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REPORT
on
MAGNETIC AND ELECTROMAGNETIC SURVEYS
DETOUR LAKE AREA, ONTARIO
for
GETTY CANADIAN METALS, LIMITED

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1.0 INTRODUCTION

Ground geophysical surveys have been completed on a portion of the Detour Lake area, Ontario, mineral properties of Getty Canadian Metals, Limited by MPH Consulting Limited of Toronto. Field work consisted of Maxmin II horizontal loop electromagnetic and proton precession magnetic surveying.

This report presents the interpreted results of the geophysical surveying, indicating interpretive techniques employed, and makes recommendations for further work in the project area.

The ground geophysical surveying is part of a larger effort in the area on behalf of Getty which, to date, has involved land acquisition, airborne and ground geophysical surveying and geological and lithogeochemical studies.

Geophysical surveying was completed on a total of 206 mineral claims. The Technical Data Statements are presented as Appendix I to this report.

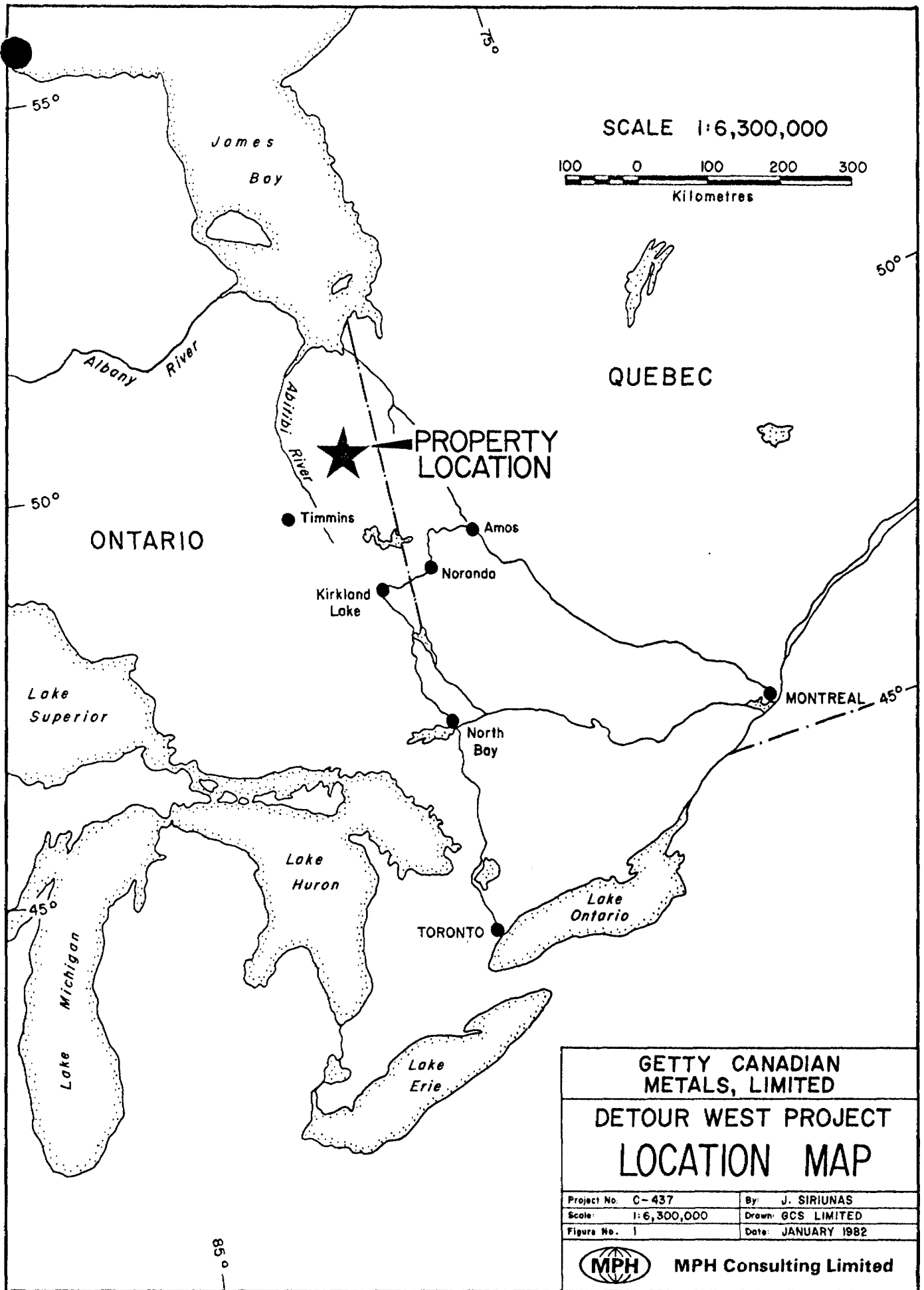
2.0 LOCATION AND ACCESS

The survey area abuts the Ontario-Quebec interprovincial boundary and is centred approximately 200 km northeast of Timmins, Ontario. The towns of Cochrane, Ontario and La Sarre, Quebec are located 144 km to the southwest and 128 km to the southeast respectively (Figure 1).

Easiest access to the property is by fixed-wing aircraft from bases at Cochrane and La Sarre. Distance from the Cochrane airbase to the field camp on Atkinson Lake is 135 km.

A winter road from La Sarre north to the Detour minesite transects the east portion of the grid area. An all-weather road presently under construction from Cochrane to the Detour minesite will pass to the northwest of the survey area.

The town of Cochrane served as a supply base for the geophysical crews.



SCALE 1:6,300,000



QUEBEC

ONTARIO

PROPERTY LOCATION

Project No. C-437	By: J. SIRIUNAS
Scale: 1:6,300,000	Drawn: GCS LIMITED
Figure No. 1	Date: JANUARY 1982

MPH MPH Consulting Limited

GETTY CANADIAN METALS, LIMITED
 DETOUR WEST PROJECT
 LOCATION MAP

3.0 GEOLOGY AND MINERAL OCCURRENCES

3.1 Summary

The Detour Project area is underlain by greenschist to amphibolite facies metavolcanic and metasedimentary rocks of Archean age in the north-central portion of the Abitibi Greenstone Belt. Later intrusives of granitic to dioritic composition truncate the metavolcanic and metasedimentary rocks. Diabase dykes, the youngest rocks in the region, cut all rock types. Pleistocene cover comprising clayey till, glaciolacustrine clay, sandy till and glaciofluvial eskers is variable in extent and may be up to 60 m or more in thickness although it generally averages 30 meters.

Regionally, the past-producing Normetal Cu-Zn (+ Au, Ag) volcanogenic massive sulphide deposit is located within the next greenstone belt immediately to the south of the present project area. Selco's major "Mines Selbaie" Cu-Zn-Au-Ag deposit located 29 km to the east of Amoco's Detour deposit in Brouillan Township, Quebec, has recently been placed into production.

3.2 Survey Area Geology

The metasedimentary-metavolcanic rocks in the survey area occur in a broad east-west arc which is concave to the

north. The disposition of units has been interpreted in large part from airborne geophysical data as outcrop is scarce.

The claim area, based on recent geological/geochemical work and results of previous drilling is underlain predominantly by basaltic tholeiites with minor felsic metavolcanics and metasediments including interflow chemical metasediments. The latter types include sulphide iron formations, cherty sulphide + graphitic iron formations, etc. The iron formations are typically expressed as airborne electromagnetic/magnetic anomalies.

A prominent north-south aeromagnetic anomaly directly west of Vandette Lake, to the north of the present area, for example, is directly reflective of a mixed oxide-sulphide facies iron formation.

A major granitic body may occur to the south of the claim group based on limited outcrop west of Atkinson Lake.

Structurally, there appears to be two main fold directions in the region. The prominent regional trend is east-west as exemplified by the east-trending anticline north of Detour Lake. This fold plunges 35 to 45 degrees to the west. A

local flexure or warp on the north limb contains the Detour deposit.

The rock units in the claim area occur in a large fold which, on a regional scale, appears to be grossly synclinal although in detail probably consists of a number of discrete synclinal-anticlinal pairs.

East-west folds in the Detour area have been re-folded about northeast-southwest axes in the vicinity of major granitic intrusions. The northeast strikes in the west part of the claim block are a reflection of this re-folding.

The broad, arcuate form of rock units on the grid area may reflect a gentle doming related to a granitic body to the south.

The survey area rocks are cut by a series of late faults which cause minor offsets (to 200 m) in geophysical trends. These faults appear to have a radial array as in spokes emanating from a hub with the hub being to the south of the group - possibly related to the granite intrusion and doming.

3.3 Exploration History and Previous Work

The area encompassing the present holdings has recently been mapped by G. Johns of the Ontario Geological Survey from whose report many of the subsequent descriptions and comments are taken.

Mineral exploration activity has been recorded in the area since 1912 when gold was discovered on the Patten River. There has been sporadic exploration activity since 1925 following the discovery of a major copper-zinc deposit at Nor-metal, Quebec, with peak periods of exploration activity in the late 1950's, early 1960's, and early 1970's. Most of this activity was directed towards the search for base metals, with a concentration of exploration efforts in the vicinity of Atkinson and Vandette Lakes.

Numerous massive pyrite-pyrrhotite diamond drill intersections have been recorded in the assessment files of the respective provincial governments. Many of these intersections were probably never assayed for gold. In addition, many ground electromagnetic conductors were never drill tested.

A major rush into the region followed by Amoco gold discovery in 1974 and extensive claim staking occurred in the Lower

Detour-Detour-Sunday Lakes region. Extensive staking was also carried out in adjoining portions of Quebec.

Due to the usual problems of sparse outcrop in the clay belt of the Cochrane area, the main exploration approach to date has been airborne geophysics followed by ground geophysics and diamond drilling of EM conductors. Some companies in the area at present are employing overburden drilling as an exploration tool.

3.4 Detour Gold Deposit

3.4.1 Introduction

The following comments and descriptions are based largely on a paper delivered by A.C. Jackson of Amoco at the 1980 CIM annual meeting in Toronto, the Dome Mines Ltd. 1980 annual report and G. John's Ontario Government report.

3.4.2 Geology and Mineralization

In the immediate vicinity of the deposit, the stratigraphic sequence, as known, consists of several hundred to several thousand feet of fine-grained arkosic and graphitic sediments with occasional interbedded basaltic to ultramafic flows and tuffs. This grades upward into a sequence of interbedded

mafic tuffs and sediments approximately 310 m (1,000 ft) in thickness, with the mafic tuffs being predominant. This, in turn, is overlain by a distinctive variolitic basalt sequence which is up to 90 m (300 ft) thick. This basalt consists of 10% to 15% felsic clots set in a chloritic to amphibolitic groundmass. Within this unit there are several narrow (several cm thick) interbeds of pinkish coloured chert.

The variolitic sequence is overlain by a very well banded sequence of mafic tuffs up to 30 m (100 ft) thick. These are chloritic and biotitic and are characterized by alternating light-dark beds up to 2 cm in thickness.

The mafic tuffs are overlain by a series of ultramafic flows and tuffs which vary in thickness from 3 m to 90 m. In the thicker portions, these rocks appear quite massive, varying from finely crystalline talc-carbonate rocks to medium to coarsely crystalline tremolite-actinolite talc-carbonate units. The thinner parts of the unit are usually very well-banded and appear to be tuffs as they contain numerous relict fragments. These are also highly altered to

talc-carbonate. Petrographically, the ultramafic is typically made up of 50% talc, 10-20% tremolite, 10-15% chlorite and 5% sulphides and magnetite.

Several quartz-eye porphyry units occur in the central part of the ultramafic. These units are generally foliated and in some cases appear tuffaceous but their somewhat irregular nature and the often chloritic contacts suggest that they are dikes.

Petrographically, the porphyry consists of 60-70% quartz and potash feldspar occurring as a fine-grained ground mass and also as larger phenocrysts. Foliated stringers of muscovite comprise up to 15% of the rock along with variable amounts of chlorite, biotite, and carbonate. Pyrrhotite with minor pyrite occurs as irregular masses and comprises up to 5% of the rock. Two other units found within the ultramafics consist of coarsely crystalline gabbroic and pyroxenitic intrusives. The gabbro is non-magnetic and has been largely altered to tremolite and chlorite. The pyroxenite is highly magnetic and is characterized by large pseudomorphs of tremolite and magnetic after olivine or pyroxene. This unit forms a large mass on the eastern end of the main Detour ore zone and is indicated by a large magnetic high.

The ultramafic unit is overlain by a cherty tuff which is generally from 0.3 m to 3 m but usually less than 1.5 m thick. It is a creamy grey, very well laminated chert. The lower contact is usually marked by a 0.3 m to 0.6 m band of pyrrhotite with minor chalcopyrite. These sulphides usually contain rounded inclusions of quartz from 1 cm to 5 cm in diameter. The cherty tuff is overlain by several tens of to hundreds of meters of basaltic flows with occasional interbedded dacitic to andesitic flows and tuffs. The first 150 m to 200 m of the basalts are massive to moderately foliated, medium to coarsely crystalline rocks. They typically consist of 50-60% hornblende, 10% biotite, 5-15% plagioclase, 5% quartz, 3% chlorite, 2% carbonate, and 1-3% pyrrhotite.

Intrusive into the sequence, particularly east of the deposit, are several magnetic dioritic sills.

The "main zone" of gold mineralization is essentially an auriferous quartz fracture zone. It is centred on the cherty tuff unit and the immediately overlying basalts. Gold values extend beneath the cherty tuff into the underlying altered ultramafics.

The main quartz fracture zone has an indicated strike length of 210 m to 275 m (700 to 900 ft). It is somewhat arcuate in plan with strikes varying from east-west in the west to northeast-southwest in the east. The mineralized zone plunges 35 to 45 degrees to the west.

The main zone is generally 6 m to 12 m (20-40 ft) in width and consists of a system of quartz veins which contain 10-15% pyrrhotite, 0.5-1% chalcopyrite and 1-5% pyrite within the veins and as selvages. The zone is characterized by extensive biotite alteration of the basalts. The quartz veins are generally less than 15 cm in width and average 3 to 5 veins per 1.5 m through the zone. The gold occurs mainly as free grains within the quartz veins and sulphide selvages.

A small amount also occurs in gold-silver tellurides. Gold particles are usually 10 to 12 microns in size and are often adhered to sulphide grains. Other sulphides commonly encountered are marcasite and various bismuth and lead tellurides.

Several other zones of mineralization have been indicated but are less well-defined than the main zone.

Four zones were indicated in the hanging wall basalts above the main zone and are referred to as the quartz-vein zones. The mineralization in these is similar to the main zone in that the gold is within quartz veins with associated pyrrhotites and chalcopyrite and biotite selvages. Most of these quartz-vein zones have been interpreted to occur in structures that parallel the main zone.

There are also several zones of mineralization indicated in the talc-carbonate rocks. In these zones the gold occurs as blebs and specks within the rock in close association with pyrrhotite and chalcopyrite. Quartz veins are occasionally present but are not essential for the presence of gold. These talc-carbonate zones occur along the plunging hinge line of the subsidiary warp containing the main zone.

3.4.3 Mining

Present reserves are quoted at 30 million tons averaging approximately 0.1 oz Au per ton.

Current plans call for production to start in the fall of 1983 at 2000 tons per day.

Initial production will be by open pit, stripping on
which has commenced.

4.0 FIELD OPERATIONS

4.1 Linecutting

A grand total of approximately 435 km of line was cut in two overlapping grids in preparation for the geophysical surveying. Approximately 50 km of this consisted of baselines and tielines with the remaining 385 km comprising crosslines.

Two grids of approximately equal size were established over the survey area to accommodate a broad flexure in geologic trends.

The baseline for Grid "A" (west grid) was established at an azimuth of 070° to extend from a point approximately 350 m north of Atkinson Lake to Monaghan Lake, a distance of 10 km to the west. Main tielines were established at 10+00S, 10+00N and 20+00N to provide grid control.

The baseline for Grid "B" (east grid) was cut on an azimuth of 110° to extend from the above common point to beyond the Quebec border, a distance of approximately 5.5 km. Tielines were again established at 20+00S, 10+00S, 10+00N and 20+00N.

Crosslines on both grids were established at 100 m intervals throughout with the exception of a local reconnaissance area

at the west end of baseline "A". All baselines, tielines and crosslines were chained and picketed at 25 m intervals.

The grids were overlapped north of Atkinson Lake to allow for continuous mapping of geophysical trends.

The majority of the linecutting was carried out by Ingamar Exploration Ltd. of Connaught, Ontario under contract to MPH Consulting. Approximately 20% of the linecutting was carried out directly by personnel of MPH.

The bulk of the linecutting operations was carried out in the period October to December, 1981.

4.2 Geophysics

4.2.1 Maxmin II Horizontal Loop Electromagnetic System

The system makes use of moving transmitter and receiver coils at a constant coil separation. The coils are maintained in a coplanar mode and are connected by a reference cable. The in-phase and out-of-phase components of the secondary field generated from electrically conductive zones are measured at the receiver coil. These are expressed as percentages of the primary transmitted field.

Five frequencies of primary field varying from 222 Hz to 3555 Hz are available on the Maxmin II. Two frequencies are usually read during a horizontal loop survey. A set of six cable lengths are also available. For this survey, lines were spaced at 100 m intervals and stations were read every 25 meters. A coil separation of 150 meters and frequencies of 444 Hz and 1777 Hz were utilized for routine coverage. This coil separation was felt to provide the optimum compromise between effective depth of penetration and resolution for the average overburden depths (25-30 m +) known to be present in the survey area.

Several areas of complex EM conductivity were selected for detailing subsequent to the main survey coverage. Detail work was carried out with a 100 m cable and frequencies of 444 Hz and 1777 Hz as previous.

Specifications for the Maxmin II Horizontal Loop system are presented in Appendix II.

Grid areas were underlain by relatively flat terrain and secant (slope-corrected) chaining was therefore not required. In rough terrain, this type of chaining is required to correct for variable transmitter-

receiver coil separation due to the uneven topography and to calculate topographic tilt angles enabling coplanar alignment of transmitter and receiver coils.

Field results are presented in a series of maps at a horizontal scale of 1:2500 in a separate volume accompanying this report.

For the Maxmin II, the in-phase and out-of-phase components have been plotted at a scale of 1 cm = 10% of primary field. An interpretation has then been made as to the location of conductor axes and estimated width along with calculations on selected conductive intercepts to determine conductor dip, depth to top and conductance.

4.2.2 Magnetometer Survey

Exploranium/Geometrics Model G816 Proton Precession field magnetometers were used to survey the grid. This system utilizes the precession of spinning protons of a hydrogen atom within a hydrocarbon fluid. These spinning magnetic dipoles are polarized by applying a magnetic field using a current within a coil of wire. When the current is discontinued, the protons precess about the earth's magnetic field and

in turn generate a small current in the wire. This frequency of precession is directly proportional to the earth's total magnetic field at that point.

The instrument is read directly in gammas representing the absolute value of the earth's total field for that station.

Correction of the magnetic data for diurnal and instrument drift was done by referencing the daily field results to continuous magnetic profiles obtained on a Barringer Research BM-123 base station magnetometer which operated during the course of the survey in the field camp.

Instrument specifications are presented in Appendix II.

The magnetic data are presented as a series of isomagnetic contours superimposed on a map of corrected magnetic values recorded at each station. Contour intervals were selected at levels deemed to be suitable to adequately highlight magnetic features of interest within the survey area.

5.0 GEOPHYSICAL RESULTS

5.1 Maxmin II Interpretation

Interpretation of horizontal loop EM data is generally based on classical interpretation curves calculated from model studies of thin, tabular, conductive sheets. From these curves, information concerning the nature of the conductor, i.e. its depth, dip and quality can be extracted.

There is a critical conductor thickness at which the conductor response does not behave as in a thin dyke model. This critical thickness, which is not exceeded when constructing the model curves, is given by the formula:

$$\text{Critical thickness} = \frac{300}{\sqrt{\text{frequency} \times \text{conductivity}}} \text{ meters}$$

Considering the two frequencies used in this survey, namely 444 Hz and 1777 Hz, one can calculate that

$$T_c (444 \text{ Hz}) = 2 \times T_c (1777 \text{ Hz})$$

This indicates that when using the Maxmin II at 444 Hz, the conductor can be twice as thick as when employing the 1777 Hz frequency before the response recorded deviates from a thin

dyke model. This is one of the main reasons why interpretation at the higher frequencies tends to give lower estimates of both the conductivity-thickness product and depth to the top of the conductor than those found with lower frequency data. The lower frequency has been employed throughout for interpretation in the survey described herein.

A basic problem in obtaining completely reliable information from classical interpretation of horizontal loop data is the presence of conductive material in the vicinity of the conductor. This is often a problem in areas such as the Clay Belt of northern Ontario-Quebec and may be particularly severe in arid or tropical countries where surface resistivities may be very low.

There are three main problem areas related to the presence of conductive overburden or conductive host rock in the vicinity of a conductor.

The first of these involves conductive overburden or conductive host rock of variable thickness and/or conductivity. A buried bedrock ridge under a clay cover, for example, may produce a HLEM anomaly related to the changes in thickness of the clay cover which is very similar to that from a bedrock source. With experience, these types of anomalies can

generally be recognized, however, and can be resolved by varying HLEM frequencies/coil separation and re-surveying.

A related problem is that of the conductive overburden sheet overlying but not in electrical contact with the conductor. In this case, both the primary field and the "return", secondary field will be attenuated and phase rotated in passing through the conductive layer. Interpretation using the classical curves will make the conductor appear too deep and the conductance in this situation will be decreased.

There is some indication that the above effect may be present in parts of the present survey area in that calculated depths to conductor top are typically greater than indicated depths in nearby drill holes.

The INPUT results, however, do not indicate extensive conductive overburden in the area in that the first channels are relatively quiet.

The final situation is that where the bedrock conductor is in electrical contact with a conductive host rock or conductive overburden. This will cause an increased anomaly amplitude due to the "current channelling" or "current gathering" effect whereby current is channelled into the conductor from

the surrounding region. Here, the conductor would be misinterpreted as being too shallow and with an incorrect value of conductance for the frequency involved.

Even though the conductors in the Detour survey are typically multiple features, current gathering does not appear to have been a serious problem suggesting that there is no electrical continuity in the form of veins, etc., between adjacent conductors.

5.2 Survey Results - Grid "A"

5.2.1 Maxmin II Electromagnetics

Interpreted Maxmin II conductors for Grid "A" are presented in Volume 2 of this report.

A total of 10 conductors, A-1 to A-10, have been selected for discussion.

Conductor A-1

This appeared as a linear zone of weak to moderate INPUT conductivity near Monaghan Lake in the west portion of the survey area. There was an immediately flanking magnetic correlation of 210 gammas with one of the INPUT intercepts.

The conductor was investigated on the ground with 4 crosslines at 200 m intervals (95+00W, 97+00W, 99+00W, 101+00W). A Maxmin II anomaly was located crossing all four lines immediately north of the baseline. The conductor is open in both directions. The source is indicated to be a relatively narrow, steeply dipping feature. Calculations on line 99+00W indicate an approximately vertical dip, a depth to top of 15 m and a conductance of 4 mhos.

There is a very localized ground magnetic coincidence of approximately 1000 gammas with conductor A-1 on line 99+00W and, to a lesser extent, on line 101+00W.

The conductor is interpreted to represent primarily a variably but generally weakly graphitic unit containing a pyrrhotite concentration in the vicinity of line 99+00W which possibly extends to the west in less concentrated form.

Conductor A-2 extends from approximately 17+50N on line 63+00W in a south-southwesterly direction off the grid area (Maps A-7, A-14). A series of grid lines was subsequently established perpendicular to the existing crosslines in this area to assist in tracing

this and other conductors to the west. Map A-22 indicates that conductor A-2 does persist to the west crossing the baseline between 81+00W and 82+00W.

The conductor illustrates large conductivity variations with the most highly conductive portion being that between lines 68+00W to 70+00W. The northeast and southwest extremities generally show poor to very poor conductivity.

The conductor appears to be a relatively narrow, linear feature with steep southeast to near vertical dips. Calculations on line 68+00W indicate an 80° south dip, a depth to top of 27 m and a conductance of 23 mhos.

There is a direct magnetic correlation with portions of the conductor, particularly between lines 63+00W to 65+00W, 67+00W to 70+00W and 73+00W to 74+00W. The magnetic responses appear to be somewhat discontinuous along strike although this may be mainly a reflection of the relative anomaly/picket line orientation. There is probably some northwest-oriented faulting in the area. Anomaly amplitudes are up to 1500 gammas above local backgrounds.

The causative source is interpreted to be an interflow metasedimentary-metatauffaceous unit with variable but locally substantial pyrrhotite (+ pyrite?) content as reflected in the magnetic signature particularly in the area between 67+00W to 69+00W.

As presently interpreted, the west portion of Conductor A-3, along with the magnetic data, outlines an excellent example of a geophysically-inferred Archean fold nose. The north "limb" between lines 70+00W to 74+00W is indicated to dip south while the south limb between the same lines is indicated to dip north thus outlining a synclinal (or synformal) fold nose.

Considering the 444 Hz response, the conductor displays weak to, at best, moderate conductivity and is relatively narrow. Conductance calculations on lines 63+00W and 70+00W indicate values in the 10 to 20 mho range.

There is a pronounced magnetic anomaly associated with the conductor. The Maxmin II anomaly is, however, generally offset by up to 50 to 75 m from the axis of the magnetic high. This indicates that although

spatially related, the causative sources for the EM and magnetic effects are probably distinctly different even allowing for downdip migration of magnetic peaks. Magnetic anomaly amplitudes range up to 3500 gammas or more above local background.

This type of relationship is displayed by several other conductors on the grid area. A very limited amount of previous drill information suggests that the magnetic responses may be related to magnetite-bearing mafic-ultramafic metavolcanics. The EM responses on the other hand appear to be related to regional interflow metasedimentary-metatuffaceous units with variable pyrrhotite-pyrite-graphite components.

In a volcanogenic context, the interflow tuffs and chemical sediments may reflect a sedimentary hiatus at the end of a volcanic cycle with the magnetite-bearing rocks representing the mafic-ultramafic base of the subsequent volcanic event. If stretched to its limits, this type of relationship may be used to infer stratigraphic tops, i.e. that the conductive units stratigraphically underlie the magnetic features.

Conductor A-3 is therefore interpreted to represent an interflow sulphidic + graphitic sedimentary zone in close spatial association with magnetite-bearing mafic to ultramafic rocks of probable extrusive origin. The form of particularly the magnetic response on Map A-20 further suggests that a Z-symmetry drag fold may be present on the south limb of the interpreted synform in the vicinity of line 60+00W.

Conductor A-4 is part of a major regional feature extending from Fear Lake in the vicinity of line 60+00W off the east edge of the "A" grid and entirely across the "B" grid, a distance in excess of 11 km!

As in previous cases, there is a wide variation in conductivity along the length of the conductor. Clearly the most conductive section is that in the east between lines 1+00W and 16+00W where conductance calculations (444 Hz) typically yield values in the 35 to 60 mho range.

The conductor gives the impression of "beginning" in the west and "blossoming" towards the east portion of the grid. It is indicated to be a relatively narrow

feature throughout. Dips, where obvious, are consistently to the south. Calculated dips of 45° to 50° south between lines 13+00W to 15+00W are in close agreement with an INPUT calculated dip of 48° S in this region.

The high frequency results (Maps A-8, A-10, A-12) indicate that portions of the zone are areas of multiple conductivity as in the area between 38+00W to 42+00W and 12+00W to 18+00W. The latter is an excellent example of a conductor of extremely low conductivity flanking a more highly conductive feature. The very poor conductor appears only or primarily as a quadrature response at the high frequency with little or no in-phase. There is virtually no expression at the lower frequency.

Calculated depths of burial are typically in the 35 m to 40 m range in the east portion of the conductor.

Conductor A-4 is directly associated with a major, regional, linear magnetic high (Maps A-15, A-17, A-19). As in the previous case, the axis of the magnetic high is offset from the EM conductor typically by 25 m to 75 m. In all cases, the EM conductor is to

the north of the axis of the magnetic anomaly. Again, the magnetic and EM responses are reflective of two different although spatially related sources.

Numerous disruptions and offsets in the magnetic anomaly attest to the presence of much northerly-striking faulting in the area. The most conspicuous offsets are those in the vicinity of lines 18+00W to 22+00W.

The causative source of the EM effect is again inferred to be a regional interflow metasedimentary-metatufaceous unit with pyrrhotite (+ pyrite) and graphitic components which vary considerably in quantity along strike. Assuming deposition in a broad, flat-bottomed basin, the centre of this feature would be in the area directly north of Atkinson Lake in the vicinity of line 1+00W.

Conductor A-5 crosses virtually the entire grid area extending easterly from under Fear Lake discontinuously to approximately 5+00N on line 19+00W, a distance of approximately 4.4 km.

The conductor in general displays poor to very poor conductivity being mainly a weak quadrature response

area. It appears, for example, that a major synclinal axis crosses the east grid area in the vicinity of TL 10+00N. Consistent south dips in the central portion of the two grid areas may reflect an overturning to the north in this region. At least one more anticline-syncline pair may be inferred from the geophysical data in the southeast portion of the "B" grid. Specifically then, a detailed structural-stratigraphic interpretation should be carried out for the grid areas. This would most conveniently be done on a photo-reduced composite of the grid maps.

- b) A detailed compilation of all previous drilling carried out on the grid areas should be carried out utilizing drill hole locations found during property work.

The results of the drill compilation should then be integrated with a) to produce a data base from which a series of drill recommendations can be made to further evaluate the mineral potential of the property area.

Respectfully submitted,



W.E. Brereton, P.Eng.

Toronto, Ontario,
April, 1982.

CERTIFICATE

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

- 1) I hold an Honours Bachelor of Science degree in Geology and Physics from Queen's University at Kingston and a Master of Science (Applied) degree in Mineral Exploration from McGill University in Montreal.
- 2) I am a Professional Engineer registered with the Association of Professional Engineers of the Province of Ontario.
- 3) I have practised my profession as a mining explorationist since 1967.
- 4) I have based conclusions and recommendations contained in this report on previous geophysical experience and knowledge of the area and on observations made during the course of the field programme. I was present while some of the field work was carried out in December, 1981, and all of the work on the project was carried out under my direction.
- 5) I hold no direct interest (other than professional fees) nor do I expect to receive any interest in Getty Mines, Limited, Getty Canadian Metals, Limited or any of its subsidiary companies.



Toronto, Ontario,
April, 1982.

W.E. Brereton, P.Eng.

at 444 Hz. This is particularly true in the west with the exception of line 56+00W where an in-phase to quadrature ratio of approximately 1.0 at 444 Hz indicates moderate conductivity. In the east, the section from 21+00W to 29+00W displays moderate to good conductivity with a conductance calculation of 30 mhos on line 28+00W (444 Hz).

Dips are indicated to be to the north in the west portion ranging through vertical to moderate south dips ($50^{\circ}+$) in the east.

The conductor appears to be a relatively narrow feature in general with slightly increased widths in the area of line 28+00W.

The conductor has a varying magnetic association along its length. In the vicinity of Fear Lake, there is a very distinct magnetic correlation in the form of a narrow, linear anomaly with a maximum relief in excess of 3000 gammas above local background. The EM conductor is again displaced, this time 50 to 75 m to the south, from the axis of the magnetic high. An abrupt truncation on line 62+00W and disruption of the anomaly pattern in the area of lines 43+00W to 46+00W suggest a series of fault displacements.

Between lines 19+00W and 42+00W, there is a complete absence of any magnetic signature associated with the conductor.

Conductor A-5 is interpreted to represent an interflow metasedimentary-metatufaceous unit with a graphite-pyrite (+ pyrrhotite) component which is highly variable along strike. The greatest concentration of non-magnetic conductive material is in the vicinity of line 28+00W. In the west, the conductor is in close spatial association with but separate from a unit of magnetite-bearing mafic-ultramafic metavolcanic which is in turn truncated to the west by a north-striking fault.

By the previous stratigraphic hypotheses, a synclinal fold axis is required between conductors A-4 and A-5. Further, the east portion of the south limb of this fold is overturned in that dips here are to the south.

Conductor A-6 has been selected as the zone of conductivity extending from line 61+00W to 41+00W where it is inferred to be terminated by or offset along a north-striking fault (Maps A-4, A-6).

The conductor displays generally low conductivity in the west with an area of good conductivity and increased width from 41+00W to 47+00W. Calculations on line 44+00W, for example, yielded a conductance value of 57 mhos with an in-phase to quadrature ratio of approximately 7.5 to 1 (444 Hz). Dips appear to be to the south throughout with calculated values in the 60°S range on lines 42+00W and 44+00W. Depths to top in the east end are calculated to be in the 30 m to 40 m range.

The high frequency results (Map A-13) indicate the presence of a weak conductor flanking the main feature to the south between lines 46+00W to 55+00W. As in previous cases, this conductor appears primarily as a weak quadrature response attesting to the low order of conductivity.

Magnetically, the conductor, in its west portion, occurs along the southwest flank of the complex magnetic high previously interpreted to be a drag fold along the south limb of a syncline. The conductor is again separate from the magnetic source and does not appear to have a direct magnetic correlation over most of its length.

The one exception is a localized magnetic high on lines 43+00W to 45+00W which is directly co-incident with this portion of conductor A-6. The magnetic anomaly is a relatively subtle feature with a maximum relief of approximately 300 gammas. It is also noted that the conductor is somewhat wider here than elsewhere.

The conductor is indicated to be primarily a weakly developed graphitic metatuffaceous unit over most of its length. The portion of the conductor between 43+00W to 45+00W is interpreted to contain a pyrrhotite-rich sulphide concentration as reflected in the magnetic signature.

It is possible that conductor A-6 is the continuation of conductor A-3 if the previous fold interpretation is correct.

Conductors A-7, A-8, A-9 and the east portion of A-6 form a relatively complex area of conductivity west of Atkinson Lake.

Conductor A-7 has been subdivided into two separate although closely related features, A-7a and A-7b.

Conductor A-7a extends from an interpreted fault near line 41+00W off the east edge of the grid, a distance of over 3 km.

The conductor is a very weak, mainly quadrature feature over most its length. There are two areas of higher conductivity in the central portion (lines 22+00W to 26+00W and 28+00W to 32+00W) with inphase to quadrature ratios of 1:1 to 4:1.

Interference by adjoining conductors precluded extensive calculation of dip, etc.

Detailing on lines 15+00W, 23+00W, 27+00W and 31+00W with a 100 m cable confirmed the presence of the conductors essentially as indicated by the 150 m survey but provided little additional information as to dip, etc. (Map A-23). The one exception is the detailing of conductor A-7a on line 23+00W which clearly indicates a moderate south dip to the conductor at the low frequency.

The low conductivity, western extremity of the conductor appears at both the 100 m and 150 m cable separa-

tions primarily as a low amplitude, quadrature response.

The conductor is characterized by the complete absence of any noteworthy magnetic signature with the exception of a very localized, weak (200 gammas) magnetic correlation on line 26+00W.

The conductor is interpreted to reflect a variably graphitic metatuffaceous unit. The magnetic anomaly on line 28+00W may relate to a relatively local pyrrhotite concentration at this locality.

Conductor A-7b parallels the above appearing to die out or merge with A-7a in the vicinity of line 31+00W.

The conductor generally displays very poor conductivity being mainly a quadrature effect at 444 Hz. The best conductivity is indicated to be in the vicinity of line 23+00W.

Detail work with a 100 m cable on line 23+00W suggests that the conductor here is flanked to the north by a second, very weak conductor centred at approximately 3+75S (Map A-23).

A south dip and generally narrow width is indicated for the conductor.

There is no magnetic signature associated with the conductor.

A narrow, weakly graphitic tuffaceous unit is interpreted to be the cause of the conductor.

It is possible that conductor A-7a or A-7b is the eastward stratigraphic continuation of conductor A-6.

Conductor A-8, as presently interpreted, extends from a very highly conductive bulbous zone on lines 39+00W to 40+00W eastward in discontinuous fashion through a central, poorly conductive area into a second area of increased conductivity on lines 27+00W to 29+00W.

The west end of the conductor is indicated to have a surface width of up to 30 to 40 m as indicated by detailed surveying (Map A-23). Inphase to quadrature ratios of up to 10:1 at 444 Hz attest to the high conductivity of this portion of the conductor. Overburden depths in the order of 20 to 30 m are indicated

by previous drill results. A south dip is indicated by the detail work.

Interference from conductor A-9 makes it difficult to trace conductor A-8 to east but it appears to extend approximately as shown.

The east end of the conductor again displays high conductivity and an indicated south dip.

There are very local, relatively low order magnetic correlations with the western, bulbous portion of the conductor on line 39+00 and in the central portion in the vicinity of line 34+00W at the baseline.

By interpretation and from previous drill results, the conductor probably consists primarily of a graphitic tuff with concentrations of magnetic sulphides in the western and central portions. The amount of conductive material varies considerably along strike with the greatest amounts being in the western and eastern extremities respectively.

The reason for the positive inphase response over the expected location of the conductor at approximately

0+25S on line 38+00W is not clearly understood at this point but appears to relate to the geometry of the situation, i.e. the position of the conductive body relative to the coil separation/frequencies involved. There may be a very abrupt truncation of the conductor immediately to the west of line 38+00W.

Conductor A-9 over most of its length displays very high conductance and very shallow depth of burial. Detail work on line 36+00W (Map A-23) clearly indicates a south dip and a very shallow depth of burial. A previous drill hole in the vicinity of line 32+00W indicates a depth to conductor top of 2 to 3 m.

There are a series of magnetic highs associated with the west-central, west and extreme east portions of the conductor. The east-central area is magnetically low. Magnetic anomaly amplitudes range up to 5000 gammas above local background (line 34+00W). The high anomaly amplitudes probably relate in part to very shallow depths of burial. The magnetic pattern is again somewhat disjointed as a result of faulting.

Magnetic and EM anomalies are coincident or nearly so suggesting that the causative sources are one and the same.

The conductor is interpreted to reflect a strongly graphitic tuffaceous unit with variable but locally substantial concentrations of pyrrhotite with the pyrrhotite (+ some magnetite?) being concentrated in the areas of high magnetic relief. The conductive body appears to vary in surface width from 10 to 25 m over most of its length.

The possibility of a relationship between conductors A-8 and A-9, conceivably via a very tight fold, cannot be ruled out.

Conductor A-10 is a very short strike length feature directly north of the central portion of conductor A-9 (Maps A-4, A-11).

The nature of the causative body is uncertain but the EM response may be reflective of a relatively flat, ribbon-like feature of limited width and thickness. The conductor is possibly an overburden-related response.

The conductor is closely but not exactly coincident with a local 400 gamma magnetic anomaly although the two are probably unrelated.

Other

Numerous other EM responses have been indicated on the EM maps. These are very weak, poorly conductive features and are expressed mainly in the quadrature of the higher frequency. They have not been selected for discussion at this point and, in many cases, may relate to conductive overburden-type effects.

5.2.2 Magnetics

The magnetic pattern is dominated by a series of generally linear magnetic highs which in part form a broad arc over the north portion of the grid. These units typically have spatially associated EM conductivity and are interpreted to reflect magnetite-bearing mafic-ultramafic flows, possibly forming the base of a major volcanic cycle.

Areas of high but more erratic magnetic values as in the east-central portion of the grid directly north of Atkinson Lake, the area between lines 43+00W to 52+00W directly north of the baseline and between lines

26+00W to 32+00, TL 10+0N are again interpreted to represent mafic-ultramafic rocks, in this case possibly largely of intrusive origin.

Highly localized, narrow magnetic anomalies in direct correlation with EM conductors are interpreted to represent pyrrhotite (+ magnetite) concentrations. The best examples of this are in association with EM conductors A-2 and A-9 and to a lesser extent with portions of A-6 and A-8.

The structural interpretation of an east-plunging synclinal fold nose in the vicinity of BL, 74+00W has been referred to previously along with the possibility that the irregular magnetic feature south of the baseline between lines 55+00W to 68+00W may represent a drag fold on the south limb of the main fold. If this is the case then conductors A-4, A-3, A-6 and A-7 may all represent the same time-stratigraphic interval.

A distinct linear magnetic high on the south ends of the westernmost lines is interpreted to reflect a late mafic intrusive body. This mafic intrusive may further mark the locus of a major eastwest fault.

The presence of numerous, generally north-striking faults is indicated by truncations, disruptions and offsets in the magnetic (\pm EM) pattern. Lateral displacements in general do not appear to be large.

5.3 Survey Results - Grid "B"

5.3.1 Maxmin II Electromagnetics

A total of 13 conductors, B-1 to B-13, have been selected for purposes of discussion.

Conductor B-1 is a narrow, linear, south-dipping feature and is the continuation onto the "B" grid of conductor A-4. Comments made about the latter conductor generally apply to B-1.

The east portion of B-1 shows extremely good conductivity with inphase to quadrature ratios up to in excess of 10:1. A conductance value of approximately 200 mhos was calculated on line 12+00E.

The conductor is again seen to be clearly associated with a linear magnetic high with the actual axis of the magnetic anomaly offset by 50 to 75 m to the south of the EM conductor axis indicating different causative sources. Both the magnetic high and the EM conductor end abruptly to the east, possibly at a fault.

The conductor is interpreted to represent a unit of pyrite-pyrrhotite bearing tuffaceous rocks, possibly with some graphite. The magnetic anomaly is interpreted to reflect a continuation to the east of the previous magnetite-bearing mafic to ultramafic volcanics.

Conductor B-2 is indicated to extend between lines 10+00E to line 29+00E at approximately 12+00N to 13+00N.

The conductor displays good to very good conductivity over virtually its entire length. Conductance calculations in the central portion of the conductor yielded values in the 80 to 100 mho range (Map B-1, 444 Hz).

A south dip is indicated throughout with a calculated value of 50°S on line 20+00E. A depth estimate of 35 m was also made at this location.

The conductor is indicated to be a relatively narrow feature throughout with a possible slight increase in width near the east end.

The conductor has virtually the same relationship with a narrow, linear magnetic high as B-1, i.e. it occurs in general spatial association with but is displaced 25 to 75 m to the north of the magnetic axis. The exact coincidence of the conductor with a magnetic high on line 10+00E may be more apparent than real as this area is off the end of the main conductive zone.

This conductor is interpreted to be primarily a narrow interflow sulphide-bearing tuffaceous unit. The conductor is positioned spatially and stratigraphically (?) immediately beneath a thin unit(s) of magnetite-bearing mafic-ultramafic metavolcanics as represented by the linear magnetic high.

Conductor B-3 is generally a low amplitude, moderate to poorly conductive feature which extends across the northeast portion of the grid.

The conductor dips south (75°-line 34+00E) and is probably relatively deeply buried (30-40 m+) over most of its length. It appears to be relatively narrow throughout.

The conductor is again positioned immediately to the north of a linear magnetic high.

Conductor B-4 is virtually identical to B-3 in response, conductivity and magnetic association and may represent the eastward continuation of B-3. This would require a north-striking fault in the vicinity of lines 40+00 to 41+00E with a right lateral displacement on the order of 150 m.

Conductor B-3 is interpreted to represent a variably but generally weakly sulphidic-graphitic tuffaceous unit. Portions of higher conductivity, e.g. line 38+00E may reflect local pyrite (+ pyrrhotite) concentrations.

Conductor B-4 is a weakly to moderately conductive, narrow, deeply buried, south-dipping (60°-line 45+00E) feature which in all probability represents the faulted continuation of conductor B-3 as noted. The conductor is again interpreted to be primarily a narrow sulphidic-graphitic unit.

Conductors A-4, B-1, B-2, B-3 and B-4 may all represent the same general lithostratigraphic feature

judging by their relationship with the semi-continuous linear belt of magnetic highs which crosses the north portion of the grid area.

Conductor B-5 is a zone of multiple conductivity between lines 38+00E to 47+00E in the vicinity of TL 10+00N.

Detailing with a 100 m cable on lines 44+00E and 45+00E (Map B-16) clearly shows the presence of two separate conductors 80 m to 130 m apart. The more northerly conductor shows markedly better conductivity on line 44+00E with an indicated conductance value of 120 mhos ±.

Conductor dip is difficult to resolve because of the closeness of the conductors; however, the west and central portions of the north conductor appear to dip steeply to the north while the east portion of the south conductor may dip south. This would indicate the presence of a fold axis in the area.

Depth to conductor top is indicated to be in the 25 m to 30 m range in the central portion of the conductor.

There is a weak (200 gamma) local magnetic high immediately to the south of the southerly conductor on lines 45+00E and 46+00E which may be related to the conductive zone. With this exception, conductive zone B-5 does not have any magnetic expression.

Conductive zone B-5 is interpreted to consist of at least two parallel pyrite/graphite-rich zones which locally may obtain appreciable widths, particularly in the east portion of the south conductor. The magnetic expression on lines 45+00E + 46+00E may relate to a disseminated magnetite or pyrrhotite concentration part of or immediately flanking the south conductor.

Conductor B-6 extends from line 11+00E to 42+00E approximately parallel to TL 10+00N. The conductor is generally a narrow, linear feature which exhibits good to very good conductivity over most of its length.

There appears to be a variation in dip from west to east ranging from a relatively shallow north dip in the west (30° N) through intermediate dips in the central portion to a vertical dip at the east end (Maps B-2, B-3).

Depths of burial appear to be shallowest at the west end (15 m_±) to the greatest depth at the east end of 45 m_± (line 35+00E).

Magnetically, the conductor occurs in direct spatial association with a linear magnetic high. The EM conductor is offset to the south from the axis of the magnetic high by 25 m to 50 m, and the causative sources of the two responses probably represent different geological entities.

The conductor again probably represents primarily a pyritic (± pyrrhotite) tuffaceous unit with a variable graphite content overlain by a magnetite-bearing mafic-ultramafic metavolcanic unit.

Conductor B-7 is another major formational feature extending from line 6+00E to the vicinity of line 40+00E, a distance of 3.4 km. It exhibits some variation in width, conductance and dip along its length.

In the west, the portion of the conductor between lines 11+00E to 25+00E generally displays good to very good conductivity with some thicker conductive sections in the vicinity of lines 14+00E and 21+00E. A steep north dip is indicated.

There is indicated to be a second, parallel conductor in the area between lines 27+00E to 33+00E (444 Hz) which displays good conductivity on line 28+00E and 29+00E and lower conductivity elsewhere.

The eastern extremity of conductor B-7 comes in close proximity to conductor B-6.

The conductor is indicated to have a moderate to steep north dip throughout.

There is a magnetic association as observed with other conductors, i.e. that the EM axis is associated with but displaced to the south of a linear magnetic high.

The conductor is interpreted to reflect a major interflow metasedimentary-metatuffaceous unit with variable pyrite-pyrrhotite-graphite components. High conductivity "nodes" as in the vicinity of lines 12+00E, 20+00E, 24+00E and 29+00E may relate to relatively sulphide-rich portions of the conductor. Direct correlation of local magnetic highs with weakly conductive portions on lines 7+00E and 35+00E may be reflective of magnetite concentrations.

Conductor B-7 could conceivably represent the continuation of conductor B-6 around a tight fold nose in the vicinity of line 40+00E.

Conductor B-8 may be a continuation to the east of the weak conductor flanking B-7 to the south (Maps B-4, B-9).

The conductor displays relatively short strike length (500 m \pm), very good conductivity in its central portion, narrow width and steep south dip (75 \pm).

The conductor displays a direct to semi-direct magnetic correlation of up to 1500 gammas above background, particularly on lines 43+00E and 44+00E.

Considering the geophysical results and a previous drill hole, this conductor is interpreted to be reflective primarily of a pyrrhotite-rich (\pm pyrite) tuffaceous unit which is best developed on lines 42+00E and 43+00E. A unit of magnetite-bearing "dacite" overlies the conductor.

The conductive axis with direct magnetic correlation which extends to the east across the Quebec border in

the vicinity of 7+00N, line 50+00E may represent a faulted-off continuation of conductor B-8.

Conductors B-9 to B-12 form a group of Maxmin conductors with a prominent magnetic association in the southeast portion of the grid area. Detail work with a 100 m cable proved of great assistance in unraveling the conductive picture in this area (Map B-17).

Conductor B-9 consists of a poorly conductive, mainly quadrature feature at 444 Hz immediately north of the baseline (Maps B-4, B-9). The high frequency results indicate the presence of a very weakly conductive feature flanking the main zone to the north.

Conductor B-12 displays essentially the same characteristics, i.e. poor to very poor conductivity, and generally narrow width. Conductors B-9 and B-12 appear to merge in the vicinity of lines 41+00E to 43+00E near the baseline.

Conductors B-10 and B-11 also show the same general characteristics particularly in the form of very good conductivity. Conductor B-10 shows appreciable width on line 50+00E (20 m₊) relative to B-11 which appears to be narrow.

It is difficult to make unequivocal dip determinations because of interference from adjacent conductors but it appears that at least the south conductors dip south.

The four conductors are associated with a major magnetic feature which extends from baseline 37+00E "opening up" in an eastward direction and extending east off the grid area. Anomaly amplitudes range up to 4000 gammas above background. In detail, the EM conductors again do not coincide exactly with magnetic highs. Conductor B-10, for example, occurs in a relative magnetic low within the zone of overall higher magnetic intensities. On the other hand, conductors B-9/B-12 appear to coincide fairly closely with a major magnetic culmination on line 43+00E at the baseline.

Results of previous drilling and the geophysical interpretation indicate that the EM responses are due to sulphide-bearing tuffaceous and chemical sedimentary zones spatially associated with magnetite-bearing mafic to ultramafic extrusive/intrusive rock units. There may be substantial magnetite associated with the sulphide conductive zones as in the vicinity of base-

line, 43+00E. The largest sulphide (pyrite + pyrrhotite) concentrations are probably associated with conductors B-10 and B-11 respectively.

The form of the magnetic anomaly and the four conductors under discussion is strongly suggestive of a fold closure in this area. By this reasoning, conductor B-11 would represent the continuation of B-10 and B-12 the continuation of B-9. The nose of the fold may be extensively "sheared out" giving rise to the observed pattern between conductors B-9 and B-12 in the nose area. The form of the hypothetical fold is probably anticlinal. The fold would have a northwest plunge.

Conductor B-13 is another major regional feature extending from line 32+00E in an easterly direction past line 57+00 and off the grid area, a distance of at least 3 km.

The conductor consists of two parallel axes from 25 m to 200 m apart. The individual axes appear to represent two zones which dip south at a relatively steep angle (70°-80°S).

Conductivity for both features is generally poor to moderate with inphase to quadrature ratios rarely in excess of 1.1.

Overburden depths appear to be generally in the 20 m to 30 m range.

There is no magnetic expression associated with the conductors.

The conductors are interpreted to represent two weakly developed graphitic metasedimentary units.

Other

As on grid A, there are numerous other weakly conductive features on the grid area expressed mainly as quadrature responses at the high frequency. In many cases these probably have non-bedrock sources and have not been selected for consideration at this time.

5.3.2 Magnetics

The "A" grid is much more active magnetically than the "B" grid to the west.

The pattern is again dominated by a series of linear to folded magnetic highs which are typically spatially associated with Maxmin II conductors.

These linear highs are set in a more bland magnetic background as in the southeast portion of the grid. Such areas are probably underlain by Fe-poor metavolcanic and/or metasedimentary rocks.

Areas of higher but more erratic magnetic intensities as in the southwest portion of the grid north of Atkinson Lake are again interpreted to represent magnetite-bearing mafic rocks possibly of mixed extrusive/intrusive origin.

Truncation and offset of magnetic trends again allows the interpretation of several north-east striking faults. One of the most obvious of these is in the northeast portion of the grid where a linear magnetic feature shows apparent right-lateral offset of 150 m ± in the vicinity of 16+00N, 41+00E.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Ground geophysical surveying comprising Maxmin II electromagnetics and proton magnetics has been completed on a block of 206 mineral claims in the Detour Lake area of northeastern Ontario on behalf of Getty Canadian Metals, Limited by MPH Consulting Limited of Toronto.

The surveys were successful in delineating numerous electromagnetic-magnetic features which will require further evaluation for their gold-base metals potential.

The 23 EM conductors selected for discussion are interpreted to relate primarily to major interflow metasedimentary-metatuffaceous units with variable sulphide (pyrrhotite + pyrite) and graphitic components.

The conductors are invariably in close spatial association with linear magnetic features which are interpreted to reflect primarily magnetite-bearing mafic to ultramafic flow units.

Two specific recommendations are made at this point:

- a) It appears that the geophysical data will enable a comprehensive structural picture to be constructed for the property

APPENDIX I
Technical Data Statements

P529159
P529162
P529163
P529164
P529165
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P529167
P560161
P568293
P568294
P568295
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P568300
P577564
P585180
P585181
P585182
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P619164
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P633246
P633247
P633248

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 _____

Instrument _____

Accuracy - Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

Instrument Apex Parametrics Maxmin II

Coil configuration horizontal co-planar

Coil separation 150 m

Accuracy ± 1/2%

Method: Fixed transmitter Shoot back In line Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured inphase and quadrature components of secondary EM field

Instrument _____

Scale constant _____

Corrections made _____

Base station value and location _____

Elevation accuracy _____

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 _____

MAGNETIC

ELECTROMAGNETIC

GRAVITY

INDUCED POLARIZATION RESISTIVITY

P529159	P585609	P585934	P595005
P529162	P585610	P585935	P595006
P529163	P585611	P585936	P595008
P529164	P585612	P585937	P595009
P529165	P585613	P585938	P595010
P529166	P585614	P585939	P619058
P529167	P585615	P585943	P619059
P560161	P585616	P585944	P619060
P568293	P585617	P585945	P619061
P568294	P585618	P585946	P619062
P568295	P585619	P585947	P619063
P568296	P585620	P585948	P619064
P568297	P585626	P585949	P619065
P568300	P585653	P585950	P619067
P577564	P585654	P585951	P619068
P585180	P585655	P585952	P619069
P585181	P585656	P585953	P619070
P585182	P585657	P585954	P619071
P585183	P585899	P585955	P619072
P585184	P585900	P585956	P619073
P585185	P585901	P585957	P619074
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P585605	P585930	P586536	P619164
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P585607	P585932	P595003	P633245
P585608	P585933	P595004	P633246
			P633247
			P633248

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 Geometrics G-816 Proton Magnetometer

Accuracy - Scale constant 1 gamma

Diurnal correction method Base Station Recorder

Base Station check-in interval (hours) _____

Base Station location and value _____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: Fixed transmitter Shoot back In line Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured _____

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 _____

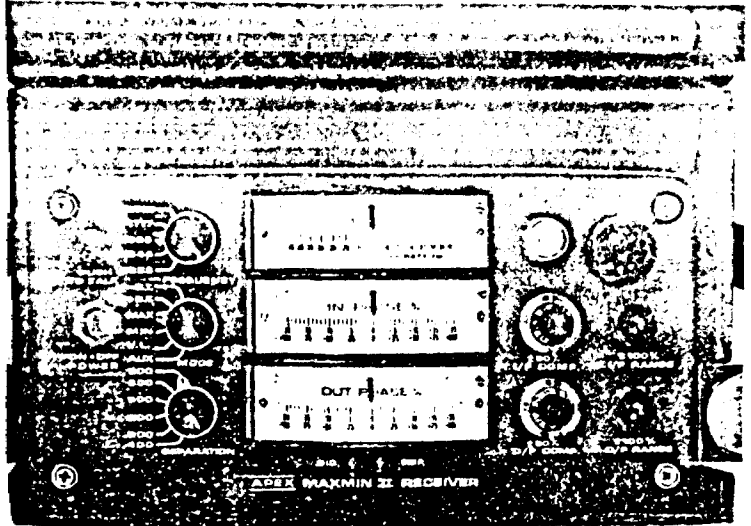
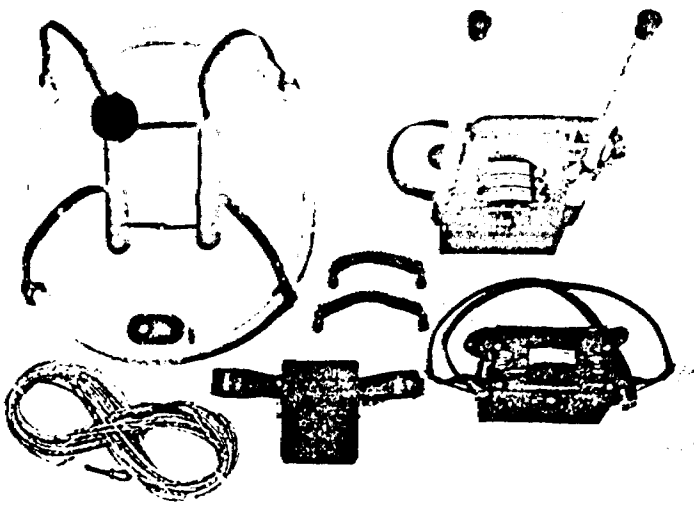
APPENDIX II
Instrument Specifications

APEX

MAXMIN II PORTABLE EM

- Five frequencies: 222, 444, 888, 1777 and 3555 Hz.
- Maximum coupled (horizontal-loop) operation with reference cable.
- Minimum coupled operation with reference cable.
- Vertical-loop operation without reference cable.
- Coil separations: 25, 50, 100, 150, 200 and 250 m (with cable) or 100, 200, 300, 400, 600 and 800 ft.
- Reliable data from depths of up to 180m (600 ft).
- Built-in voice communication circuitry with cable.
- Tilt meters to control coil orientation.





SPECIFICATIONS :

Frequencies: 222, 444, 888, 1777 and 3555 Hz.

Modes of Operation: **MAX:** Transmitter coil plane and receiver coil plane horizontal (Max-coupled; Horizontal-loop mode). Used with refer. cable.
MIN: Transmitter coil plane horizontal and receiver coil plane vertical (Min-coupled mode). Used with reference cable.
V.L. : Transmitter coil plane vertical and receiver coil plane horizontal (Vertical-loop mode). Used without reference cable, in parallel lines.

Coil Separations: 25, 50, 100, 150, 200 & 250m (MMII) or 100, 200, 300, 400, 600 and 800 ft. (MMIF).
 Coil separations in VL mode not restricted to fixed values.

Parameters Read: - In-Phase and Quadrature components of the secondary field in MAX and MIN modes.
 - Tilt-angle of the total field in VL mode.

Readouts: - Automatic, direct readout on 90mm (3.5") edgewise meters in MAX and MIN modes. No nulling or compensation necessary.
 - Tilt angle and null in 90mm edgewise meters in VL mode.

Scale Ranges: In-Phase: $\pm 20\%$, $\pm 100\%$ by push-button switch.
 Quadrature: $\pm 20\%$, $\pm 100\%$ by push-button switch.
 Tilt: $\pm 75\%$ slope.
 Null (VL): Sensitivity adjustable by separation switch.

Readability: In-Phase and Quadrature: 0.25 % to 0.5 % ; Tilt: 1 %.

Repeatability: $\pm 0.25\%$ to $\pm 1\%$ normally, depending on conditions, frequencies and coil separation used.

Transmitter Output:- 222Hz : 220 Atm²
 - 444Hz : 200 Atm²
 - 888Hz : 120 Atm²
 - 1777 Hz : 60 Atm²
 - 3555Hz : 30 Atm²

Receiver Batteries: 9V trans. radio type batteries (4).
 Life: approx. 35hrs. continuous duty (alkaline, 0.5 Ah), less in cold weather.

Transmitter Batteries: 12V 6Ah Gel-type rechargeable battery. (Charger supplied).

Reference Cable : Light weight 2-conductor teflon cable for minimum friction. Unshielded. All reference cables optional at extra cost. Please specify.

Voice Link: Built-in intercom system for voice communication between receiver and transmitter operators in MAX and MIN modes, via reference cable.

Indicator Lights: Built-in signal and reference warning lights to indicate erroneous readings.

Temperature Range: - 40°C to +60°C (-40°F to +140°F).

Receiver Weight: 6kg (13 lbs.)

Transmitter Weight: 13kg (29 lbs.)

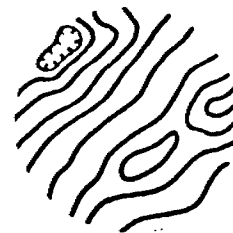
Shipping Weight: Typically 60kg (135 lbs.), depending on quantities of reference cable and batteries included. Shipped in two field/shipping cases.

Specifications subject to change without notification.

APEX PARAMETRICS LIMITED
 200 STEELCASE RD. E., MARKHAM, ONT., CANADA, L3R 1G2

Phone: (416) 495-1612 Cables: APEXPARA TORONTO Telex: 06-966773 NORDVIK TOR

geoMetrics



Instrument Division

PORTABLE PROTON MAGNETOMETER MODEL G-816/826

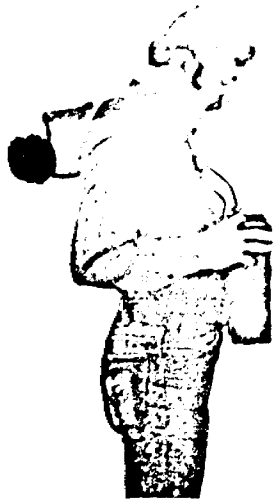


- ★ 1 gamma sensitivity and repeatability
- ★ Very small size and weight: less than 12 lbs complete with batteries and sensor
- ★ Over 10,000 readings per set of alkaline "D" cell (flashlight) batteries
- ★ Provision to attach sensor to carrying harness for use without staff
- ★ Pushbutton operation—numeric display directly in gammas
- ★ Total field measurements— independent of orientation—no calibration—no leveling

The Model G-816 is a complete portable magnetometer for all man-carry field applications. As an accurate yet simple to operate instrument, it features an outstanding combination of one gamma sensitivity and repeatability, compact size and weight, operation on standard universally available flashlight batteries, ruggedized packaging and very low price.

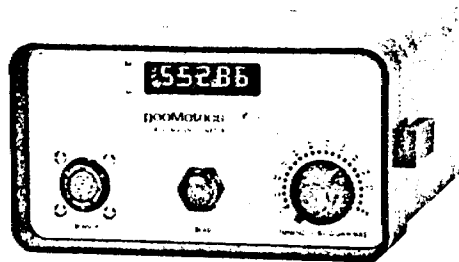
The G-816 magnetometer allows precise mapping of very small or large amplitude anomalies for ground geophysical surveys, or for detail follow-up to aeromagnetic reconnaissance surveys. It is a rugged, light-weight, and versatile instrument, equally well suited for field studies in geophysics, research programs or other magnetic mapping application where low cost, dependable operation and accurate measurements are required.

For marine, airborne or ground recording systems consider GeoMetrics Models G-801, G-803, and G-826A.



