REPORT ON A COMBINED HELICOPTER BORNE MAGNETIC, ELECTROMAGNETIC AND VLF SURVEY
McNEIL TOWNSHIP PROPERTY
LARDER LAKE MINING DIVISION
ONTARIO

FOR
QUEENSTON MINING INC.
BY
AERODAT LIMITED
JULY 9, 1991

J9127A

R.J. de Carle
Consulting Geophysicist

TABLE (

LIST OF MAPS
(Scale 1:10,000)

MAPS: (As listed under Appendix "B" of the Agreement)

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   prepared from a semi-controlled photo laydown, showing registration crosses on the map corresponding to UTM co-ordinates.

2. **FLIGHT LINE MAP;**
   showing all flight lines, anomalies and fiducials with the photomosaic base map.

3. **AIRBORNE ELECTROMAGNETIC SURVEY INTERPRETATION MAP;**
   showing flight lines, fiducials, conductor axes and anomaly peaks along with inphase amplitudes and conductivity thickness ranges for the 4600 Hz coaxial coil system with the photomosaic base map.

4. **TOTAL FIELD MAGNETIC CONTOURS;**
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1. INTRODUCTION

This report describes an airborne geophysical survey carried out on behalf of Queenston Mining Inc. by Aerodat Limited. Equipment operated included a five frequency electromagnetic system, a high sensitivity cesium vapour magnetometer, a two frequency VLF-EM system, a video tracking camera and a radar altimeter. Electromagnetic, magnetic and altimeter data were recorded both in digital and analog form. Positioning data were recorded on VHS video tapes as well as being marked on the flight path mosaic by the operator while in flight.

The survey area, comprised of a block of ground in the Matachewan area, is located approximately 45 kilometres southeast of Timmins, Ontario. Three (3) flights, which were flown on May 14 and 15, 1991, were required to complete the survey. Flight lines were oriented at an Azimuth of 000-180 degrees and flown at a nominal line spacing of 100 metres. Coverage and data quality were considered to be well within the specifications described in the contract.

The survey objective is the detection and location of mineralized zones which can be directly or indirectly related to precious metal or base metal exploration targets. In reference to the electromagnetic data, the writer will pay particular attention to poorly defined EM responses which may reflect poorly mineralized conductors within gold bearing structural features. Weak conductors associated with sheared and altered metavolcanic and metasedimentary rock types are also considered primary targets for precious metals. In regards to base metal targets, short isolated or flanking conductors displaying good conductivity and having either magnetic correlation or no magnetic correlation, are all considered to be areas of extreme interest. Interpretation of the magnetic data should reveal cross-cutting or splay-type structures and it may also reveal stratigraphically controlled sheared or deformation zones. An analysis of the VLF-EM data will also be carried out, in order to locate structures, as well as any weakly conductive horizons that may lead to the location of primary precious metal targets.

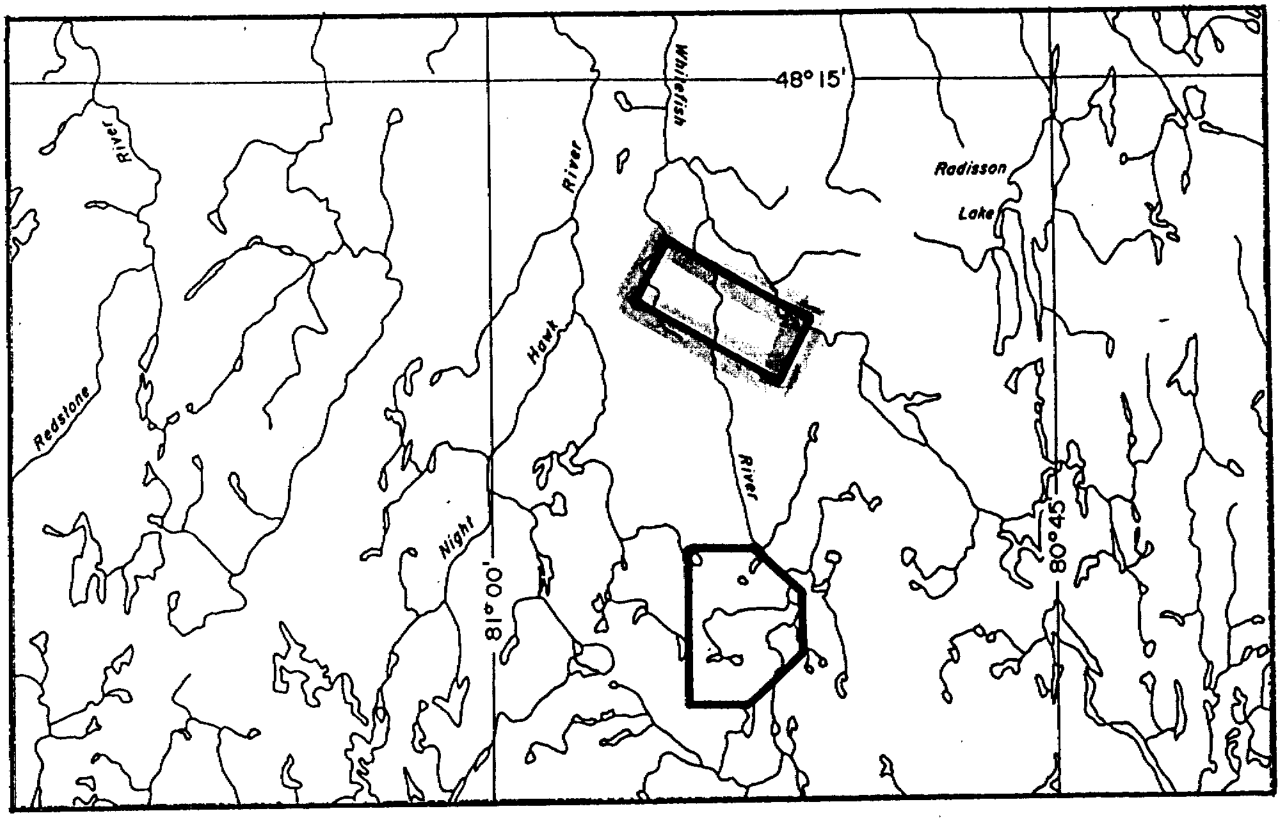
A total of 130 line kilometres of the recorded data were compiled in map form and are presented as part of this report according to specifications outlined by Queenston Mining Inc.

2. SURVEY AREA LOCATION

The survey area is depicted on the index map as shown. It is centred at Latitude 48 degrees 11 minutes north, Longitude 80 degrees 54 minutes west, approximately 45 kilometres southeast of Timmins, Ontario. The survey block is also located approximately 32 kilometres northwest of the village of Matachewan (N.T.S. Reference Map 42 A 2).

Means of access to the survey area can be made from Provincial Highway 566, which traverses across the southern boundary of Argyle Township. This road can be gained from Matachewan. From Highway 566, there are also what appear to be a number of lumber roads traversing throughout much of the region.

The terrain throughout much of the McNeil Property is about 1000 feet above sea level. The area is characterized by gently rolling hills, with relief about 50 feet. The lowest elevations are towards the western portion of the survey block, while the highest regions are towards the east, where the terrain is about 1150 feet A.S.L.



AIRBORNE GEOPHYSICAL SURVEY
on behalf of
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McNEIL TOWNSHIP, ONTARIO

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3. AIRCRAFT AND EQUIPMENT

3.1 Aircraft

An Aerospatiale A-Star 350D helicopter, (C-GIBU), owned and operated by Canadian Helicopters Limited, was used for the survey. Installation of the geophysical and ancillary equipment was carried out by Aerodat. The survey aircraft was flown at a mean terrain clearance of 60 metres.

3.2 Equipment

3.2.1 Electromagnetic System

The electromagnetic system was an Aerodat 5-frequency system. Two vertical coaxial coil pairs were operated at 935 Hz. and 4600 Hz. and three horizontal coplanar coil pairs were operated at 865 Hz., 4175 Hz. and 32 kHz. The transmitter-receiver separation was 7 metres. Inphase and quadrature signals were measured simultaneously for the 5 frequencies with a time constant of 0.1 seconds. The electromagnetic bird was towed 30 metres below the helicopter.

3.2.2 VLF-EM System

The VLF-EM System was a Herz Totem 2A. This instrument measures the total field and quadrature components of two selected transmitters, preferably oriented at right angles to one another. The sensor was towed in a bird 15 metres below the helicopter. The VLF transmitters monitored were NAA, Cutler, Maine broadcasting at 24.0 kHz for the Line Station and NLK, Seattle, Washington broadcasting at 24.8 kHz for the Orthogonal Station.

3.2.3 Magnetometer

The magnetometer employed was an Aerodat/Scintrex Model VIW-2321 H8 cesium, optically pumped magnetometer sensor. The sensitivity of this instrument was 0.1 nanoTeslas at a 0.2 second sampling rate. The sensor was towed in a bird 15 metres below the helicopter.

3.2.4 Magnetic Base Station

An IFG (GSM-8) proton precession magnetometer was operated at the base of operations near Matachewan to record diurnal variations of the earth's magnetic field. The clock of the base station was synchronized with that of the airborne system to facilitate later correlation.

3.2.5 Radar Altimeter

A King Air KRA-10 radar altimeter was used to record terrain clearance. The output from the instrument is a linear function of altitude for maximum accuracy.

3.2.6 Tracking Camera

An Aerodat colour video tracking camera was used to record flight path on VHS video tape. The camera was operated in continuous mode and the fiducial numbers and time marks for cross reference to the analog and digital data were encoded on the video tape.

3.2.7 Analog Recorder

An RMS dot-matrix recorder was used to display the data during the survey. In addition to manual and time fiducials, the following data were recorded:

Channel	Input	Scale
CXI1	935 Hz Coaxial Inphase	2.5 ppm/mm
CXQ1	935 Hz Coaxial Quadrature	2.5 ppm/mm
CXI2	4600 Hz Coaxial Inphase	2.5 ppm/mm
CXQ2	4600 Hz Coaxial Quadrature	2.5 ppm/mm
CPI1	865 Hz Coplanar Inphase	10 ppm/mm
CPQ1	865 Hz Coplanar Quadrature	10 ppm/mm
CPI2	4175 Hz Coplanar Inphase	10 ppm/mm
CPQ2	4175 Hz Coplanar Quadrature	10 ppm/mm
CPI3	32 kHz Coplanar Inphase	20 ppm/mm
CPQ3	32 kHz Coplanar Quadrature	20 ppm/mm
PWRL	Power Line	60 Hz
VLT	VLF-EM Total Field, Line	2.5%/mm
VLQ	VLF-EM Quadrature, Line	2.5%/mm
VOT	VLF-EM Total Field, Ortho	2.5%/mm
VOQ	VLF-EM Quadrature, Ortho	2.5%/mm

RALT	Radar Altimeter	10 ft/mm
MAGF	Magnetometer, fine	2.5 nT/mm
MAGC	Magnetometer, coarse	25 nT/mm

3.2.8 Digital Recorder

A DGR 33 data system recorded the survey on magnetic tape. Information recorded was as follows:

Equipment	Recording Interval
EM System	0.1 seconds
VLF-EM	0.2 seconds
Magnetometer	0.2 seconds
Altimeter	0.2 seconds

3.2.9 Global Positioning System

A Trimble (Pathfinder) Global Positioning System (GPS) was used for both navigation and flight path recovery. Navigational satellites were interrogated by the GPS antennae and the navigational computer calculated the position of the helicopter in either UTM co-ordinates or Latitude and Longitudes. The navigational computer used was a Picodas PNAV 2001 display unit and Processor, which also displays to the pilot and navigator the flight path of the helicopter. The positional data were recorded on magnetic tape for subsequent flight path determination.

4. DATA PRESENTATION

4.1 Base Map

A photomosaic base map at a scale of 1:10,000 was prepared from a semi-controlled photo laydown and has been presented on a screened mylar Cronaflex base map.

4.2 Flight Path Map

The flight path was derived from the Global Positioning System. The flight lines have the time and the navigator's manual fiducials for cross reference to both analog and digital data.

The manual fiducials are shown as a small circle and labelled by fiducial number. The 24 hour clock time is shown as a small square, plotted every 30 seconds. Small tick marks are plotted every 2 seconds. Larger tick marks are plotted every 10 seconds. The line and flight numbers are given at the start and end of each survey line.

The flight path map is merged with the base map by matching UTM coordinates from the base maps and the flight path record. The match is confirmed by checking the position of prominent topographic features as recorded by manual fiducial marks or as seen on the flight path video record.

