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REPORT ON COMBINED HELICOPTERBORNE MAGNETIC, ELECTROMAGNETIC AND VLF SURVEY HALLIDAY PROJECT TIMMINS AREA, NORTHEAST ONTARIO

FOR
FALCONBRIDGE LIMITED
BY
AERODAT LIMITED
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LIST OF MAPS
(Scale 1:10,000)

Basic Maps: (As described under Schedule "A" of Contract)

1. **PHOTOMOSAIC BASE MAP;**
   Showing registration crosses corresponding to coordinates on survey maps, on stable cronaflex film.

2. **FLIGHT LINES;**
   Photocombination of flight lines and fiducials with base map.

3. **AIRBORNE ELECTROMAGNETIC SURVEY INTERPRETATION MAP;**
   Showing conductor axes and anomaly peaks along with inphase amplitudes and conductivity thickness values; on a cronaflex base; Interpretation Report.

4. **TOTAL FIELD MAGNETIC CONTOURS;**
   Showing magnetic values contoured at 5 nanoTesla intervals, with flight lines, fiducials, and base map.

5. **COMPUTED VERTICAL MAGNETIC GRADIENT CONTOURS;**
   Showing vertical gradient values contoured at 0.5 nanoTesla per metre intervals with flight lines, fiducials and base map.

6. **RESISTIVITY CONTOURS;**
   Showing resistivity contours calculated from 4600 Hz coaxial EM data at logarithmic intervals with flight lines, fiducials and base map.

7. **VLF-EM TOTAL FIELD CONTOURS;**
   Showing VLF Total Field from the Annapolis, Md., or Jim Creek, Washington transmitter, with flight lines, fiducials and base map.

1. INTRODUCTION

This report describes an airborne geophysical survey carried out on behalf of Falconbridge Limited by Aerodat Limited. Equipment operated during the survey included a four frequency electromagnetic system, a high sensitivity cesium vapour magnetometer, a two frequency VLF-EM system, a video tracking camera, a radar altimeter, and an electronic positioning system. Electromagnetic, magnetic, and altimeter data were recorded both in digital and analog forms. Positioning data was stored in digital form, encoded on VHS format video tape and recorded at regular intervals in UTM coordinates, as well as being marked on the flight path mosaic by the operator while in flight.

The survey areas comprised several grids arranged in a single, U-shaped block, within Sothman and the adjacent Townships, located approximately 64 kilometres south of Timmins, Ontario. The survey was flown between May 15 and June 6, 1989. Data from forty flights were used to compile the survey results. The flight lines in the north and south portions of the survey block were oriented in the north-south direction. The western part of the area was flown with flight lines oriented in the northwest-southeast (north part) and northeast-southwest (south part) directions. Coverage and data quality were considered to be well within the specifications described in the service contract.

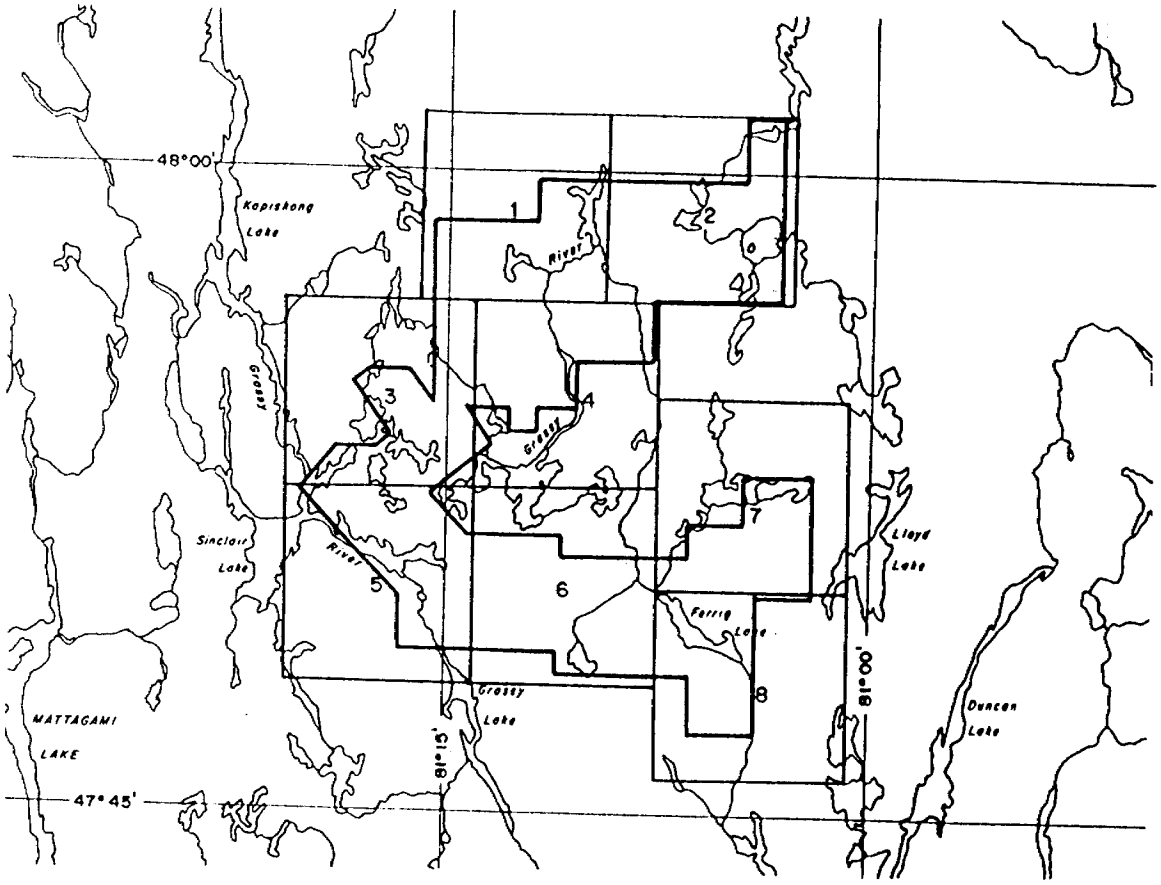
The purpose of the survey was to record airborne geophysical data over and around ground that is of interest to Falconbridge Limited.

A total of 2,750 line kilometres of the recorded data were compiled in map form. The maps are presented as part of this report according to specifications laid out by Falconbridge Limited.

2. SURVEY AREA LOCATION

The survey is depicted on the index map shown below. It is centred at approximate geographic latitude 47 degrees 53 minutes north, longitude 81 degrees 10 minutes west. It surrounds Halliday Lake located between the Sothman and Halliday Townships, northeast Ontario, approximately 64 kilometres south of the town of Timmins (NTS Reference Map 41 P/14). The area is accessed by a system of secondary and tertiary roads from the north, via Timmins, and from the south, via Gowganda - Shining Tree. The only man-made feature in the area is a NNW-SSE oriented power line which crosses sheets 1, 4, 6, and 8. It is easily recognized on the electromagnetic, and to a lesser extent on the magnetic and resistivity channels and maps.

Topographically, the survey area is relatively flat in its northern and western parts where the topographic relief does not exceed 250 feet (75 metres). In the southeast part of the area, topography becomes more rugged, with the relief of up to 650 feet (195 metres).


48°00'
47°45'
81°15'
81°00'
Kapiskong Lake
Grassy River
Sinclair Lake
Grassy Lake
Ferris Lake
Lloyd Lake
Duncan Lake
MATTAGAMI LAKE
1
2
3
4
5
6
7
8

3. AIRCRAFT AND EQUIPMENT

3.1 Aircraft

An Aerospatiale A-Star 350 D helicopter, (G-OVB), piloted by J. Hall, owned and operated by Huisson Aviation Limited, was used for the survey. B. Simon of Aerodat was the navigator and equipment operator. Installation of the geophysical and ancillary equipment was carried out by Aerodat. The survey equipment was flown at a mean terrain clearance of 60 metres.

3.2 Equipment

3.2.1 Electromagnetic System

The electromagnetic system was an Aerodat 4 frequency system. Two vertical coaxial coil pairs are operated at 935 Hz and 4600 Hz and two horizontal coplanar coil pairs at 4175 Hz and 32,000 Hz. The transmitter-receiver separation was 7 metres. In phase and quadrature signals were measured simultaneously for the 4 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 2 A. This instrument measures the total field and quadrature component of the selected frequency.

The sensor was towed in a bird 12 metres below the helicopter. The transmitting stations used were NSS, broadcasting at 21.4 kHz from Annapolis, Maryland, NAA, Cutler, Maine at 24.0 kHz, and NLK, Jim Creek, Washington at 24.8 kHz. The specific stations used on any given flight for the In-Line and Orthogonal channels was determined by line direction and signal availability.

3.2.3 Magnetometer

The magnetometer employed a 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 12 metres below the helicopter.

3.2.4 Magnetic Base Station

An IFG proton precession magnetometer was operated at the base of operations 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 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

A Panasonic video flight path recording system was used to record the flight path on standard VHS format video tapes. The system was operated in continuous mode and the flight number, real time and manual fiducials were registered on the picture frame for cross-reference to the analog and digital data.

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 was recorded:

Channel	Input	Scale
CXI1	935 Hz Coaxial	25 ppm/cm
CXQ1	935 Hz Coaxial	25 ppm/cm
CXI2	4600 Hz Coaxial	25 ppm/cm
CXQ2	4600 Hz Coaxial	25 ppm/cm
CPI1	4175 Hz Coplanar	100 ppm/cm
CPQ1	4175 Hz Coplanar	100 ppm/cm
CPI2	32,000 Hz Coplanar	200 ppm/cm

Channel	Input	Scale
CPQ2	32,000 Hz Coplanar	200 ppm/cm
VLT	VLF EM Total Field, Line	25 %/cm
VLQ	VLF EM Quadrature, Line	25 %/cm
VOT	VLF EM Total Field, Ortho	25 %/cm
VOQ	VLF EM Quadrature, Ortho	25 %/cm
RALT	Radar Altimeter,	100 ft./cm
MAGF	Magnetometer, fine	25 nT/cm
MAGC	Magnetometer, coarse	250 nT/cm

3.2.8 Digital Recorder

A DGR 33:16 data system recorded the survey on magnetic tape. Information recorded was as follows:

Equipment	Recording Interval
EM System	0.10 seconds
VLF-EM	0.20 seconds
Magnetometer	0.20 seconds
Altimeter	0.50 seconds
Nav System	0.20 seconds
Power Line Monitor	0.10 seconds

3.2.9 Radar Positioning System

A Motorola Mini Ranger III, UHF radar navigation system was used for both navigation and flight path recovery. Transponders sited at fixed locations were interrogated several times per second and the ranges from these points to the helicopter are measured to a high degree of accuracy. A navigational computer triangulates the position of the helicopter and provides the pilot with navigation information. The range/range data was recorded on magnetic tape for subsequent flight path determination.

4. DATA PRESENTATION

4.1 Base Map and Flight Path

A controlled photomosaic base at a scale of 1:10,000 was prepared from the mosaics provided by Falconbridge Ltd.

4.2 Electromagnetic Anomaly Map

4.2.1 Flight Path

The flight path was derived from the Mini Ranger UHF radar positioning system. The distance from the helicopter to two established reference locations was measured several times per second and the position of the helicopter was calculated by triangulation. It is estimated that the flight path is generally accurate to about 10 metres with respect to the topographic detail on the base map.

The flight lines have the time, and the navigator's manual fiducials for cross reference to both analog and digital data.

4.2.2 Electromagnetic Data Compilation

The electromagnetic data was 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 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 phenomenon. 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 amplitude of the various inphase and quadrature components is zero when no conductive or permeable source is present. The filtered and leveled data was used in the interpretation of the EM data.

4.2.3 Airborne EM Interpretation

An interpretation of the electromagnetic data was prepared showing peak locations of anomalies and conductivity thickness ranges along with the inphase amplitudes (computed from the 4600 Hz coaxial response). The peak response symbols may be referenced by a sequential letter, progressing

in the original flight direction. The EM response profiles are presented on a separate map with an expanded vertical scale.

4.3 Total Field Magnetic Contours

The aeromagnetic data was corrected for diurnal variations by adjustment with the digitally recorded base station magnetic values. No correction for regional variation (IGRF) was applied. The aeromagnetic data have been presented with flight path and electromagnetic anomaly information on a cronaflex copy of the photomosaic base map.

4.4 VLF-EM Total Field Contours

The VLF-EM signals from NSS, Annapolis, Maryland broadcasting at 21.4 kHz and NAA, Jim Creek, Washington at 24.8 kHz were compiled as contours in map form and presented on a cronaflex overlay of the photomosaic base map along with flight lines and anomaly information. The data was recorded on the analog records and on digital tape.

4.5 EM Resistivity Contours

The apparent resistivity was calculated from the 4600 Hz coaxial coil pair. The calculations are based on a half space model. This is equivalent to a geological unit with more than 200 metres width and strike length. In practice, conductors, conductive lithologies and surficial conductors often have lesser dimensions, at least in one of the three dimensions. Apparent resistivities are usually underestimated for these sources.

5. INTERPRETATION

5.1 Geology

No geological information was provided by the client. The following paragraphs are based on information derived from an enlargement to 1:50,000 scale of the appropriate portion of the "Geological Highway Map, Northern Ontario", scale 1:1,600,000, Map 2506, published by Ministry of Northern Development and Mines, Mines and Minerals Division, Ontario Geological Survey, 1986.

The Precambrian rocks of the survey area belong to the southern part of the Canadian Shield. The northern portion of the survey block is underlain by metavolcanic rocks, ranging from felsic to mafic. They comprise rhyolitic, dacitic, and andesitic flows, tuffs, and breccias, and basaltic and andesitic flows, tuffs, and breccias, respectively. Small portions of the westernmost portions of the block, and a large part of its southern portion are underlain by conglomerate, sandstone, siltstone, and argillite of the Cobalt Group (Huronian Supergroup). Granitic rocks and metasediments may occur in some parts of the area.

Fault and lineaments of close to north-south and northwest-southeast orientation were reported. Northeasterly oriented faults may be present in the westernmost portion of the survey block. Northwesterly-to-northerly oriented dikes may also occur.

5.2 Magnetics

The magnetic data from the high sensitivity cesium magnetometer provided virtually continuous magnetic reading when recording at two-tenth second intervals. The system is also noise free for all practical purposes. The sensitivity of 0.1 nT allows for the mapping of very small inflections in the magnetic field, resulting in a contour map that is comparable in quality to ground data.

The total magnetic field in the survey area varies over a broad range of values, from less than 57,950 nT to more than 62,200 nT. High values are mostly confined to a relatively well defined band approximating the U-shaped axis of the survey block. The northern arm contains higher and laterally more extensive high zones compared to the south arm which, in general, is magnetically less active, and the anomalies are laterally less extensive. Good correlation appears to exist (on the first approximation basis) between the magnetically high zones and mafic volcanics (basaltic and andesitic flows, tuffs, and breccias) presented on the government release geology map, although numerous and significant differences exist, particularly on the local scale.