"Hands-free" Back Pack Sensor

Based upon the principle of nuclear precession (proton) the G-816 offers absolute drift-free measurements of the total field directly in gammas. (The proton precession method is the officially recognized standard for measurement of the earth's magnetic field.) Operation is worldwide with one gamma sensitivity and repeatability maintained throughout the range. There is no temperature drift, no set-up or leveling required, and no adjustment for orientation, field polarity, or arbitrary reference levels. Operation is very simple with no prior training required. Only 6 seconds are required to obtain a measurement which is always correct to one gamma, regardless of operator experience. Only the Proton Magnetometer offers such repeatability—an important consideration even for 10 gamma survey resolution.



Complete Field Portable System

The Model G-816 comes complete, ready for portable field operation and consists of:

1. Electronics console with internally mounted and easily replaced "D" cell battery pack.
2. Proton sensor and signal cable for attachment to carrying harness or staff.
3. Adjustable carrying harness.
4. 8 foot collapsible aluminum staff.
5. Instruction manual, complete set of spare batteries, applications manual, and rugged field suitcase.

Price and lease rates on the G-816 magnetometer are available upon request.

SPECIFICATIONS

- Sensitivity:** ±1 gamma throughout range
- Range:** 20,000 to 100,000 gammas (worldwide)
- Tuning:** Multi-position switch with signal amplitude indicator light on display
- Gradient Tolerance:** Exceeds 800 gammas/ft
- Sampling Rate:** Manual push-button, one reading each 6 seconds
- Output:** 5 digit numeric display with readout directly in gammas
- Power Requirements:** Twelve self-contained 1.5 volt "D" cell, universally available flashlight-type batteries. Charge state or replacement signified by flashing indicator light on display.

Battery Type	Number of Readings
Alkaline	over 10,000
Premium Carbon Zinc	over 4,000
Standard Flashlight	over 1,500

NOTE: Battery life decreases with low temperature operation.

- Temperature Range:** Console and sensor: -40° to +85°C
Battery Pack: 0° to +50°C (limited use to -15°C; lower temperature battery belt operation—optional)
- Accuracy (Total Field):** ±1 gamma through 0° to +50°C temperature range
- Sensor:** High signal, noise cancelling, interchangeably mounted on separate staff or attached to carrying harness
- Size:** Console: 3.5 x 7 x 10.5 inches (9 x 18 x 27 cm)
Sensor: 3.5 x 5 inches (9 x 13 cm)
Staff: 1 inch diameter x 8 ft length (3 cm x 2.44 m)
- Weight:**
- | | Lbs. | Kgs. |
|------------------------|-------------|------------|
| Console (w/batteries): | 5.5 | 2.5 |
| Sensor & signal cable: | 4 | 1.8 |
| Aluminum staff: | 2 | 0.9 |
| Total: | 11.5 | 5.2 |

All magnetometers and parts are covered by a one year warranty beginning with the date of receipt but not to exceed fifteen months from the shipping date.

geoMetrics, INC. 395 JAVA DRIVE
SUNNYVALE, CA. 94086 U.S.A.
TEL: (408) 734-4616
CABLE: "GEOMETRICS"
TELEX NO. 357-435

geoMetrics SERVICES (CANADA) LTD. 436 LIMESTONE CRESCENT
DOWNSVIEW (TORONTO),
ONTARIO, CANADA
TEL: (416) 661-1966
TELEX NO. 06-22624

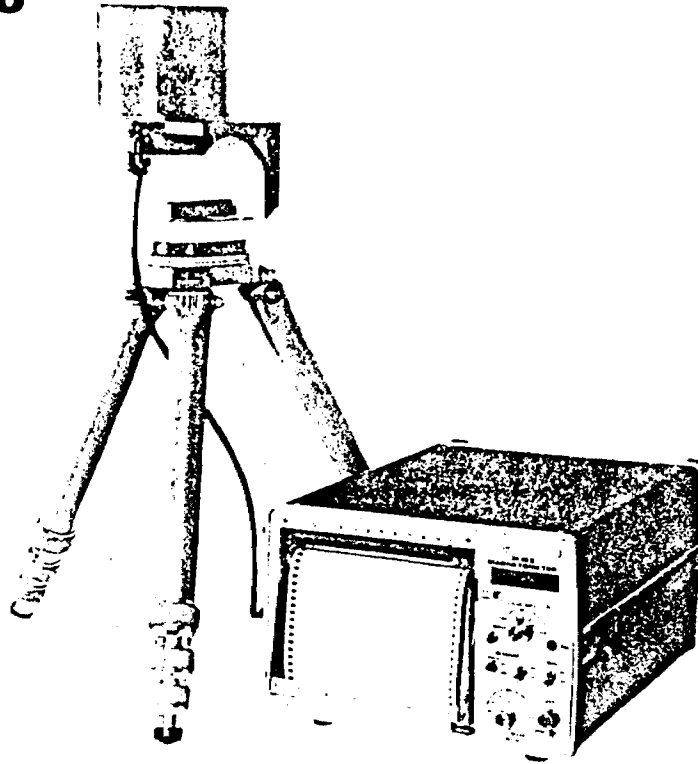
geoMetrics INTERNATIONAL CORP. 80 ALFRED ST.,
MILSON'S POINT
SYDNEY NSW 2061
AUSTRALIA
TEL: 929-9942
TELEX NO 790-22624

WORLD-WIDE AGENTS: EUROPE • SCANDINAVIA • UNITED KINGDOM • JAPAN • SO. AFRICA • SO. AMERICA



BARRINGER RESEARCH

BASE STATION MAGNETOMETER Model BM-123



DESCRIPTION

The Barringer BM-123 magnetometer system uses the proton precession principle to measure the earth's total magnetic field intensity. There is no need for levelling or calibration of the sensor and it is unaffected by external influences such as temperature, etc.

FEATURES

- Magnetometer neatly combined with analog recorder in console measuring only 17" x 12" x 8" (43.2 cm x 30.5 cm x 20.3 cm)
- powered by mains AC or 24 Volts DC
- Full 1 gamma or 0.5 gamma sensitivity
- Fully adjustable cycling rate from 2 seconds to 99 minutes in 1 second stages
- BCD output readily adaptable to digital cassette or other magnetic type recording
- To save power chart recorder can be made to operate only when magnetometer cycles

APPLICATIONS

- Storm monitoring
- Diurnal variation monitoring
- Observatory measurements including three component measurements with the use of Helmholtz coils

TYPICAL SYSTEM COMPONENTS

- Magnetometer console, including 5-inch chart recorder
- Toroidal sensor
- Connecting cable
- Tripod
- Power supply (optional)

ADVANCED TECHNIQUES AND INSTRUMENTATION FOR THE EARTH SCIENCES

SPECIFICATIONS

CONSOLE MODEL M-123-1

Sensitivity	1 gamma throughout the range
Accuracy	± 1 gamma at 24 volts dc
Range	20,000 to 100,000 gammas in 12 overlapping settings
Cycle Rates:	
Continuous Cycling	0.6, 0.8, 1.2 and 1.9 seconds
Automatic Cycling	2 seconds to 99 minutes in 1 second steps
Manual Cycling	pushbutton single cycling at 1.9 seconds
External Cycling	actuated by a 2.5 to 12 volt pulse longer than 1 millisecond
Outputs:	
Analog	front panel select 0 to 99 gammas or 0 to 990 gammas
Fiducial Marker	internal selection of 1 second to 99 minutes in 1 second steps
Visual	5 digit numeric display directly in gammas
External Outputs:	
Analog	2 channels, 0 to 99 gammas and 0 to 990 gammas at 1 milliamp or 1 volt Full Scale Deflection
Digital	BCD 1, 2, 4, 8 code, TTL compatible 0 State — 0 to 0.5 volts 1 State — 2.5 to 5 volts
Fiducial Mark	Relay closure or open state selected internally from 1 second to 99 minutes
Size	8" x 12" x 17" (20.3 cm x 30.5 cm x 43.2 cm) (fits under a commercial airline seat)
Weight	20 lbs (9.1 kg)
Operating Temperature	-28°C to +65°C
Power Requirements	Magnetometer 12 to 30 volts dc 60 to 200 milliamps maximum Recorder 12 to 30 volts dc 0.5 to 0.9 amps maximum
Options	Component Spares Kit — a selection of critical solid state components and fuses required for general console maintenance Board Spares Kit — a complete selection of plug-in PC boards for maintenance of the console on longer term surveys

HIGH SENSITIVITY CONSOLE MODEL M-123-2

Sensitivity	0.5 gammas at 1.9 seconds
Accuracy	± 0.5 gammas at 1.9 seconds
All other specifications the same as Model M-123-1	

MAGNETOMETER ELECTRONICS ONLY MODEL M-123-3

Size	6" high x 7" wide x 6" deep (15.2 cm x 17.8 cm x 15.2 cm) can fit a standard 19" (48.3 cm) rack
Weight	approximately 5 lbs (2.3 kg)
Outputs	5 digit display in gammas
External Outputs	same as model M-123-1 above

CONSOLE OPTIONS

Digital Cassette Recording — various systems available, details on request
Hewlett-Packard Recorder Spares
Hewlett-Packard Recording Supplies — chart paper and disposable pens

Barringer Research Limited
304 Carlingview Drive
Metropolitan Toronto
Rexdale, Ontario, Canada M9W 5G2
Phone: 416-675-3870
Telex: 06-968743

Representative:



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

21849
#207

P-529159

Instructions: - Please type or print.
- If number of mining claims traversed exceeds space on this form, attach a list.
Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
- Do not use shaded areas below.

The Mining Act

Type of Survey(s) Maxmin II EM		Township or Area Atkinson Lake Area	
Claim Holder(s) Getty Canadian Metals, Limited		Prospector's Licence No. T-890	
Survey Company MPH Consulting Limited	Survey Dates (line cutting to office) Day Mo. Yr. Day Mo. Yr. 15 10 81 20 05 82		Total Miles of line Cut 260
Name and Address of Author (of Geo-Technical report) W.E.Brereton, P.Eng., 706-141 Adelaide St. West, Toronto, Ontario. M5H 3L5			

Special Provisions Credits Requested

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

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
as attached					
RECEIVED					
JUN 21 1982					
MINING LANDS SECTION					
<i>See serial work statement</i>					
RECORDED					
JUN 3 1982					
Receipt No.					

Man Days

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

Airborne Credits

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

Expenditures (excludes power stripping)

Type of Work Performed	RECEIVED
Performed on Claim(s)	JUN 3 1982
	AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

Calculation of Expenditure Days Credits

Total Expenditures		Total Days Credits
\$	+	15 =

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.

Report Completed

Date of Report May 18, 1982	Recorded Holder or Agent (Signature) <i>W.E. Brereton</i>
---------------------------------------	--

For Office Use Only

Total Days Cr. Recorded 4120	Date Recorded June 3/82
Date Approved as Recorded	

Total number of mining claims covered by this report of work. **208**

Mining Recorder <i>[Signature]</i>
Regional/Branch Director <i>[Signature]</i>

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, P.Eng., 706-141 Adelaide St. West, Toronto, Ontario M5H 3L5

Date Certified May 20, 1982	Certified by (Signature) <i>W.E. Brereton</i>
---------------------------------------	--

916-0487
2015

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65-0736

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2.4849
1983

July 29, 1983

Getty Canadian Metals Limited
Suite 1200
150 York Street
Toronto, Ontario
M5H 3S5

Dear Sir:

Enclosed is a copy of a Report of Work for Magnetometer and Electromagnetic assessment work credits that was recorded by the recorder on April 5, 1983 on Mining Claims P 585184 and P 585962 in the Area of Atkinson Lake.

We have no record that you provided the full reports and maps to the Minister within the sixty day period provided by Section 77 of the Mining Act.

Unless you can provide evidence by August 15, 1983 that the reports and maps were submitted as required, the mining recorder will be directed to cancel the work credits recorded on April 5, 1983.

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416) 965-1380

P
A. Barr:mc

cc: Mining Recorder
Timmins, Ontario

1983 07 29

2.4849

Mr. William L. Good
Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

RE: Geophysical (Electromagnetic and Magnetometer) Survey
on Mining Claims P 529159 et al in the Detour Lake Area

The Geophysical (Electromagnetic and Magnetometer) Survey
assessment work credits as listed with my Notice of Intent
dated July 6, 1983 have been approved as of the above date.

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

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416)965-1380

D. Kinvig:mc

cc: Getty Canadian Metals, Limited
Suite 1200
150 York Street
Toronto, Ontario
M5H 3S5

cc: Resident Geologist
Timmins, Ontario



Ontario

Ministry of Natural Resources

Technical Assessment Work Credits

File 2.4849

1983 07 06

Recorded Holder **GETTY CANADIAN METALS LIMITED**

Township or Area **ATKINSON LAKE AREA**

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	P529159
Electromagnetic _____ days	529161 to 67 inclusive
	568293 to 97 inclusive
Magnetometer <u>20</u> days	568300
	577564
Radiometric _____ days	585180 to 91 inclusive
	585202 to 08 inclusive
Induced polarization _____ days	585225 to 28 inclusive
	585244 to 49 inclusive
Section 86 (18) _____ days	585602 to 20 inclusive
	585626
Geological _____ days	585654 to 57 inclusive
	585899 to 27 inclusive
Geochemical _____ days	585930 to 38 inclusive
	585943 to 57 inclusive
Man days <input type="checkbox"/> Airborne <input type="checkbox"/>	585962 to 65 inclusive
	586353 - 54
Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/>	586518 to 37 inclusive
	595003 to 06 inclusive
	595008 to 10 inclusive
<input checked="" type="checkbox"/> Credits have been reduced because of partial coverage of claims.	619058 to 65 inclusive
	619067 to 77 inclusive
<input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	619141 to 64 inclusive
	633244 to 48 inclusive
77(16)	

Special credits under section ~~86(18)~~ for the following mining claims

10 DAYS MAGNETOMETER

P 585653
585939
585961
585966

No credits have been allowed for the following mining claims

not sufficiently covered by the survey Insufficient technical data filed

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 86(18)-60:

1983 07 06

Recorded Holder
GETTY CANADIAN METALS LIMITED

Township or Area
ATKINSON LAKE AREA

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical _____ 20 days Electromagnetic _____ days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Section 86 (18) _____ days Geological _____ days Geochemical _____ days Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	P529159 529161 to 67 inclusive 568293 to 97 inclusive 568300 577564 585180 to 91 inclusive 585202 - 03 585205 to 08 inclusive 585225 to 28 inclusive 585244 to 49 inclusive 585602 to 20 inclusive 585654 to 57 inclusive 585899 to 27 inclusive 585930 to 38 inclusive 585943 to 57 inclusive 585962 to 65 inclusive 586353 - 54 586518 to 37 inclusive 595003 to 06 inclusive 595008 to 10 inclusive 619058 to 65 inclusive 619067 to 77 inclusive 619141 to 64 inclusive 633244 to 48 inclusive
77(16)	

Special credits under section 86(15a) for the following mining claims

10 DAYS ELECTROMAGNETIC

P 585204
 585626
 585653
 585939
 585961
 585966

No credits have been allowed for the following mining claims

not sufficiently covered by the survey Insufficient technical data filed

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 86(18)-60:



Mining Lands Comments

Empty comment box with horizontal lines.

To: Geophysics *Mr. Barlow*

Comments section for Geophysics with horizontal lines.

Approved Wish to see again with corrections Date *May 11/83* Signature *R Barlow*

To: Geology - Expenditures

Comments section for Geology - Expenditures with horizontal lines.

Approved Wish to see again with corrections Date Signature

To: Geochemistry

Comments section for Geochemistry with horizontal lines and a large handwritten mark.

Approved Wish to see again with corrections Date Signature

To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)



Ministry of
Natural
Resources

Ontario

July 27/83

Your file:

1983 07 06

Our file: 2.4849

Mr. William L. Good
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. F.W. Matthews at 416/965-1380.

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1316

D. Kinvig:mc

cc: Getty Canadian Metals Limited
Toronto, Ontario

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

Encls:



Ministry of
Natural
Resources

Notice of Intent
for Technical Reports

1983 07 06

2.4849

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 Lands Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.



Getty Canadian Metals, Limited

Suite 1200, 150 York Street, Toronto, Ontario M5H 3S5 • (416) 863-0487

April 5, 1983

RECEIVED

APR 14 1983

MINING LANDS SECTION

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

Attention: Mr. B. Hanley

Dear Bruce;

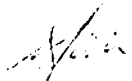
Re: Report of Geophysical Work
October '81 through May '82
P-585900 and P-619076
Detour Lake (Atkinson Lake Property, Ontario)

As follow up to our conversation of today, attached please find Getty Canadian Metals, Limited's Report of Work for P-585900 and P-619076. Under Getty's letter dated March 23, 1983, referencing the above claims, a Report of Work for P-585184 and P-585962 was inadvertently submitted in place of the attached. As the Report of Work for P-585184 and P-585962 has already been filed and accompanies the Relief of Forfeiture dated March 28, 1983 from the office of the Commissioner, kindly ensure that the attached Report of Work is correctly filed with Getty's March 23rd letter for approval of geophysical work credits. The technical report was submitted on May 20, 1982 in Toronto by MPH Consulting Limited on behalf of Getty.

We trust you will find the foregoing to be in order.

Yours very truly

GETTY CANADIAN METALS, LIMITED


G.C. Jarvis
Landman

GCJ/fw
Attchmt.

c.c. Mr. E.F. Anderson
Director of Land Management Branch
Room 6450, Whitney Block
Queens Park, Toronto M7A 1W3



2-1847

Getty Canadian Metals, Limited | Suite 1200, 150 York Street, Toronto, Ontario M5H 3S5 • (416) 863-0487

March 23, 1983

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

Attention: Mr. B. Hanley

Dear Bruce;

Re: Report of Geophysical Work
October '81 through May '82
P-585900 and P-619076
Detour Lake (Atkinson Lake) Property, Ontario

RECEIVED	
Land Management Branch	
CIRCULATE <input type="checkbox"/>	
COMMENTS PLEASE <input type="checkbox"/>	
BY	
MAR 25 1983	
E. F. ANDERSON	
J. R. MORTON	
J. C. SMITH	
G. SHERMAN	
J. M. SMITH	
RETURN TO 8630	

As follow up to our conversation of today, attached please find Getty Canadian Metals, Limited's Report of Work on P-585900 and P-619076. On May 20, 1982 MPH Consulting Limited on behalf of Getty, filed for 40 days geophysical work credits on 206 unpatented mining claims. A copy of said application is attached for your reference. Upon review of the schedule attached to the application it was found that only 202 of the 206 claims were listed. The four (4) claims which were inadvertently omitted from the schedule were:

- P-585184
- P-585900
- P-585964
- P-619076

As evidenced in the corresponding work report filed, work was definitely conducted across the subject claims. A copy of the title page of said report is attached for your reference. *

As P-585900 and P-619076 are currently in good standing Getty is taking this time to respectfully request that said 40 days credit for the geophysical EM and MAG surveys be applied to their account. According to your office the other two (2) claims (P-585184 and P-585962) have been cancelled. A formal request for relief of forfeiture has been forward to the Commissioner's office.

We trust you will find the foregoing to be in order. If you require any additional information please do not hesitate to contact me at (416) 863-0487.

Yours very truly

GETTY CANADIAN METALS, LIMITED



G.C. Jarvis
Landman

GCJ/fw
Attchmt.

c.c. P.T. George/W. Ewert

Mr. E.F. Anderson
Director of Land Management Branch
Room 6450, Whitney Block
Queens Park
Toronto, Ontario
M7A 1W3

* P.S. Please note that the subject four(4) claims are listed on the Technical Report Schedule of Claims but not on the schedule with the application for Report of Work in the Mining Records' office in Timmins.

1982 06 16

2.4849

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

Dear Sir:

We have received reports and maps for a Geophysical (Electromagnetic and Magnetometer) Survey submitted under Special Provisions (credit for Performance & Coverage) on Mining Claims P 529159 et al in the Detour Lake Area.

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

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1316

J. Skura/amc

cc Getty Canadian Metals, Limited
Toronto, Ontario

cc: MPH Consulting Limited
Toronto, Ontario



June 1, 1982.

RECEIVED

JUN - 3 1982

MINING LANDS SECTION

Mr. F.W. Mathews,
Land Management Branch,
Ministry of Natural Resources,
Whitney Block, Room 6450,
Queen's Park,
Toronto, Ontario.
M7A 1W3

Dear Mr. Mathews:

Please find enclosed two copies of the «Report on Magnetic and Electromagnetic Surveys, Detour Lake Area, Ontario» and accompanying Map Volumes.

Should there be any questions regarding the report, please feel free to call.

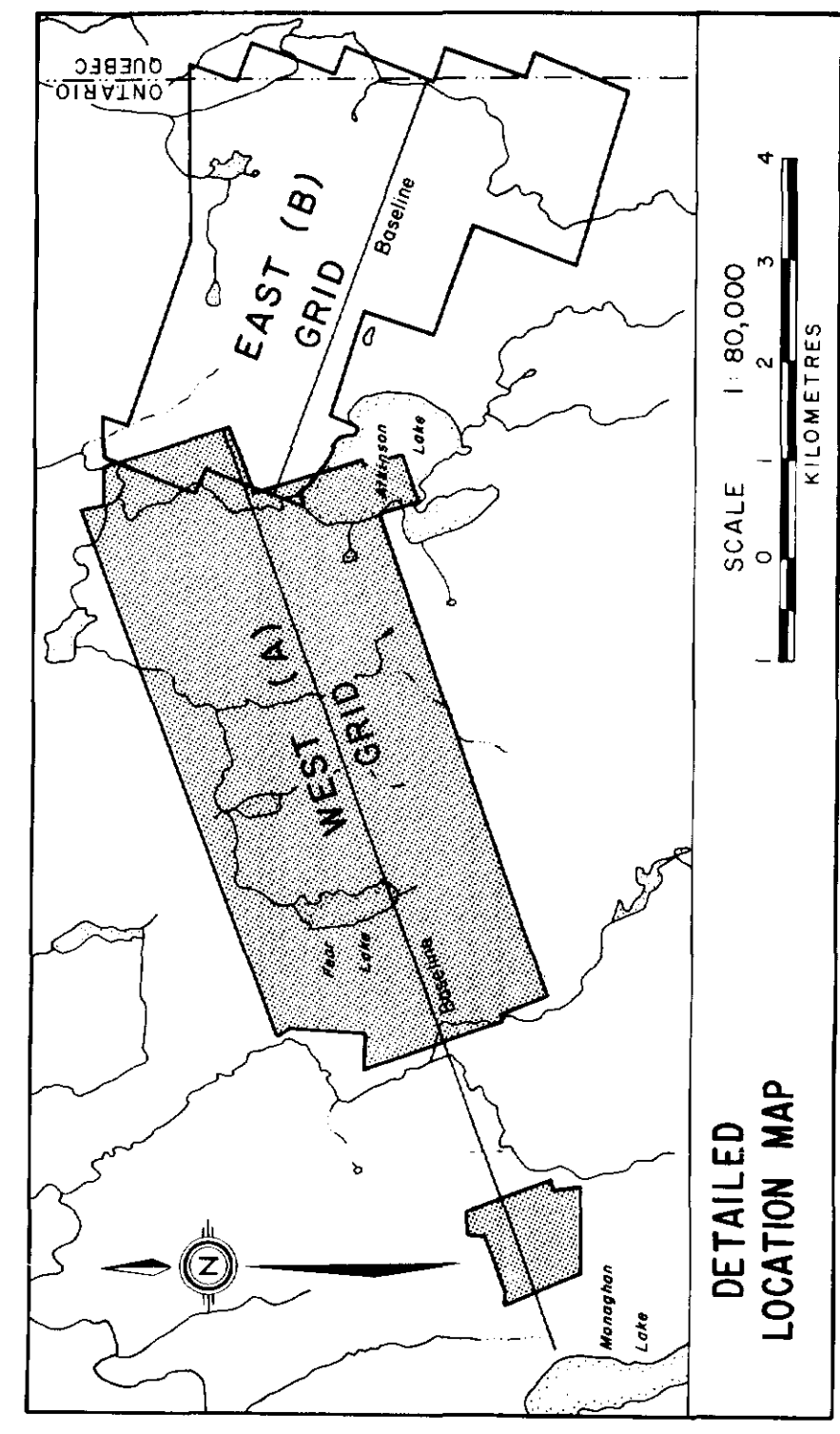
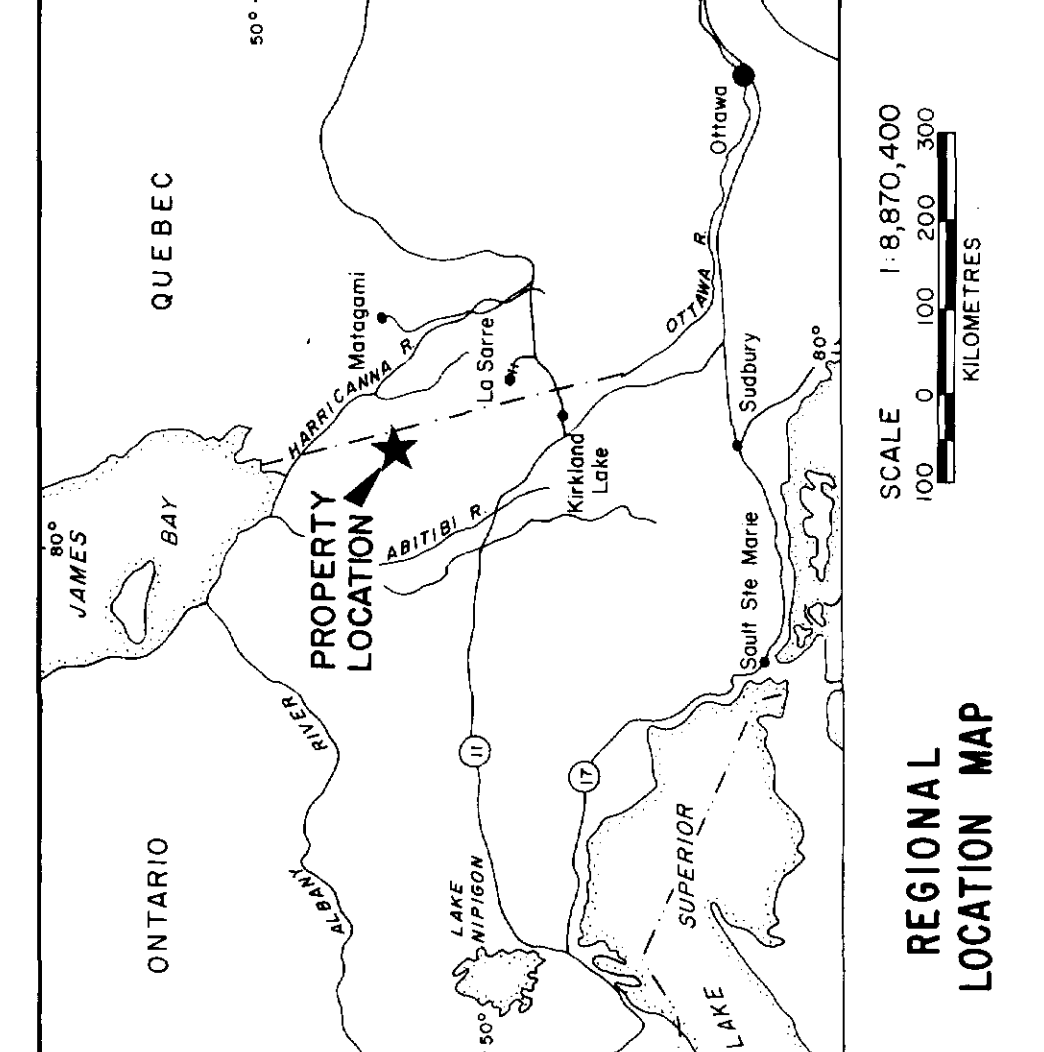
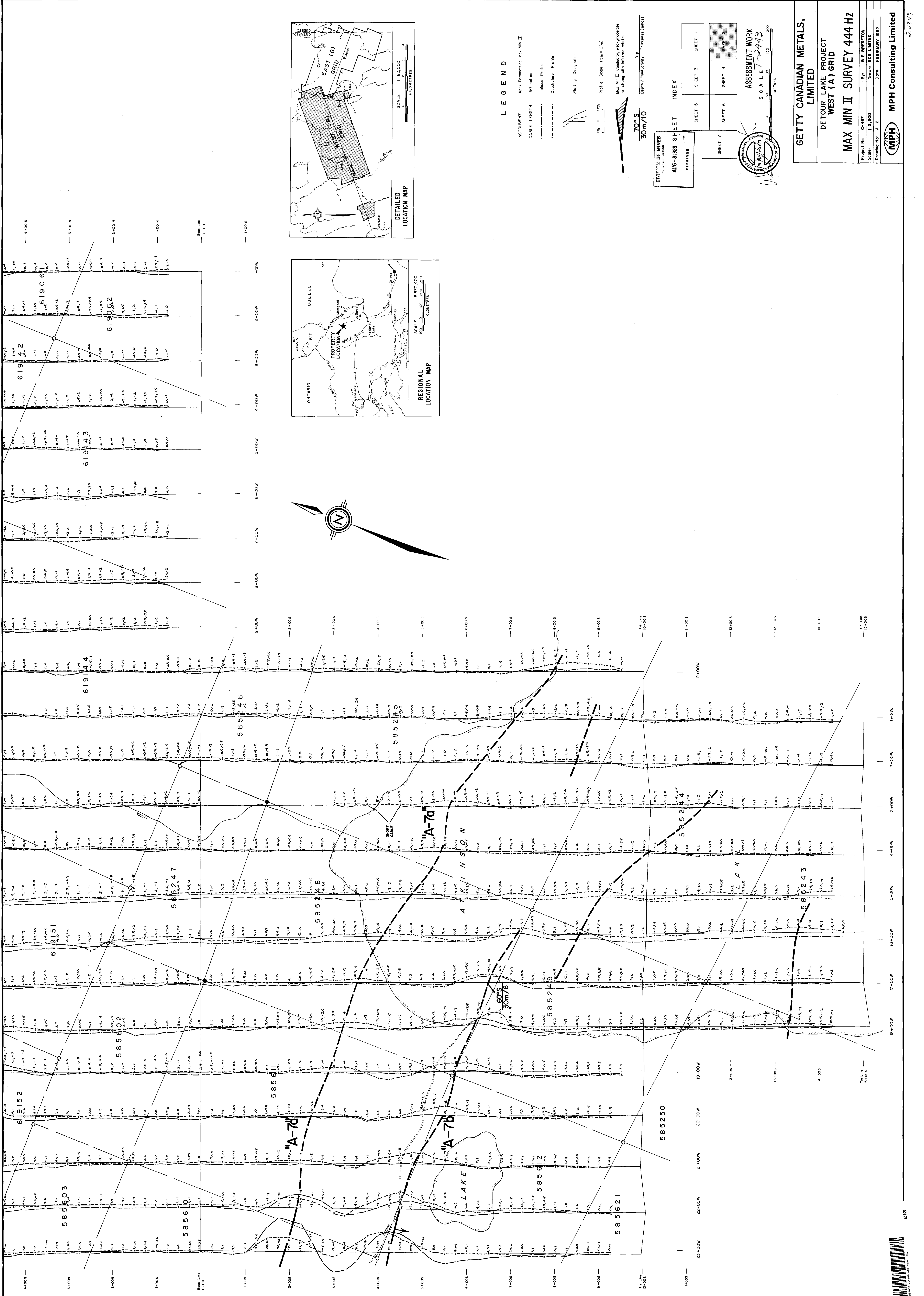
Yours very truly,

MPH CONSULTING LIMITED

J.H.W. / for W.E.B.

W.E. Brereton, P.Eng.,
Vice President.

WEB/la
Encls.



- LEGEND**
- INSTRUMENT: Apex Parametrics Max Min II
 - CABLE LENGTH: 150 metres
 - Profile: In-phase Profile
 - Quadrature Profile
 - Piercing Designation
 - Profile Scale: (cm=10%)
 - Max. Min. II: Conductor, weak, moderate to strong with inferred width.
 - 70° S
 - 30m/70
 - Depth: Conductivity Thickness (mho)

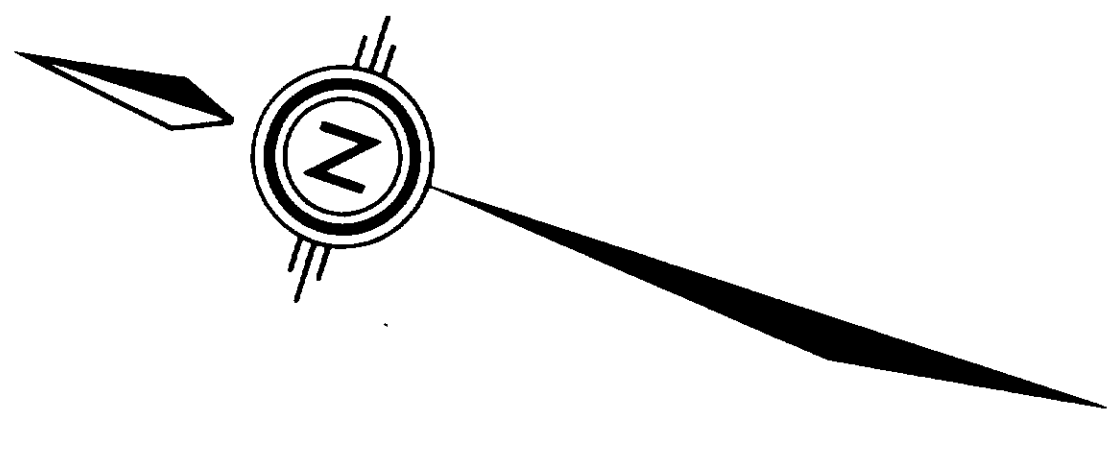
DIVISION OF MINES
 AUG-81983 SHEET INDEX
 RECEIVERS

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SHEET 5	SHEET 6
SHEET 7	

ASSESSMENT WORK
 SCALE 1:2443
 METRES

GETTY CANADIAN METALS, LIMITED
 DETOUP LAKE PROJECT
 WEST (A) GRID
MAX MIN II SURVEY 444 Hz
 Project No: C-437 By: W.E. BRERETON
 Scale: 1:2,500 Drawn: GCS LIMITED
 Drawing No: A-2 Date: FEBRUARY 1982
MPH MPH Consulting Limited

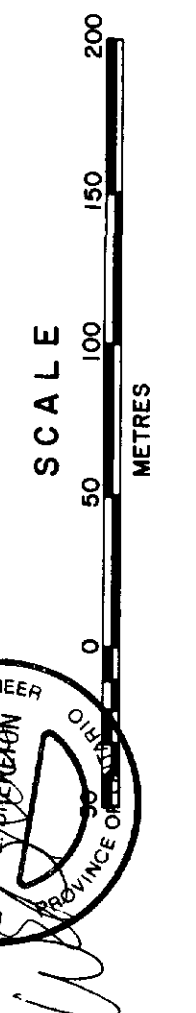




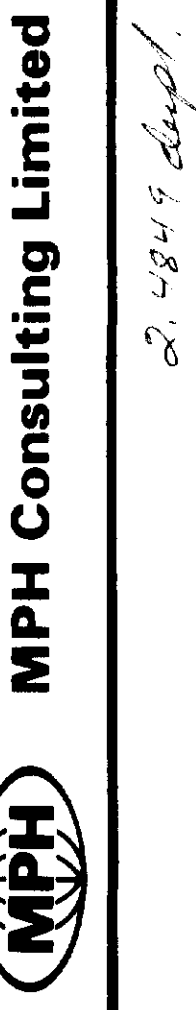
LEGEND
INSTRUMENT: Apex Parametrics Max Min II
CABLE LENGTH: 100 metres
Inphase Profile
Quadrature Profile
Plotting Designation
Profile Scale (cm=100%)
Max. Min. II Conductivity values moderate to strong with inferred with
Dip
Depth/Conductivity Thickness (mho)

DIVISION OF MINES
ASSESSMENT WORK
AUG-53
RESERVED

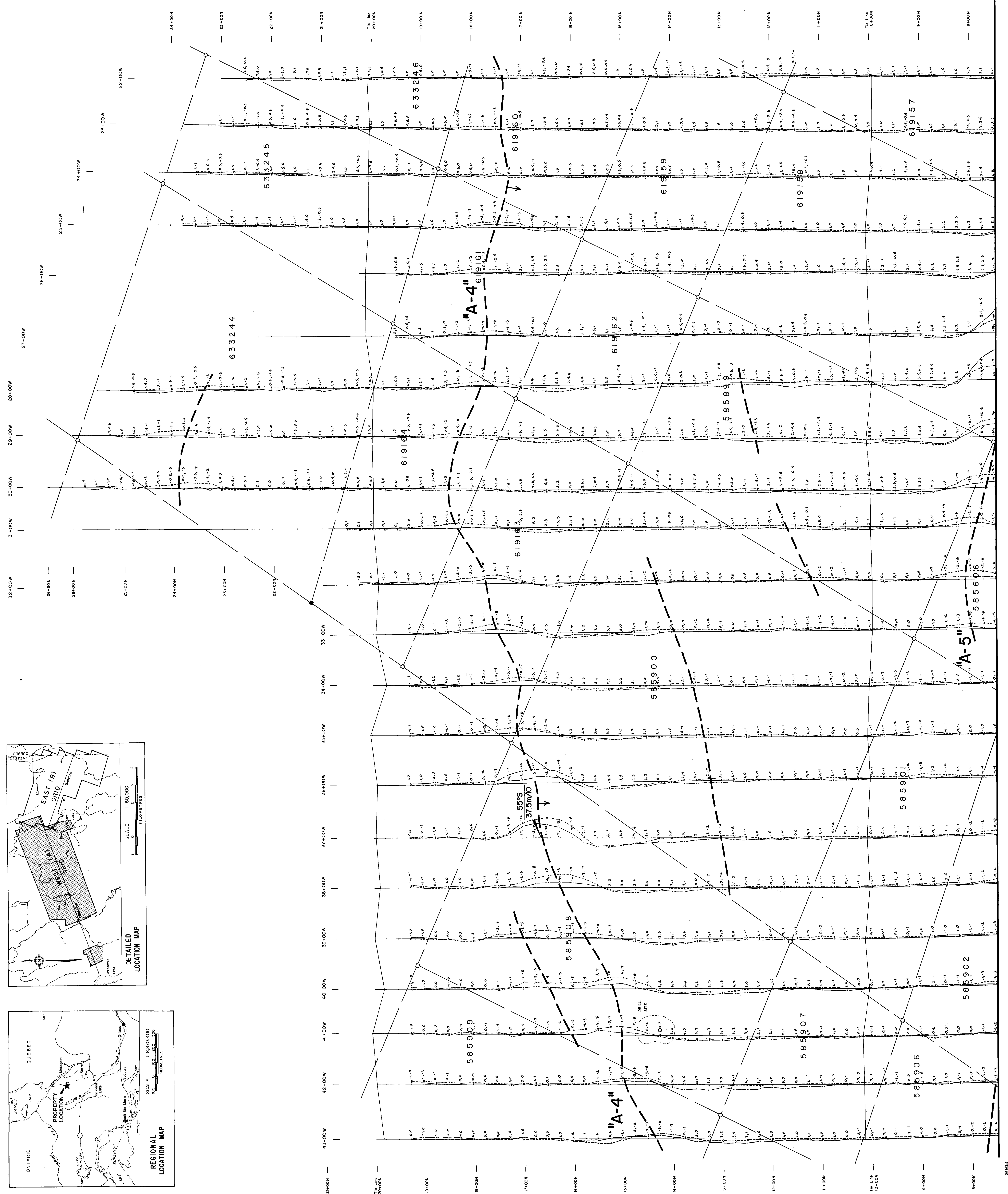
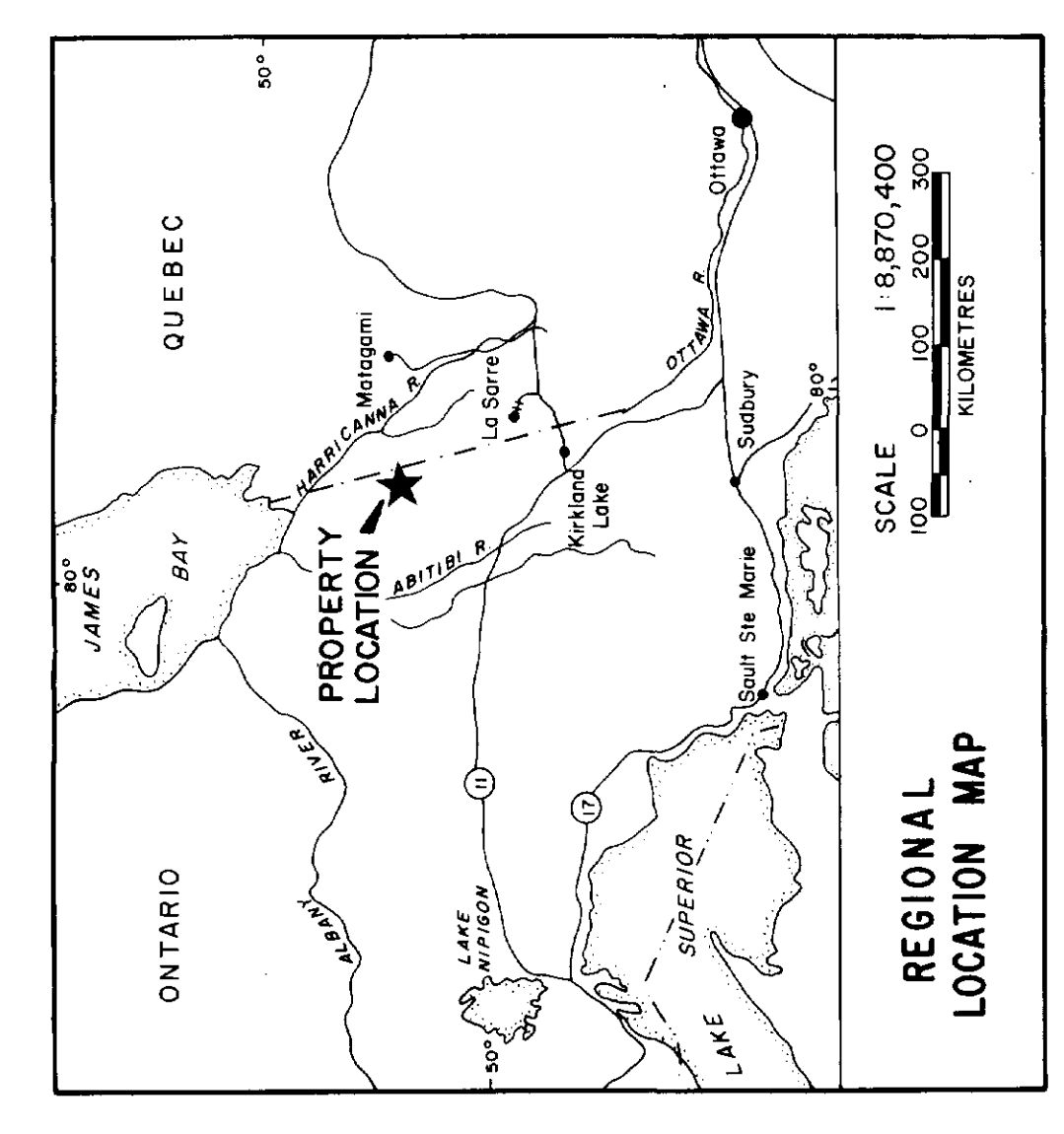
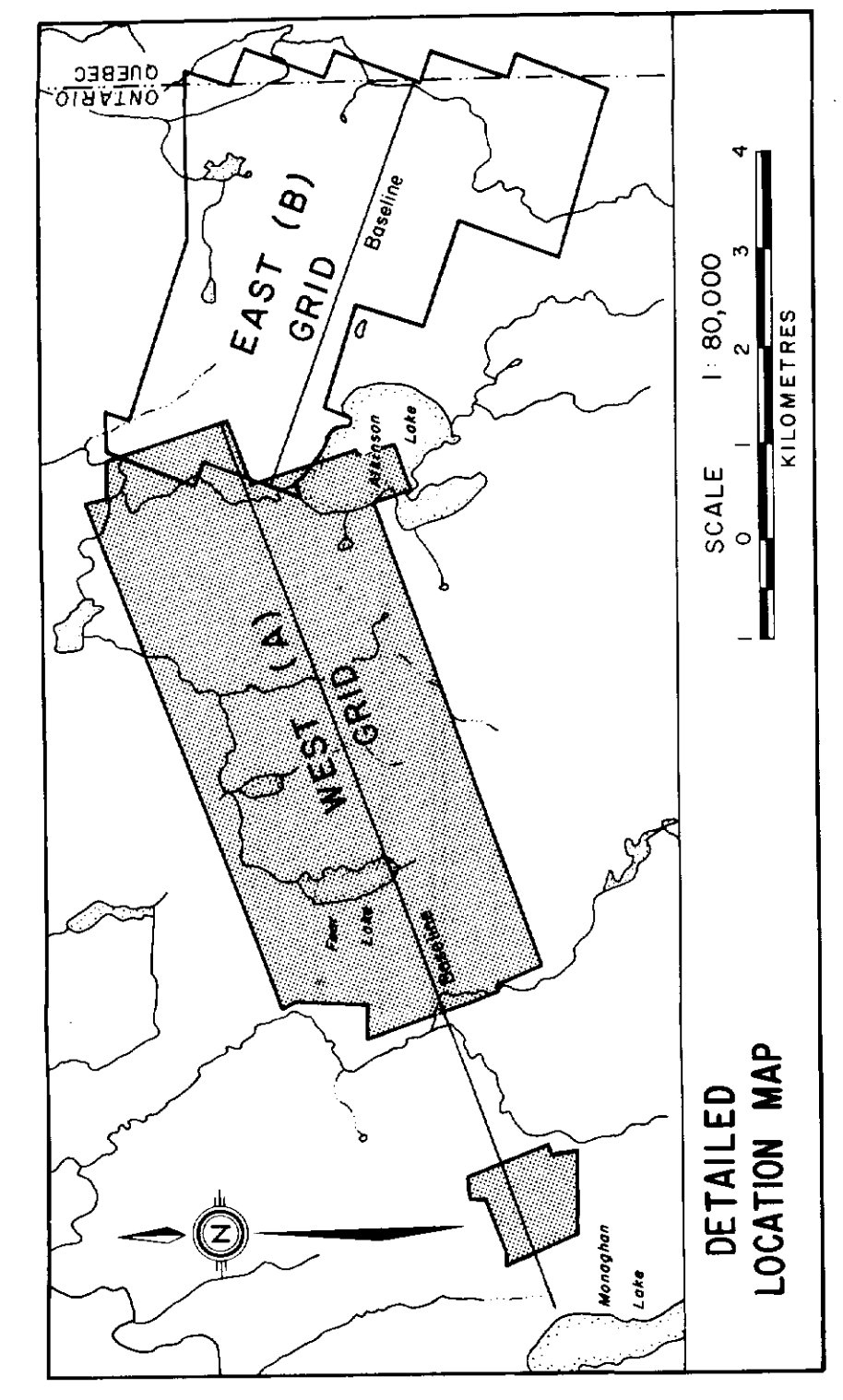
SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6
SHEET 7	SHEET 8

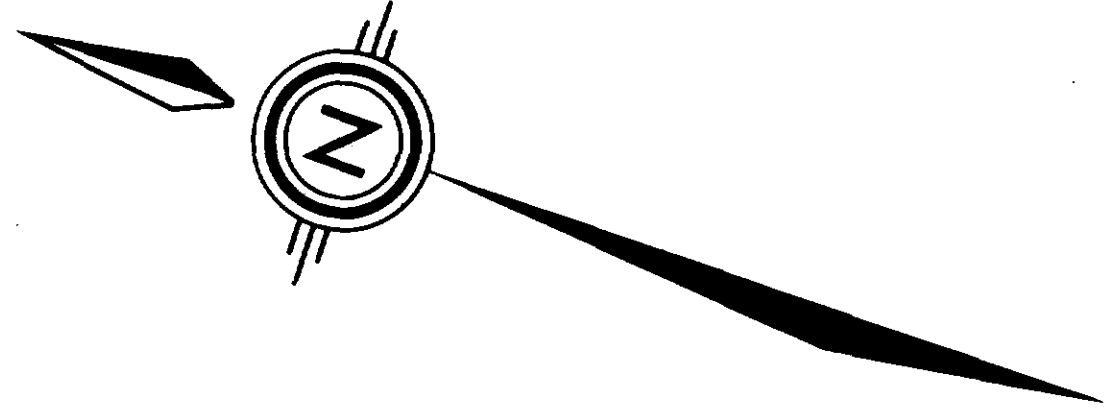
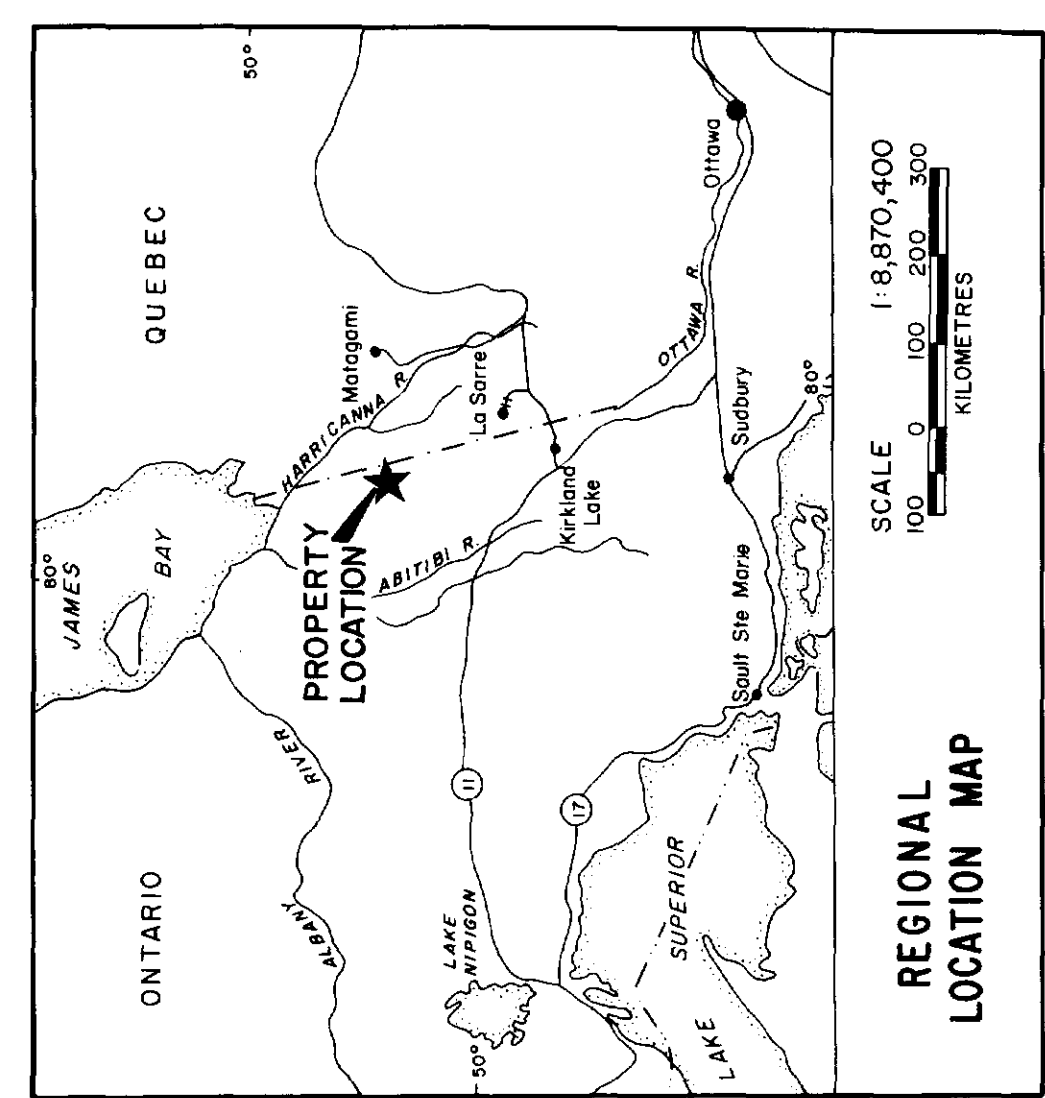
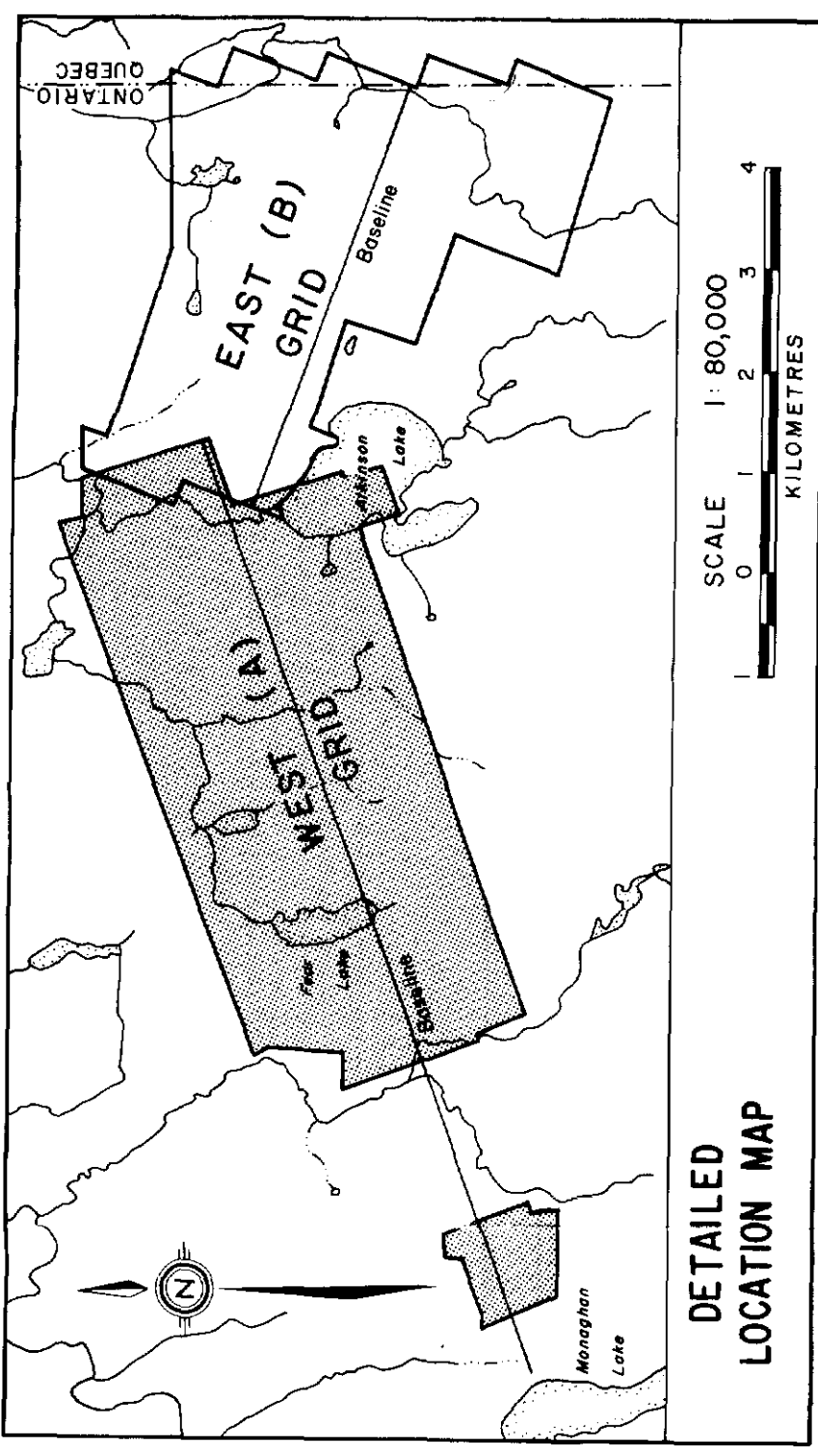


GETTY CANADIAN METALS, LIMITED
DETOUR LAKE PROJECT
WEST (A) GRID
MAX MIN II SURVEY 444 HZ
Project No. C-437
Scale: 1:2,500
Drawn: G.C.S. LIMITED
By: W.E. BREKTON
Date: FEBRUARY 1982



2220





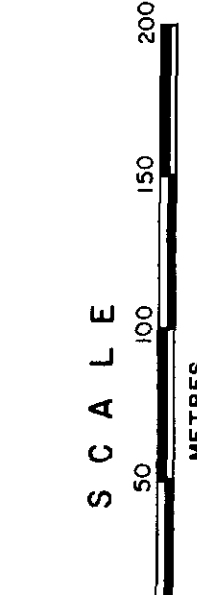
LEGEND

- INSTRUMENT Askis Parometrics Max Min II
- CABLE LENGTH 150 metres
- Inphase Profile
- Quadrature Profile
- Plotting Description
- Profile Scale (cm=10%)
- Max Min II Conductivity weak moderate to strong with inferred width.
- Dip
- Depth / Conductivity Thickness (mhs)

DIVISION OF MINES
AUG-5-383
RESERVED

ASSESSMENT WORK
T-2443

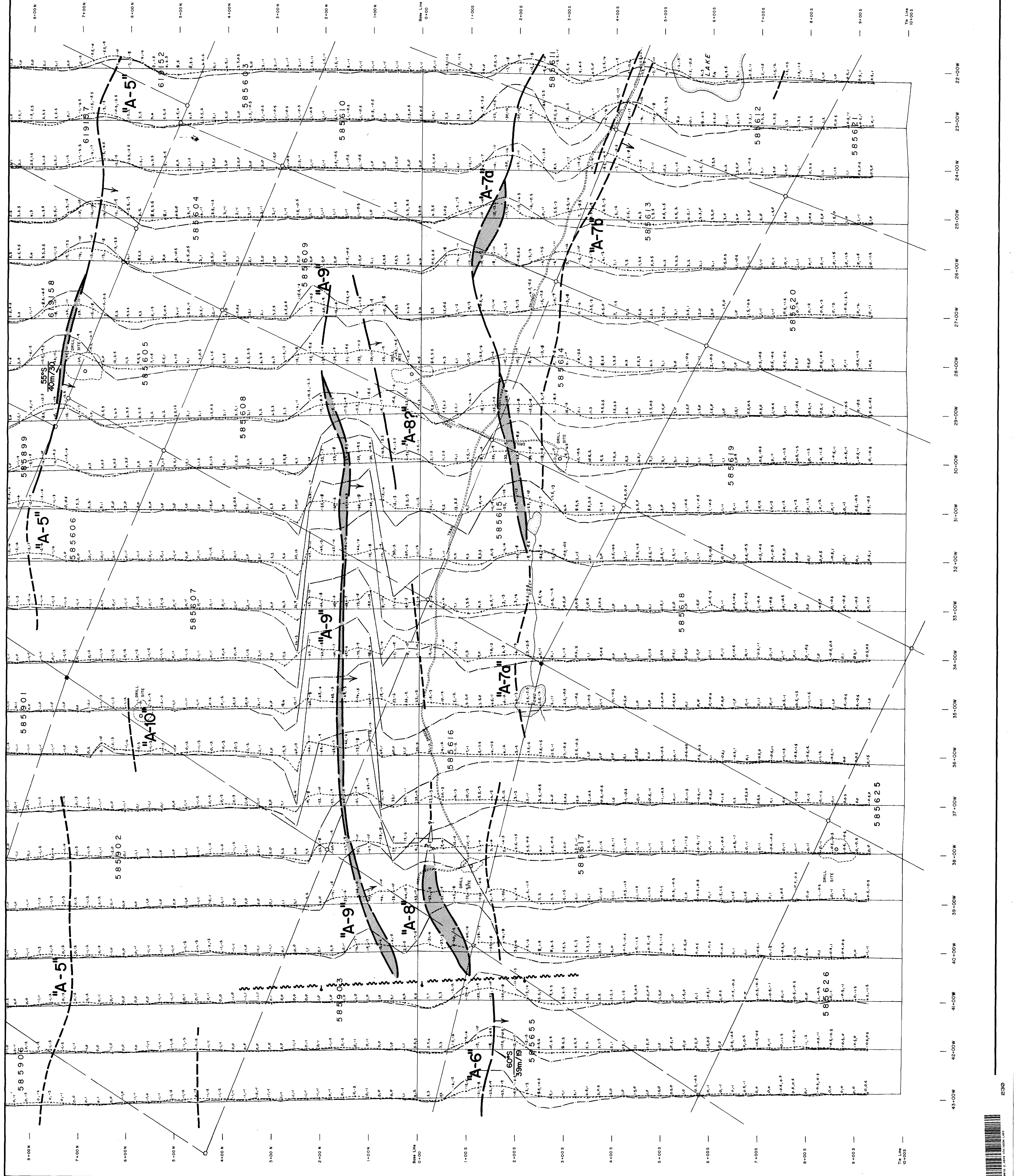
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SHEET 6	SHEET 4	SHEET 2
SHEET 7		