4.3 Airborne Electromagnetic Survey Interpretation Map

The electromagnetic data were recorded digitally at a sample rate of 10 per second with a time constant of 0.1 seconds. A two stage digital filtering process was carried out to reject major sferic events and to reduce system noise.

Local sferic activity can produce sharp, large amplitude events that cannot be removed by conventional filtering procedures. Smoothing or stacking will reduce their amplitude but leave a broader residual response that can be confused with geological phenomena. To avoid this possibility, a computer algorithm searches out and rejects the major sferic events.

The signal to noise ratio was further enhanced by the application of a low pass digital filter. It has zero phase shift which prevents any lag or peak displacement from occurring, and it suppresses only variations with a wavelength less than about 0.25 seconds. This low effective time constant permits maximum profile shape resolution.

Following the filtering process, a base level correction was made. The correction applied is a linear function of time that ensures the corrected amplitude of the various inphase and quadrature components is zero when no conductive or permeable source is present. The filtered and levelled data were used in the interpretation of the electromagnetics. An interpretation map was prepared showing peak locations of anomalies and conductivity thickness ranges along with the Inphase amplitudes (computed from the 4600 Hz coaxial responses). The data are presented on a screened copy of the Cronaflex photomosaic base map.

4.4 Magnetic Total Field Contours

The aeromagnetic data were corrected for diurnal variations by adjustment with the digitally recorded base station magnetic values. The corrected profile data were interpolated onto a regular grid at a 25 metre true scale interval using an Akima spline technique. The grid provided the basis for threading the presented contours at a 2 nanoTesla interval.

The contoured aeromagnetic data have been presented on a Cronaflex copy of the photomosaic base map.

4.5 Vertical Magnetic Gradient Contours

The vertical magnetic gradient was calculated from the gridded total field magnetic data. Contoured at a 0.1 nT/m interval, based on a 25 metre grid, the gradient data were presented on a Cronaflex copy of the photomosaic base map.

4.6 Apparent Resistivity Contours

The electromagnetic information was processed to yield a map of the apparent resistivity of the ground.

The approach taken in computing apparent resistivity was to assume a model of 200 metre thick conductive layer (i.e., effectively a half space) over a resistive bedrock. The computer then generated, from nomograms for this model, the resistivity that would be consistent with the bird elevation and recorded amplitude for the 4600 Hz coaxial frequency of EM data. The apparent resistivity profile data were interpolated onto a regular grid at a 25 metres true scale interval using a cubic spline technique.

The contoured apparent resistivity data were presented on a screened Cronaflex copy of the photomosaic base map with the flight lines.

4.7 VLF-EM Total Field Contours

The VLF electromagnetic data derived from Cutler, Maine was processed to produce a total field contour map on a 25 metre grid with a 1% contour interval. The VLF data for the Line Station is presented on a screened copy of the Cronaflex photomosaic base map.

5. INTERPRETATION

5.1 Geology

The survey block is underlain primarily with early Precambrian mafic, intermediate to felsic metavolcanics. Intruding these rock types are Matachewan type diabase dikes, as well as a felsic intrusive stock.

Felsic metavolcanics are located towards the northwestern portion of the survey block, just inside Fasken Township. To the south and southwest, a large region is underlain with what is believed to be an equivalent of the lower formation of the Tisdale Group. These are mainly basaltic komatiite and magnesium-rich tholeiite basalts.

Towards the northeast corner of the survey block, the region is underlain with a large felsic intrusive, which is believed to either granodiorite or quartz monzonite.

Intruding all of the above rocks are believed to be Matachewan type diabase dikes. They are generally striking north-south. Later intrusions of diabase dikes are not indicated on any of the geology maps, but are thought to exist.

Structurally, the major Montreal River Fault is known to traverse diagonally across the northeast corner of the survey block. A major splay-type fault from the Montreal River Fault cuts across the southwest corner as well. There may be smaller structures within the survey area that are associated with these two major faults as well.

A certain degree of metamorphism has probably taken place, within a small range, in close proximity to the felsic intrusive. This phenomenon may be evident on the magnetic data.

The writer is not familiar with what previous exploration work has been carried out within this survey area. There is no doubt that some work has been done, with respect to both gold and base metals. A more thorough search of the assessment files would have to be done, in order for the writer to render any geophysical relationships.

5.2 Magnetics

Both the felsic and mafic metavolcanics are displaying low magnetic intensities throughout the region. Their backgrounds are generally in the range of 58,100 to 58,400 nanoTeslas. At first glance, it would appear that the felsic metavolcanics may be exhibiting a slightly higher reading than that for the mafic metavolcanics. However, this phenomenon may be just an effect from other magnetic sources in the area.

The most obvious magnetic feature within the survey block is the large magnetic anomaly that is located towards the northeast corner. This is the region that is underlain with the felsic intrusive. Because of its obvious magnetic susceptibility, the contact of this intrusive can be mapped quite accurately. There is no obvious, distinctive metamorphic aureole near the contact of this intrusive.

The north-south and northeast-southwest trending magnetic features are apparently associated with diabase dikes. The former are thought to be Matachewan type dikes, while the latter are believed to be much later structures.

The magnetic feature towards the extreme southwest corner of the block has similar magnetic backgrounds as the felsic intrusive. However, it is not known if this magnetic anomaly is associated with a felsic intrusive. There is the possibility that an ultramafic sill is the source.

There are no obvious indications from the magnetics within the survey block, that deformation zones exist. If they did, one would expect them to be located in close proximity to the felsic intrusive, perhaps within the mafic metavolcanics.

5.3 Vertical Gradient Magnetics

The areas of high intensity magnetics have been broken up into unique trends as a result of the computation of the vertical gradient. This interpretation is not as readily obvious when one refers to the magnetic total field map. This is especially true in the region of the felsic intrusive.

It should also be pointed out that the zero contour interval coincides directly or is very close to geological contacts. It is because of this phenomenon that the calculated vertical gradient map can be compared to a pseudo-geological map.

Using known or accurate geological information from various geological publications and Queenston Mining mapping crews, and combining this information with the vertical gradient data, one may use the resulting map as a pseudo-geological map. It is believed that most, if not all, of the linear, north-south and northeast-southwest trending magnetic features are related to diabase dikes. The magnetic features within the felsic intrusive may be related to mafic dikes from mafic volcanic inclusions within the intrusive.

Could some of the more subtle magnetic features within the survey area be associated with pyrrhotite? The writer suggests that some of the east-west to east-southeast magnetic trends be looked at while in the field. One area is located towards the west central region and a second area is in the east central region. The writer has indicated a few fault zones on the Interpretation Map. Most are either cross-cutting or splay-type faults from the larger Montreal River Fault. Any possibilities of identifying deformation zones from the magnetics alone will be extremely difficult. One should also keep in mind that any of the diabase structures are also probably related to previous and older fault structures.

5.4 Electromagnetics

The electromagnetic data was first checked by a line-by-line examination of the anomaly records. Record quality was good and any instrument noise was well within the specifications of the contract. Any subtle noise that did exist was removed by an appropriate de-spiking filter. Geologic noise, in the form of surficial conductivity, is present on the high coplanar coil, the mid coplanar frequency coil and to a lesser degree on the high frequency coaxial coil. These areas tend to be associated with river bottom silts and swamps.

Anomalies were picked off the analog traces of the low and high frequency coaxial responses and then validated on the coplanar profile data. The data were then edited and re-plotted on a copy of the profile map. This procedure ensured that every anomalous response spotted on the analog data was plotted on the final map and allowed for the rejection - or inclusion if warranted - of obvious surficial conductors. Each conductor or group of conductors was evaluated on the basis of magnetic (and lithologic, where applicable) correlations apparent from the analog data and man-made or surficial features not obvious on the analog charts.

RESULTS

The results of this airborne survey clearly show a moderately conductive overlying overburden cover. There is not known to be an overly abundance of outcrop in this area, which may explain the lack of many resistive areas in the region. As mentioned earlier, river bottom silts and swamps are generally believed to be the cause of most of this surficial conductivity. A variable thickness of clay within the overlying cover may also be contributing to the overall EM response.

A phenomenon which is obvious over these types of environments is the so-called "edge effect". This is where there are wide, flat-lying, sheet-like conductors that are displaying EM signatures at the edges, that give the appearance of widely spaced vertical or near vertical bedrock conductors. These phenomena most often exhibit two widely spaced, positive coaxial responses with one positive coplanar response in between. The writer may have outlined a few of these responses on the Interpretation Map. However, there may be occasions where fault zones along the edge of grabens may give rise to a little stronger EM response. If the EM responses are sharp enough, there is a very good chance that mineralization may be the cause.

There were no electromagnetic responses intercepted within this survey block, that one could clearly associate with a bedrock source. It does not seem that the nature of the overlying conductive materials would inhibit the detection of any weak bedrock conductor either. In reference to both the lower coaxial and coplanar frequencies, if any deep seated conductors do exist here, they have not been picked up with either frequency.

The writer has outlined four (4) targets on the Interpretation Map, targets which have been assigned a letter and a number beside them (e.g. M1, M2, etc.) and representing the McNeil Property project.

These are not well defined EM responses and should be treated as low priority targets. Zones M1 and M2 display somewhat sharper coaxial responses, with subtle negative coplanar responses as well. Their proximity to the felsic intrusive may be of interest.

Zones M3 and M4 are both located within the region of the felsic intrusive and both may very well be related to the "edge effects" caused by conductive overburden.

5.5 Apparent Resistivity

The three regions within the survey block that display the lowest apparent resistivities, are believed to be caused by accumulations of river bottom silts within the confines of topographical troughs. They generally display apparent resistivities in the order of 100 ohm-metres or less. To locate any sulphide showings within these environments with the frequency domain systems will be extremely difficult. Most other regions within the block that display subtle conductivity are also believed to be associated with conductive overburden.

In reference to the region in close proximity to the felsic intrusive, one will note a conductive horizon that is located in close proximity to the intrusive. Could this region be a metamorphosed aureole phase surrounding the intrusive? At this point, it is difficult to say whether or not conductive overburden is the cause. A ground reconnaissance survey is definitely warranted for this region.

Another southeast-northwest trend that could be looked at is located towards the west central region. Interestingly enough, there is also good magnetic correlation, which means that pyrrhotite could be the source.

5.6 VLF-EM Total Field

There is no semblance of correlation with the magnetic data at all, suggesting an absence of any relationship with the basement rocks. Structurally, there may be some information to come out of this data set on an indirect basis.

In comparing the VLF data with the apparent resistivity data presentation, it will be seen that there is reasonable correlation. Based on this comparison, this would tend to suggest that the VLF-EM system has responded to the conductive overburden, as well as the swamps. In fact, the correlation with the 5 frequency profile data is quite good. There are some discrepancies however, and this is mainly due to the biasing effect with the VLF data. It is felt that the apparent resistivity data more accurately outlines the surficial material compared to the VLF data.

Upon carrying out a somewhat more comprehensive assessment of the VLF-EM data, structural events may be interpreted. However, any attempts to interpret bedrock conductors will be extremely difficult, if not impossible.

5.7 Conclusion and Recommendations

On the basis of the results of this airborne survey, ground follow-up is suggested for a few areas as indicated by the writer in Section 5.5 of this report. It is felt that each of these targets would be of primary interest for their base metal potential. However, this is an area that has geological implications to having precious metal potential as well, as noted towards the southeast corner of McNeil Township.

There were no 5 frequency EM responses intercepted that one could associate with bedrock sources. However, the apparent resistivity data presentation may be of interest in a couple of areas for their possible relationship with bedrock sources, one being located near the contact with the felsic intrusive.

Structural information should be obtained through a more comprehensive evaluation of the magnetic data and possibly, to a lesser degree, through an overview of the VLF data. Cross-cutting and splay type faults are evident within some portions of the survey block. These are extremely important with respect to any precious metal mineralogical controls and a such, the development of these structural events through interpreting the magnetic data will be strongly advised. The development of any possible deformation zones will be important, particularly near the contact with the felsic intrusive.

Prospecting and soil geochemical surveying could be carried out in the vicinity of Zones M1 and M2, as well as in the region of the contact with the felsic intrusive.

Because of the absence of any strong electromagnetic responses in this area, it is felt that an induced polarization (IP) survey would be more conducive to the type of mineralogical environment that may eventually be found in this survey block.

