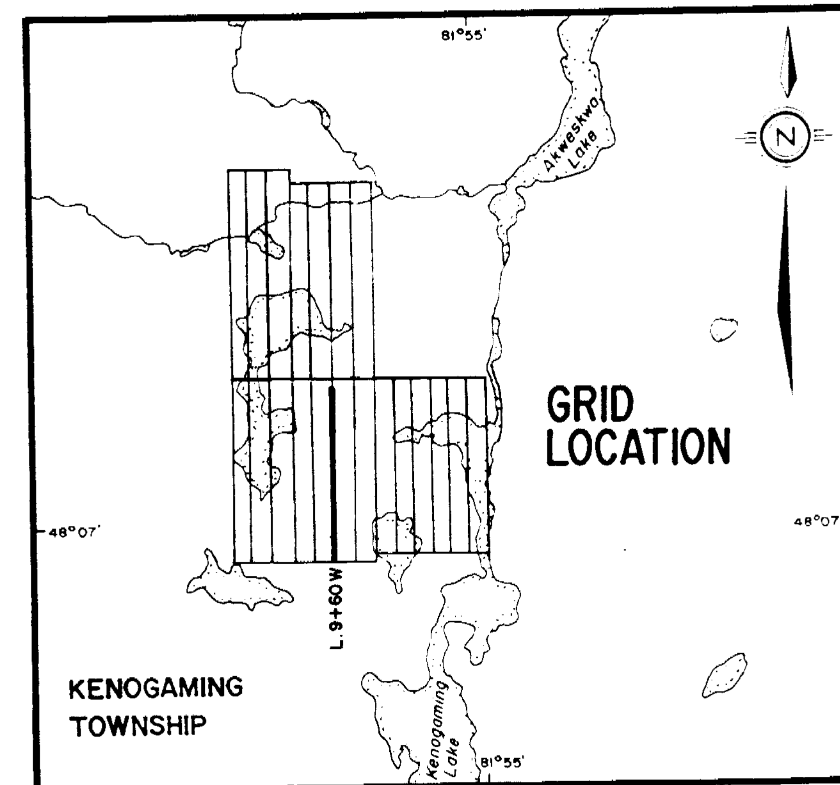
MPH Consulting Limited


9+60S
9+20S
8+80S
8+40S
8+00S
7+60S
7+20S
6+80S
6+40S
6+00S
5+60S
5+20S
4+80S
4+40S
3+60S
APPARENT RESISTIVITY
(Ω metres)
n = 1
n = 2
n = 3
n = 4
n = 5
'C'
'B'
?
CHARGEABILITY
(M - 10)(msecs)
n = 1
n = 2
n = 3
n = 4
n = 5





REGIONAL LOCATION MAP



DETAILED LOCATION MAP

LEGEND

TRANSMITTER Huntec 2.5 kw

RECEIVER Huntec Mk IV

DOUBLE DIPOLE ARRAY

Station Location

a = 40m   n = 1,2,3,4,5

500 Apparent Resistivity Contour Level

0.1 Chargeability Contour Level

Strong / Weak Anomaly

Fault / Contact

SCALE

METRES

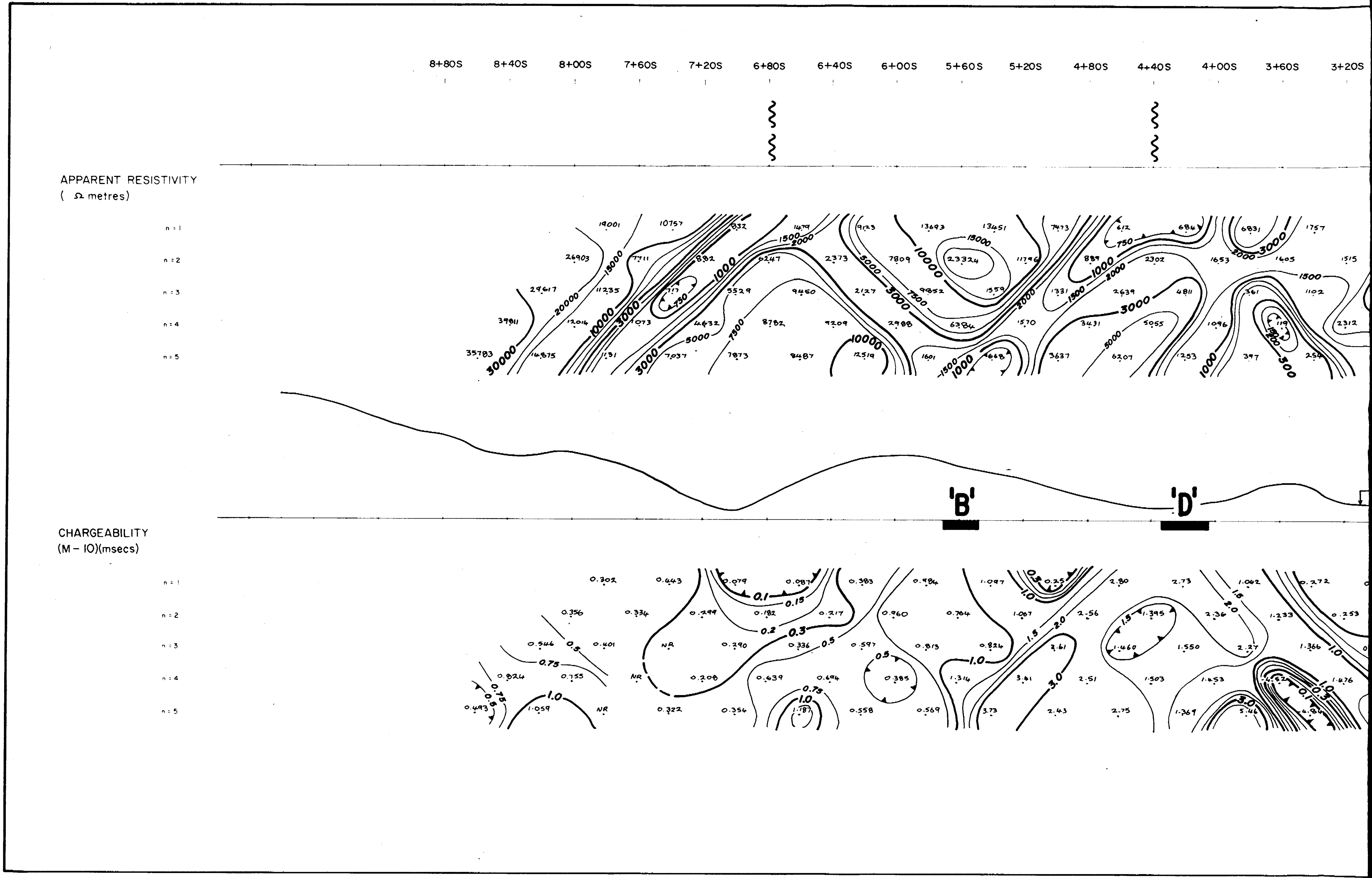
REBA RESOURCES LTD.

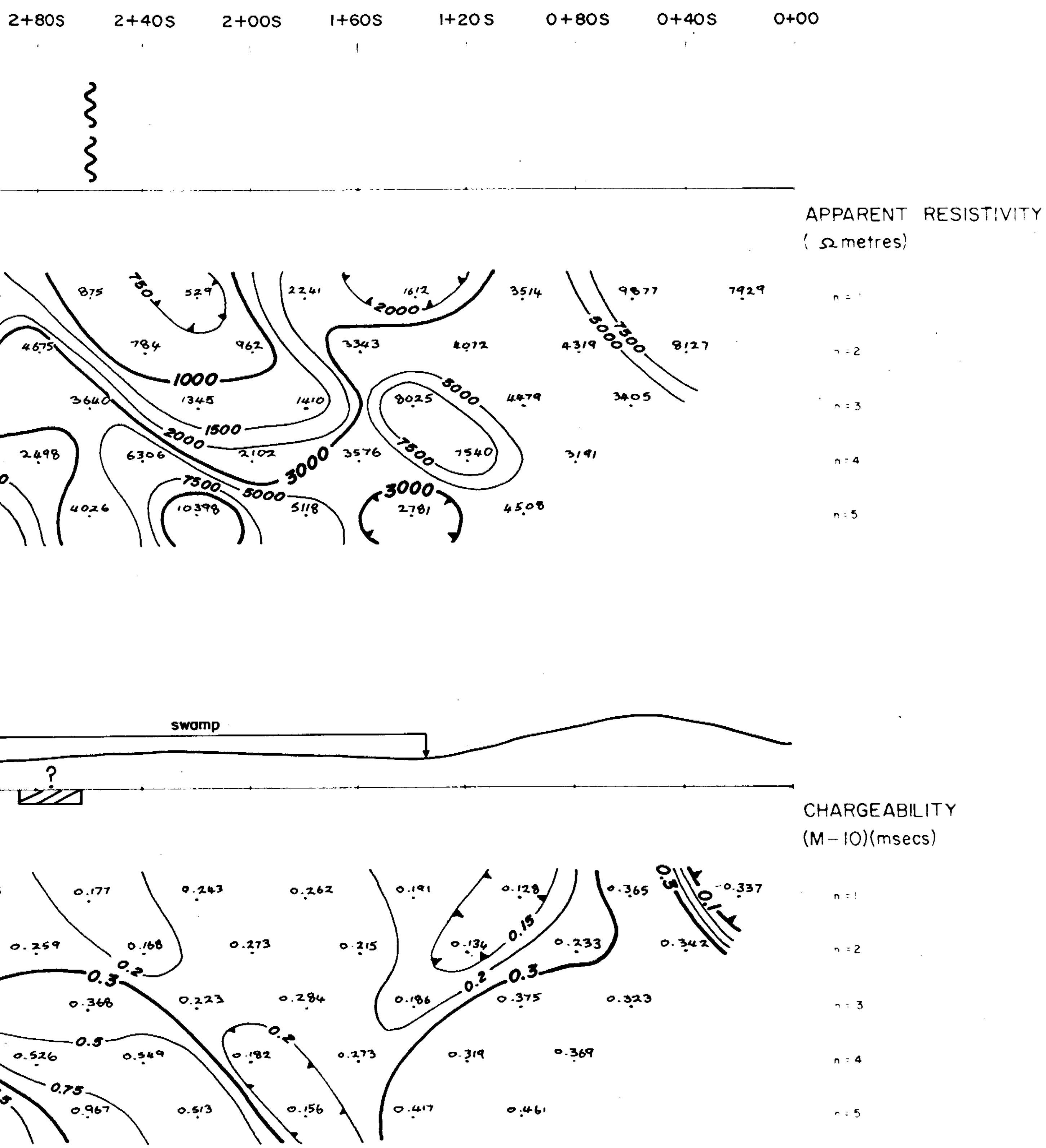
KENOGAMING TOWNSHIP PROJECT

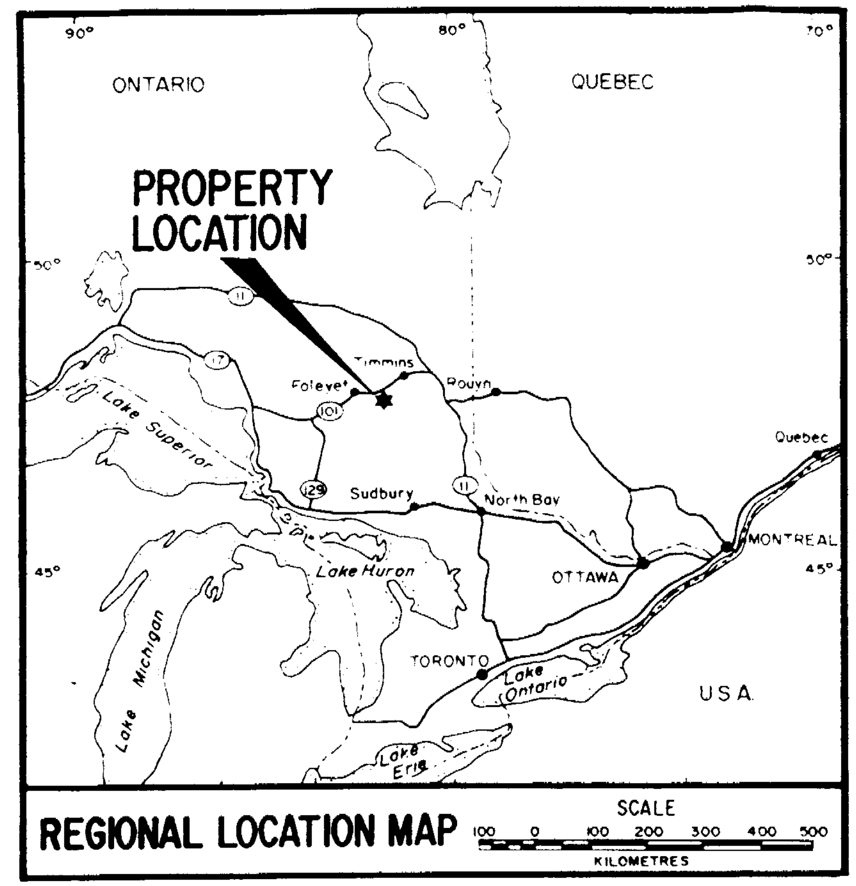
I.P. PSEUDOSECTION
LINE 9+60 WEST

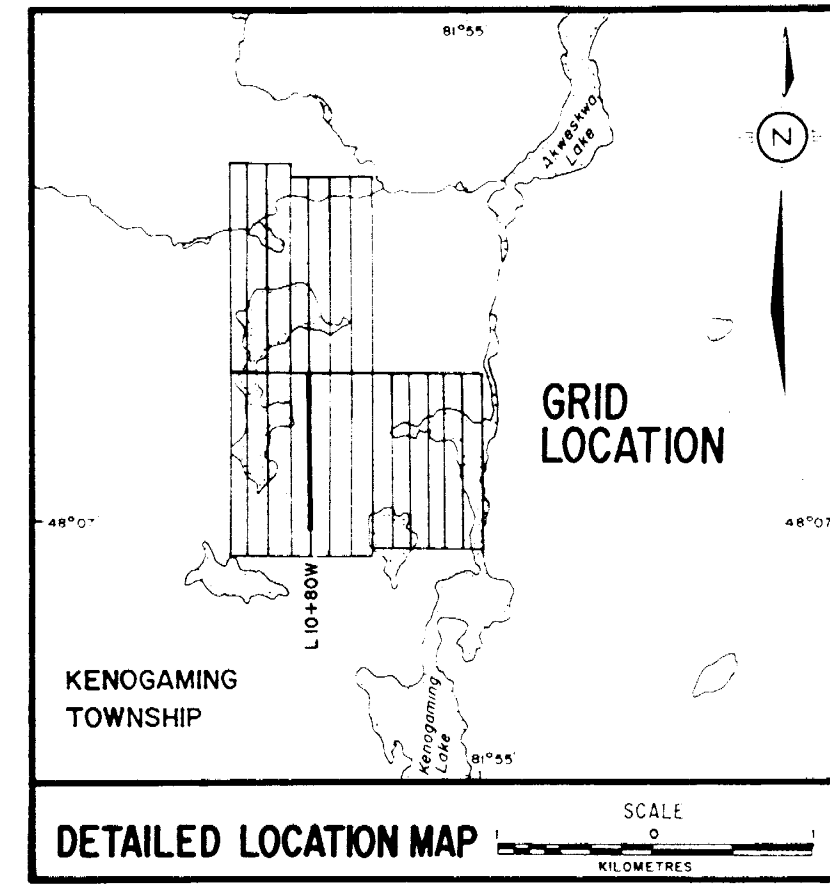
Project No.	C-653	By	S. Bate
Scale	1:2,000	Drawn	G.C.S. Limited
Drawing No.	S-8	Date	August, 1984