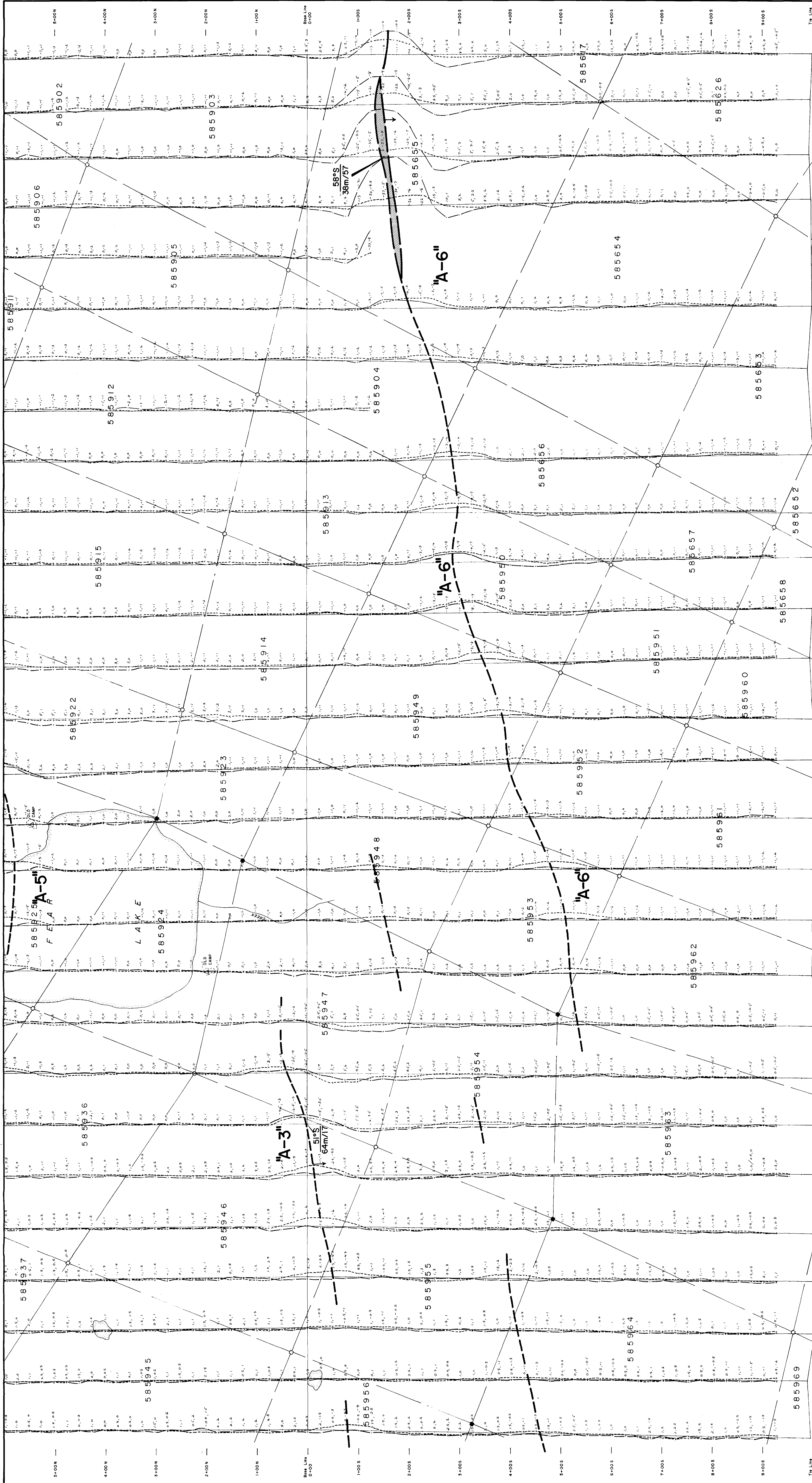


GETTY CANADIAN METALS, LIMITED
DETOUR LAKE PROJECT
WEST (A) GRID
MAX MIN II SURVEY 444 HZ

Project No: C-437 By: W.E. BREERTON
Scale: 1:2,500 Drawn: GCS LIMITED
Drawing No: A-4 Date: FEBRUARY 1982

MPH MPH Consulting Limited





ASSESSMENT WORK
7-2413

RECEIVED
DIVISION OF MINES
AUG-5 1993

SCALE
METRES

GETTY CANADIAN METALS, LIMITED
DETOUR LAKE PROJECT
WEST (A) GRID
MAX MIN II SURVEY 444 Hz

Project No. C-437
Scale: 1:2,500
Drawing No. A-6
By: W.E. BREBETON
Drawn: G.S. LIMITED
Date: FEBRUARY 1992

MPH Consulting Limited

SHEET INDEX

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SHEET 3	SHEET 4
SHEET 5	SHEET 6
SHEET 7	

LEGEND

INSTRUMENT: Asst. Promerics Map Min II

CABLE LENGTH: 150 metres

100m Profile

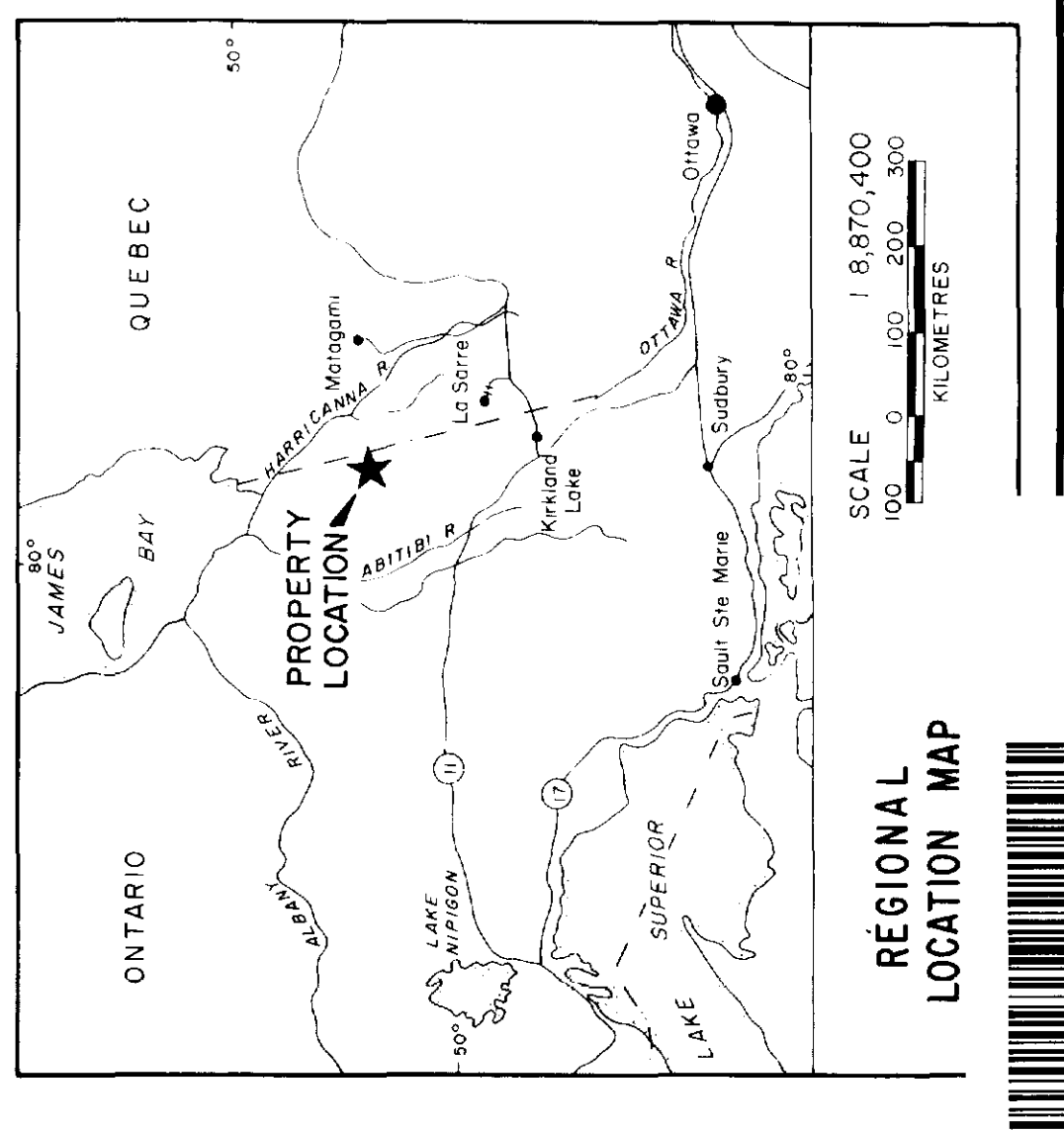
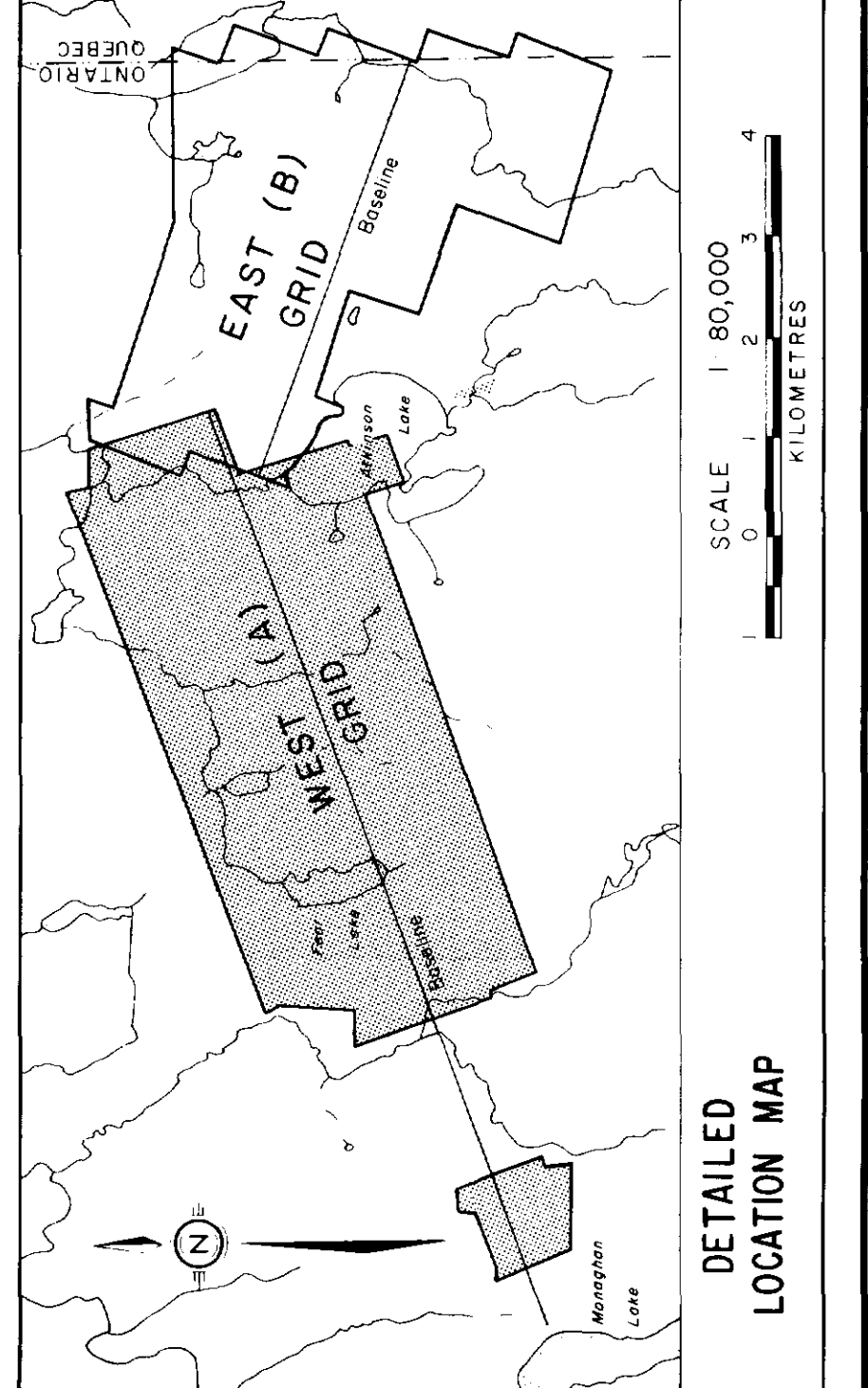
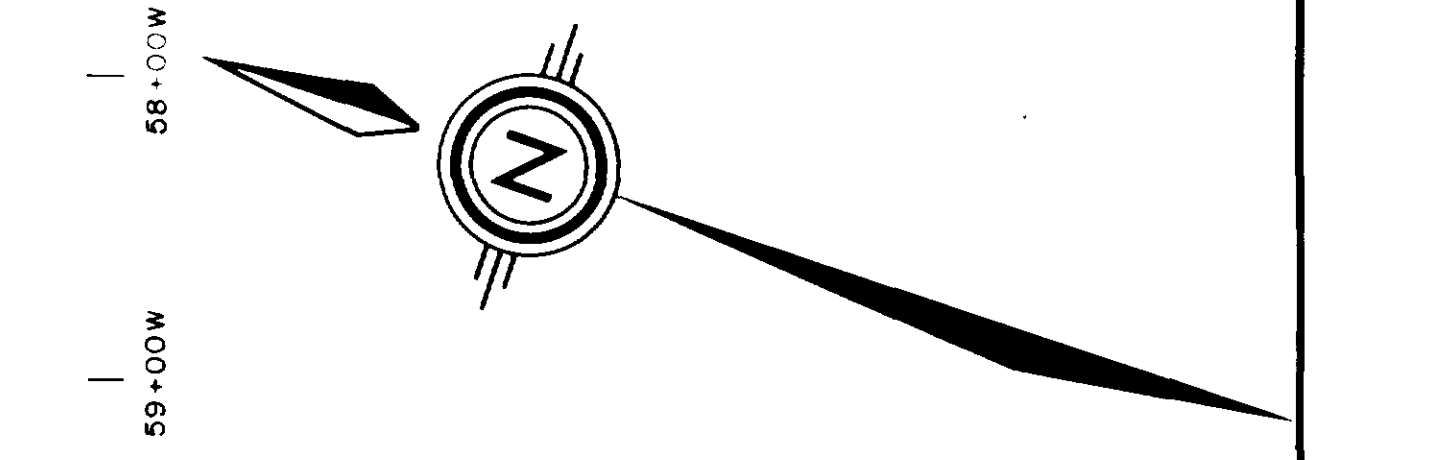
Quadrature Profile

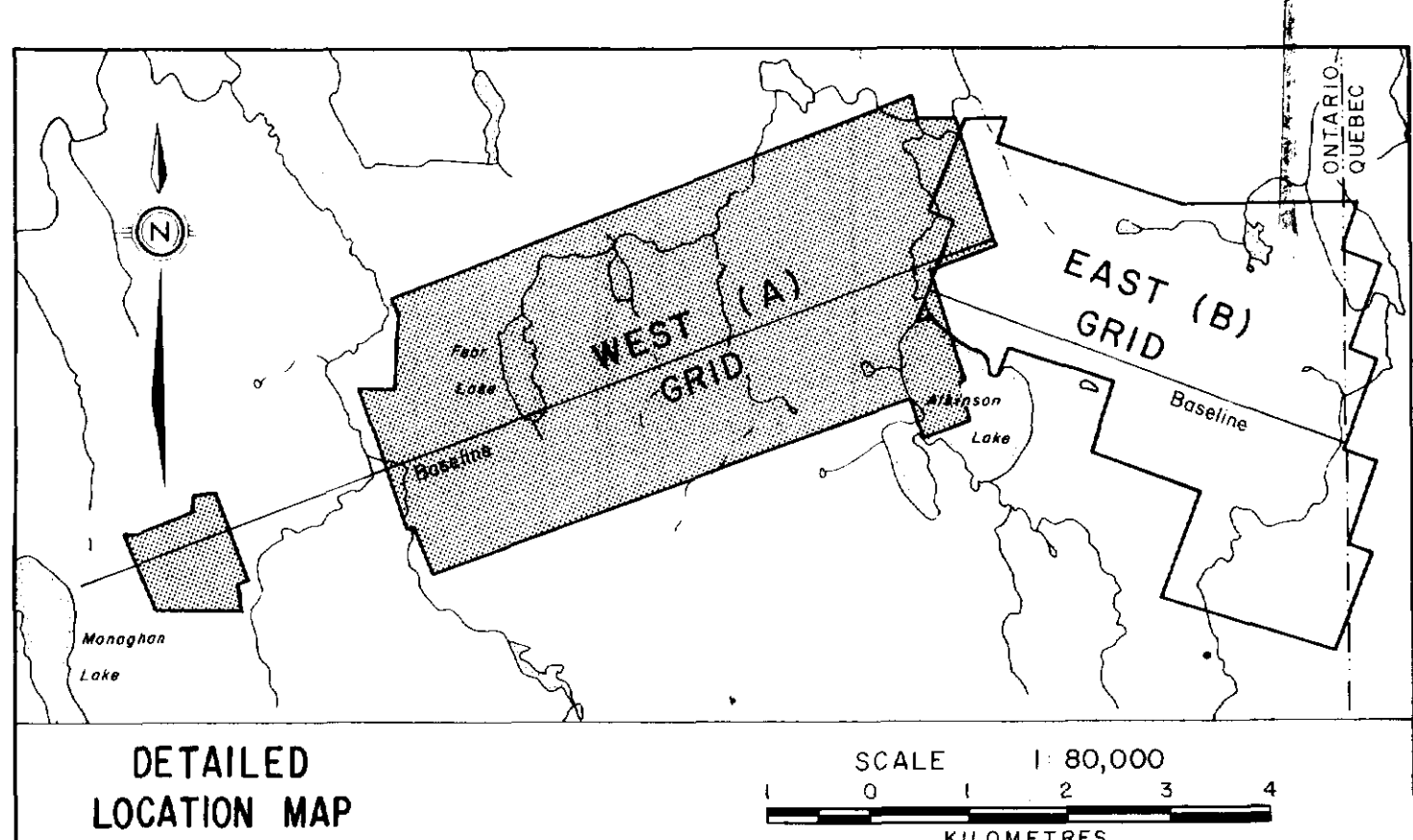
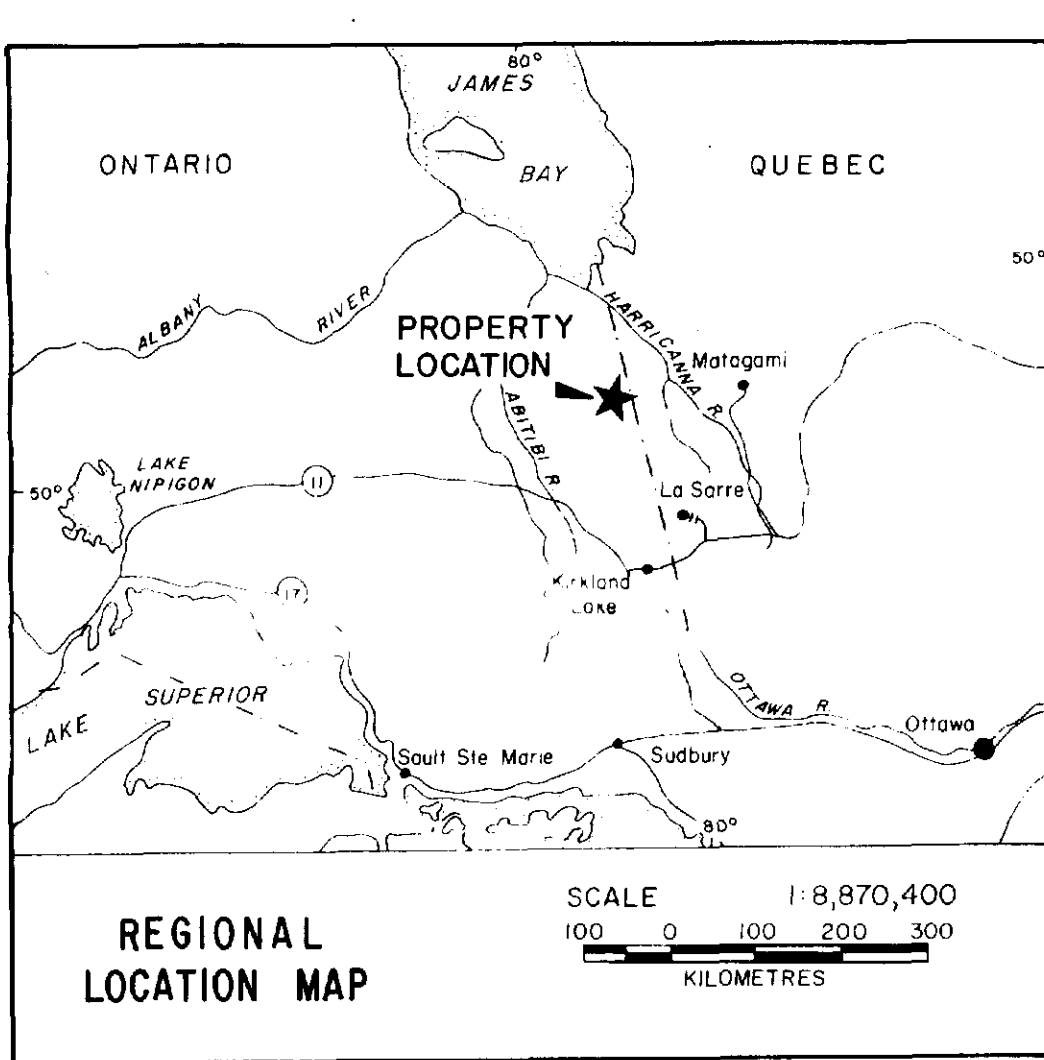
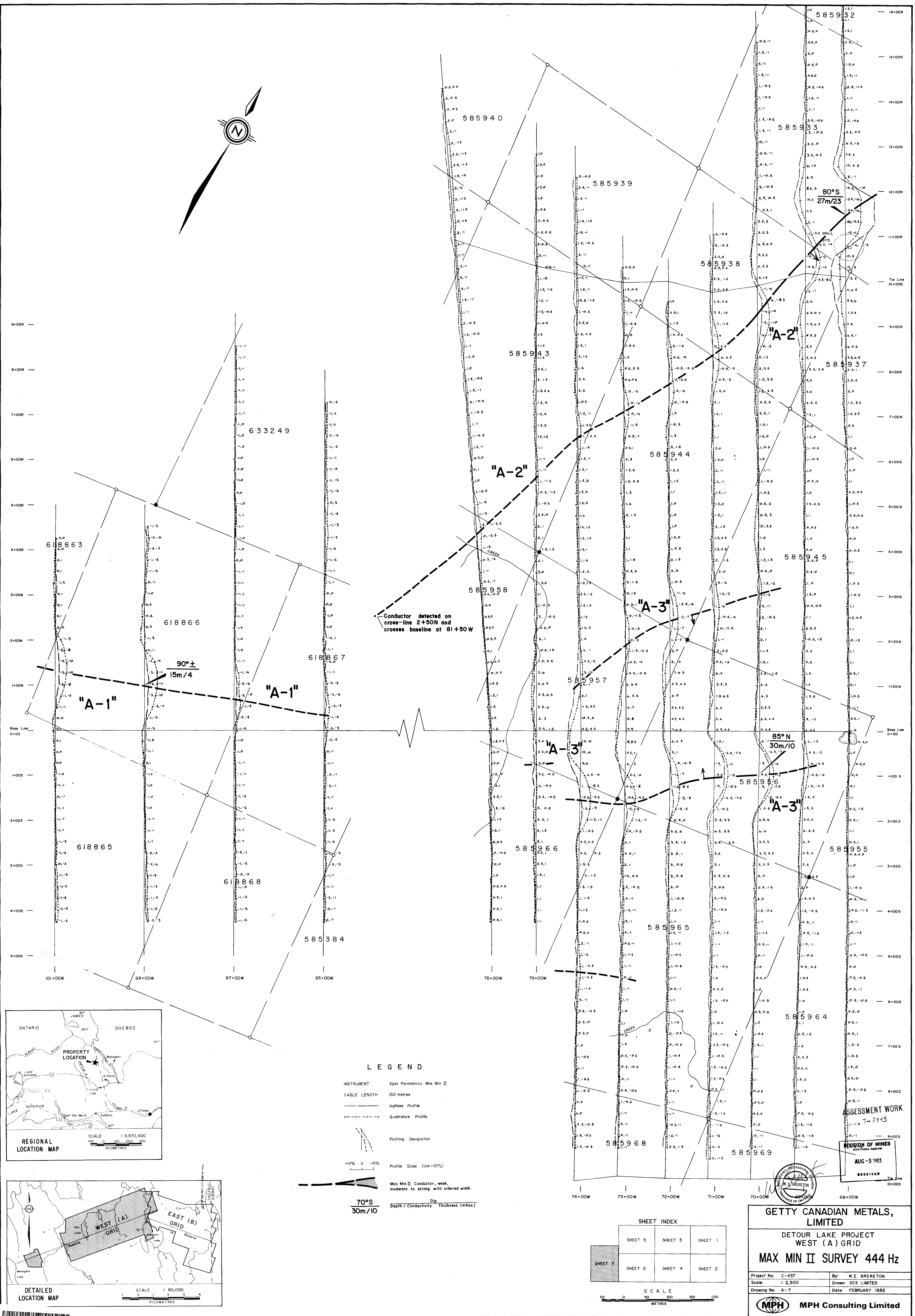
Plotting Designation

Profile Scale: (cm=10%)
Map Min II. Conductor, weak, moderate to strong with inferred width.

70°S
30m/10

Depth/Conductivity Thickness (mho)





LEGEND

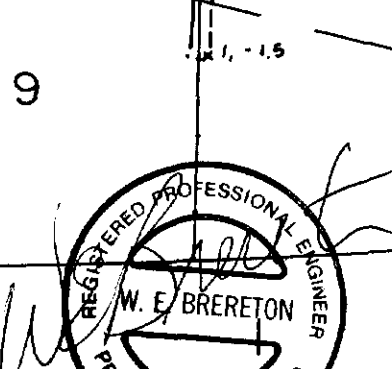
- INSTRUMENT Apex Parametrics Max Min II
- CABLE LENGTH 150 metres
- Inphase Profile
- - - Quadrature Profile
- Plotting Designation
- Profile Scale (1cm=10%)
- Max Min II Conductor, weak, moderate to strong with inferred width
- Dip
- Depth / Conductivity Thickness (mhos)

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SHEET 7	SHEET 6	SHEET 4
SHEET 2	SHEET 8	SHEET 9



ASSESSMENT WORK
7-7143

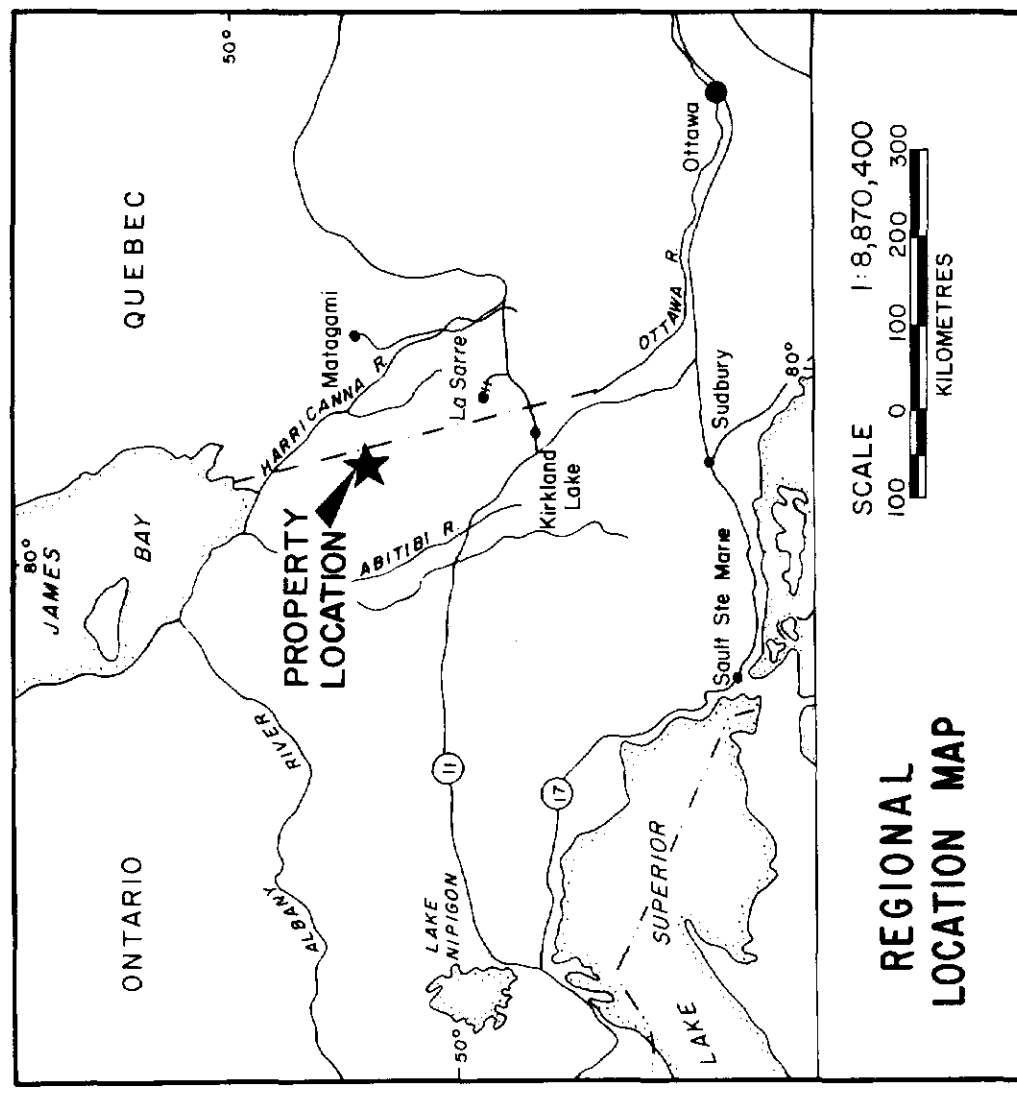
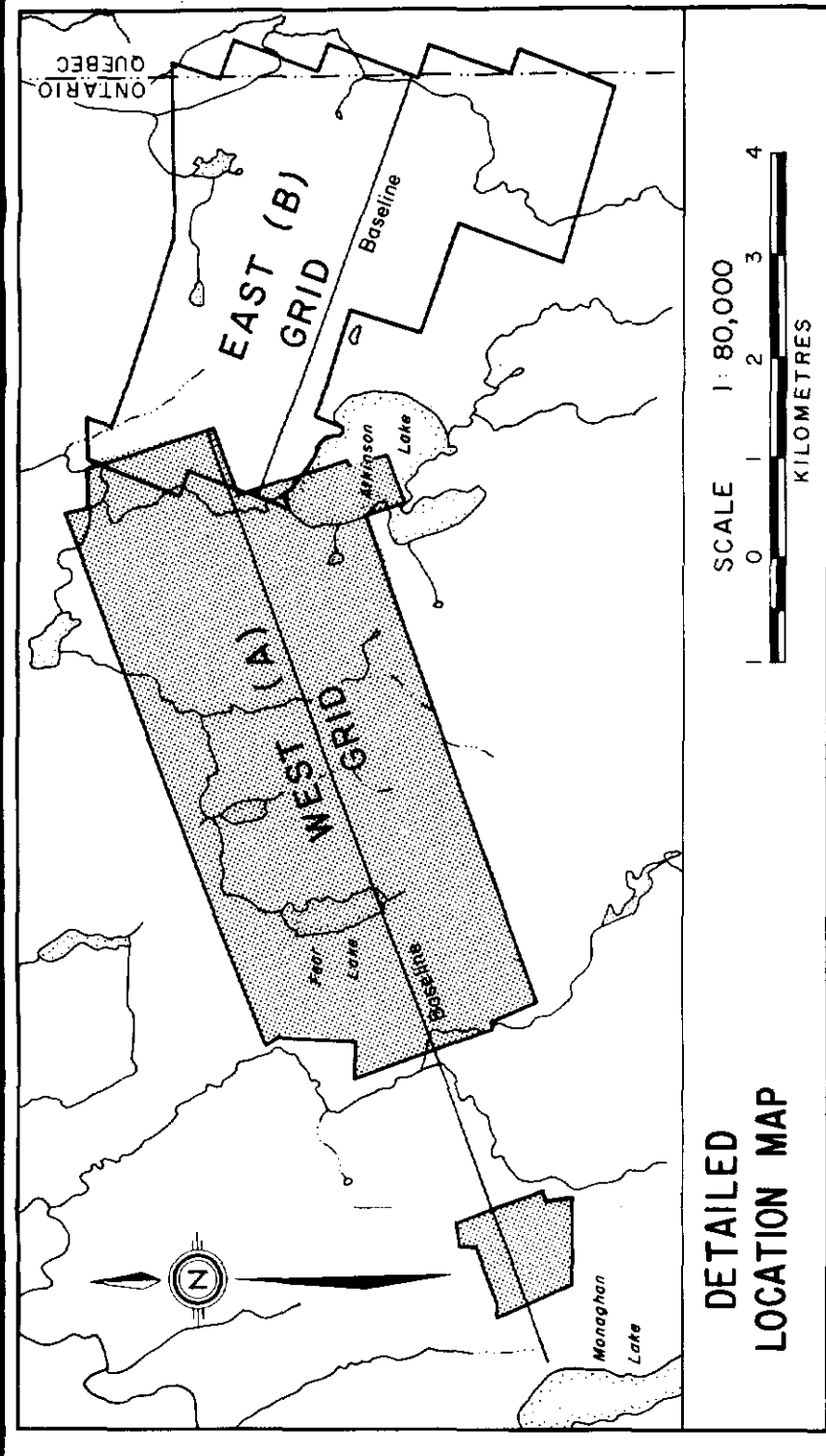


GETTY CANADIAN METALS, LIMITED

DETOUR LAKE PROJECT
WEST (A) GRID
MAX MIN II SURVEY 444 Hz

Project No: C-437 By: W.E. BRERETON
Scale: 1:2,500 Drawn: GCS LIMITED
Drawing No: A-7 Date: FEBRUARY 1982

MPH MPH Consulting Limited

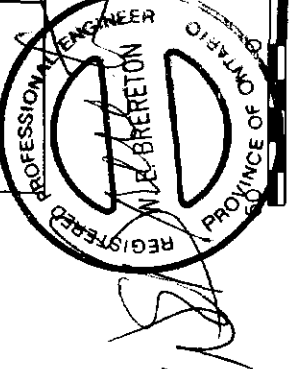


LEGEND

- INSTRUMENT Apex Instruments Max Min II
- GABLE LENGTH 150 metres
- Profile Profile
- Quadrature Profile
- Planning Designation
- Profile Scale (from 10%)
Max. Min. II Contour with moderate to strong with inferred with

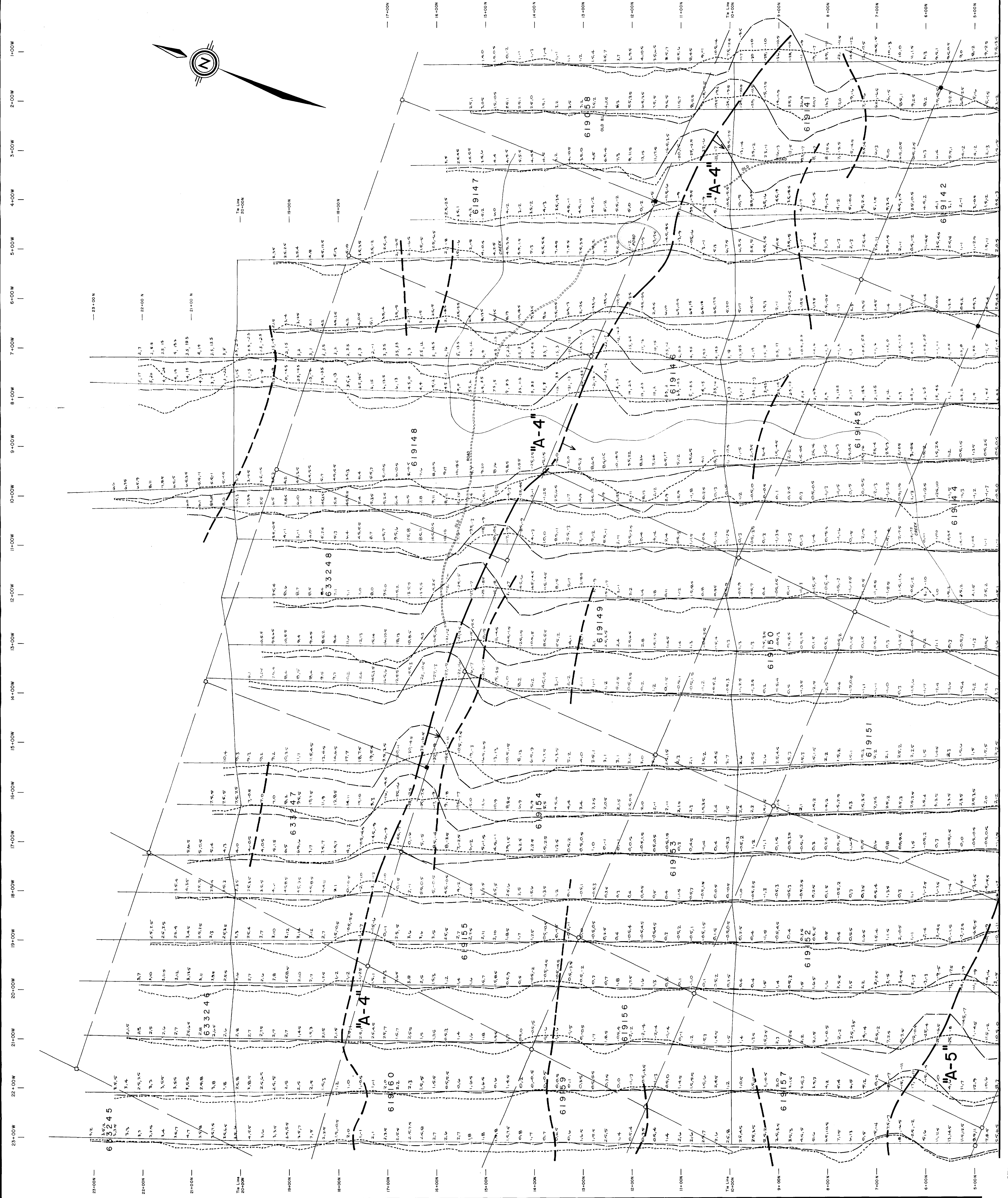
DIVISION OF MINES
AUG-8 '85
BR 11118

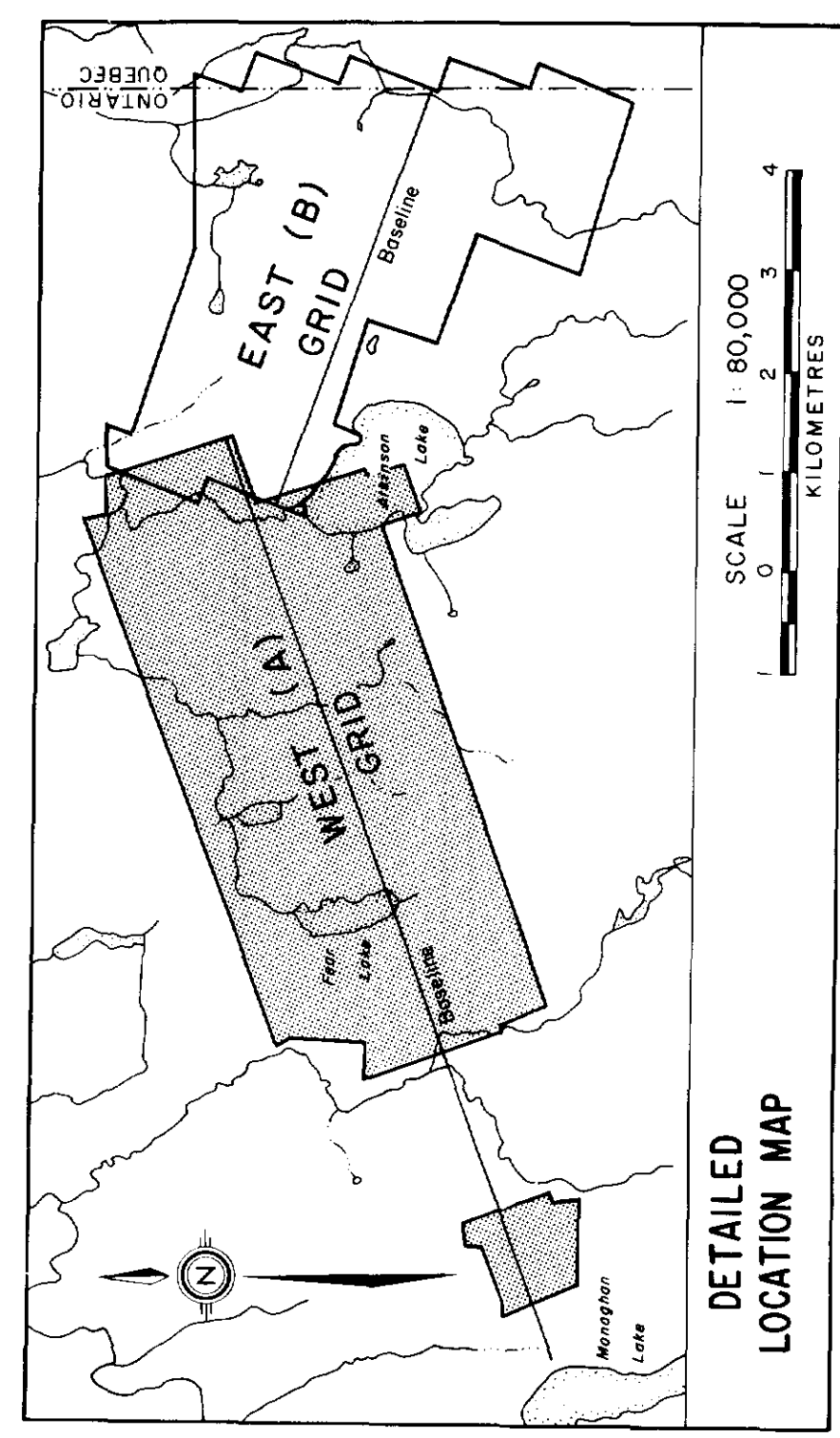
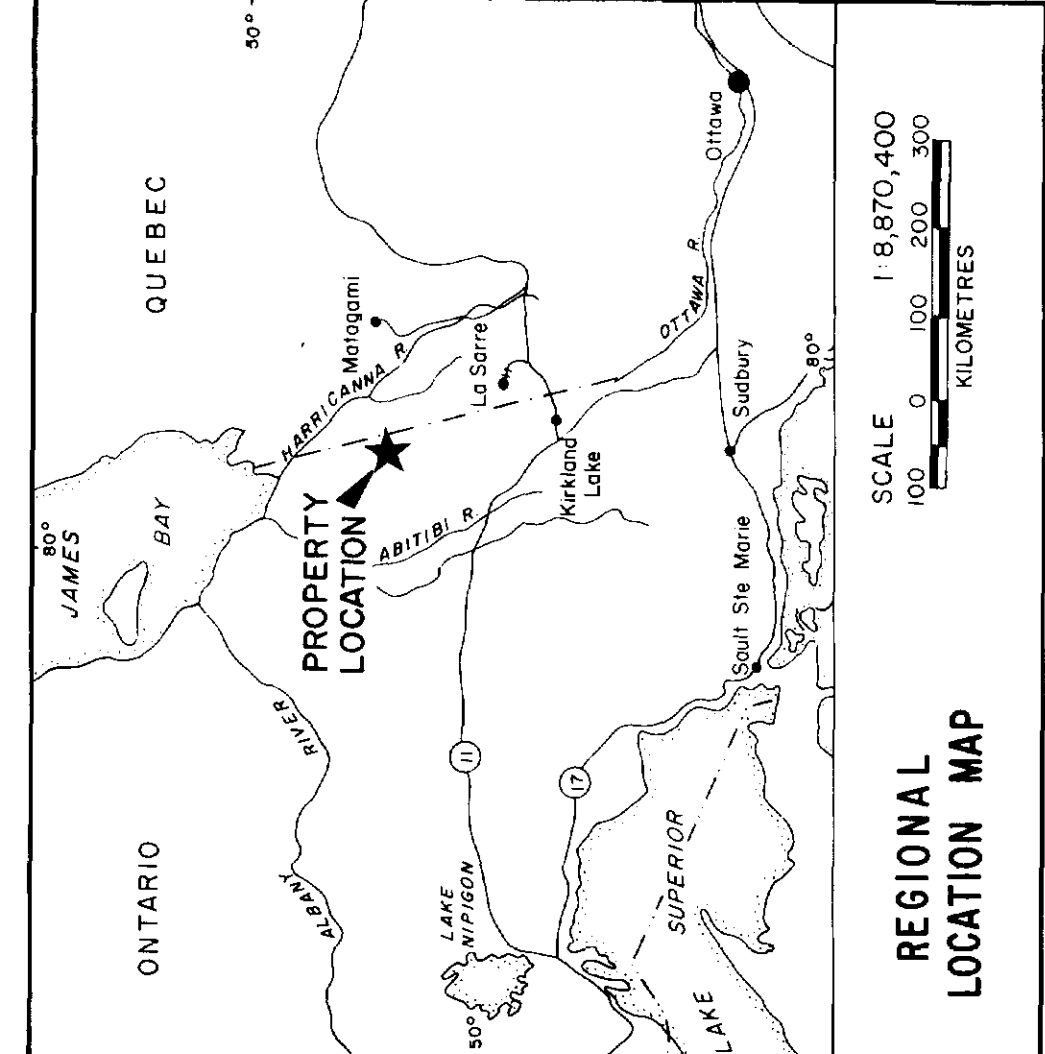
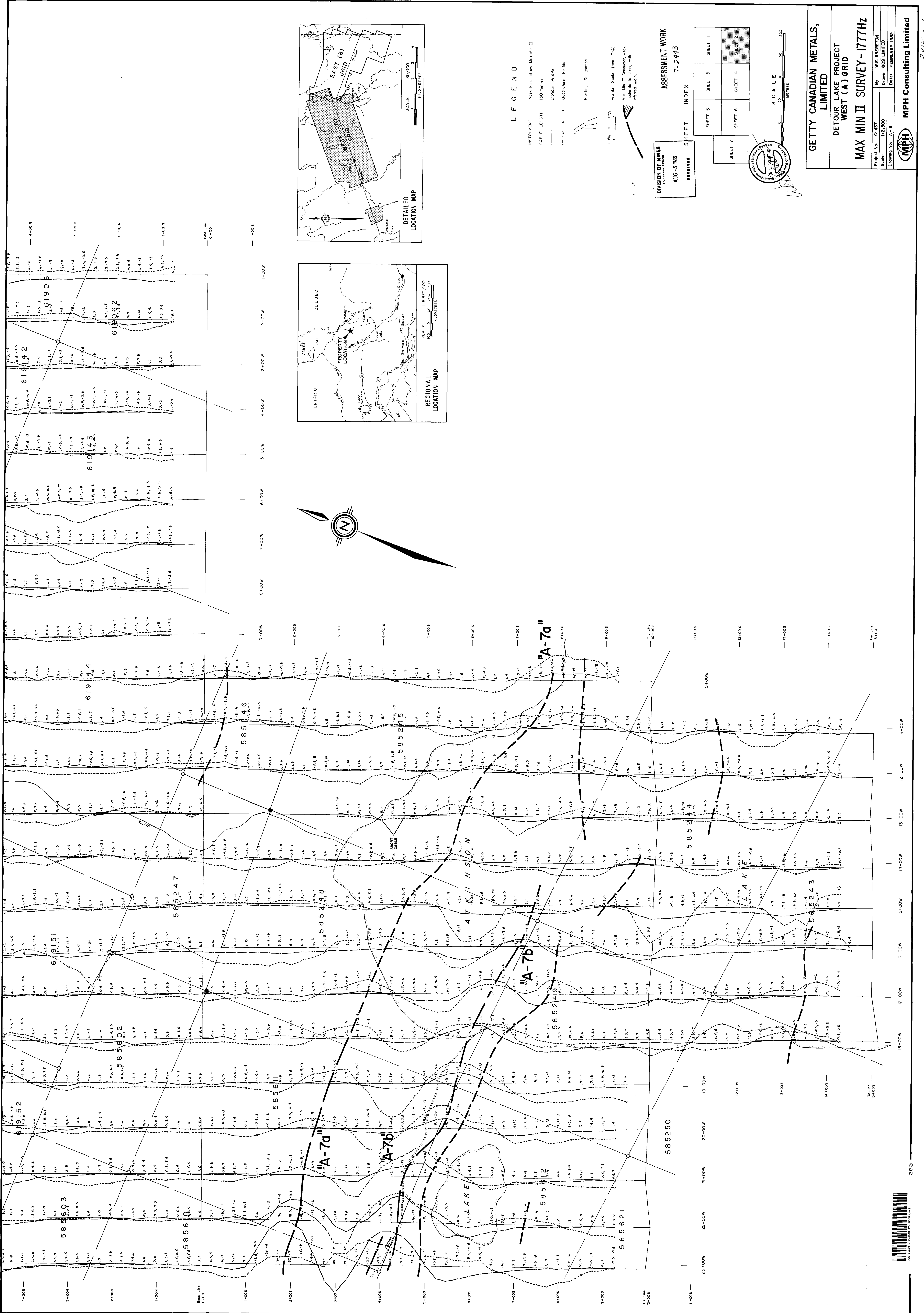
SHEET INDEX	
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SHEET 5	SHEET 6
SHEET 7	SHEET 8



ASSESSMENT WORK
T-2443
SCALE 1:2500
METRES

GETTY CANADIAN METALS, LIMITED
DETOUR LAKE PROJECT
WEST (A) GRID
MAX MIN II SURVEY - 1777HZ
Project No. C-437 By: M. E. BRETHERTON
Scale: 1:2500 Date: FEBRUARY, 1982
Drawing No. A-8
MPH Consulting Limited





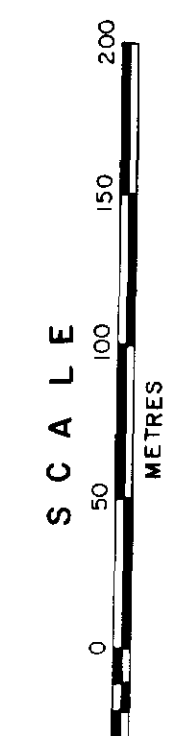
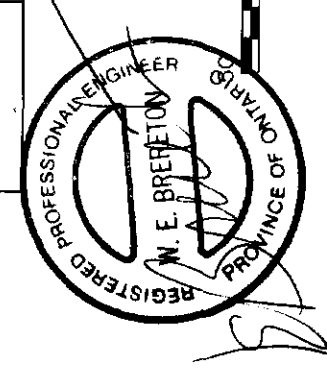
LEGEND

- INSTRUMENT Apex Prolinetics, Max Min II
- CABLE LENGTH 150 metres
- Inphase Profile
- Quadrature Profile
- Plotting Designation
- Profile Scale (10m=10%)
- Max Min II Contractor, work inferred with

DIVISION OF MINES
AUG-5 1983

ASSESSMENT WORK
7-2443

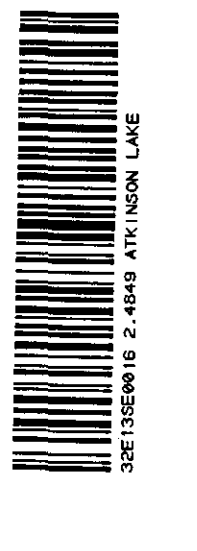
SHEET	SHEET INDEX
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SHEET 3	SHEET 3
SHEET 4	SHEET 4
SHEET 5	SHEET 5
SHEET 6	SHEET 6
SHEET 7	SHEET 7

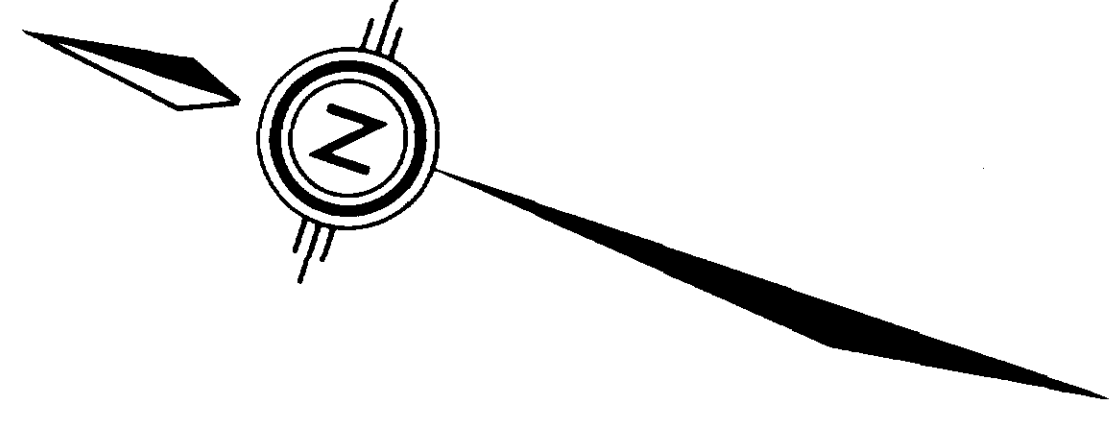


GETTY CANADIAN METALS, LIMITED
DETROUR LAKE PROJECT
WEST (A) GRID
MAX MIN II SURVEY - 1777Hz

Project No: C-437 By: W.E. BREZETON
Scale: 1:2,500 Drawn: GCS LIMITED
Drawing No: A-9 Date: FEBRUARY 1982

MPH MPH Consulting Limited





LEGEND

- INSTRUMENT Apex Parametrics Max Min II
- CABLE LENGTH 150 metres
- Profile Profile
- Outcrop Profile
- Plating Designation
- Profile Scale (cm=10%)
- Max. Min. II Comparator with inferred width

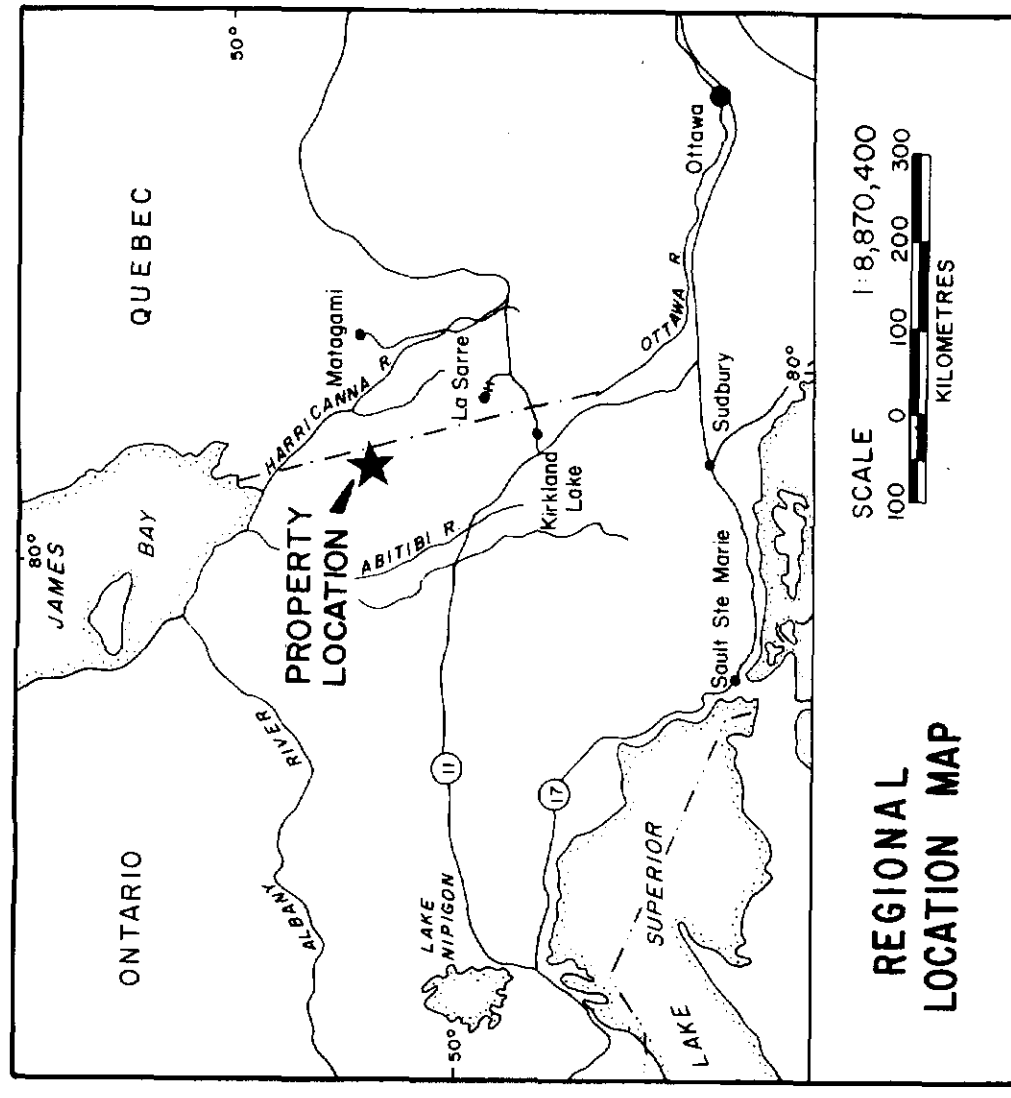
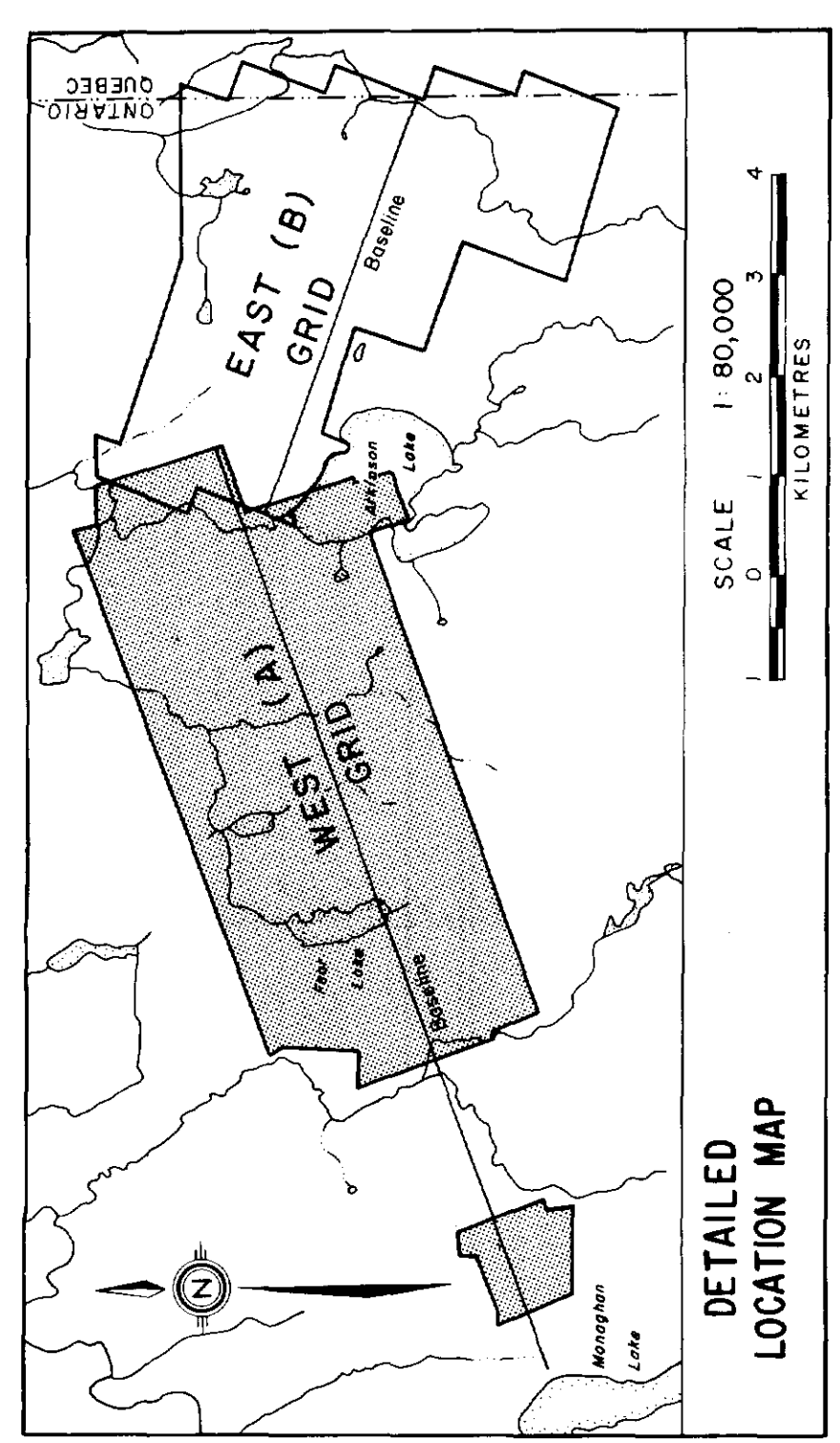
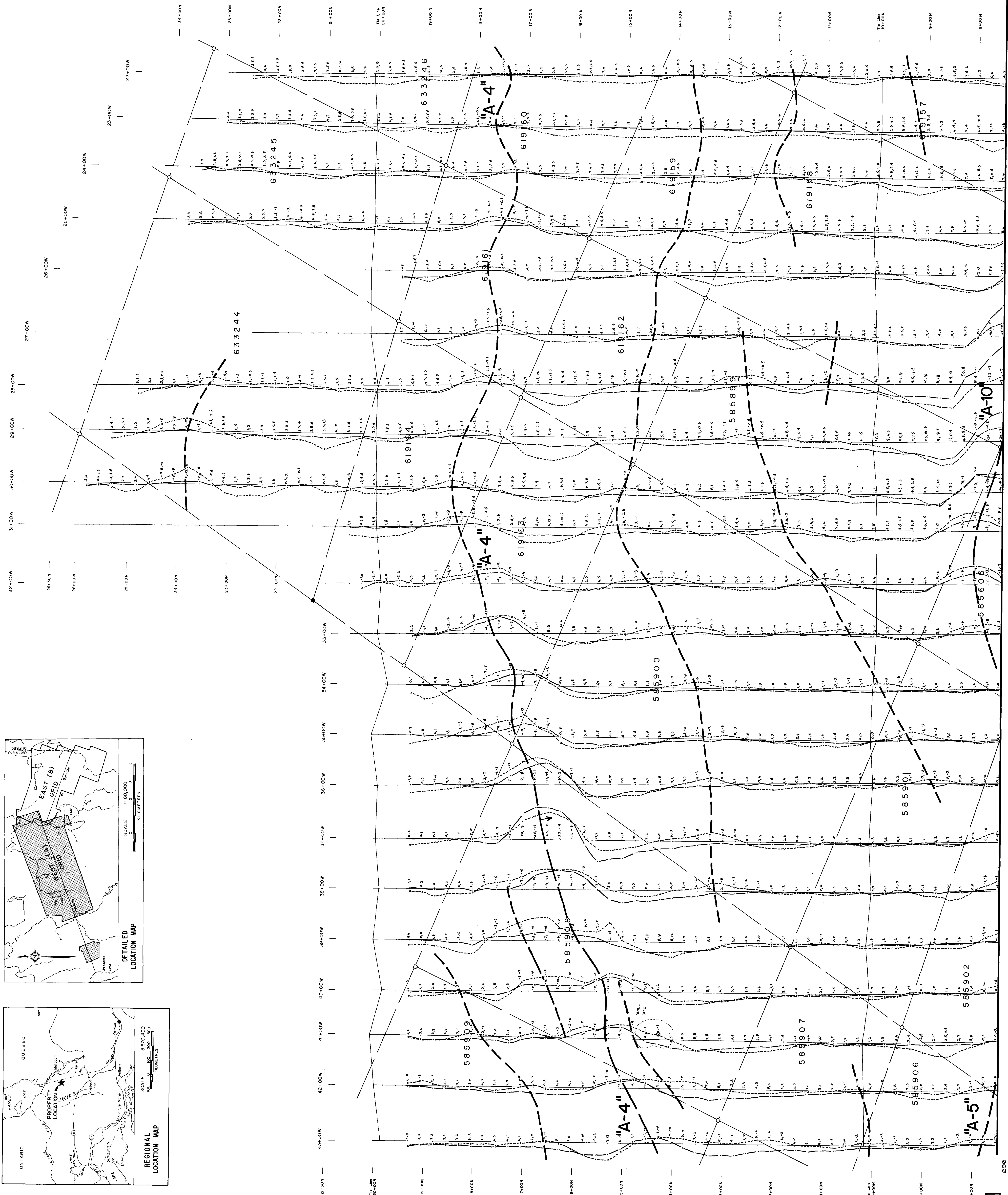
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SHEET 6	SHEET 4	SHEET 2
SHEET 7		