In summary, only a few, very weak conductors have been outlined on the Interpretation Map by the writer. These are not considered priority targets however. Apparent resistivity trends in the vicinity of the large felsic intrusive may be associated with an outer metamorphic aureole surrounding the intrusive. These should be looked at further. Fault structures in this same region should also be important targets. At this point, the writer is not familiar with the importance, if any, or the implications of the diabase dikes with respect to mineralization controls.

It is a matter of using all resources, including the various geophysical data presentations, previous drill hole and geological information, that may lead to an interesting on-going exploration program.

Respectfully submitted,

R.J. de Carle

Robert J. de Carle
Consulting Geophysicist
for
AERODAT LIMITED
July 9, 1991

J9127A

APPENDIX I

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MERQ-OGS
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APPENDIX II

PERSONNEL

FIELD

Flown	May 14 & 15, 1991
Pilots	Greg Charbonneau
Operators	Scott Wessler

OFFICE

Processing	Tom Furuya George McDonald
Report	R.J. de Carle

APPENDIX III

CERTIFICATE OF QUALIFICATIONS

I, ROBERT J. DE CARLE, certify that: -

1. I hold a B. A. Sc. in Applied Geophysics with a minor in geology from Michigan Technological University, having graduated in 1970.

2. I reside at 28 Westview Crescent in the town of Palgrave, Ontario.

3. I have been continuously engaged in both professional and managerial roles in the minerals industry in Canada and abroad for the past twenty years.

4. I have been an active member of the Society of Exploration Geophysicists since 1967 and hold memberships on other professional societies involved in the minerals extraction and exploration industry.

5. The accompanying report was prepared from information published by government agencies, materials supplied by Queenston Mining Inc. and from a review of the proprietary airborne geophysical survey flown by Aerodat Limited for Queenston Mining Inc. I have not personally visited the property.

6. I have no interest, direct or indirect, in the property described nor do I hold securities in Queenston Mining Inc.

Signed,

R.J. de Carle

Palgrave, Ontario
July 9, 1991

Robert J. de Carle
Consulting Geophysicist
for
AERODAT LIMITED

APPENDIX IV

GENERAL INTERPRETIVE CONSIDERATIONS

Electromagnetic

The Aerodat four frequency system utilizes two different transmitter-receiver coil geometries. The traditional coaxial coil configuration is operated at two widely separated frequencies. The horizontal coplanar coil configuration is similarly operated at two different frequencies where one pair is approximately aligned with one of the coaxial frequencies.

The electromagnetic response measured by the helicopter system is a function of the "electrical" and "geometrical" properties of the conductor. The "electrical" property of a conductor is determined largely by its electrical conductivity, magnetic susceptibility and its size and shape; the "geometrical" property of the response is largely a function of the conductor's shape and orientation with respect to the measuring transmitter and receiver.

Electrical Considerations

For a given conductive body the measure of its conductivity or conductance is closely related to the measured phase shift between the received and transmitted electromagnetic field. A small phase shift indicates a relatively high conductance, a large phase shift lower conductance. A small phase shift results in a large inphase to quadrature ratio and a large phase shift a low ratio. This relationship is shown quantitatively for a non-magnetic vertical half-plane model on the accompanying phasor diagram. Other physical models will show the same trend but different quantitative relationships.

The phasor diagram for the vertical half-plane model, as presented, is for the coaxial coil configuration with the amplitudes in parts per million (ppm) of the primary field as measured at the response peak over the conductor. To assist the interpretation of the survey results the computer is used to identify the apparent conductance and depth at selected anomalies. The results of this calculation are presented in table form in Appendix IV and the conductance and inphase amplitude are presented in symbolized form on the map presentation.

The conductance and depth values as presented are correct only as far as the model approximates the real geological situation. The actual geological source may be of limited length, have significant dip, may be strongly magnetic, its conductivity and thickness may vary with depth and/or strike and adjacent bodies and overburden may have modified the response. In general the conductance estimate is less affected by these limitations than is the depth estimate, but both should be considered as relative rather than absolute guides to the anomaly's properties.

Conductance in mhos is the reciprocal of resistance in ohms and in the case of narrow slab-like bodies is the product of electrical conductivity and thickness.

Most overburden will have an indicated conductance of less than 2 mhos; however, more conductive clays may have an apparent conductance of say 2 to 4 mhos. Also in the low conductance range will be electrolytic conductors in faults and shears.

The higher ranges of conductance, greater than 4 mhos, indicate that a significant fraction of the electrical conduction is electronic rather than electrolytic in nature. Materials that conduct electronically are limited to certain metallic sulphides and to graphite. High conductance anomalies, roughly 10 mhos or greater, are generally limited to sulphide or graphite bearing rocks.

Sulphide minerals, with the exception of such ore minerals as sphalerite, cinnabar and stibnite, are good conductors; sulphides may occur in a disseminated manner that inhibits electrical conduction through the rock mass. In this case the apparent conductance can seriously underrate the quality of the conductor in geological terms. In a similar sense the relatively non-conducting sulphide minerals noted above may be present in significant consideration in association with minor conductive sulphides, and the electromagnetic response only relate to the minor associated mineralization. Indicated conductance is also of little direct significance for the identification of gold mineralization. Although gold is highly conductive, it would not be expected to exist in sufficient quantity to create a recognizable anomaly, but minor accessory sulphide mineralization could provide a useful indirect indication.

In summary, the estimated conductance of a conductor can provide a relatively positive identification of significant sulphide or graphite mineralization; however, a moderate to low conductance value does not rule out the possibility of significant economic mineralization.

Geometrical Considerations

Geometrical information about the geologic conductor can often be interpreted from the profile shape of the anomaly. The change in shape is primarily related to the change in inductive coupling among the transmitter, the target, and the receiver.

In the case of a thin, steeply dipping, sheet-like conductor, the coaxial coil pair will yield a near symmetric peak over the conductor. On the other hand, the coplanar coil pair will pass through a null couple relationship and yield a minimum over the conductor, flanked by positive side lobes. As the dip of the conductor decreased from vertical, the coaxial anomaly shape changes only slightly, but in the case of the coplanar coil pair the side lobe on the down dip side strengthens relative to that on the up dip side.

As the thickness of the conductor increases, induced current flow across the thickness of the conductor becomes relatively significant and complete null coupling with the coplanar coils is no longer possible. As a result, the apparent minimum of the coplanar response over the conductor diminishes with increasing thickness, and in the limiting case of a fully 3 dimensional body or a horizontal layer or half-space, the minimum disappears completely.

A horizontal conducting layer such as overburden will produce a response in the coaxial and coplanar coils that is a function of altitude (and conductivity if not uniform). The profile shape will be similar in both coil configurations with an amplitude ratio (coplanar:coaxial) of about 4:1*.

In the case of a spherical conductor, the induced currents are confined to the volume of the sphere, but not relatively restricted to any arbitrary plane as in the case of a sheet-like form. The response of the coplanar coil pair directly over the sphere may be up to 8* times greater than that of the coaxial pair.

In summary, a steeply dipping, sheet-like conductor will display a decrease in the coplanar response coincident with the peak of the coaxial response. The relative strength of this coplanar null is related inversely to the thickness of the conductor; a pronounced null indicates a relatively thin conductor. The dip of such a conductor can be inferred from the relative amplitudes of the side-lobes.

Massive conductors that could be approximated by a conducting sphere will display a simple single peak profile form on both coaxial and coplanar coils, with a ratio between the coplanar to coaxial response amplitudes as high as 8*.

Overburden anomalies often produce broad poorly defined anomaly profiles. In most cases, the response of the coplanar coils closely follows that of the coaxial coils with a relative amplitude ration of 4*.

Occasionally, if the edge of an overburden zone is sharply defined with some significant depth extent, an edge effect will occur in the coaxial coils. In the case of a horizontal conductive ring or ribbon, the coaxial response will consist of two peaks, one over each edge; whereas the coplanar coil will yield a single peak.

* It should be noted at this point that Aerodat's definition of the measured ppm unit is related to the primary field sensed in the receiving coil without normalization to the maximum coupled (coaxial configuration). If such normalization were applied to the Aerodat units, the amplitude of the coplanar coil pair would be halved.

Magnetics

The Total Field Magnetic Map shows contours of the total magnetic field, uncorrected for regional variation. Whether an EM anomaly with a magnetic correlation is more likely to be caused by a sulphide deposit than one without depends on the type of mineralization. An apparent coincidence between an EM and a magnetic anomaly may be caused by a conductor which is also magnetic, or by a conductor which lies in close proximity to a magnetic body. The majority of conductors which are also magnetic are sulphides containing pyrrhotite and/or magnetite. Conductive and magnetic bodies in close association can be, and often are, graphite and magnetite. It is often very difficult to distinguish between these cases. If the conductor is also magnetic, it will usually produce an EM anomaly whose general pattern resembles that of the magnetics. Depending on the magnetic permeability of the conducting body, the amplitude of the inphase EM anomaly will be weakened, and if the conductivity is also weak, the inphase EM anomaly may even be reversed in sign.

VLF Electromagnetics

The VLF-EM method employs the radiation from powerful military radio transmitters as the primary signals. The magnetic field associated with the primary field is elliptically polarized in the vicinity of electrical conductors. The Herz Totem uses three coils in the X, Y, Z configuration to measure the total field and vertical quadrature component of the polarization ellipse.

The relatively high frequency of VLF (15-25) kHz provides high response factors for bodies of low conductance. Relatively "disconnected" sulphide ores have been found to produce measurable VLF signals. For the same reason, poor conductors such as sheared contacts, breccia zones, narrow faults, alteration zones and porous flow tops normally produce VLF anomalies. The method can therefore be used effectively for geological mapping. The only relative disadvantage of the method lies in its sensitivity to conductive overburden. In conductive ground to depth of exploration is severely limited.

The effect of strike direction is important in the sense of the relation of the conductor axis relative to the energizing electromagnetic field. A conductor aligned along a radius drawn from a transmitting station will be in a maximum coupled orientation and thereby produce a stronger response than a similar conductor at a different strike angle. Theoretically, it would be possible for a conductor, oriented tangentially to the transmitter to produce no signal. The most obvious effect of the strike angle consideration is that conductors favourably oriented with respect to the transmitter location and also near perpendicular to the flight direction are most clearly rendered and usually dominate the map presentation.

The total field response is an indicator of the existence and position of a conductivity anomaly.

The response will be a maximum over the conductor, without any special filtering, and strongly favour the upper edge of the conductor even in the case of a relatively shallow dip.

The vertical quadrature component over steeply dipping sheet-like conductor will be a cross-over type response with the cross-over closely associated with the upper edge of the conductor.

The response is a cross-over type due to the fact that it is the vertical rather than total field quadrature component that is measured. The response shape is due largely to geometrical rather than conductivity considerations and the distance between the maximum and minimum on either side of the cross-over is related to target depth. For a given target geometry, the larger this distance the greater the depth.

The amplitude of the quadrature response, as opposed to shape is function of target conductance and depth as well as the conductivity of the overburden and host rock. As the primary field travels down to the conductor through conductive material it is both attenuated and phase shifted in a negative sense. The secondary field produced by this altered field at the target also has an associated phase shift. This phase shift is positive and is larger for relatively poor conductors. This secondary field is attenuated and phase shifted in a negative sense during return travel to the surface. The net effect of these 3 phase shifts determine the phase of the secondary field sensed at the receiver.

A relatively poor conductor in resistive ground will yield a net positive phase shift. A relatively good conductor in more conductive ground will yield a net negative phase shift. A combination is possible whereby the net phase shift is zero and the response is purely in-phase with no quadrature component.

A net positive phase shift combined with the geometrical cross-over shape will lead to a positive quadrature response on the side of approach and a negative on the side of departure. A net negative phase shift would produce the reverse. A further sign reversal occurs with a 180 degree change in instrument orientation as occurs on reciprocal line headings. During digital processing of the quadrature data for map presentation this is corrected for by normalizing the sign to one of the flight line headings.

APPENDIX V

ANOMALY LIST

QUEENSTON MINING INC. - MCNEIL PROPERTY

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
4	20350	A	0	0.3	10.2	0.0	27	-8
4	20360	A	0	0.7	11.0	0.0	33	-10
4	20420	A	0	0.5	10.0	0.0	31	-8
3	20480	A	0	11.0	32.1	0.2	37	-9
3	20480	B	0	6.7	24.0	0.1	38	-9
3	20480	C	0	-0.1	8.1	0.0	10	-10

Estimated depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or overburden effects.