MPH Consulting Limited


8+80S
8+40S
8+00S
7+60S
7+20S
6+80S
6+40S
6+00S
5+60S
5+20S
4+80S
4+40S
4+00S
3+60S
3+20S
APPARENT RESISTIVITY
(Ω metres)
n = 1
n = 2
n = 3
n = 4
n = 5
'B'
'D'
CHARGEABILITY
(M – 10)(msecs)
n = 1
n = 2
n = 3
n = 4
n = 5







LEGEND

TRANSMITTER Huntec 2.5 kw

RECEIVER Huntec Mk IV

DOUBLE DIPOLE ARRAY

40m 1, 2, 3, 4, 5

500 Apparent Resistivity Contour Level

Chargeability Contour Level

Strong/Weak Anomaly

Fault/Contact

SCALE

20 0 20 40 60 80 100

METRES

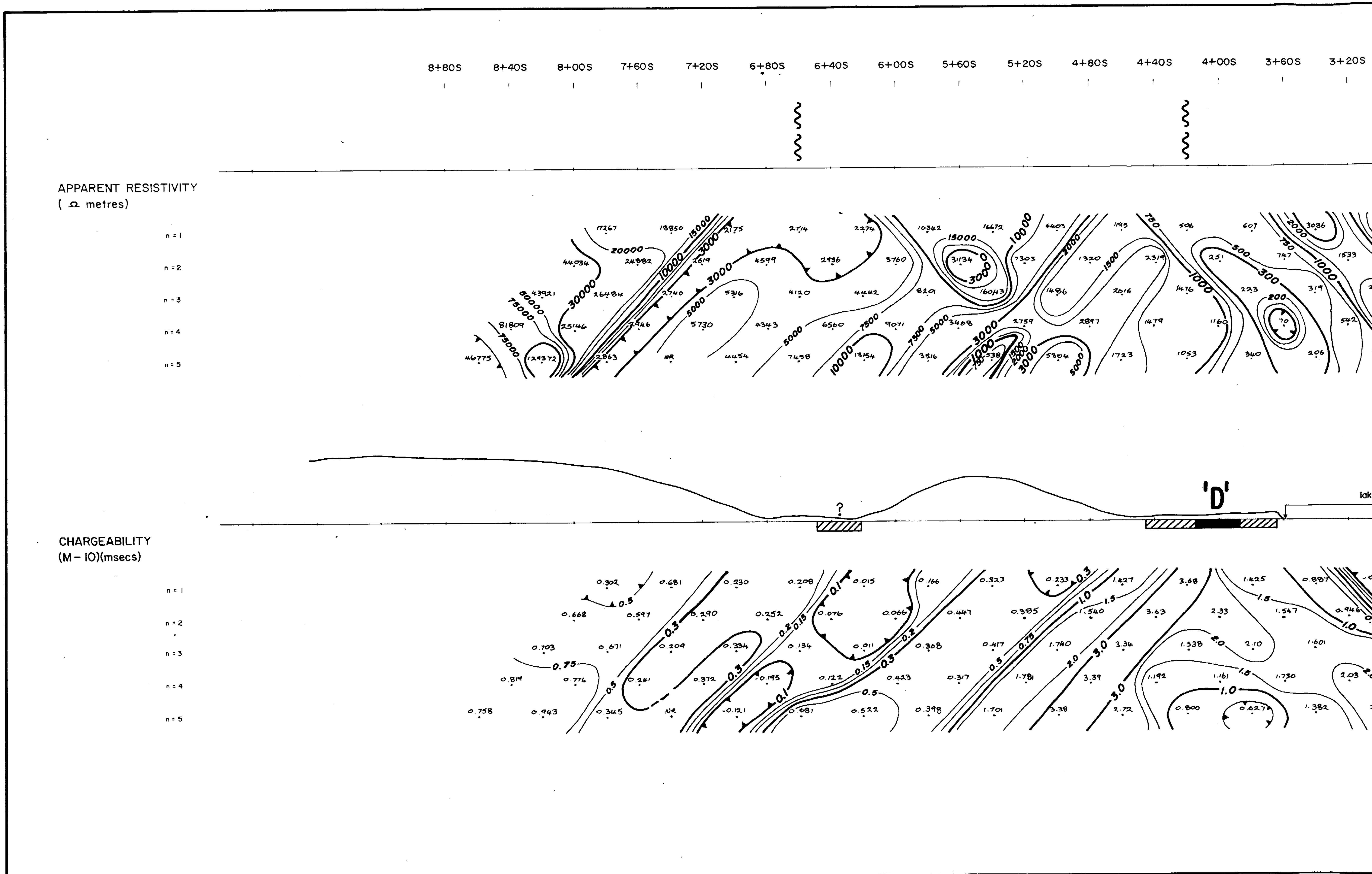
REBA RESOURCES LTD.

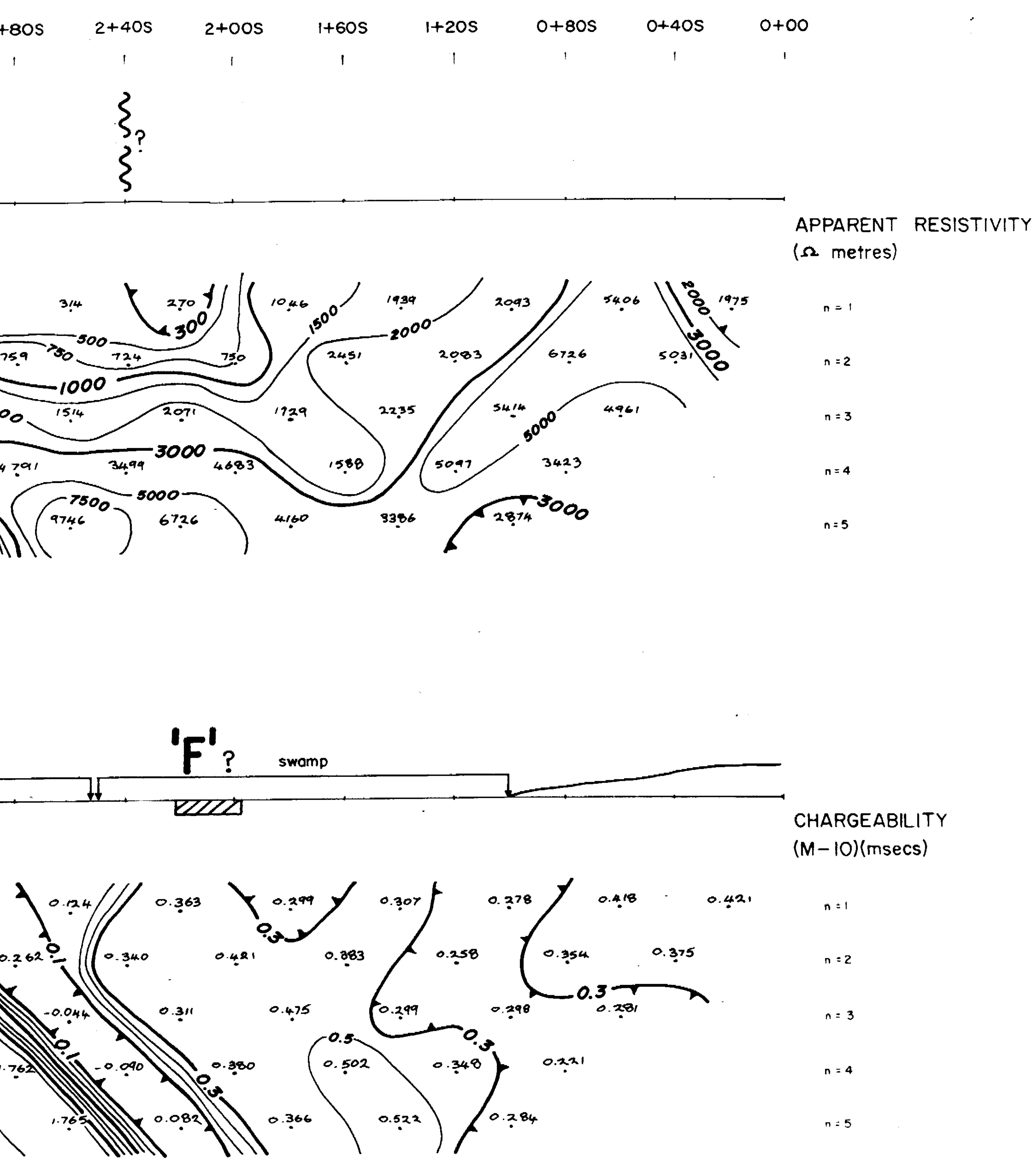
KENOGAMING TOWNSHIP PROJECT

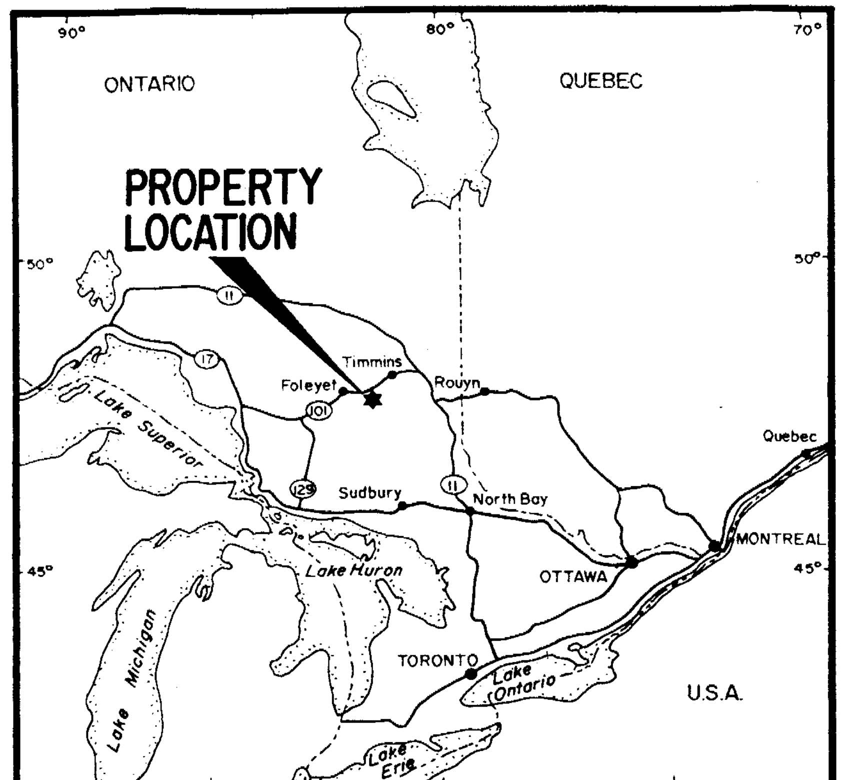
I.P. PSEUDOSECTION
LINE 10+80 WEST

C-553 S. Bate
1:2,000 G.C.S. Limited
S-9 August, 1984

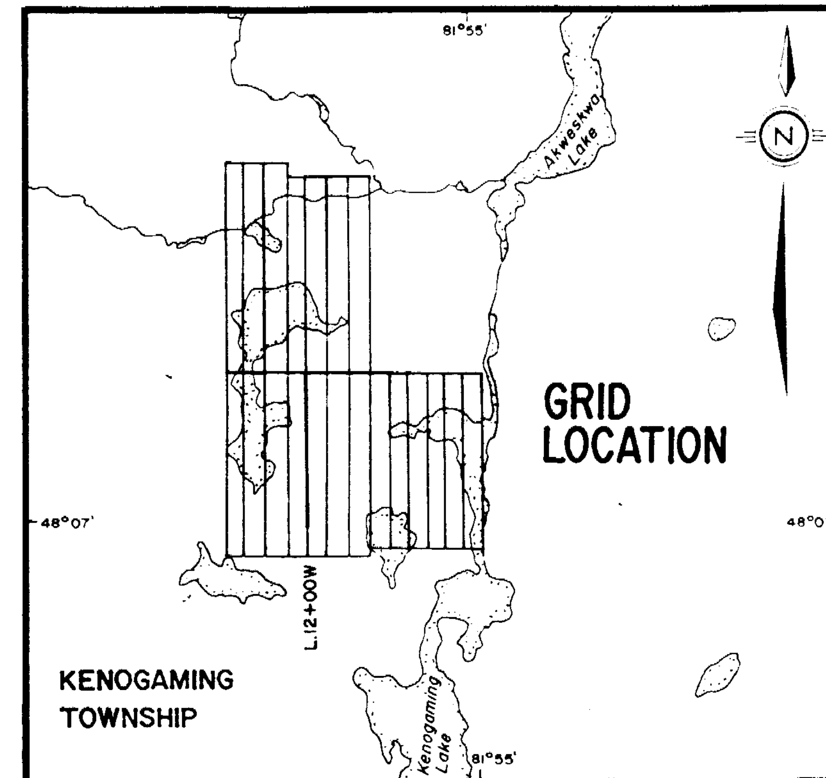
MPH Consulting Limited


8+80S
8+40S
8+00S
7+60S
7+20S
6+80S
6+40S
6+00S
5+60S
5+20S
4+80S
4+40S
4+00S
3+60S
3+20S
APPARENT RESISTIVITY
(Ω metres)
n = 1
n = 2
n = 3
n = 4
n = 5
'D'
?
lake
CHARGEABILITY
(M – 10)(msecs)
n = 1
n = 2
n = 3
n = 4
n = 5