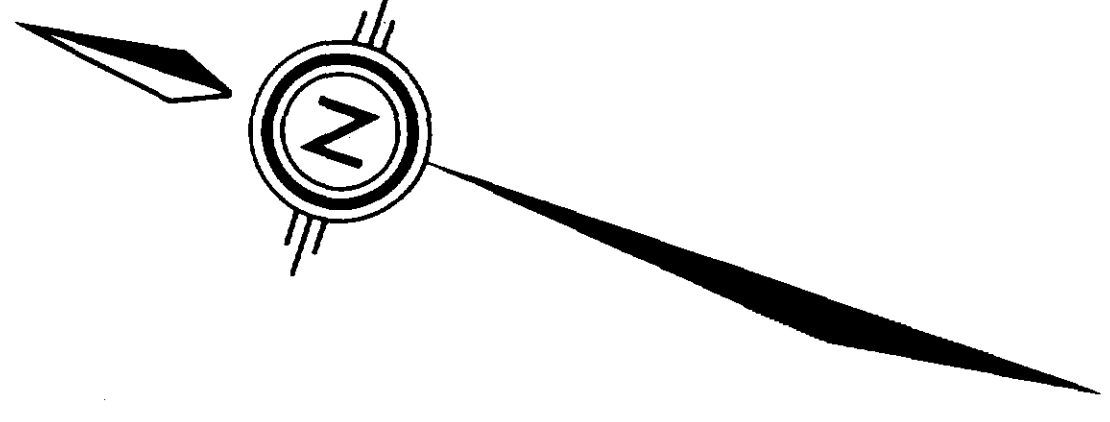
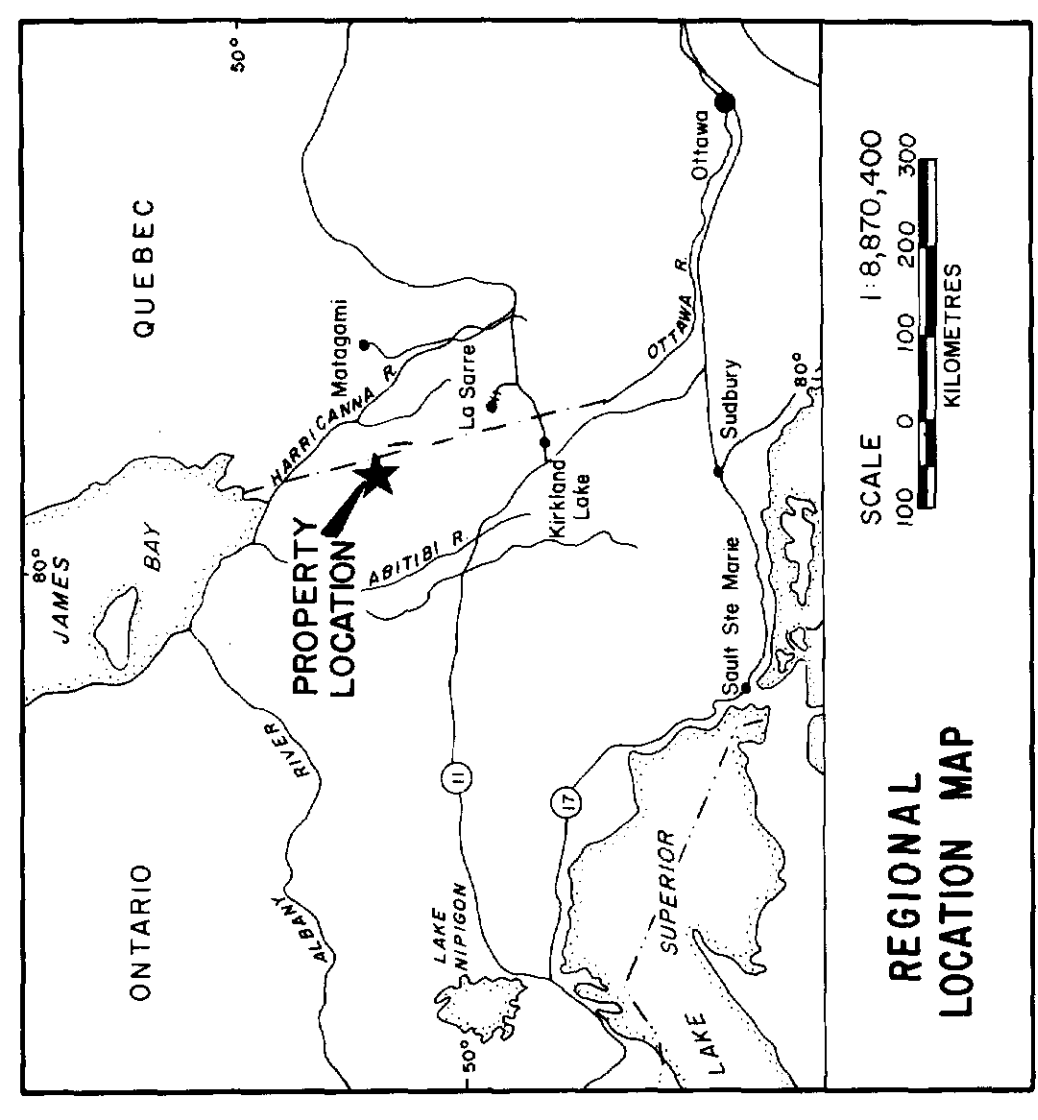
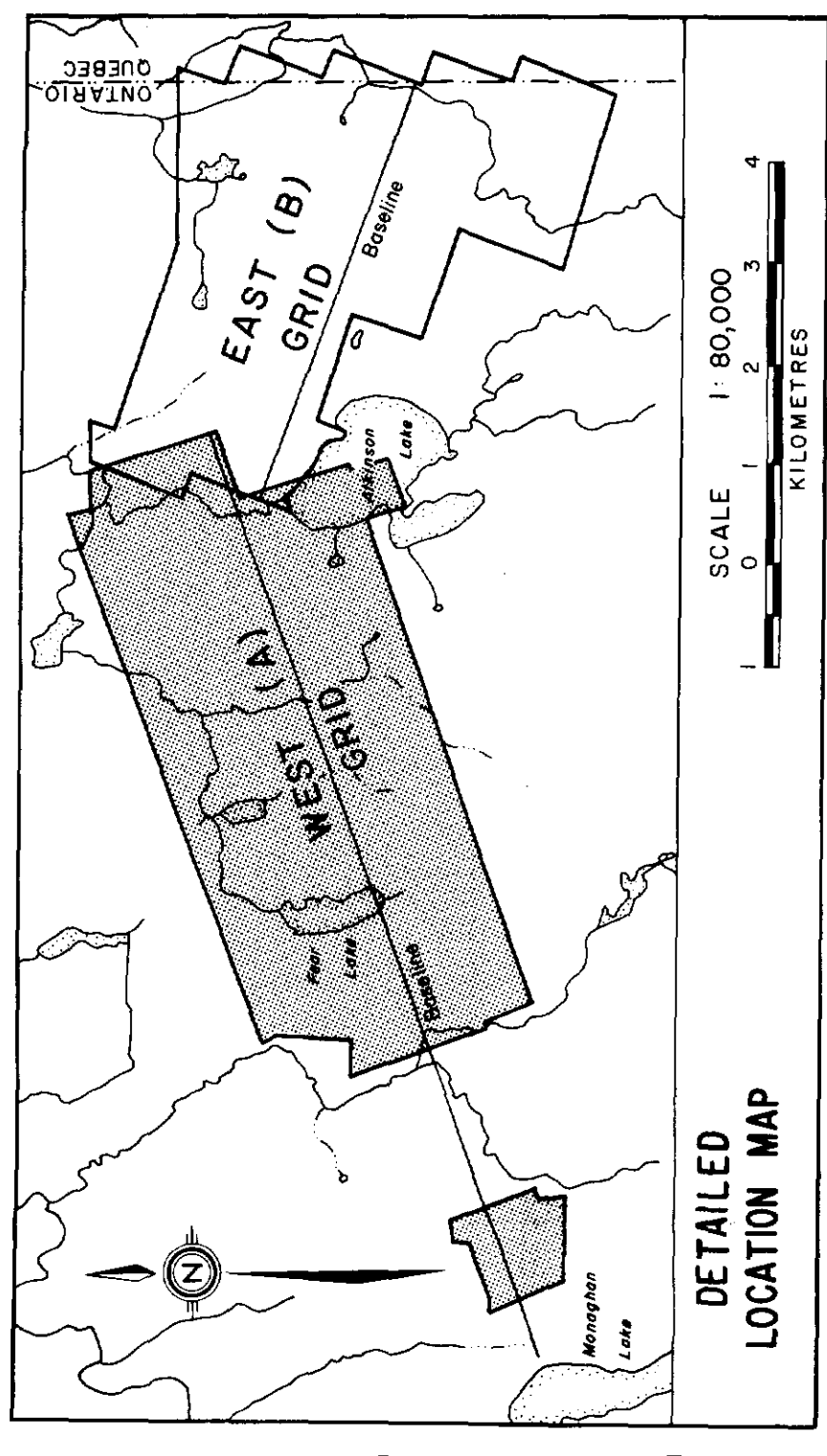
DIVISION OF MINES
AUG-5-1983
ASSESSMENT WORK
SCALE 1:2,500
METRES

GETTY CANADIAN METALS, LIMITED
DETOUR LAKE PROJECT
WEST (A) GRID
MAX MIN II SURVEY - 1777HZ

By: W.E. BREYTON
Drawn: GCS LIMITED
Date: FEBRUARY 1982

MPH MPH Consulting Limited





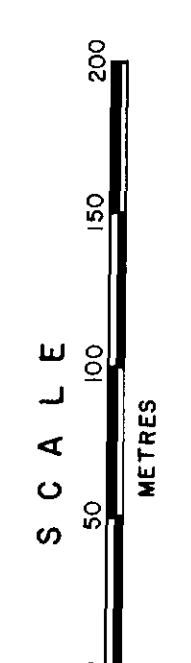
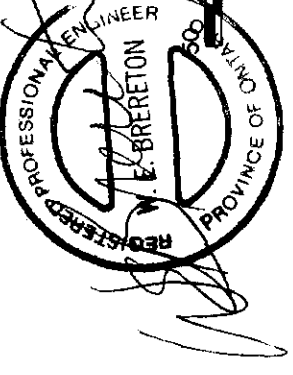
LEGEND

- Instrument
- Cable Length
- 150 metres
- 1:50 Profile
- 1:50 Profile
- 1:50 Profile
- Plotting Designation
- Profile Scale (1cm=10%)
- Max Min II Conductor, weak, moderate to strong with, referred width.

DIVISION OF MINES
AUG-51983
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ASSESSMENT WORK
T-2443

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SHEET 5	SHEET 6
SHEET 7	



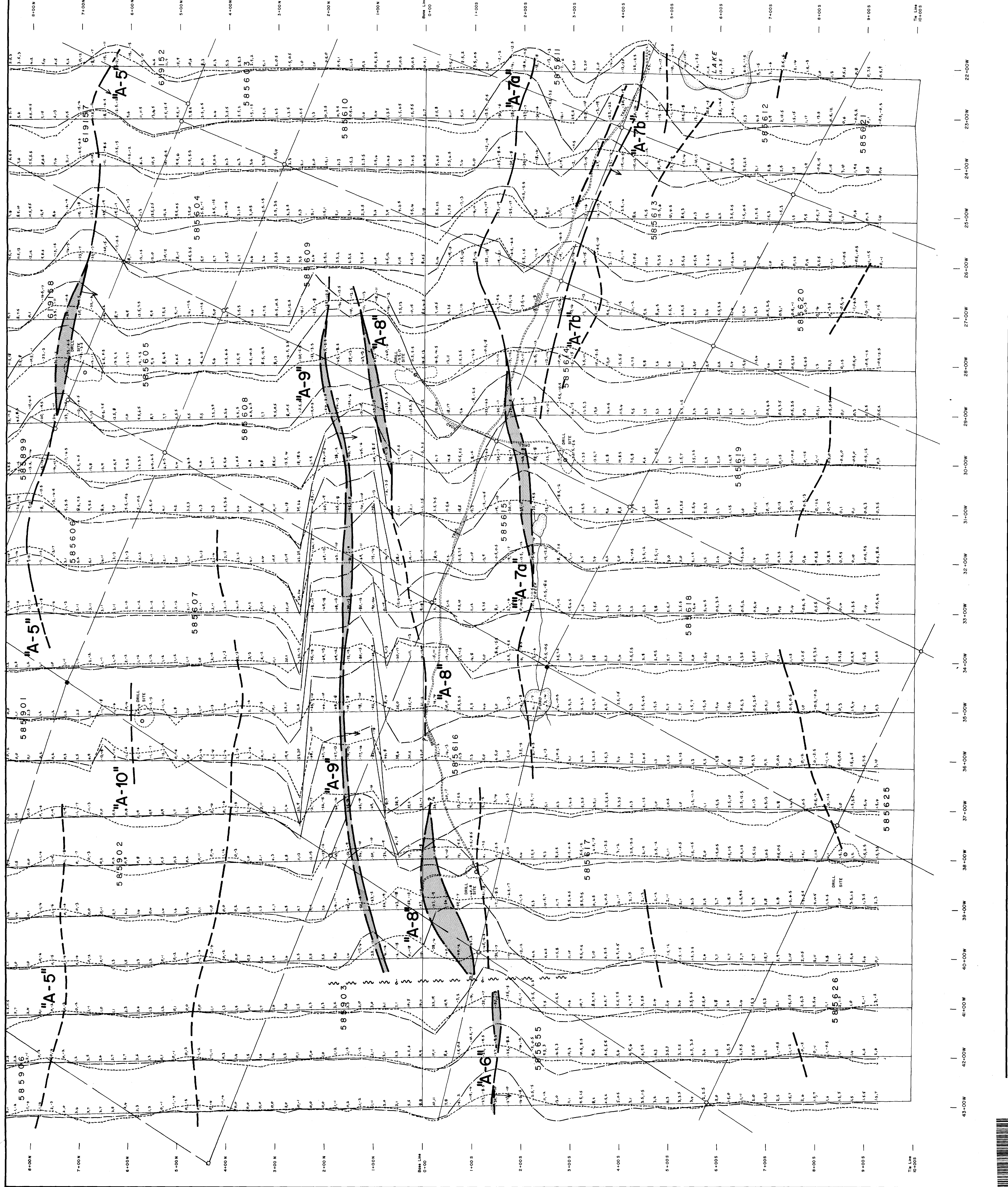
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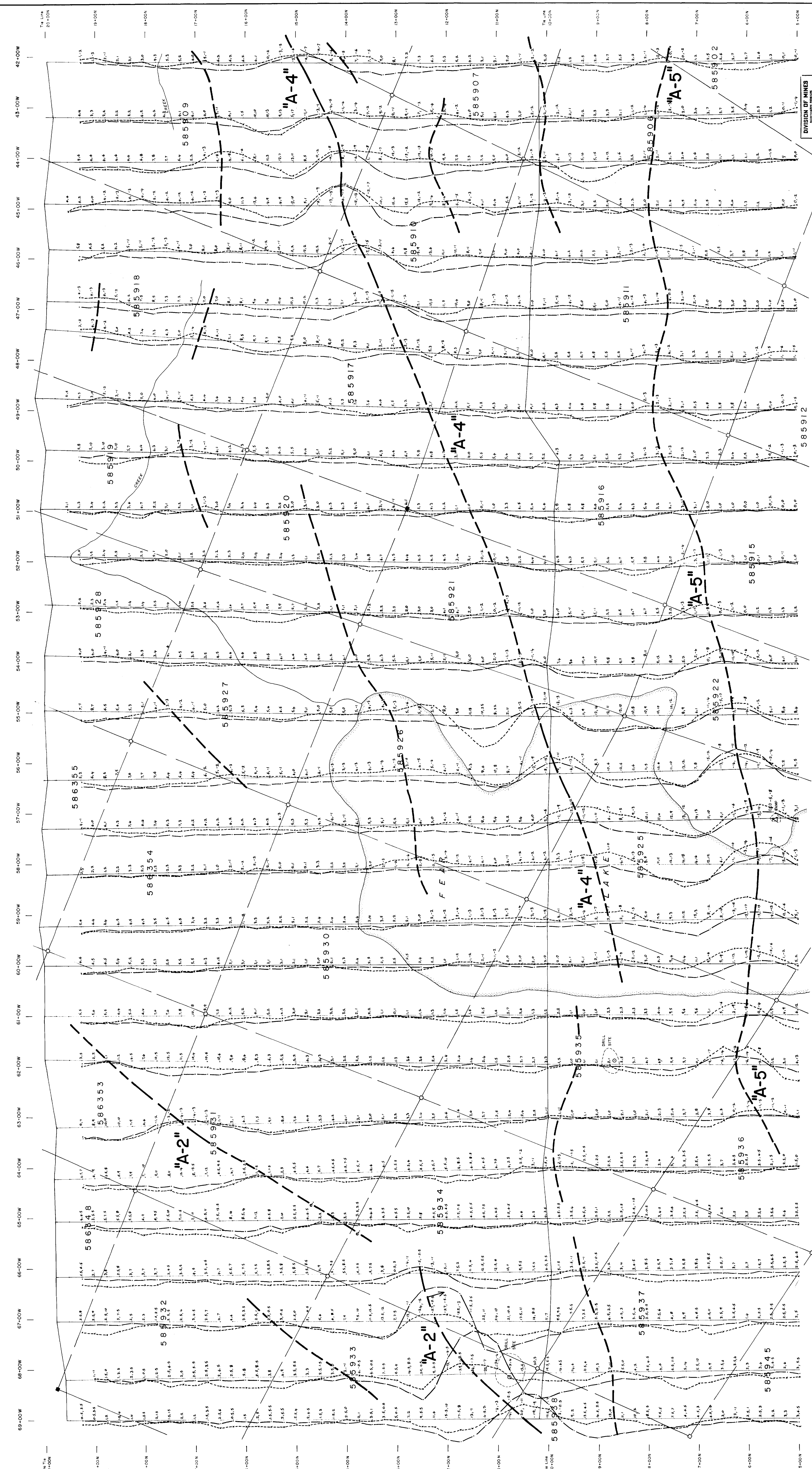
DETOUR LAKE PROJECT
WEST (A) GRID

MAX MIN II SURVEY - 1777HZ

Project No. C-437
Scale 1:25,000
Drawing No. A-11
By: W.E. BRETTON
Drawn: GCS LIMITED
Date: FEBRUARY 1982

MPH Consulting Limited





ASSESSMENT WORK
7-2443

AUG-5-1983
DIVISION OF MINES
NORTHWESTERN BRANCH

SCALE
1:2000
METRES

GETTY CANADIAN METALS,
DETLOUR LAKE PROJECT
WEST (A) GRID
MAX MIN II SURVEY - 1777HZ

Project No. C-437 By: W.E. BREWSTER
Scale: 1:2000 Drawn: GCS LIMITED
Drawing No. A-12 Date: FEBRUARY 1982

MPH MPH Consulting Limited

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SHEET 7		

N

LEGEND

INSTRUMENT: Apex Parameters Max Min II

CABLE LENGTH: 150 metres

Highness Profile

Quadrature Profile

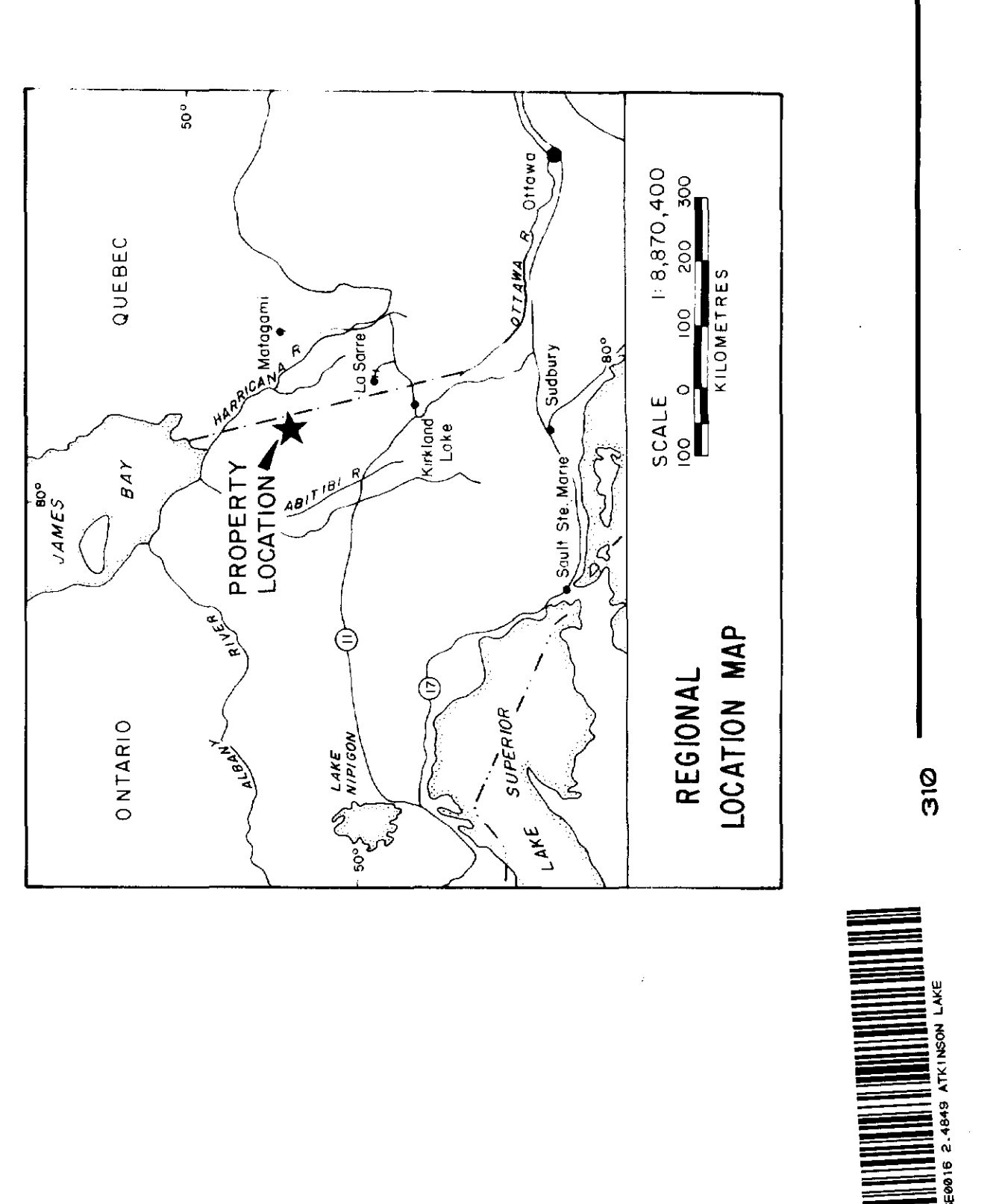
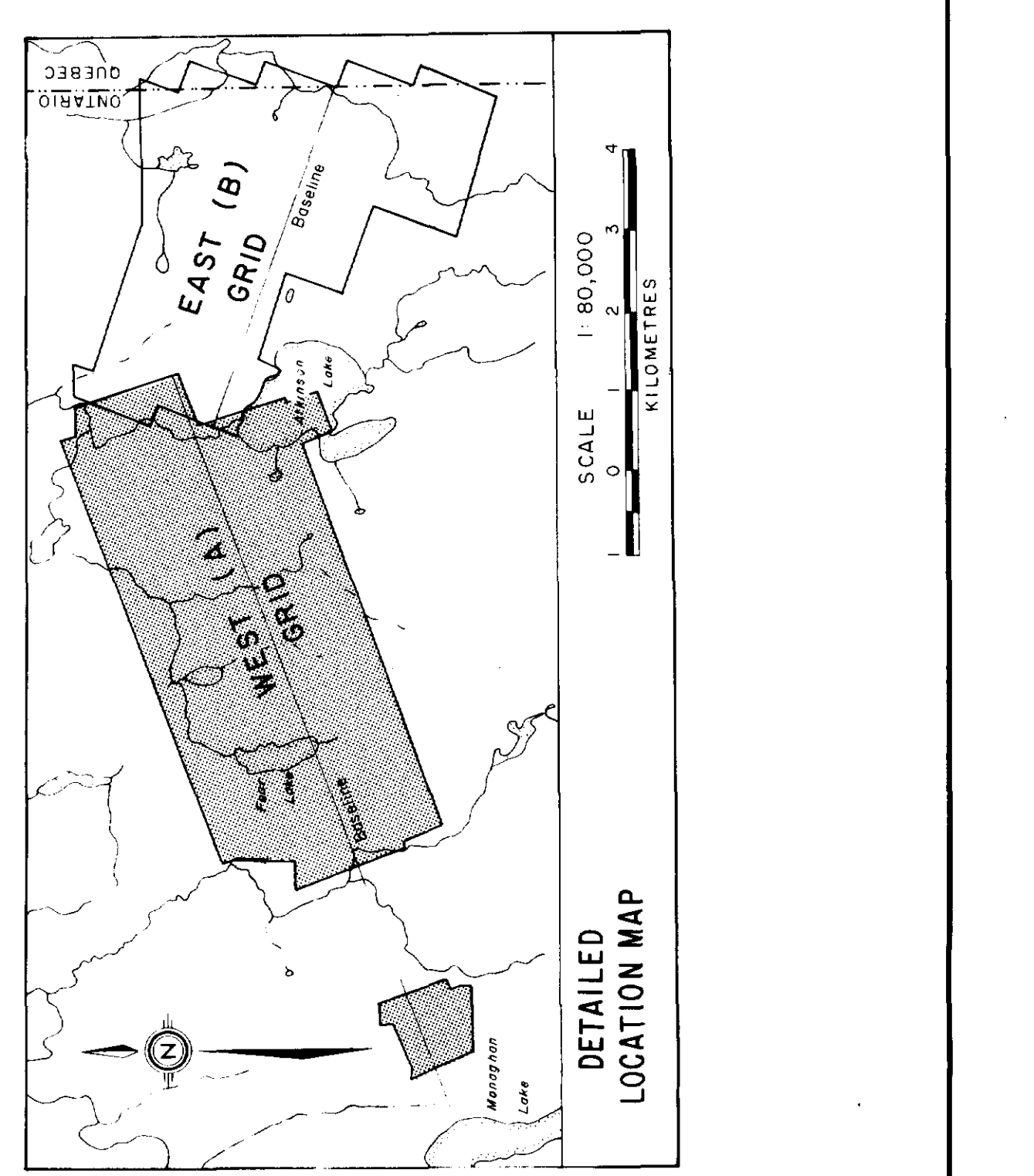
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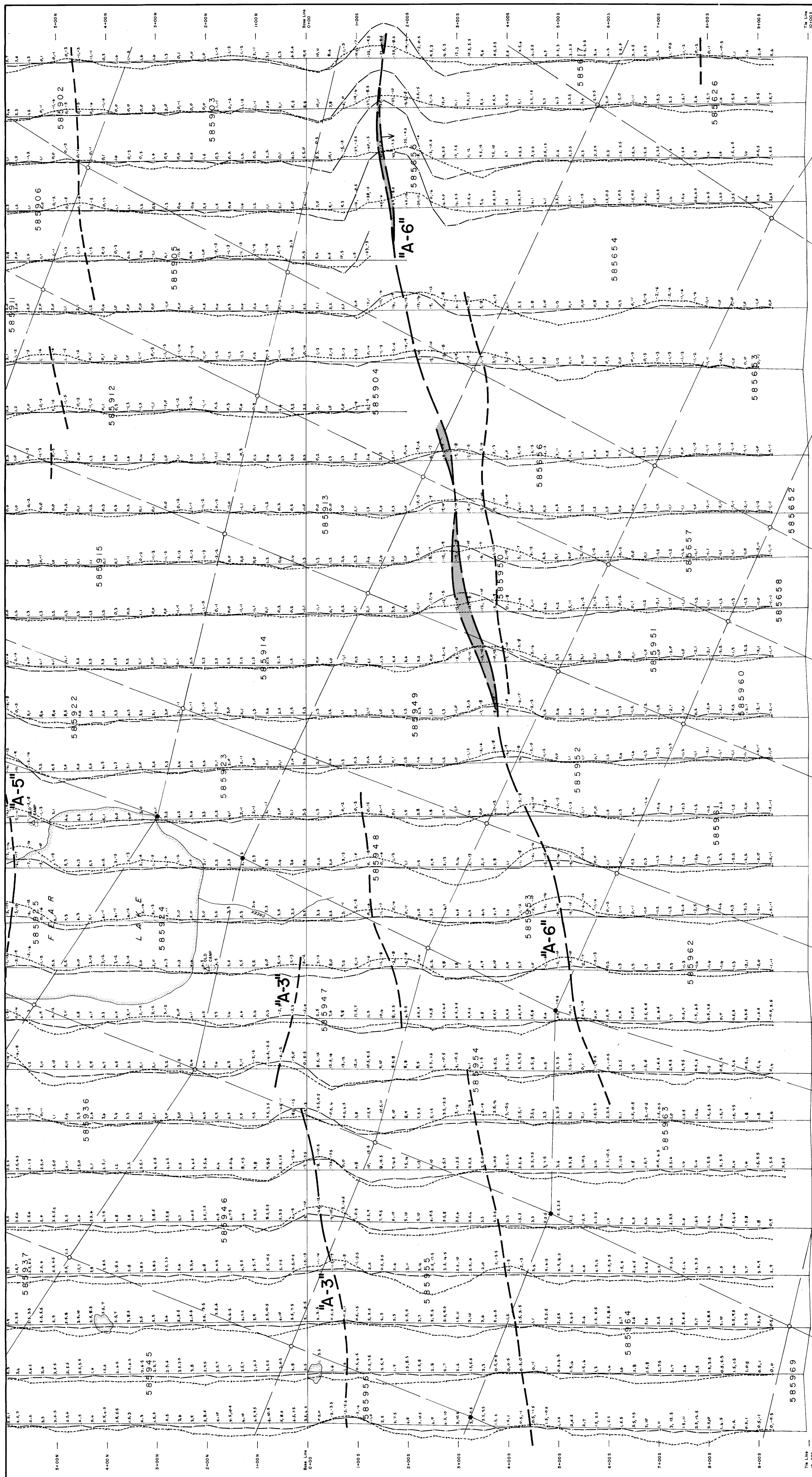
Profile Scale: (1cm = 10m)

Max. Min II Contours: weak, modern in strong with inferred with.

Profile Scale: (1cm = 10m)

Max. Min II Contours: weak, modern in strong with inferred with.





9+000 — 4+000 — 3+000 — 2+000 — 1+000 — 0+000
 98+000 — 97+000 — 96+000 — 95+000 — 94+000 — 93+000 — 92+000 — 91+000 — 90+000 — 89+000 — 88+000 — 87+000 — 86+000 — 85+000 — 84+000 — 83+000 — 82+000 — 81+000 — 80+000 — 79+000 — 78+000 — 77+000 — 76+000 — 75+000 — 74+000 — 73+000 — 72+000 — 71+000 — 70+000 — 69+000 — 68+000 — 67+000 — 66+000 — 65+000 — 64+000 — 63+000 — 62+000 — 61+000 — 60+000 — 59+000 — 58+000 — 57+000 — 56+000 — 55+000 — 54+000 — 53+000 — 52+000 — 51+000 — 50+000 — 49+000 — 48+000 — 47+000 — 46+000 — 45+000 — 44+000 — 43+000 — 42+000

DIVISION OF MINER
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 AUG-5 1983
 PROJECT No. C-437
 BY: W.E. BIREBETON
 Scale: 1:2,500
 Drawn: GCS LIMITED
 Drawing No. A-13
 Date: FEBRUARY 1982

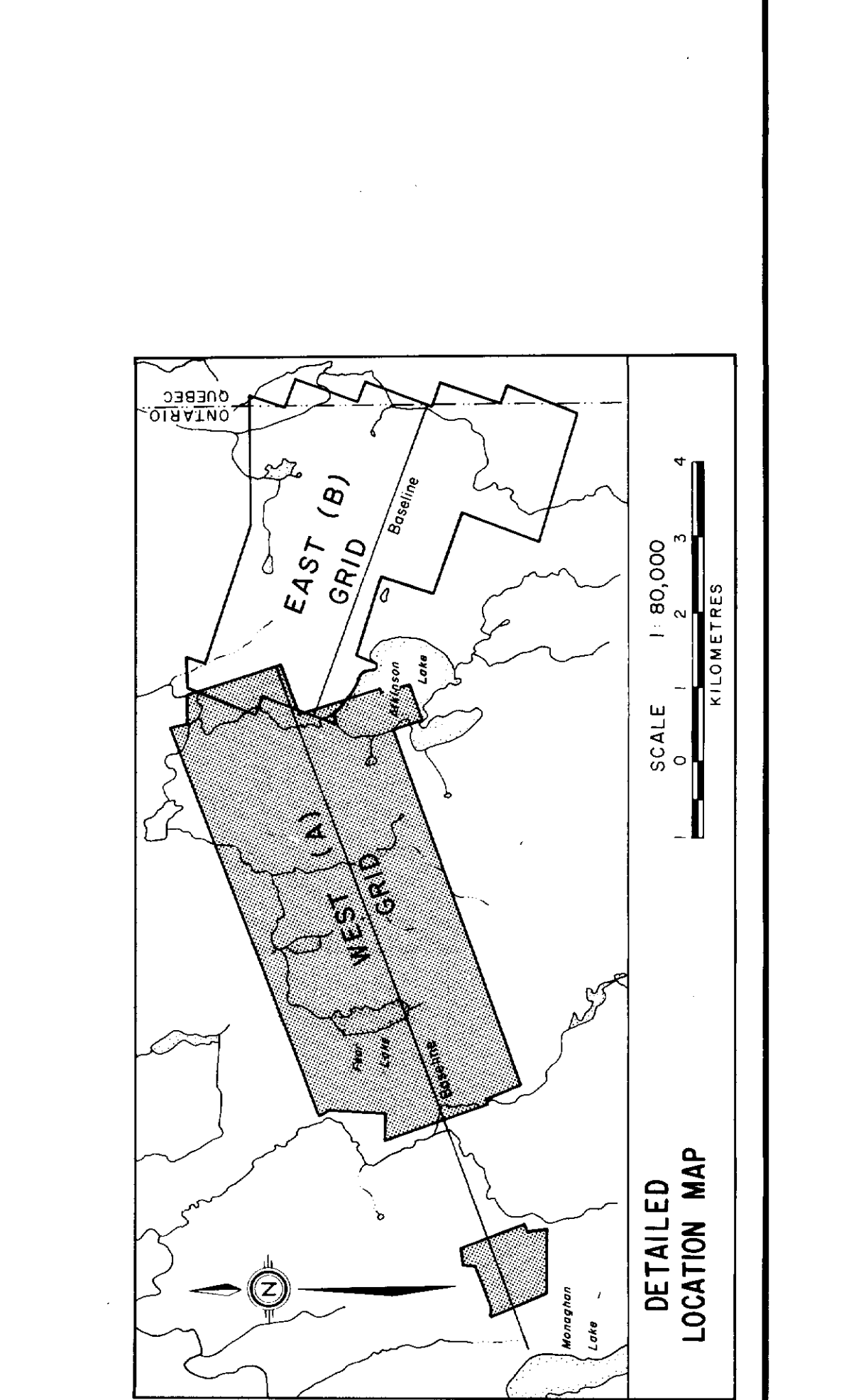
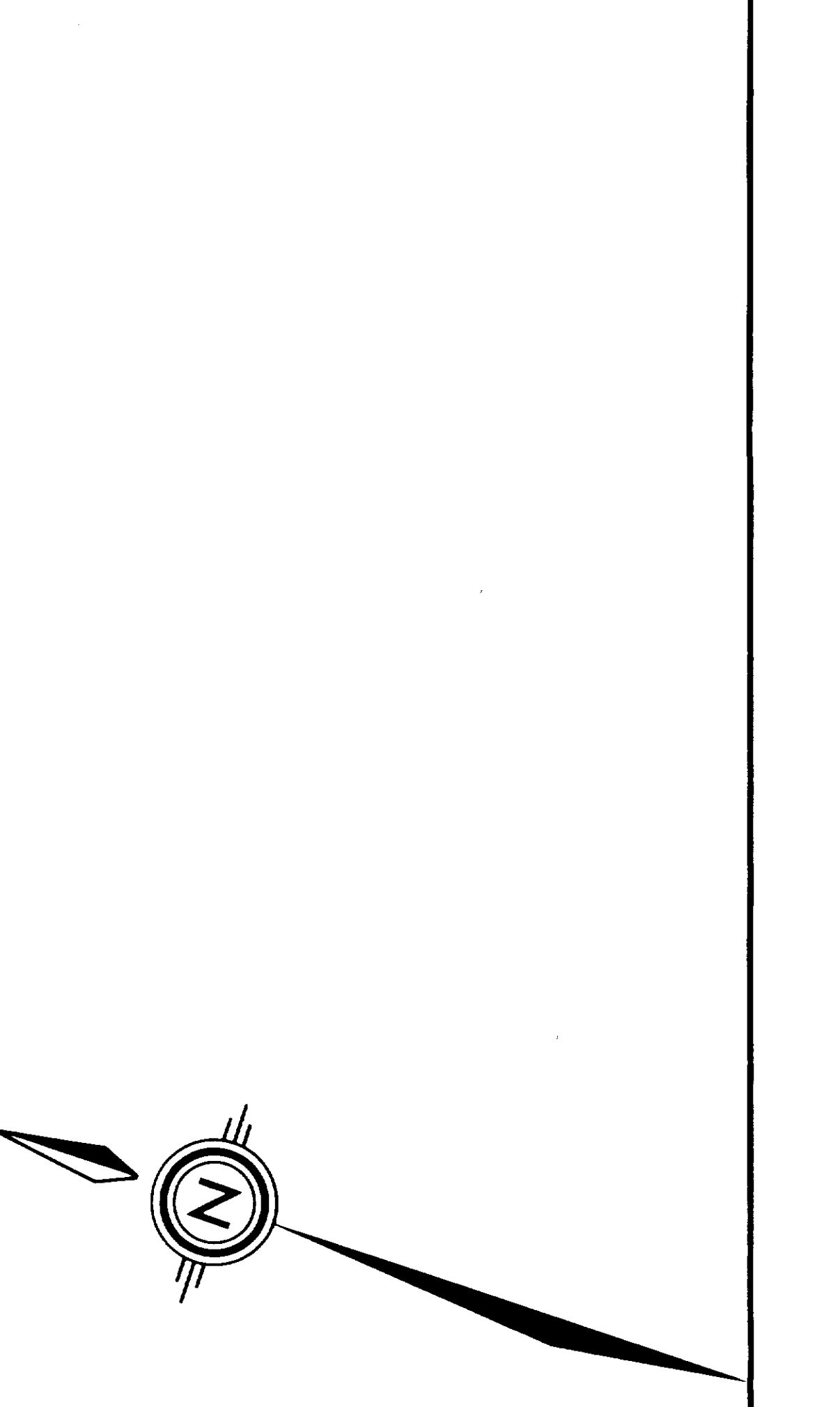
GETTY CANADIAN METALS, LIMITED
 DETOUR LAKE PROJECT
 WEST (A) GRID
MAX MIN II SURVEY - I777Hz

MPH
 MPH Consulting Limited

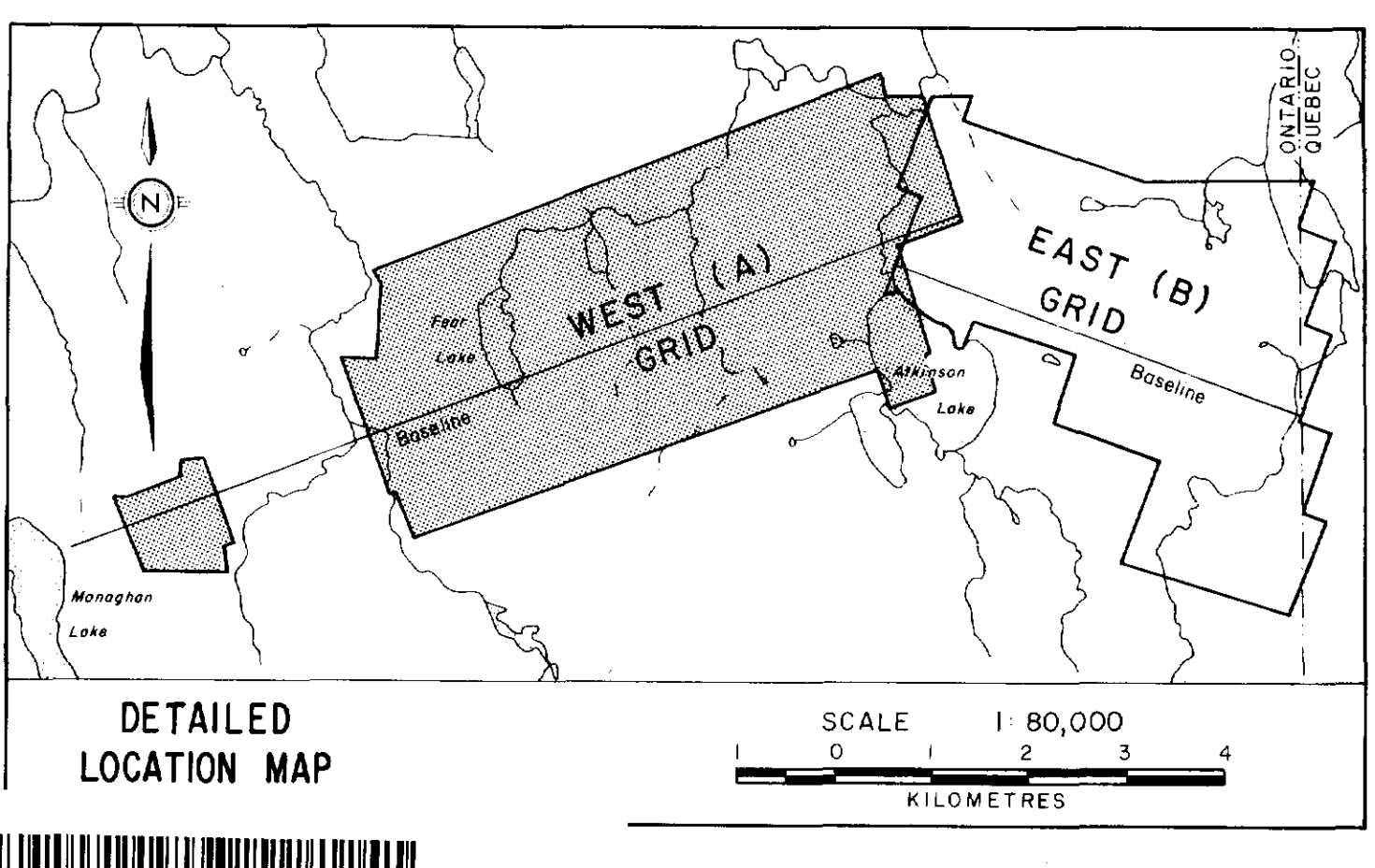
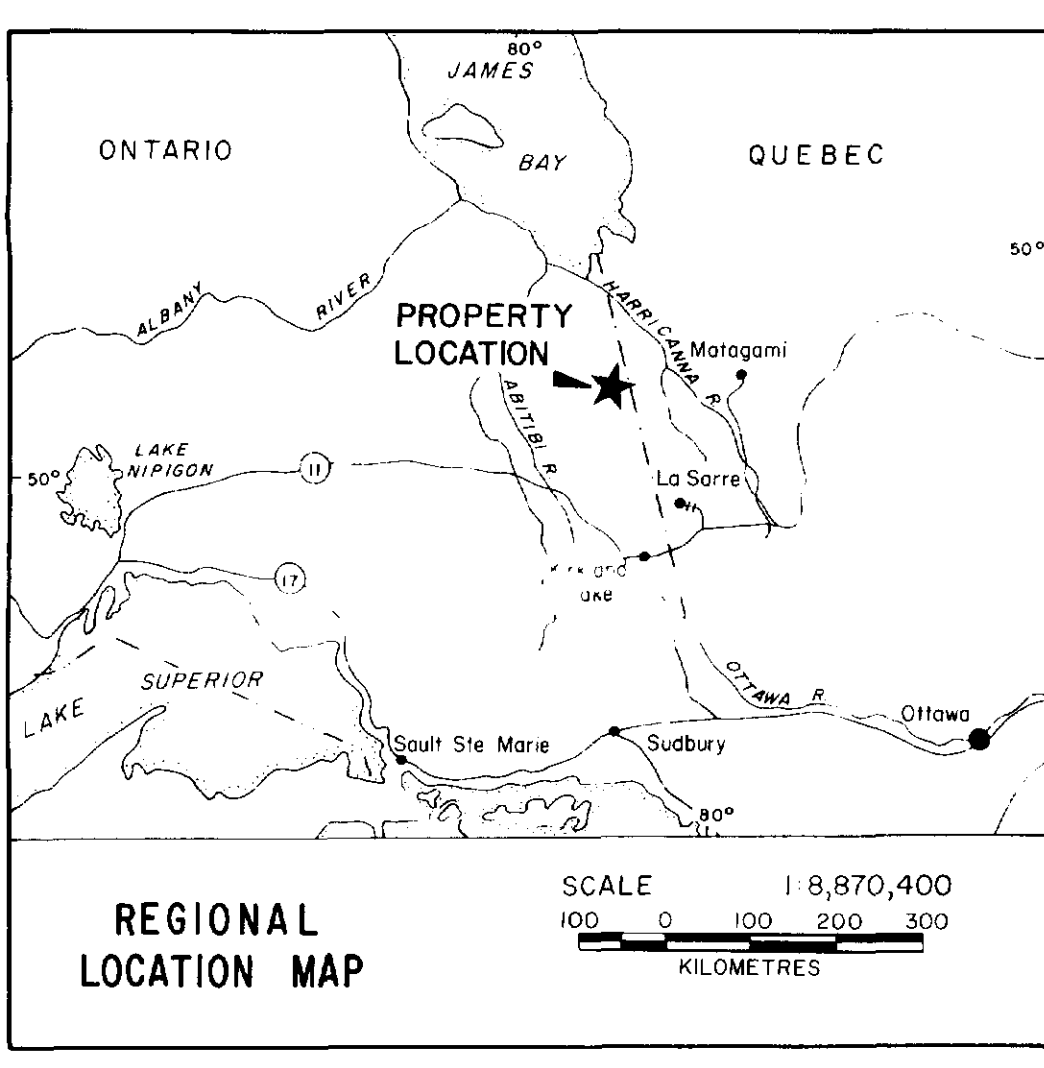
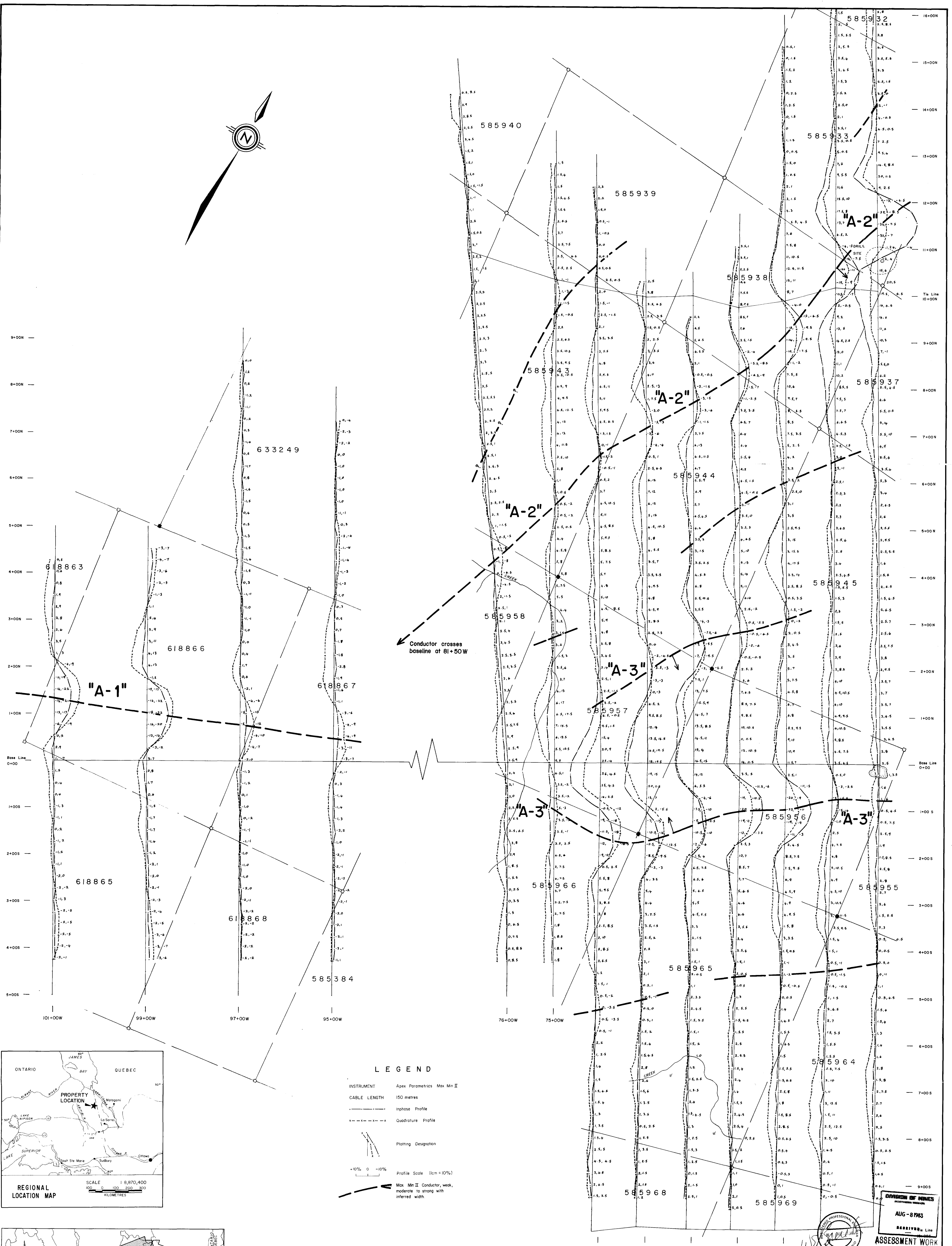
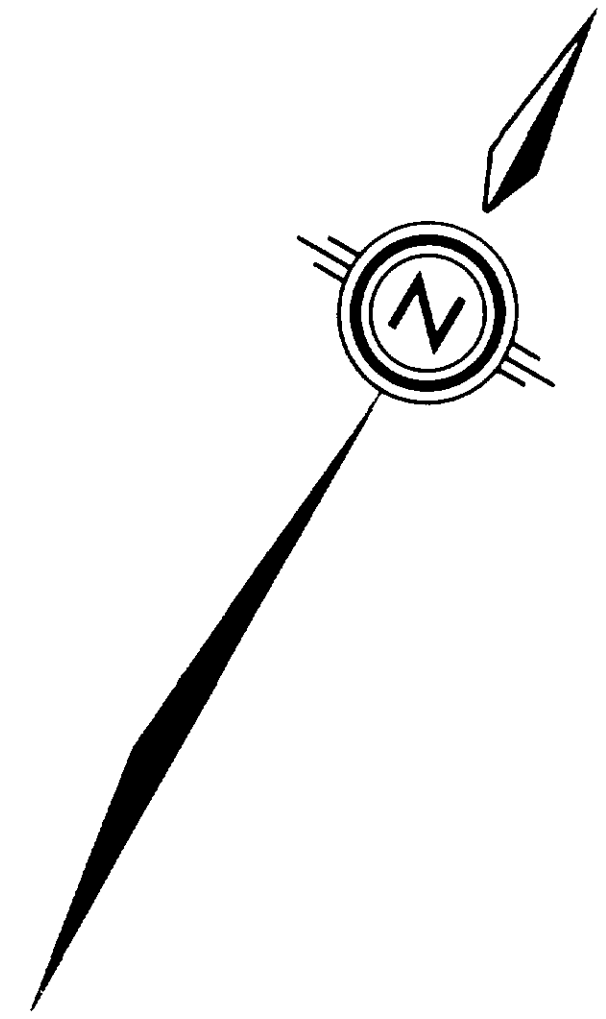
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LEGEND
 INSTRUMENT: Apex Prolometrics Max Min II
 CABLE LENGTH: 150 metres
 Profile Scale: 1cm=100%
 Conductor Axis: Max Min II Conductor with, increments to string with inferred width.



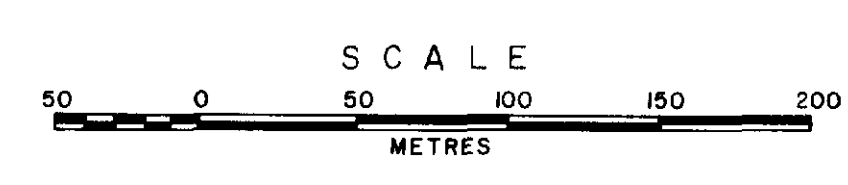
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LEGEND

- INSTRUMENT Apex Parametrics Max Min II
- CABLE LENGTH 150 metres
- Inphase Profile
- Quadrature Profile
- Plotting Designation
- Profile Scale (1cm = 10%)
- Max Min II Conductor, weak, moderate to strong with inferred width

SHEET INDEX			
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SHEET 7	SHEET 6	SHEET 4	SHEET 2

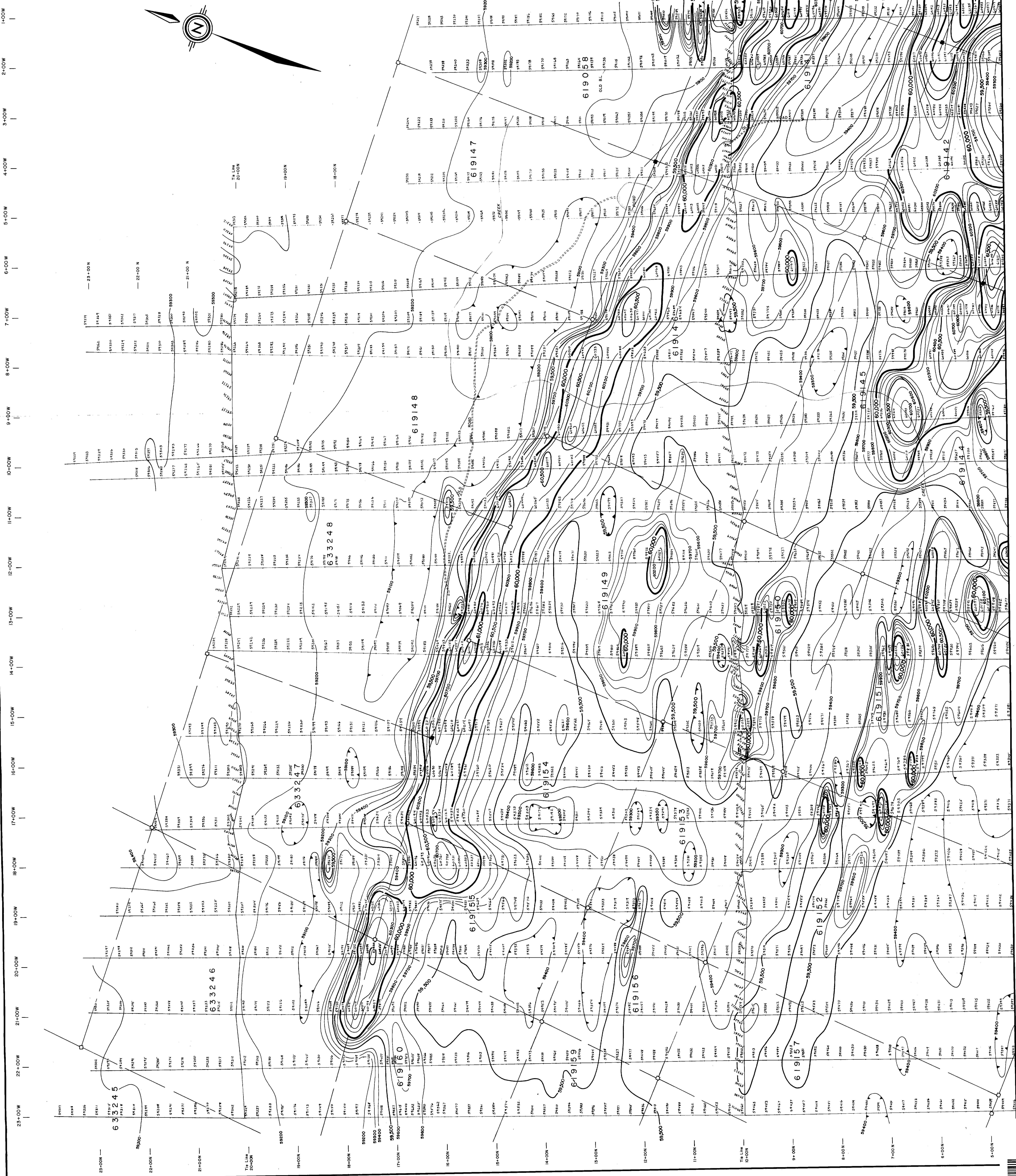
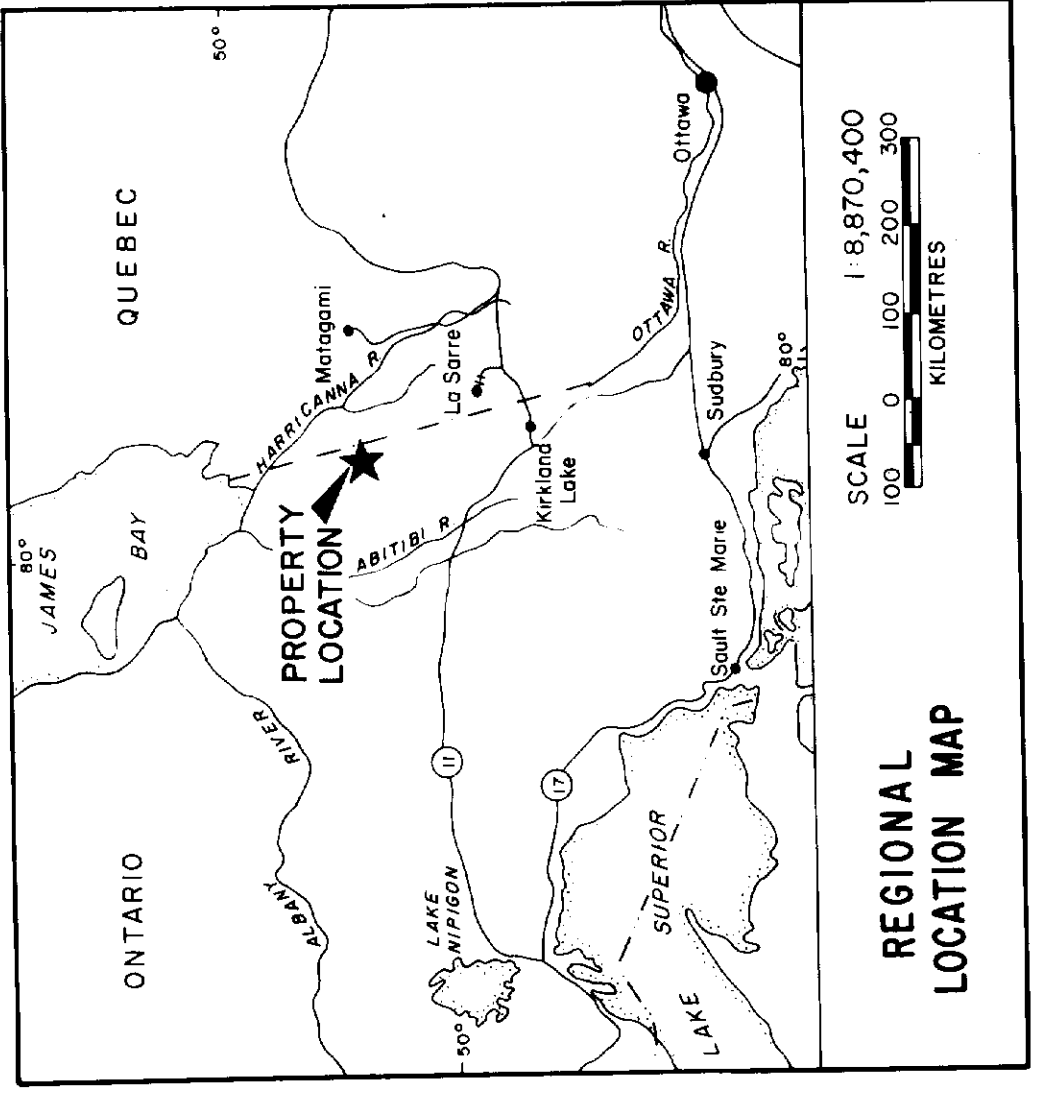
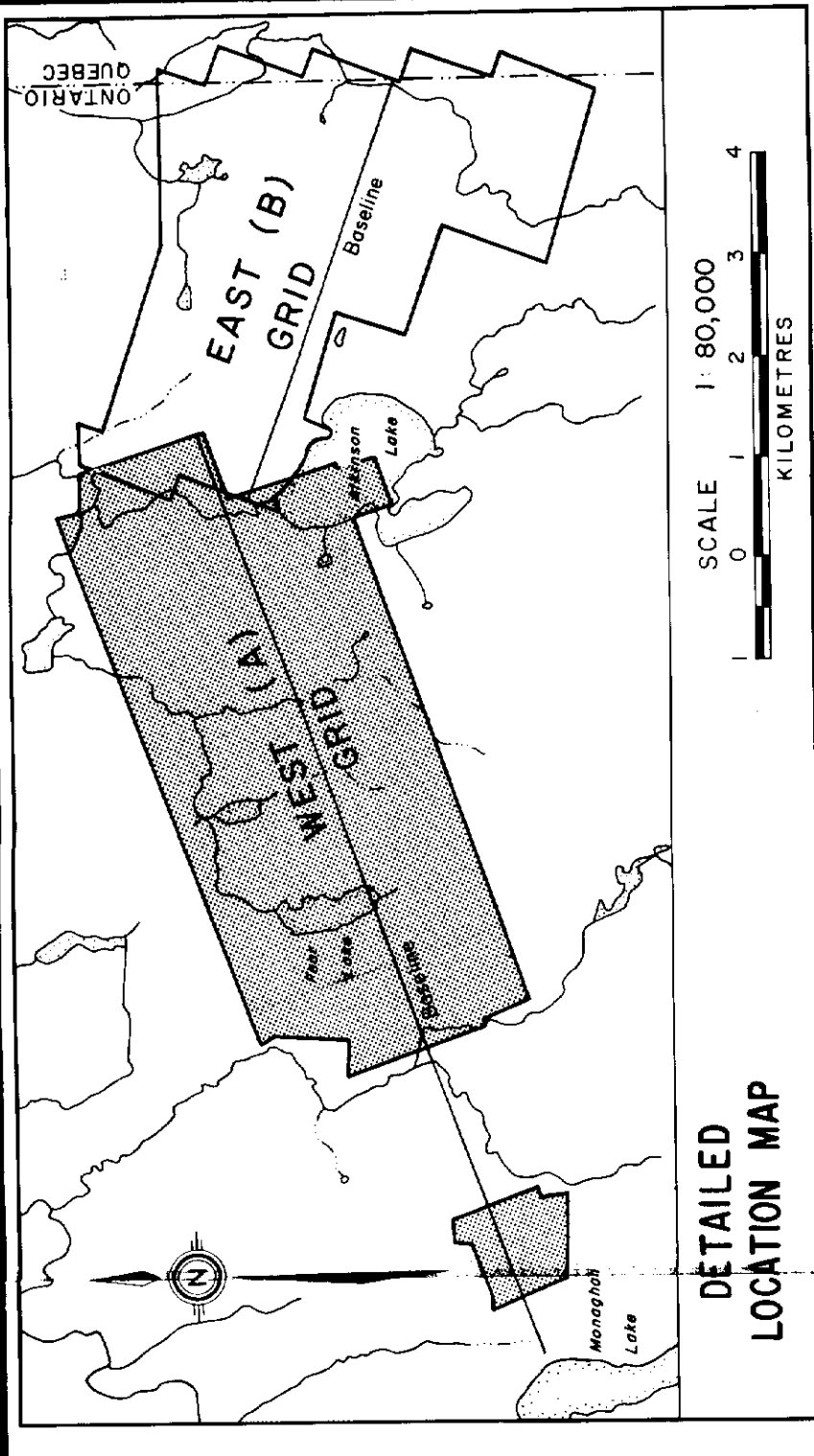