QUEENSTON GOLD

42A02NW0002 2.14242 FASKEN

900

August 20, 1991

2.14242

Dear Mr. Stephenson:

File # 2.14242

Please find enclosed literature
and maps re our conversation this A. M.

W. J. McGuinty

RECEIVED
AUG 21 1991
MINING LANDS SECTION

4 Al Wende Avenue, P.O. Box 193, Kirkland Lake, Ontario, Canada P2N 3H7 Telephone (705) 567-3261

...y of ...ern Development and Mines
Ontario

DOCUMENT No. W 9160.00184

Mining Act

Report of Work
(Geophysical, Geological and Geochemical Surveys)

Instructions
- Please type or print.
- Refer to Section 77, the Mining Act for assessment work requirements and maximum credits allowed per survey type.
- If number of mining claims traversed exceeds space on this form, attach a list.
- Technical Reports and maps in duplicate should be submitted to Mining Lands Section, Mineral Development and Lands Branch.

ML
June 28
July 28

Type of Survey(s)	Mining Division	Township or Area
Airborne EM VLF Mag	Porcupine	Fasken

Recorded Holder(s): ~~Queenston Mining Inc~~ Joe-Anne Salo / Larry Salo

Prospector's Licence No.: ~~T770~~ M.21106 / M.20010

Address: ~~Box 193 Kirkland Lake, Ontario P2N 3H7~~ General Delivery, Connaught P0N 1A0

Telephone No.: ~~(705) 567-3261~~ 705.363.2109

Survey Company: Aerodat Limited

Date of Survey (from & to): 14 05 91 | 14 05 91 (Day Mo. Yr.)

Name and Address of Author (of Geo-Technical Report): D. Pitcher-Aerodat Limited

2.14242

Credits Requested per Each Claim in Columns at right

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

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

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	40
	Magnetometer	40
	Other	

Total miles flown over claim(s). 5.0

Date	Recorded Holder or Agent (Signature)
27/05/91	[signature]

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Number	Mining Claim Prefix	Number	Mining Claim Prefix	Number
P	1176336				
	1171937				
	1171938				
	1171939				

RECEIVED JUL 09 1991 MINING LANDS SECTION

ONTARIO GEOLOGICAL SURVEY GIS - ASSESSMENT FILES SEP 09 1991 RECEIVED

RECORDED MAY 29 1991

Total number of mining claims covered by this report of work. 4

Certification Verifying Report of Work

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

Name and Address of Person Certifying

W. J. McGuinty Box 193, Kirkland Lake, Ontario P2N 3H7

Telephone No. (705) 567-3261

Date 27/05/91

Certified By (Signature) [signature]

Received Stamp: PORCUPINE MINING DIVISION RECEIVED MAY 29 1991

For Office Use Only

AI

Total Days Cr. Recorded	Date Recorded	Mining Recorder
320	MAY 29/91	[signature]
	Date Approved as Recorded	Provincial Manager, Mining Lands
	Aug 16/91	[signature]

1362 (89/06)

Ministry of Northern Development and Mines

Ontario

DOCUMENT No. W9180•00224

WORK

~~June 28~~ July 27

Instructions
- Please type or print.
- Refer to Section 77, the Mining Act for assessment work requirements and maximum credits allowed per survey type.
- If number of mining claims traversed exceeds space on this form, attach a list.
- Technical Reports and maps in duplicate should be submitted to Mining Lands Section, Mineral Development and Lands Branch.

Mining Act

Report of Work
(Geophysical, Geological and Geochemical Surveys)

Type of Survey(s)	Mining Division	Township or Area
Airborne EM VLF Mag	Larder Lake	McNeil

Recorded Holder(s)	Prospector's Licence No.
Queenston Mining Inc.	T770

Address	Telephone No.
Box 193 Kirkland Lake, Ontario P2N 3H7	(705) 567-3261

Survey Company: Aerodat Limited

2.14242

Name and Address of Author (of Geo-Technical Report): D. Pitcher-Aerodat Limited

Date of Survey (from & to): 14 05 91 (Day Mo. Yr.) 14 05 91 (Day Mo. Yr.)

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical	
	- Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Other	
	Geological	
	Geochemical	
Man Days		**Days per Claim**
Complete reverse side and enter total(s) here	Geophysical	
	- Electromagnetic	
	- Magnetometer	
	- Other	
	Geological	
	Geochemical	
Airborne Credits		**Days per Claim**
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	40
	Magnetometer	40
	Other	

Total miles flown over claim(s). 22

Date	Recorded Holder or Agent (Signature)
27/05/91	[signature]

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Number	Mining Claim Prefix	Number	Mining Claim Prefix	Number
L	1136974	L	1176337		
	1136975		1176338		
	1136976		1170412		
	1136977		1170413		
	1136978				
	1135979				
	1136980				
	1136981				
	1136982				
	1136983				
	1136984				
	1136985				
	1136986				
	1136987				
	1136988				
	1136989				
	1136993				

RECEIVED
JUN 24 1991
MINING LANDS SECTION

Total number of mining claims covered by this report of work. 21

Certification Verifying Report of Work

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

Name and Address of Person Certifying: W. J. McGuinty Box 193 Kirkland Lake, Ontario P2N 3H7

Telephone No.	Date	Certified By (Signature)
(705)567-3261	27/05/91	[signature]

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
1680	May 28/91	[signature]
	Date Approved as Recorded	Provincial Manager, Mining Lands
	Aug 16/91	[signature]

Received Stamp: RECEIVED MAY 28 PM 1 14 LARDER LAKE MINING DIVISION

1362 (89/06)

CD1

Ontario

Ministry of Northern Development and Mines

Geophysical-Geological-Geochemical Technical Data Statement

File ______

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

Type of Survey(s) Combined Helicopter Borne Magnetic, Electromagnetic and VLF

Township or Area McNeil/Faskin 2.14249

Claim Holder(s) Queenston Mining Inc..

Survey Company Aerodat Ltd., 3883 Nashua Drive, Mississauga, Ontario L4V 1R3

Author of Report ~~R. J. de Carle/D. Pitcher~~

Address of Author 3883 Nashua Drive, Mississauga, Ont.

Covering Dates of Survey May 14-15, 1991 (linecutting to office)

Total Miles of Line Cut ______

SPECIAL PROVISIONS CREDITS REQUESTED

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

ENTER 20 days for each additional survey using same grid.

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

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

Magnetometer 40 Electromagnetic 40 Radiometric ______ (enter days per claim)

DATE: July 23 1991 SIGNATURE: W J McGinty (Author of Report or Agent)

OFFICE USE ONLY

Res. Geol. ______ Qualifications 2.11556

Previous Surveys

File No.	Type	Date	Claim Holder

RECEIVED
JUL 24 1991
MINING LANDS SECTION

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
L	1136974
	1136975
	1136976
	1136977
	1136978
	1136979
	1136980
	1136981
	1136982
	1136983
	1136984
	1136985
	1136986
	1136987
	1136988
	1136989
	1136993
	1176337
	1176338
	1170412
	1170413

If space insufficient, attach list

TOTAL CLAIMS con't on attached

837 (85/12)

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations ____________ Number of Readings ____________

Station interval ____________ Line spacing ____________

Profile scale ____________

Contour interval ____________

MAGNETIC

Instrument ____________

Accuracy – Scale constant ____________

Diurnal correction method ____________

Base Station check-in interval (hours) ____________

Base Station location and value ____________

ELECTROMAGNETIC

Instrument ____________

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 ____________

SELF POTENTIAL

Instrument ______ Range ______

Survey Method ______

Corrections made ______

RADIOMETRIC

Instrument ______

Values measured ______

Energy windows (levels) ______

Height of instrument ______ Background Count ______

Size of detector ______

Overburden ______
(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey ______

Instrument ______

Accuracy ______

Parameters measured ______

Additional information (for understanding results) ______

AIRBORNE SURVEYS

Type of survey(s) Combined Helicopter Borne Magnetic, Electromagnetic & VLF

Instrument(s) Aerodat 5-frequency system, Herz Totem 2A, Aerodat/Scintrex Model VIW-2321 H8 cesium, optically pumped magnetometer sensor
(specify for each type of survey)

Accuracy ______
(specify for each type of survey)

Aircraft used Aerospatiale A-Star 350D Hilicopter

Sensor altitude Em (30m) 98.4' - VLF-EM (45m) 147.6' - Mag (45m) 147.6'

Navigation and flight path recovery method Trimble (Pathfinder) Global positioning system

Aircraft altitude (60m) 196.8' Line Spacing (100m) 328.1'

Miles flown over total area (130km) 80.8 mi Over claims only (39.7km) 24.7 mi

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken __________

Total Number of Samples __________

Type of Sample __________ (Nature of Material)

Average Sample Weight __________

Method of Collection __________

Soil Horizon Sampled __________

Horizon Development __________

Sample Depth __________

Terrain __________

Drainage Development __________

Estimated Range of Overburden Thickness __________

SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis __________

General __________

ANALYTICAL METHODS

Values expressed in: per cent ☐ p. p. m. ☐ p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others __________

Field Analysis (__________ tests)

Extraction Method __________

Analytical Method __________

Reagents Used __________

Field Laboratory Analysis

No. (__________ tests)

Extraction Method __________

Analytical Method __________

Reagents Used __________

Commercial Laboratory (__________ tests)

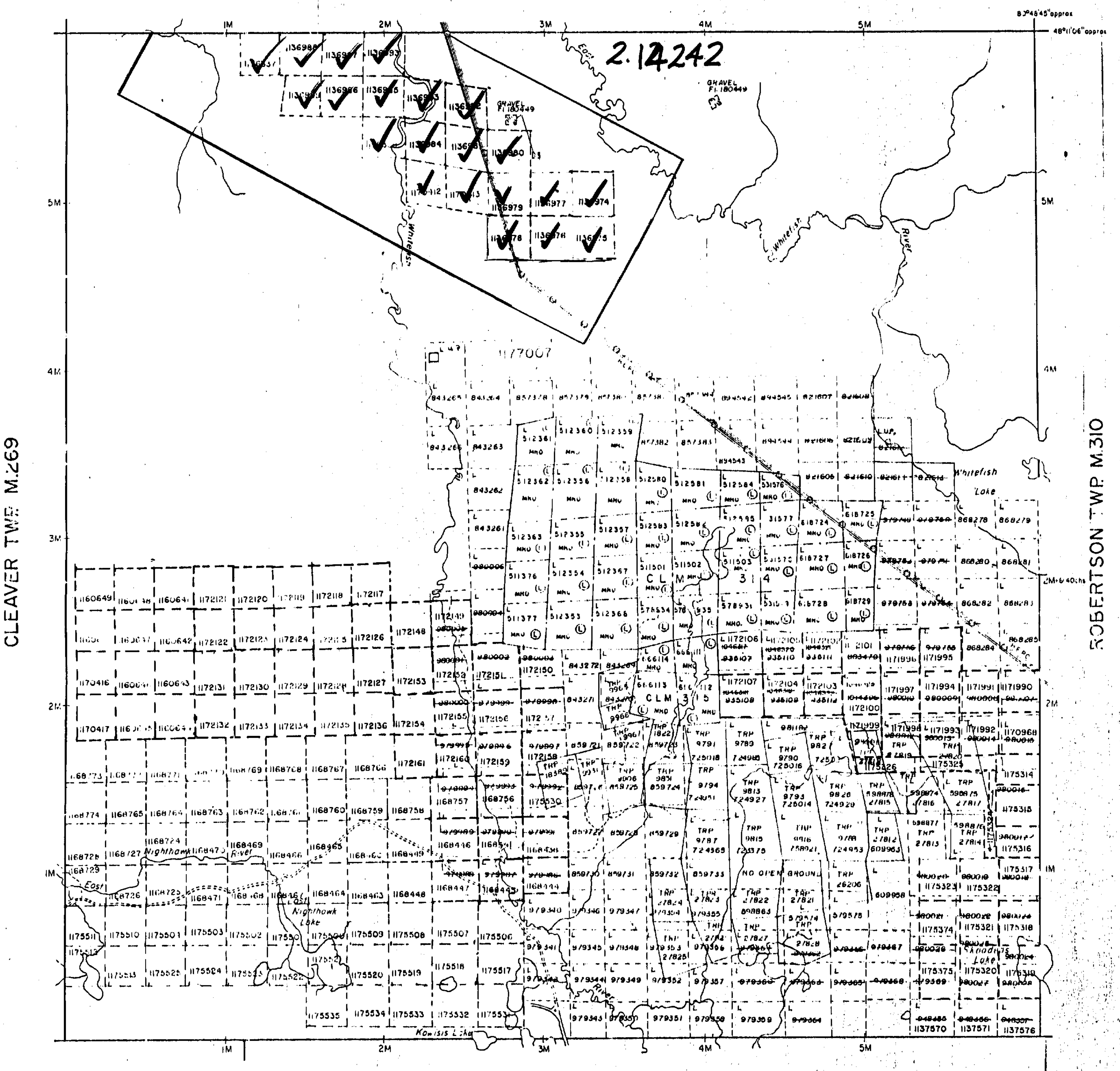
Name of Laboratory __________

Extraction Method __________

Analytical Method __________

Reagents Used __________

General __________



NOTES

400' surface rights reservation along the shores of all lakes and rivers.