REGIONAL LOCATION MAP



DETAILED LOCATION MAP

LEGEND

TRANSMITTER Huntec 2.5 kw

RECEIVER Huntec Mk IV

DOUBLE DIPOLE ARRAY

C_1 —a— C_2 na P_1 —a— P_2

Station Location

a = 40m n = 1,2,3,4,5

—500— Apparent Resistivity Contour Level

—1.0— Chargeability Contour Level

Strong/Weak Anomaly

Fault/Contact

SCALE 20 0 20 40 60 80 100 METRES

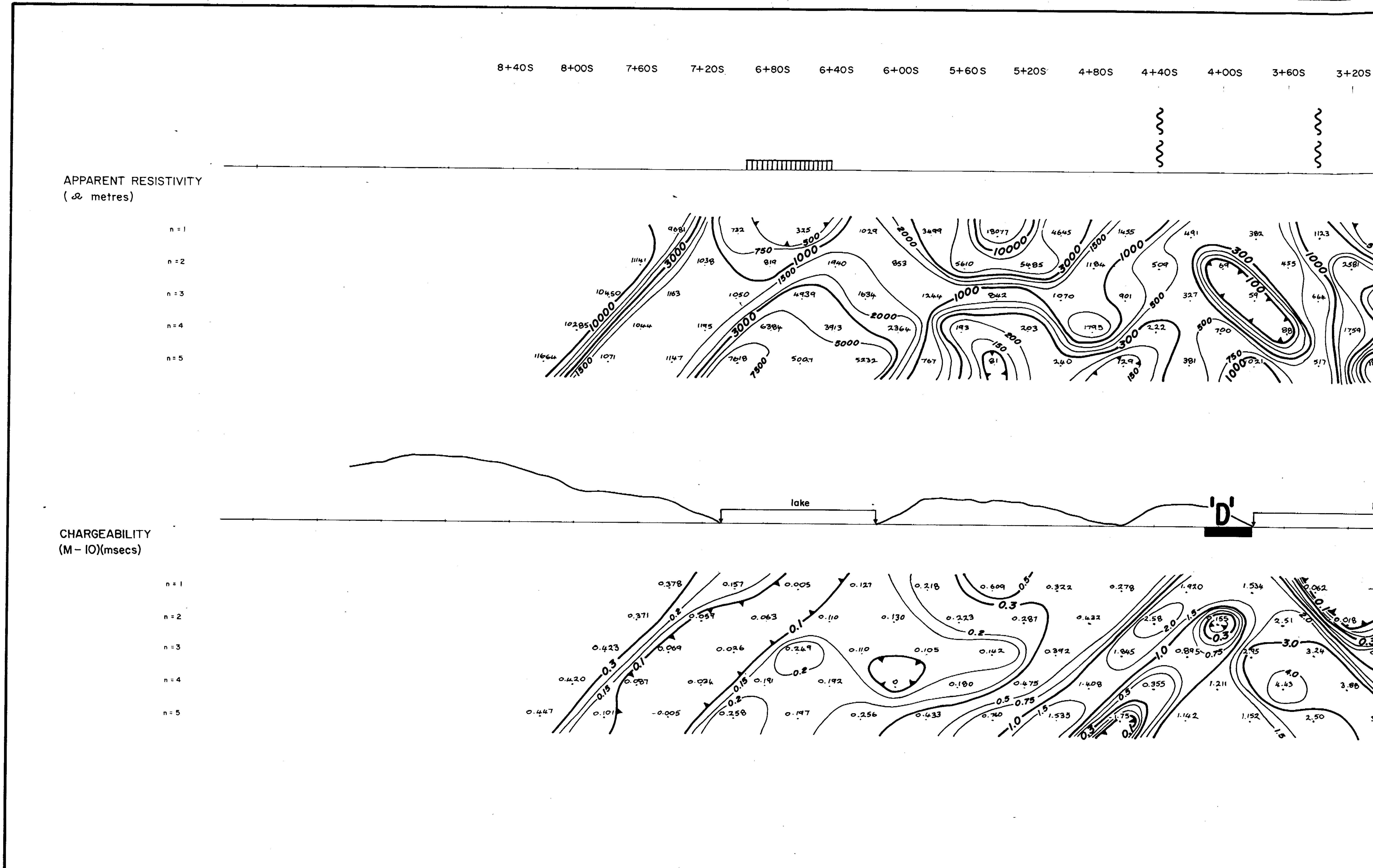
REBA RESOURCES LTD.

KENOGAMING TOWNSHIP PROJECT

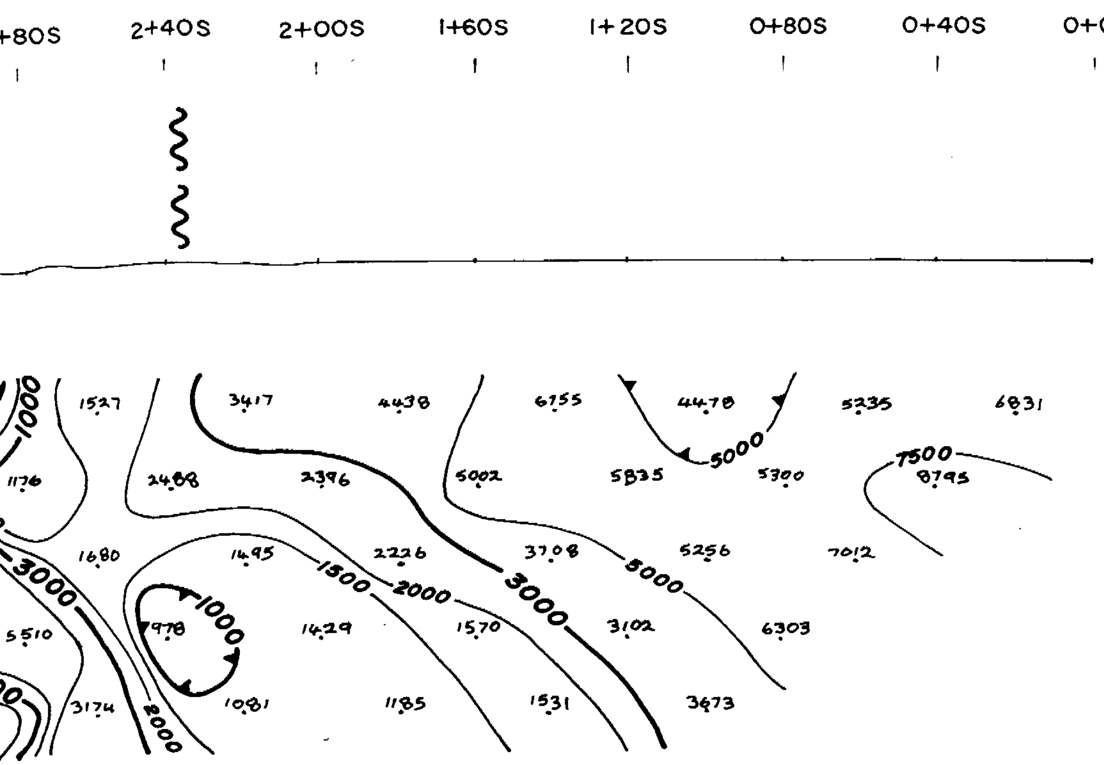
I.P. PSEUDOSECTION LINE 12+00 WEST

Project No.	C-653	By	S. Bate
Scale	1:2,000	Drawn	G.C.S. Limited
Drawing No.	S-10	Date	August, 1984

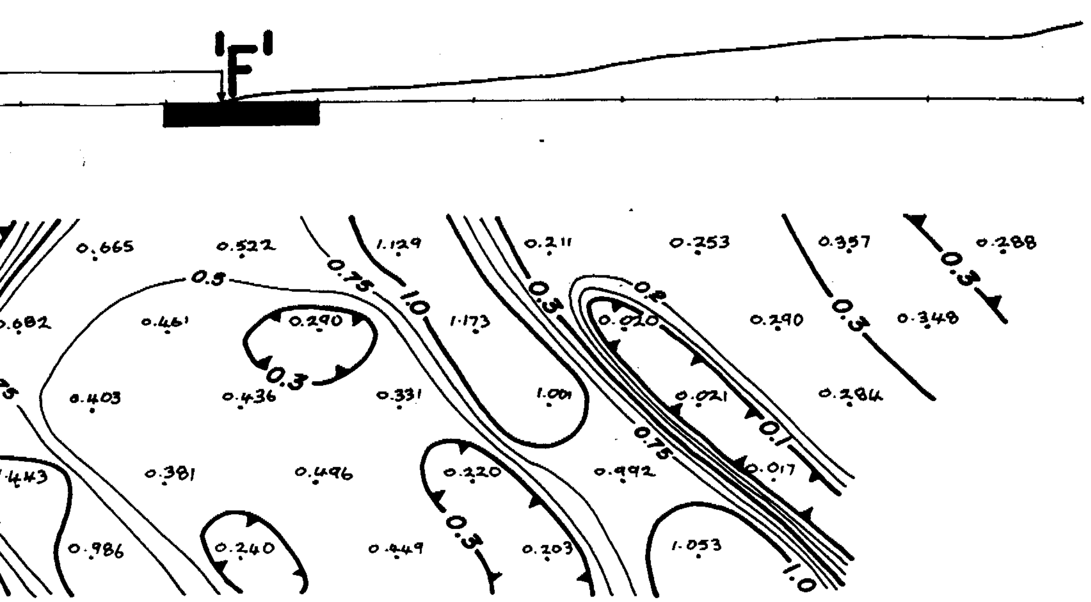
MPH Consulting Limited



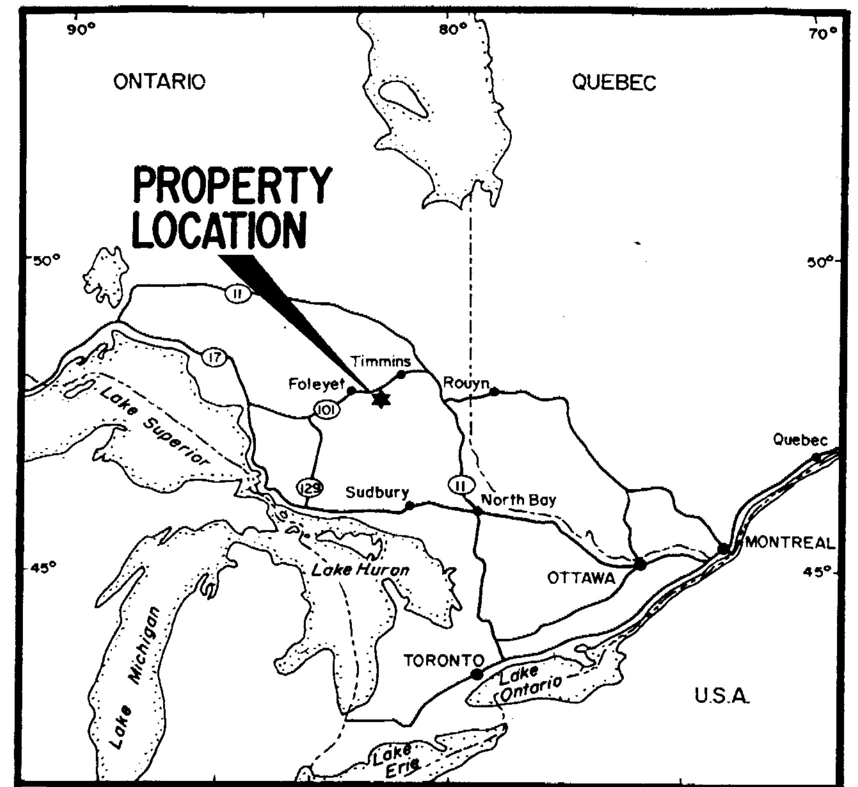
8+40S
8+00S
7+60S
7+20S
6+80S
6+40S
6+00S
5+60S
5+20S
4+80S
4+40S
4+00S
3+60S
3+20S
APPARENT RESISTIVITY
(Ω metres)
n = 1
n = 2
n = 3
n = 4
n = 5
lake
'D'
CHARGEABILITY
(M – 10)(msecs)
n = 1
n = 2
n = 3
n = 4
n = 5



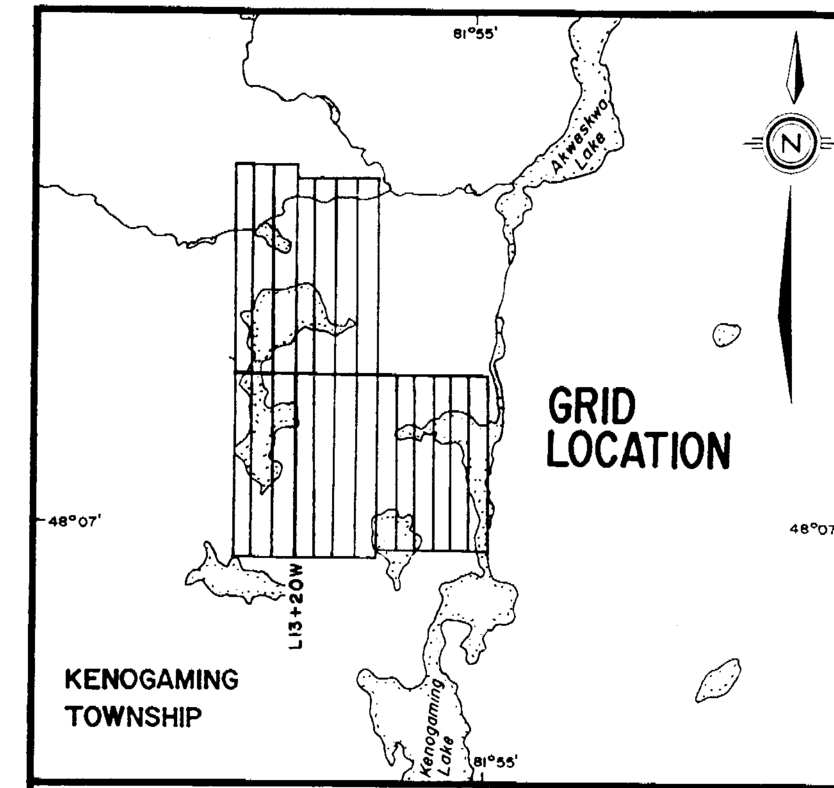
APPARENT RESISTIVITY
(Ω metres)



CHARGEABILITY
(M – 10)(msecs)



REGIONAL LOCATION MAP



DETAILED LOCATION MAP

LEGEND

TRANSMITTER Huntec 2.5 kw

RECEIVER: Huntec Mk IV

DOUBLE DIPOLE ARRAY

C_1 —a— C_2 na P_1 —a— P_2

Station ↑ Location

a = 40m n = 1,2,3,4,5

—500— Apparent Resistivity Contour Level

—1.0— Chargeability Contour Level

Strong/Weak Anomaly

Resistivity Low Zone

Fault/Contact

SCALE 20 0 20 40 60 80 100 METRES

REBA RESOURCES LTD.