Frequently variable strike directions are interpreted as being due to folding, faulting, and dike presence. The individual magnetic anomalies are better resolved and defined on the calculated magnetic vertical gradient map, in particular the

anomalies of small lateral extent, and weaker linear features. The latter features are interpreted to reflect dikes of lower magnetite content; their reasonably good correlation with the mapped and assumed dikes (government geology map) supports this interpretation. While many of the published dikes can be found in the present data, there are linear magnetic anomalies present which are believed to reflect dikes but which have not been presented on the government geology.

Also present are subtle, generally low magnetic linear zones which may be due to faulting. The best example of such a feature is seen on sheets 2 and 4 where it nearly parallels the flight line direction, extending from the south end of lines 590 and 600 toward the time mark 13:25:30 on line 651. Its trace north and south of these locations is not well established. Lateral movement is evident along the feature, but it is difficult to decide on its orientation.

Numerous offsets, terminations, and breaks of the magnetic and gradient contour patterns are interpreted to indicate structural features, such as faults, contacts, etc. The preferred orientation of these structural trends is in the northwest-southeast direction, though other directions are also present. (This would be expected, considering the fact that the survey block was intentionally designed to follow the U-shape trending geology.) The magnetic data suggests that the entire area can be divided into several individual units, the boundaries of which coincide with the

structural lineaments. Most of the adjacent units show continuation of the trends and magnetic character, or contour patterns. Those units, which are separated by non-magnetic country rock, can be correlated only based on the similarity of their anomaly shapes and magnetic character. At present, implications of the magnetic data for drawing geologic conclusions are not quite clear, except that the data indicates that several tectonic events have occurred in the survey area.

Some of the inferred structural features have been indicated on the interpretation map, which provides a "first glance" preliminary results. Geology of the survey area is very complex and its full and complete assessment cannot be done within the framework of this report. It is strongly recommended to use various enhancement techniques (such as RTI (Real Time Imaging), shadow mapping, apparent susceptibility, etc.) in order to extract detail structural and geologic information from the present magnetic data set. In summary, the magnetic data supports, and in many respects extends, the published geology. It is the new magnetic/geologic evidence which makes the present survey particularly valuable.

5.3 Apparent Resistivity

Apparent resistivities were calculated from the 4,600 Hz coaxial electromagnetic responses using a thick conductive layer model. The values vary from as low as 5 ohm-m to more than 4,000 ohm-m, the upper detection limit at the used frequency.

High resistivity values occur throughout the survey area in laterally extensive zones. There are suggestions of high magnetic activity - high resistivity correlation. High resistivity zones also show possible correlation with high lying ground (e.g., the southeast part of the survey block - sheets 6 to 8). In a few instances, the low resistivity zones correlate with lakes and creeks, possibly reflecting conductive sediments. Because the majority of the lakes and creek valleys have not produced low resistivities, it is proposed that the low resistivity zones detected in the area are due to the presence of conductive geologic units, or mineralization. For example, narrow, well defined resistivity lows in the north-central part of sheet 1, in the south-central part of sheet 4, parts of sheets 3 and 5, and a narrow, intermittent conductive horizon crossing the north portions of sheets 6 to 8, all appear to indicate contacts, or mineralization associated with a contact, between felsic and intermediate metavolcanics (rhyolite, dacite, andesitic flows, tuffs, breccias) and mafic metavolcanics (basaltic and andesitic flows, tuffs breccias).

The resistivity contour patterns appear to approximate the shape of the geologic units shown on the government map. Whether or not this may be partly due to physiography, or is completely an indication of various geologic units, is not clear at this moment. It is recommended to analyze the resistivity data in detail with the aim of defining boundaries of the individual units. Results of such an analysis should be compared with a similarly detailed analysis of the magnetic data, and the two interpretations combined in the final pseudo-geology map.

Similar to the magnetic data, the resistivity contours display numerous terminations, offsets, and breaks which may be indicative of structural features. These lineaments were taken into account, and/or used as a refinement of the trends inferred from the magnetics, when drawing the (preliminary) interpretation map.

Good correlation exist between the results of the magnetic and resistivity structural interpretations. In general, the resistivity lows are confined to the flanks of magnetic anomalies suggesting that the magnetic and conductive horizons are not identical, though intimately related. Alternatively, the offset of the two responses may reflect either conductive material eroded from the magnetic bodies, or the outline of exposed conductive rock units. Neither of the last two explanations is likely due to the generally flat topography. Only in several instances, the conductive zones show direct magnetic correlation.

At places, significant differences occur between the magnetic and resistivity features, which cannot be readily explained at this time. For example, strike of the magnetic and resistivity trends at the south end of lines 090 to 210 (sheet 4) is quite different. Possible explanation would be to interpret the resistivity lows as indicative of mineralization(?) along a felsic/mafic metavolcanic contact, and the magnetic anomalies as being due to an intersecting (diabase?) dike. Similarly, a well defined low resistivity zone in the eastern part of sheet 4 does not have a corresponding

magnetic expression. An attractive, intermittent conductive horizon of an east-west orientation situated in the north portion of sheets 5 to 8, has at places magnetic correlation, whereas at other places, no magnetic expression was observed. Inversely, a linear magnetic anomaly of east-westerly orientation situated in the central part of sheet 6 is unrecognized on the resistivity map.

These examples of local differences between the magnetic and resistivity data are clearly of great exploration consequence. Their detail evaluation and mutual correlation (in conjunction with other geophysical, geologic, and geochemical parameters) is considered to be important. Structural analysis should be performed as the first step in the evaluation program.

5.4 Total Field VLF

The VLF-EM data was collected using two different transmitter stations. NLK, Jim Creek, Washington, operating at a frequency of 24.8 kHz was used for flights No.1 to 11, 17 to 23, and 38 to 40. Responses induced by the NSS, Annapolis, Maryland transmitter, operating at a frequency of 21.4 kHz were recorded on flights No.12 to 16, and 24 to 37. The NLK transmitter occurs at an azimuth of 286 degrees, and the NSS transmitter at an azimuth of 157 degrees, i.e., the two transmitters occur within 129 degrees of each other. These two principal directions are clearly born out by the data; the presence of numerous east-west oriented conductive features in the

northern arm of the block, in the west-central portion flown in the northwest-southeast direction, and in the southeast part of the area (most of sheets 7 and 8), and the prominence of the northwesterly oriented VLF-EM anomalies in the rest of the block, are obvious. In spite of the directional bias of the two transmitters, the data appears to be coherent and containing a wealth of structural and general geologic information.

The east-west oriented VLF-EM trends in the northern portion of the survey block are interpreted to indicate the extension of the mafic metavolcanics toward east from their currently published locations. The difference in the pattern density and the amplitude of the VLF-EM response appears to be indicative of the felsic (to intermediate) vs. mafic metavolcanics. Whereas the felsic metavolcanics have produced high amplitude, dense contour patterns, the mafic metavolcanics have produced low-to-intermediate amplitude, lower density contour patterns. The situation is less clear in the west-central and southern arms of the block. Here, the main character difference may be between the Cobalt Group rocks (conglomerate, sandstone, siltstone, and argillite) and the metavolcanics, as such.

Frequent and numerous terminations, offsets, and breaks of the VLF-EM contour patterns are interpreted to be indicative of structural features, such as faults, contacts, etc., as well as of topographic features, and conductive mineralized

horizons. The most prominent fault-like VLF-EM anomaly was detected in the area of sheets 2 and 4. It is recognized as a nearly north-south oriented break in the VLF-EM patterns that also coincides with a magnetic and resistivity structure.

Preferred orientation of the linear features is to the northeast, in agreement with the orientation of the secondary dike set shown on the government geology map. Topographic effects may have been a contributing factor in the case of these trends.

Prominent east-westerly oriented VLF-EM trends in the northern arm of the survey block, which are believed to reflect geologic contacts (mainly between felsic and mafic metavolcanics), or mineralization associated with the contacts, have been mentioned previously. Similar VLF-EM anomalies interpreted to be related to contacts, are found on all sheets. Practically in all the cases these prominent VLF-EM features correlate with resistivity lows, and also show some correlation with magnetics, being typically located on the flank of magnetic anomalies or anomalous zones. In several instances, there is a direct correlation between the VLF-EM and magnetic (and resistivity) data. Best examples are seen in the area of sheets 7 and 8.

The long, intermittent horizon crossing the north portion of sheets 5, 6, and 8, and the south part of sheet 7, may be of interest. Near the common portion of sheets 5 and 6, it is associated with a prominent narrow magnetic anomaly which could

reflect an iron formation. Further east, in the eastern part of sheet 6, this horizon has no magnetic expression, but becomes again magnetic in the south part of sheet 7. The entire horizon is conductive but it has a poor VLF-EM definition due to the directional bias of the NSS transmitter used in this part of the survey area. It is proposed to investigate this, and similar horizons on the ground. The follow-up should be governed by the results obtained over the magnetic/resistivity/VLF-EM anomaly in the west-central part of the area (sheets 3 and 5), and/or over the magnetic/resistivity/VLF-EM anomaly in the south part of sheet 7.

5.5 Electromagnetics

The electromagnetic data was first checked by a line-to-line examination of the analog records. The electromagnetic anomalies were selected by the writer according to a "vertical thin sheet" model from the digital profiles with checks made against the analog profiles.

Examination of the analog and digital profiles indicates the presence of numerous vertical thin sheet bedrock conductors of variable grade, mostly in the low to intermediate conductance range. There are a few cases of "edge effects" which indicate abrupt changes in the ground resistivity. Generally, such EM anomalies are of low exploration interest but cannot be readily discarded because weak (disseminated?) mineralization related to contacts sometimes give rise to the same

electromagnetic response as an edge effect. Also present are numerous spurious EM responses caused by a major power line crossing sheets 1, 4, 6, and 8. They are of no exploration consequence, and as such they were intentionally left out from the interpretation map.

Group I. - These weak to intermediate EM anomalies reflect bedrock conductors which appear to be confined to an intermittent conductive horizon "sandwiched" between two magnetic anomalous trends of northwesterly orientation. The horizon occurs within a possible mafic metavolcanic unit, or at its contact with felsic metavolcanics. Anomalies 20A, and 40A-60A, characterized by well developed 4,600 Hz and 935 Hz responses, are more attractive than the rest of the conductors.

Group II. - Conductors of this grouping, which are well developed on the 4,600 Hz channels, reflect a suite of lower conductance bedrock conductors. The south branch of this group appears to be confined to a proposed contact inferred from the magnetics. The conductive horizon may extend further east, past a northwest oriented fault, and to the west. Here, the conductors are associated with magnetic activity, coinciding with the peak of the activity, or on its flank. Conductors of the south branch appear to be more attractive than those found in the north branch.

Group III. - These well defined, sharp response anomalies occur within the non-magnetic portion of the felsic metavolcanic unit. The magnetic data indicates that an east-west oriented contact exists hosting the north dipping conductor(s) III. The group has produced a distinguished resistivity low, but the VLF-EM response is poorly defined due to the use of the NSS transmitter.

Group IV. - A north dipping bedrock conductor of this group displays characteristics similar to the group III conductors: It occurs in a magnetically inactive area, has produced a distinct resistivity low, is associated with a VLF-EM anomaly, and has a similar dip.

The area of sheet 2 contains a number of single-line to short strike length conductors which are mostly weak, associated with magnetics (to a variable degree), and structurally controlled (based on the structural features inferred from the present geophysical data). Whereas group I to IV conductors are all well defined and stronger, hence, they may reflect massive mineralization, it is this apparent or possible structural control that makes these weaker anomalies attractive as potential gold exploration targets. Their exploration potential has to be evaluated based on a workable geologic/mineralization model.

Group V. - These EM anomalies reflect a suite of prominent bedrock conductors, some of which display distinct southerly dips. They occur within mafic metavolcanics(?), are associated with a prominent magnetic horizon, have produced a distinct low resistivity zone, and possibly a suite of VLF-EM anomalies. Three northwesterly oriented faults are inferred from the magnetic data.

Group VI. - Located approximately 800 metres south of group V, these weak, relatively unattractive bedrock and possible bedrock conductors, are confined to the north edge of a mafic metavolcanic unit. North dips are indicated on lines 900 and 912. Localized low resistivity zones and an attractive VLF-EM anomalous trend are associated with the conductors.

Group VII. - Weak bedrock conductors of this group are situated at the north margin of a broad, magnetically non-active zone. (The south and east margins of the same zone are associated with conductor groups VIIIa and VIIIb.) The quality of the conductors varies from low to moderate, the latter type being found at the west end of the group (lines 1281 to 1340), and at its central part (lines 970 to 1020). North dips are indicated at the west end of the group. The intermittent conductive horizon indicated by the group VI conductors has produced an equally intermittent low resistivity zone. On the VLF-EM map, it is distinguished as a well defined anomalous trend.

Groups VIIIa and VIIIb. - These groupings are situated along the south and east edges of a broad non-magnetic zone. (See group VII, above.) Conductors VIIIa have produced an intermittent low resistivity zone; no distinct resistivity zone is associated with conductors VIIIb. In contrast, the VLF-EM defines these conductors well.

Group IX. - Bedrock conductors of this grouping are located west of group VIIIa. They may reflect an extension of the same conductive horizon as VIIIa. All anomalies of this grouping are on the flanks of magnetic activity, associated with localized low resistivity zones, but with no distinct VLF-EM anomalies. Some structural control is indicated.

Group X. - This group consists of well defined bedrock conductors. North dips are indicated in the eastern part of the group. The conductors are confined to the edges of a non-magnetic zone, have produced distinct low resistivity and VLF-EM patterns. The group may be confined to a felsic/mafic metavolcanic contact.

Group XI. - Relation of these bedrock conductors to the known or assumed geology is not clear. They may be related to a felsic/mafic metavolcanic contact, or be partly associated with an intrusive(?) indicated by magnetics. The conductors have produced recognizable low resistivity zone but unclear VLF-EM responses. Steep to north dips are indicated.

Group XII. - Well defined EM anomalies of this grouping reflect a suite of moderate to strong bedrock conductors.They are situated in a geologically complex area containing east-west trending mafic/felsic contacts and northwesterly oriented narrow magnetic patterns (dikes?). Attractive low resistivity zones and coincident VLF-EM anomalies are associated with the conductors.

A few scattered conductors of possible bedrock origin occur near the west sheet boundary (sheet 4), in the south half of lines 1200 to 1281. They are confined to magnetically low area containing poorly defined low resistivity patterns and VLF-EM anomalies. Part of the response may be due to conductive lake sediments.

Group XIII. - This pair of conductors occurs in a magnetically inactive area containing a circularly shaped resistivity low and indistinct VLF-EM patterns. The low resistivity zone appears to correlate with a lake, and consequently, the conductors may not be of exploration interest.