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

DATE OF ISSUE
JUN 26 1991
LARDER LAKE
MINING RECORDER'S OFFICE

LEGEND

PATENTED LAND	
PATENTED FOR SURFACE RIGHTS ONLY	
LEASE	
LICENSE OF OCCUPATION	L.O.
CROWN LAND SALES	C.S.
LOCATED LAND	L
CANCELLED	C.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
HIGHWAY & ROUTE NO.	
ROADS	
TRAILS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	

TOWNSHIP OF

McNEIL

DISTRICT OF
TIMISKAMING

LARDER LAKE
MINING DIVISION

SCALE : 1 INCH = 40 CHAINS (1/2 MILE)

DR.	DK	PLAN NO.	M.300
DATE	18 2 71		

MINISTRY OF NORTHERN DEVELOPMENT AND MINES

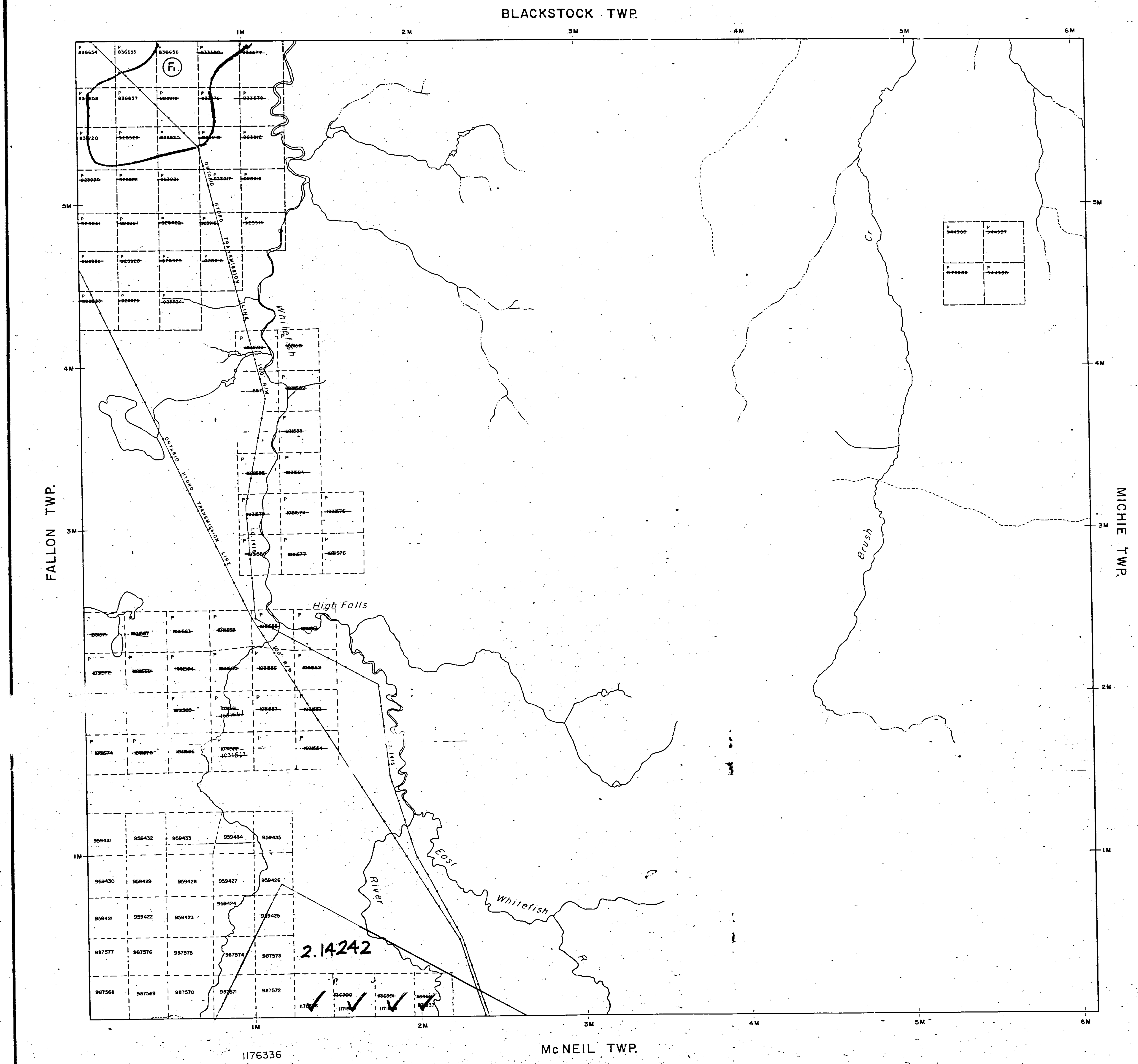
42A02NW0002 2.14242 FASKEN

200

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY
S.R.O – SURFACE RIGHTS ONLY
M.+ S. – MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File



THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING

42A02NW0082 2.14242 FASKEN

210

1176336

LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" , SURFACE RIGHTS ONLY	◐
" , MINING RIGHTS ONLY	○
LEASE, SURFACE & MINING RIGHTS	■
" , SURFACE RIGHTS ONLY	◧
" , MINING RIGHTS ONLY	□
LICENCE OF OCCUPATION	▼
ORDER-IN-COUNCIL	OC
RESERVATION	⊙
CANCELLED	⊗
SAND & GRAVEL	⊙

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1.

SCALE 1:20 000

NOTES

(F) THIS TWP. IS SUBJECT TO FOREST ACTIVITIES IN 1991/92 FURTHER INFORMATION AVAILABLE ON FILE.

PORCUPINE MINING DIVISION
RECEIVED
JUN 10 1991

TOWNSHIP
FASKEN

M.N.R. ADMINISTRATIVE DISTRICT
TIMMINS

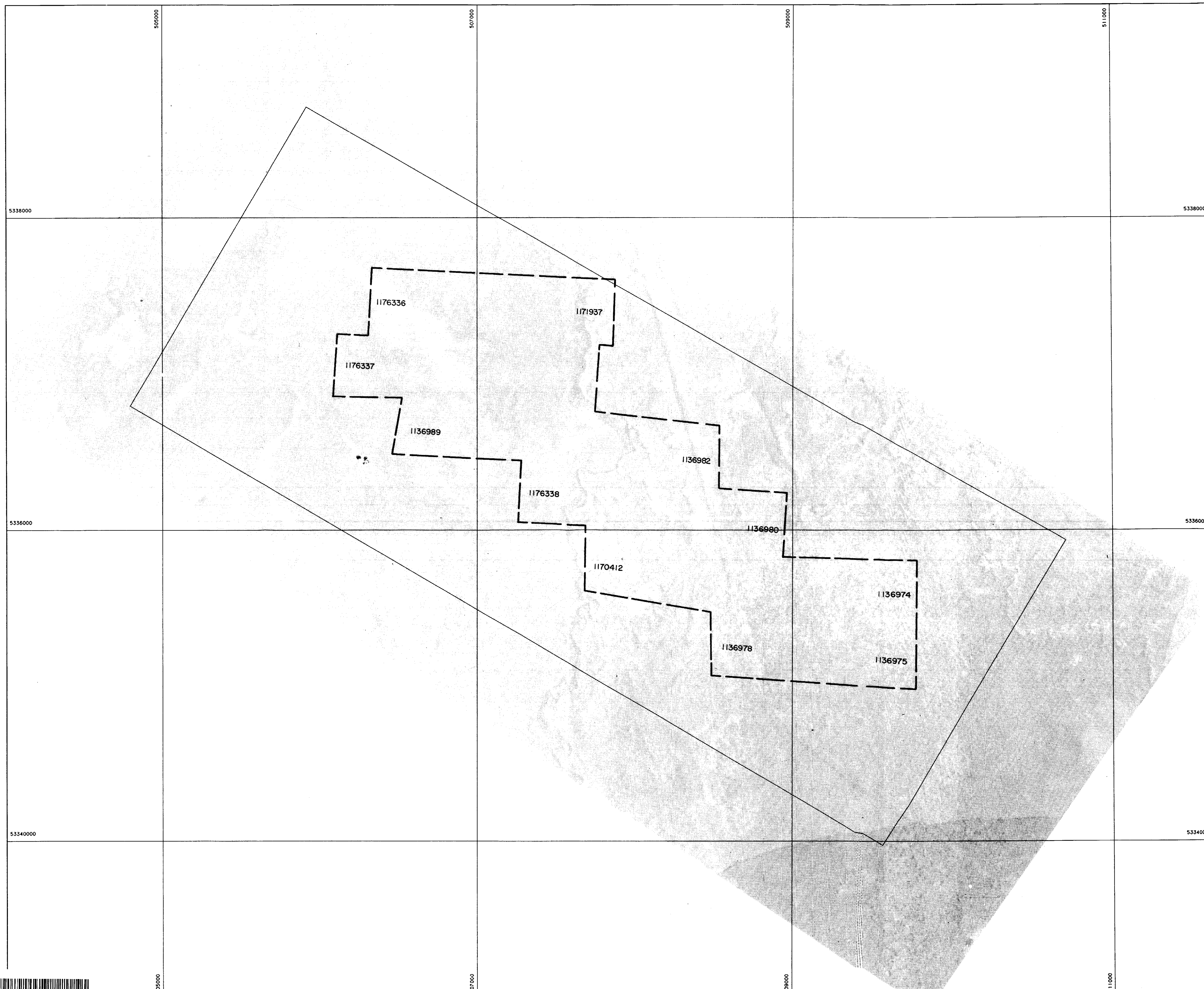
MINING DIVISION
PORCUPINE

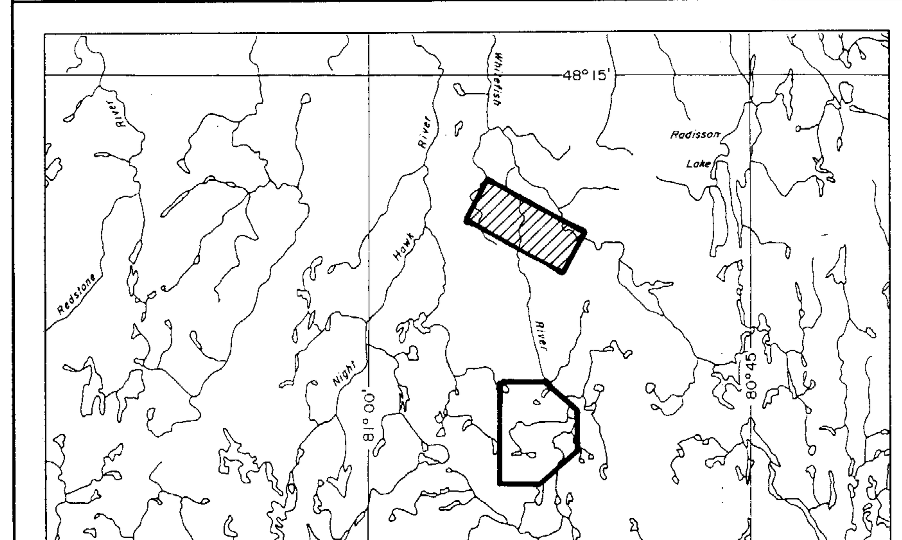
LAND TITLES / REGISTRY DIVISION
TIMISKAMING

Ontario — Ministry of Natural Resources — Ministry of Northern Development and Mines

Date SEPTEMBER, 1986

Number G-3942





QUEENSTON MINING INC.