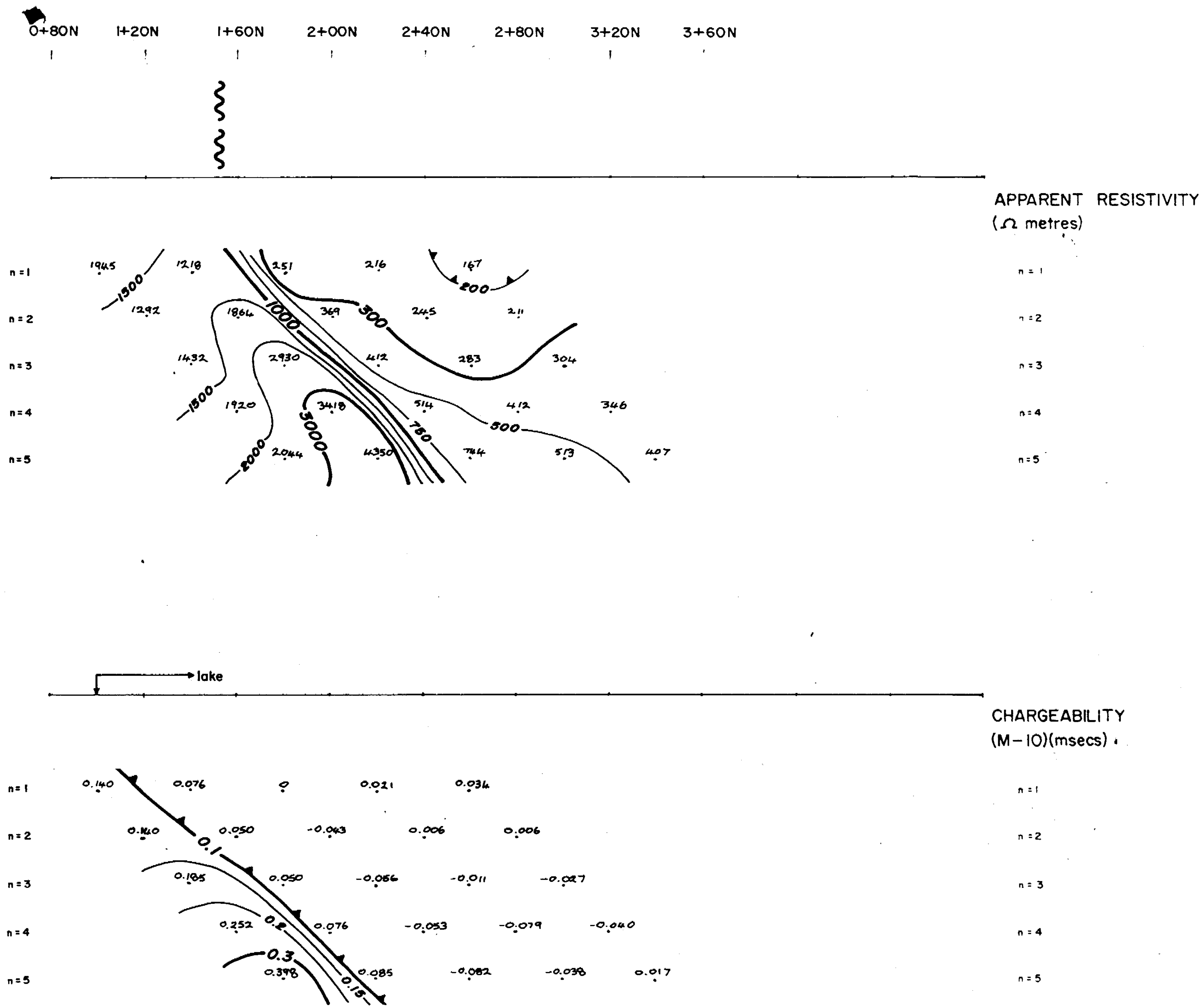
KENOGAMING TOWNSHIP PROJECT

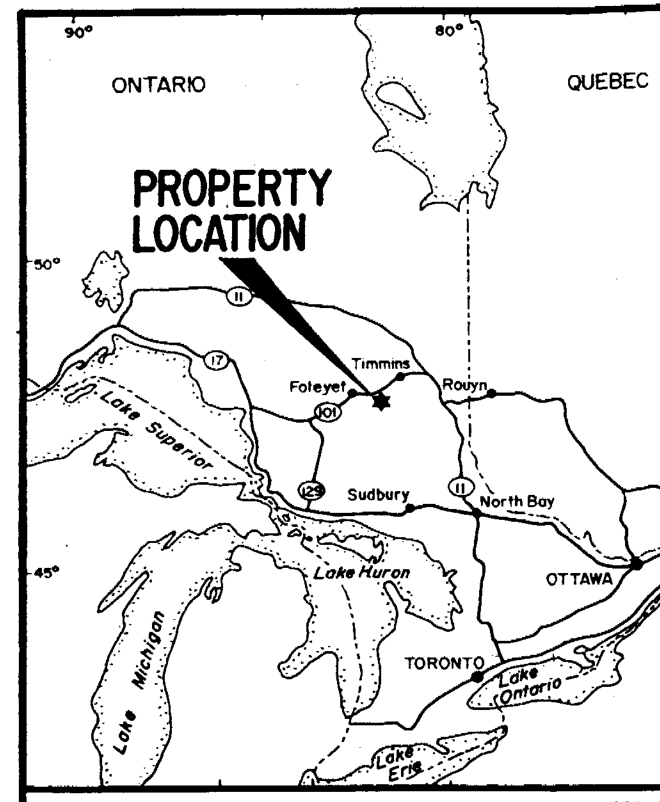
I.P. PSEUDOSECTION

LINE 13+20 WEST (SOUTH)

Project No:	C – 653	By:	S. Bate
Scale:	1:2,000	Drawn:	G.C.S. Limited
Drawing No:	S – 11	Date:	August, 1984

MPH Consulting Limited





REGIONAL LOCATION MAP

SCALE

KILOMETRES

L E G E N D

TRANSMITTER: Huntec 2.5 kw

RECEIVER: Huntec Mk IV

DOUBLE DIPOLE ARRAY

C_1 — a — C_2 — na — P_1 — a

Station ↑ Location

a = 40m

n = 1,2,3,4,5

—500— Apparent Resistivity Contour

—1.0— Chargeability Contour Level

Fault/Contact

APPARENT RESISTIVITY
(Ω metres)

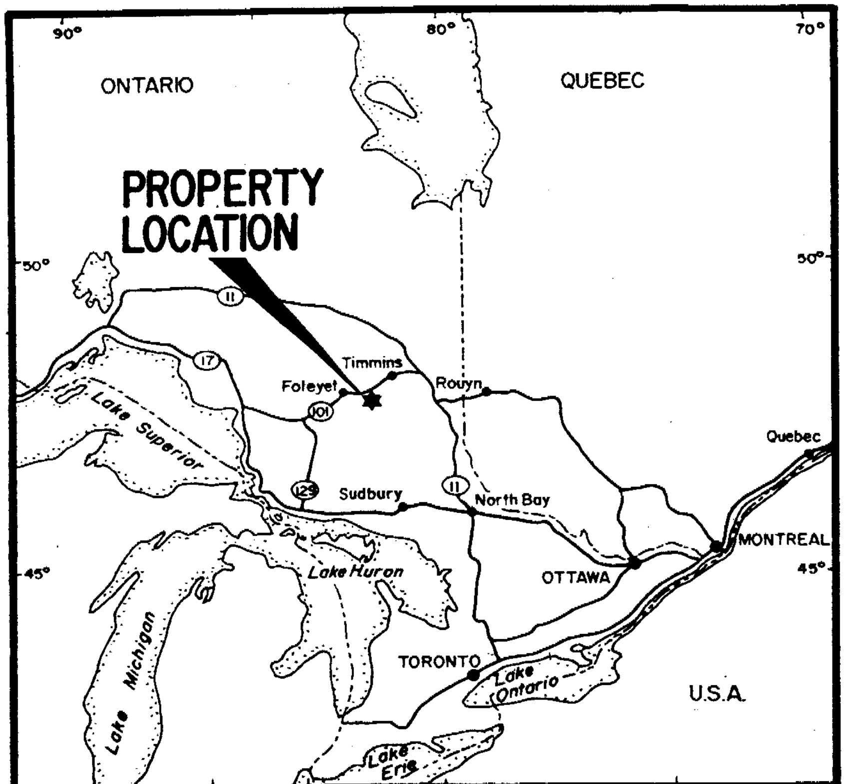
n = 1

n = 2

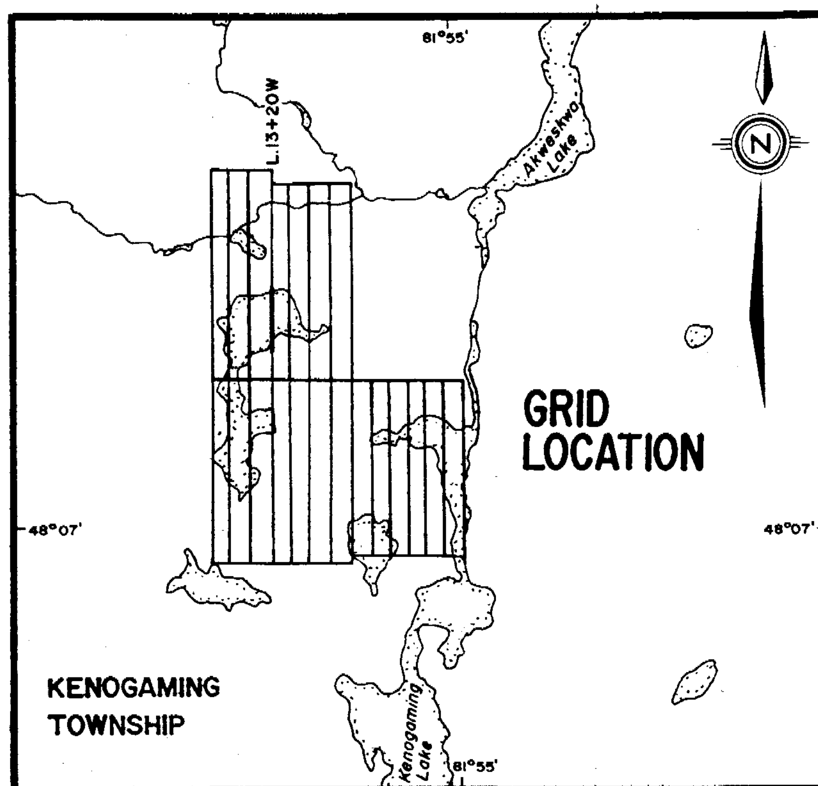
n = 3

n = 4

n = 5



REGIONAL LOCATION MAP SCALE 100 0 100 200 300 400 500 KILOMETRES



DETAILED LOCATION MAP SCALE 1 0 1 KILOMETRES

LEGEND

TRANSMITTER: Huntec 2.5 kw

RECEIVER: Huntec Mk IV

DOUBLE DIPOLE ARRAY

C_1 ⟵ a ⟶ C_2 na P_1 ⟵ a ⟶ P_2

Station ↑ Location

a = 40m n = 1,2,3,4,5

—500— Apparent Resistivity Contour Level

—1.0— Chargeability Contour Level

〰 〰 Fault/Contact

CHARGEABILITY
(M-10)(msecs)

n = 1

n = 2

n = 3

n = 4

n = 5

SCALE
20 0 20 40 60 80 100
METRES

REBA RESOURCES LTD.