ASSESSMENT WORK
T-24113

GETTY CANADIAN METALS, LIMITED
 DETOUR LAKE PROJECT
 WEST (A) GRID
 MAX MIN II SURVEY-1777Hz

Project No: C-437 By: W.E. BRERETON
 Scale: 1:2,500 Drawn: GCS LIMITED
 Drawing No: A-14 Date: FEBRUARY 1982

MPH Consulting Limited



LEGEND

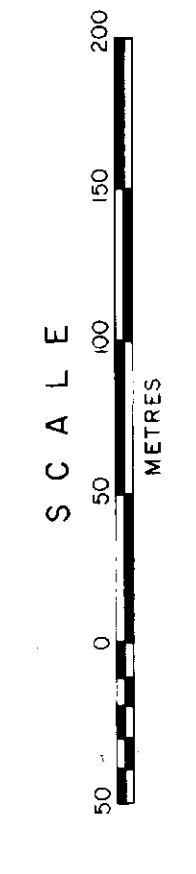
- INSTRUMENT**
G-816 Proton Magnetometer
- Absolute Magnetic Value (gamma)**
Magnetic Contour
Magnetic Depression
- CONTOURS**
1000 gamma
500 gamma
100 gamma
Fault
Conductor Axis

ASSESSMENT WORK
7-2443

DIVISION OF MINES
NORTHWEST TERRITORIES
AUG-5-1983
RECEIVED

SHEET INDEX

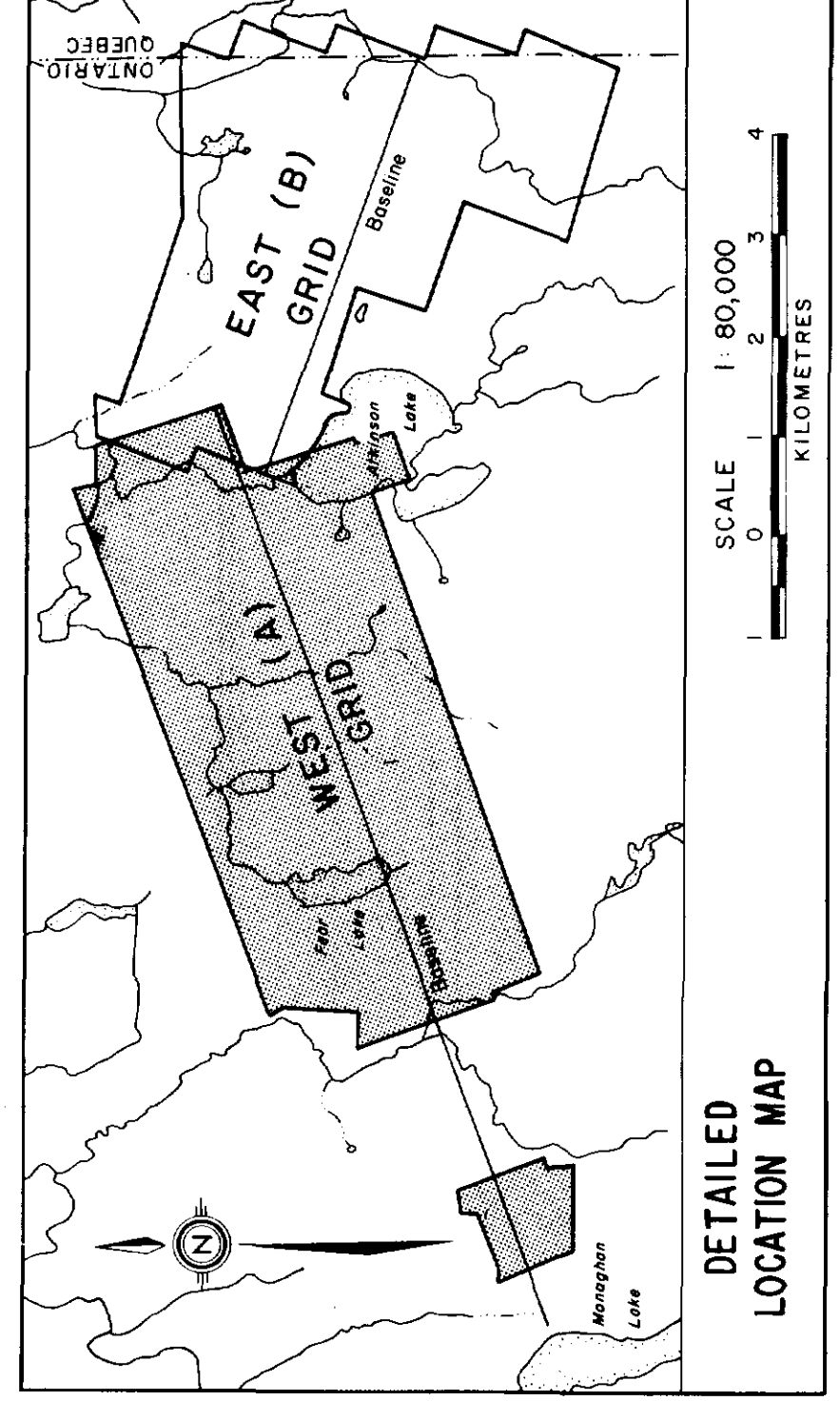
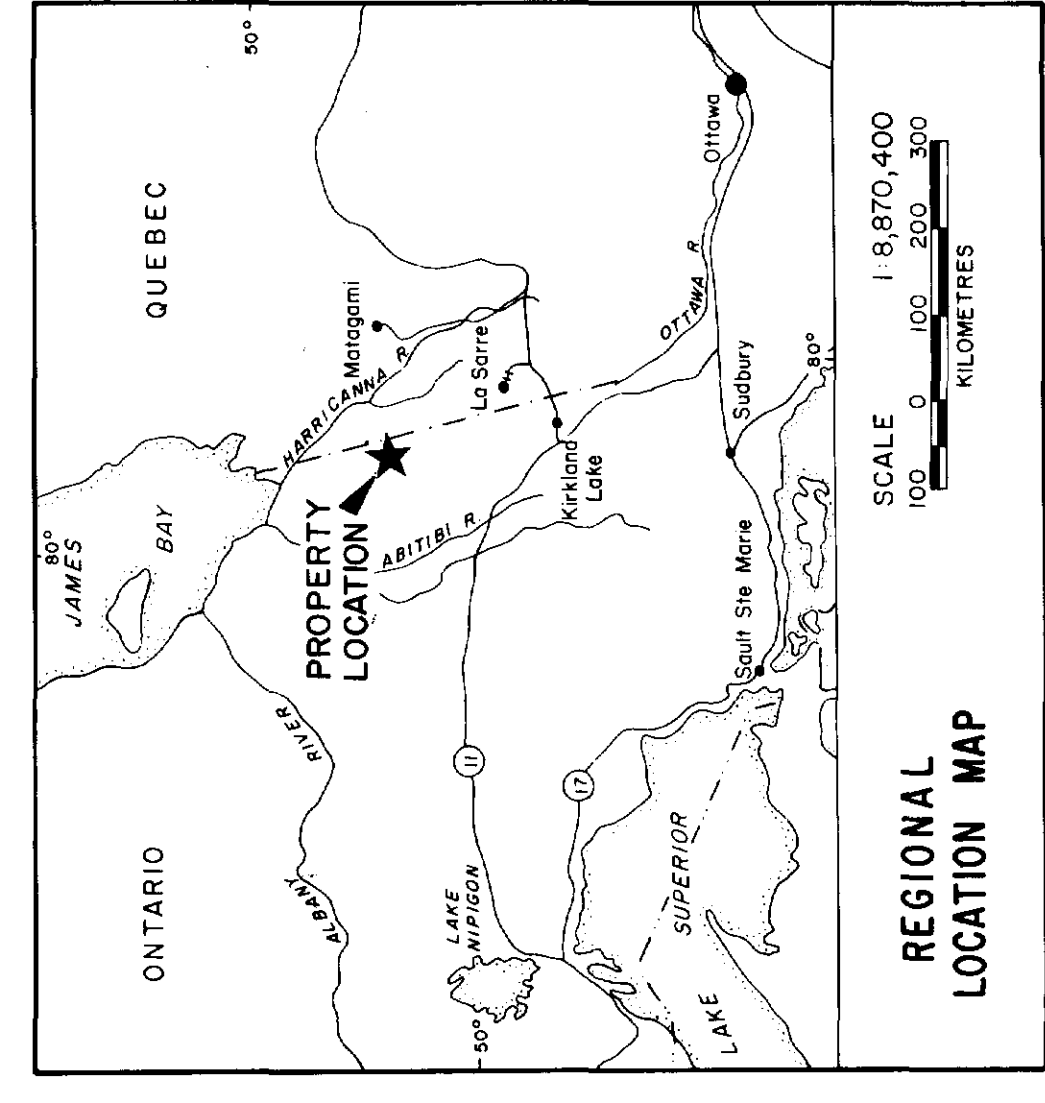
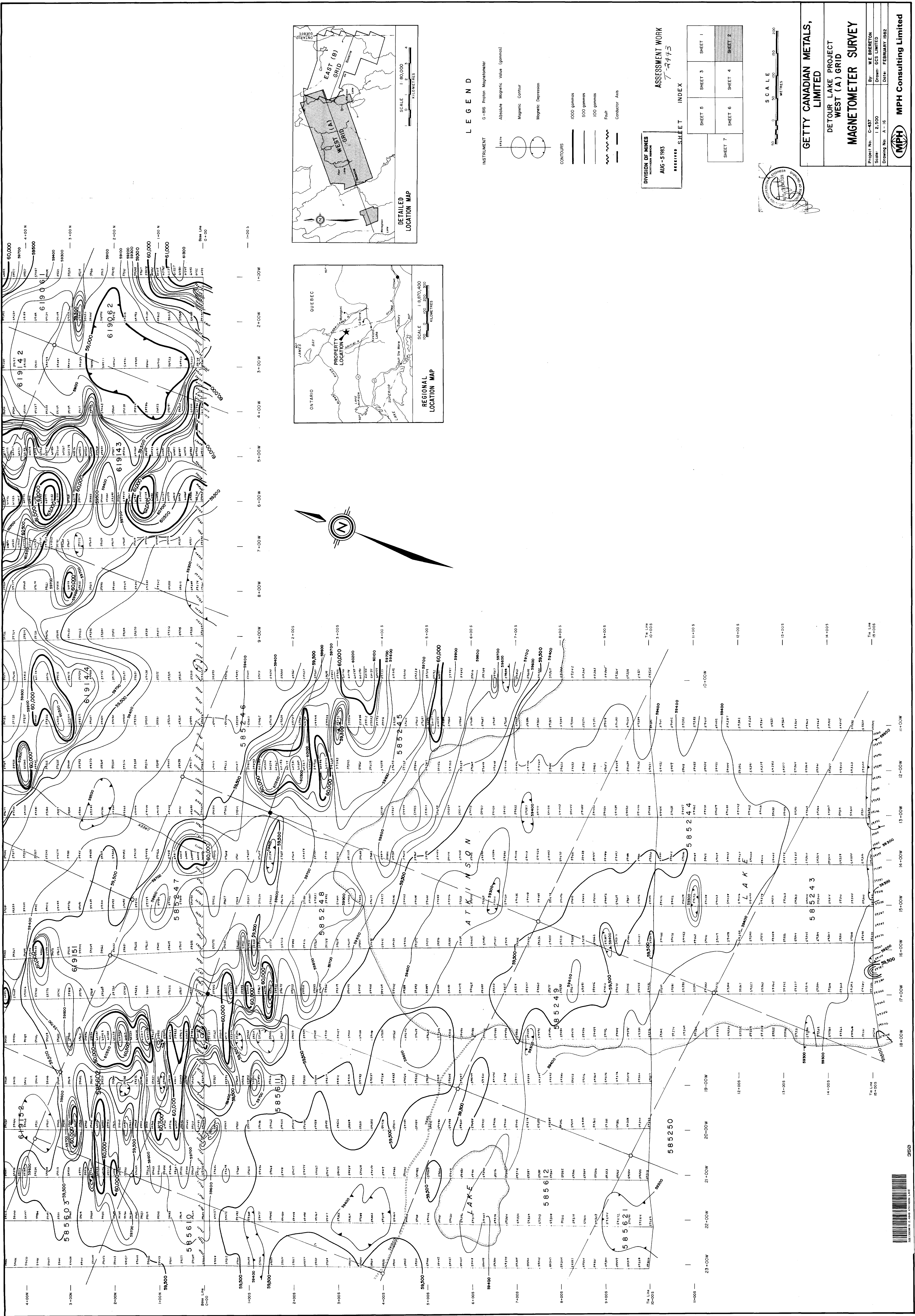
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SHEET 5	SHEET 6
SHEET 7	



GETTY CANADIAN METALS, LIMITED
DETOUR LAKE PROJECT
WEST (A) GRID
MAGNETOMETER SURVEY

Project No. C-437 By: W.E. SHREVEIN
Scale: 1:2,000 Drawn: GCS LIMITED
Drawing No. A-15 Date: FEBRUARY, 1981

MPH MPH Consulting Limited



LEGEND

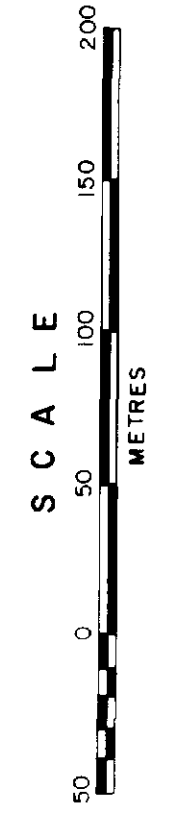
- INSTRUMENT 0-816 Proton Magnetometer
- Absolute Magnetic Value (gammas)
- Magnetic Contour
- Magnetic Depression
- 1000 gammas
- 500 gammas
- 100 gammas
- Fault
- Conductor Axis

DIVISION OF MINES
NORTHERN BRANCH
AUG-5-1983

ASSESSMENT WORK
7-3443

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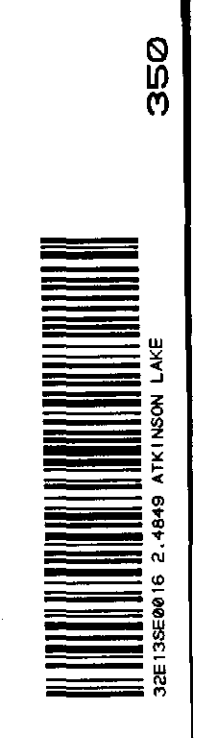


GETTY CANADIAN METALS, LIMITED

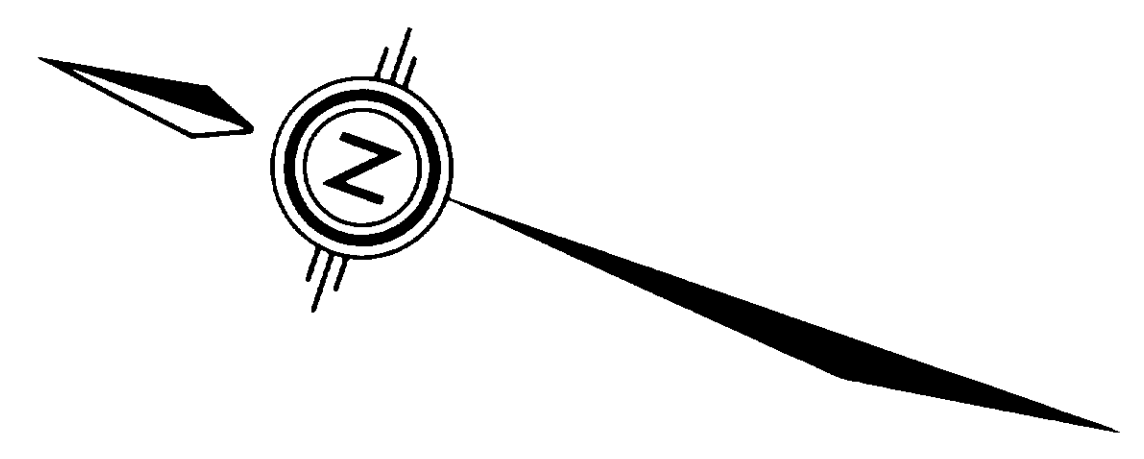
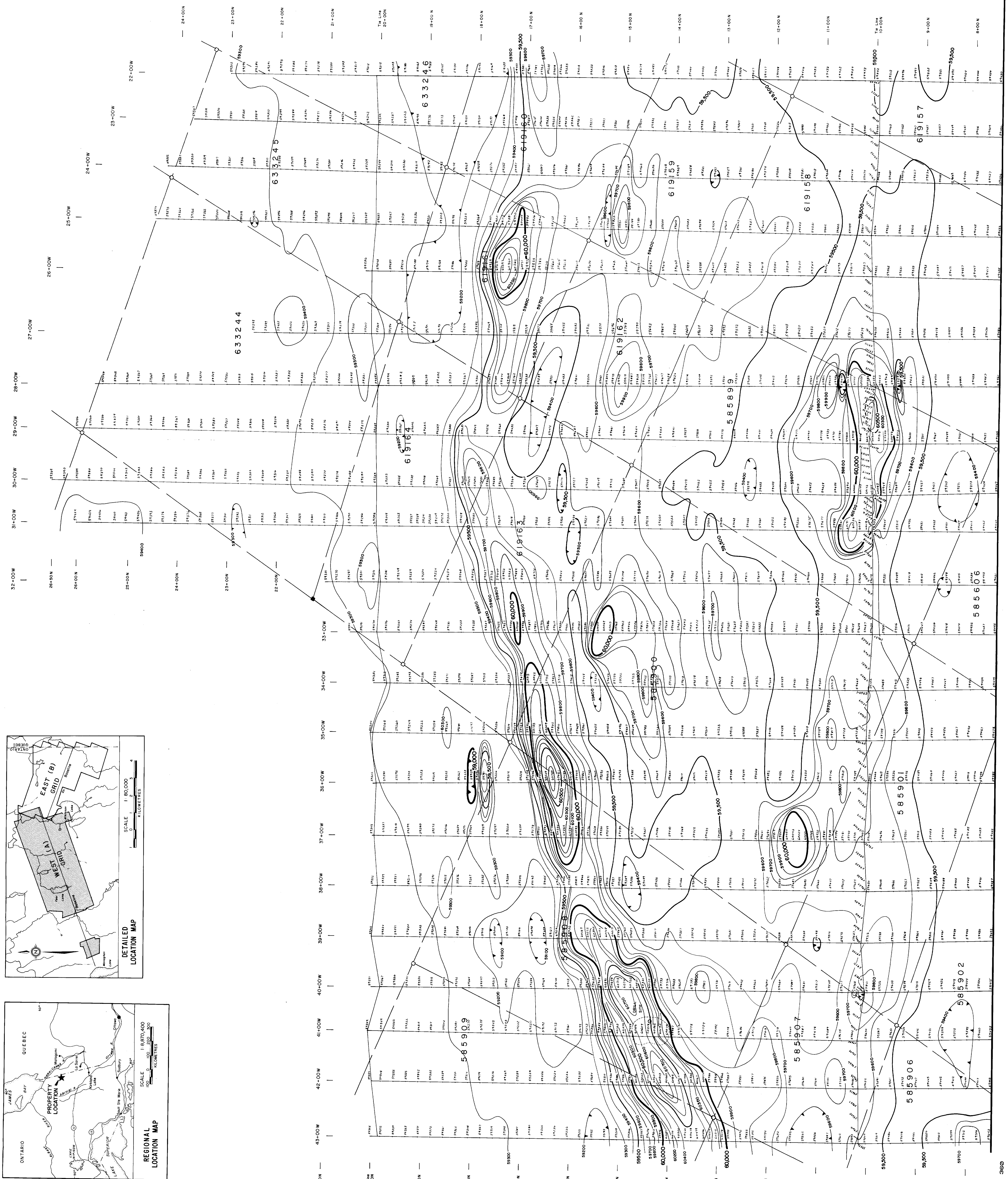
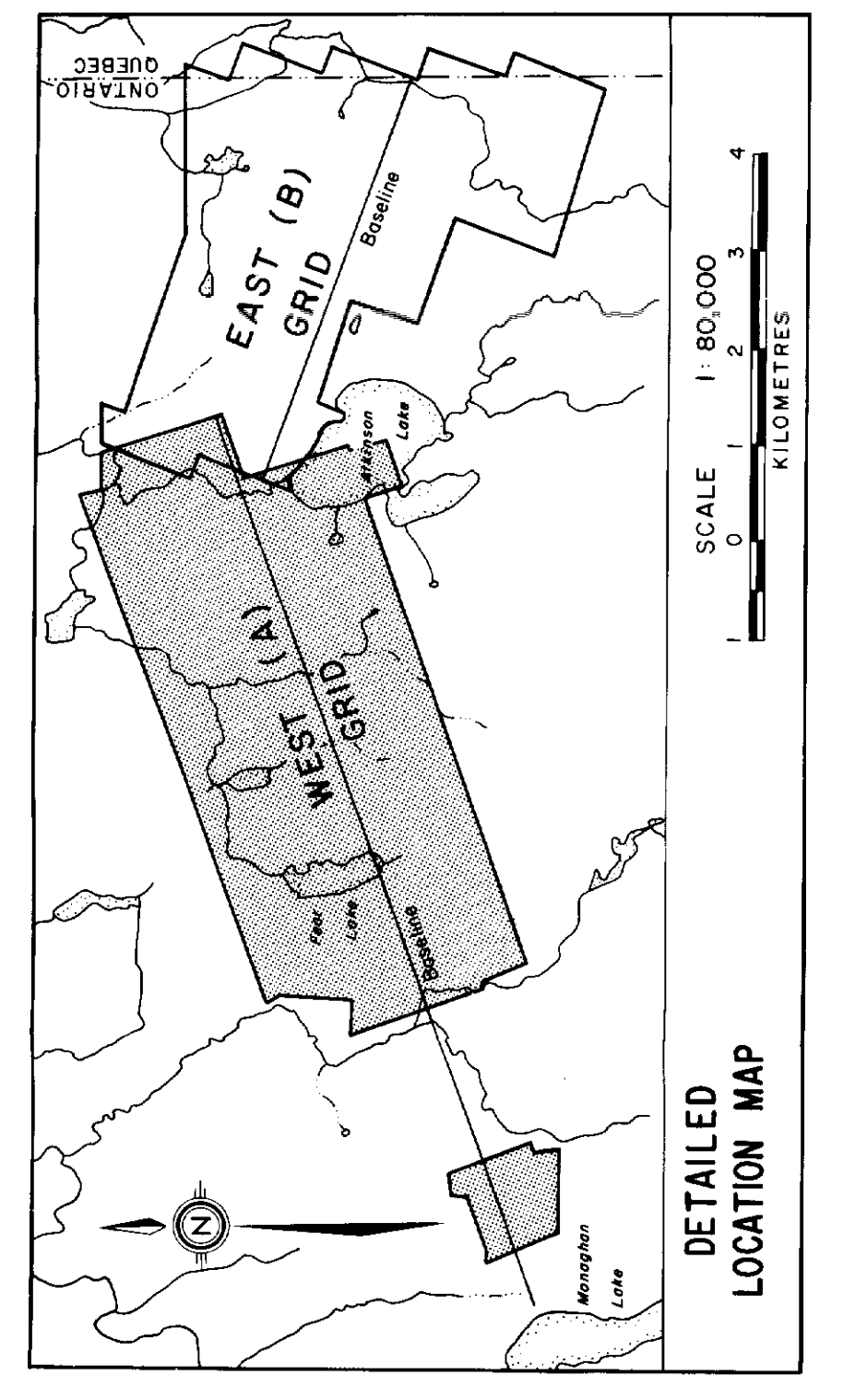
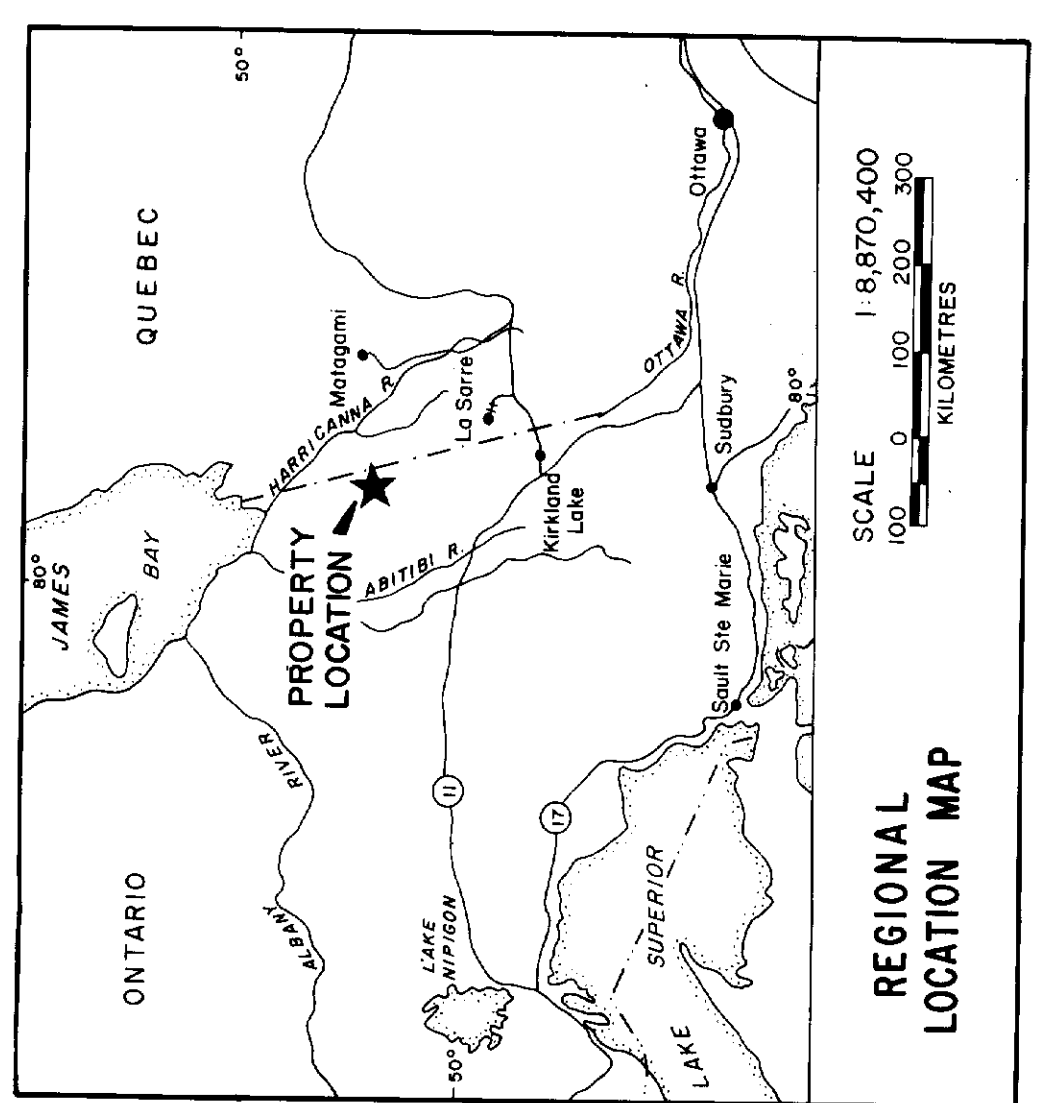
DETOUR LAKE PROJECT
WEST (A) GRID
MAGNETOMETER SURVEY

Project No: C-437 By: W.E. BRERETON
Scale: 1:2,500 Drawn: GCS LIMITED
Drawing No: A-16 Date: FEBRUARY 1982

MPH MPH Consulting Limited



3550



LEGEND

- INSTRUMENT**
 6-816 Proton Magnetometer
- Aberrate Magnetic Value (gamma)**
 Magnetic Contour
 Magnetic Depression
- CONTOURS**
 1000 gamma
 500 gamma
 100 gamma
 Fault
 Conductor Axis

DIVISION OF MINES
 ONTARIO
 AUG-5-93

ASSESSMENT WORK
 7-2443

SHEET INDEX

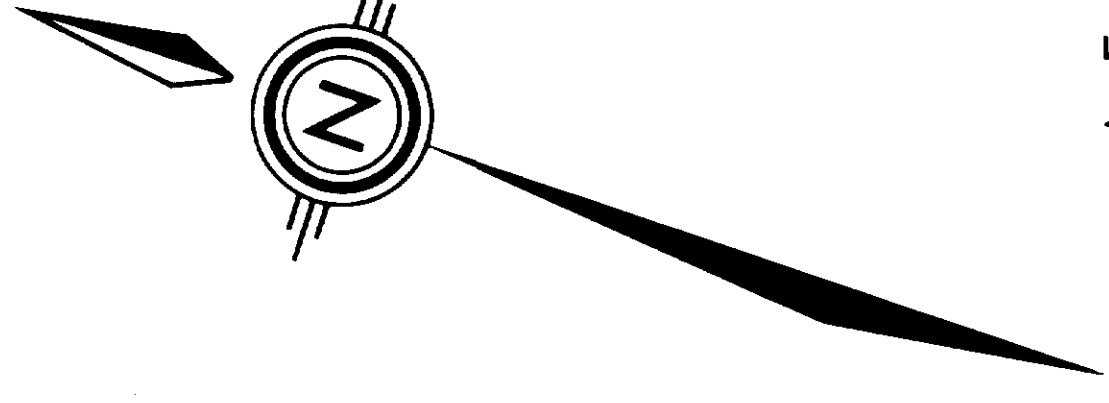
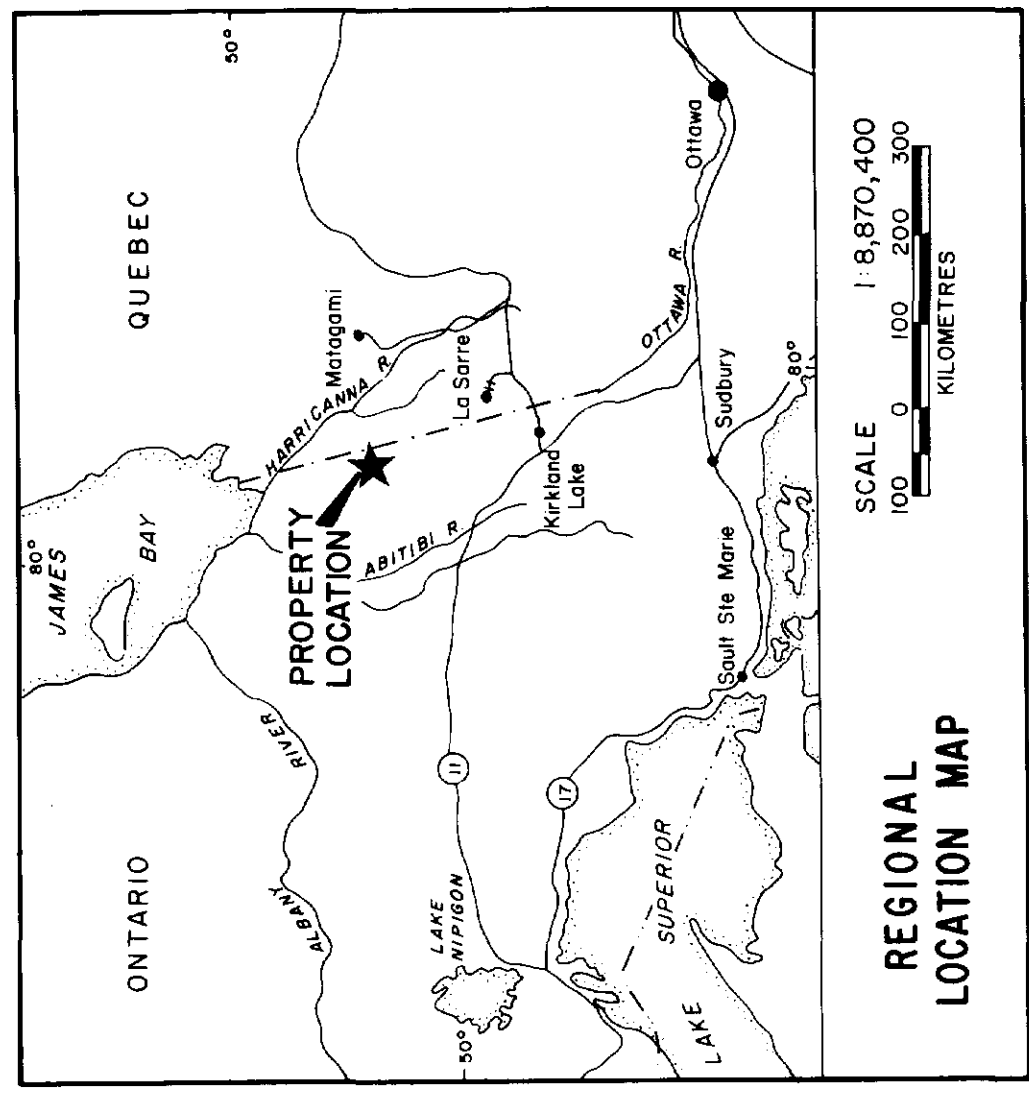
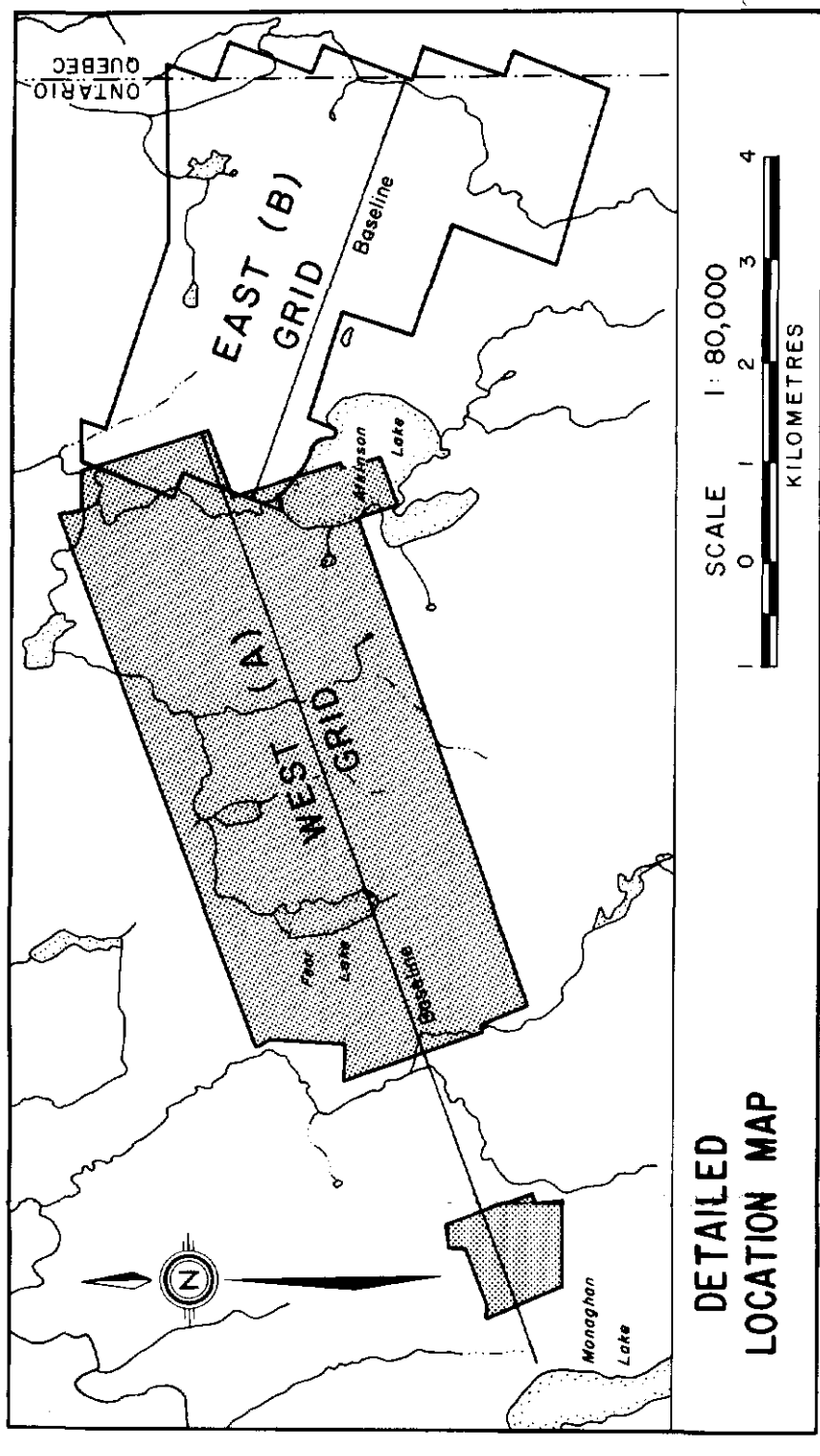
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GETTY CANADIAN METALS, LIMITED
 DETOUR LAKE PROJECT
 WEST (A) GRID
 MAGNETOMETER SURVEY

Project No: C-437 By: W.E. BREKTON
 Scale: 1:2,500 Drawn: GCS LIMITED
 Drawing No: A-17 Date: FEBRUARY 1992

MPH MPH Consulting Limited

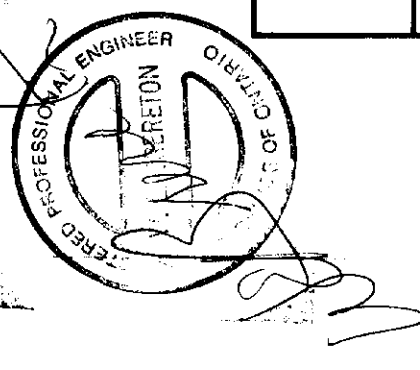


LEGEND

- INSTRUMENT G-818 Proton Magnetometer
- Absolute Magnetic Value (gamma)
- Magnetic Colour
- Magnetic Depression
- CONTOURS
 - 1000 gamma
 - 500 gamma
 - 100 gamma
 - Fault
 - Conductor Axis

DIVISION OF MINES
 RECEIVED
 AUG-5 '83
 7-3443

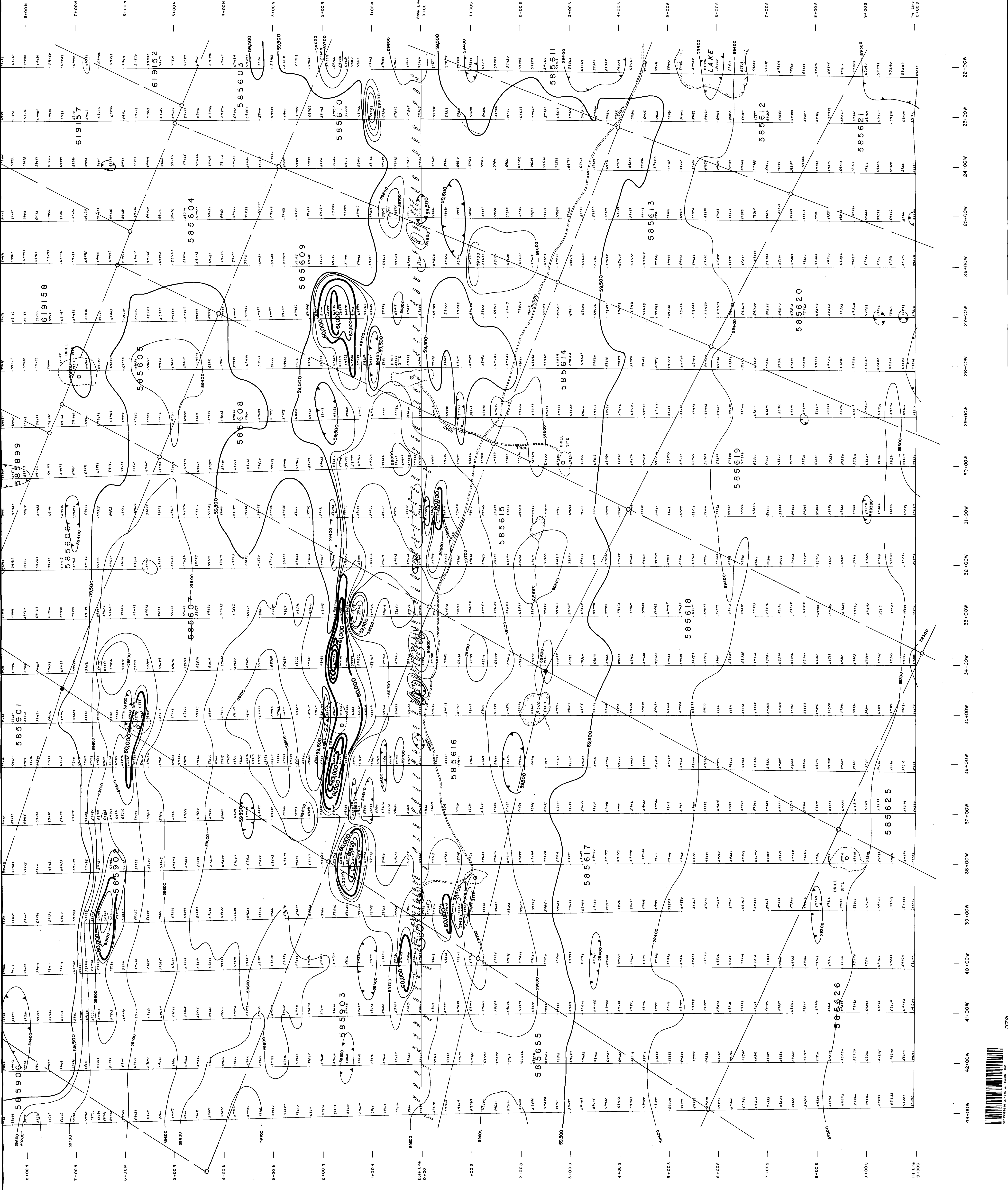
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SHEET 6	SHEET 4
SHEET 7	SHEET 2
SHEET 1	SHEET 8

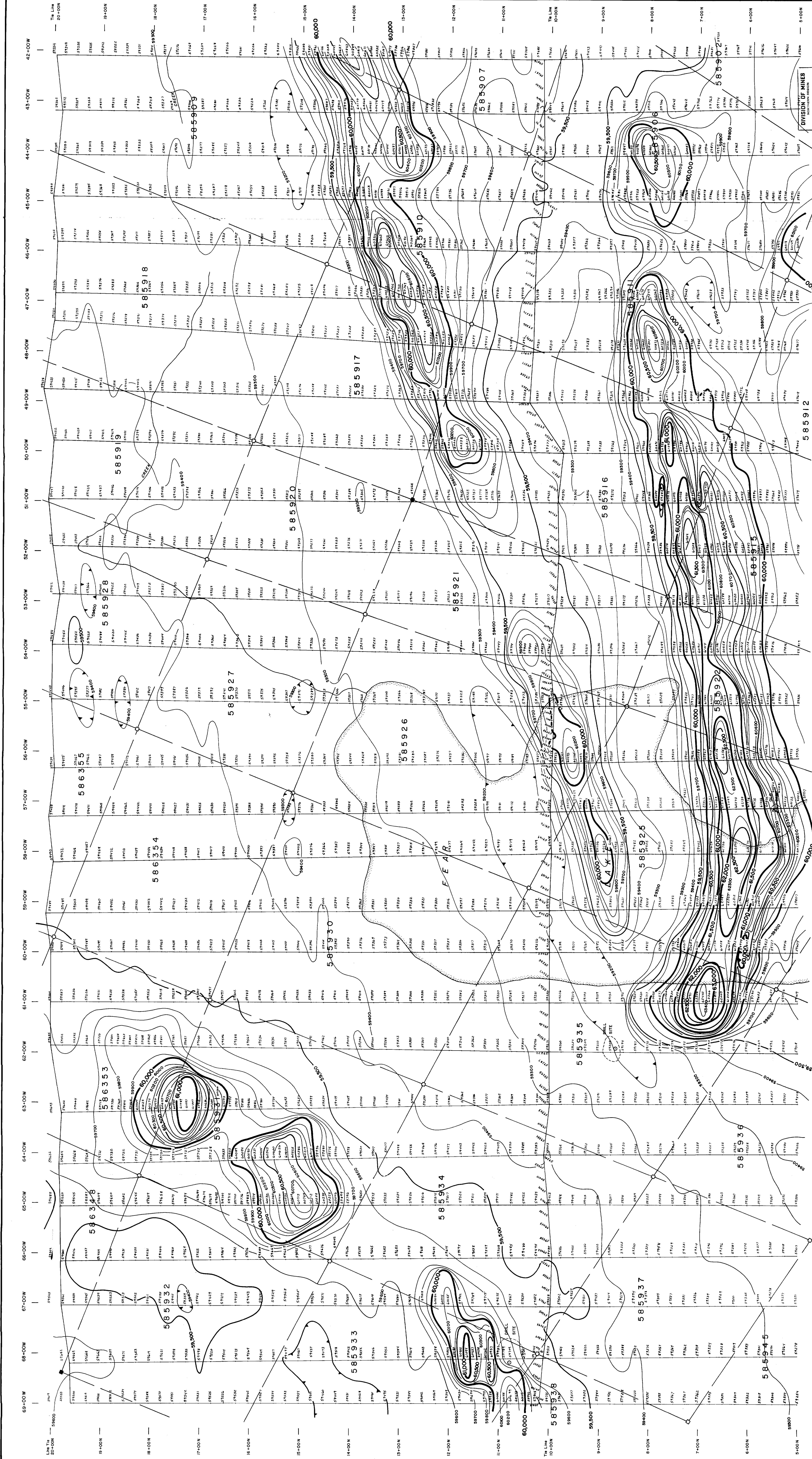


GETTY CANADIAN METALS, LIMITED
 DETOUR LAKE PROJECT
 WEST (A) GRID
MAGNETOMETER SURVEY

Project No: C-437 By: W.E. BRETON
 Scale: 1:2,500 Drawn: GCS LIMITED
 Drawing No: A-18 Date: FEBRUARY 1982

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AUG-8 '83

ASSESSMENT WORK
7-3443

SCALE
0 50 100 METRES

DIVISION OF MINES
NORTHWEST TERRITORIES

GETTY CANADIAN METALS, LIMITED

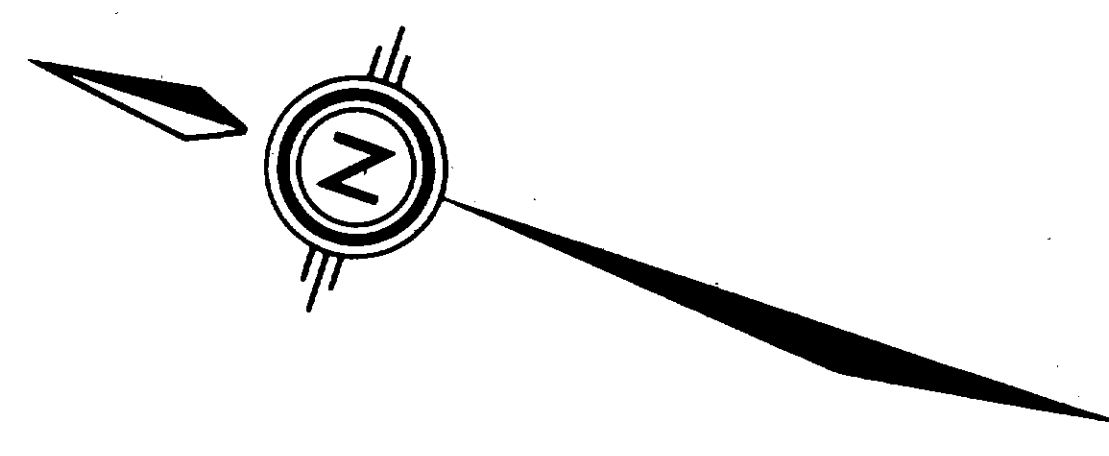
DETOUR LAKE PROJECT
WEST (A) GRID
MAGNETOMETER SURVEY

Project No: C-437 By: W.E. BRERETON
Scale: 1:2500 Drawn: G.S. LIMITED
Drawing No: A-19 Date: FEBRUARY 1982

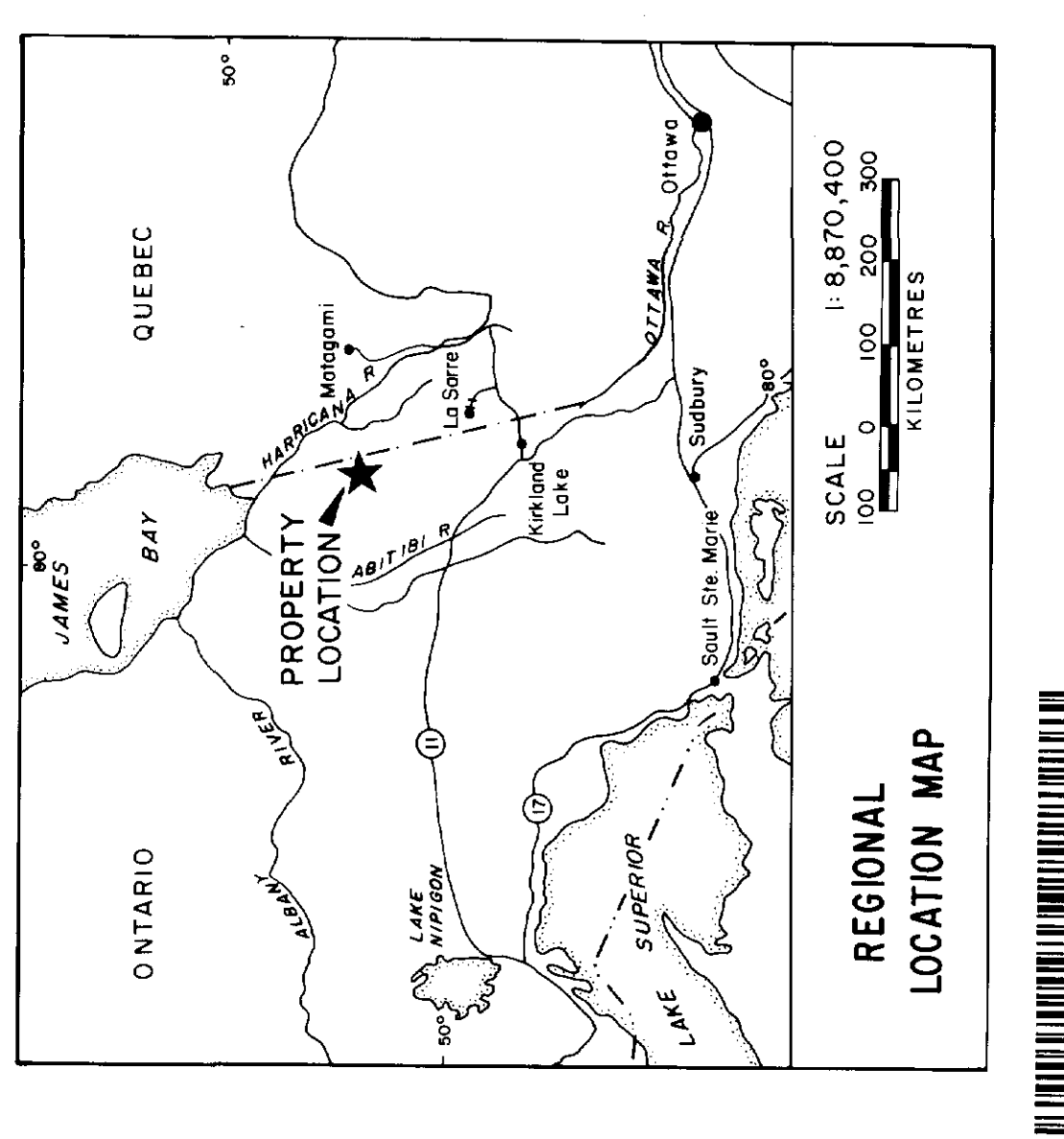
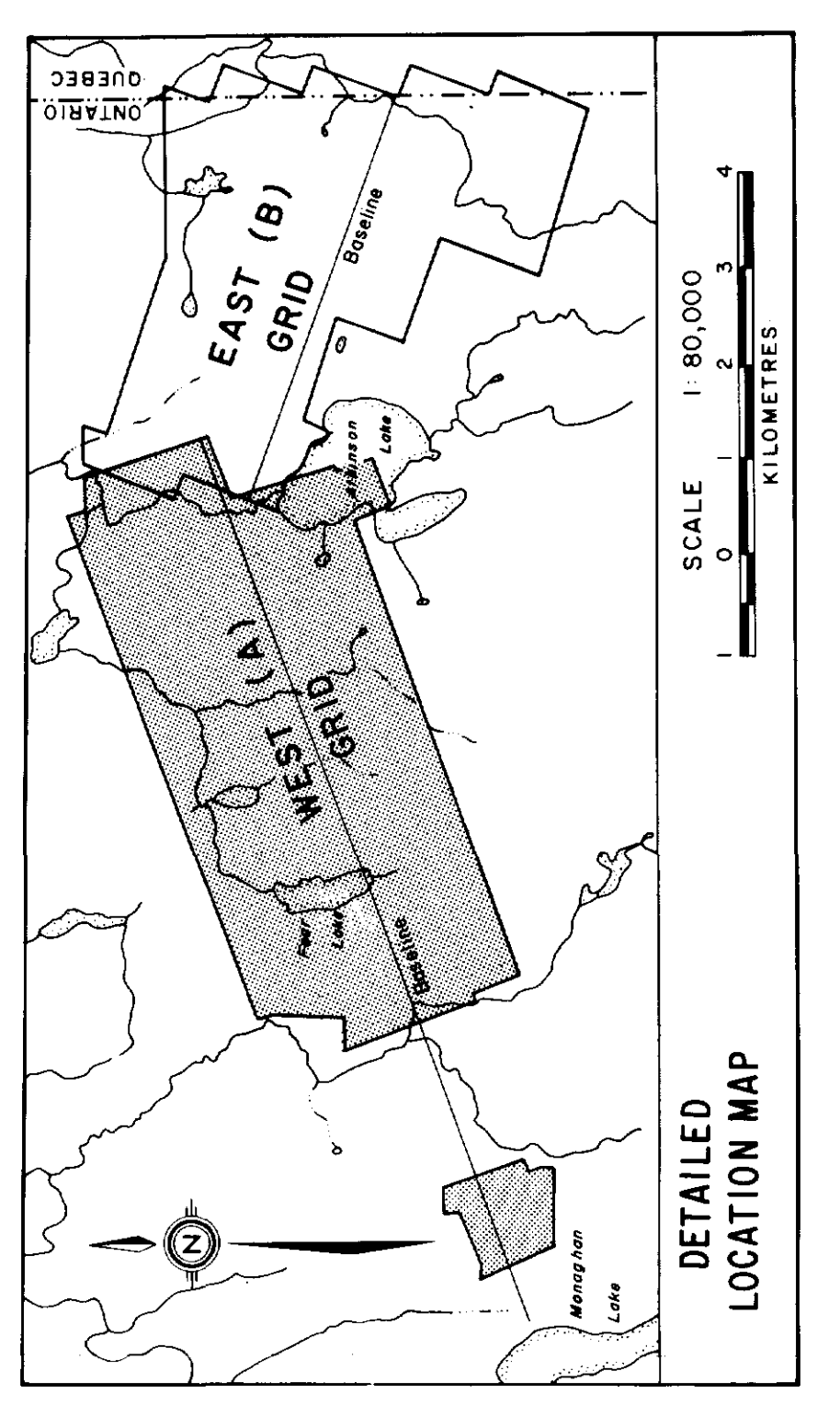
MPH Consulting Limited

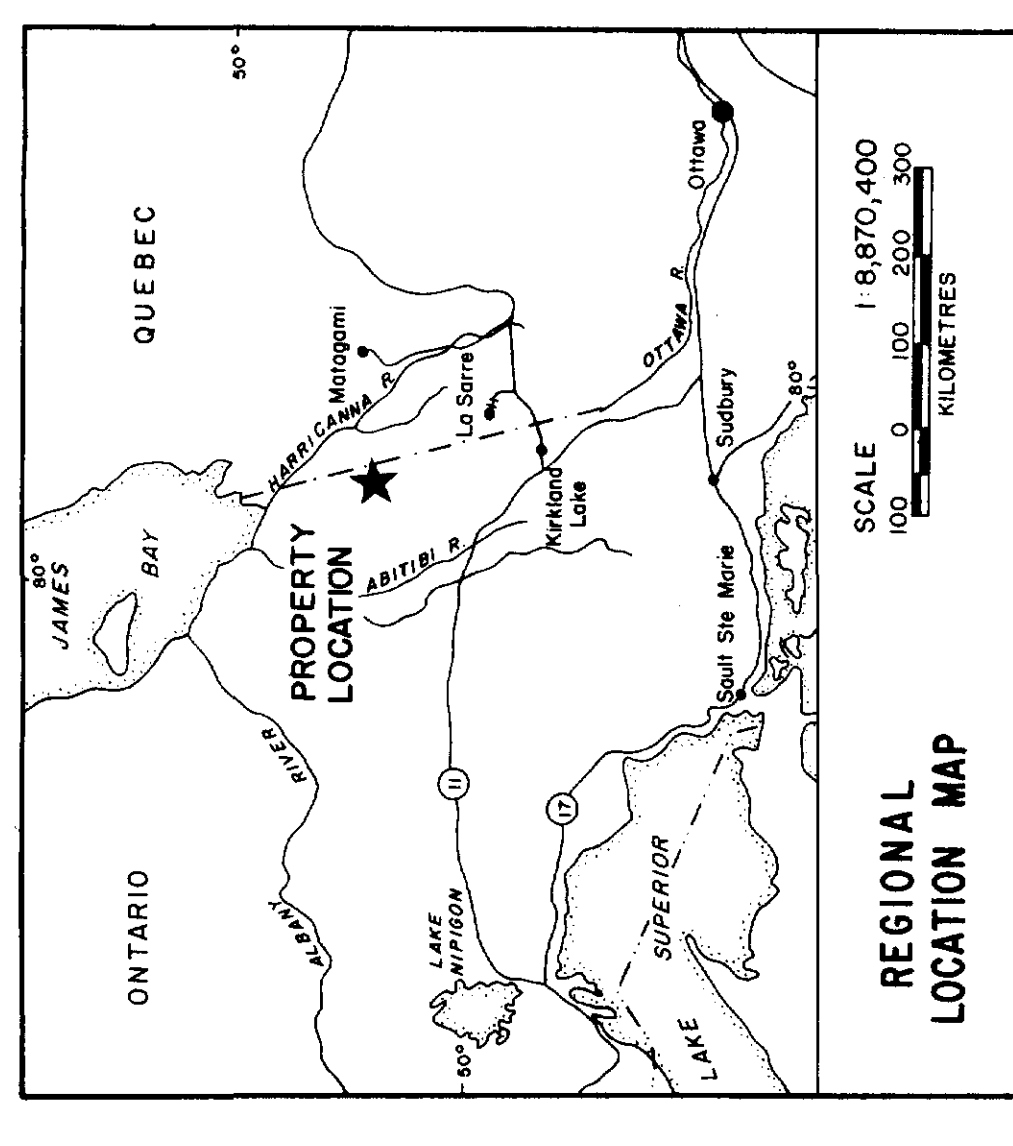
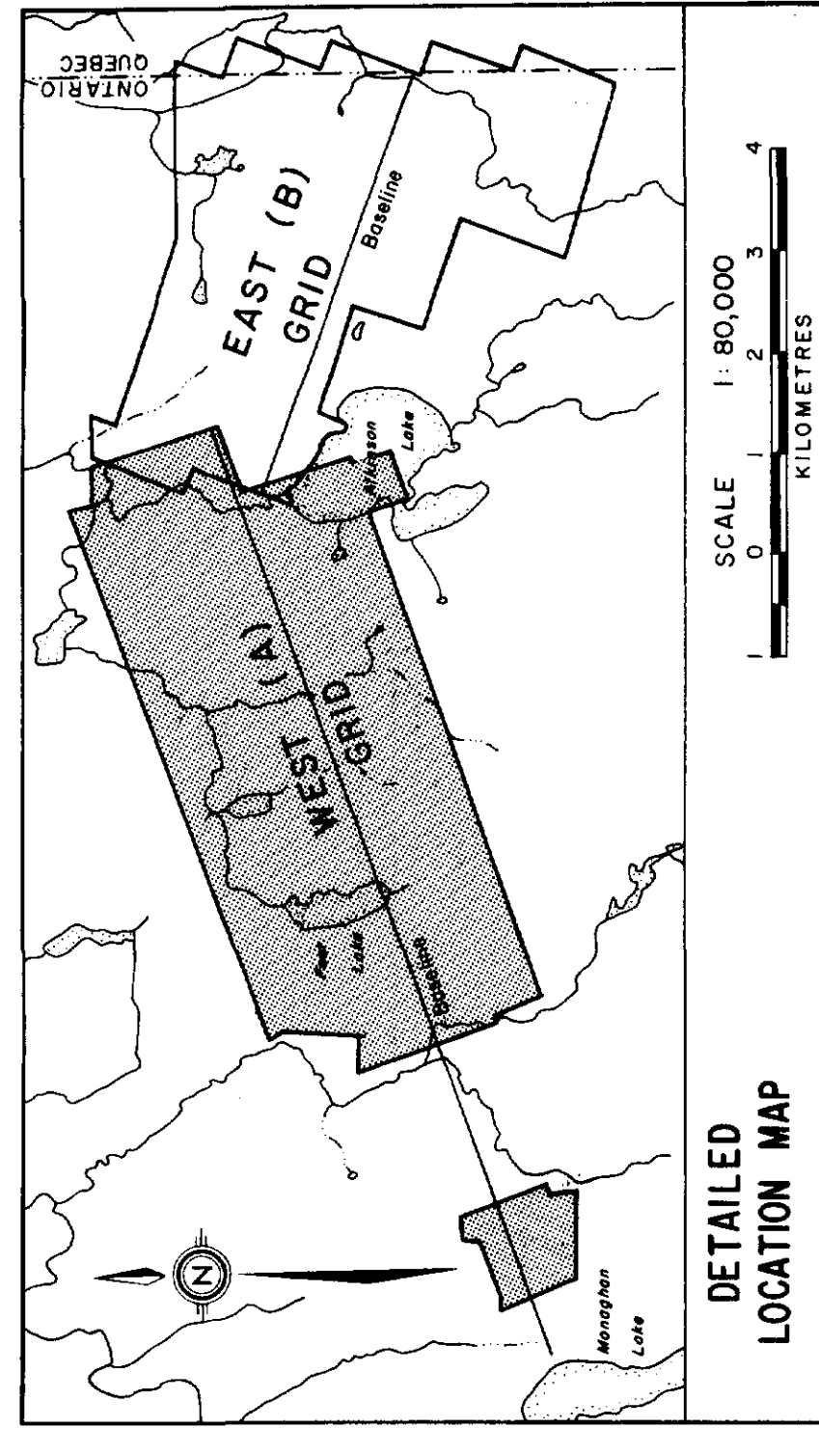
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SHEET 6	SHEET 4	SHEET 2	
	SHEET 7		



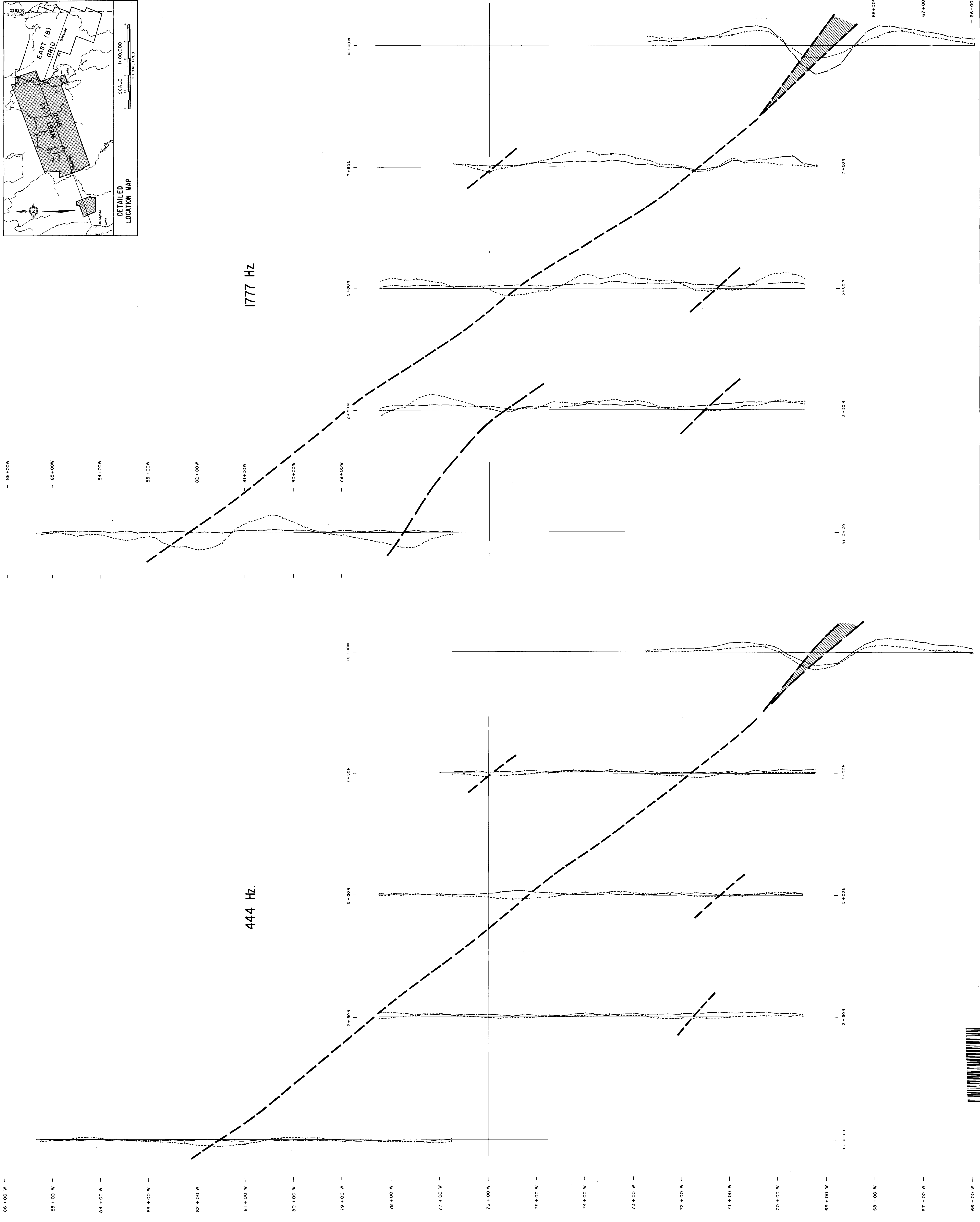
- LEGEND**
- INSTRUMENT**
- 0-816 Proton Magnetometer
 - Absolute Magnetic Value (gamma)
 - Magnetic Contour
 - Magnetic Depression
- CONTOURS**
- 1000 gamma
 - 500 gamma
 - 100 gamma
 - Fault
 - Conductor Axis





LEGEND

- INSTRUMENT Apex Brumatics Max Min II
 - CABLE LENGTH 150 metres
 - Impulse Profile
 - Quadrature Profile
 - Piling Designation
 - Profile Scale (cm = 10%)
- Max. Min. Conductor with midspan, to string with inferred width.