BASE MAP

2.14242

McNEIL PROPERTY

ONTARIO

SCALE 1:10,000

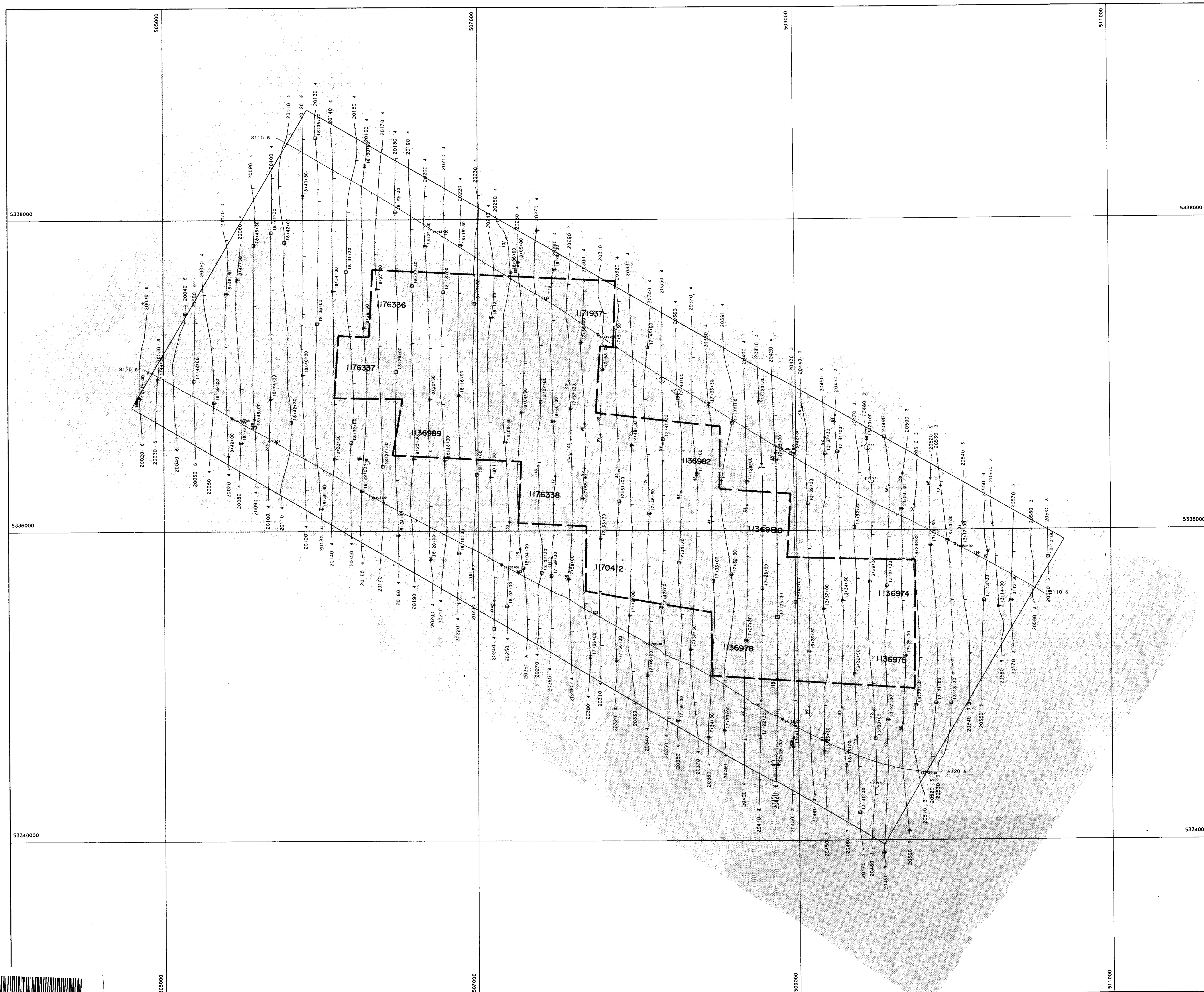
0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY 1991
NTS No:	42 A
MAP No: 1	J9127-1

220



N

Flight Path

Navigation and recovery using a Global Positioning (GPS) navigation system.

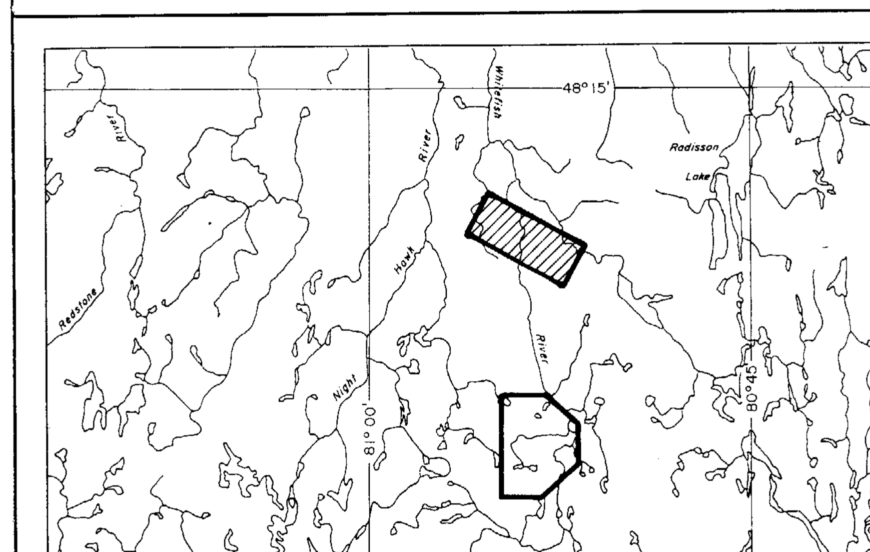
Average terrain clearance 60m
Average line spacing 100m

EM Anomalies

Conductivity Thickness (mhos)

- 0 - 1
- 1 - 2
- 2 - 4
- 4 - 8
- 8 - 15
- 15 - 30
- > 30

EM Anomaly A, 4600 Hz inphase amplitude 7 ppm. Conductivity thickness 1-2 mhos (see code).



QUEENSTON MINING INC.

FLIGHT PATH 2.14242

McNEIL PROPERTY

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

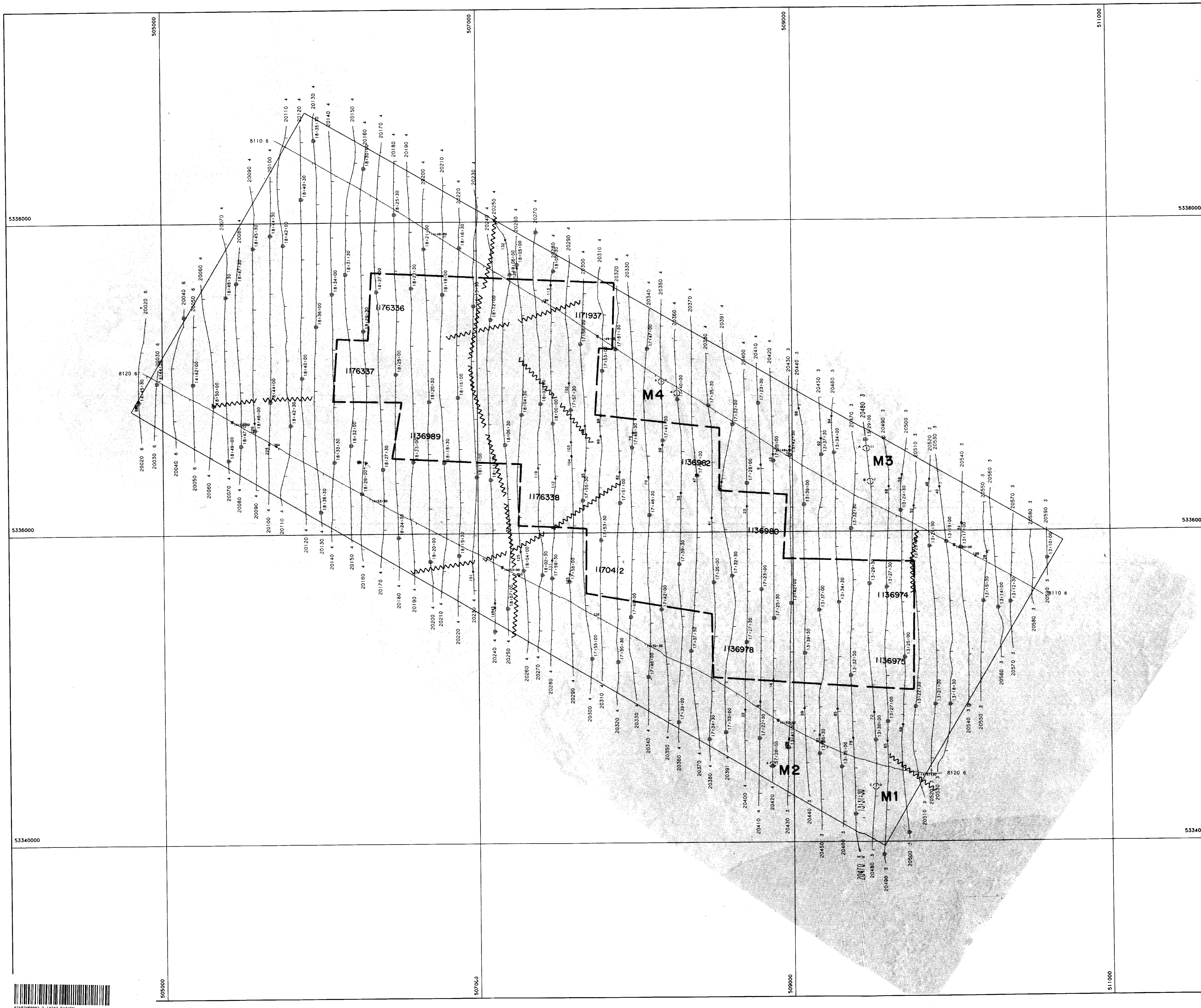
DATE: MAY 1991

NTS No: 42 A

MAP No: 2

J9127- 1

230



N

Flight Path

Navigation and recovery using a Global Positioning (GPS) navigation system.

Average terrain clearance 60m
Average line spacing 100m

EM Anomalies

Conductivity Thickness (mmos)

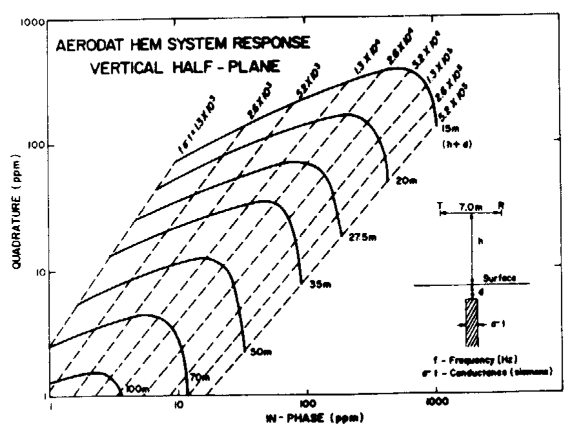
- 0 - 1
- 1 - 2
- 2 - 4
- 4 - 8
- 8 - 15
- 15 - 30
- > 30

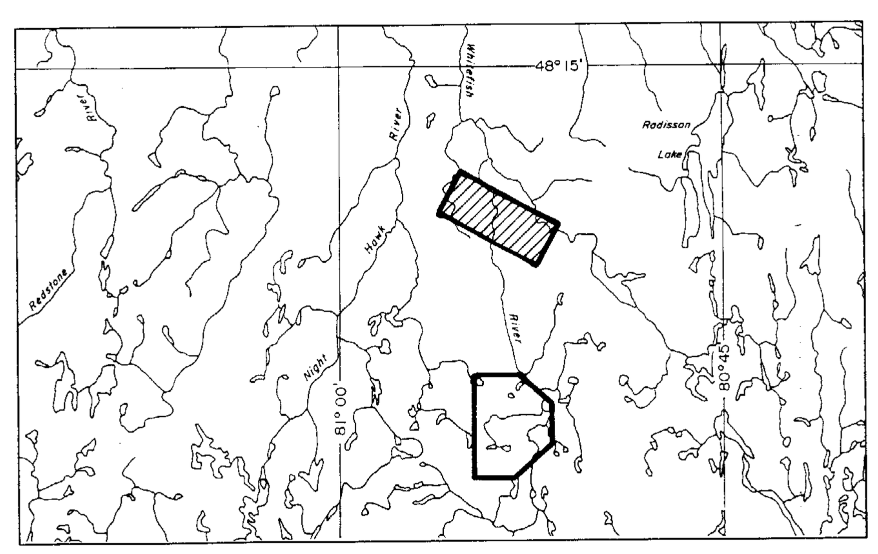
EM Anomaly A, 4600 Hz inphase amplitude 7 ppm. Conductivity thickness 1-2 mmos (see code).