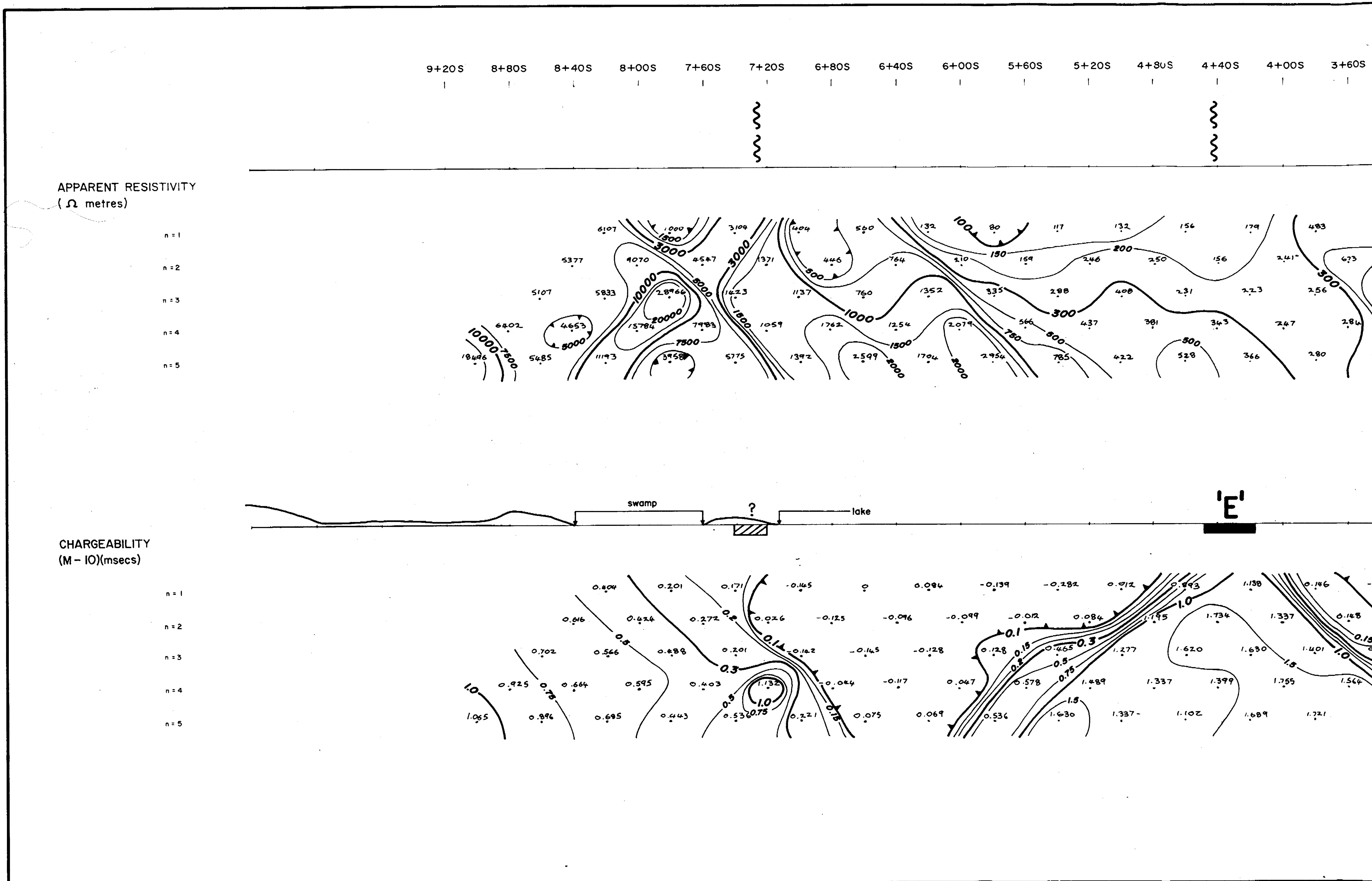
KENOGAMING TOWNSHIP PROJECT

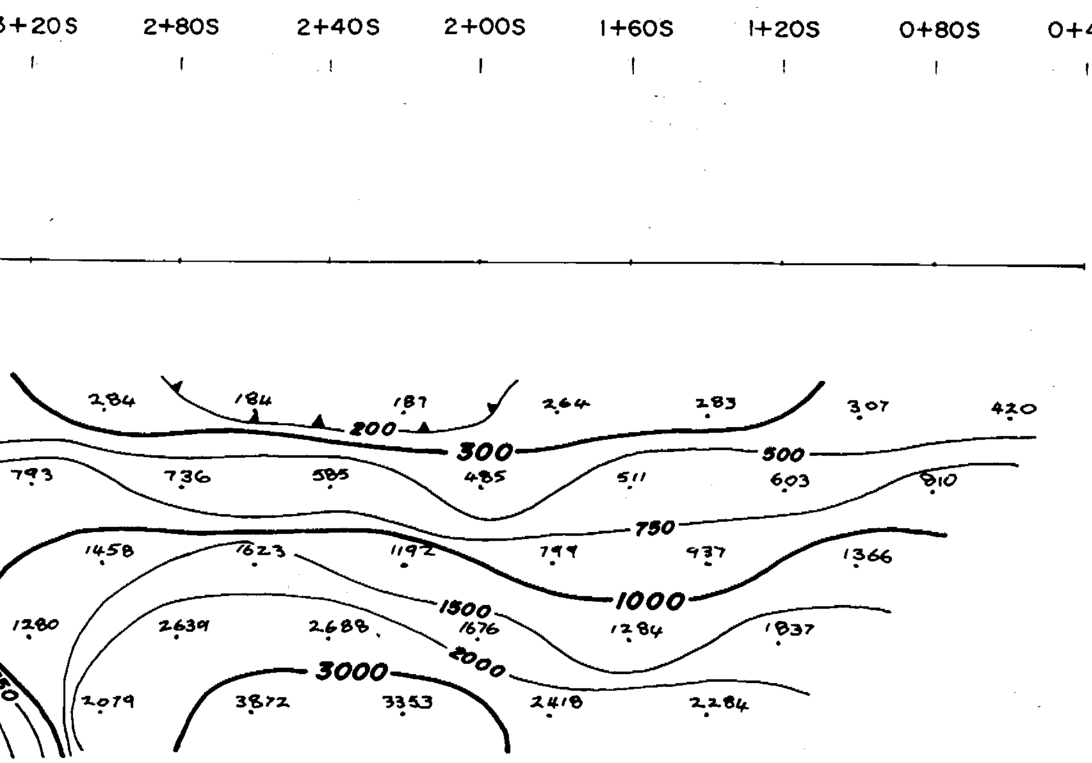
I.P. PSEUDOSECTION

LINE 13+20 WEST (NORTH)

Project No:	C-653	By:	S. Bate
Scale:	1:2,000	Drawn:	G.C.S. Limited
Drawing No:	S-12	Date:	August, 1984

MPH Consulting Limited


9+20S
8+80S
8+40S
8+00S
7+60S
7+20S
6+80S
6+40S
6+00S
5+60S
5+20S
4+80S
4+40S
4+00S
3+60S
APPARENT RESISTIVITY
(Ω metres)
n = 1
n = 2
n = 3
n = 4
n = 5
swamp
?
lake
'E'
CHARGEABILITY
(M – 10)(msecs)
n = 1
n = 2
n = 3
n = 4
n = 5



APPARENT RESISTIVITY
(Ω metres)

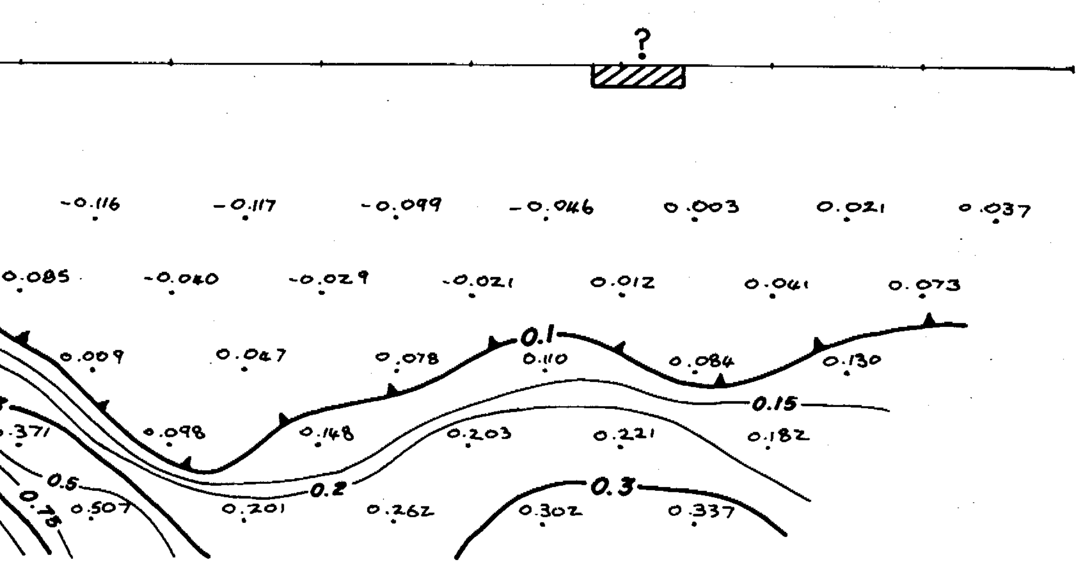
n = 1

n = 2

n = 3

n = 4

n = 5



CHARGEABILITY
(M-10)(msecs)