Group XIV. - This group consists of generally poorly defined EM anomalies which are associated with broad electromagnetic responses. They may reflect edge effects or conductive lake sediments. The conductors are situated near the west tip of a magnetic zone within a mafic metavolcanic unit. Poorly defined resistivity zone and a relatively well established VLF-EM zone appear to indicate near surface conductive feature (e.g., conductive sediments) rather than bedrock conductors.

Anomaly 1520B-1530A, located approximately 800 metres WNW of group XIV, reflects weak conductor, possibly of bedrock origin. It is associated with a well defined low resistivity zone and an east-west oriented VLF-EM trend of regional character. The presence of several small lakes and a dirt road in this general area, downgrade the anomaly.

The EM anomalies within sheet 3, which covers the western extremity of the survey area and contains flight lines oriented in the north-south, northeast-southwest, and northwest-southeast directions, are in many instances difficult to correlate from line-to-line due to frequently and abruptly varying strike direction of the geophysical parameters. The conductor axes shown on the interpretation map, must be considered preliminary; they may require adjustment at a later time, when detail ground surveys had been completed. At the present time it will suffice to note that the geologic and geophysical patterns undergo a directional change from approximately northeasterly in the north part of the sheet to southeasterly at the south sheet boundary. The axis of this pronounced directional change is proposed to parallel the south sheet boundary, as indicated on the interpretation map.

Group XV. - The EM anomalies of this grouping reflect weak conductors, possibly of bedrock origin as indicated by the sharpness of the 4,600 Hz EM signals. The conductors are associated with a resistivity low and a VLF-EM anomaly which, in turn, may be partly caused by, or associated with, responses of the conductive sediments of Wrigley Lake.

Group XVI. - A weak, poorly defined, magnetic conductor of possible bedrock origin is indicated by these EM anomalies. The conductor has produced a mediocre resistivity response and no discernible VLF-EM anomaly.

Group XVII. - This group consists of non-magnetic bedrock conductors displaying the same, or similar, strike direction as conductor XVI. Whether or not they reflect the same horizon is not clear at this time. The conductors have produced an attractive resistivity low bordered by well defined VLF-EM anomalies. No near surface conductive feature is apparent on the topographic map.

Group XVIII. - The poorly defined EM anomalies of this grouping are mostly of the "edge effect" type. They are associated with the margins of broad low resistivity zones believed to reflect conductive lake sediments. The possible line-to-line correlation of the individual EM anomalies suggests severe directional discrepancy between the magnetic and EM/resistivity anomalies. This in turn suggests the non-bedrock origin of the EM responses.

Groups XIXa and XIXb. - Conductors of these groupings are associated with the complex magnetic structures situated in this part of the survey area. Origin of these conductors may be located in the bedrock; the strike direction of group XIXa is similar to the strike of a pronounced linear magnetic anomaly further southwest, and as such, group XIXa may indicate a structural break or mineralization related to it.

Group XX. - A suite of conductors of definite and possible bedrock origin is indicated by these EM anomalies of variable quality, as shown by the resistivity map. The western conductor of the group occurs on the flank of a distinct, semi-circular magnetic high which may be due to an intrusion.

Group XXI. - This group consists of three parallel conductors of possible bedrock origin and possible contribution from near surface conductive feature (e.g., lake bottom sediments). The group is situated immediately next to a "folded" magnetic anomaly which may be interesting from the exploration point of view.

Group XXII. - The bedrock conductors of this grouping coincide directly or very closely with a narrow, dike-like magnetic trend. These conductors of possible easterly dip have produced an intermittent low resistivity zone and an intermittent VLF-EM trend from the NLK signal. They are interpreted to reflect conductive mineralization associated with the outer edge of an extensive and complex magnetic system.

Group XXIII. - The mostly bedrock conductors within this grouping occur on the inner side of the distinct linear magnetic anomaly, or a system of anomalies. Some conductors are better defined on the northeast oriented lines than on the northwest oriented lines. They have produced an attractive low resistivity zone and distinct VLF-EM patterns, and are believed to reflect a multiple conductive horizon.

Group XXIV. - These generally poorly defined EM anomalies reflect mostly conductors of the "edge effect" type. They occur in the magnetically quiet part of the area and are associated with broad low resistivity zones correlating with lakes. Their ground follow-up is not recommended at this time.

Group XXV. - This is a poorly defined non-magnetic conductor which is associated with a localized resistivity low and a distinct VLF-EM anomaly. The conductor correlates with a lake. The shape of the EM responses suggests that the conductor is due to a near surface conductivity.

Group XXVI. - An edge effect type conductor occurring over Gelinas Lake is indicated by these weak EM responses. The conductor occurs parallel to a set of strong linear magnetic anomalies; it is associated with localized resistivity low and a strong VLF-EM trend.

Group XXVII. - A suite of weak, poorly defined conductors reflecting near surface or edge effect type conductive features is indicated by the EM anomalies of this grouping. They occur in a non-descript area of weak magnetic trends, some ground conductivity, and at the edge of a well developed VLF-EM zone. The conductors may be confined to a mafic metavolcanic unit.

Group XXVIII. - Conductors of this grouping have some characteristics similar to those located within group XXVII. Their orientation is, however, more east-westerly being on strike with group XXIX conductors further east. The magnetic

environments of the two groups are very different which would suggest that they do not reflect the same conductive horizon, though such a possibility cannot be totally rejected.

Group XXIX. - The EM anomalies within this grouping do not reflect high conductance bedrock conductors such as massive sulphide or graphite. They are indicative of low to intermediate conductance, flanking from the north and from the south a strong magnetic high which may reflect an iron formation(?). The conductors have produced a very attractive low resistivity zone, and the NSS VLF-EM data appears to suggest highly conductive zone. Ground follow-up is recommended.

Group XXX. - A series of weak to intermediate conductance bedrock conductors is indicated by these well defined EM anomalies. The conductors are regarded to form a part of a long discontinuous conductive horizon mentioned earlier. Group XXX occurs in magnetically quiet part of the area but the conductors have produced an attractive resistivity low. The VLF-EM data (NSS transmitter) is non-descript. Ground follow-up is recommended.

Groups XXXI and XXXII. - These bedrock conductor groups are interpreted to be extensions of the above discussed (groups XXIX and XXX) intermittent conductive horizon which may be related to the mafic/felsic metavolcanics contact, or Cobalt Group rocks/felsic metavolcanic contact. They differ from group XXX by their

direct (group XXXI) or flanking (group XXXII) magnetic correlation but they display very similar electromagnetic characteristics. Northerly dips are indicated at several locations within group XXXI. The associated resistivity lows and VLF-EM anomalies are very attractive. Ground follow-up is recommended.

Group XXXIII. - Weak, but distinct non-magnetic conductor of bedrock origin is indicated within the Cobalt Group rocks. It has produced a poorly defined but recognizable resistivity low and a distinct VLF-EM anomaly which extends beyond the conductor limit.

Group XXXIV. - This is an extensive group of bedrock conductors situated within the felsic metavolcanic unit. The EM anomalies in the south portion of the grouping reflect a conductive horizon which extends in an ENE-WSW direction beyond the survey boundary. Most of the south conductors are associated with moderate-to-strong magnetic anomalies, display steep or southerly dips, and have produced attractive low resistivity zones and VLF-EM trends. Conductors in the north part of the group are non-magnetic and possibly of the "edge effect" type.

Sheet 8 contains only a few EM anomalies which are of the "edge effect" type. They loosely follow a northwesterly oriented magnetic trend within the Ferris Lake area. The associated resistivity patterns are not attractive; a very well developed VLF-EM anomaly is believed to be indicative of conductive lake sediments. No follow-up is recommended at this time.

6. CONCLUSIONS AND RECOMMENDATIONS

Results of the present airborne geophysical survey indicate that the geologic setting within the survey area is complex. While the data confirms the published geology in general terms, it shows that the detail should be adjusted, at places significantly. The structure and tectonic relationships of the survey area are complex. Further work is required to explain the significance of numerous features. In general, the magnetic data portrays well the mafic metavolcanic units and indicates that they may be more extensive than previously thought. The magnetic maps are dominated by fold-like patterns of regional character.

Structural evaluation of the data defined numerous northwest-southeast oriented trends, many of which can also be identified on the resistivity, and to a variable degree on the VLF-EM, maps. A major NNW-SSE oriented fault crosses the area of sheets 2 and 4. It cannot be easily extended to sheets 6 to 8. Their is a vague suggestion that it may continue within sheet 7.

Numerous breaks of other orientations were also identified, in general agreement with the published data. A number of these interesting and complex geological and structural features have produced attractive airborne geophysical responses. However, their detail evaluation is beyond the scope of this report. Detail evaluation of the structural setting within the area is highly recommended due to a possible association of mineral occurrences with the structural zones of weakness. Use of various enhancing and imaging techniques (shadow mapping, RTI - Real Time Imaging) supported by detail geologic mapping, is believed to be the most appropriate approach.

The resistivity and the VLF-EM techniques identified a number of conductive horizons which are believed to host mineralization of potential interest. Many of these laterally extensive conductive zones contain sections which have been produced by steeply dipping bedrock conductors, some of which are magnetic. Such geophysical setting usually suggests massive mineralization. In contrast, weak and poorly defined conductors of possible bedrock origin, particularly when situated near structural features or their intersections, should be investigated on the ground because they may be significant in the exploration for gold.

Thirty-four major conductor groups and a number of weak, short strike length conductors have been identified within the survey area. Most of them are recommended for the ground follow-up work which should depend on the correlation of the results of the present survey with a workable geologic model. The survey results should be compiled on a common base containing all types of other information, including geology, geochemistry, and other geophysics. Target areas should be selected based on the mutual correlation of all the data.

Respectfully submitted

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for
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August 4, 1989

APPENDIX I

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 and the horizontal coplanar coil pair is operated at a frequency 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 II 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 II

ANOMALY LIST

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
16	10	A	2	20.3	11.7	2.7	0	208
16	10	B	0	9.6	17.1	0.4	0	177
16	10	C	0	6.8	19.7	0.1	0	176
16	10	D	0	5.0	9.6	0.2	0	226
16	20	A	1	25.7	22.9	1.6	0	206
16	20	B	0	7.6	17.1	0.2	0	204
16	20	C	0	12.8	26.4	0.4	0	165
16	20	D	0	14.6	27.7	0.4	0	161
16	20	E	2	17.7	11.8	2.1	0	219
16	30	A	1	15.2	11.4	1.7	0	214
16	30	B	0	8.6	13.3	0.5	0	191
16	30	C	0	10.4	18.1	0.4	0	190
16	30	D	0	6.3	17.2	0.2	0	197
16	30	E	1	13.2	10.0	1.6	0	262
16	40	A	1	27.9	27.5	1.5	0	176
16	40	B	0	4.7	12.3	0.1	0	175
16	40	C	0	2.6	13.4	0.0	0	163
16	40	D	0	5.5	25.1	0.0	0	156
16	40	E	0	10.0	28.9	0.2	0	157
16	40	F	0	13.5	41.2	0.2	0	129
16	40	G	0	7.3	19.8	0.2	0	209
16	40	H	1	25.9	22.8	1.7	0	202
16	50	A	1	23.9	21.8	1.5	0	196
16	50	B	0	12.1	22.1	0.4	0	158
16	50	C	0	3.8	21.3	0.0	0	159
16	50	D	0	5.0	11.6	0.2	0	197
16	50	E	0	2.4	7.6	0.0	0	205
16	50	F	1	23.4	28.3	1.0	0	180
16	60	A	2	49.8	29.2	3.5	0	188
16	60	B	0	-2.7	20.1	0.0	0	159
16	60	C	0	14.7	32.3	0.4	0	170
16	60	D	0	6.2	31.2	0.0	0	146
16	60	E	0	3.6	30.9	0.0	0	141
16	60	F	0	3.7	22.4	0.0	0	137
16	60	G	0	7.1	32.4	0.1	0	152
16	60	H	1	17.4	19.8	1.0	0	215
16	70	A	0	5.9	13.0	0.2	0	212
16	70	B	1	29.5	33.5	1.2	0	149

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.

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
16	70	C	0	3.8	26.8	0.0	0	162
16	70	D	0	2.7	27.3	0.0	0	147
16	70	E	0	6.1	22.0	0.1	0	206
16	70	F	0	8.5	21.4	0.2	0	202
16	80	A	0	2.6	11.5	0.0	0	169
16	80	B	0	15.9	61.3	0.2	0	164
16	80	C	0	12.1	67.4	0.1	0	162
16	80	D	0	11.0	33.0	0.2	0	153
16	80	E	0	4.0	23.7	0.0	0	173
16	80	F	2	53.9	41.1	2.6	0	169
16	90	A	1	31.6	44.2	1.0	0	149
16	90	B	1	39.8	58.4	1.0	0	146
16	90	C	0	11.7	29.7	0.3	0	146
16	90	D	0	10.8	39.0	0.1	0	144
16	90	E	0	10.7	35.5	0.2	0	185
16	90	F	0	8.3	28.8	0.1	0	187
16	90	G	0	-1.5	9.9	0.0	0	196
16	102	A	0	2.4	16.5	0.0	0	207
16	102	B	0	15.5	60.8	0.1	0	165
16	102	C	0	28.2	94.8	0.3	0	155
16	102	D	0	9.3	44.6	0.1	0	138
16	102	E	0	14.9	47.7	0.2	0	142
16	102	F	1	38.9	47.9	1.2	0	170
16	102	G	0	5.4	32.3	0.0	0	162
16	110	A	0	7.6	25.2	0.1	0	192
16	110	B	0	18.3	40.0	0.4	0	148
16	110	C	0	21.2	59.9	0.3	0	145
16	110	D	0	27.6	48.1	0.7	0	152
16	110	E	1	38.2	55.5	1.0	0	155
16	110	F	0	23.6	67.0	0.3	0	176
16	121	A	0	5.6	21.2	0.1	0	185
16	121	B	0	1.9	27.7	0.0	0	179
16	121	C	0	27.8	46.5	0.7	0	170
16	121	D	2	49.4	40.0	2.3	0	163
16	121	E	1	74.7	90.0	1.6	0	139
16	130	A	0	26.8	39.8	0.8	0	189
16	130	B	0	5.1	28.7	0.0	0	175
16	130	C	2	38.9	33.7	2.0	0	187
16	130	D	0	15.4	31.3	0.4	0	193

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.