INTERPRETATION LEGEND

Interpreted bedrock conductor axis

Fault





QUEENSTON MINING INC.

INTERPRETATION

2.14242

McNEIL PROPERTY

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

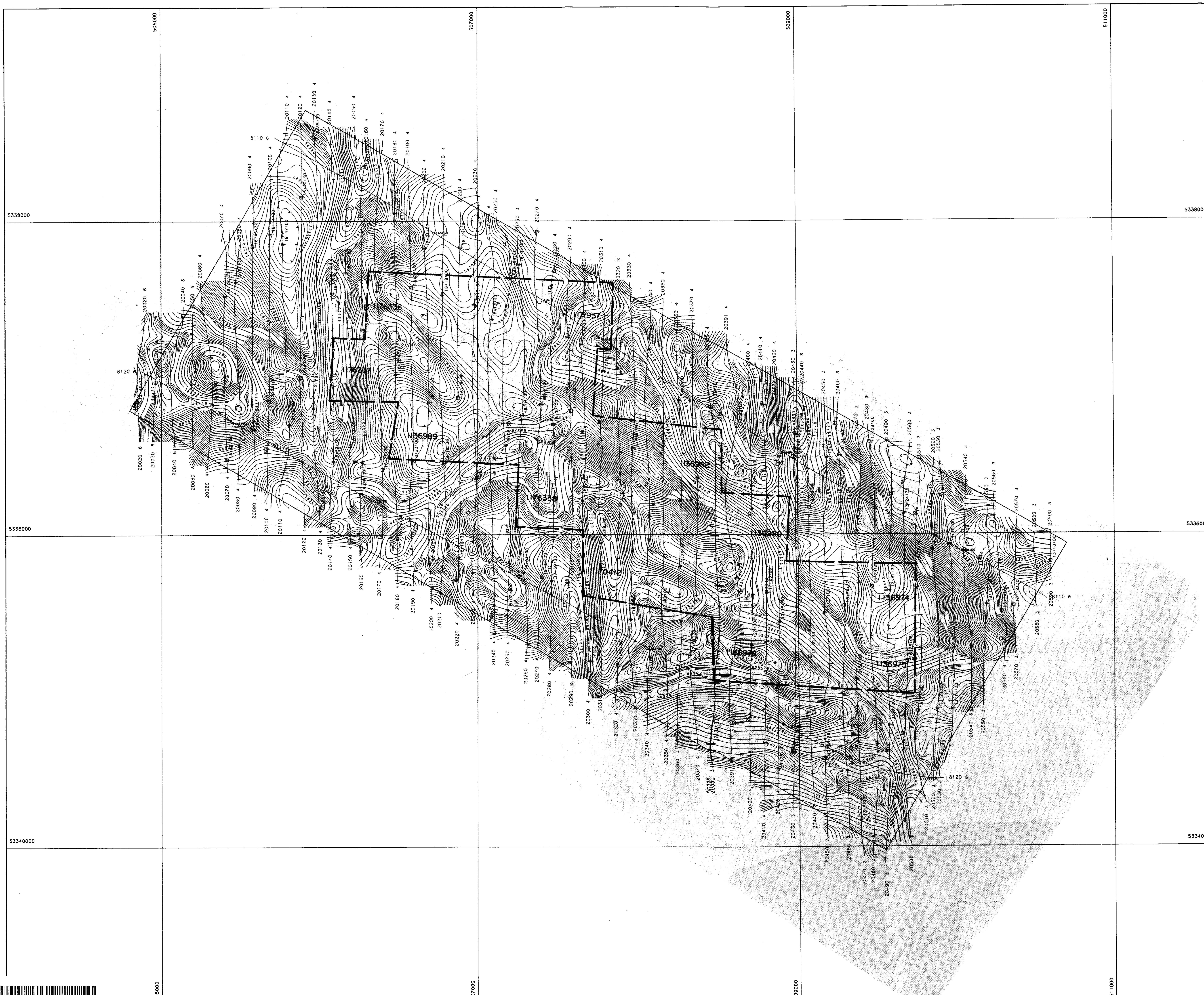
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY 1991
NTS No:	42 A
MAP No:	3

J9127- 1

240



N

Flight Path

Navigation and recovery using a Global Positioning (GPS) navigation system.

Average terrain clearance 60m
Average line spacing 100m

Magnetics

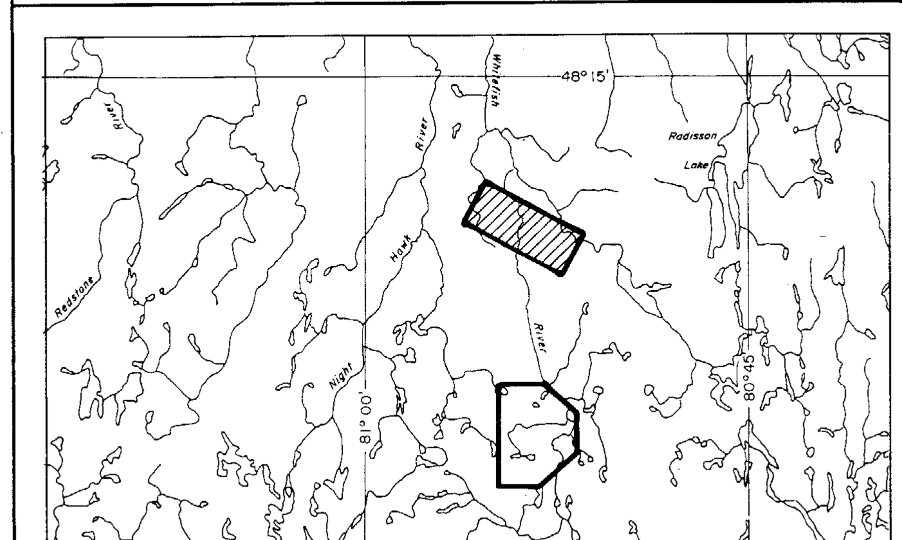
Total Field Magnetic Intensity Contours in nT.

Cesium high sensitivity magnetometer.

Sensor elevation 45m

Map contours are multiples of those listed below

- 2 nT
- 10 nT
- 50 nT
- 250 nT
- 1000 nT



QUEENSTON MINING INC.

TOTAL FIELD MAGNETIC CONTOURS

2.14242

McNEIL PROPERTY

ONTARIO

SCALE 1:10,000

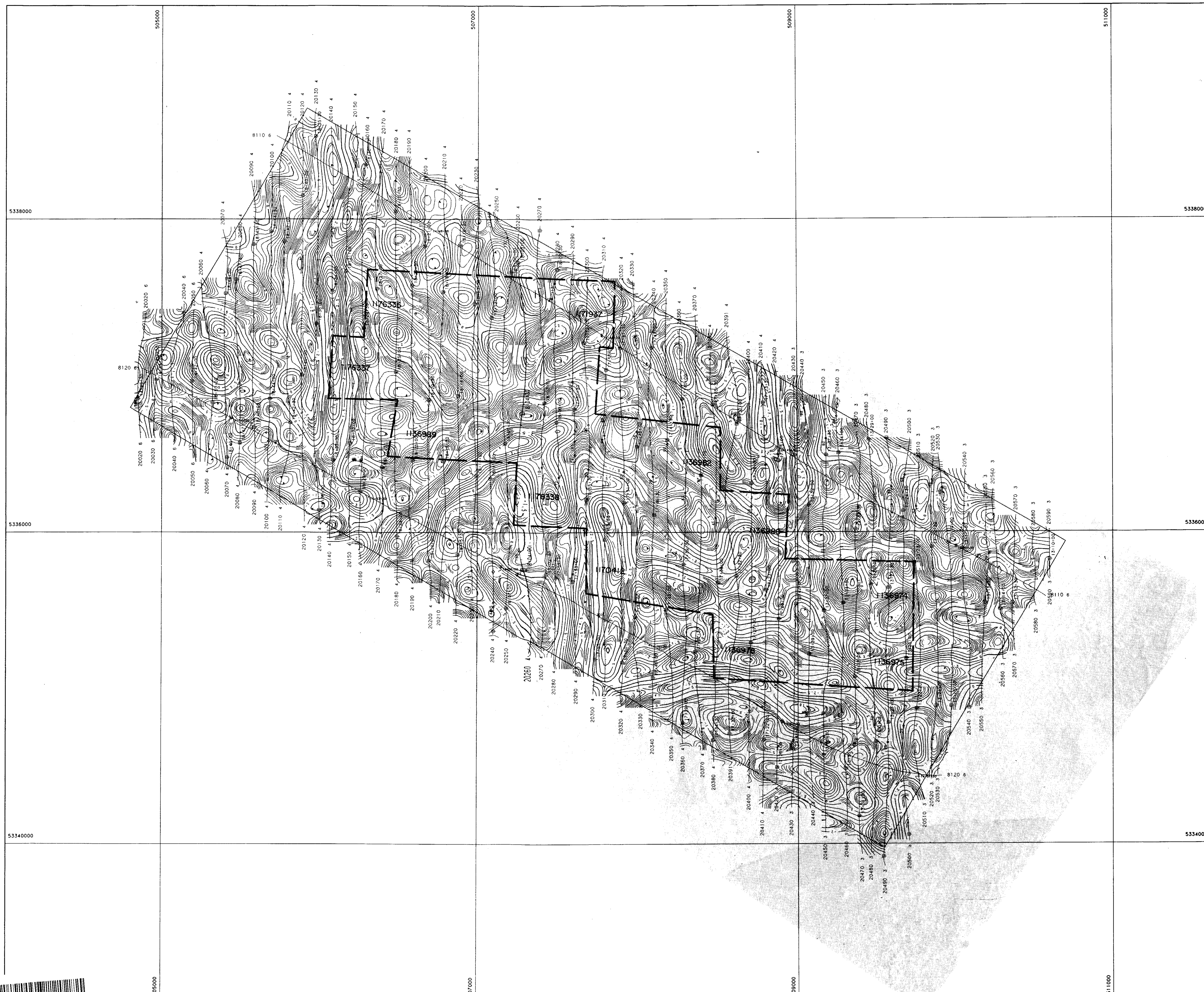
0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY 1991
NTS No:	42 A
MAP No:	4 J9127-1

250



Flight Path

Navigation and recovery using a Global Positioning (GPS) navigation system.

Average terrain clearance 60m
Average line spacing 100m

Vertical Gradient

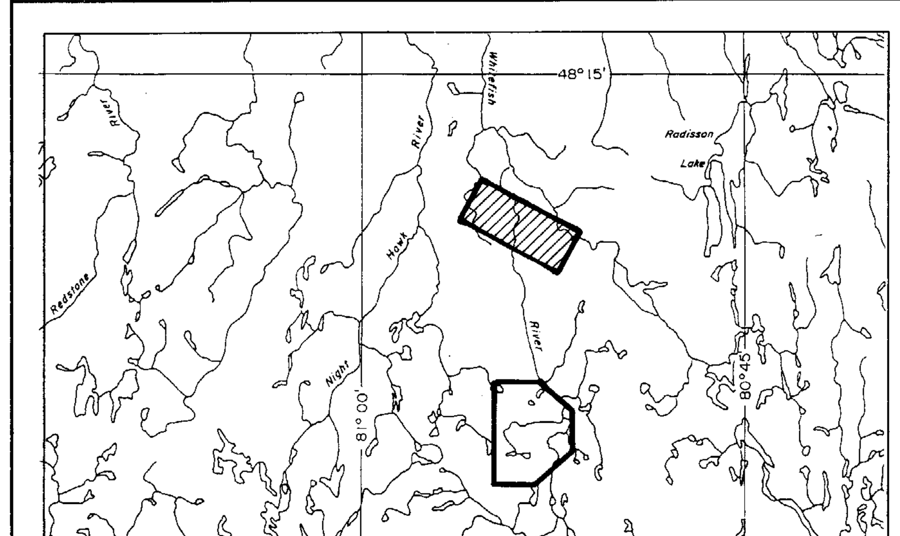
Vertical Magnetic Gradient calculated from the total field magnetic intensity in nT/m.

Cesium high sensitivity magnetometer.

Sensor elevation 45m

Map contours are multiples of those listed below

0.10 nT
0.50 nT
2.50 nT
10.0 nT
50.0 nT



QUEENSTON MINING INC.