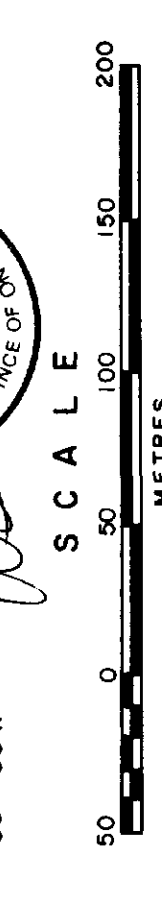


444 Hz.

1777 Hz.

ASSESSMENT WORK
T-2443

DIVISION OF MINES
AUG-8 1983
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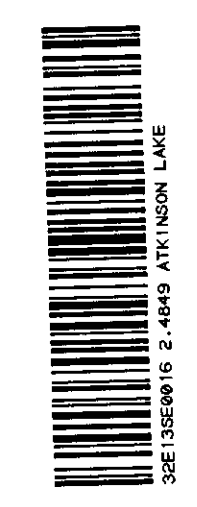


GETTY CANADIAN METALS, LIMITED

DETOUR LAKE PROJECT
WEST (A) GRID
MAX MIN II SURVEY

Project No. C-437 By: W.E. BRETON
Scale: 1:2,500 Drawn: G.C.S. LIMITED
Drawing No. A-22 Date: FEBRUARY 1982

MPH Consulting Limited



444 Hz

1777 Hz



DIVISION OF MINES
 METALS, L.A. PROVINCE
 AUG - 5 '73
 REVELLARD

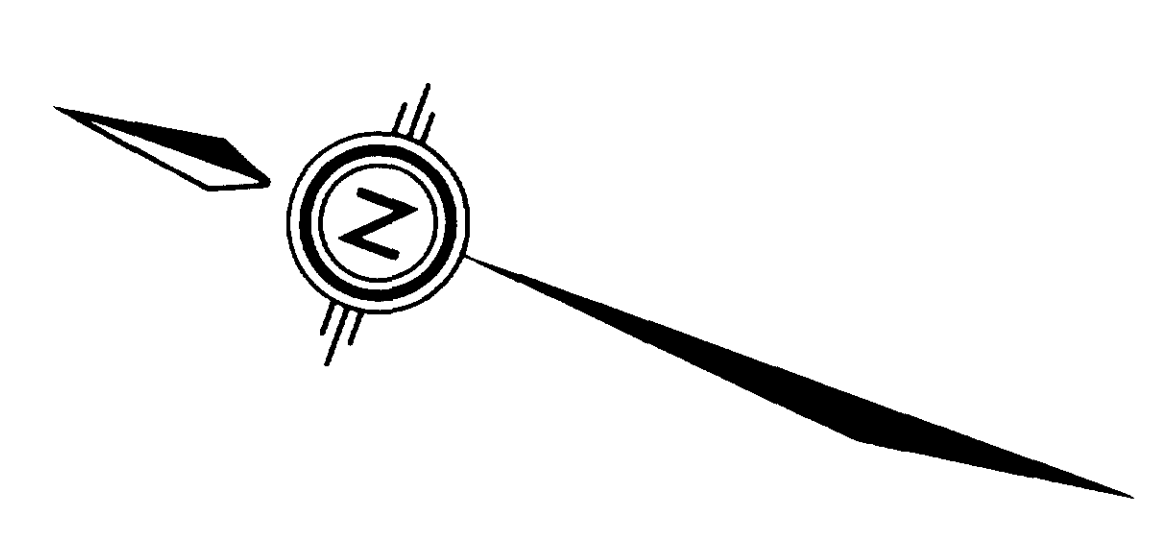
SCALE
 0 50 100 200
 METRES

ASPECT RATIO
 7-3/4/83

GETTY CANADIAN METALS, LIMITED
 DETOUR LAKE PROJECT
 WEST (A) GRID
MAX MIN II SURVEY

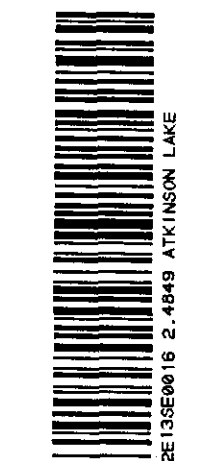
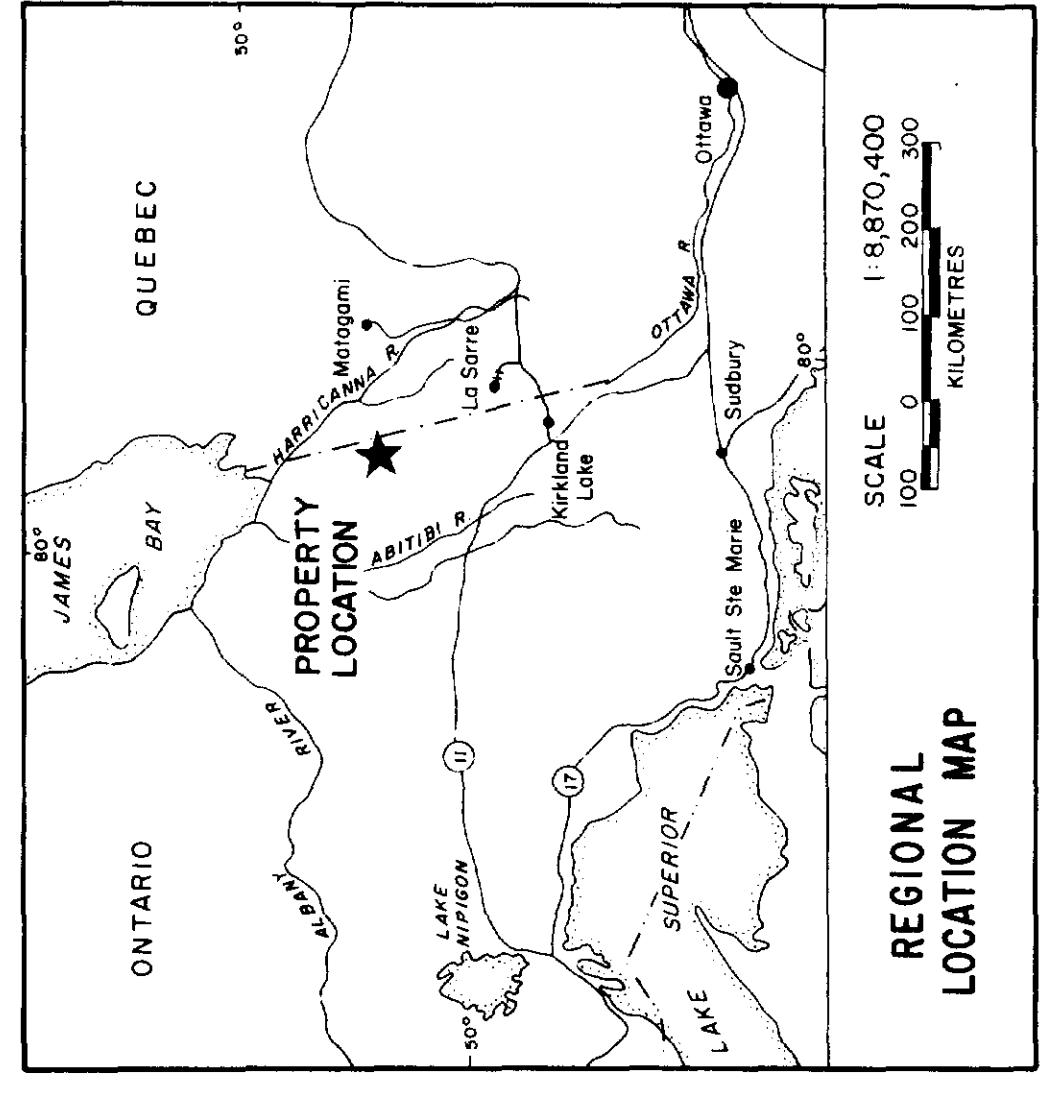
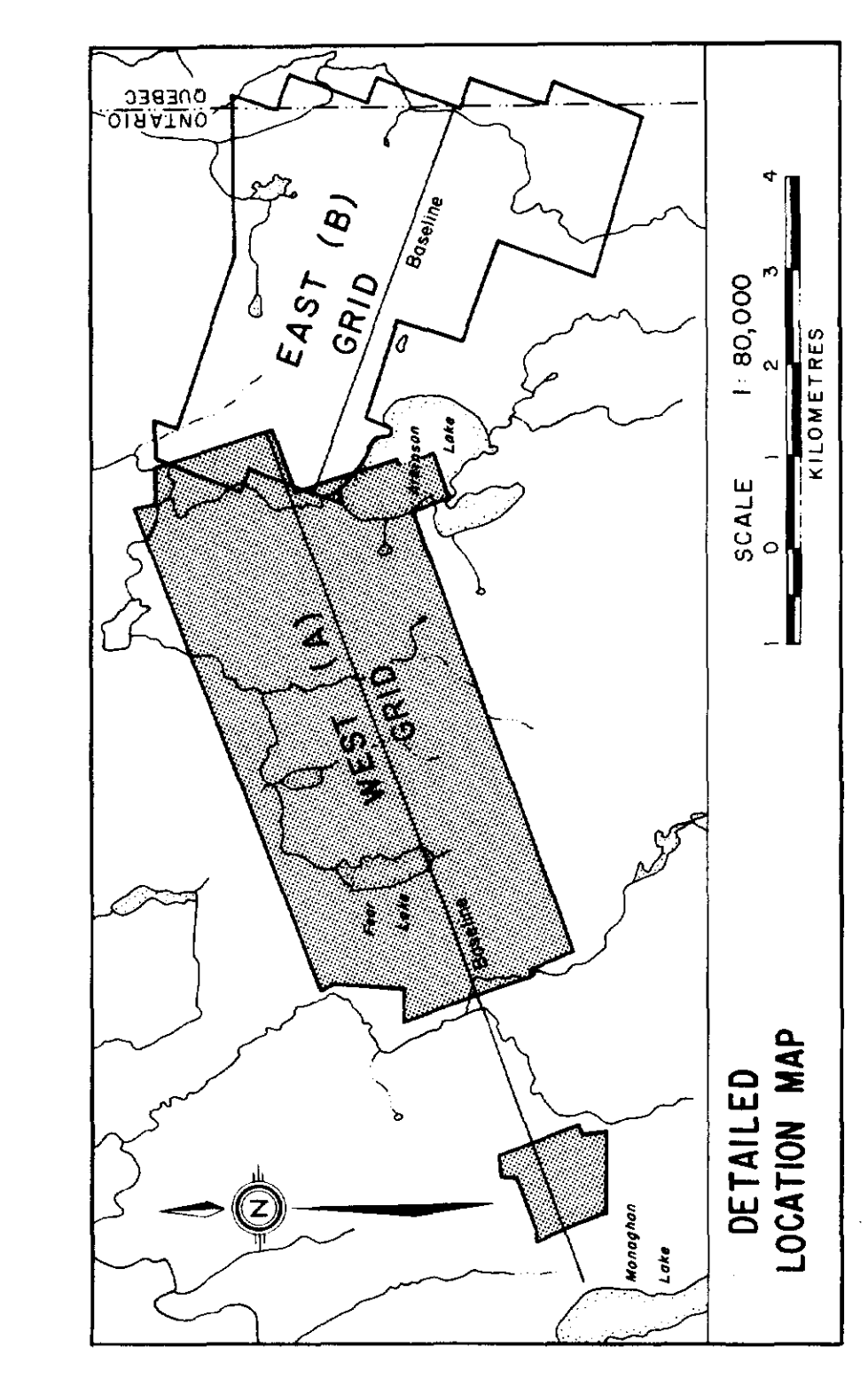
Project No. C-437 By: W.E. BREYTON
 Scale: 1:2,500 Drawn: GCS LIMITED
 Drawing No. A-23 Date: FEBRUARY 1982

MPH Consulting Limited



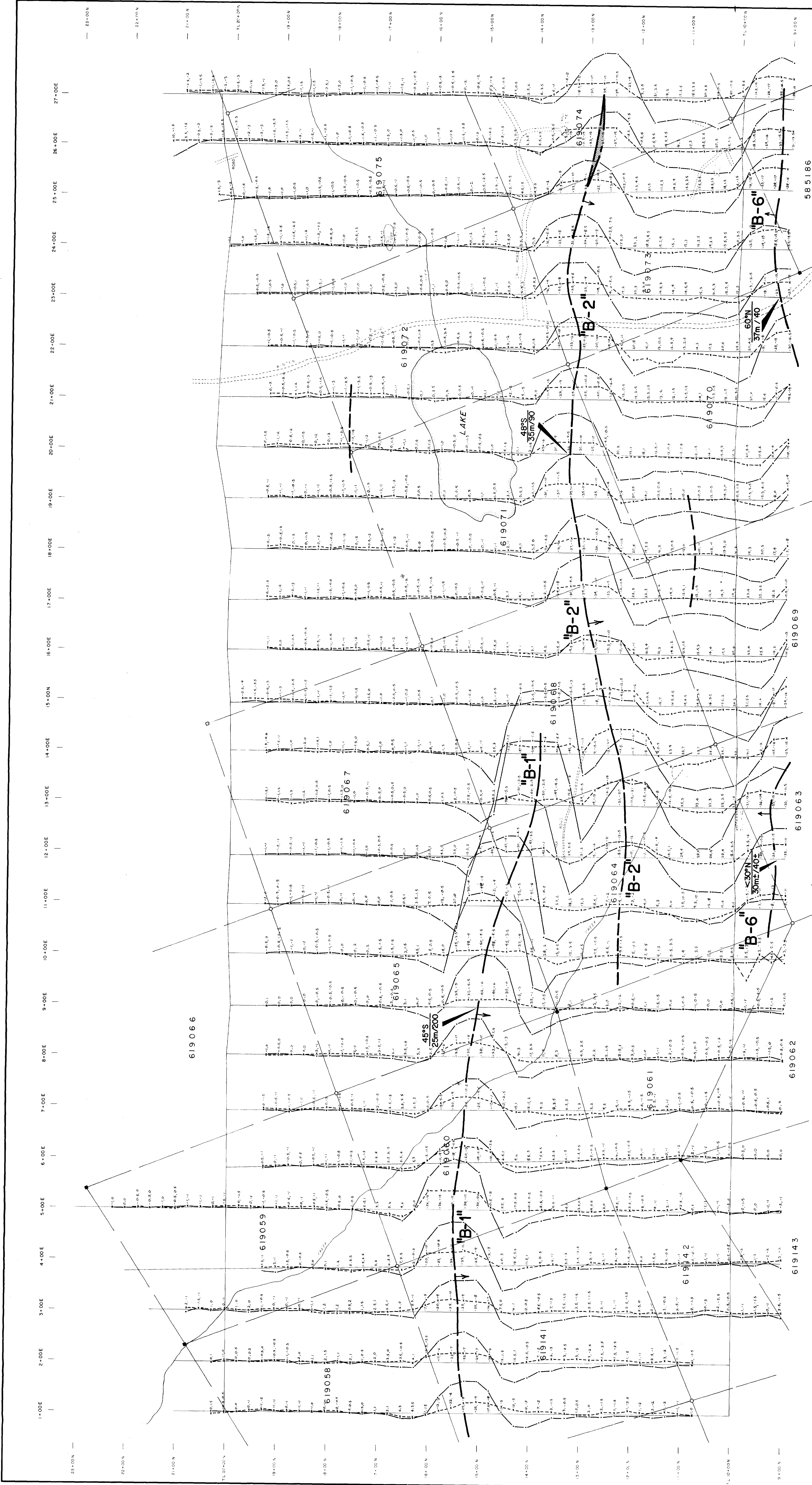
LEGEND

- INSTRUMENT Apex Perennials, Max Min II
- CABLE LENGTH 100 metres
- Profile Profile
- Quadrature Profile
- Plotting Designation
- Profile Scale (cm=10%)
- Conductor Axis
- Interposed Dip



4-20

2.8.83



DIVISION OF MINES
ASSESSMENT WORK
AUG-5-983
REVISED

SCALE 1:2443

585186

GETTY CANADIAN METALS, LIMITED
DETOUR LAKE PROJECT
EAST (B) GRID
MAX MIN II SURVEY 444 HZ

Project No. C-437
By: W.E. BREWSTER
Scale: 1:2,500
Drawing No. B-1
Date: JANUARY 1982

MPH MPH Consulting Limited

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	SHEET 5

LEGEND

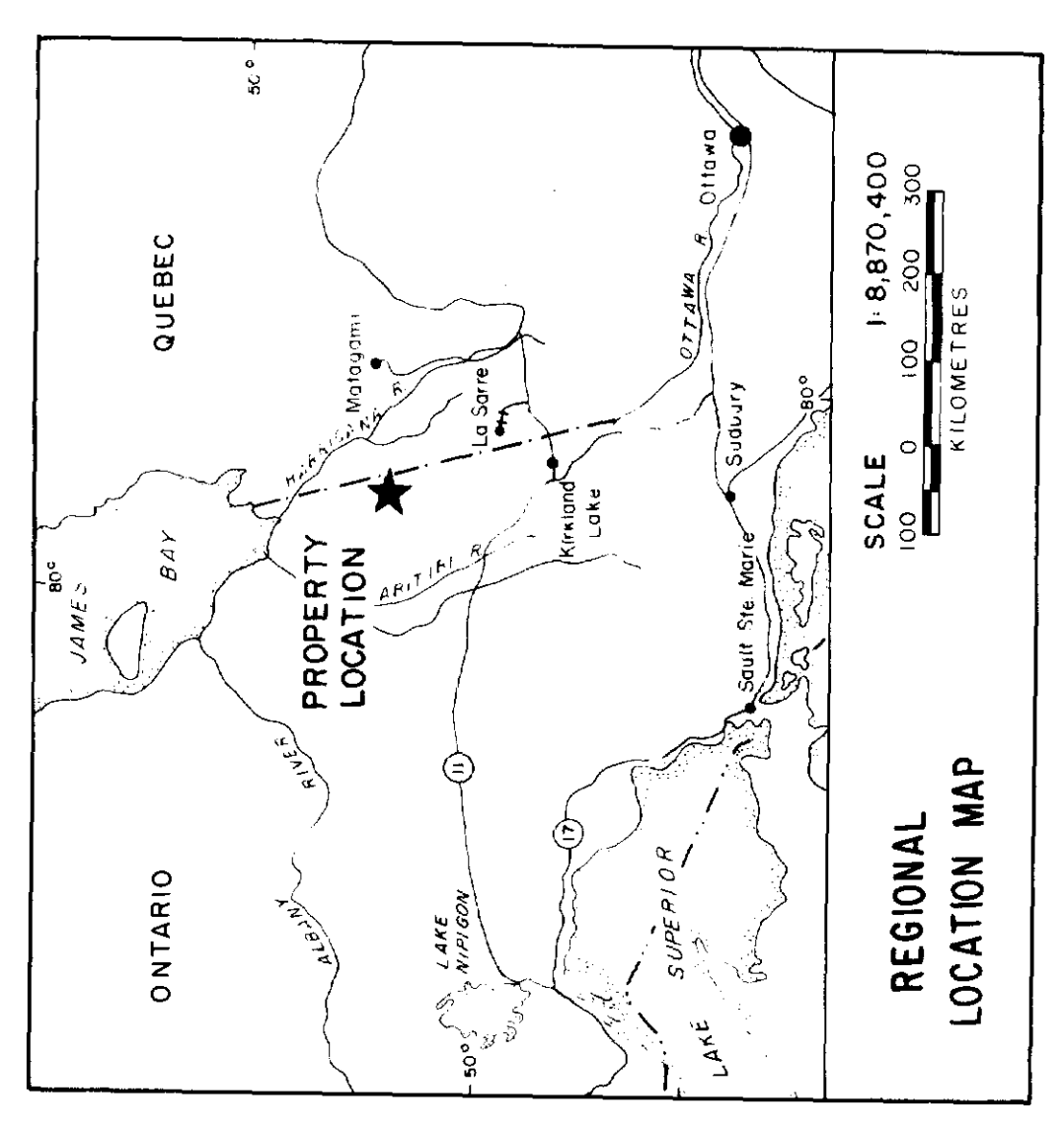
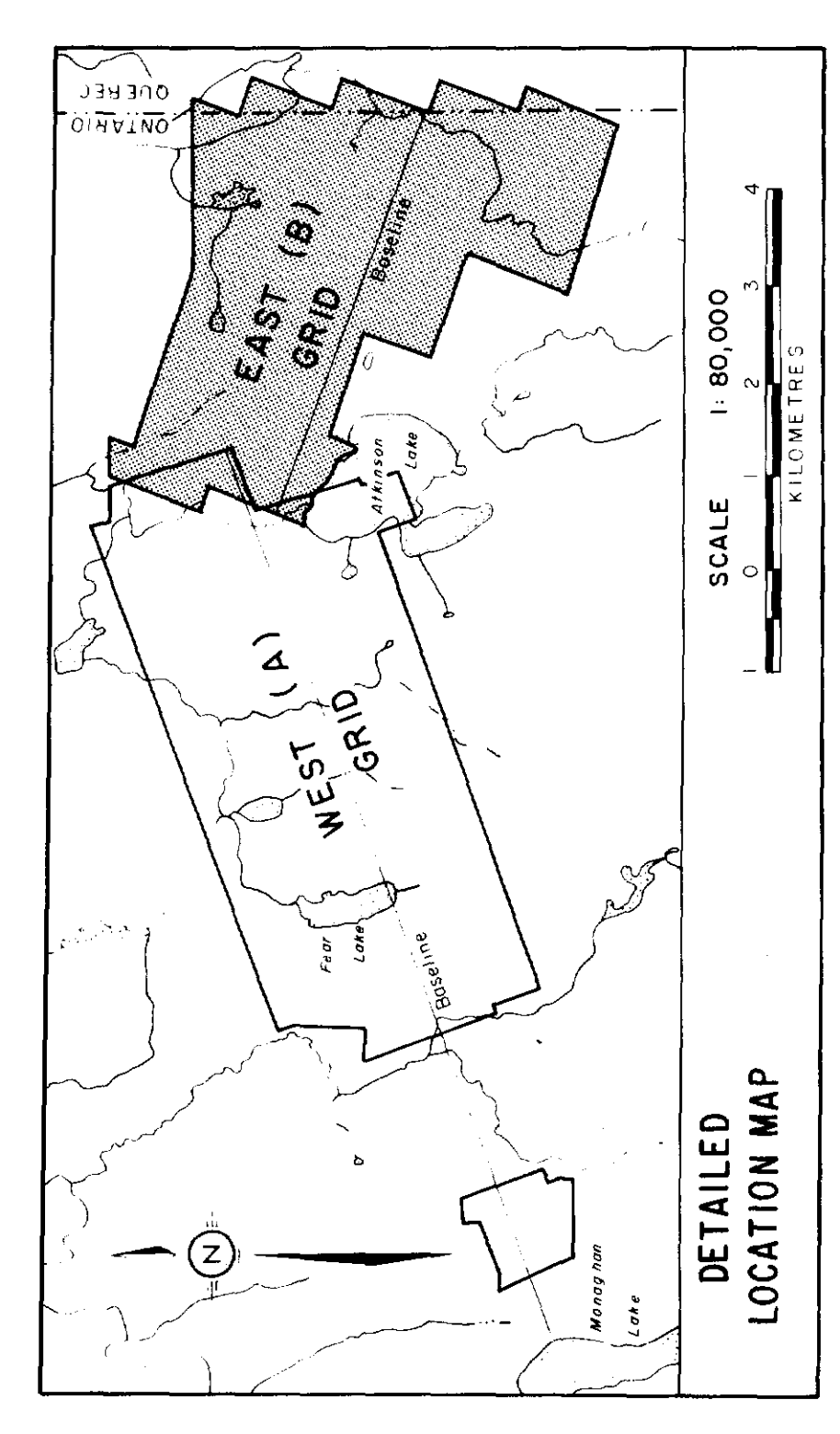
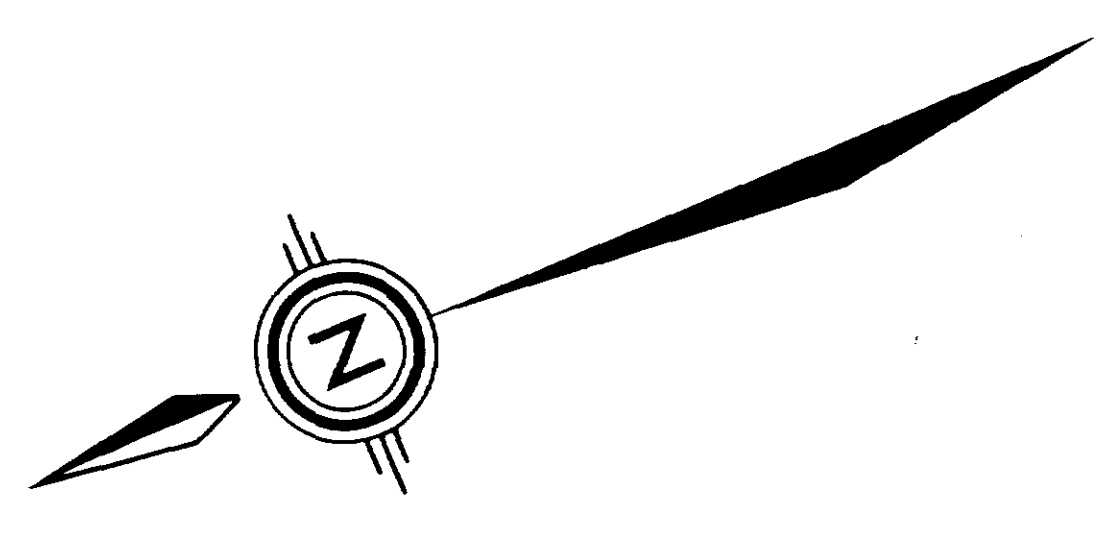
INSTRUMENT: Alex Parametrics Max Min II
CABLE LENGTH: 150metres

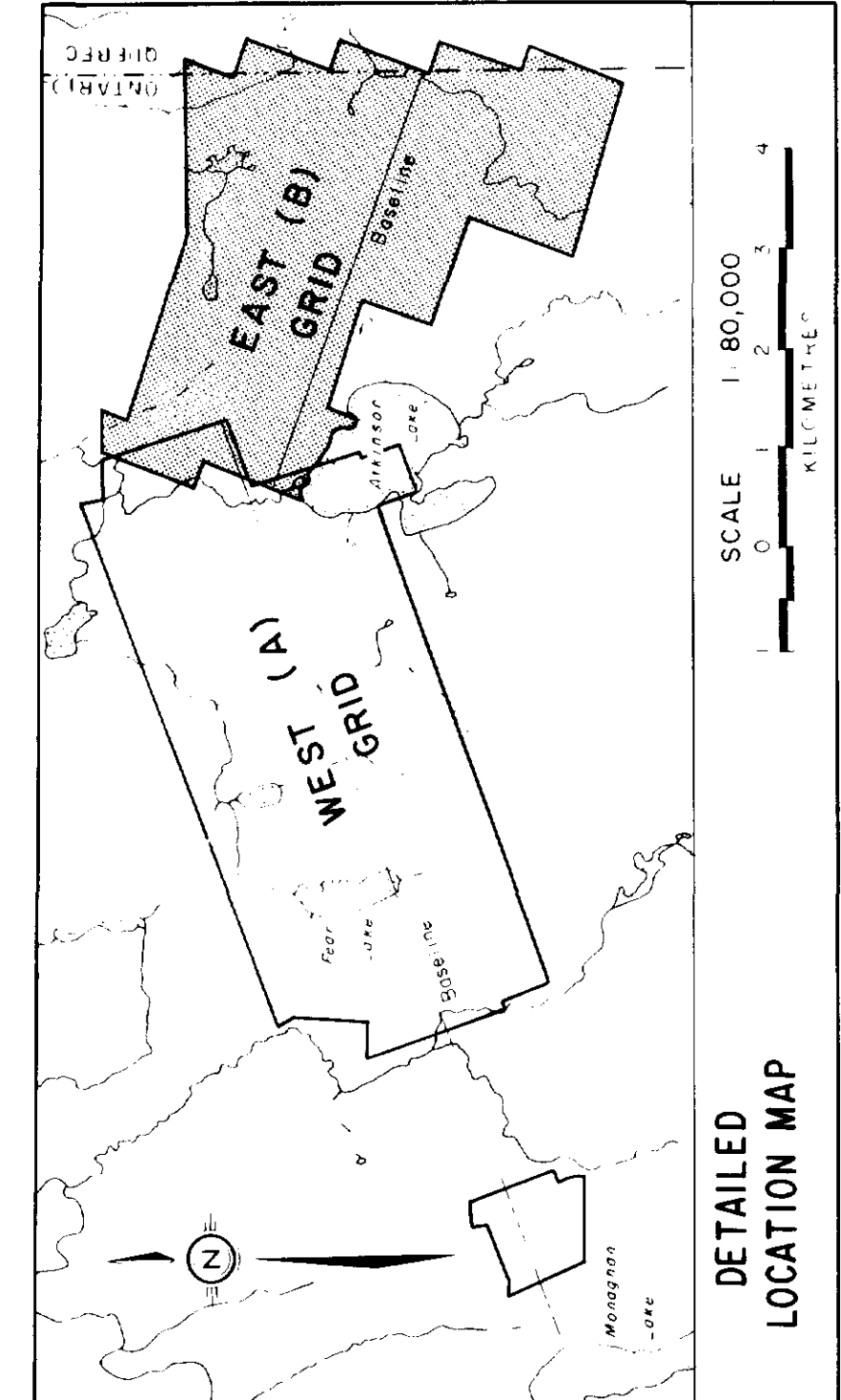
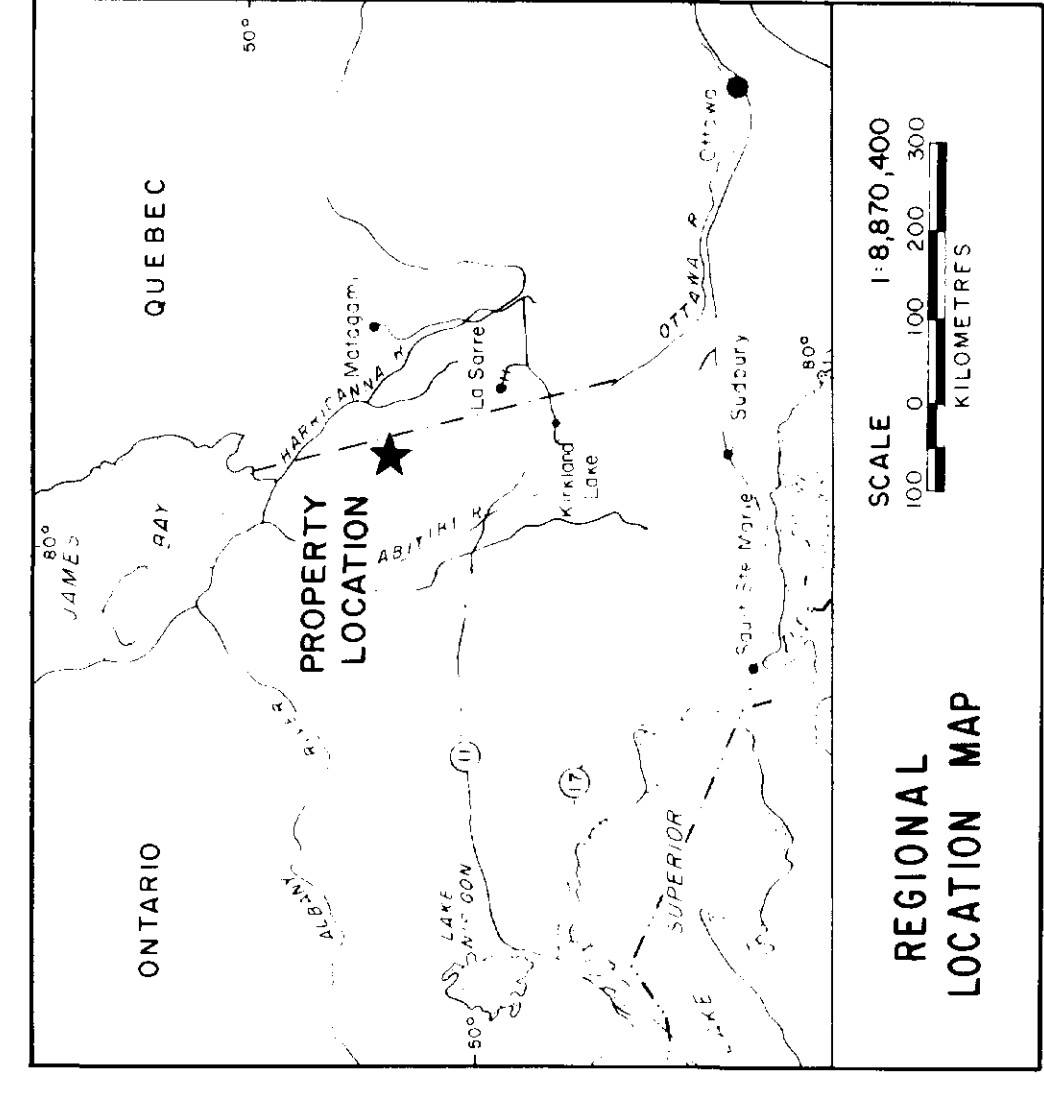
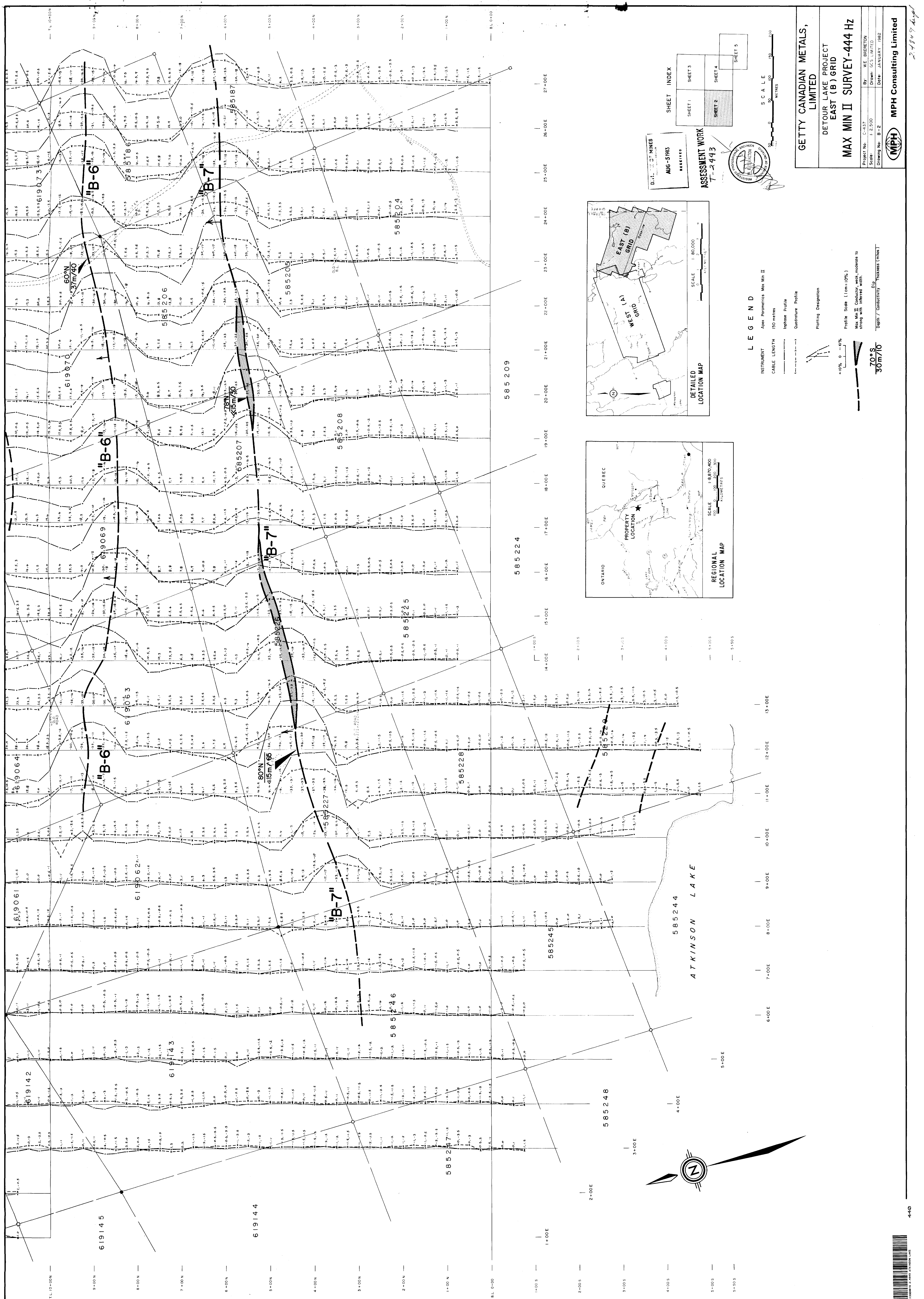
Impulse Profile
Quadrature Profile

Plotting Designation

Profile Scale (tan=10%)
Max. Min. II. Conductor, wsh, moderate to strong with inferred wsh.
Depth / conductivity Dip Thickness (m) (ms)

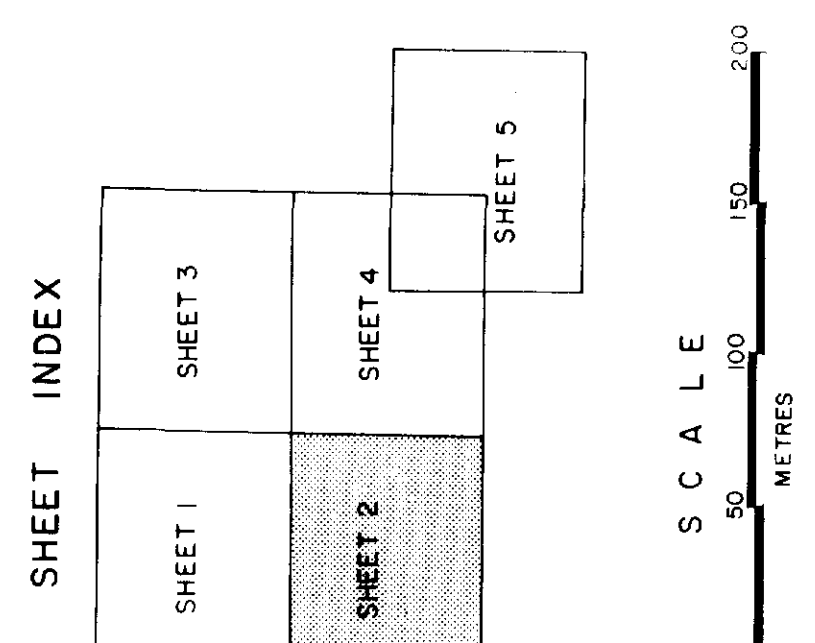
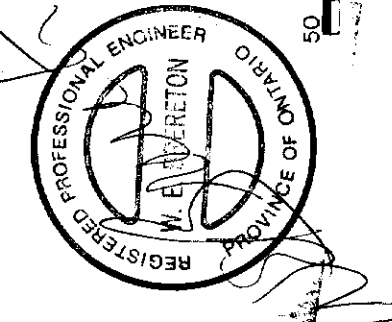
70°S
30m/70



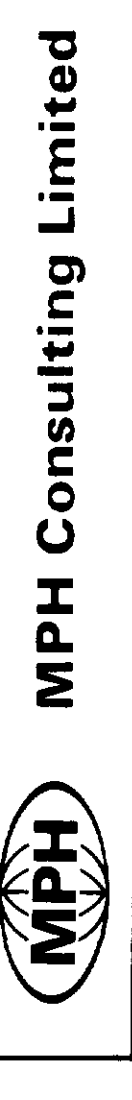


- LEGEND**
- INSTRUMENT: Apex Perennatics Max Min II
 - CABLE LENGTH: 150 metres
 - Isobase Profile
 - Quadrature Profile
 - Plotting Designation
 - Profile Scale 1 (cm:10%)
 - Max Min II Conductor, weak, moderate to strong with inferred width.
 - 30m/70
 - Depth / Conductivity / Thickness (mbs)

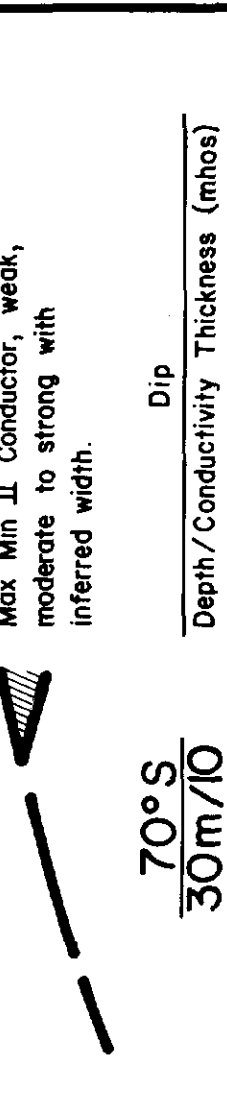
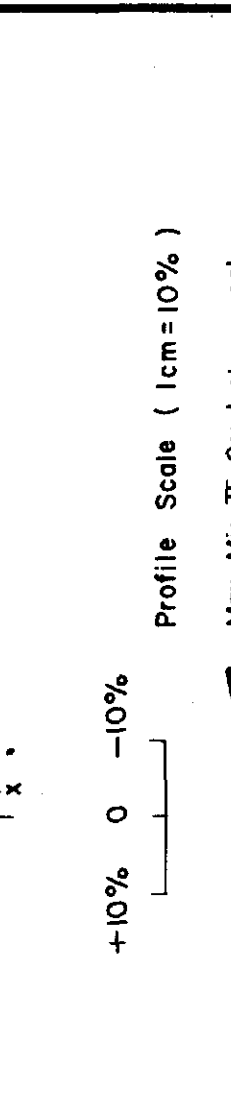
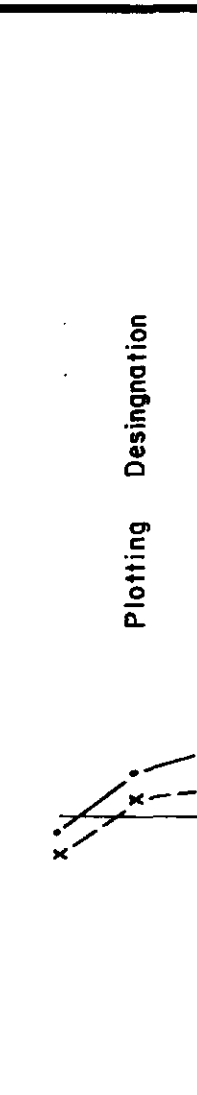
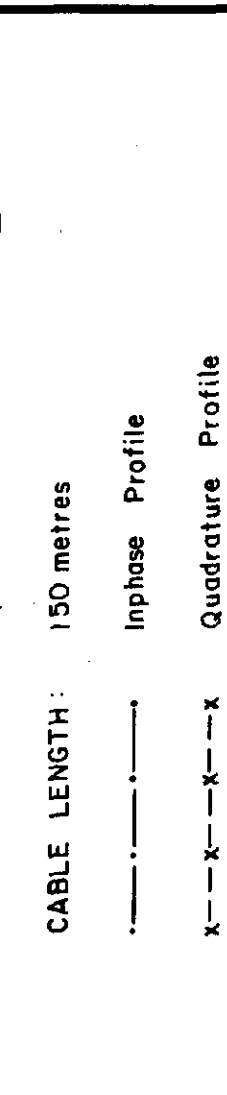
Dr. J. J. O'NEILL
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 T-2443



GETTY CANADIAN METALS, LIMITED
 DETOUR LAKE PROJECT
 EAST (B) GRID
MAX MIN II SURVEY-444 Hz
 Project No: C-437 By: W.E. BREBETON
 Scale: 1:2,500 Drawn: G.S. LIMITED
 Drawing No: B-2 Date: JANUARY 1982

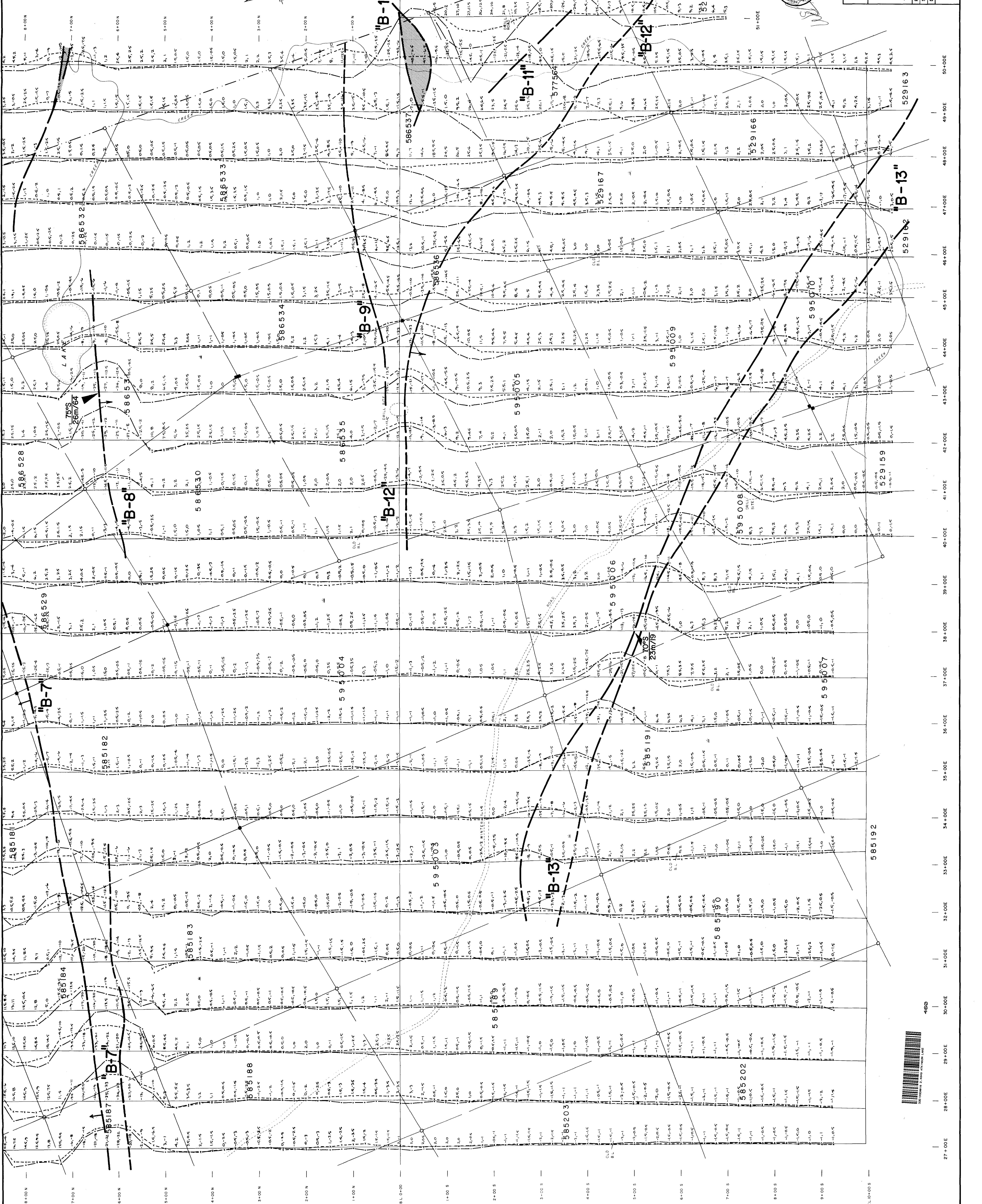
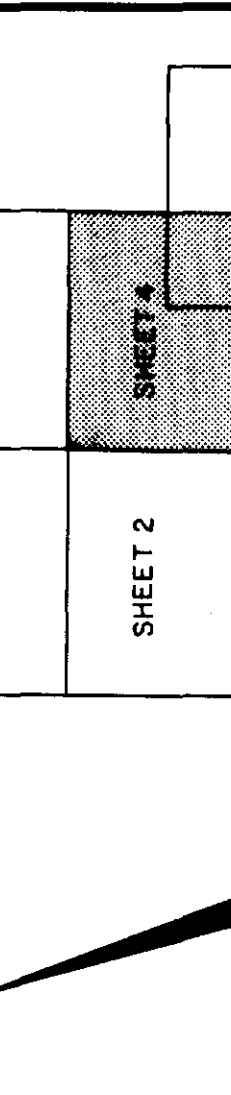


LEGEND
 INSTRUMENT: Apex Parametrics Max Min II
 CABLE LENGTH: 150 METERS
 Inphase Profile
 Quadrature Profile
 Plotting Designation
 Profile Scale (1cm=10%)
 Max Min II Conductor, weak, moderate to strong with inferred water.
 Dip
 Depth/Conductivity Thickness (ohms)
 70°S
 30m/70

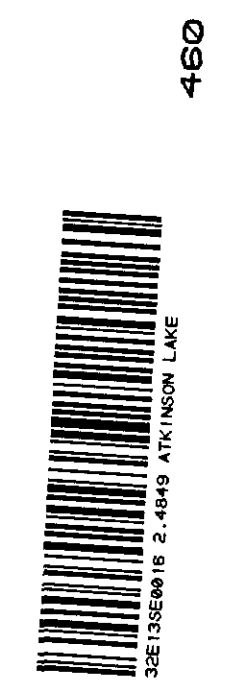


GETTY CANADIAN METALS, LIMITED
 DETOUR LAKE PROJECT
 EAST (B) GRID
 MAX MIN II SURVEY-444 HZ

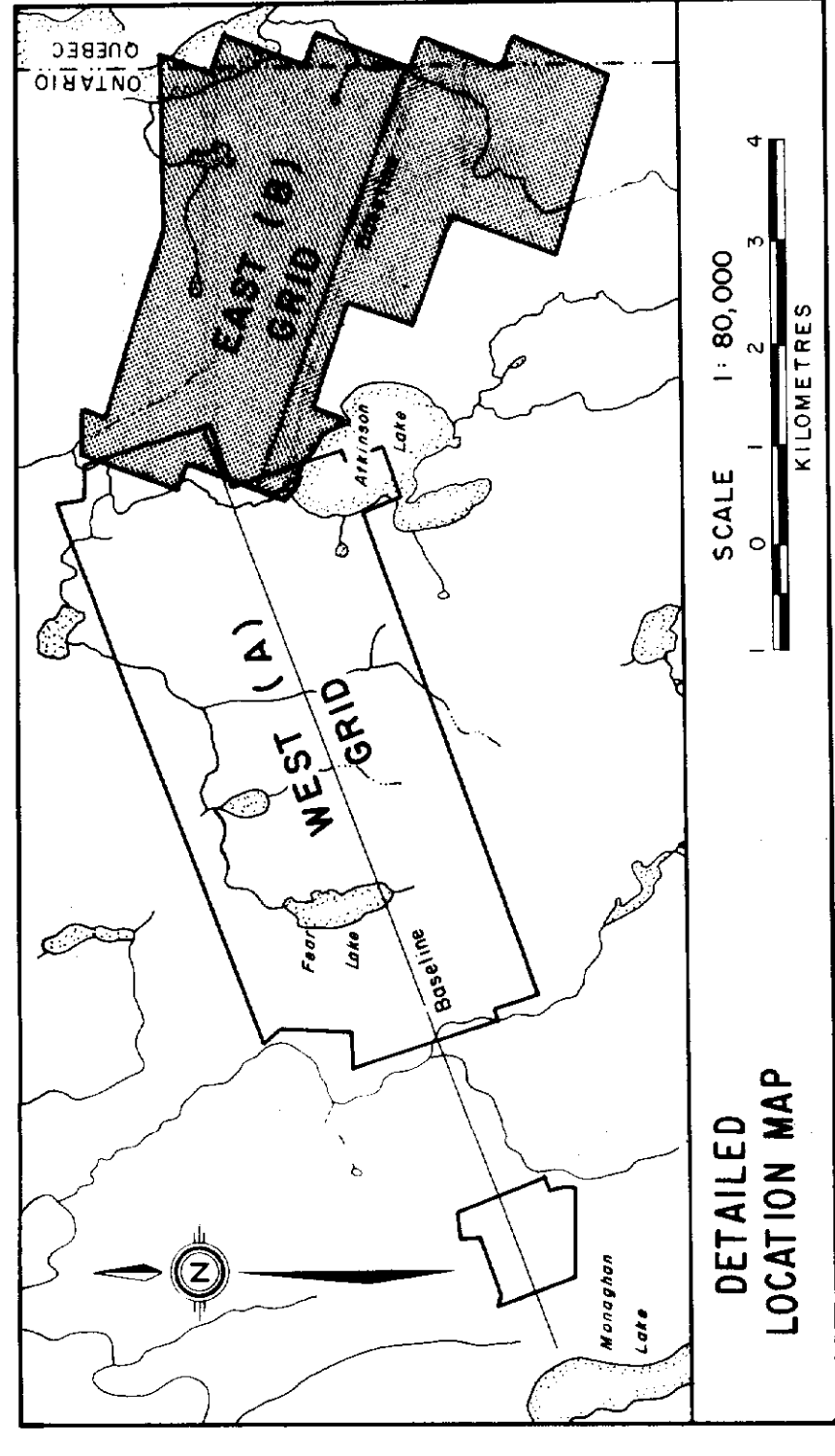
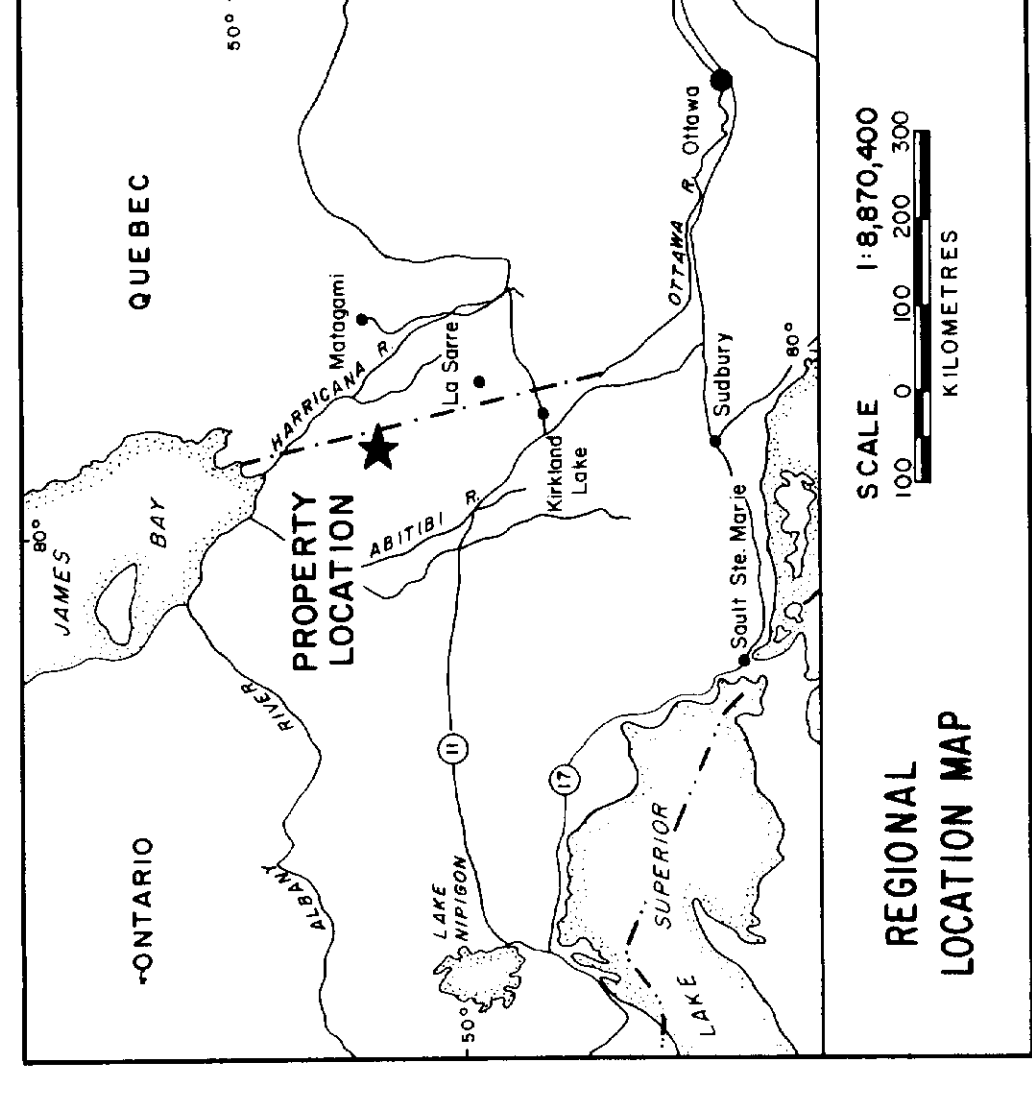
Project No: C-437
 Scale: 1:2,500
 Drawing No: B-4
 By: WE BREYTON
 Drawn: GCS LIMITED
 Date: JANUARY 1982