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
16	130	E	0	14.4	48.7	0.2	0	189
16	130	F	0	1.2	16.3	0.0	0	188
16	130	G	0	14.4	34.7	0.3	0	178
16	142	A	0	14.6	25.6	0.5	0	173
16	142	B	0	2.6	22.7	0.0	0	194
16	142	C	0	25.3	37.0	0.8	0	176
16	142	D	1	52.7	60.5	1.5	0	149
16	142	E	0	27.8	40.0	0.9	0	175
16	142	F	0	4.2	20.7	0.0	0	220
16	150	A	0	4.7	50.3	0.0	0	152
16	150	B	0	10.8	26.1	0.3	0	176
16	150	C	0	4.0	26.1	0.0	0	160
16	150	D	0	5.5	27.6	0.0	0	162
16	150	E	0	7.4	30.6	0.1	0	164
16	150	F	1	29.5	38.8	1.0	0	165
16	150	G	0	6.9	39.6	0.0	0	178
16	150	H	0	5.6	29.5	0.0	0	188
16	150	J	0	17.1	26.7	0.6	0	190
15	160	A	0	6.4	30.7	0.0	0	188
15	160	B	0	2.8	33.5	0.0	0	162
15	170	A	0	8.7	37.8	0.1	0	178
15	190	A	0	7.4	39.6	0.0	0	187
15	200	A	0	9.5	17.1	0.4	0	193
15	210	A	0	18.1	23.0	0.9	0	197
15	220	A	0	10.9	21.4	0.4	0	180
15	221	A	0	10.5	49.2	0.1	0	189
15	230	A	0	0.6	13.1	0.0	0	164
15	230	B	0	11.6	27.3	0.3	0	156
15	240	A	0	4.2	20.9	0.0	0	190
15	250	A	0	4.4	15.7	0.1	0	184
15	260	A	0	6.4	20.2	0.1	0	171
15	260	B	0	10.8	29.1	0.2	0	156

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.

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
15	260	C	0	8.0	34.4	0.1	0	184
15	270	A	0	10.5	33.0	0.2	0	179
15	270	B	0	18.9	32.8	0.6	0	192
15	270	C	1	31.5	43.8	1.0	0	191
15	270	D	1	33.1	27.7	1.9	0	189
15	270	E	0	7.0	20.2	0.1	0	176
15	280	A	0	5.6	18.9	0.1	0	183
15	280	B	2	69.4	58.9	2.4	0	156
15	280	C	1	28.8	35.2	1.1	0	168
15	280	D	0	22.4	39.2	0.6	0	173
15	292	A	0	13.4	94.3	0.0	0	154
15	292	B	0	32.9	56.3	0.7	0	164
15	292	C	1	33.4	47.5	1.0	0	158
15	292	D	1	48.2	57.6	1.4	0	154
15	292	E	0	5.4	14.7	0.1	0	207
15	300	A	0	18.2	36.7	0.5	0	170
15	300	B	0	23.4	50.0	0.5	0	166
15	300	C	0	16.5	40.5	0.3	0	172
15	300	D	0	21.7	47.8	0.4	0	174
15	310	A	0	15.3	36.9	0.3	0	177
15	310	B	0	15.8	36.8	0.3	0	173
15	310	C	0	17.8	38.5	0.4	0	169
15	310	D	0	7.6	25.0	0.1	0	145
15	320	A	0	23.1	59.3	0.4	0	137
15	320	B	0	12.4	32.1	0.3	0	197
15	320	C	0	25.5	39.0	0.8	0	168
15	320	D	0	18.6	84.8	0.1	0	165
15	330	A	0	8.4	30.9	0.1	0	232
15	330	B	0	16.6	34.3	0.4	0	157
15	330	C	0	22.1	54.8	0.4	0	155
15	330	D	0	11.4	67.4	0.0	0	148
14	340	A	0	33.3	52.7	0.8	0	166
14	340	B	1	37.1	45.6	1.2	0	167
14	340	C	0	3.4	25.8	0.0	0	177
14	340	D	0	35.7	159.6	0.2	0	142
14	340	E	0	8.4	112.4	0.0	0	133
14	350	A	0	25.6	82.8	0.3	0	180

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
14	350	B	0	5.1	33.5	0.0	0	192
14	350	C	1	38.9	38.5	1.6	0	188
14	361	A	1	37.1	39.1	1.5	0	176
14	361	B	0	12.0	68.3	0.1	0	176
14	361	C	0	12.3	48.6	0.1	0	194
14	370	A	0	6.9	33.1	0.0	0	197
14	370	B	0	31.9	51.0	0.8	0	161
14	370	C	0	22.0	46.8	0.5	0	158
14	370	D	0	5.3	56.3	0.0	0	143
14	380	A	0	6.4	29.4	0.0	0	178
14	380	B	0	30.9	44.7	0.9	0	163
14	390	A	0	19.7	32.4	0.6	0	190
14	390	B	0	6.0	13.9	0.2	0	173
14	400	A	0	7.7	31.3	0.1	0	172
14	400	B	0	28.3	51.4	0.6	0	160
14	400	C	0	-3.0	9.4	0.0	0	166
14	410	A	0	3.1	39.2	0.0	0	158
14	410	B	0	21.9	30.5	0.8	0	170
14	410	C	0	5.7	35.3	0.0	0	163
14	420	A	0	4.3	40.6	0.0	0	158
14	420	B	1	35.4	49.2	1.0	0	154
14	420	C	0	1.2	35.0	0.0	0	151
14	430	A	1	24.4	27.4	1.2	0	163
14	430	B	0	4.2	33.4	0.0	0	156
14	440	A	0	2.5	29.2	0.0	0	159
14	440	B	0	12.9	30.6	0.3	0	149
14	440	C	0	11.0	73.2	0.0	0	159
14	440	D	0	13.5	64.6	0.1	0	160
14	451	A	0	8.9	32.6	0.1	0	199
14	451	B	0	13.1	53.3	0.1	0	151
14	451	C	0	5.5	58.7	0.0	0	151
13	460	A	0	4.2	38.0	0.0	0	145
13	460	B	0	12.2	53.9	0.1	0	141
13	460	C	0	4.7	68.2	0.0	0	146

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
13	460	D	0	6.6	69.1	0.0	0	144
13	460	E	0	31.5	90.8	0.3	0	176
13	460	F	0	4.3	40.2	0.0	0	173
13	470	A	0	15.2	66.5	0.1	0	176
13	470	B	0	4.1	51.3	0.0	0	158
13	470	C	0	4.3	51.1	0.0	0	157
13	470	D	0	22.1	40.8	0.6	0	154
13	470	E	0	5.4	40.7	0.0	0	158
13	481	A	0	8.9	44.3	0.1	0	178
13	481	B	1	27.9	33.5	1.1	0	161
13	481	C	0	8.4	27.8	0.1	0	218
13	481	D	0	3.7	27.2	0.0	0	195
13	490	A	0	4.1	15.7	0.0	0	233
13	490	B	0	4.1	25.1	0.0	0	194
13	490	C	0	4.4	24.2	0.0	0	180
13	490	D	1	28.6	35.2	1.1	0	163
13	490	E	0	10.2	40.4	0.1	0	179
13	500	A	0	5.2	40.4	0.0	0	152
13	500	B	0	9.0	46.7	0.1	0	153
13	500	C	0	29.0	40.2	0.9	0	180
13	500	D	0	5.2	27.8	0.0	0	174
13	510	A	0	4.1	38.0	0.0	0	166
13	510	B	0	6.3	41.0	0.0	0	159
13	510	C	1	42.2	59.6	1.1	0	171
13	510	D	0	20.3	26.6	0.9	0	167
13	510	E	0	15.1	30.9	0.4	0	159
13	510	F	0	7.6	35.2	0.1	0	183
13	510	G	0	4.5	31.1	0.0	0	180
13	521	A	0	8.0	61.0	0.0	0	152
13	521	B	0	5.3	16.9	0.1	0	159
13	521	C	0	14.4	32.9	0.3	0	159
13	521	D	0	10.1	20.5	0.3	0	157
13	521	E	0	15.6	36.6	0.3	0	167
13	521	F	0	10.1	60.1	0.0	0	177
13	532	A	0	3.7	29.5	0.0	0	194
13	532	B	0	1.2	11.1	0.0	0	197
13	532	C	0	5.4	33.6	0.0	0	189
13	532	D	0	10.6	20.5	0.4	0	209

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
13	532	E	0	7.9	20.7	0.2	0	202
13	532	F	0	4.0	33.4	0.0	0	174
13	540	A	0	16.3	34.9	0.4	0	176
13	540	B	0	6.9	17.3	0.2	0	186
13	540	C	0	5.1	15.9	0.1	0	180
13	551	A	0	4.1	40.0	0.0	0	182
13	551	B	0	21.8	46.0	0.5	0	181
13	551	C	0	9.4	17.8	0.4	0	187
13	561	A	0	8.8	51.0	0.0	0	166
13	561	B	0	17.4	31.6	0.5	0	155
13	561	C	0	5.3	36.1	0.0	0	181
13	571	A	0	3.6	23.7	0.0	0	174
13	571	B	0	10.5	60.6	0.0	0	160
12	580	A	0	3.2	18.6	0.0	0	192
12	580	B	0	16.4	93.9	0.1	0	153
12	580	C	0	5.7	34.5	0.0	0	196
12	590	A	0	3.3	11.2	0.1	0	222
12	590	B	0	33.9	193.2	0.1	0	147
12	590	C	0	3.7	22.6	0.0	0	182
12	600	A	0	3.0	28.3	0.0	0	169
12	600	B	0	10.8	50.6	0.1	0	174
12	600	C	0	6.4	36.5	0.0	0	175
12	611	A	0	3.1	11.1	0.0	0	207
12	650	A	0	6.5	13.5	0.3	0	245
12	651	A	0	12.1	34.6	0.2	0	207
12	660	A	0	14.6	29.5	0.4	0	210
12	660	B	0	13.6	33.3	0.3	0	204
12	671	A	3	33.6	9.9	7.8	0	211
12	671	B	3	18.9	6.5	5.3	0	196
12	671	C	0	13.9	33.8	0.3	0	199
12	671	D	0	18.3	46.1	0.3	0	189
11	680	A	0	4.1	15.9	0.0	0	187

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
11	680	B	0	3.3	23.0	0.0	0	170
11	680	C	0	9.2	38.4	0.1	0	171
11	680	D	0	11.9	27.9	0.3	0	181
11	680	E	0	8.6	25.1	0.2	0	176
11	680	F	4	14.9	3.2	9.3	0	169
11	680	G	4	43.8	10.2	11.5	0	191
11	690	A	4	44.9	12.9	8.8	0	157
11	690	B	3	12.4	3.5	6.1	0	144
11	690	C	0	3.9	13.2	0.1	0	203
11	690	D	0	4.4	14.3	0.1	0	179
11	690	E	0	5.6	16.0	0.1	0	193
11	690	F	0	9.4	29.3	0.2	0	197
11	690	G	0	2.5	21.2	0.0	0	171
11	690	H	0	5.7	20.8	0.1	0	189
11	700	A	0	5.4	18.6	0.1	0	182
11	700	B	0	4.8	27.2	0.0	0	166
11	700	C	0	9.3	34.5	0.1	0	185
11	700	D	0	4.9	19.1	0.1	0	187
11	700	E	0	5.1	22.7	0.0	0	179
11	700	F	0	3.4	25.4	0.0	0	162
11	700	G	3	8.5	2.0	6.9	0	140
11	700	H	3	35.2	17.0	4.1	0	151
11	710	A	2	20.5	14.1	2.1	0	168
11	710	B	2	7.5	3.4	2.7	0	163
11	710	C	0	7.5	25.1	0.1	0	186
11	720	A	0	5.5	17.6	0.1	0	207
11	720	B	2	31.5	21.4	2.5	0	162
11	720	C	2	34.6	20.0	3.2	0	168
11	730	A	3	35.6	16.6	4.3	0	162
11	730	B	2	27.8	17.9	2.6	0	160
11	730	C	0	10.2	36.5	0.1	0	176
11	730	D	0	2.1	10.6	0.0	0	190
10	740	A	0	4.2	18.1	0.0	0	205
10	740	B	0	2.1	11.3	0.0	0	185
10	740	C	3	26.8	8.8	6.3	0	189
10	750	A	2	24.3	12.3	3.4	0	198
10	750	B	0	11.3	35.2	0.2	0	174
10	760	A	0	7.0	25.0	0.1	0	179

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
10	760	B	0	8.0	22.5	0.2	0	197
10	760	C	1	19.0	14.2	1.9	0	196
10	760	D	0	10.6	13.1	0.7	0	178
10	770	A	0	13.7	16.3	0.9	0	173
10	770	B	0	5.9	5.8	0.8	0	170
10	770	C	2	18.2	12.3	2.1	0	198
10	770	D	0	2.6	9.5	0.0	0	196
10	780	A	0	7.1	18.4	0.2	0	183
10	780	B	2	28.5	21.8	2.1	0	179
10	780	C	0	14.3	22.6	0.6	0	155
10	790	A	0	3.1	8.1	0.1	0	184
10	790	B	2	27.4	19.9	2.2	0	187
10	790	C	0	14.7	30.1	0.4	0	186
10	790	D	0	4.4	18.3	0.0	0	179
10	790	E	0	16.5	54.2	0.2	0	175
10	790	F	0	18.6	28.9	0.7	0	190
10	800	A	0	19.4	68.8	0.2	0	154
10	800	B	0	18.0	43.7	0.3	0	149
10	800	C	0	18.8	52.1	0.3	0	191
10	800	D	0	5.1	16.3	0.1	0	198
10	800	E	1	29.1	39.7	1.0	0	173
10	810	A	0	18.1	26.0	0.7	0	202
10	810	B	0	5.7	20.9	0.1	0	180
10	810	C	0	8.4	36.4	0.1	0	170
10	810	D	0	13.1	61.5	0.1	0	162
10	810	E	0	11.3	29.9	0.2	0	177
10	810	F	0	10.8	29.6	0.2	0	170
10	820	A	0	19.5	65.4	0.2	0	169
10	820	B	0	22.1	31.2	0.8	0	167
10	820	C	0	15.6	43.4	0.3	0	179
10	820	D	0	7.6	30.4	0.1	0	175
10	820	E	0	5.7	22.2	0.1	0	179
10	820	F	0	4.8	22.8	0.0	0	191
10	820	G	1	23.3	20.8	1.6	0	218
10	830	A	0	6.9	22.9	0.1	0	192
10	830	B	0	8.4	26.4	0.1	0	193
10	830	C	0	26.7	69.9	0.4	0	171
10	830	D	0	6.1	21.8	0.1	0	195