CALCULATED VERTICAL MAGNETIC GRADIENT

2.14242

McNEIL PROPERTY

ONTARIO

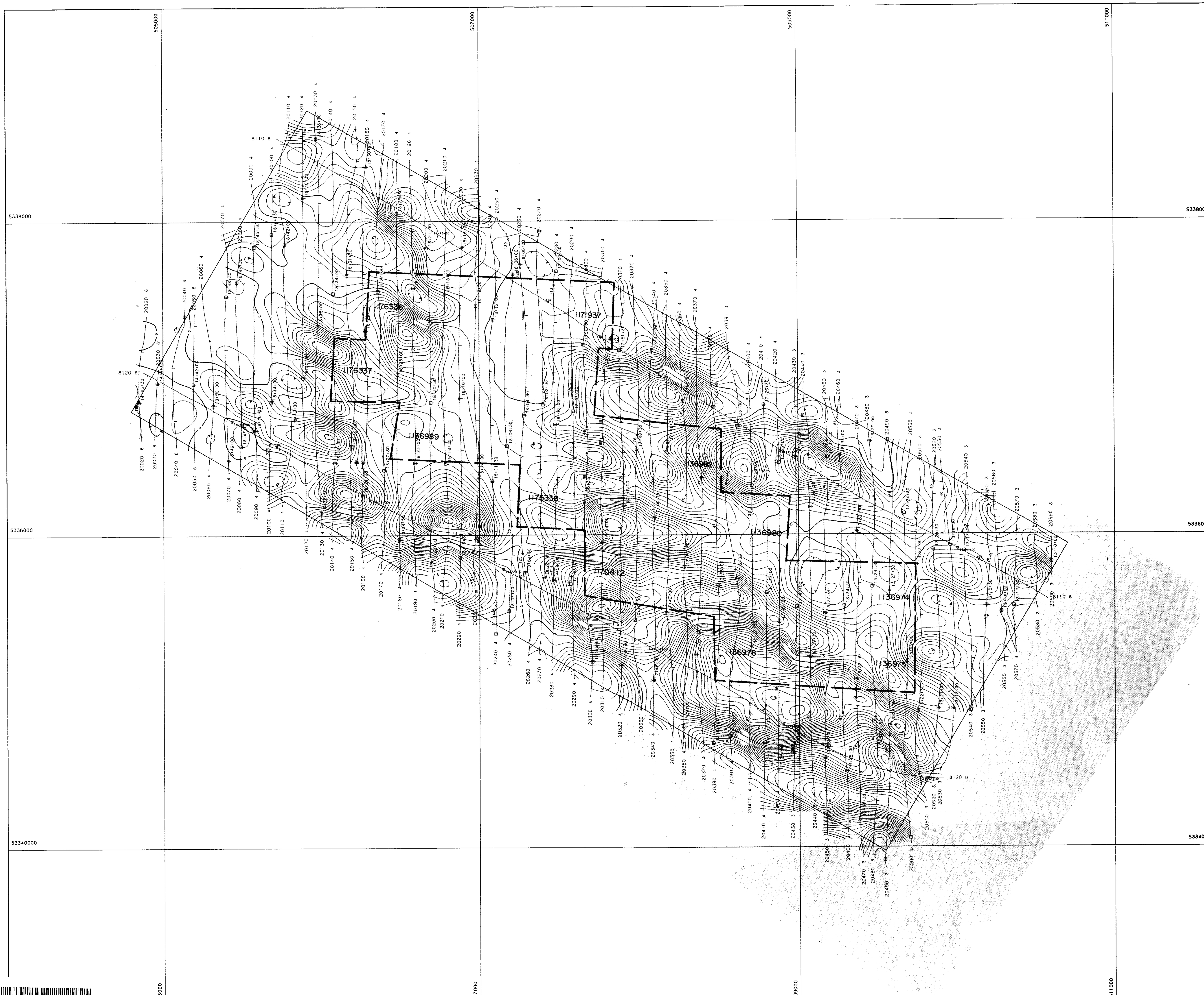
SCALE 1:10,000

AERODAT LIMITED

DATE:	MAY 1991
NTS No:	42 A
MAP No:	5

J9127-1

260



N

Flight Path

Navigation and recovery using a Global Positioning (GPS) navigation system.

Average terrain clearance 60m
Average line spacing 100m

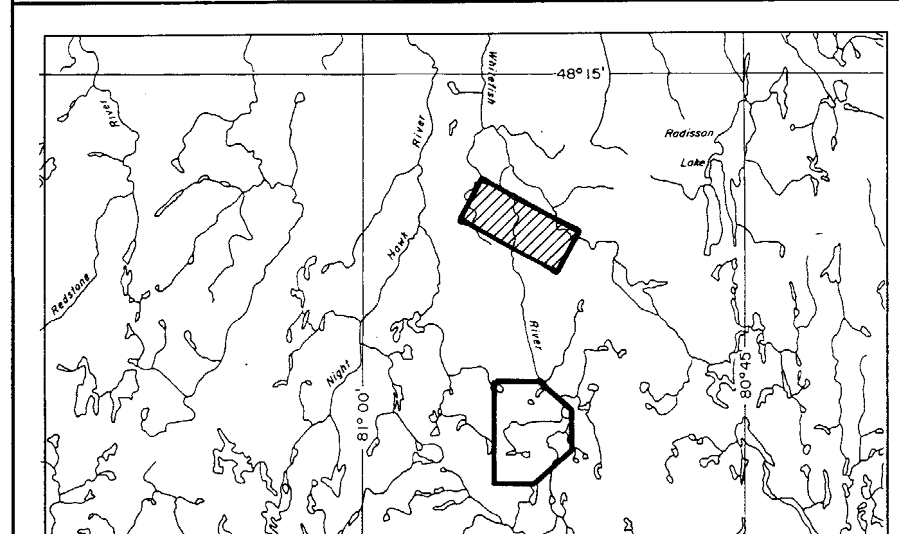
VLF-EM

VLF-EM Total Field Intensity in percent.

Station: NAA
Cutler, Maine
24.0 kHz

Sensor elevation 45m

Map contours are multiples of those listed below
1 %
5 %
25 %
100 %



QUEENSTON MINING INC.

VLF-EM TOTAL FIELD CONTOURS (LINE CHANNEL)

2.14242

McNEIL PROPERTY

ONTARIO

SCALE 1:10,000

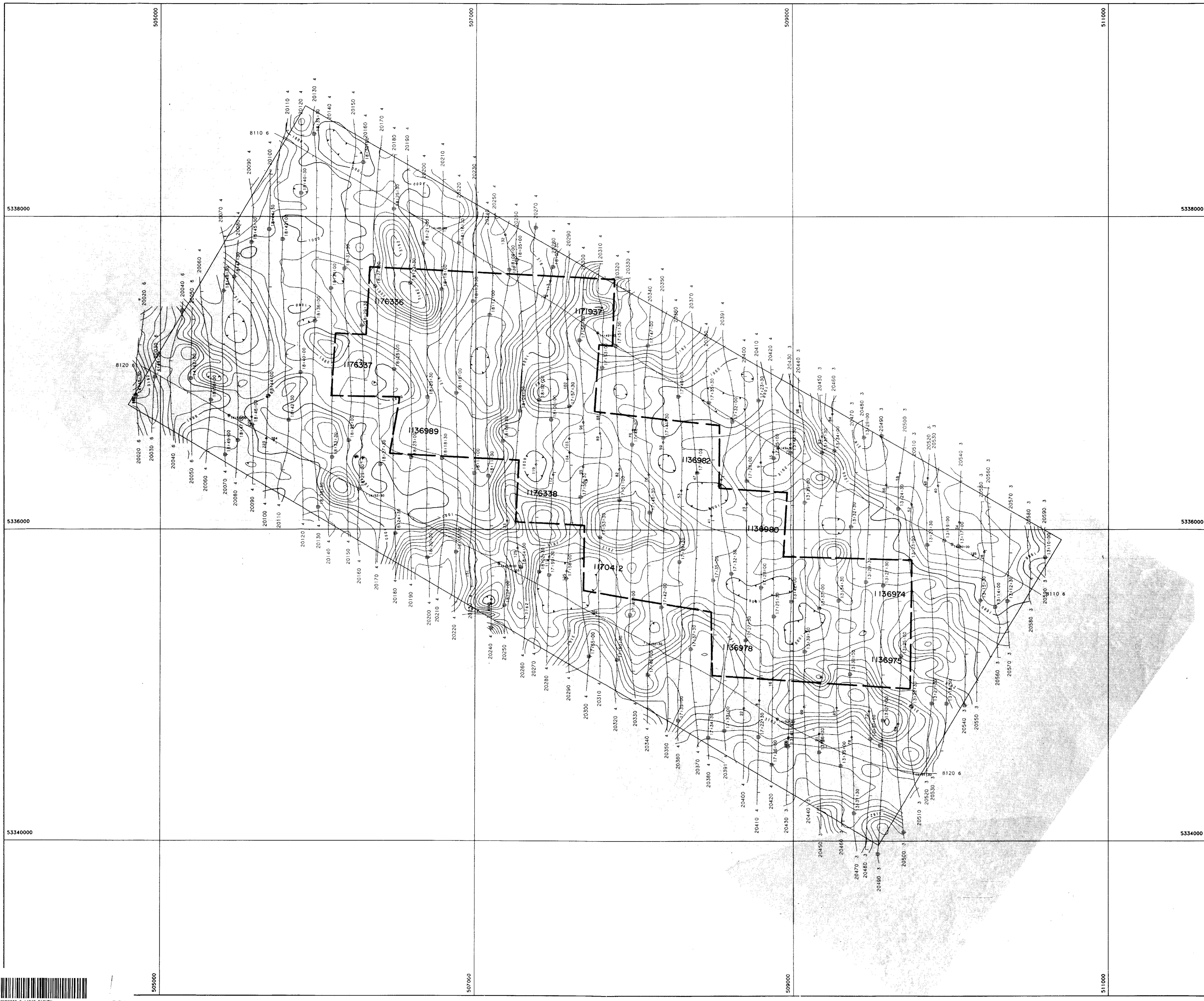
0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY 1991
NTS No:	42 A
MAP No:	6 J9127- 1

270



N

Flight Path

Navigation and recovery using a Global Positioning (GPS) navigation system.

Average terrain clearance 60m
Average line spacing 100m

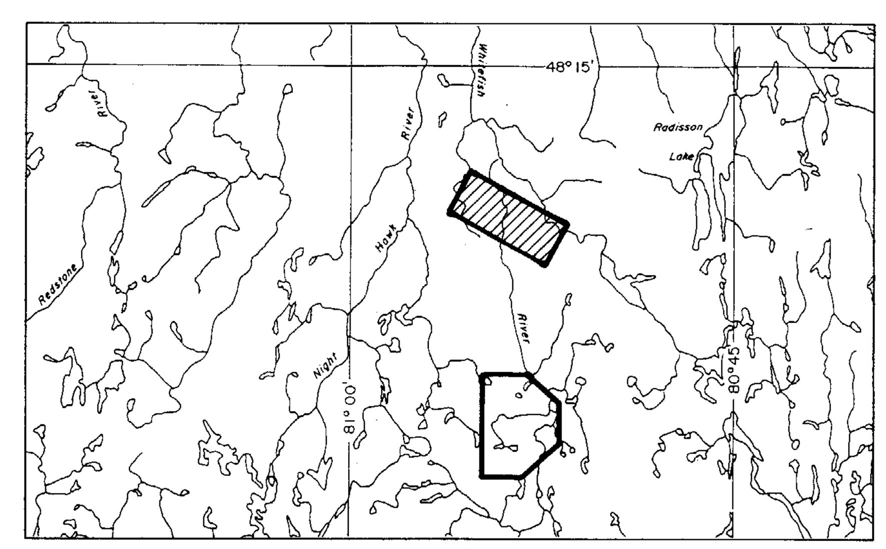
Apparent Resistivity

Calculated from 4600 Hz coaxial EM response assuming a 200 m conductive layer.

Contouring in ohm•m at logarithmic intervals.

Sensor elevation 30m

Map contours are multiples of those listed below
0.1 log(ohm•m)
0.5 log(ohm•m)
1.0 log(ohm•m)
5.00 log(ohm•m)



QUEENSTON MINING INC.

APPARENT RESISTIVITY CONTOURS (4600 Hz)

2.14242

McNEIL PROPERTY

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY 1991
NTS No:	42 A
MAP No:	7	J9127- 1

280