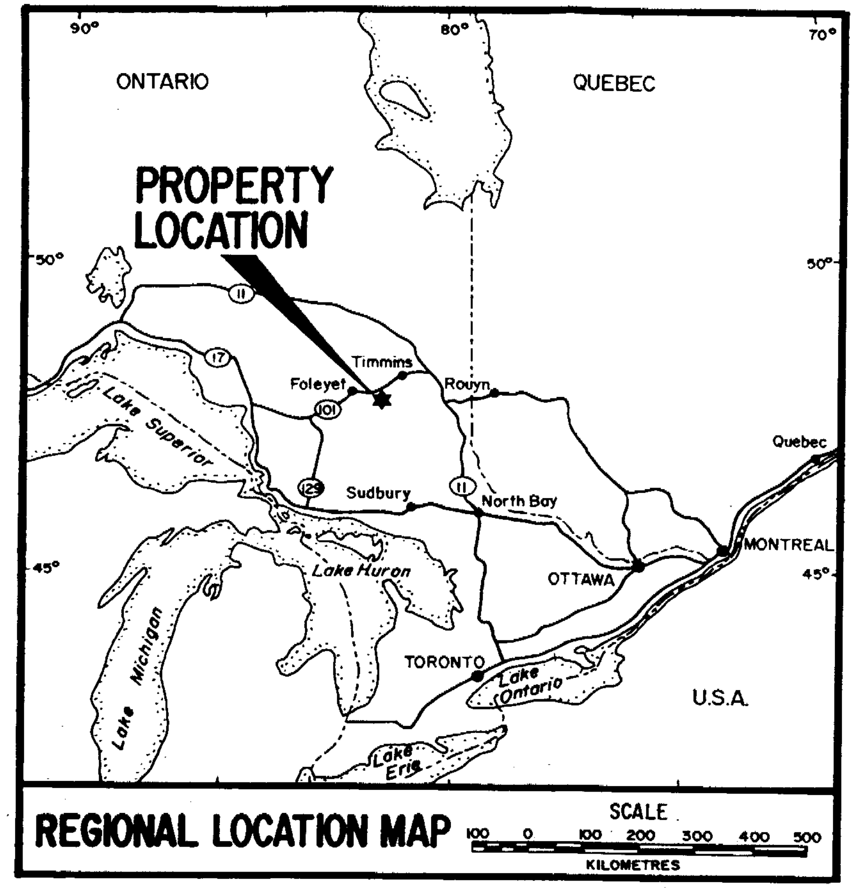
n = 1

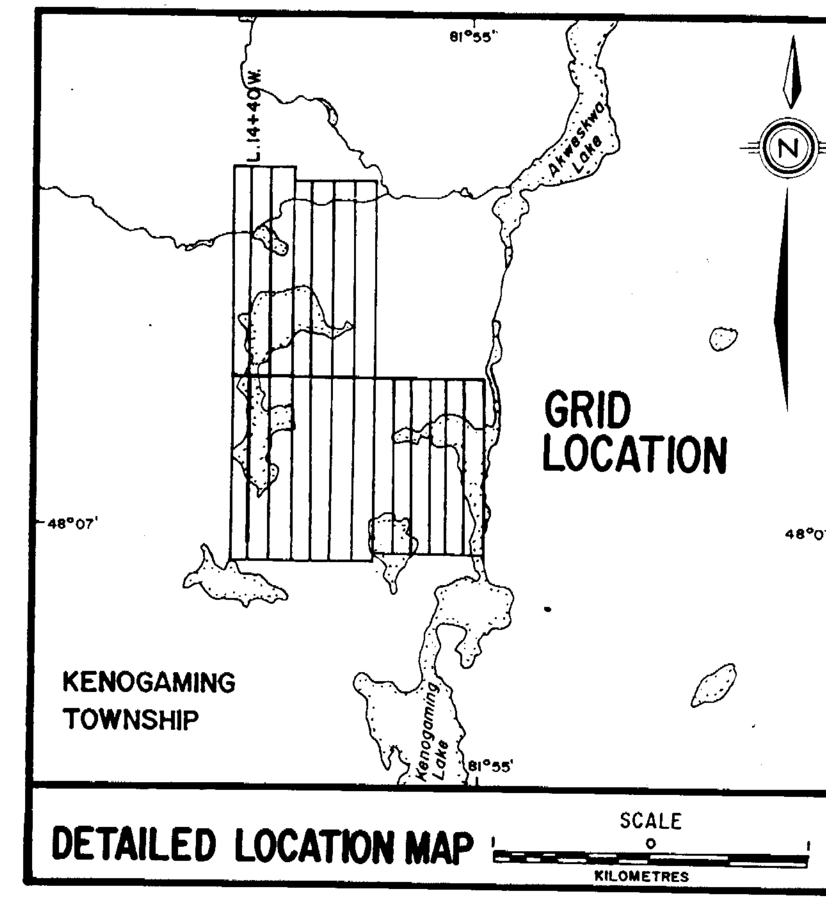
n = 2

n = 3

n = 4

n = 5





LEGEND

TRANSMITTER: Huntec 2.5 kw

RECEIVER: Huntec Mk IV

DOUBLE DIPOLE ARRAY

C_1 —a— C_2 na P_1 —a— P_2

Station ↑ Location

a = 40m n = 1,2,3,4,5

—500— Apparent Resistivity Contour Level

—1.0— Chargeability Contour Level

Strong/Weak Anomaly

Fault/Contact

SCALE
20 0 20 40 60 80 100
METRES

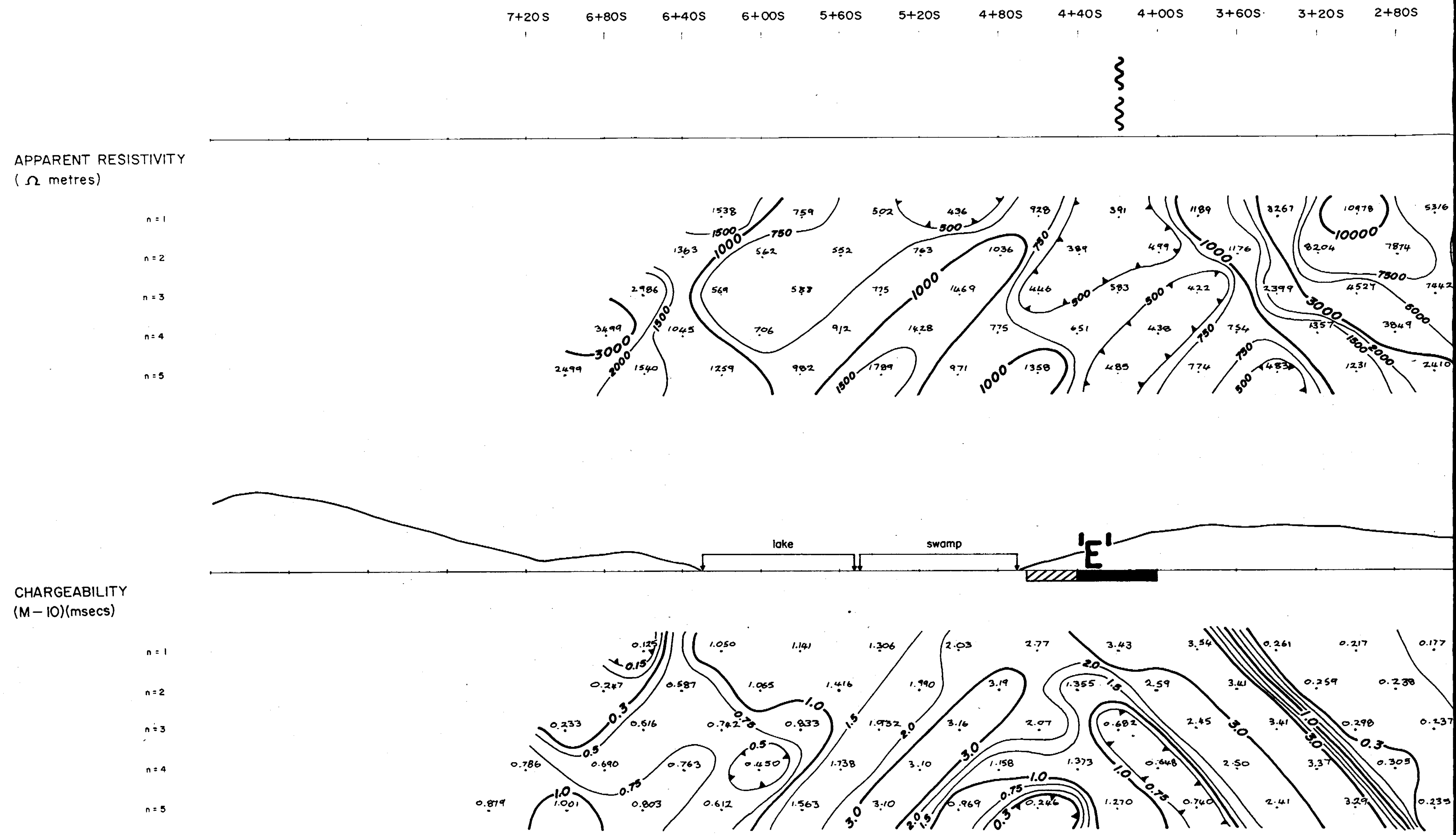
REBA RESOURCES LTD.

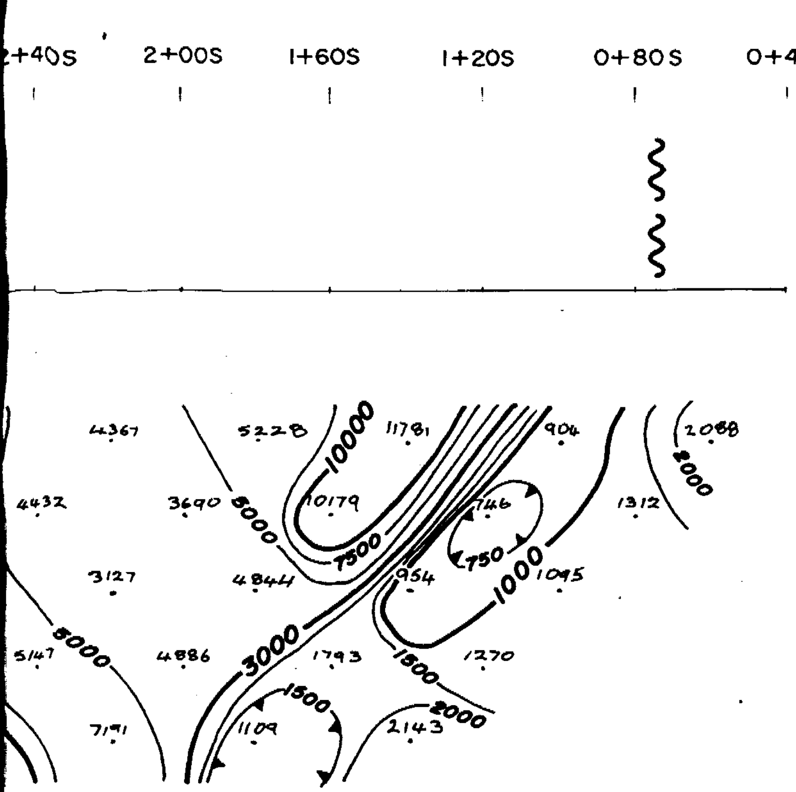
KENOGAMING TOWNSHIP PROJECT

I.P. PSEUDOSECTION
LINE 14+40 WEST

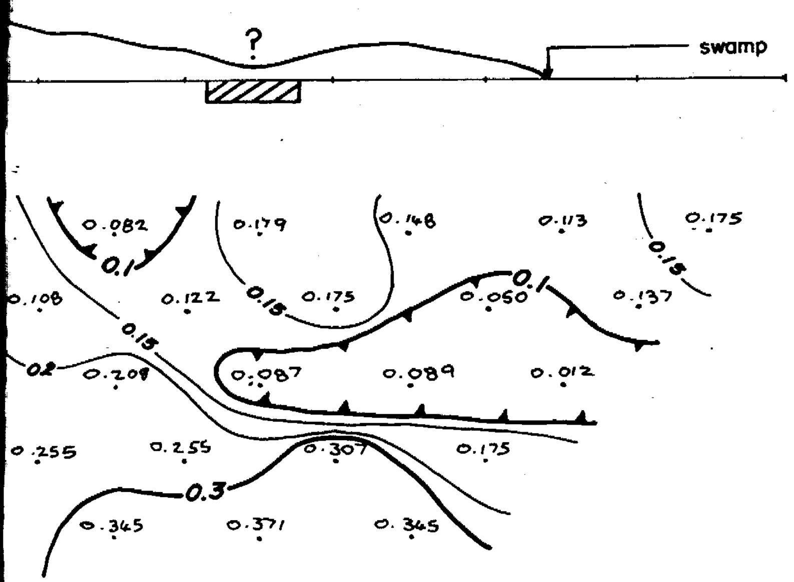
Project No:	C-653	By:	S. Bate
Scale:	1:2,000	Drawn:	G.C.S. Limited
Drawing No:	S-13	Date:	August, 1984

MPH Consulting Limited

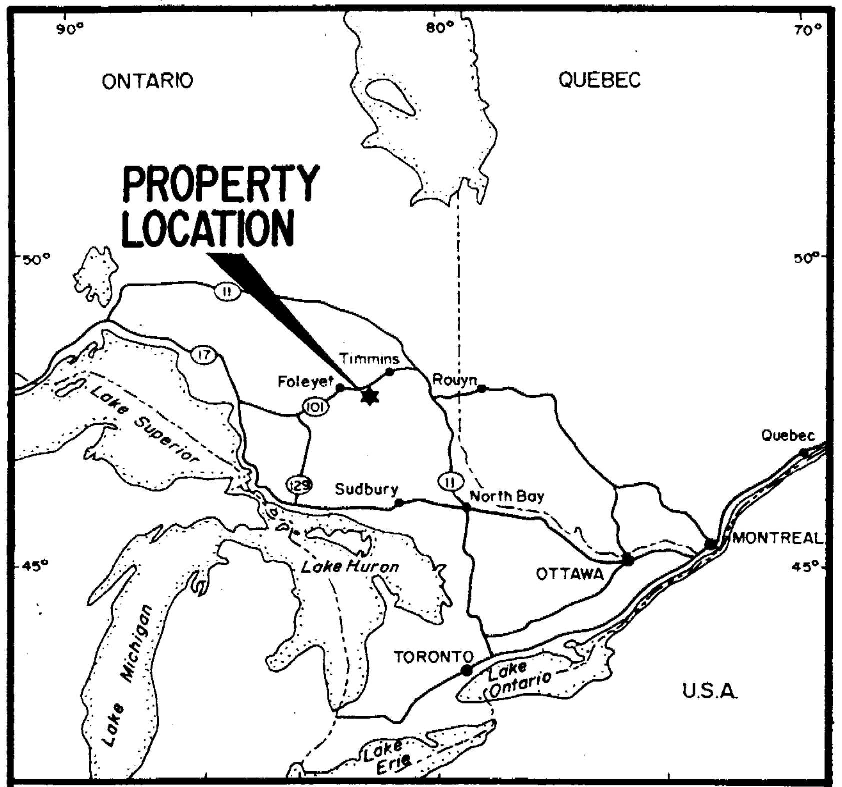

7+20S
6+80S
6+40S
6+00S
5+60S
5+20S
4+80S
4+40S
4+00S
3+60S
3+20S
2+80S
APPARENT RESISTIVITY
(Ω metres)
n = 1
n = 2
n = 3
n = 4
n = 5
lake
swamp
'E'
CHARGEABILITY
(M – 10)(msecs)
n = 1
n = 2
n = 3
n = 4
n = 5



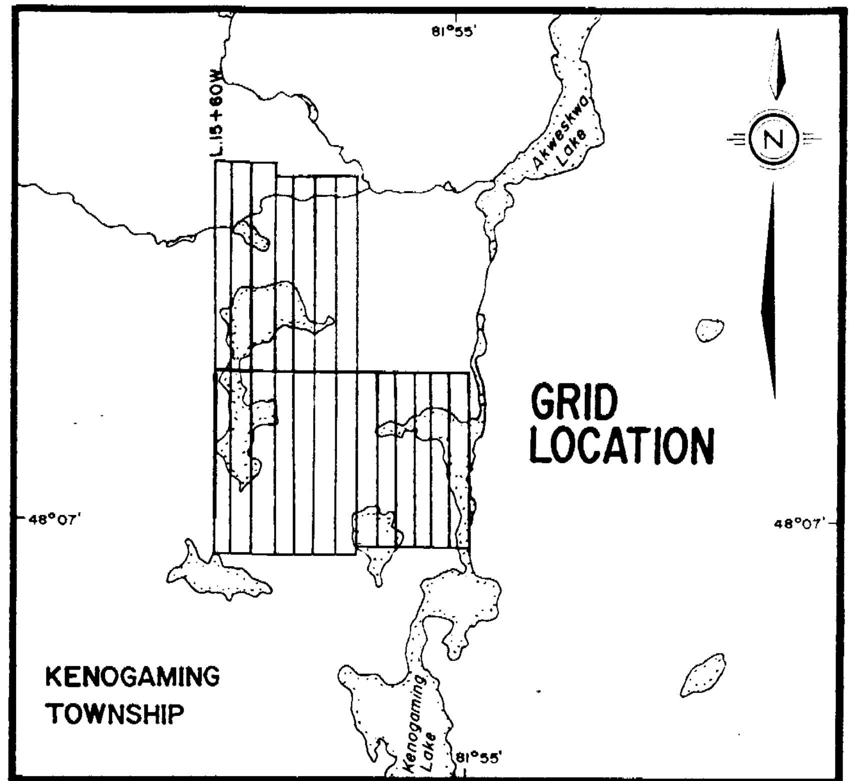
APPARENT RESISTIVITY
(Ω metres)



CHARGEABILITY
(M–10)(msecs)



REGIONAL LOCATION MAP — SCALE 100 0 100 200 300 400 500 KILOMETRES



DETAILED LOCATION MAP — SCALE 1 0 1 KILOMETRES

LEGEND

TRANSMITTER — Huntec 2.5 kw

RECEIVER — Huntec Mk IV

DOUBLE DIPOLE ARRAY

C_1 ⟵ a ⟶ C_2 na P_1 ⟵ a ⟶ P_2

Station ↑ Location

a = 40m n = 1,2,3,4,5

—500— Apparent Resistivity Contour Level

—1.0— Chargeability Contour Level

Strong / Weak Anomaly

Fault / Contact

SCALE 20 0 20 40 60 80 100 METRES

REBA RESOURCES LTD.

KENOGAMING TOWNSHIP PROJECT

I.P. PSEUDOSECTION LINE 15+60 WEST

Project No:	C – 653	By:	S. Bate
Scale:	1:2,000	Drawn:	G.C.S. Limited
Drawing No:	S – 14	Date:	August, 1984

MPH Consulting Limited

Ministry of Natural Resources
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures) #016

The Minin

42A04NW0131 2.7718 KENOGAMING

900

Type of Survey(s)	Township or Area
Linecutting, VLF-EM, Geology	Kenogaming Twp.