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
10	830	E	0	22.5	38.5	0.6	0	171
9	840	A	0	19.9	27.2	0.8	0	154
9	840	B	0	20.7	65.7	0.2	0	163
9	840	C	0	16.0	65.4	0.1	0	163
9	840	D	0	3.1	20.5	0.0	0	174
9	850	A	0	9.9	33.9	0.1	0	180
9	850	B	0	2.5	17.2	0.0	0	180
9	850	C	1	24.5	29.9	1.0	0	166
9	850	D	1	30.0	33.6	1.3	0	160
9	860	A	0	18.2	30.0	0.6	0	166
9	860	B	1	23.8	27.8	1.1	0	184
9	860	C	1	18.7	20.6	1.1	0	171
9	870	A	0	3.7	14.5	0.0	0	228
9	870	B	0	9.9	24.4	0.2	0	189
9	870	C	0	3.3	14.7	0.0	0	191
9	870	D	0	17.2	25.9	0.7	0	181
9	870	E	0	17.2	24.4	0.7	0	192
9	870	F	0	16.9	19.9	0.9	0	193
9	880	A	1	37.2	40.1	1.4	0	167
9	880	B	0	20.1	38.6	0.5	0	159
9	880	C	0	8.6	30.5	0.1	0	176
9	880	D	0	6.6	20.1	0.1	0	192
9	880	E	0	6.0	32.3	0.0	0	182
9	880	F	0	5.9	25.5	0.1	0	180
9	890	A	0	11.9	26.6	0.3	0	189
9	890	B	0	12.0	14.2	0.8	0	199
9	891	A	0	3.2	13.5	0.0	0	330
9	900	A	2	35.6	28.3	2.1	0	174
9	900	B	0	17.6	54.2	0.2	0	177
9	900	C	0	10.4	44.4	0.1	0	174
9	900	D	0	15.9	77.5	0.1	0	151
9	900	E	0	7.7	15.8	0.3	0	207
9	912	A	0	11.6	25.8	0.3	0	191
9	912	B	0	9.5	20.3	0.3	0	177
9	912	C	0	3.6	23.2	0.0	0	191
9	912	D	0	8.6	18.8	0.3	0	207

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
9	912	E	1	21.4	25.5	1.0	0	184
8	920	A	0	12.9	18.0	0.7	0	201
8	920	B	0	7.3	16.4	0.2	0	196
8	920	C	0	14.2	29.3	0.4	0	185
8	920	D	0	4.4	21.0	0.0	0	190
8	920	E	0	2.9	8.4	0.1	0	194
8	920	F	0	16.4	23.0	0.7	0	191
8	920	G	0	5.0	20.8	0.0	0	184
8	920	H	0	19.1	38.7	0.5	0	180
8	930	A	0	20.0	28.8	0.8	0	201
8	930	B	0	6.1	31.2	0.0	0	186
8	930	C	0	23.0	31.2	0.9	0	182
8	930	D	0	8.1	30.1	0.1	0	181
8	930	E	0	10.4	23.8	0.3	0	181
8	930	F	0	11.4	26.8	0.3	0	182
8	930	G	0	9.1	12.0	0.6	0	238
8	940	A	0	8.0	26.3	0.1	0	191
8	940	B	0	8.0	30.1	0.1	0	201
8	940	C	0	15.5	25.6	0.6	0	192
8	940	D	0	5.9	13.7	0.2	0	199
8	940	E	0	11.1	37.7	0.1	0	196
8	940	F	0	19.8	52.8	0.3	0	197
8	940	G	0	15.4	27.6	0.5	0	198
8	940	H	0	5.0	20.1	0.1	0	202
8	940	J	0	11.6	43.0	0.1	0	180
8	940	K	0	11.8	40.8	0.2	0	174
8	940	M	0	25.5	39.6	0.8	0	166
8	950	A	0	23.0	36.2	0.7	0	185
8	950	B	0	13.1	36.7	0.2	0	179
8	950	C	0	16.8	43.6	0.3	0	183
8	950	D	0	30.0	73.4	0.4	0	187
8	950	E	0	8.2	-0.8	0.0	0	340
8	950	F	1	25.0	19.4	1.9	0	198
8	950	G	0	12.7	39.1	0.2	0	197
8	950	H	0	13.6	36.9	0.2	0	173
8	960	A	0	13.9	28.8	0.4	0	189
8	960	B	0	12.1	22.0	0.4	0	188
8	960	C	0	8.7	26.2	0.2	0	198
8	960	D	2	39.4	28.5	2.5	0	173
8	960	E	0	19.1	53.3	0.3	0	186

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.

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
8	960	F	0	9.7	28.2	0.2	0	181
8	960	G	0	21.5	34.3	0.7	0	166
8	970	A	0	16.2	30.8	0.5	0	183
8	970	B	0	11.0	33.5	0.2	0	203
8	970	C	0	4.1	16.4	0.0	0	204
8	970	D	2	21.7	14.1	2.3	0	222
8	970	E	0	7.7	25.3	0.1	0	195
8	970	F	0	16.2	30.5	0.5	0	172
8	980	A	0	13.5	23.0	0.5	0	185
8	980	B	0	7.9	26.3	0.1	0	192
8	980	C	1	21.5	24.1	1.1	0	203
8	980	D	0	4.7	15.1	0.1	0	206
8	980	E	0	8.7	34.4	0.1	0	181
8	980	F	0	5.4	16.2	0.1	0	181
8	980	G	0	5.7	17.8	0.1	0	189
8	980	H	0	5.7	17.2	0.1	0	212
8	980	J	0	20.4	29.9	0.8	0	180
8	990	A	0	21.7	33.2	0.7	0	187
8	990	B	0	7.8	25.9	0.1	0	187
8	990	C	0	3.8	12.4	0.1	0	197
8	990	D	0	9.2	35.7	0.1	0	167
8	990	E	0	9.4	44.0	0.1	0	172
8	990	F	1	20.1	21.6	1.1	0	198
8	990	G	0	11.0	35.0	0.2	0	189
8	990	H	0	15.1	35.8	0.3	0	186
8	1000	A	0	13.6	31.6	0.3	0	180
8	1000	B	0	16.4	20.6	0.9	0	192
8	1000	C	0	8.0	29.1	0.1	0	188
8	1000	D	0	9.8	23.2	0.3	0	199
8	1000	E	0	11.6	38.2	0.2	0	189
8	1000	F	0	14.8	38.4	0.3	0	193
8	1010	A	0	12.1	32.7	0.2	0	201
8	1010	B	0	9.2	28.9	0.2	0	199
8	1010	C	0	9.2	15.4	0.4	0	194
8	1010	D	0	3.1	8.5	0.1	0	195
8	1010	E	0	10.3	31.8	0.2	0	167
8	1010	F	0	6.5	14.2	0.2	0	236
8	1010	G	0	8.8	9.6	0.8	0	265
8	1010	H	0	13.2	29.8	0.3	0	180
7	1020	A	0	27.8	42.4	0.8	0	166

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
7	1020	B	0	21.3	44.3	0.5	0	178
7	1020	C	0	12.2	19.0	0.5	0	189
7	1020	D	0	5.1	11.3	0.2	0	198
7	1020	E	0	6.5	28.6	0.1	0	180
7	1020	F	0	12.3	27.4	0.3	0	191
7	1020	G	0	7.2	29.0	0.1	0	186
7	1030	A	1	15.5	10.6	1.9	0	243
7	1030	B	0	5.7	24.2	0.1	0	169
7	1030	C	0	6.6	20.7	0.1	0	183
7	1030	D	0	4.8	14.6	0.1	0	195
7	1030	E	0	17.1	31.8	0.5	0	177
7	1030	F	0	17.7	42.1	0.3	0	177
7	1040	A	0	7.8	19.9	0.2	0	184
7	1040	B	0	10.1	30.0	0.2	0	190
7	1040	C	0	2.7	18.5	0.0	0	198
7	1041	A	0	2.6	16.4	0.0	0	174
7	1041	B	0	6.8	19.8	0.1	0	169
7	1041	C	2	33.0	21.2	2.8	0	194
7	1050	A	0	14.2	25.6	0.5	0	201
7	1050	B	2	33.8	21.9	2.7	0	185
7	1050	C	0	12.4	30.9	0.3	0	178
7	1050	D	0	2.9	14.0	0.0	0	183
7	1050	E	0	2.6	13.9	0.0	0	204
7	1050	F	0	3.7	24.6	0.0	0	192
7	1050	G	0	4.7	14.0	0.1	0	160
7	1060	A	0	11.7	27.5	0.3	0	154
7	1060	B	0	2.9	16.5	0.0	0	188
7	1060	C	0	12.0	28.5	0.3	0	193
7	1060	D	0	6.7	27.9	0.1	0	195
7	1060	E	1	23.8	21.6	1.5	0	190
7	1060	F	0	14.2	28.0	0.4	0	191
7	1060	G	0	30.1	45.9	0.8	0	172
7	1070	A	0	1.3	14.6	0.0	0	174
7	1070	B	0	11.5	30.4	0.2	0	173
7	1080	A	0	0.5	6.6	0.0	0	189
7	1080	B	0	2.8	15.3	0.0	0	214
7	1090	A	0	1.6	11.1	0.0	0	187

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
7	1090	B	0	2.1	12.8	0.0	0	190
7	1090	C	2	26.6	19.7	2.1	0	188
7	1090	D	0	12.4	32.3	0.3	0	177
7	1100	A	0	15.6	41.7	0.3	0	162
7	1100	B	1	28.0	24.4	1.7	0	185
7	1100	C	0	3.2	12.6	0.0	0	213
7	1100	D	0	1.0	11.5	0.0	0	170
7	1100	E	0	2.2	16.9	0.0	0	185
7	1100	F	0	2.1	21.9	0.0	0	182
6	1110	A	0	16.2	34.0	0.4	0	174
6	1110	B	2	39.8	22.6	3.4	0	177
6	1120	A	0	13.3	24.3	0.5	0	165
6	1120	B	0	3.4	15.7	0.0	0	199
6	1120	C	0	6.7	7.6	0.7	0	178
6	1120	D	2	34.3	20.5	3.1	0	181
6	1120	E	0	14.1	29.9	0.4	0	174
6	1130	A	3	72.4	29.2	6.5	0	188
6	1130	B	0	9.3	19.1	0.3	0	184
6	1130	C	1	21.2	15.8	1.9	0	195
6	1130	D	2	33.9	23.4	2.5	0	190
6	1130	E	0	3.6	26.3	0.0	0	188
6	1130	F	0	13.9	17.9	0.8	0	198
6	1140	A	1	17.3	18.0	1.1	0	201
6	1140	B	1	14.3	10.5	1.7	0	225
6	1140	C	2	27.0	17.8	2.5	0	191
6	1140	D	0	10.7	20.4	0.4	0	180
6	1140	E	2	32.3	17.5	3.4	0	190
6	1150	A	2	29.5	17.4	3.0	0	189
6	1150	B	0	9.4	17.3	0.4	0	178
6	1150	C	3	43.0	14.5	7.0	0	180
6	1150	D	3	39.6	12.0	7.9	0	173
6	1150	E	2	16.5	11.2	2.0	0	201
6	1150	F	0	2.6	8.9	0.0	0	191
6	1150	G	0	8.6	17.9	0.3	0	173
6	1160	A	0	5.7	16.8	0.1	0	181
6	1160	B	0	30.8	54.8	0.7	0	166
6	1160	C	1	42.9	50.1	1.4	0	171
6	1160	D	2	29.3	16.3	3.2	0	175

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
6	1160	E	3	51.9	24.1	4.9	0	169
6	1160	F	2	47.7	27.2	3.6	0	164
6	1160	G	1	37.3	43.8	1.3	0	172
6	1170	A	1	36.0	31.9	1.8	0	184
6	1170	B	3	29.8	12.0	5.0	0	205
6	1170	C	2	26.8	15.2	3.0	0	191
6	1170	D	0	3.0	17.4	0.0	0	179
6	1170	E	0	5.3	10.6	0.2	0	183
6	1170	F	0	5.8	12.7	0.2	0	189
6	1170	G	0	13.1	31.4	0.3	0	165
6	1180	A	0	9.2	30.0	0.1	0	193
6	1181	A	1	12.9	11.4	1.3	0	217
6	1181	B	3	52.9	20.9	6.1	0	186
6	1181	C	3	41.7	20.3	4.3	0	207
6	1191	A	2	35.8	19.5	3.5	0	188
6	1191	B	0	14.7	26.9	0.5	0	157
6	1191	C	2	23.0	13.7	2.7	0	206
6	1191	D	0	11.9	12.8	0.9	0	193
6	1191	E	0	13.5	20.4	0.6	0	186
6	1191	F	0	3.9	13.9	0.1	0	194
5	1200	A	2	47.6	38.3	2.3	0	174
5	1200	B	0	14.5	19.6	0.7	0	189
5	1200	C	1	21.4	21.2	1.3	0	183
5	1200	D	2	22.1	15.8	2.1	0	181
5	1200	E	2	15.9	9.2	2.5	0	194
5	1200	F	0	5.6	11.2	0.2	0	186
5	1200	G	0	5.8	17.2	0.1	0	182
5	1200	H	0	8.7	19.3	0.3	0	200
5	1200	J	0	4.0	15.6	0.0	0	207
5	1210	A	0	5.2	37.6	0.0	0	175
5	1210	B	0	20.7	30.7	0.7	0	182
5	1210	C	0	3.8	22.3	0.0	0	186
5	1210	D	1	11.1	8.7	1.4	0	188
5	1210	E	1	13.9	9.5	1.9	0	239
5	1210	F	0	18.2	22.8	0.9	0	192
5	1210	G	2	41.6	21.9	3.9	0	197
5	1220	A	0	4.1	15.6	0.0	0	185
5	1220	B	0	8.8	25.5	0.2	0	189

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
5	1220	C	1	21.7	20.2	1.4	0	193
5	1220	D	0	12.4	68.1	0.1	0	172
4	1230	A	0	5.5	22.5	0.1	0	169
4	1230	B	0	6.1	32.4	0.0	0	181
4	1230	C	0	32.6	65.7	0.6	0	164
4	1240	A	0	4.5	20.7	0.0	0	195
4	1240	B	0	12.3	38.2	0.2	0	190
4	1250	A	0	4.5	14.7	0.1	0	210
4	1260	A	0	8.8	29.4	0.1	0	197
4	1270	A	0	10.2	33.3	0.2	0	210
4	1270	B	0	14.2	29.1	0.4	0	187
4	1281	A	0	4.3	11.6	0.1	0	180
4	1281	B	0	6.7	29.6	0.1	0	183
4	1281	C	0	8.1	15.9	0.3	0	196
4	1290	A	0	10.5	27.6	0.2	0	235
4	1290	B	0	9.0	29.6	0.1	0	208
4	1300	A	0	6.6	15.7	0.2	0	246
4	1300	B	0	8.0	14.4	0.4	0	247
4	1300	C	0	3.9	8.8	0.2	0	191
4	1310	A	0	12.5	23.1	0.4	0	193
4	1310	B	0	19.6	40.6	0.4	0	195
3	1320	A	0	6.1	8.5	0.5	0	191
3	1320	B	0	7.3	14.1	0.3	0	204
3	1320	C	0	13.0	23.4	0.5	0	203
3	1330	A	0	9.0	21.9	0.2	0	178
3	1330	B	0	2.8	19.6	0.0	0	186
3	1330	C	0	6.1	20.2	0.1	0	171
3	1330	D	0	3.8	10.5	0.1	0	180
3	1340	A	0	12.2	37.6	0.2	0	163
3	1350	A	0	6.7	25.8	0.1	0	185
3	1360	A	0	13.5	43.0	0.2	0	157