ASSESSMENT WORK
 T-2443
 AUG-5-1983
 53 DIVISION OF MINES
 NORTHWEST TERRITORIES
 SCALE
 0 50 100 150 200 250 300
 METERS

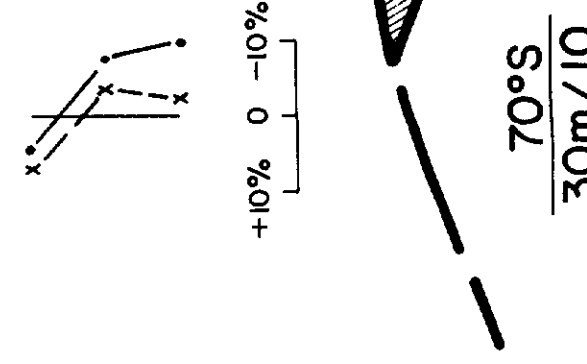


480
 GETTY CANADIAN METALS LIMITED



LEGEND

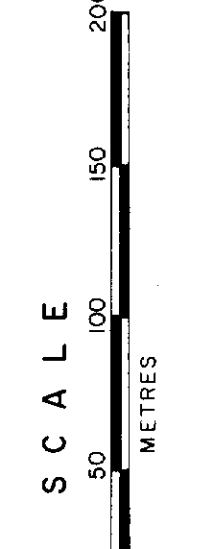
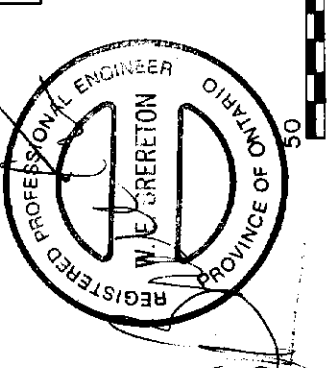
- INSTRUMENT Apex Parametrics Max Min II
- CABLE LENGTH 150 metres
- Inphase Profile
- Quadrature Profile
- Plotting Designation
- Profile Scale (1cm=10%)
- Max Min II Conductor, wash, and infered with
- Dip
- Depth/Conductivity Thickness (mas)



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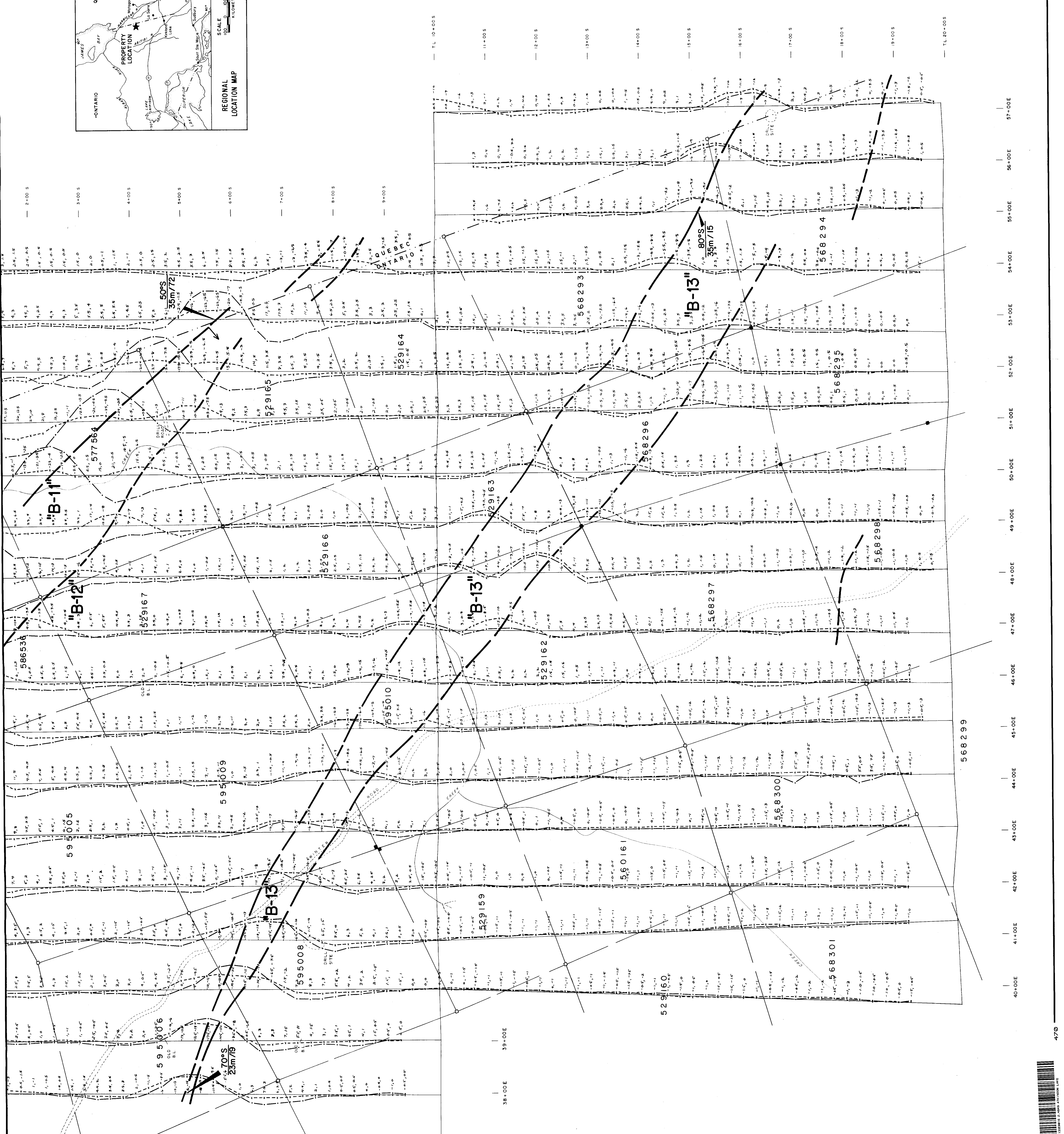
SHEET 1	SHEET 3
SHEET 2	SHEET 4
SHEET 5	

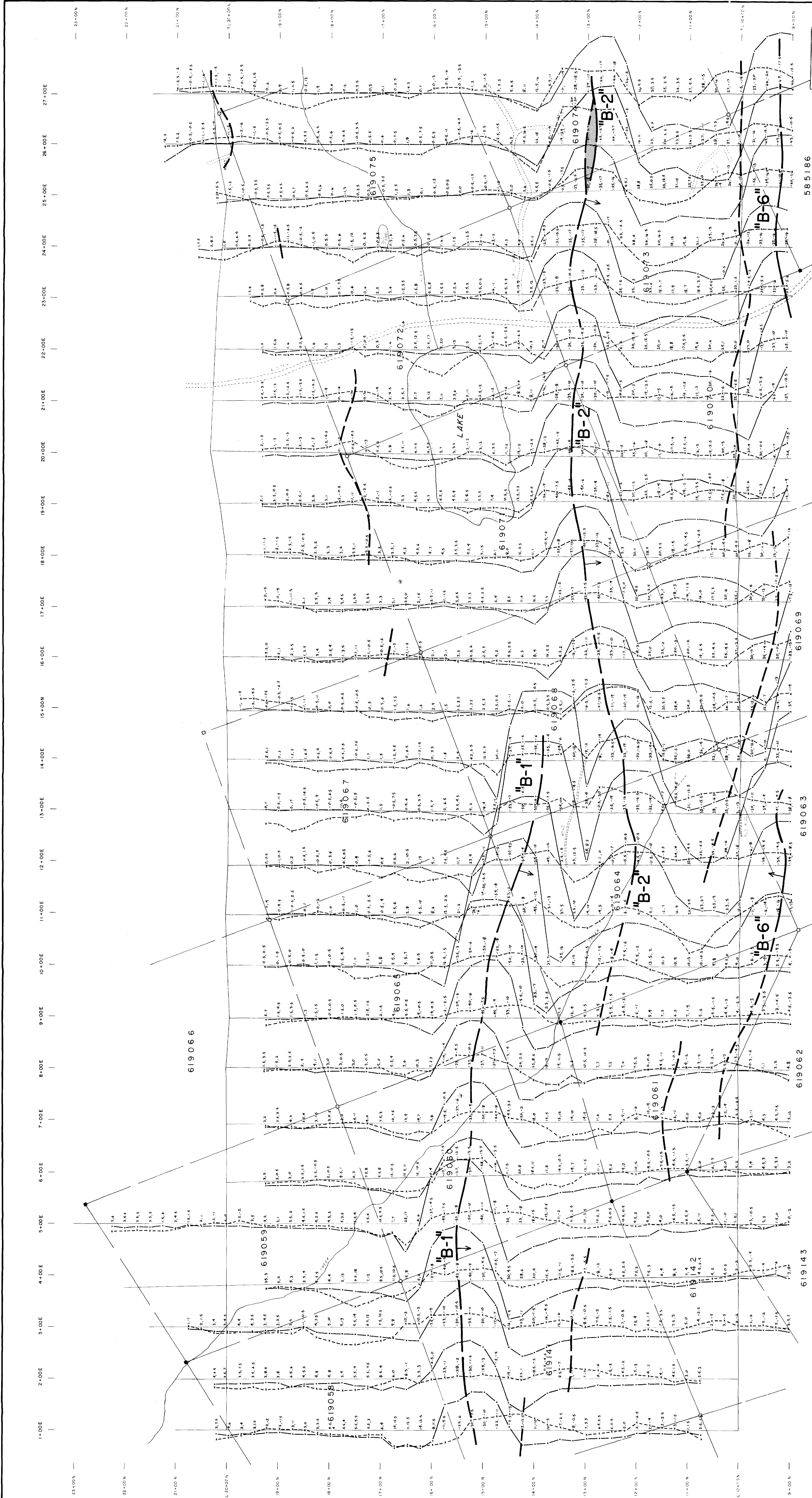


GETTY CANADIAN METALS, LIMITED
DETOUR LAKE PROJECT
EAST (B) GRID
MAX MIN II SURVEY-444 HZ

Project No. C-437 By: W.E. BRETON
Scale: 1:2,500 Drawn: GCS LIMITED
Drawing No. B-5 Date: JANUARY 1982

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 SCALE 7-2443

585186

GETTY CANADIAN METALS, LIMITED
 DETOUR LAKE PROJECT
 EAST (B) GRID
 MAX MIN II SURVEY-1777HZ

Project No. C-437 By: W.E. BREWSTER
 Scale: 1:2,500 Drawn: GCS LIMITED
 Drawing No. B-6 Date: JANUARY 1982

MPH Consulting Limited

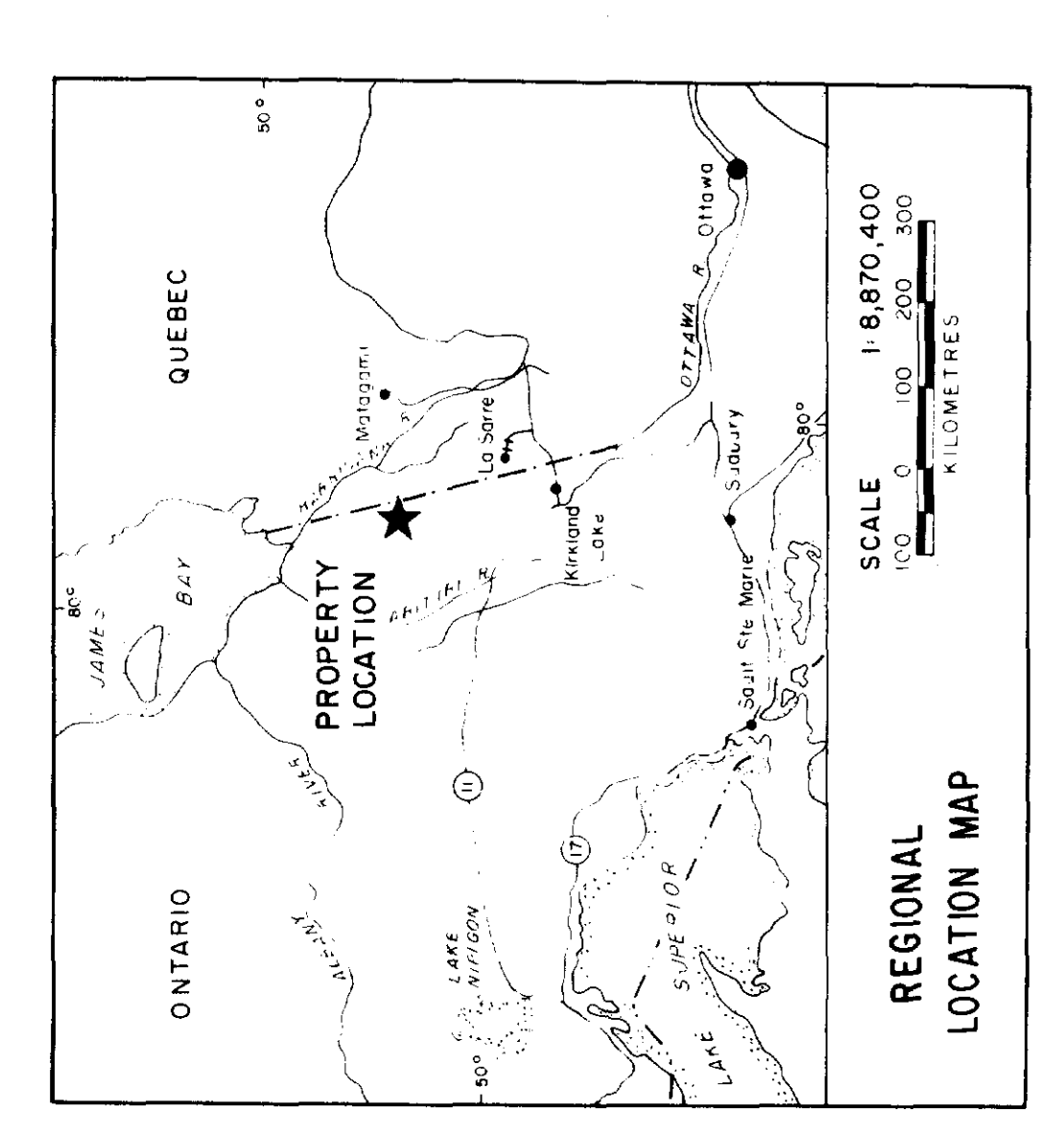
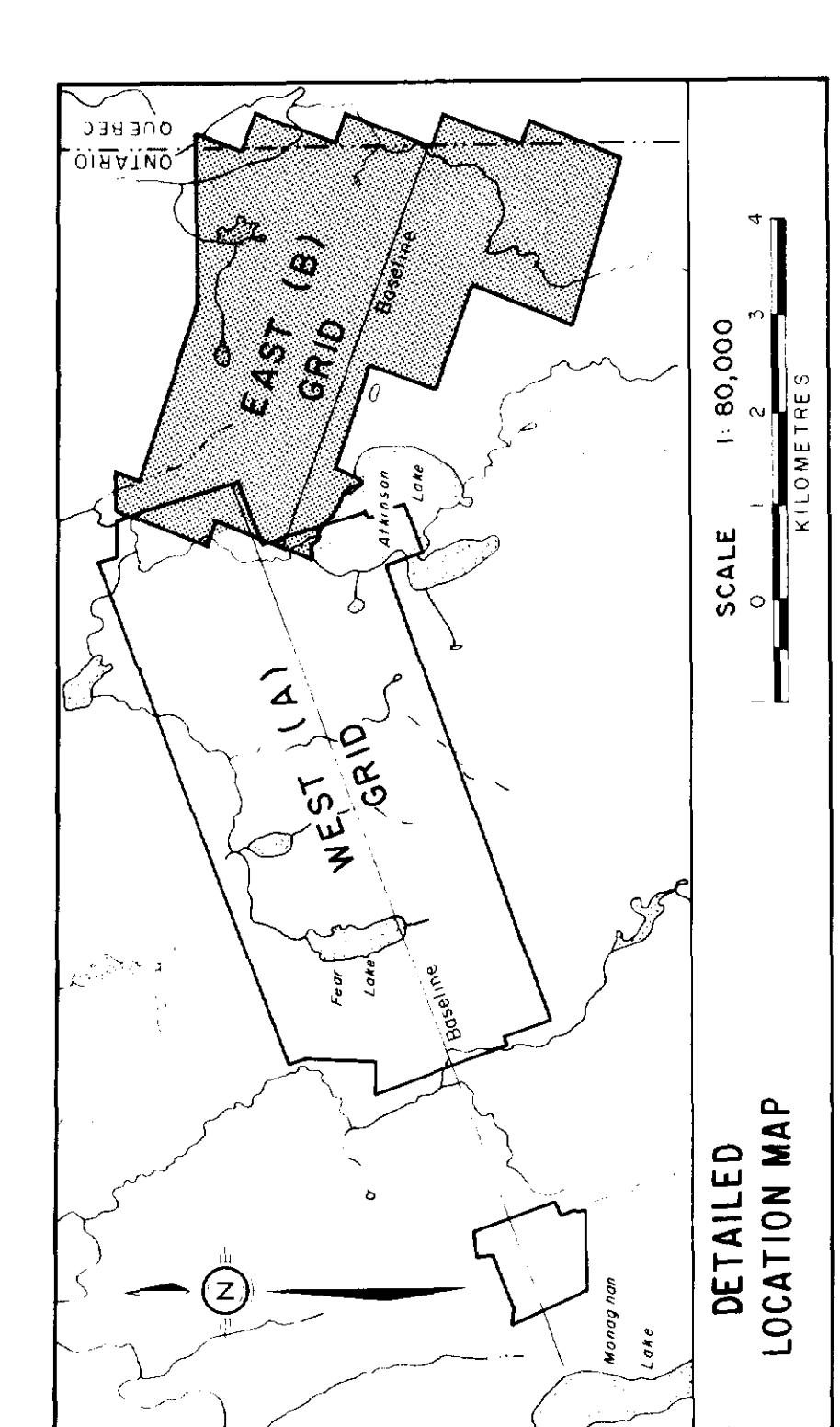
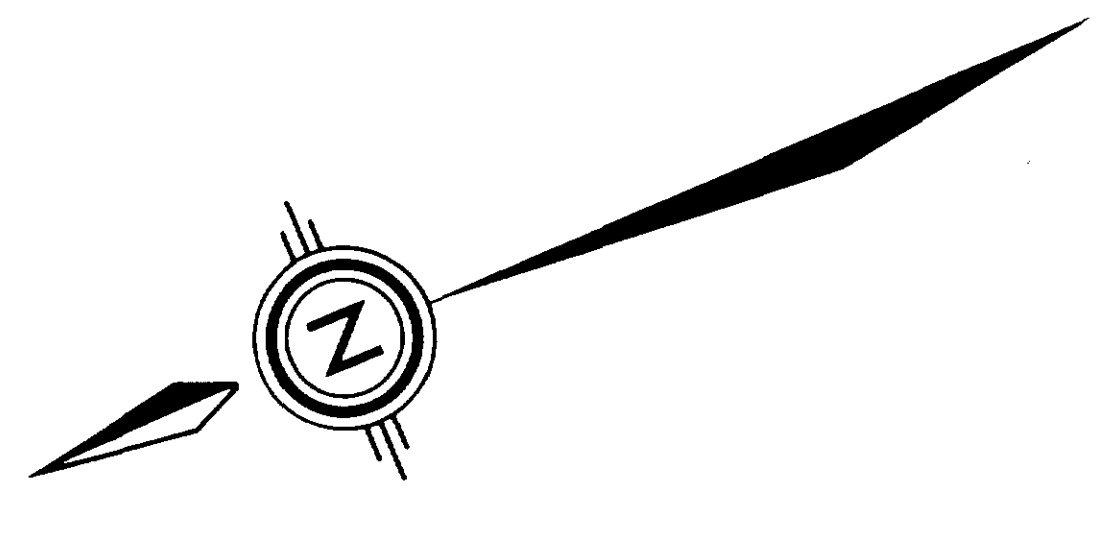
SHEET INDEX

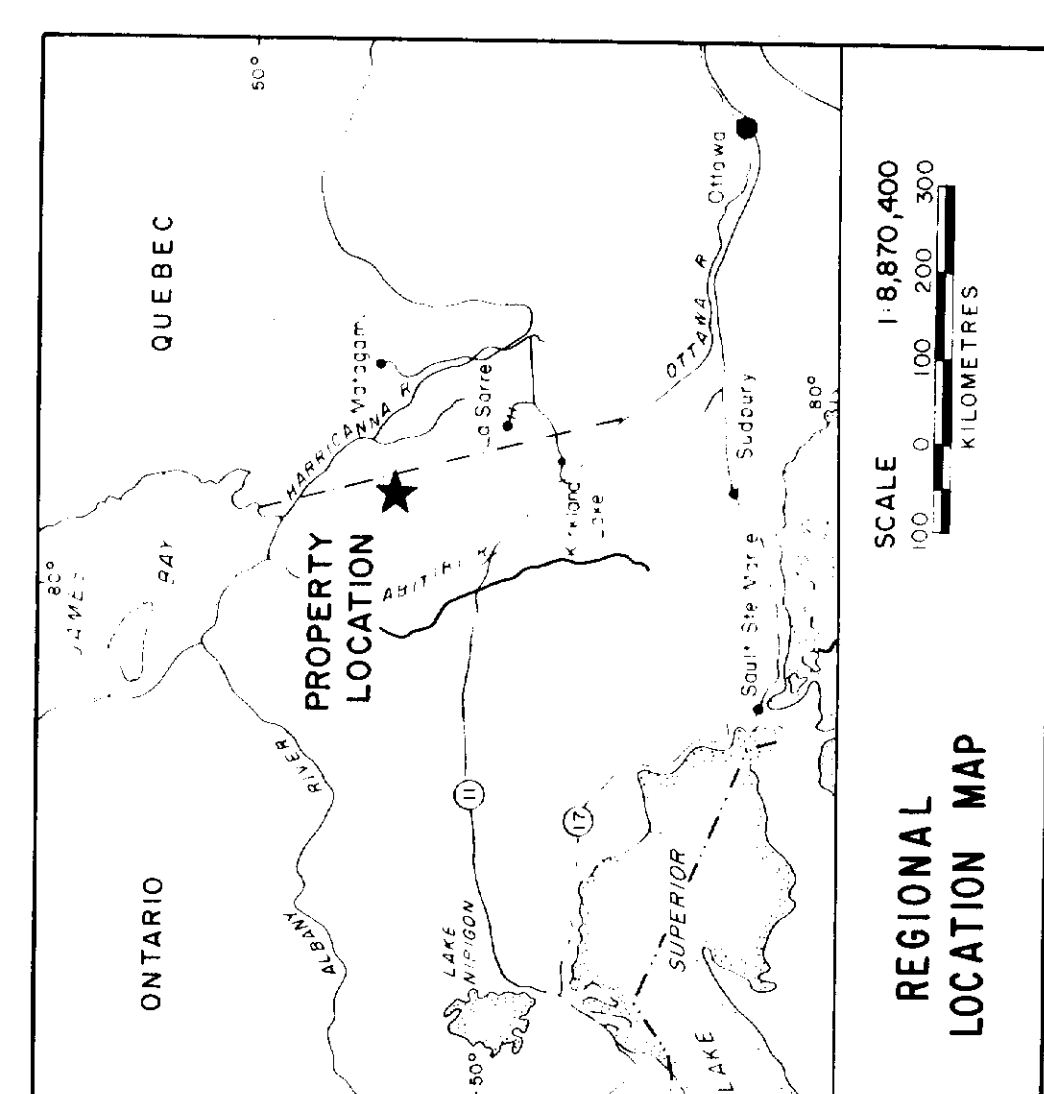
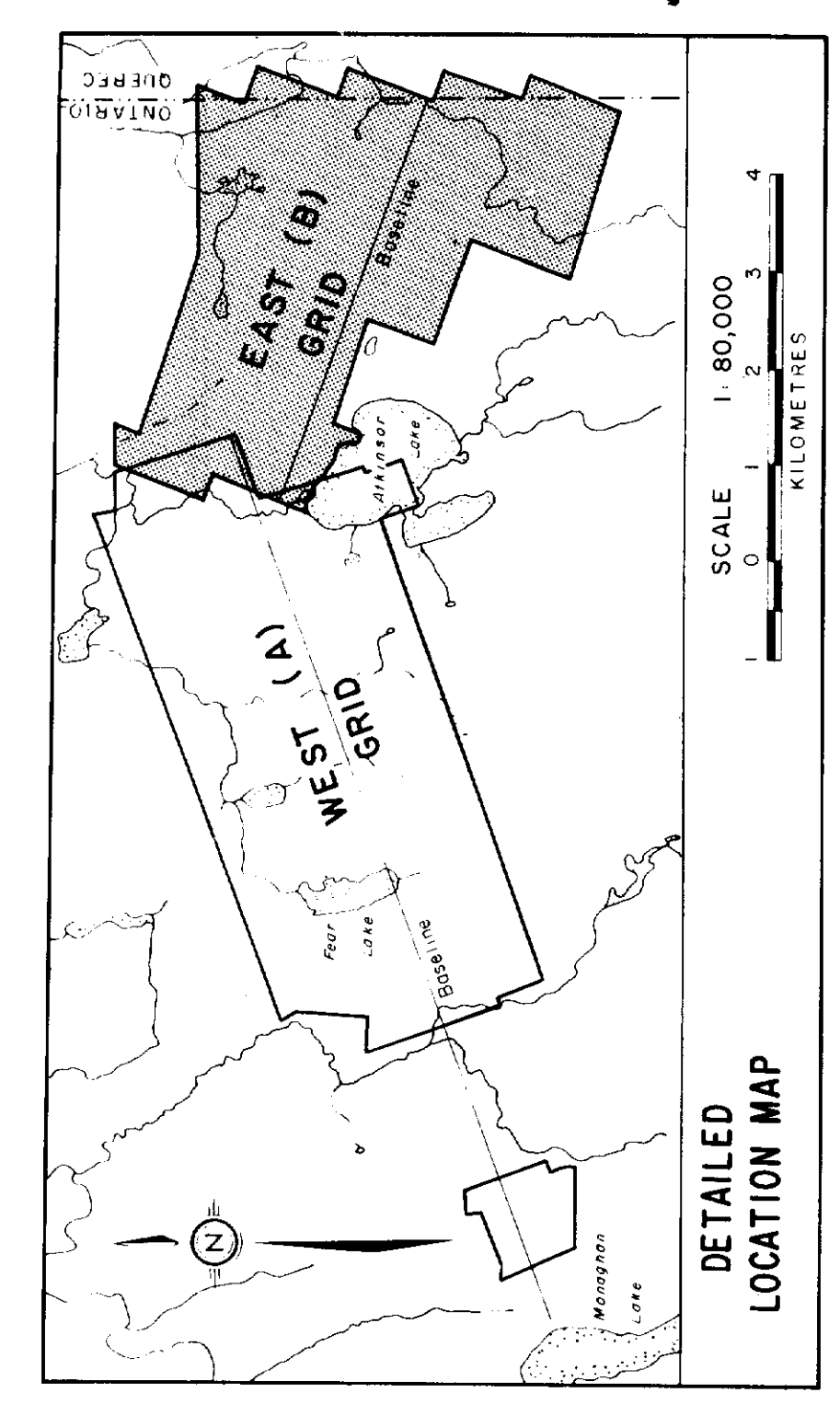
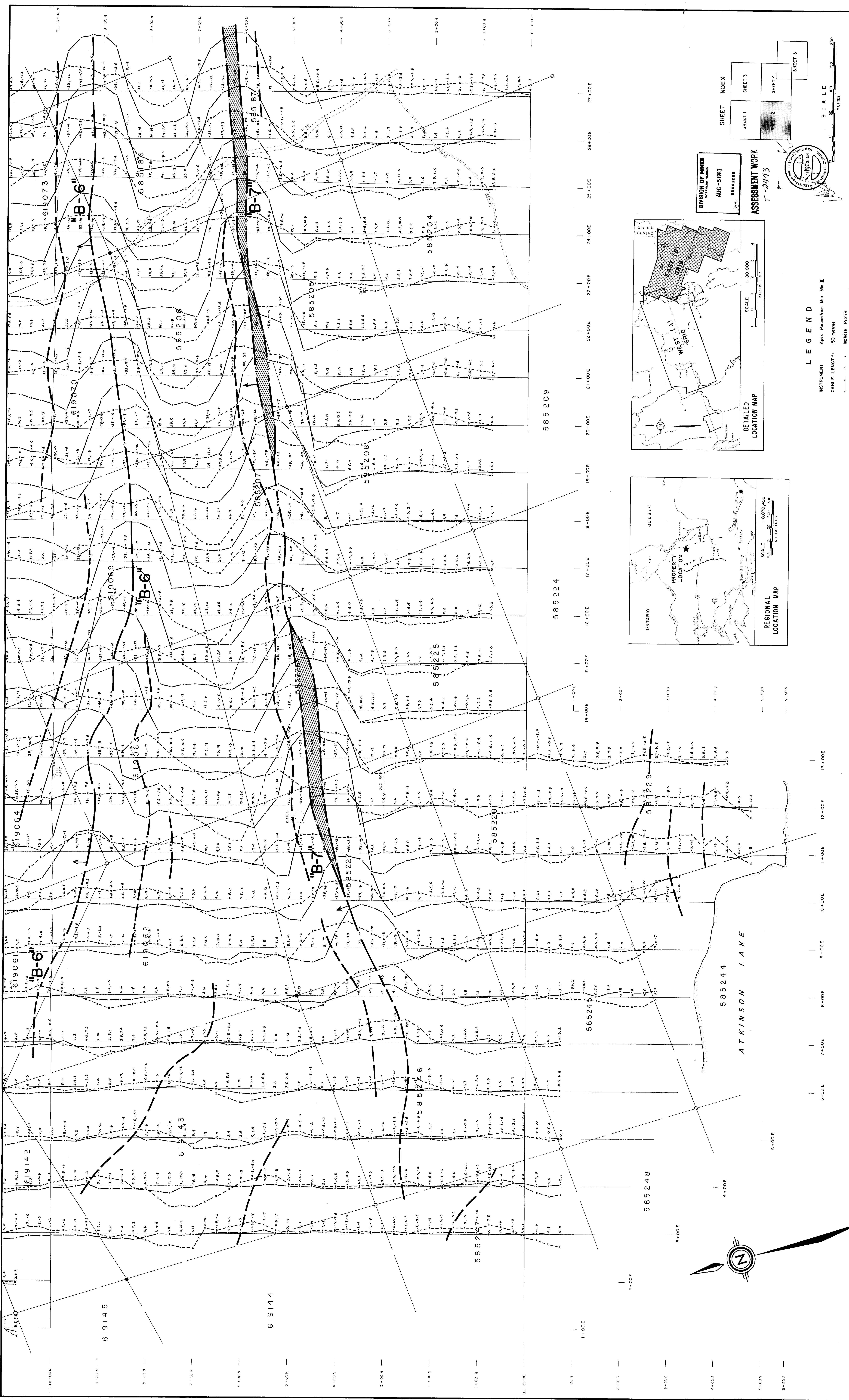
SHEET 1	SHEET 3
SHEET 2	SHEET 4
	SHEET 5

LEGEND

Apex Parametric Max. Min. II
 INSTRUMENT
 CABLE LENGTH 150 metres
 Profile
 Quadrature Profile
 Plotting Designation

Profile Scale (1cm=10%)
 Max. Min. II Conductor work
 moderate to strong with inferred
 width





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SHEET INDEX

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SHEET 2	SHEET 4
SHEET 5	

S C A L E
METRES
0 50 100 200

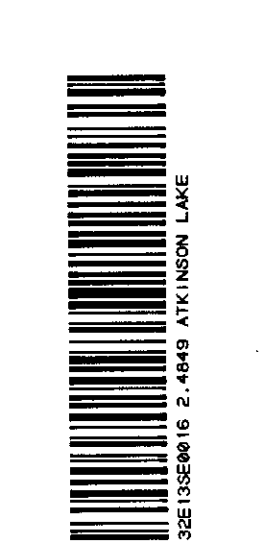
- LEGEND**
- INSTRUMENT Apex Penetrator Max Min II
 - CABLE LENGTH: 150 metres
 - Inphase Profile
 - Quadrature Profile
 - Pitching Designation
 - Profile Scale (tan=10%)
 - Max. Min. II Conductor, weak, moderate to strong with inferred walls.

GETTY CANADIAN METALS, LIMITED

DETOUR LAKE PROJECT
EAST (B) GRID
MAX MIN II SURVEY 1777 Hz

Project No: C-437 By: W.E. BRERETON
Scale: 1:2,500 Drawn: GCS LIMITED
Drawing No: B-7 Date: JANUARY 1982

MPH MPH Consulting Limited



LEGEND

INSTRUMENT
Apex Parametrics Max Min II

CABLE LENGTH
150 metres

Inphase Profile

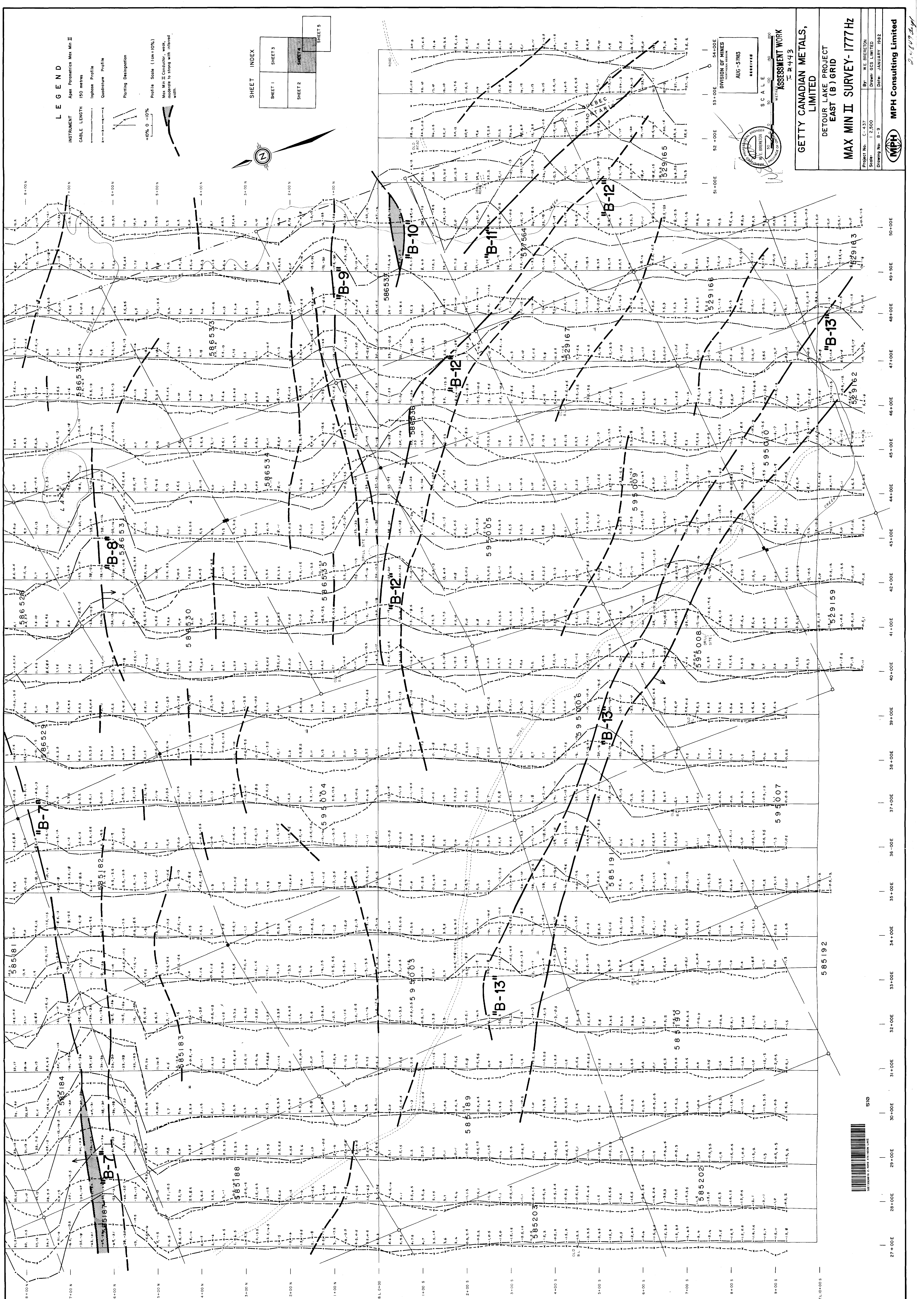
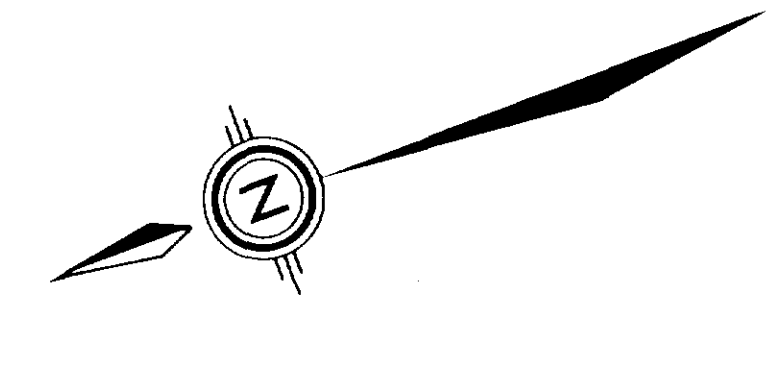
Quadrature Profile

Plotting Designation

Profile Scale (1cm=10%)
Max Min II Conductor, weak,
moderate to strong with
width

SHEET INDEX

SHEET 1	SHEET 3
SHEET 2	SHEET 4
	SHEET 5



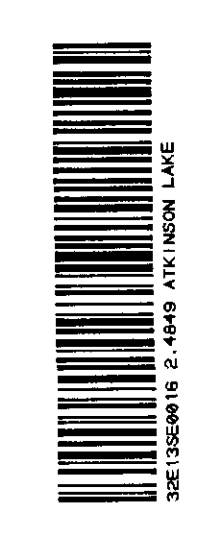
GETTY CANADIAN METALS, LIMITED

DETOUR LAKE PROJECT
EAST (B) GRID

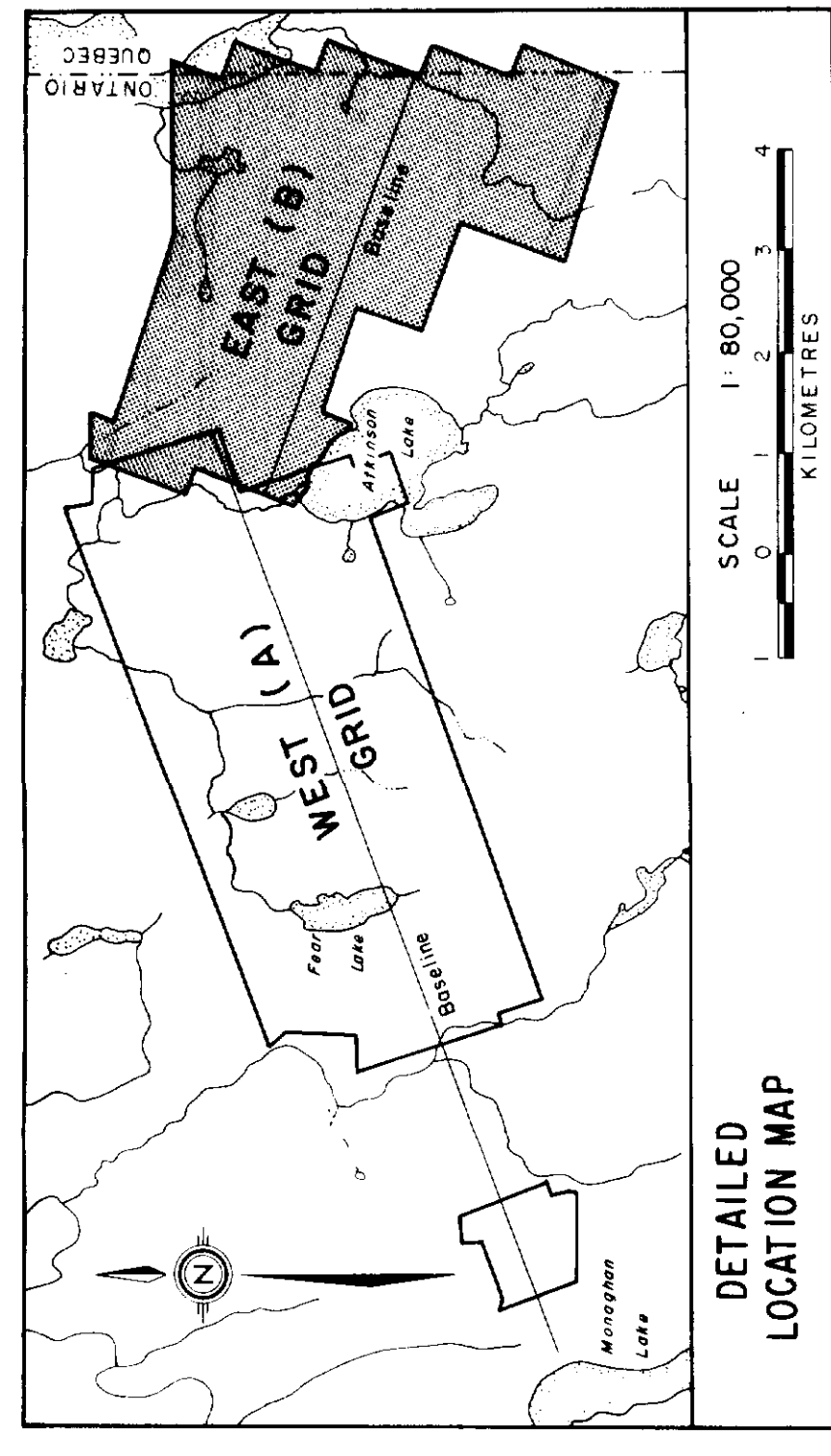
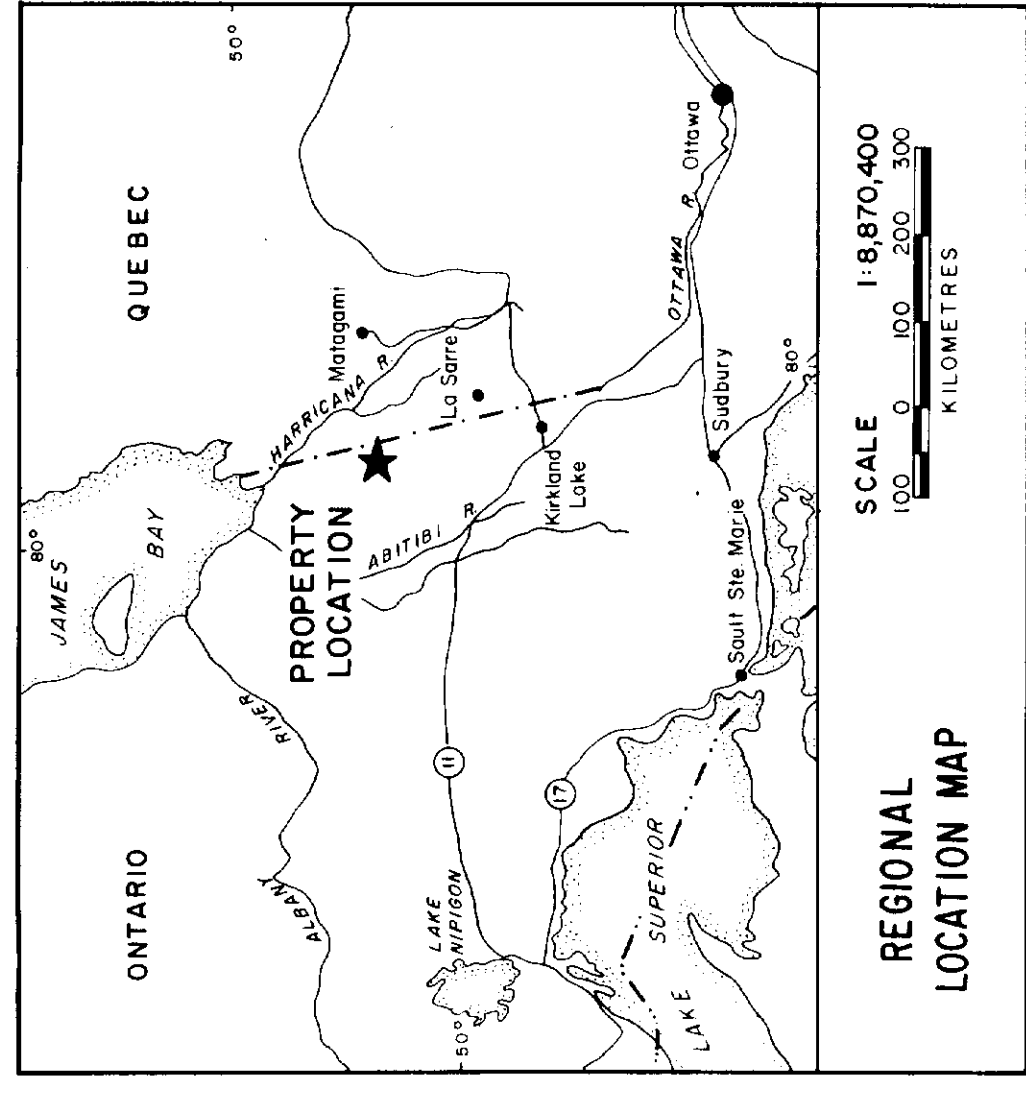
MAX MIN II SURVEY- 1777 Hz

Project No. C-437 By: W.E. BREBETON
Scale: 1:2,500 Drawn: G.S. LIMITED
Drawing No. B-9 Date: JANUARY 1982

MPH MPH Consulting Limited



21009.dwg



LEGEND

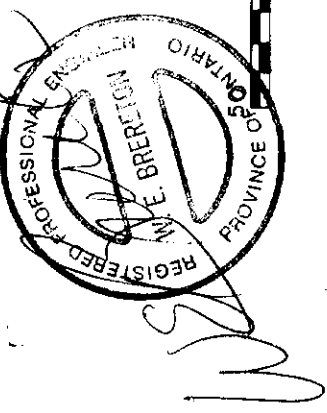
- INSTRUMENT: Apex Perennials Max Min II
- CABLE LENGTH: 150 metres
- Isobars Profile
- Quadrature Profile
- Plotting Designation
- Profile Scale (1 cm = 10%)
- Max. Min. II Conductor, weak magnetic to strong with inferred width.

DIVISION OF MINES
EQUIPMENT SECTION
AUG-5/93
REBARBER

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T-2443



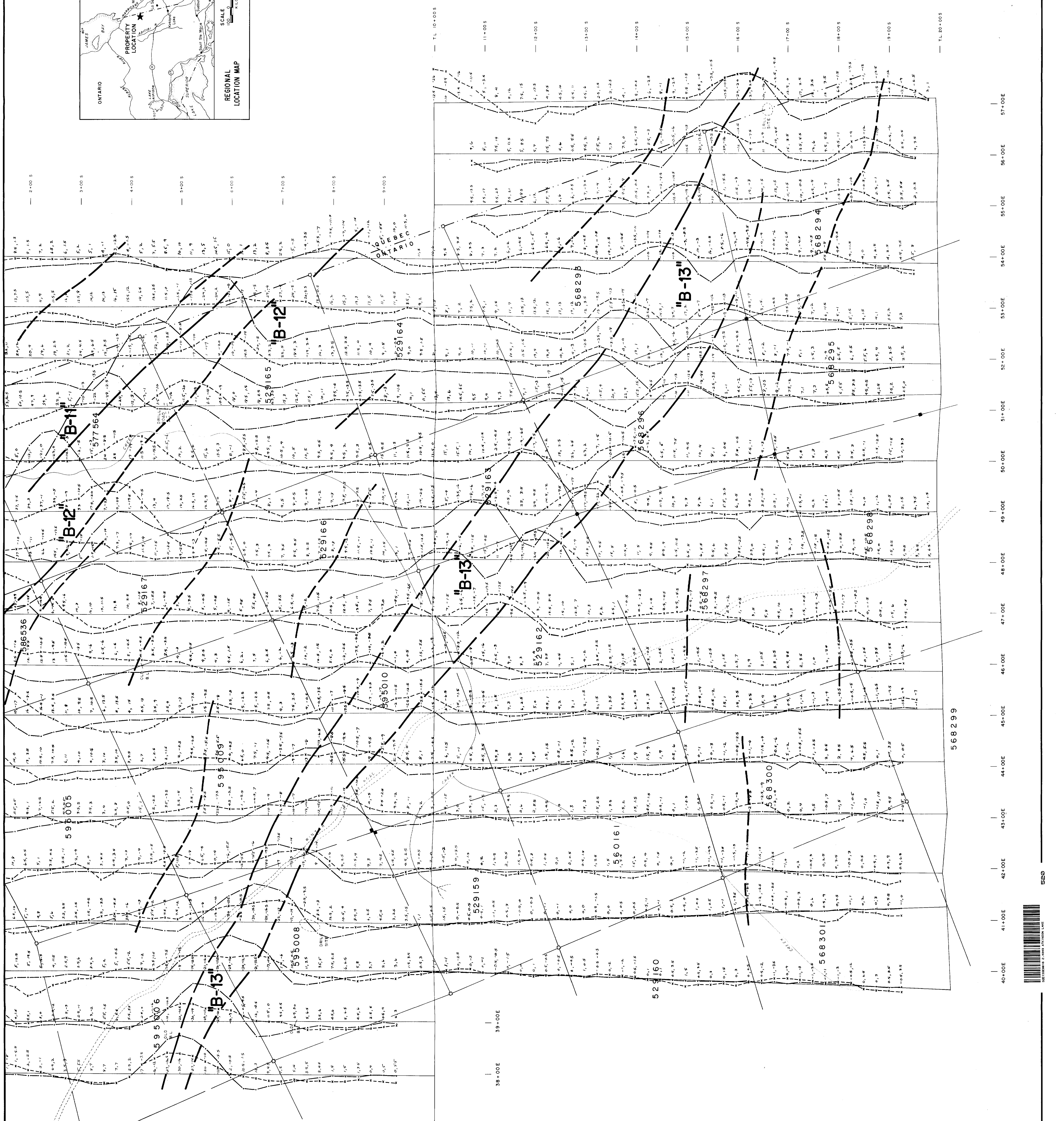
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SHEET 1	SHEET 3
SHEET 2	SHEET 4

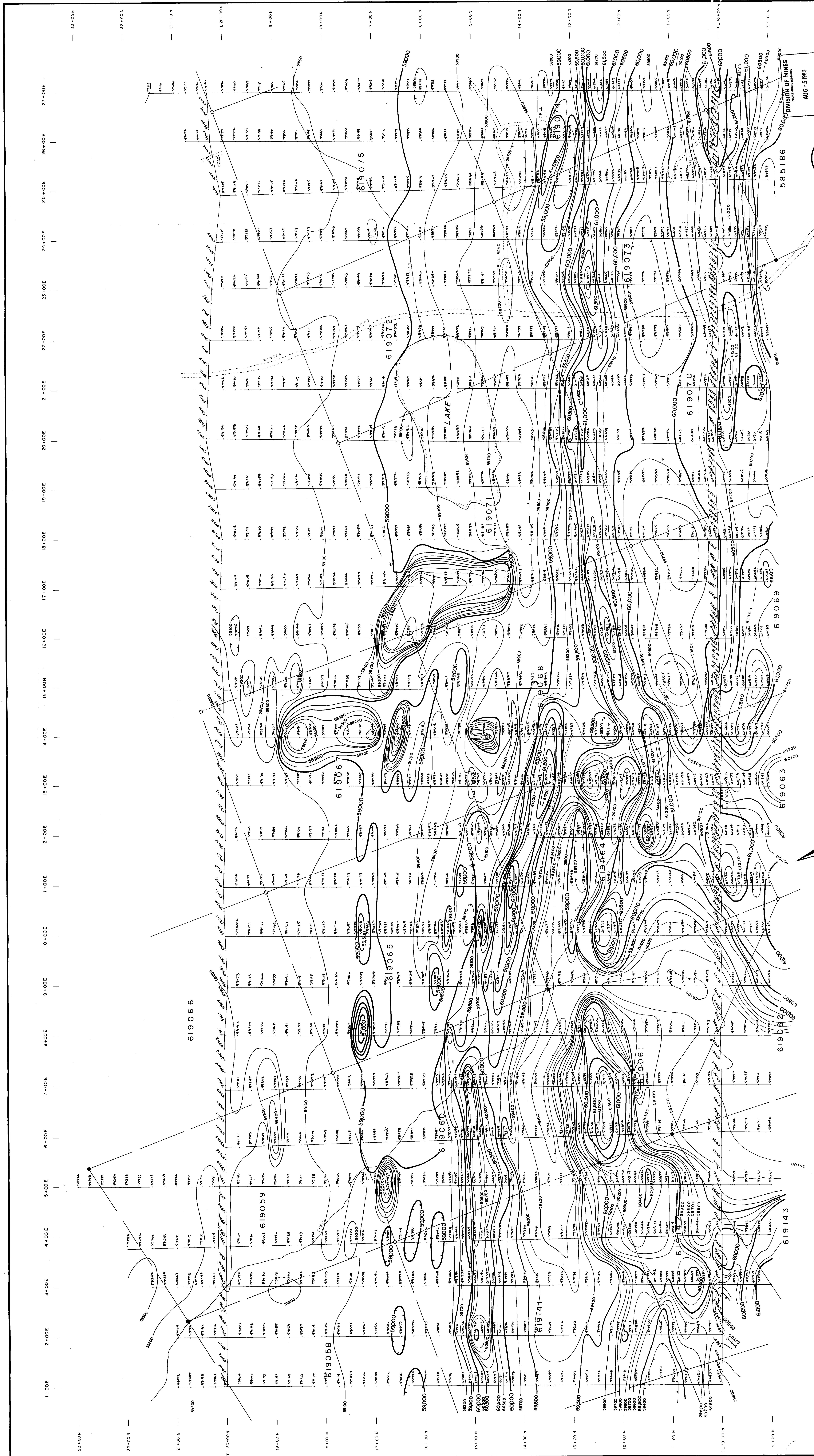


GETTY CANADIAN METALS, LIMITED
 DETOUR LAKE PROJECT
 EAST (B) GRID
MAX MIN II SURVEY-1777Hz

Project No. C-437 By: W.E. BREWSTER
 Scale: 1:2,000 Drawn: GCS LIMITED
 Drawing No. B-10 Date: JANUARY 1982

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 T-2443
 SCALE
 METRES

GETTY CANADIAN METALS, LIMITED
 DETOUR LAKE PROJECT
 EAST (B) GRID
 MAGNETOMETER SURVEY
 Project No. C-437 By: WE. BREBION
 Scale: 1:2,500 Drawn: GES. LIMITED
 Drawing No. B-11 Date: JANUARY 1982

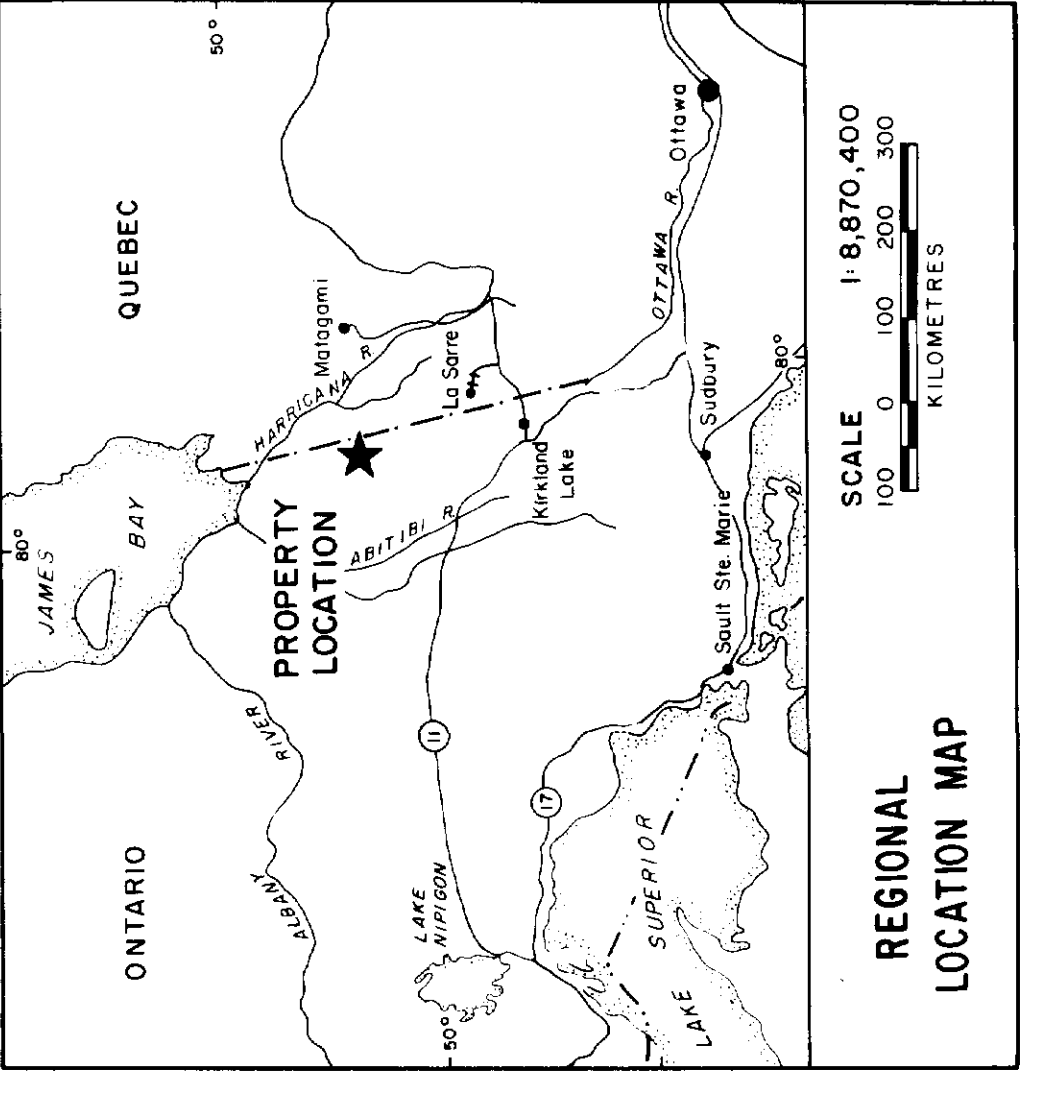
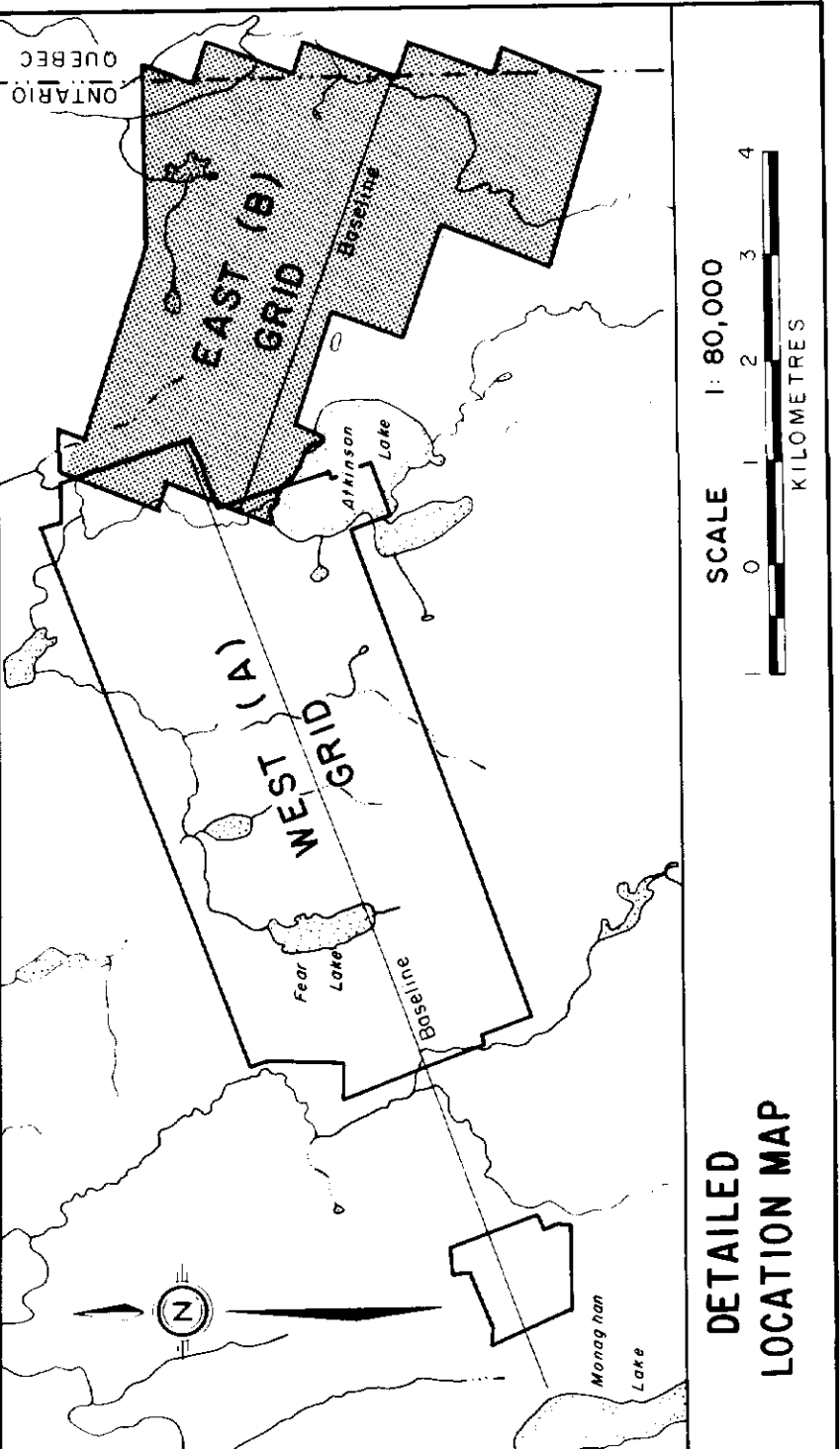