Claim Holder(s)	Prospector's Licence No.
Robert J. Sheppard	M-21444

Address: 620-885 Dunsmuir Street, Vancouver, British Columbia, V6C 1N5

Survey Company	Date of Survey (from & to)	Total Miles of line Cut
MPH Consulting Limited	10 Day 02 Mo. 84 Yr. / 30 Day 12 Mo. 84 Yr.	18

Name and Address of Author (of Geo-Technical report): W.E. Brereton 2406-120 Adelaide Street West, Toronto, Ontario M5H 1T1

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical	
	- Electromagnetic	20
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	40
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical	
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures $ ÷ 15 = Total Days Credits

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

RECEIVED JAN 23 1985 A.M. P.M. 7,8,9,10,11,12,1,2,3,4,5,6

Mining Claims Traversed (List in numerical sequence)

Prefix	Number	Expend. Days Cr.
P	699774	
	700048	
	700049	
	700050	
	700051	
	700052	
	700053	
	700055	
	700056	
	700057	
	700058	
	700059	
	700060	
	700298	
	700299	
	700300	
	700301	
	700303	

RECEIVED FEB 07 1985 MINING LANDS SECTION

RECORDED JAN 23 1985 Receipt No. 01

Total number of mining claims covered by this report of work. 18

Date	Recorded Holder or Agent (Signature)
January 17/85	[signature]

For Office Use Only		
Total Days Cr. Recorded	Date Recorded	Mining Recorder
1080	Jan 23/85	[signature]
	Date Approved as Recorded	Branch Director

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying
W.E. Brereton, 2406-120 Adelaide Street West
Toronto, Ontario M5H 1T1

Date Certified	Certified by (Signature)
January 17, 1985	[signature]

1362 (81/9)

Mining Lands Section File No 2.7718

Control Sheet

TYPE OF SURVEY ✓ GEOPHYSICAL

_____ GEOLOGICAL

_____ GEOCHEMICAL

_____ EXPENDITURE

MINING LANDS COMMENTS:

no geological maps or detailed discussion of geology. Simply short, general remarks of observations made while geophysical survey being performed.

- not a geological survey.

- Brereton, MCA, the consultant said no geology maps coming in.

lgd

1 D

Doney

Signature of Assessor

21/2/85

Date

1985 03 25

Your File: 016/85
Our File: 2.7718

Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

RE: Notice of Intent dated February 28, 1985
Geophysical (Electromagnetic) Survey on
Mining Claims P 699774, et. al., in
Kenogaming Township

The assessment work credits, as listed with the above-mentioned Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-4888

D. Isherwood:mc

cc: Robert J. Sheppard
Suite 620
885 Dunsmuir Street
Vancouver, B.C.
V6C 1N5

cc: W.E. Brereton
MPH Consulting Limited
Suite 2406
120 Adelaide Street West
Toronto, Ontario M5H 1T1

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario

cc: Resident Geologist
Timmins, Ontario

Encl.

Ontario Ministry of Natural Resources

Technical Assessment Work Credits

File: 2.7718

Date: 1985 02 28

Mining Recorder's Report of Work No.: 016/85

Recorded Holder: ROBERT J. SHEPPARD

Township or Area: KENOGAMING TOWNSHIP

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	P 699774
Electromagnetic 20 days	700048 to 053 inclusive
Magnetometer ___ days	700055 to 060 inclusive
Radiometric ___ days	700298 to 301 inclusive
Induced polarization ___ days	700303
Other ___ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological ___ days	
Geochemical ___ days	
Man days ☐ Airborne ☐	
Special provision ☒ Ground ☒	
☐ Credits have been reduced because of partial coverage of claims.	
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☒ Insufficient technical data filed

NO GEOLOGICAL CREDITS ALLOWED

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40; Section 77(19) — 60:

828 (83/6)

Ministry of Natural Resources

Ontario

March 15/85

1985 02 28

Your File: 016/85
Our File: 2.7718

Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

Enclosed are two copies of a Notice of Intent with statements listing a reduced rate of assessment work credits to be allowed for a technical survey. Please forward one copy to the recorded holder of the claims and retain the other. In approximately fifteen days from the above date, a final letter of approval of these credits will be sent to you. On receipt of the approval letter, you may then change the work entries on the claim record sheets.

For further information, if required, please contact Mr. R.J. Pichette at 416/965-4888.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3

RO D. Isherwood:mc

Encls.

cc: Robert J. Sheppard
Suite 620
885 Dunsmuir Street
Vancouver, B.C.
V6C 1N5

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario

cc: W.E. Brereton
MPH Consulting Limited
Suite 2406
120 Adelaide Street West
Toronto, Ontario
M5H 1T1

845

Ontario

Ministry of Natural Resources

Notice of Intent for Technical Reports

1985 02.28

2.7718/016/85

An examination of your survey report indicates that the requirements of The Ontario Mining Act have not been fully met to warrant maximum assessment work credits. This notice is merely a warning that you will not be allowed the number of assessment work days credits that you expected and also that in approximately 15 days from the above date, the mining recorder will be authorized to change the entries on his record sheets to agree with the enclosed statement. Please note that until such time as the recorder actually changes the entry on the record sheet, the status of the claim remains unchanged.

If you are of the opinion that these changes by the mining recorder will jeopardize your claims, you may during the next fifteen days apply to the Mining and Lands Commissioner for an extension of time. Abstracts should be sent with your application.

If the reduced rate of credits does not jeopardize the status of the claims then you need not seek relief from the Mining and Lands Commissioner and this Notice of Intent may be disregarded.

If your survey was submitted and assessed under the "Special Provision-Performance and Coverage" method and you are of the opinion that a re-appraisal under the "Man-days" method would result in the approval of a greater number of days credit per claim, you may, within the said fifteen day period, submit assessment work breakdowns listing the employees names, addresses and the dates and hours they worked. The new work breakdowns should be submitted direct to the Land Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.

February 18, 1985 File: 2.7718

Robert J. Sheppard
Suite 620
885 Dunsmuir Street
Vancouver, B.C.
V6C 1N5

Dear Sir:

RE: Geophysical (Electromagnetic, Induced Polarization) and Geological Surveys submitted on Mining Claims P 699774, et al, in the Township of Kenogaming

In order to complete your submission for assessment credit, please provide, in duplicate, the geological survey plans.

Please forward the plans, in duplicate, to this office quoting file 2.7718.

For further information, please contact Doug Isherwood at (416)965-4888.

Yours sincerely,

20/2/85
no geol.
coming in
Bill Brereton - MPH

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-4888

D. Isherwood:mc

cc: Mining Recorder
Timmins, Ontario

cc: W.E. Brereton
MPH Consulting Limited
Suite 2406
120 Adelaide Street West
Toronto, Ontario
M5H 1T1

1985 02 04

Your File:
Our File: 2.7718

Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

We received reports and maps on January 29, 1985 for a Geophysical (Electromagnetic & Induced Polarization) and Geological Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims P 699774 et al in the Township of Kenogaming.

This material will be examined and assessed and a statement of assessment work credits will be issued.

We do not have a copy of the report of work which is normally filed with you prior to the submission of this technical data. Please forward a copy as soon as possible.

Yours sincerely,

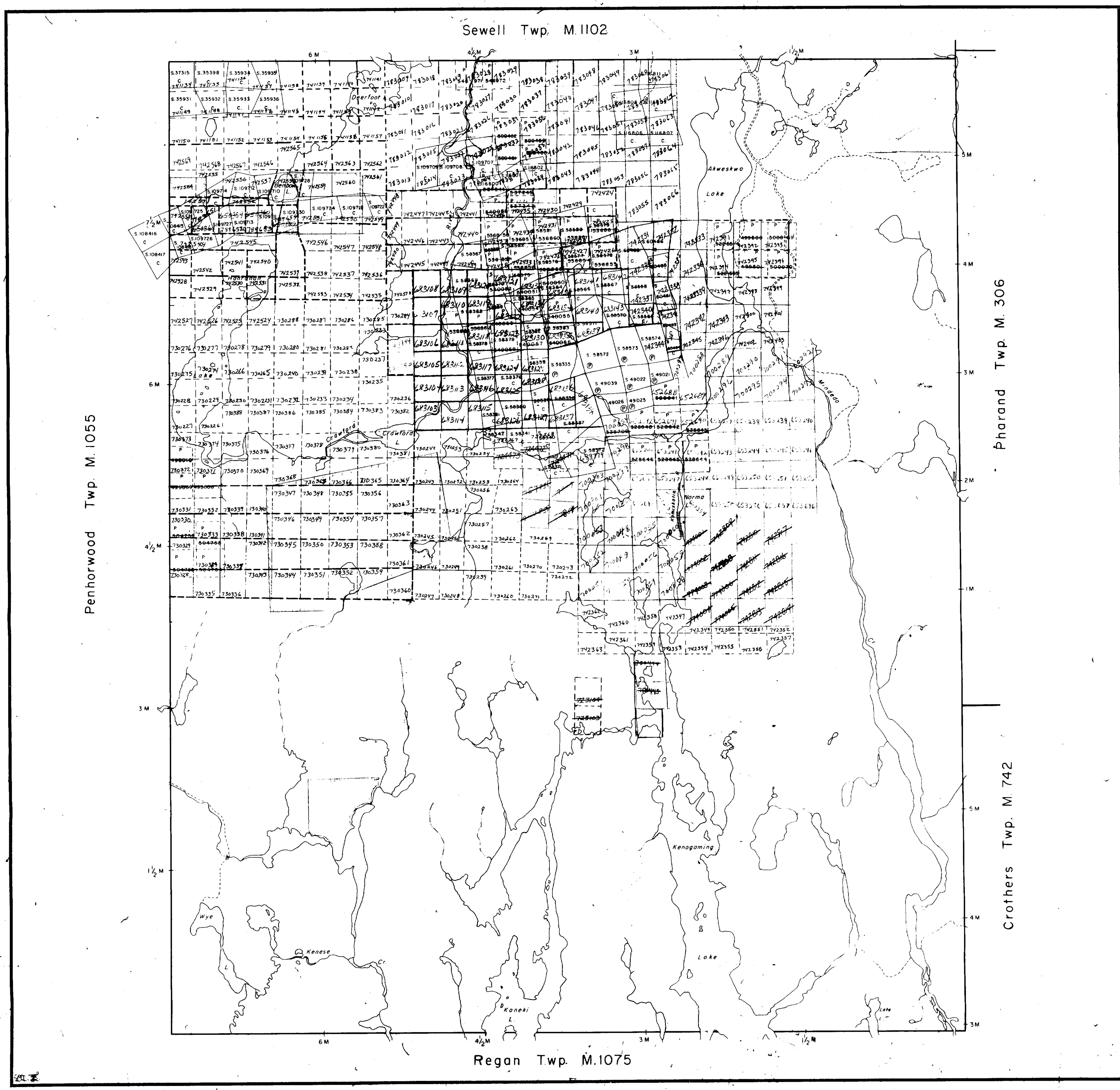
S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-6918

A. Barr:sc

cc: W.E. Brereton
Suite 706
141 Adelaide Street West
Toronto, Ontario
M5H 3L5

cc: Robert J. Sheppard
1333 Kilmer Road
Nemth Vancouver, B.C.
B7K 1R3



THE TOWNSHIP OF

KENOGAMING

DISTRICT OF SUDBURY

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	● or Ⓟ
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.
PATENTED S.R.O.	

NOTES

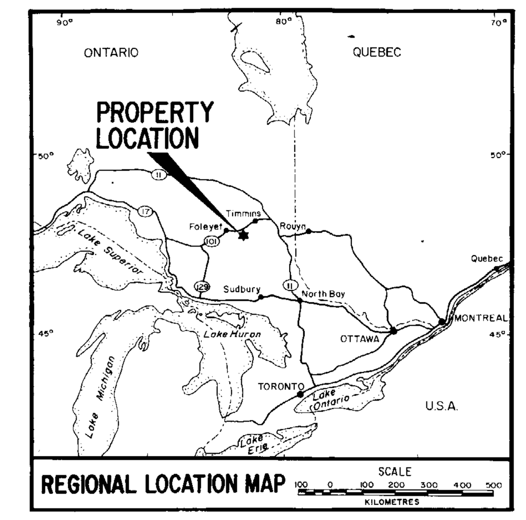
400' Surface Rights reservation along the shores of all lakes and rivers.