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
3	1380	A	0	5.6	28.5	0.0	0	193
2	1410	A	0	7.8	9.5	0.6	0	177
2	1410	B	1	17.4	16.5	1.3	0	184
2	1410	C	0	5.9	18.2	0.1	0	174
2	1410	D	0	11.4	43.3	0.1	0	170
2	1420	A	0	6.8	16.3	0.2	0	190
2	1420	B	0	4.2	20.5	0.0	0	191
2	1420	C	1	21.0	18.3	1.6	0	180
2	1420	D	1	17.0	18.4	1.1	0	167
2	1420	E	0	8.2	27.3	0.1	0	169
2	1431	A	0	14.1	21.8	0.6	0	177
2	1431	B	0	5.1	19.2	0.1	0	188
2	1431	C	0	10.8	22.9	0.3	0	176
2	1440	A	0	8.7	18.3	0.3	0	177
2	1440	B	0	7.9	37.8	0.1	0	191
2	1440	C	0	8.1	41.0	0.0	0	184
2	1440	D	0	6.1	39.0	0.0	0	161
2	1450	A	0	5.1	19.0	0.1	0	176
2	1450	B	0	4.4	33.3	0.0	0	186
2	1450	C	0	4.0	28.1	0.0	0	181
2	1450	D	0	5.5	21.4	0.1	0	165
2	1450	E	0	5.3	33.9	0.0	0	173
2	1460	A	0	3.2	18.4	0.0	0	191
2	1460	B	0	12.3	32.5	0.2	0	180
2	1460	C	0	7.7	26.9	0.1	0	188
2	1460	D	0	4.0	12.4	0.1	0	204
2	1460	E	0	3.0	20.0	0.0	0	202
2	1480	A	0	2.7	15.3	0.0	0	184
2	1480	B	0	4.3	27.6	0.0	0	166
2	1480	C	0	11.2	27.2	0.3	0	173
2	1480	D	0	10.1	48.4	0.1	0	198
2	1490	A	0	14.6	22.4	0.6	0	180
2	1490	B	0	6.2	28.2	0.0	0	201
1	1500	A	0	7.8	24.5	0.1	0	174
1	1510	A	0	6.6	19.4	0.1	0	174

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
1	1510	B	0	11.7	25.8	0.3	0	182
1	1520	A	0	14.2	31.0	0.4	0	189
1	1520	B	0	8.8	17.6	0.3	0	185
1	1520	C	0	3.6	11.9	0.1	0	216
1	1530	A	0	10.9	21.1	0.4	0	180
1	1530	B	0	4.0	12.8	0.1	0	191
1	1542	A	0	5.9	20.0	0.1	0	186
1	1550	A	0	7.6	36.4	0.1	0	187
1	1550	B	0	10.0	24.9	0.2	0	168
17	2012	A	0	5.1	16.3	0.1	0	195
17	2012	B	0	7.2	19.0	0.2	0	186
17	2012	C	0	5.5	20.9	0.1	0	178
17	2020	A	0	3.3	23.7	0.0	0	181
17	2030	A	0	5.9	21.3	0.1	0	212
17	2030	B	0	2.4	17.8	0.0	0	168
17	2030	C	0	8.4	32.5	0.1	0	204
17	2040	A	0	14.7	54.9	0.2	0	188
17	2050	A	0	19.9	74.6	0.2	0	174
17	2060	A	0	5.0	26.5	0.0	0	170
17	2060	B	0	19.4	78.1	0.2	0	168
17	2060	C	0	17.3	70.2	0.1	0	165
17	2060	D	0	7.0	24.3	0.1	0	182
17	2070	A	0	8.1	19.4	0.2	0	195
17	2070	B	0	4.2	17.9	0.0	0	218
17	2070	C	0	14.4	55.5	0.1	0	197
17	2080	A	0	7.3	31.0	0.1	0	207
17	2080	B	0	7.9	23.1	0.2	0	182
17	2080	C	0	8.5	29.7	0.1	0	197
17	2090	A	0	11.3	52.2	0.1	0	179
17	2100	A	0	7.1	48.0	0.0	0	167
17	2110	A	0	2.1	15.1	0.0	0	199

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
17	2110	B	0	3.2	10.2	0.1	0	206
17	2110	C	0	10.4	29.7	0.2	0	180
17	2120	A	0	8.5	42.7	0.1	0	160
17	2120	B	0	6.2	41.8	0.0	0	153
17	2130	A	0	4.9	22.0	0.0	0	191
17	2140	A	0	29.2	99.1	0.3	0	175
17	2140	B	0	8.5	36.2	0.1	0	160
17	2140	C	0	9.5	56.0	0.0	0	164
17	2140	D	0	4.5	49.7	0.0	0	157
17	2140	E	0	2.2	11.0	0.0	0	212
17	2150	A	0	4.2	16.4	0.0	0	170
17	2150	B	0	4.9	40.3	0.0	0	170
17	2150	C	0	11.9	57.6	0.1	0	164
17	2150	D	0	5.7	12.6	0.2	0	205
17	2150	E	0	17.7	48.6	0.3	0	194
17	2160	A	0	22.7	81.6	0.2	0	172
17	2160	B	0	8.4	25.0	0.2	0	175
17	2160	C	0	14.8	70.6	0.1	0	149
17	2170	A	0	10.5	65.5	0.0	0	150
17	2170	B	0	9.0	15.4	0.4	0	244
18	2180	A	1	14.7	15.5	1.0	0	196
18	2180	B	0	5.7	32.1	0.0	0	170
18	2190	A	0	5.6	28.0	0.0	0	230
18	2190	B	0	3.0	14.4	0.0	0	209
18	2190	C	1	20.6	19.9	1.3	0	188
18	2190	D	0	4.3	11.1	0.1	0	195
18	2200	A	0	4.9	21.9	0.0	0	159
18	2200	B	1	24.5	30.3	1.0	0	163
18	2200	C	0	5.7	6.5	0.6	0	189
18	2200	D	0	9.4	21.4	0.3	0	210
18	2210	A	0	15.3	36.8	0.3	0	206
18	2210	B	1	7.4	6.7	1.0	0	192
18	2210	C	0	6.0	16.4	0.1	0	219
18	2210	D	0	3.3	19.5	0.0	0	192
18	2210	E	0	3.6	19.9	0.0	0	179

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
18	2210	F	0	5.4	16.8	0.1	0	210
18	2210	G	0	4.2	17.3	0.0	0	217
18	2220	A	0	11.9	45.9	0.1	0	197
18	2220	B	0	9.5	40.1	0.1	0	193
18	2220	C	0	6.2	29.1	0.0	0	191
18	2220	D	0	0.4	8.5	0.0	0	168
18	2220	E	0	1.8	21.1	0.0	0	169
18	2220	F	0	3.9	27.1	0.0	0	159
18	2220	G	0	13.1	29.8	0.3	0	174
18	2220	H	0	19.3	42.3	0.4	0	206
18	2230	A	0	21.0	52.9	0.3	0	193
18	2230	B	0	5.6	7.8	0.4	0	195
18	2230	C	1	21.6	24.4	1.1	0	185
18	2230	D	0	4.3	11.8	0.1	0	217
18	2230	E	0	13.2	42.3	0.2	0	210
18	2230	F	0	13.7	44.5	0.2	0	208
18	2230	G	0	14.3	44.3	0.2	0	208
18	2240	A	0	8.1	30.6	0.1	0	202
18	2240	B	0	8.9	41.0	0.1	0	195
18	2240	C	0	1.6	23.2	0.0	0	179
18	2240	D	0	22.2	29.0	0.9	0	183
18	2240	E	2	33.1	26.0	2.1	0	185
18	2240	F	1	20.0	24.4	1.0	0	186
18	2240	G	0	8.5	12.3	0.5	0	206
18	2250	A	0	11.9	18.5	0.5	0	190
18	2250	B	0	9.4	17.4	0.4	0	181
18	2250	C	1	26.2	22.8	1.7	0	192
18	2250	D	0	3.5	13.3	0.0	0	215
19	2261	A	0	6.8	17.3	0.2	0	166
19	2261	B	0	19.6	24.0	0.9	0	171
19	2261	C	0	5.1	21.4	0.0	0	211
19	2261	D	0	3.1	24.2	0.0	0	184
19	2270	A	0	3.2	13.1	0.0	0	190
19	2270	B	2	31.4	22.3	2.4	0	180
19	2270	C	0	10.9	25.6	0.3	0	220
19	2280	A	0	17.8	41.9	0.4	0	147
19	2280	B	0	2.4	23.7	0.0	0	155
19	2280	C	0	5.8	17.5	0.1	0	187

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
19	2280	D	2	35.2	29.7	2.0	0	186
19	2280	E	0	16.6	22.6	0.8	0	154
19	2280	F	1	21.0	16.4	1.8	0	155
19	2280	G	0	4.8	15.0	0.1	0	194
19	2280	H	0	6.4	19.5	0.1	0	189
19	2280	J	0	10.1	33.1	0.2	0	197
19	2290	A	0	6.1	21.2	0.1	0	211
19	2290	B	0	16.9	31.2	0.5	0	183
19	2290	C	0	17.1	31.0	0.5	0	180
19	2290	D	0	3.0	30.1	0.0	0	180
19	2290	E	0	1.6	12.5	0.0	0	197
19	2290	F	0	0.2	9.9	0.0	0	186
19	2300	A	0	8.7	32.1	0.1	0	184
19	2300	B	0	13.6	15.7	0.9	0	208
19	2300	C	0	24.3	78.1	0.3	0	170
19	2300	D	0	18.1	60.6	0.2	0	172
19	2300	E	0	22.5	79.0	0.2	0	161
19	2300	F	0	23.8	91.2	0.2	0	154
19	2300	G	0	9.9	26.8	0.2	0	161
19	2300	H	0	10.2	25.5	0.2	0	175
19	2310	A	0	11.0	25.5	0.3	0	193
19	2310	B	0	10.5	33.9	0.2	0	215
19	2310	C	0	5.0	16.1	0.1	0	200
19	2310	D	0	13.0	27.4	0.4	0	223
19	2310	E	0	13.7	34.9	0.3	0	194
19	2310	F	0	5.3	10.5	0.2	0	185
19	2310	G	0	16.8	28.5	0.6	0	212
19	2320	A	0	5.6	37.7	0.0	0	168
19	2320	B	0	13.9	70.5	0.1	0	151
19	2320	C	0	18.7	105.0	0.1	0	147
19	2320	D	0	16.2	78.9	0.1	0	158
19	2320	E	0	5.5	16.0	0.1	0	221
19	2320	F	0	9.9	22.5	0.3	0	215
19	2320	G	0	6.5	18.2	0.1	0	215
19	2320	H	0	7.5	21.2	0.2	0	176
19	2330	A	0	5.6	18.3	0.1	0	176
19	2330	B	0	9.6	34.4	0.1	0	171
19	2330	C	0	29.9	118.6	0.2	0	151
19	2330	D	0	6.4	13.3	0.3	0	239
19	2330	E	0	5.7	20.0	0.1	0	204

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
19	2330	F	0	16.4	75.5	0.1	0	164
19	2330	G	0	13.8	63.4	0.1	0	163
19	2330	H	0	10.1	33.8	0.1	0	187
19	2340	A	0	18.4	53.7	0.3	0	189
19	2340	B	0	16.6	38.6	0.3	0	182
19	2350	A	0	12.5	28.0	0.3	0	192
19	2350	B	0	16.5	42.2	0.3	0	199
19	2361	A	0	21.6	68.1	0.3	0	174
19	2361	B	0	12.1	30.7	0.3	0	181
19	2370	A	0	11.6	30.5	0.2	0	186
19	2370	B	0	5.0	18.8	0.1	0	184
19	2370	C	0	9.0	29.4	0.1	0	187
19	2370	D	0	4.1	20.4	0.0	0	178
19	2370	E	0	5.0	32.6	0.0	0	176
19	2370	F	0	4.4	28.5	0.0	0	171
19	2370	G	0	7.7	57.4	0.0	0	163
19	2380	A	0	9.2	73.4	0.0	0	164
19	2380	B	0	11.3	92.1	0.0	0	151
19	2380	C	0	4.2	29.2	0.0	0	181
19	2380	D	0	10.7	36.0	0.1	0	193
19	2380	E	0	7.7	31.2	0.1	0	189
19	2380	F	0	4.1	19.3	0.0	0	179
19	2380	G	0	13.2	38.7	0.2	0	191
19	2380	H	0	16.7	45.5	0.3	0	199
19	2390	A	0	14.0	37.6	0.3	0	200
19	2390	B	0	15.4	42.3	0.3	0	191
19	2390	C	0	7.6	25.9	0.1	0	205
19	2400	A	0	5.4	35.9	0.0	0	175
19	2400	B	0	14.5	39.1	0.3	0	204
19	2400	C	0	10.5	29.8	0.2	0	203
19	2400	D	0	6.0	21.5	0.1	0	194
19	2410	A	0	4.5	11.7	0.1	0	228
19	2410	B	0	6.4	48.4	0.0	0	169
19	2430	A	0	6.2	15.0	0.2	0	182
19	2430	B	0	6.5	11.6	0.3	0	181
19	2440	A	0	4.8	25.2	0.0	0	167

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
19	2440	B	0	6.4	22.8	0.1	0	161
19	2440	C	0	7.9	26.3	0.1	0	182
19	2440	D	0	4.5	18.8	0.0	0	176
19	2440	E	0	10.2	19.8	0.4	0	164
19	2450	A	1	28.1	25.5	1.6	0	192
19	2450	B	0	33.0	115.1	0.3	0	161
19	2450	C	0	24.4	100.2	0.2	0	155
19	2450	D	0	6.6	37.8	0.0	0	184
19	2450	E	0	11.1	49.5	0.1	0	183
19	2450	F	0	8.8	43.5	0.1	0	183
19	2460	A	0	14.5	57.4	0.1	0	182
19	2460	B	0	18.6	81.6	0.1	0	167
19	2460	C	0	27.4	71.0	0.4	0	176
19	2460	D	0	24.9	67.3	0.3	0	180
19	2460	E	0	9.4	35.4	0.1	0	168
19	2460	F	0	6.0	8.8	0.4	0	192
19	2470	A	0	3.8	11.0	0.1	0	196
19	2470	B	0	15.7	34.4	0.4	0	200
19	2470	C	0	6.4	17.1	0.2	0	219
19	2470	D	0	2.8	5.2	0.2	0	182
19	2480	A	0	3.4	18.7	0.0	0	165
19	2480	B	0	16.7	59.1	0.2	0	181
19	2480	C	0	13.2	50.9	0.1	0	184
19	2480	D	0	10.6	25.5	0.3	0	191
19	2480	E	0	17.6	58.0	0.2	0	166
19	2480	F	0	21.2	58.5	0.3	0	167
19	2490	A	0	16.4	32.7	0.4	0	185
19	2490	B	0	11.4	28.4	0.3	0	186
19	2490	C	0	18.6	55.9	0.2	0	185
19	2490	D	0	17.8	43.4	0.3	0	190
19	2490	E	0	14.3	41.5	0.2	0	187
19	2490	F	0	8.4	31.3	0.1	0	179
19	2500	A	0	3.5	17.7	0.0	0	150
19	2500	B	0	45.1	124.5	0.4	0	157
19	2500	C	0	60.4	170.9	0.5	0	151
19	2500	D	0	52.2	156.2	0.4	0	149
19	2500	E	0	18.8	77.2	0.1	0	154
19	2500	F	0	11.2	37.6	0.2	0	174
19	2500	G	0	12.4	21.5	0.5	0	186