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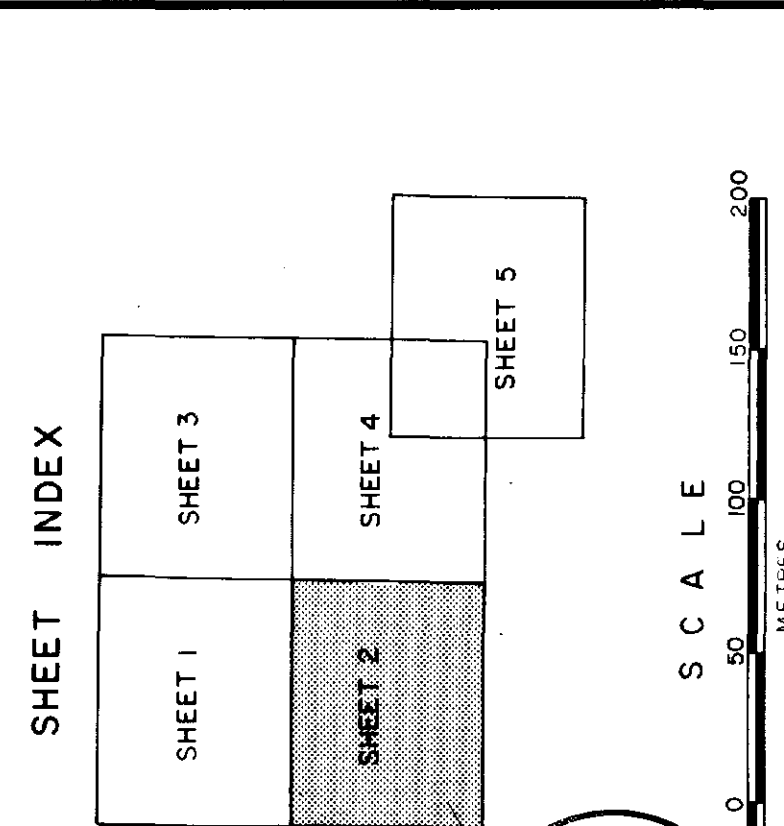
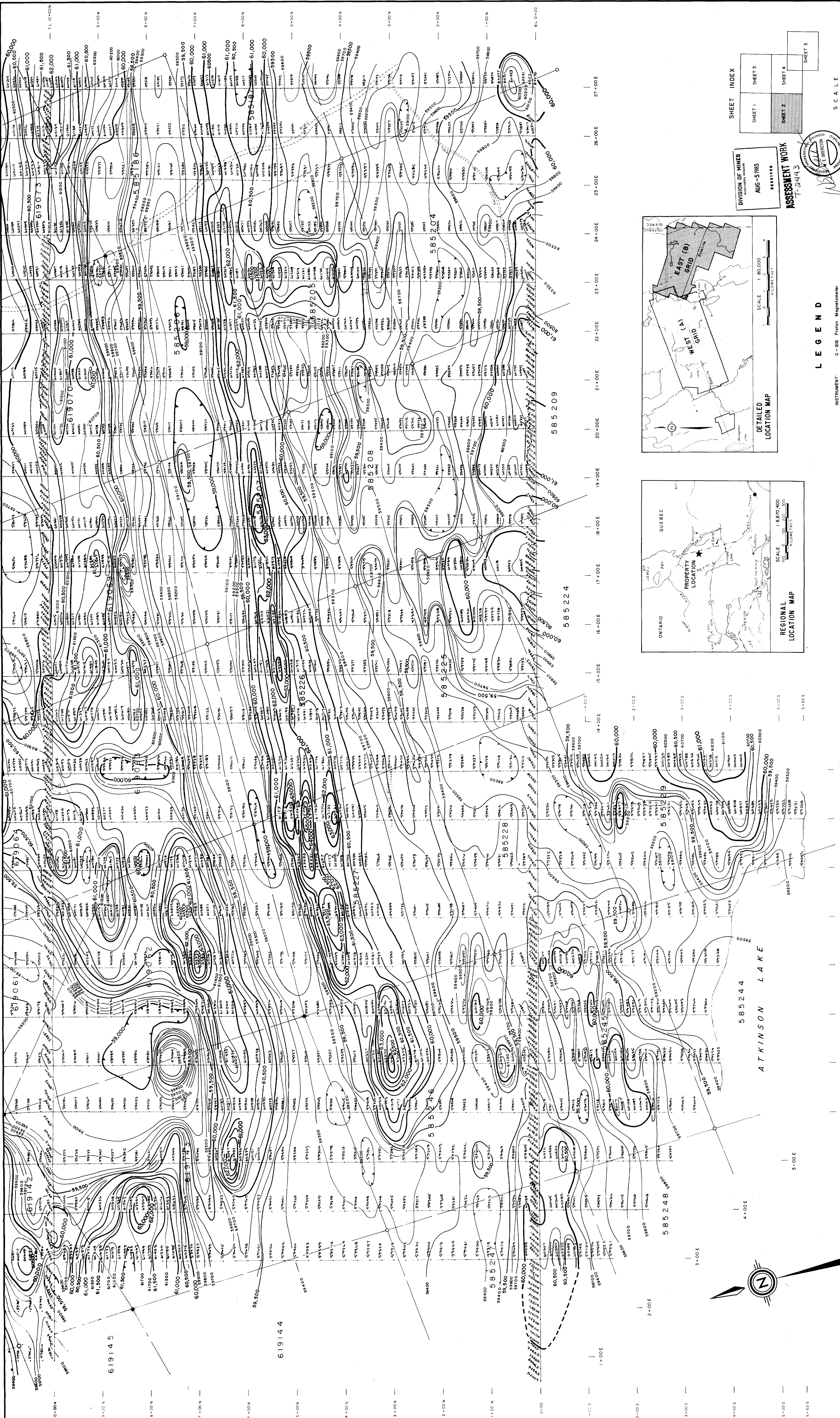
SHEET 1	SHEET 2	SHEET 3	SHEET 4	SHEET 5
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LEGEND

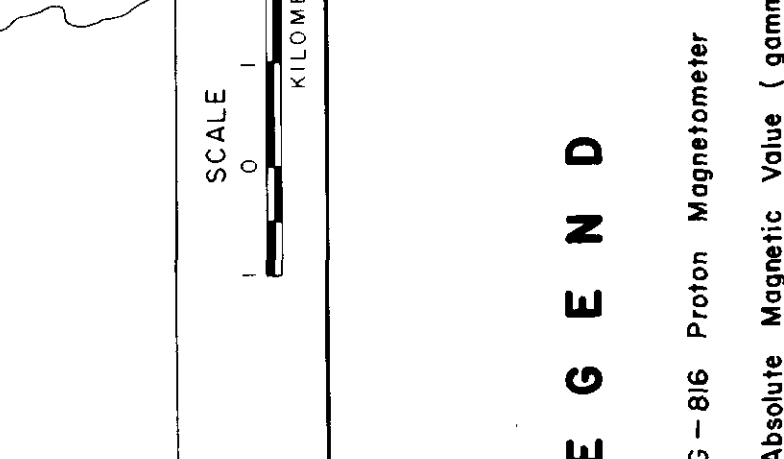
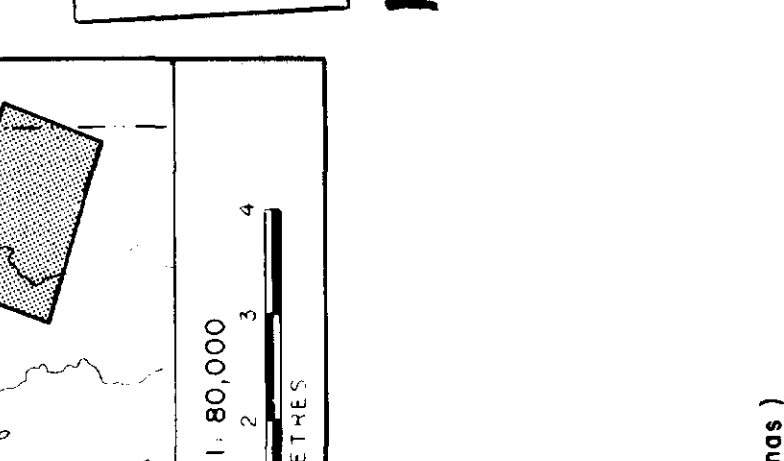
- INSTRUMENT: G - B18 Proton Magnetometer
- Absolute Magnetic Value (gamma):
- Magnetic Contour:
- Magnetic Depression:
- CONTOURS: Interval 100 gamma.
- 1000 gamma:
- 500 gamma:
- 100 gamma:
- Fault:
- Conductor Axis:



520



DIVISION OF MINES
MONTREAL REGION
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LEGEND

- INSTRUMENT: G-86 Proton Magnetometer
- Absolute Magnetic Value (gamma)
 - Magnetic Contour
 - Magnetic Depression
 - Interval 100 gamma
 - 500 gamma
 - 100 gamma
 - Fault
 - Conductor Axis

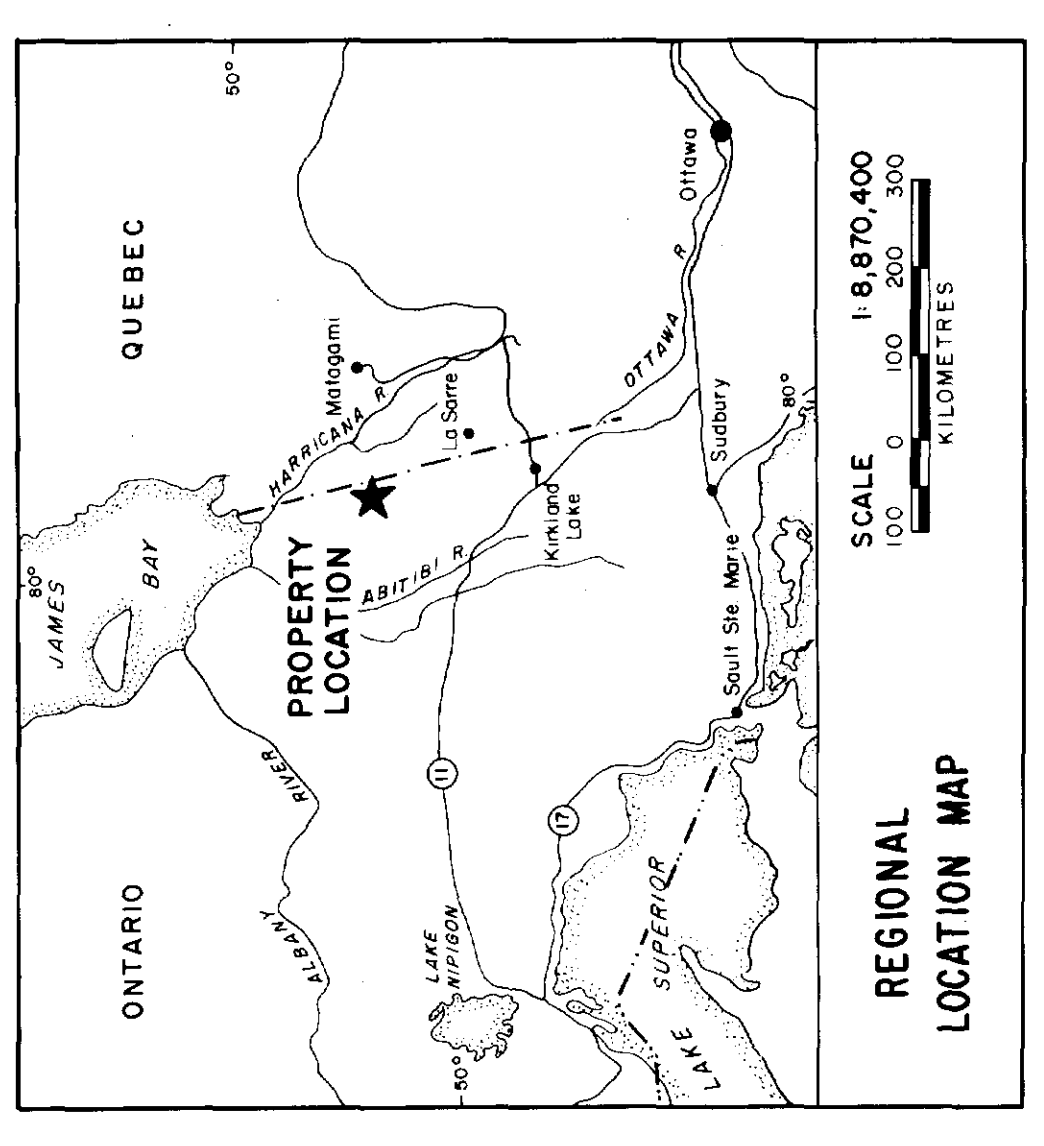
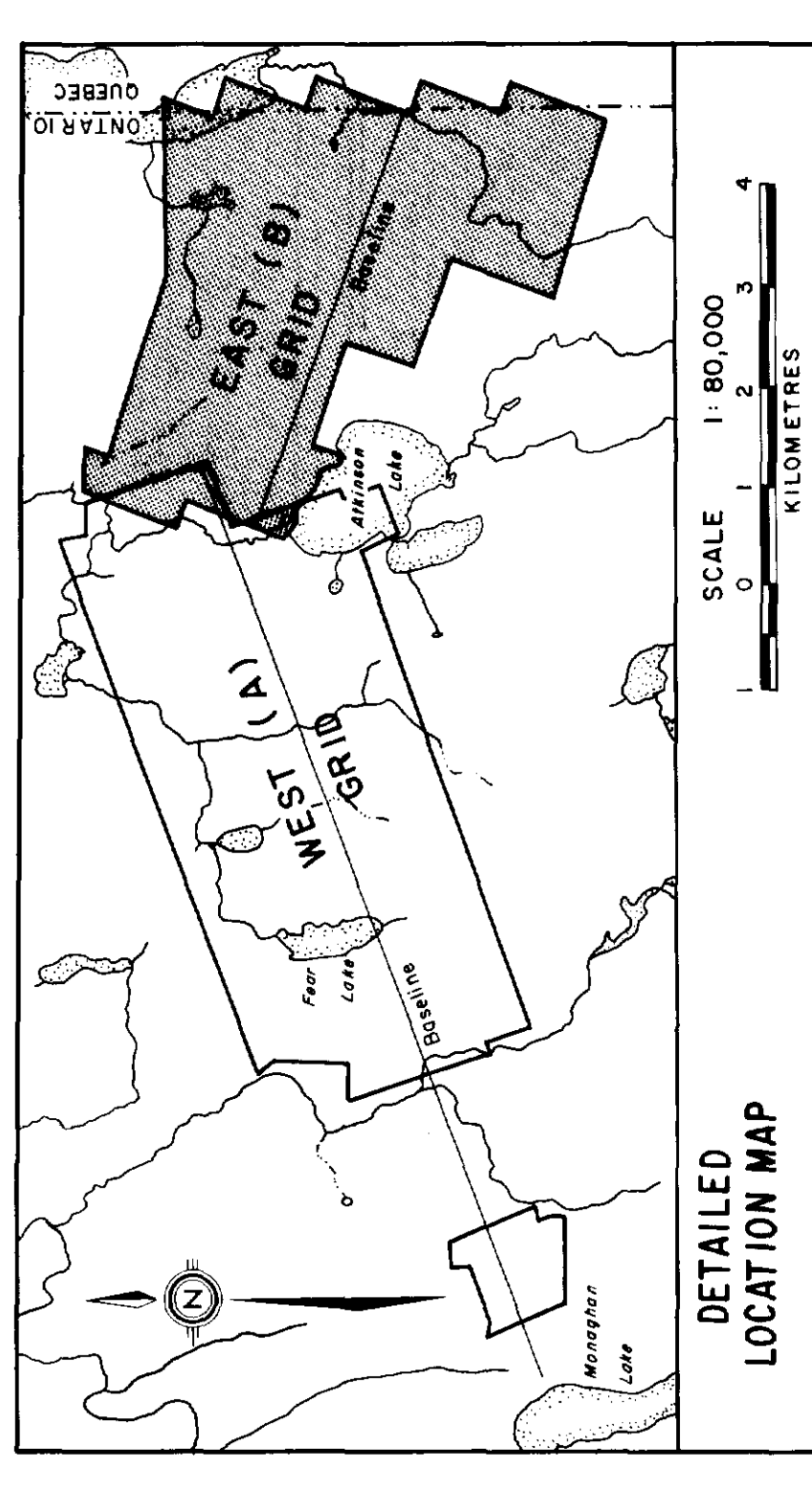
GETTY CANADIAN METALS, LIMITED

DETOUR LAKE PROJECT
EAST (B) GRID
MAGNETOMETER SURVEY

Project No. C-437 By: W.E. BREKTON
Scale: 1:2,500 Drawn: G.S. LIMITED
Drawing No. B-1-2 Date: JANUARY 1982

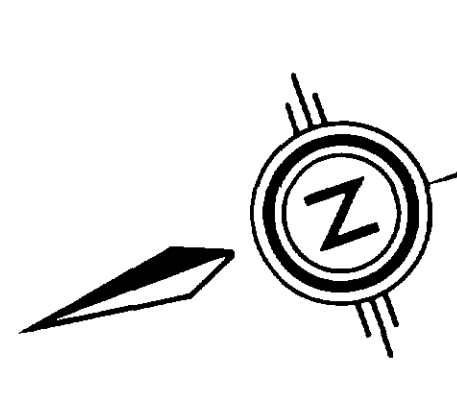
MPH MPH Consulting Limited





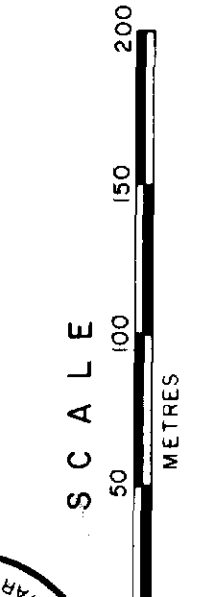
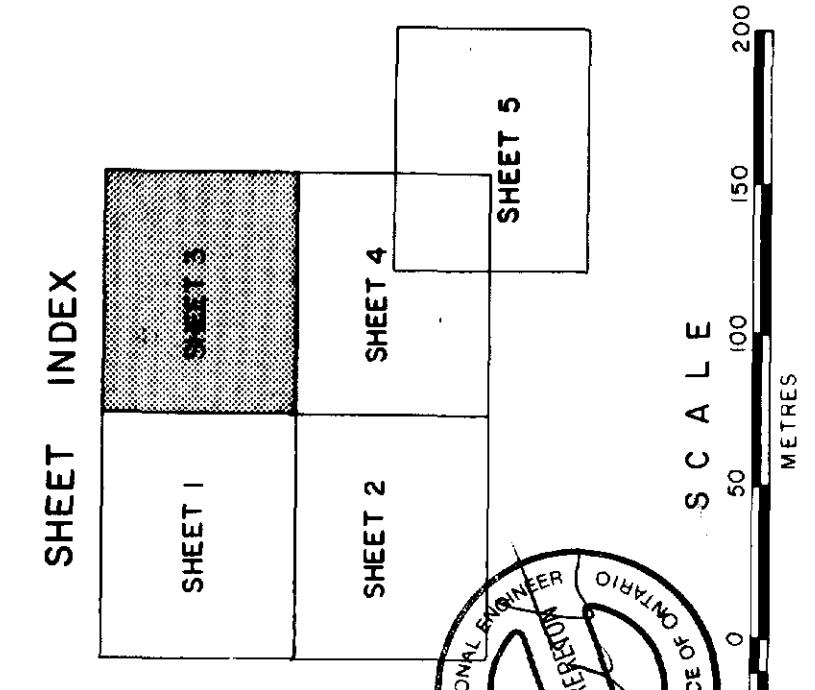
LEGEND

- INSTRUMENT:**
G - BIG Proton Magnetometer
Absolute Magnetic Value (gamma)
- CONTOURS:**
Interval 100 gamma
1000 gamma
500 gamma
100 gamma
- Magnetic Contour**
Magnetic Depression
- Fault**
Conductor Axis



DIVISION OF MINES
MAGNETIC SURVEY
AUG-5 1983
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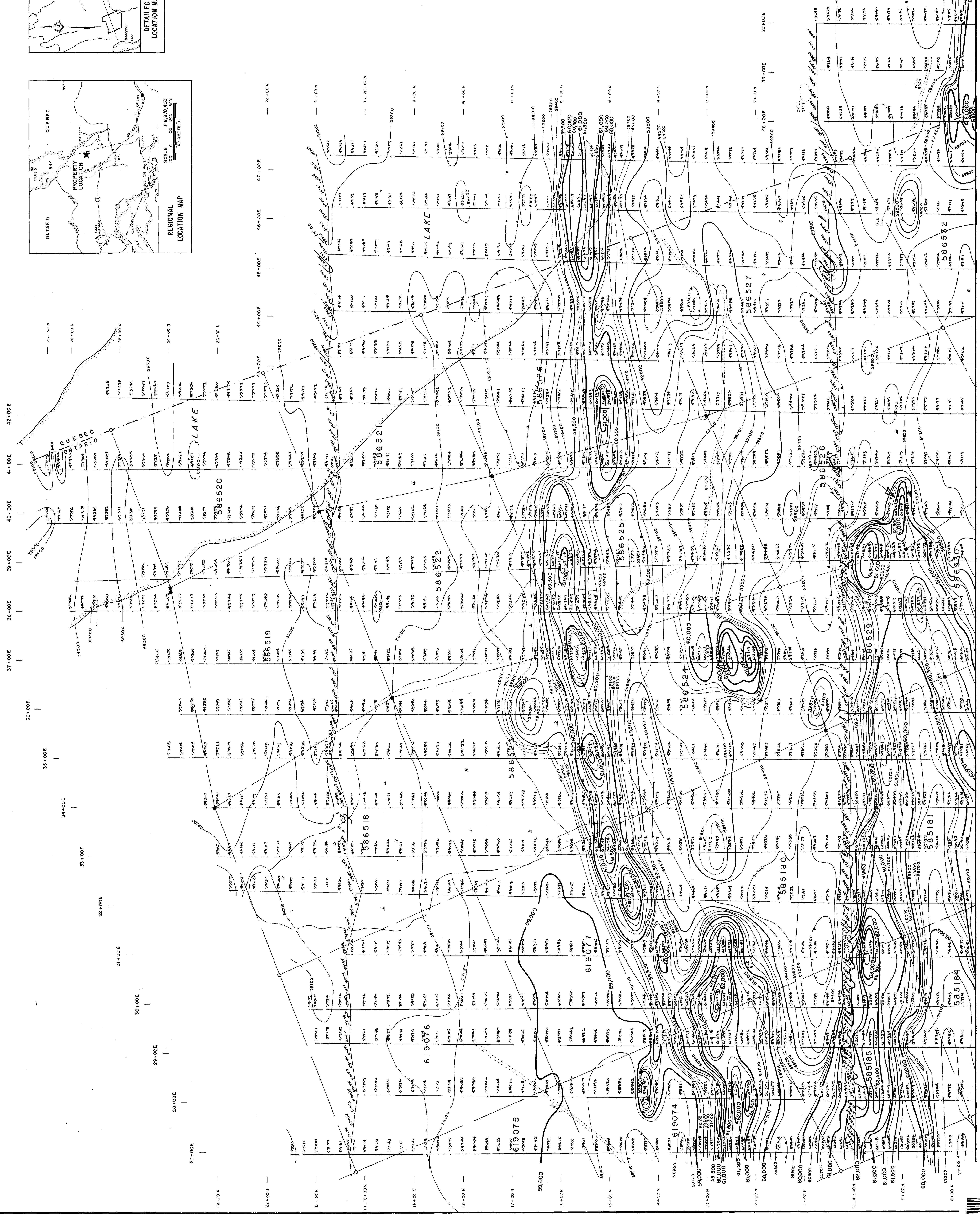


GETTY CANADIAN METALS, LIMITED

DETOUR LAKE PROJECT
EAST (B) GRID
MAGNETOMETER SURVEY

Project No. C-437
Scale: 1:2,500
By: M.E. BREWSTER
Drawn: G.C.S. LIMITED
Date: JANUARY, 1982
Drawing No. B-13

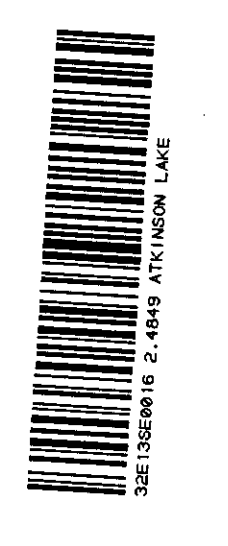
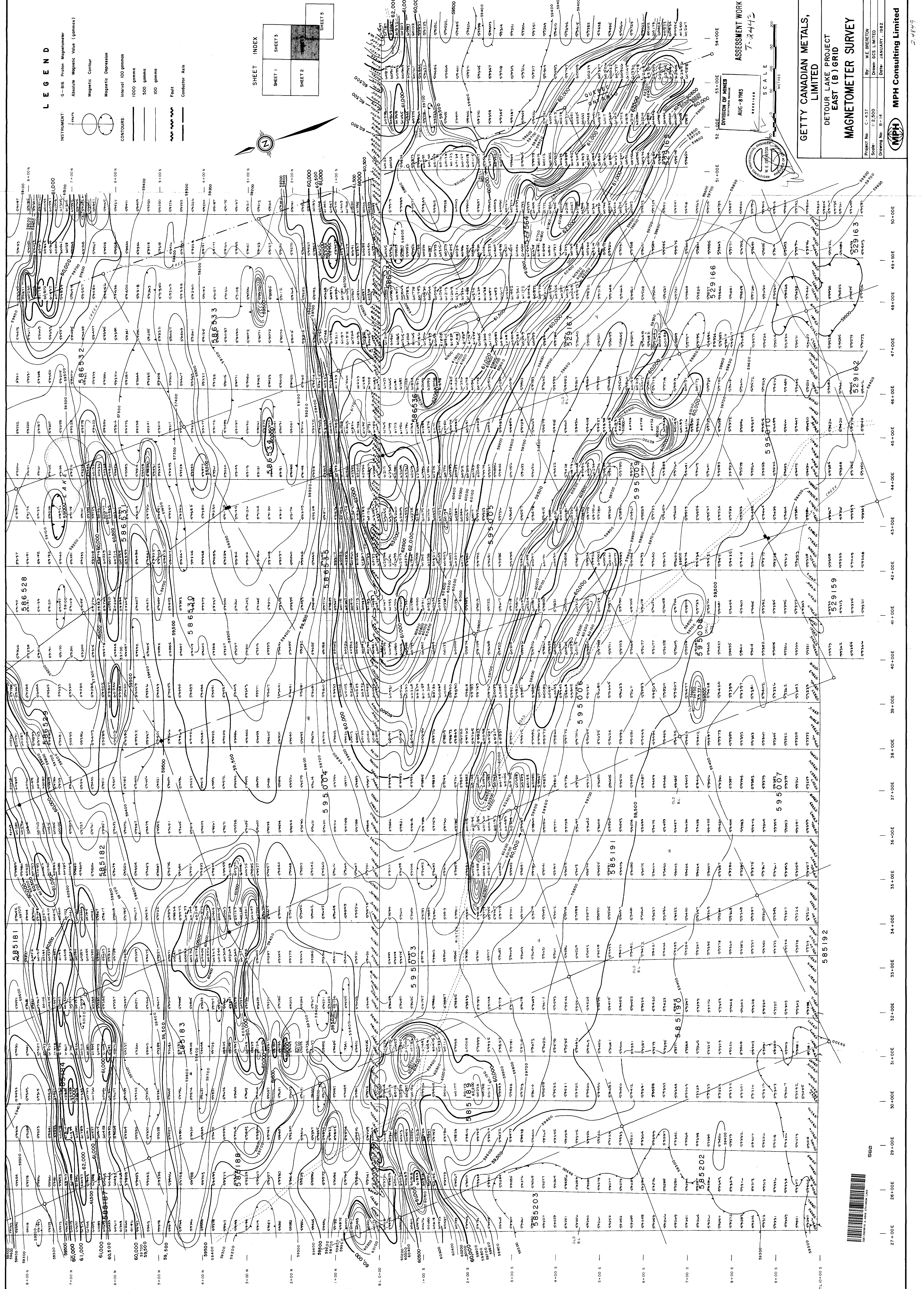
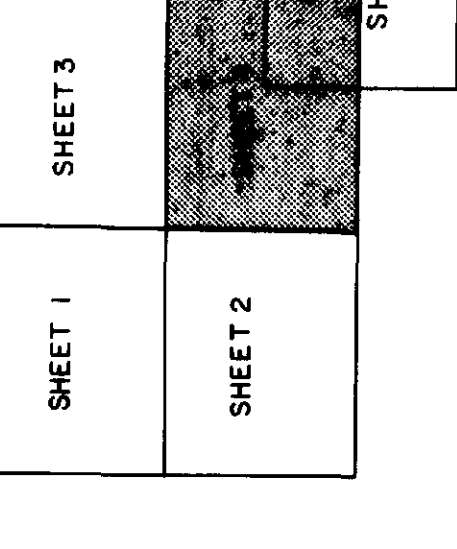
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LEGEND

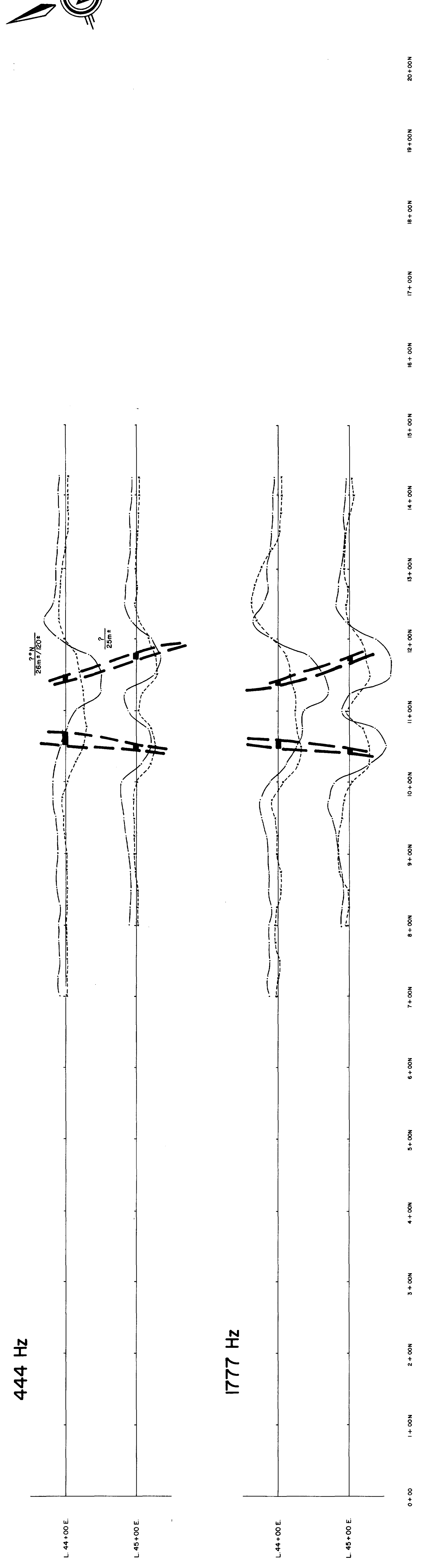
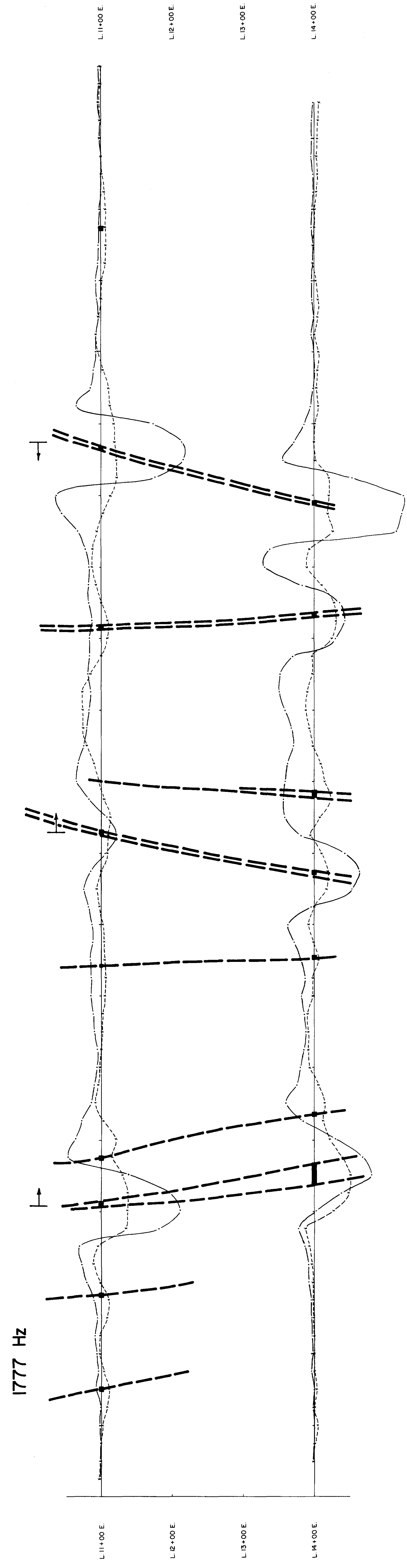
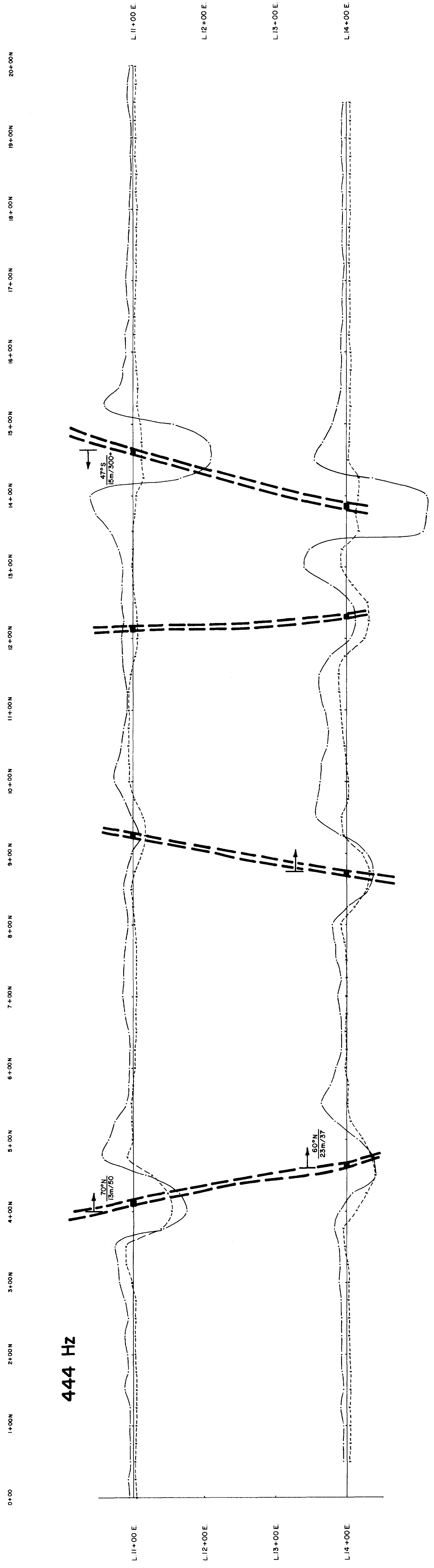
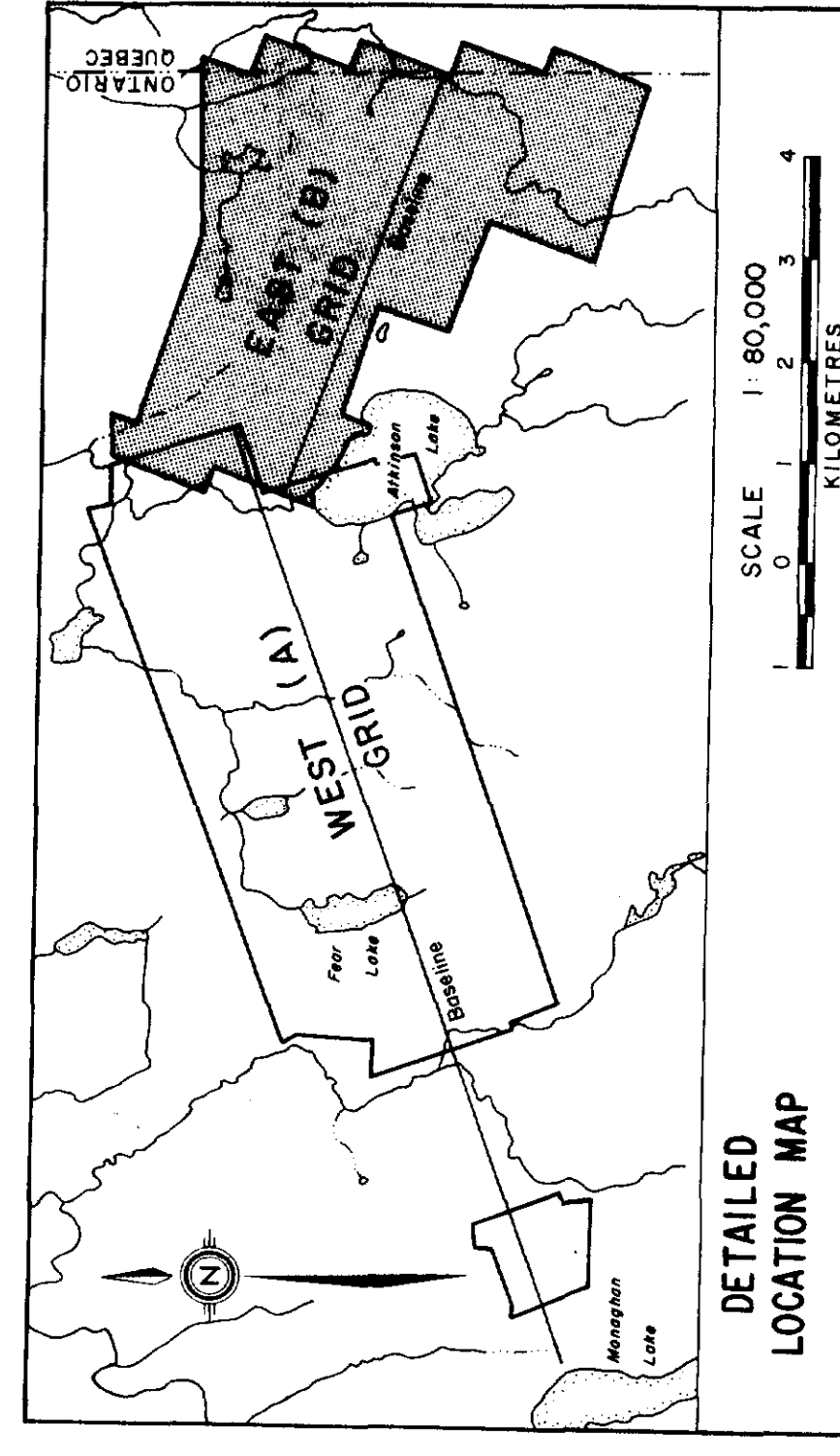
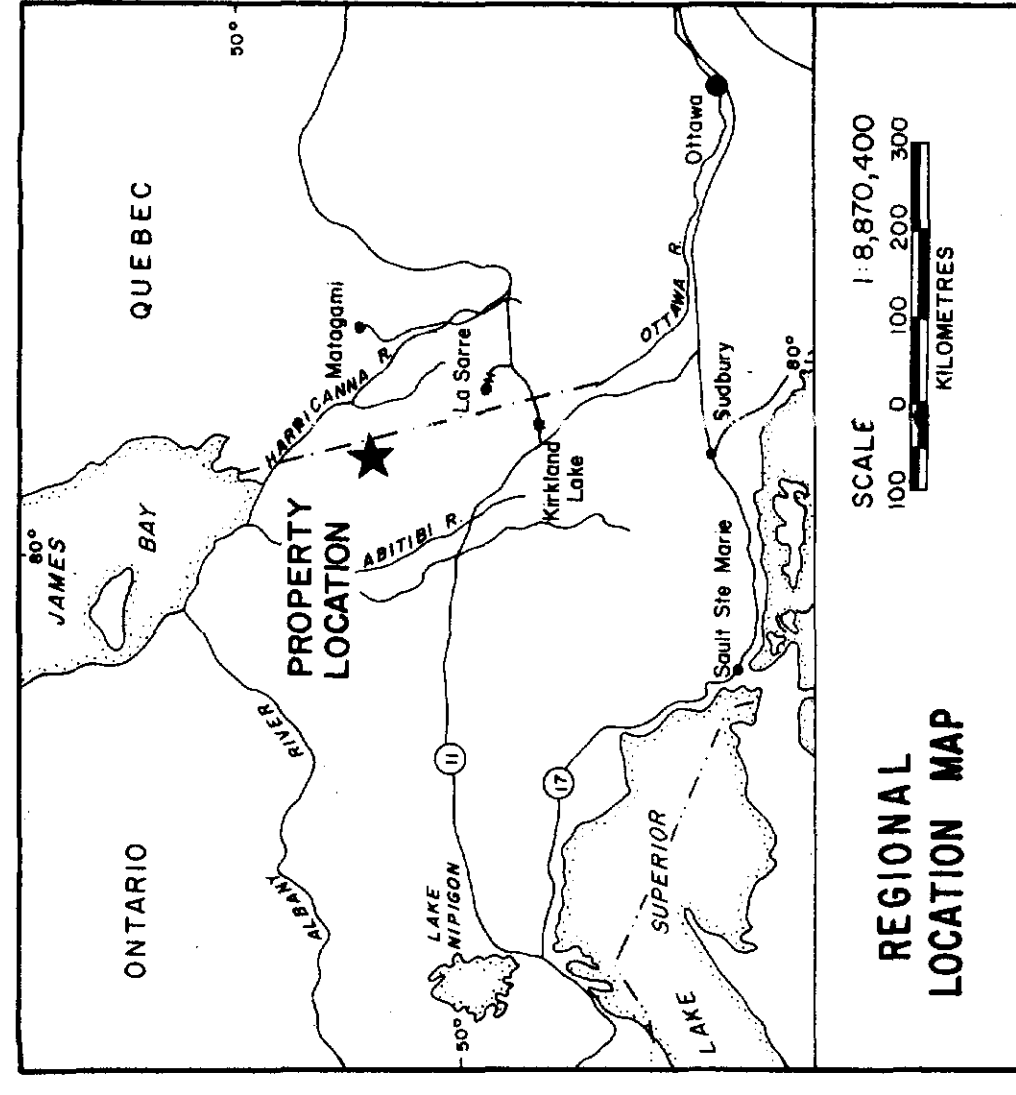
- INSTRUMENT: G-BIS Proton Magnetometer
Absolute Magnetic Value (gamma)
- Magnetic Contour
Magnetic Depression
- INTERVAL 100 gamma
- 1000 gamma
500 gamma
100 gamma
- Fault
Conductor Axis

SHEET INDEX



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27+00 E 28+00 E 29+00 E 30+00 E 31+00 E 32+00 E 33+00 E 34+00 E 35+00 E 36+00 E 37+00 E 38+00 E 39+00 E 40+00 E 41+00 E 42+00 E 43+00 E 44+00 E 45+00 E 46+00 E 47+00 E 48+00 E 49+00 E 50+00 E



LEGEND

INSTRUMENT Apex Parameters, Max Min II

CABLE LENGTH 100 metres

Inphase Profile

Quadrature Profile

Plotting Designation

Profile Scale (cm=10%)

Conductor Axis

Interpreted Dip

Divided into 100m sections

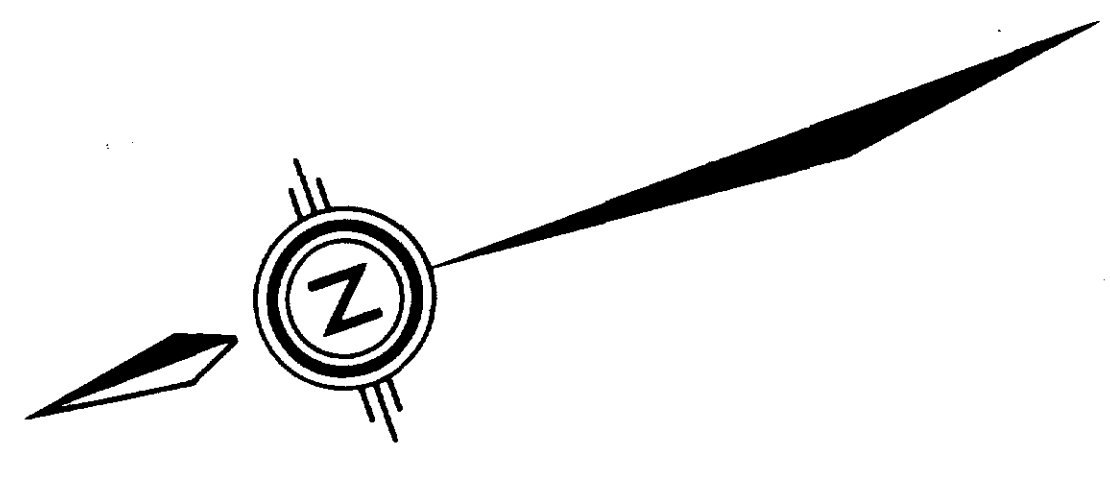
AUG-5-1983

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T-2443

0 100 200 METRES



GETTY CANADIAN METALS, LIMITED

DETOUR LAKE PROJECT

EAST (B) GRID

MAX MIN II SURVEY

Project No. C-457

Scale: 1:2,500

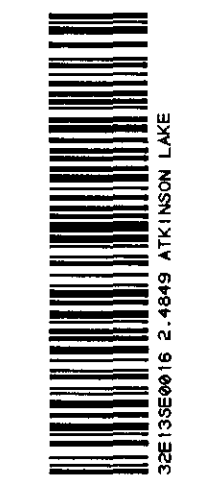
Drawing No. B-116

By: W.E. BREYTON

Drawn: GCS LIMITED

Date: FEBRUARY 1982

MPH Consulting Limited

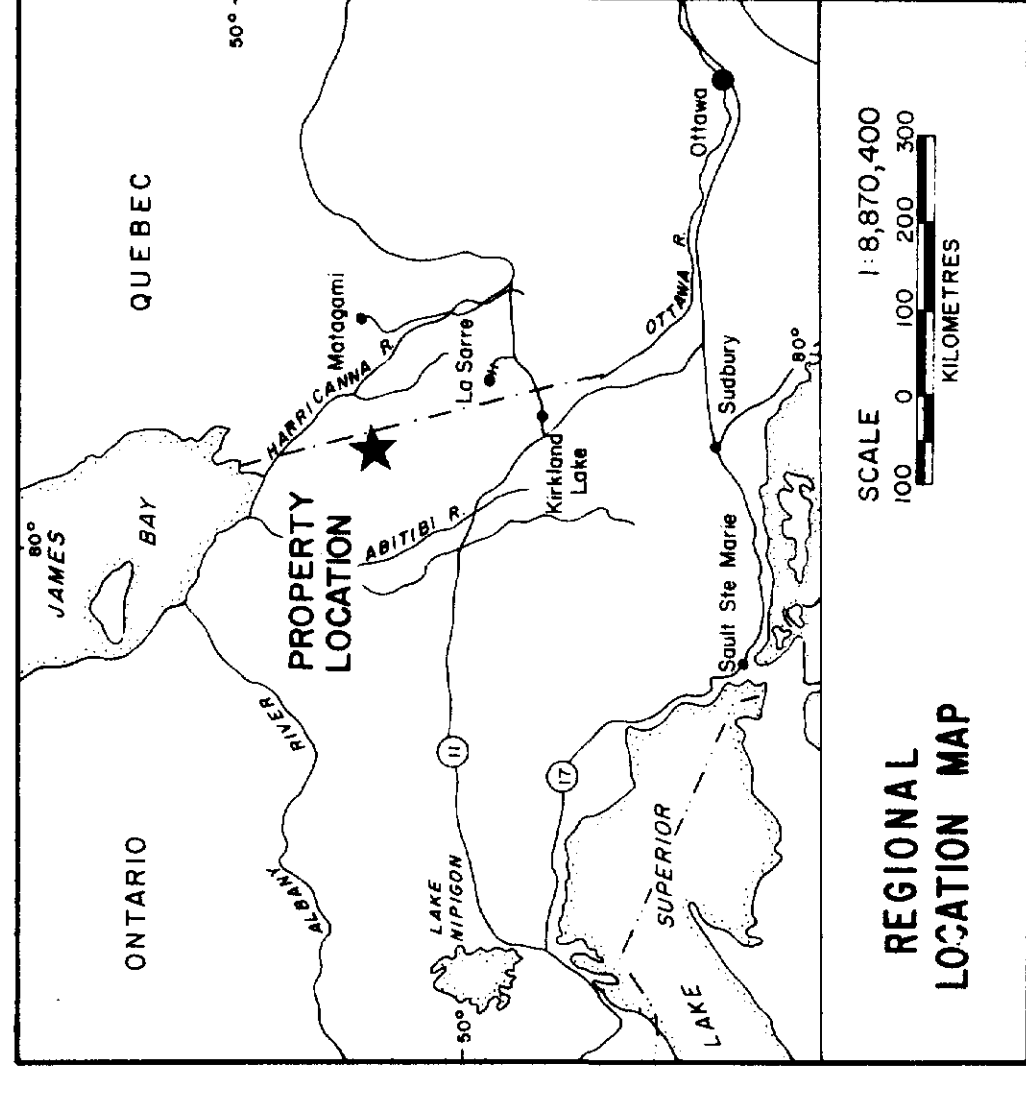
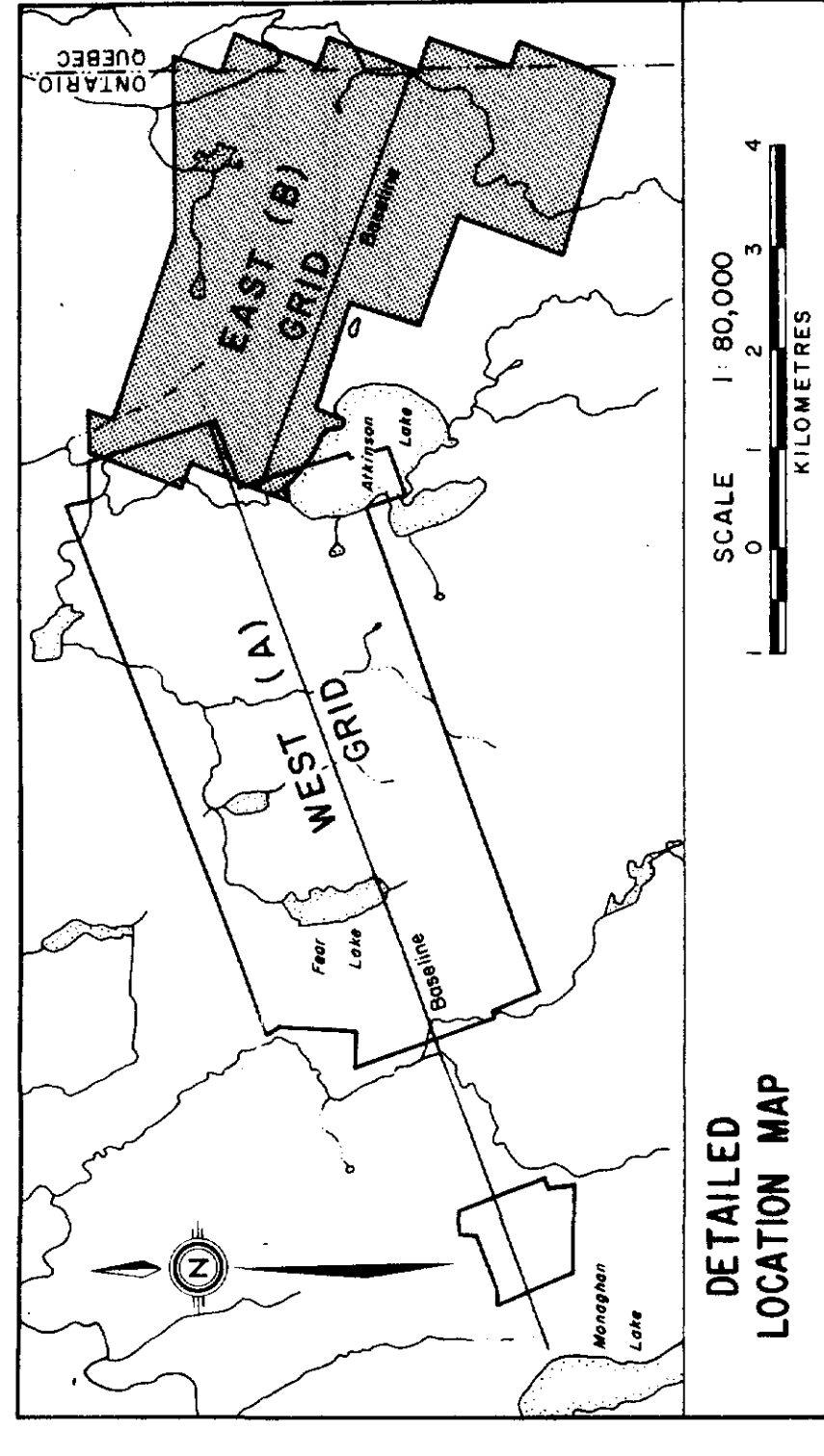
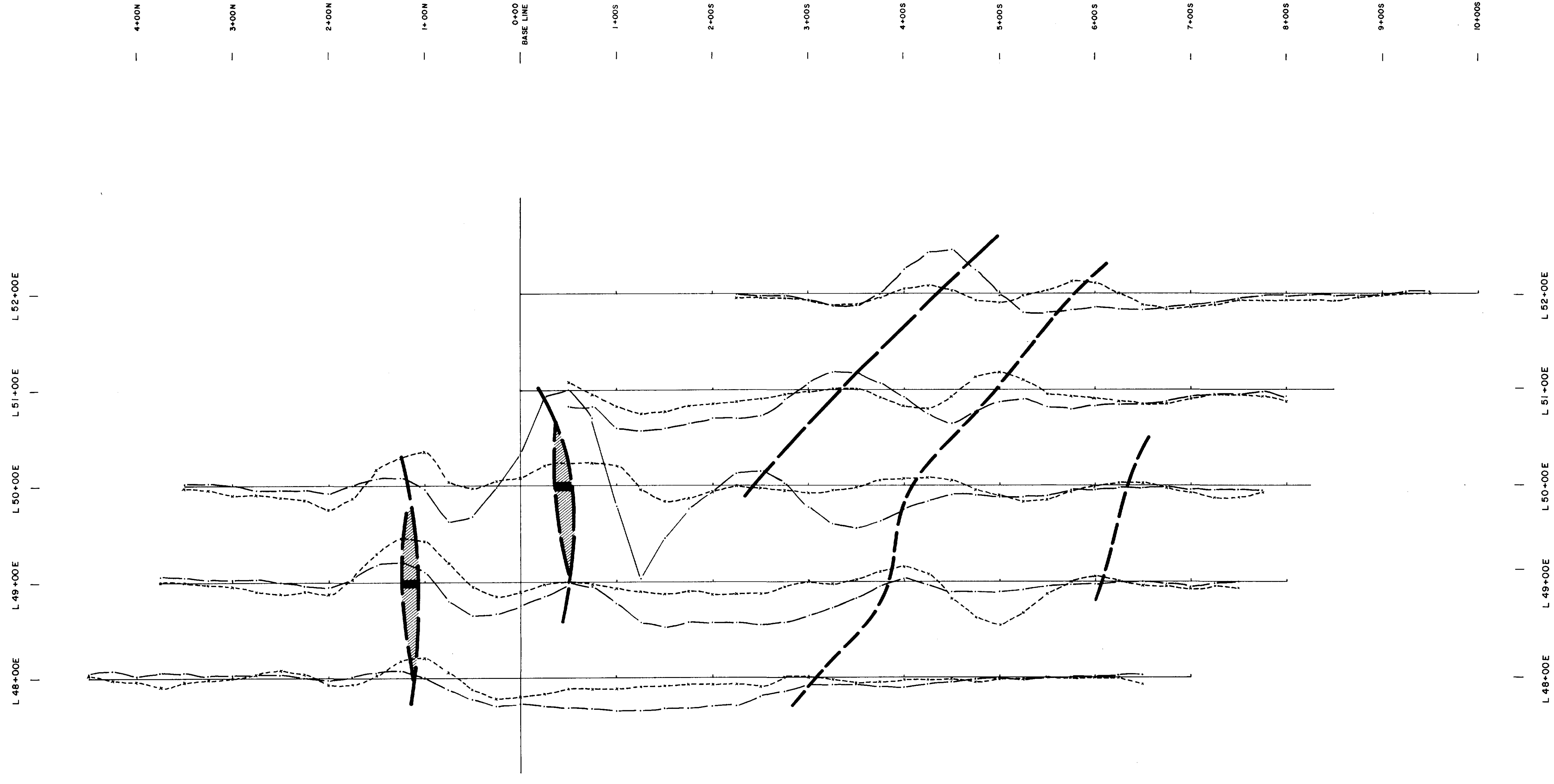
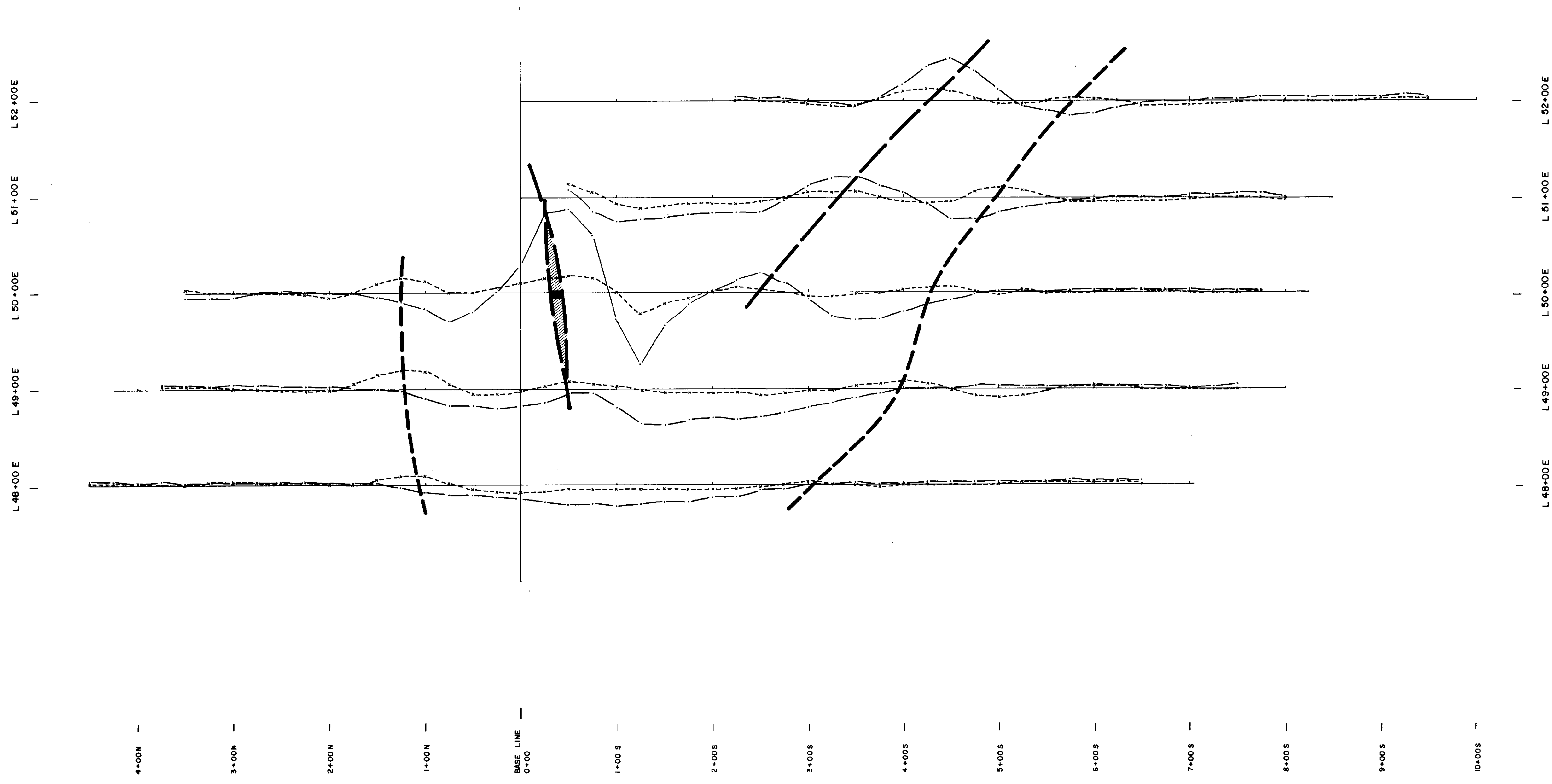


5820

8. 8. 8. 8. 8. 8.

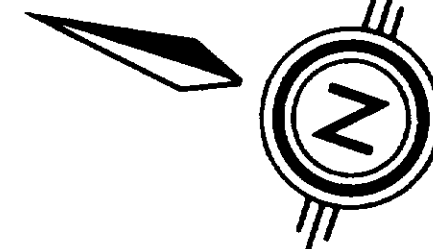
444 Hz.

1777 Hz.



LEGEND

- INSTRUMENT Apex Parametrics Max Min II
- CABLE LENGTH 100 metres
- Inphase Profile
- Quadrature Profile
- Plotting Description
- Profile Scale (cm=10%)
- Max Min II Conductor, weak, moderate to strong with inferred width.



DIVISION OF MINES
 RECEIVED
 AUG - 8 '83

ASSESSMENT WORK
 7-2443

SCALE
 0 50 100 200
 METRES

GETTY CANADIAN METALS,
 LIMITED
 DETOUR LAKE PROJECT
 EAST (B) GRID
 MAX MIN II SURVEY

Project No. C-437
 Scale 1:2,500
 Drawing No. B-17
 By: W.E. BREYTON
 Drawn: GCS LIMITED
 Date: FEBRUARY 1982



MPH Consulting Limited

ES90