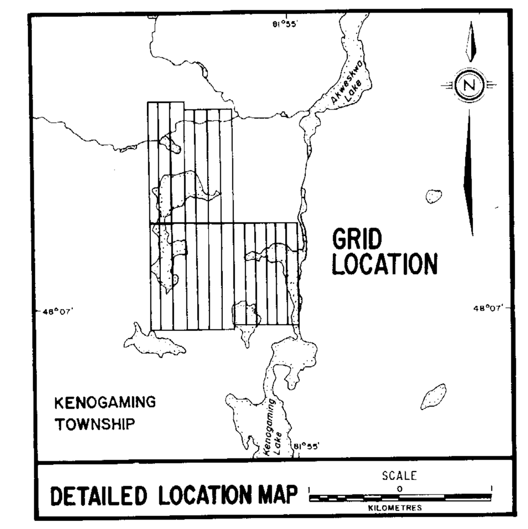
PLAN NO.- M.967

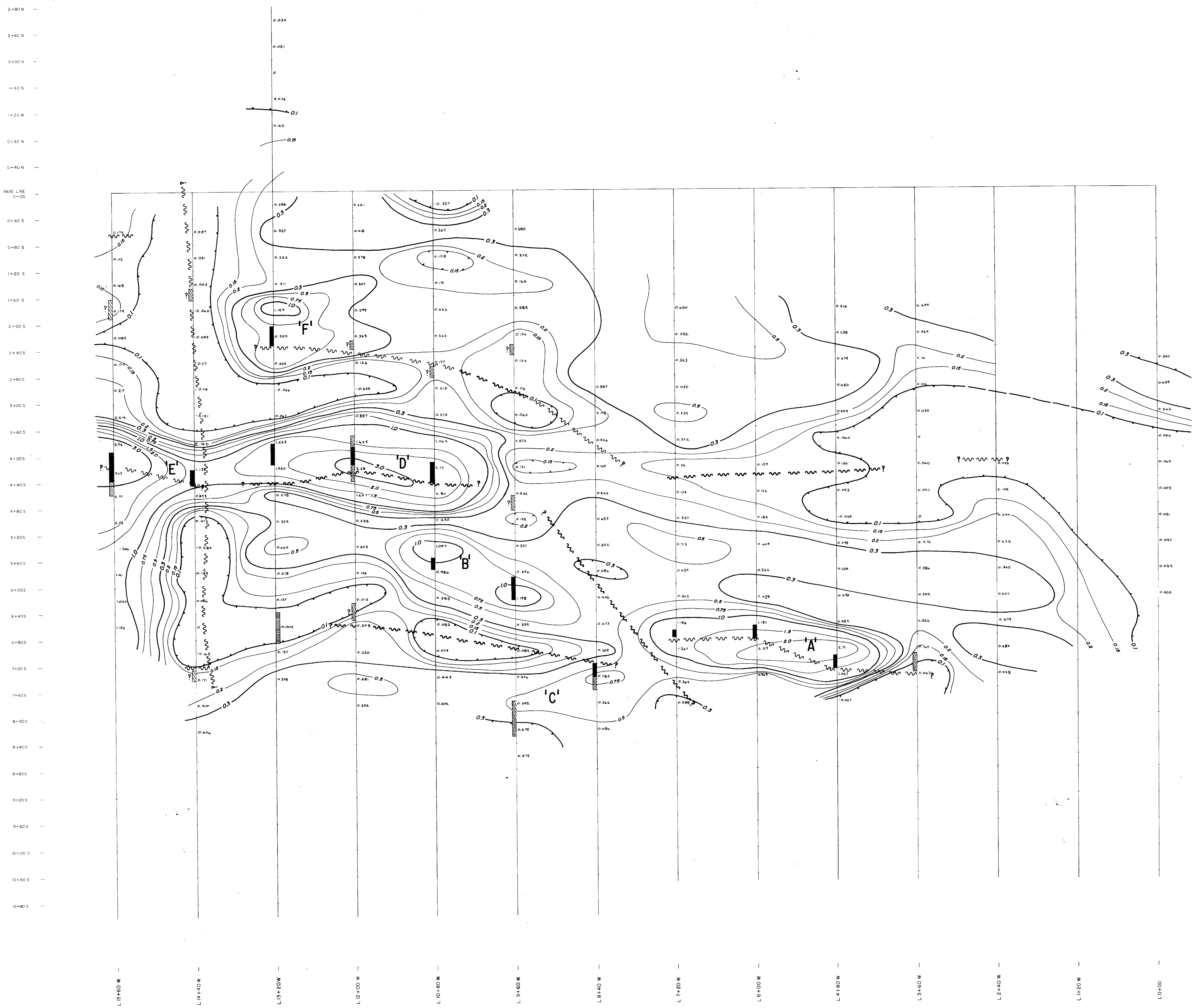
ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

TRIM LINE

200







LEGEND

TRANSMITTER: Huntec 2.5 kw
RECEIVER: Huntec Mk IV

DOUBLE DIPOLE ARRAY

C_1 — o — C_2 na P_1 — o — P_2

Station Location

a = 40 m   n = 1

Chargeability Contour Level

Strong/Weak Anomaly

Resistivity Low Zone

Fault/Contact Interpreted From Resistivity Data

Fault/Contact Interpreted From Resistivity and VLF Data

SCALE

METRES

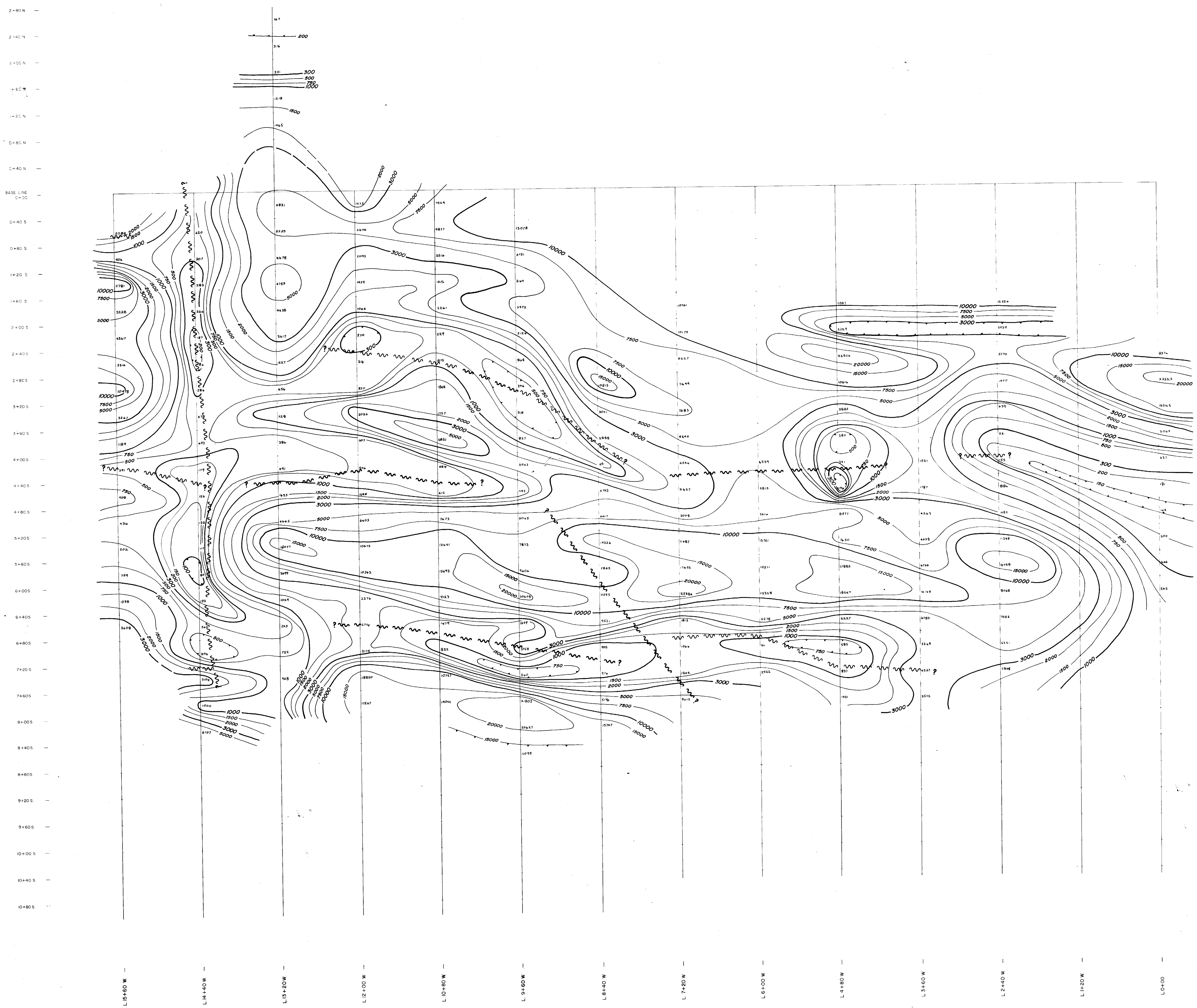
REBA RESOURCES LTD.

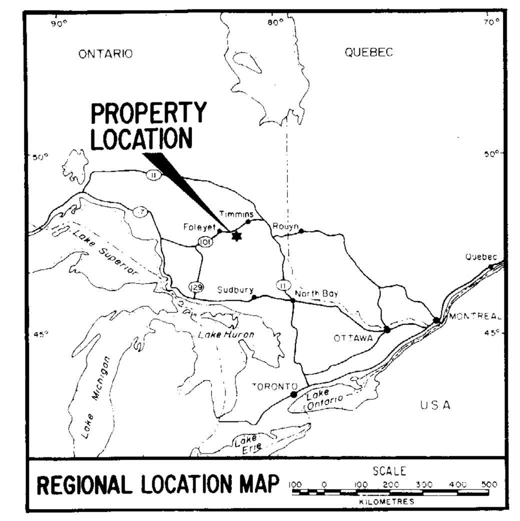
KENOGAMING TOWNSHIP PROJECT
INDUCED POLARIZATION SURVEY
CHARGEABILITY n=1

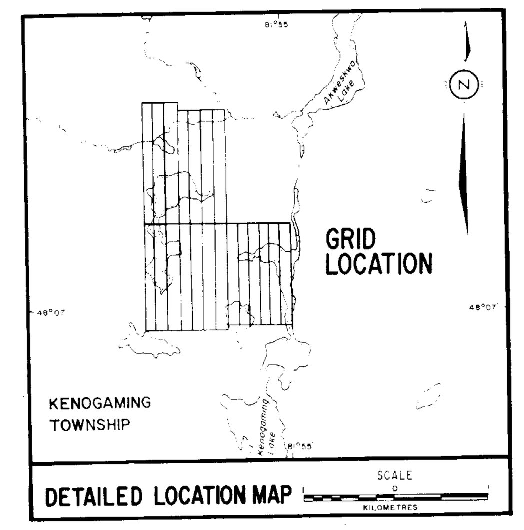
Project No.:	C-653	By:	S. Bate
Scale:	1:2,000	Drawn:	G.C.S. Limited
Drawing No.:	Map 2	Date:	August, 1984

MPH Consulting Limited

210







LEGEND

TRANSMITTER Huntec 2.5 kw
RECEIVER Huntec Mk IV
DOUBLE DIPOLE ARRAY

Station Location

a = 40m n = 1

500 Apparent Resistivity Contour Level

Fault/Contact Interpreted From Resistivity Data

Fault/Contact Interpreted From Resistivity and VLF Data

SCALE

METRES

REBA RESOURCES LTD.

KENOGAMING TOWNSHIP PROJECT
INDUCED POLARIZATION SURVEY
APPARENT RESISTIVITY n = 1

Project No:	C-653	By:	S. Bate
Scale:	1:2,000	Drawn:	G.C.S. Limited
Drawing No:	Map 3	Date:	August, 1984

MPH Consulting Limited

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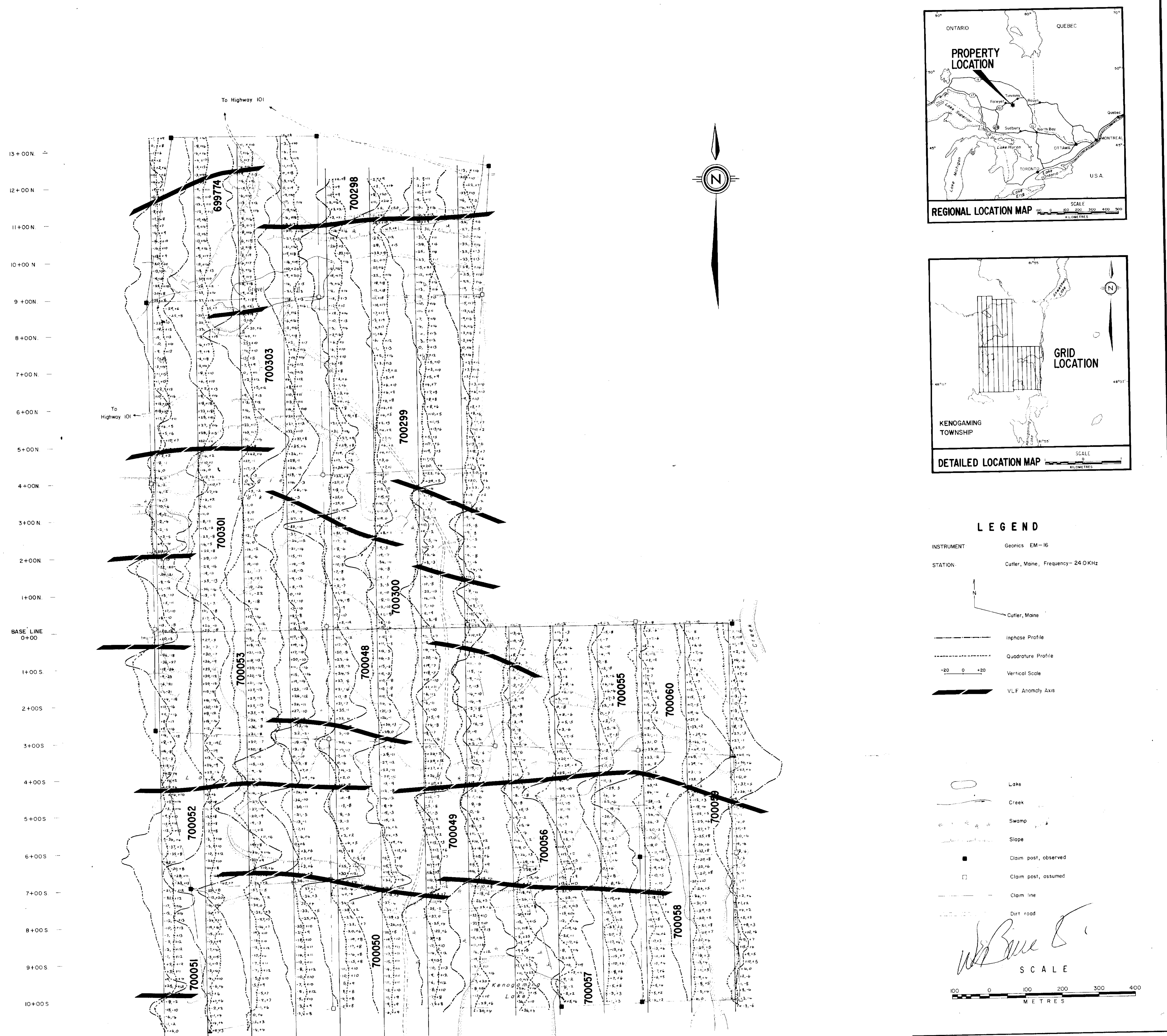

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KENOGAMING TOWNSHIP PROJECT

VLF - EM

Project No:	C-653	By:	S. Bate
Scale:	1:5,000	Drawn:	G.C.S. Limited
Drawing No:	Map 1	Date:	August, 1984

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