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
20	2510	A	0	5.1	34.3	0.0	0	156
20	2510	B	0	19.8	104.7	0.1	0	164
20	2510	C	0	19.8	45.0	0.4	0	153
20	2520	A	0	7.3	43.6	0.0	0	174
20	2520	B	0	7.3	66.1	0.0	0	170
20	2520	C	0	7.1	77.9	0.0	0	165
20	2530	A	0	4.1	33.5	0.0	0	180
20	2530	B	0	3.2	11.8	0.0	0	150
20	2540	A	0	7.4	24.8	0.1	0	167
20	2540	B	0	3.5	13.8	0.0	0	140
20	2540	C	0	3.5	21.9	0.0	0	196
20	2540	D	0	3.0	32.6	0.0	0	176
20	2550	A	0	2.6	24.5	0.0	0	188
20	2550	B	0	3.6	13.7	0.0	0	161
20	2550	C	0	5.2	21.8	0.0	0	152
20	2550	D	0	7.3	24.3	0.1	0	196
20	2560	A	0	14.6	51.5	0.2	0	168
20	2560	B	0	5.7	19.2	0.1	0	171
20	2570	A	1	13.7	9.9	1.7	0	155
20	2570	B	0	8.3	9.6	0.7	0	146
20	2570	C	0	4.4	15.4	0.1	0	166
20	2570	D	0	9.8	29.0	0.2	0	165
20	2580	A	0	8.1	14.0	0.4	0	192
20	2580	B	0	12.6	30.2	0.3	0	149
20	2580	C	0	2.5	18.4	0.0	0	134
20	2580	D	0	3.2	14.6	0.0	0	137
20	2580	E	1	8.7	6.3	1.4	0	170
20	2580	F	0	3.1	4.5	0.3	0	202
20	2590	A	0	7.0	12.9	0.3	0	149
20	2590	B	3	48.1	24.1	4.3	0	156
20	2600	A	0	2.6	15.1	0.0	0	190
20	2600	B	0	1.6	5.1	0.0	0	136
20	2600	C	0	3.1	6.7	0.1	0	163
20	2610	A	0	2.9	5.9	0.2	0	163

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
20	2630	A	0	1.0	13.1	0.0	0	181
20	2630	B	0	7.8	9.6	0.6	0	188
20	2640	A	0	3.3	8.3	0.1	0	160
20	2660	A	0	3.3	37.5	0.0	0	155
21	3050	A	0	2.9	11.0	0.0	0	192
21	3060	A	0	2.6	12.1	0.0	0	205
21	3060	B	0	16.4	56.2	0.2	0	159
21	3070	A	0	6.2	27.1	0.1	0	194
21	3080	A	0	9.4	51.9	0.0	0	164
21	3080	B	0	9.9	25.1	0.2	0	210
21	3090	A	0	3.7	15.0	0.0	0	218
21	3090	B	0	11.5	47.5	0.1	0	174
21	3100	A	0	12.0	22.9	0.4	0	188
21	3110	A	0	5.6	10.1	0.3	0	213
21	3120	A	0	13.4	36.5	0.2	0	142
21	3130	A	3	39.1	16.6	5.0	0	167
21	3130	B	0	5.2	15.3	0.1	0	181
21	3140	A	2	21.3	13.3	2.5	0	158
21	3150	A	1	17.8	20.2	1.0	0	192
21	3150	B	0	14.4	17.6	0.8	0	194
21	3160	A	0	6.3	42.3	0.0	0	202
21	3170	A	0	7.5	19.0	0.2	0	198
21	3180	A	0	9.3	33.7	0.1	0	196
21	3180	B	0	8.9	35.8	0.1	0	199
21	3180	C	0	20.6	79.5	0.2	0	168
21	3180	D	0	17.5	74.0	0.1	0	165
21	3180	E	0	10.3	39.9	0.1	0	179
21	3190	A	2	13.2	7.5	2.4	0	207

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
21	3190	B	0	4.5	14.6	0.1	0	181
21	3190	C	0	4.9	11.4	0.2	0	198
21	3190	D	0	13.4	33.1	0.3	0	214
21	3190	E	0	13.5	33.1	0.3	0	219
22	3201	A	1	12.7	11.7	1.2	0	171
22	3201	B	0	3.8	18.1	0.0	0	180
22	3201	C	0	12.5	22.3	0.5	0	176
22	3201	D	0	7.8	19.5	0.2	0	245
22	3210	A	0	14.9	43.5	0.2	0	197
22	3210	B	0	13.4	48.9	0.1	0	186
22	3210	C	0	14.5	26.5	0.5	0	160
22	3210	D	0	11.4	19.2	0.5	0	154
22	3210	E	0	16.5	29.3	0.5	0	153
22	3210	F	0	6.5	14.0	0.2	0	138
22	3220	A	0	5.7	13.6	0.2	0	147
22	3220	B	0	11.1	18.4	0.5	0	147
22	3220	C	0	15.4	24.3	0.6	0	152
22	3220	D	1	32.1	34.8	1.4	0	163
22	3220	E	0	7.7	23.6	0.1	0	193
22	3220	F	0	18.7	47.9	0.3	0	207
22	3220	G	0	26.7	71.8	0.4	0	198
22	3230	A	0	17.6	55.7	0.2	0	202
22	3230	B	0	14.6	46.7	0.2	0	195
22	3230	C	0	11.9	40.8	0.2	0	192
22	3230	D	0	11.7	46.1	0.1	0	190
22	3230	E	0	7.0	34.3	0.0	0	172
22	3230	F	1	31.4	30.2	1.6	0	149
22	3230	G	1	17.2	17.2	1.2	0	147
22	3230	H	0	6.8	12.3	0.3	0	155
22	3230	J	0	2.8	22.9	0.0	0	186
22	3230	K	0	6.6	27.5	0.1	0	188
22	3240	A	0	2.8	39.6	0.0	0	168
22	3240	B	0	15.1	18.5	0.9	0	149
22	3240	C	2	27.7	18.9	2.4	0	150
22	3240	D	2	30.6	19.3	2.7	0	166
22	3240	E	0	1.4	13.4	0.0	0	183
22	3240	F	0	10.1	33.3	0.1	0	201
22	3240	G	0	11.9	41.2	0.2	0	204
22	3240	H	0	15.4	52.2	0.2	0	198
22	3250	A	0	37.0	118.5	0.3	0	172

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
22	3250	B	0	1.0	18.5	0.0	0	151
22	3250	C	2	44.8	23.9	3.9	0	156
22	3250	D	2	36.8	23.0	3.0	0	152
22	3250	E	0	18.1	24.8	0.8	0	160
22	3250	F	0	4.2	39.8	0.0	0	168
22	3260	A	0	2.5	31.2	0.0	0	169
22	3260	B	1	22.7	24.1	1.2	0	160
22	3260	C	1	18.0	18.3	1.2	0	169
22	3260	D	2	27.7	16.3	2.9	0	180
22	3270	A	0	2.7	17.1	0.0	0	169
22	3270	B	2	30.9	16.4	3.5	0	167
22	3270	C	1	22.6	20.8	1.5	0	169
22	3270	D	0	4.3	7.5	0.3	0	172
22	3270	E	0	4.2	42.6	0.0	0	171
22	3280	A	0	9.8	45.5	0.1	0	192
22	3280	B	0	15.3	24.2	0.6	0	161
22	3280	C	0	13.6	19.6	0.6	0	171
22	3280	D	2	28.8	21.3	2.2	0	167
22	3290	A	0	16.1	21.5	0.8	0	164
22	3290	B	0	8.1	16.2	0.3	0	160
22	3290	C	0	15.3	67.7	0.1	0	176
22	3300	A	0	14.0	74.0	0.1	0	163
22	3300	B	0	5.3	9.9	0.3	0	190
22	3300	C	0	6.3	29.6	0.0	0	209
22	3310	A	0	8.9	74.7	0.0	0	161
22	3310	B	0	19.6	131.8	0.1	0	150
22	3310	C	0	16.8	104.4	0.1	0	152
22	3310	D	0	6.3	13.5	0.2	0	164
22	3310	E	0	4.6	27.5	0.0	0	188
22	3321	A	0	4.0	24.7	0.0	0	204
22	3321	B	0	3.6	27.5	0.0	0	203
22	3321	C	0	6.8	42.5	0.0	0	189
22	3330	A	0	8.2	46.9	0.0	0	183
22	3330	B	0	3.2	9.2	0.1	0	138
22	3330	C	0	8.1	45.9	0.0	0	182
22	3340	A	0	19.5	105.4	0.1	0	157

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
22	3340	B	0	9.8	56.3	0.0	0	163
22	3340	C	0	4.4	9.5	0.2	0	193
22	3340	D	0	3.1	15.0	0.0	0	205
22	3350	A	0	8.4	14.2	0.4	0	187
22	3350	B	0	4.3	17.6	0.0	0	193
22	3350	C	0	8.8	40.2	0.1	0	191
22	3360	A	0	12.9	19.0	0.6	0	173
22	3360	B	0	3.0	16.6	0.0	0	193
22	3360	C	0	3.8	17.6	0.0	0	194
22	3370	A	0	23.3	30.1	0.9	0	165
22	3370	B	0	2.9	6.5	0.1	0	170
22	3370	C	0	4.5	30.4	0.0	0	178
22	3380	A	0	7.3	11.1	0.4	0	189
22	3380	B	0	3.1	22.1	0.0	0	186
22	3380	C	0	4.1	34.1	0.0	0	171
22	3390	A	0	3.8	38.5	0.0	0	174
22	3390	B	0	2.8	25.7	0.0	0	176
22	3390	C	0	5.6	37.9	0.0	0	173
22	3390	D	0	10.1	20.5	0.3	0	154
22	3390	E	0	8.6	56.4	0.0	0	157
22	3400	A	0	6.6	16.2	0.2	0	156
22	3400	B	0	3.0	18.5	0.0	0	177
22	3400	C	0	5.3	39.0	0.0	0	171
22	3400	D	0	4.1	29.0	0.0	0	188
22	3411	A	0	3.3	37.6	0.0	0	175
22	3411	B	0	14.3	25.3	0.5	0	148
23	3430	A	0	4.6	16.2	0.1	0	149
23	3440	A	0	4.5	13.3	0.1	0	169
23	3450	A	0	2.4	18.0	0.0	0	165
23	3450	B	0	3.7	13.0	0.1	0	171
23	3460	A	0	4.3	24.9	0.0	0	190
23	3470	A	0	8.8	54.9	0.0	0	175
23	3480	A	0	6.9	45.1	0.0	0	169

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
23	3480	B	0	0.1	6.0	0.0	0	197
23	3480	C	0	1.2	10.6	0.0	0	180
23	3490	A	0	0.4	4.4	0.0	0	169
23	3490	B	0	-0.8	4.7	0.0	0	164
23	3500	A	0	0.0	2.8	0.0	0	166
23	3510	A	0	19.7	75.2	0.2	0	171
23	3520	A	0	2.3	10.2	0.0	0	143
23	3530	A	0	2.4	25.1	0.0	0	148
23	3530	B	0	1.3	6.5	0.0	0	173
23	3530	C	0	9.8	31.4	0.2	0	211
23	3540	A	0	12.6	48.0	0.1	0	197
23	3550	A	0	9.6	33.5	0.1	0	177
23	3550	B	0	22.4	65.9	0.3	0	173
23	3550	C	0	23.6	70.8	0.3	0	173
23	3550	D	0	10.0	43.0	0.1	0	177
23	3550	E	0	13.4	55.2	0.1	0	174
24	3560	A	0	25.6	66.8	0.4	0	179
24	3560	B	0	17.8	55.2	0.2	0	179
24	3560	C	0	9.1	36.6	0.1	0	187
24	3570	A	0	3.7	13.8	0.0	0	177
24	3570	B	0	23.2	63.3	0.3	0	177
26	3584	A	0	10.1	27.0	0.2	0	210
26	3584	B	0	3.9	8.2	0.2	0	202
26	3590	A	0	3.4	13.4	0.0	0	145
26	3600	A	0	2.6	10.0	0.0	0	167
26	3610	A	0	15.6	60.4	0.1	0	185
26	3610	B	0	21.8	69.3	0.2	0	185
26	3620	A	0	14.6	56.1	0.1	0	177
26	3620	B	0	13.7	55.6	0.1	0	178
26	3630	A	0	1.1	14.8	0.0	0	204

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
26	3640	A	0	6.3	42.9	0.0	0	164
26	3640	B	0	3.9	28.7	0.0	0	158
26	3650	A	0	7.3	24.0	0.1	0	227
26	3660	A	0	8.1	34.0	0.1	0	193
25	4010	A	0	6.8	22.5	0.1	0	176
25	4010	B	0	7.6	25.8	0.1	0	202
25	4010	C	0	9.7	28.0	0.2	0	207
25	4020	A	0	6.6	33.7	0.0	0	176
28	4031	A	0	27.8	86.4	0.3	0	167
28	4031	B	0	17.7	64.2	0.2	0	174
28	4042	A	0	12.1	53.4	0.1	0	174
28	4042	B	0	5.4	32.4	0.0	0	168
29	4051	A	0	4.8	19.8	0.0	0	207
29	4070	A	0	3.2	9.5	0.1	0	183
29	4070	B	0	4.7	17.9	0.1	0	210
29	4070	C	0	1.2	3.1	0.0	0	179
29	4080	A	0	1.7	8.2	0.0	0	177
29	4080	B	0	4.9	16.7	0.1	0	176
29	4100	A	0	13.9	56.4	0.1	0	179
29	4100	B	0	3.5	15.8	0.0	0	170
29	4100	C	0	2.9	11.0	0.0	0	206
29	4110	A	0	11.4	40.0	0.1	0	196
29	4120	A	0	11.1	45.8	0.1	0	179
29	4120	B	0	9.8	42.6	0.1	0	182
29	4120	C	0	22.5	99.0	0.1	0	159
29	4120	D	0	19.0	81.7	0.1	0	160
29	4120	E	0	6.1	43.5	0.0	0	164
29	4120	F	0	5.3	38.9	0.0	0	166
29	4130	A	0	6.1	49.7	0.0	0	169
29	4130	B	0	7.2	50.5	0.0	0	161
29	4130	C	0	15.0	66.6	0.1	0	159

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
29	4130	D	0	22.9	95.8	0.2	0	162
29	4130	E	0	9.0	28.9	0.1	0	195
29	4130	F	0	11.6	41.7	0.1	0	191
29	4130	G	0	11.0	44.3	0.1	0	195
29	4140	A	0	9.5	38.0	0.1	0	191
29	4150	A	0	5.9	17.8	0.1	0	193
29	4150	B	0	5.3	11.8	0.2	0	180
29	4150	C	0	4.1	15.7	0.0	0	206
29	4150	D	0	8.8	29.4	0.1	0	191
29	4150	E	0	9.0	30.6	0.1	0	170
29	4160	A	0	20.0	59.8	0.3	0	186
29	4160	B	0	13.7	51.2	0.1	0	186
29	4160	C	0	6.4	29.6	0.0	0	185
29	4160	D	0	4.4	26.2	0.0	0	185
30	4170	A	0	4.7	22.8	0.0	0	180
30	4170	B	0	6.4	49.2	0.0	0	175
30	4170	C	0	14.4	94.8	0.0	0	148
30	4170	D	0	19.1	95.2	0.1	0	158
30	4180	A	0	6.3	34.6	0.0	0	173
30	4180	B	0	3.2	24.6	0.0	0	140
31	4191	A	0	2.8	16.0	0.0	0	173
31	4191	B	0	5.1	24.8	0.0	0	184
31	4201	A	0	8.9	45.7	0.1	0	200
31	4201	B	0	6.2	46.6	0.0	0	179
31	4201	C	0	13.0	78.8	0.0	0	167
31	4201	D	0	13.0	64.3	0.1	0	167
31	4201	E	0	4.2	32.0	0.0	0	163
31	4201	F	0	3.2	27.2	0.0	0	151
31	4210	A	0	9.5	36.7	0.1	0	203
31	4210	B	0	6.6	43.1	0.0	0	192
31	4210	C	0	9.3	52.2	0.0	0	188
31	4220	A	0	9.8	39.3	0.1	0	212
31	4230	A	0	22.9	82.2	0.2	0	182
31	4230	B	0	20.0	75.0	0.2	0	183
31	4230	C	0	5.1	19.4	0.1	0	164

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
31	4240	A	0	3.5	14.8	0.0	0	187
32	4260	A	0	6.1	14.5	0.2	0	213
32	4260	B	0	9.7	18.7	0.4	0	202
32	4270	A	0	10.0	14.8	0.5	0	234
32	4270	B	0	9.5	16.7	0.4	0	214
32	4280	A	0	12.2	18.3	0.6	0	214
32	4280	B	0	10.0	16.0	0.5	0	227
32	4290	A	0	7.8	10.4	0.6	0	238
32	4290	B	0	9.6	11.6	0.7	0	239
32	4300	A	0	3.5	4.1	0.5	0	231
32	4300	B	0	7.8	8.9	0.7	0	227
32	4310	A	0	8.1	15.9	0.3	0	203
32	4320	A	0	11.3	18.3	0.5	0	243
32	4320	B	0	3.9	10.0	0.1	0	230
33	4330	A	0	9.5	20.9	0.3	0	200
33	4330	B	0	20.9	40.2	0.5	0	183
33	4340	A	1	21.4	26.4	1.0	0	229
33	4340	B	0	21.6	32.2	0.8	0	225
33	4350	A	0	27.2	39.4	0.9	0	203
33	4350	B	0	19.6	26.3	0.8	0	222
33	4360	A	0	20.0	25.4	0.9	0	229
33	4360	B	0	21.6	29.0	0.9	0	215
33	4360	C	1	19.5	23.6	1.0	0	212
33	4370	A	1	15.9	17.7	1.0	0	218
33	4370	B	1	21.3	22.8	1.2	0	220
33	4370	C	0	15.8	22.0	0.7	0	225
33	4380	A	0	15.5	26.3	0.5	0	202
33	4380	B	0	14.9	20.6	0.7	0	204
33	4390	A	0	15.6	21.0	0.8	0	221
33	4390	B	0	16.3	24.8	0.6	0	201

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
33	4400	A	0	15.3	20.5	0.8	0	203
33	4400	B	0	18.0	25.8	0.7	0	189
33	4400	C	0	5.6	16.2	0.1	0	215
33	4410	A	0	4.8	12.2	0.1	0	235
33	4410	B	0	10.8	16.5	0.5	0	202
33	4410	C	0	8.1	13.8	0.4	0	225
33	4420	A	0	9.8	15.1	0.5	0	221
33	4420	B	0	10.6	17.2	0.5	0	205
33	4430	A	0	11.4	19.0	0.5	0	226
33	4430	B	0	11.6	18.1	0.5	0	228
33	4440	A	0	15.4	26.4	0.5	0	202
33	4440	B	0	12.6	27.8	0.3	0	191
33	4450	A	0	6.6	22.4	0.1	0	211
33	4450	B	0	14.2	22.6	0.6	0	216
33	4450	C	0	15.0	21.5	0.7	0	222
33	4460	A	0	16.0	21.0	0.8	0	181
33	4460	B	0	11.5	17.8	0.5	0	186
33	4460	C	0	6.4	29.2	0.0	0	202
33	4470	A	0	11.5	19.1	0.5	0	196
33	4470	B	0	17.6	21.2	0.9	0	205
33	4480	A	0	16.7	20.4	0.9	0	192
33	4480	B	0	10.2	17.1	0.5	0	184
33	4490	A	0	10.2	12.1	0.8	0	197
33	4490	B	1	16.1	17.8	1.0	0	191
33	4490	C	0	10.5	12.3	0.8	0	196
33	4500	A	0	10.2	13.3	0.7	0	212
33	4500	B	1	14.3	15.2	1.0	0	212
33	4500	C	0	10.5	13.7	0.7	0	210
33	4510	A	0	10.3	23.9	0.3	0	201
33	4510	B	0	11.7	18.9	0.5	0	217
33	4510	C	0	12.8	17.2	0.7	0	225
33	4520	A	0	13.7	18.0	0.7	0	196

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
33	4520	B	0	9.7	19.4	0.3	0	192
33	4520	C	0	3.8	14.4	0.0	0	222
34	4540	A	0	2.8	9.3	0.0	0	252
34	4540	B	0	3.7	15.9	0.0	0	225
34	4552	A	0	3.5	11.2	0.1	0	228
34	4561	A	0	4.3	10.6	0.1	0	255
34	4590	A	0	1.2	8.1	0.0	0	237
34	4600	A	0	2.7	4.1	0.3	0	227
34	4620	A	0	3.2	9.5	0.1	0	211
34	4640	A	0	2.5	6.6	0.1	0	226
34	4670	A	0	2.5	12.4	0.0	0	215
34	4681	A	0	3.7	11.8	0.1	0	205
34	4690	A	0	0.6	5.8	0.0	0	248
34	4700	A	0	0.1	10.8	0.0	0	186
37	4710	A	0	1.1	7.5	0.0	0	212
37	4721	A	0	1.6	6.8	0.0	0	214
37	4780	A	0	2.6	10.4	0.0	0	248
37	4800	A	0	6.4	20.3	0.1	0	229
37	4830	A	0	10.5	22.1	0.3	0	239
37	4840	A	0	20.9	47.7	0.4	0	204
37	4850	A	0	10.7	33.5	0.2	0	196
37	4850	B	0	12.9	25.5	0.4	0	237
37	4860	A	0	17.3	44.0	0.3	0	199
37	4870	A	0	9.3	16.8	0.4	0	265
37	4880	A	0	1.6	10.1	0.0	0	202

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
37	4880	B	0	4.6	15.4	0.1	0	231
37	4890	A	0	6.5	18.1	0.2	0	227
37	4890	B	0	2.6	11.2	0.0	0	255
37	4890	C	0	2.2	9.8	0.0	0	202
37	4890	D	0	4.2	16.0	0.1	0	220
37	4910	A	0	2.3	14.7	0.0	0	220
37	4940	A	0	-0.7	8.2	0.0	0	187
37	4950	A	0	1.0	11.1	0.0	0	206
36	4960	A	0	1.2	12.9	0.0	0	224
36	4990	A	0	3.9	9.4	0.1	0	227
36	4990	B	0	0.5	9.9	0.0	0	228
36	5000	A	0	1.6	10.3	0.0	0	246
36	5000	B	0	7.9	11.8	0.5	0	231
36	5010	A	1	15.1	14.7	1.2	0	195
36	5020	A	0	1.2	4.6	0.0	0	247
36	5020	B	0	11.0	12.5	0.8	0	235
36	5030	A	0	0.7	8.7	0.0	0	215
36	5030	B	0	10.0	14.9	0.5	0	222
36	5030	C	0	0.3	7.5	0.0	0	224
36	5040	A	0	1.7	6.7	0.0	0	241
36	5040	B	0	7.2	11.6	0.4	0	244
36	5060	A	0	4.2	12.0	0.1	0	232
36	5070	A	0	0.9	6.6	0.0	0	245
36	5070	B	0	9.3	17.0	0.4	0	233
36	5080	A	0	2.1	11.3	0.0	0	220
36	5080	B	0	21.7	32.2	0.8	0	209
36	5090	A	0	10.7	15.7	0.6	0	240
36	5100	A	0	12.8	20.4	0.5	0	207
36	5110	A	0	9.8	19.5	0.3	0	217

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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
36	5120	A	0	11.2	17.0	0.5	0	220
36	5150	A	0	6.1	7.0	0.6	0	331
36	5160	A	2	21.6	15.0	2.1	0	218
36	5160	B	2	25.4	19.0	2.1	0	193
36	5170	A	1	17.1	16.4	1.3	0	234
36	5170	B	0	11.2	13.9	0.7	0	244
36	5180	A	0	9.8	14.0	0.6	0	224
36	5190	A	0	5.4	14.5	0.1	0	260
36	5200	A	0	6.6	23.3	0.1	0	223
35	5230	A	0	0.4	8.3	0.0	0	204
35	5240	A	0	4.2	15.2	0.1	0	210
35	5261	A	0	0.6	13.7	0.0	0	193
38	5330	A	0	0.6	5.1	0.0	0	208
38	5340	A	0	5.3	12.4	0.2	0	242
38	5350	A	0	6.5	10.0	0.4	0	242
38	5360	A	0	5.7	11.8	0.2	0	242
38	5370	A	0	5.2	8.0	0.4	0	246
38	5380	A	0	2.9	7.7	0.1	0	241
38	5391	A	0	7.7	9.5	0.6	0	178
38	5400	A	0	9.8	18.9	0.4	0	220
38	5400	B	0	5.4	6.5	0.6	0	222
38	5400	C	0	5.3	8.6	0.3	0	232
38	5400	D	0	1.5	11.6	0.0	0	224
38	5410	A	0	1.4	9.9	0.0	0	231
38	5410	B	1	15.6	11.6	1.7	0	189
38	5410	C	0	2.9	15.2	0.0	0	216

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.

J8927 - FALCONBRIDGE LTD - HALLIDAY PROJECT

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
38	5420	A	0	3.3	16.6	0.0	0	208
38	5420	B	2	28.3	14.6	3.5	0	193
38	5430	A	0	2.1	9.0	0.0	0	241
38	5430	B	3	46.2	18.3	5.8	0	184
38	5440	A	2	19.4	11.1	2.7	0	182
39	5450	A	3	54.1	24.9	5.0	0	174
39	5450	B	0	0.0	8.8	0.0	0	204
39	5460	A	3	19.8	5.7	6.8	0	219
39	5470	A	1	17.9	13.5	1.8	0	215
39	5470	B	0	1.9	13.7	0.0	0	216
39	5480	A	0	1.5	8.2	0.0	0	241
39	5480	B	2	48.0	27.2	3.7	0	172
39	5490	A	2	18.8	9.3	3.2	0	210
39	5490	B	0	1.0	8.4	0.0	0	222
39	5500	A	0	10.8	33.1	0.2	0	203
39	5500	B	3	50.3	25.1	4.4	0	168
39	5510	A	2	26.2	16.2	2.7	0	209
39	5510	B	0	-0.7	7.6	0.0	0	211
39	5510	C	0	9.1	26.8	0.2	0	221
39	5520	A	0	1.7	8.5	0.0	0	253
39	5520	B	1	13.0	12.4	1.1	0	193
39	5520	C	1	17.4	14.3	1.6	0	194
39	5530	A	1	12.4	11.1	1.2	0	229
39	5530	B	1	8.5	6.5	1.3	0	238
39	5530	C	0	1.0	13.3	0.0	0	196
39	5540	A	0	4.8	22.1	0.0	0	214
39	5540	B	1	21.1	18.4	1.6	0	189
39	5540	C	1	21.9	27.5	1.0	0	184
39	5550	A	0	2.6	11.8	0.0	0	210
39	5550	B	0	3.8	5.5	0.3	0	247
39	5550	C	1	14.5	10.7	1.7	0	233

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.

J8927 - FALCONBRIDGE LTD - HALLIDAY PROJECT

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
39	5550	D	0	2.4	15.8	0.0	0	221
39	5560	A	2	40.9	23.9	3.3	0	193
39	5560	B	0	6.6	14.7	0.2	0	176
39	5570	A	0	2.5	11.4	0.0	0	203
39	5570	B	0	4.0	8.5	0.2	0	201
39	5570	C	2	20.6	15.0	2.0	0	219
39	5580	A	2	13.6	7.7	2.4	0	241
39	5580	B	0	6.0	7.5	0.6	0	212
39	5580	C	0	2.7	3.3	0.4	0	239
39	5580	D	0	2.6	7.9	0.1	0	243
39	5590	A	0	3.9	6.0	0.3	0	227
39	5590	B	0	0.5	10.6	0.0	0	198
39	5590	C	0	5.5	9.2	0.3	0	169
39	5590	D	2	18.4	11.4	2.4	0	190
39	5590	E	0	1.6	13.2	0.0	0	201
39	5600	A	0	3.2	14.1	0.0	0	216
39	5600	B	2	25.8	13.0	3.5	0	184
39	5600	C	0	3.9	4.3	0.5	0	246
39	5600	D	1	12.5	12.5	1.1	0	206
40	5610	A	1	14.3	11.7	1.5	0	223
40	5610	B	2	14.8	8.1	2.6	0	207
40	5610	C	0	1.1	15.7	0.0	0	175
40	5610	D	0	1.8	18.2	0.0	0	178
40	5620	A	1	13.2	9.2	1.8	0	194
40	5620	B	2	27.5	21.5	2.0	0	200
40	5620	C	0	8.5	26.6	0.1	0	228
40	5630	A	0	9.6	28.8	0.2	0	190
40	5630	B	0	20.2	53.3	0.3	0	181
40	5630	C	0	10.7	27.0	0.2	0	222
40	5630	D	1	21.0	15.8	1.9	0	205
40	5630	E	2	15.2	8.5	2.5	0	201
40	5640	A	3	18.3	7.3	4.3	0	197
40	5640	B	3	30.0	13.2	4.4	0	192
40	5640	C	1	16.7	16.4	1.2	0	194
40	5640	D	0	13.5	15.3	0.9	0	197
40	5640	E	0	20.3	52.8	0.3	0	179

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.

J8927 - FALCONBRIDGE LTD - HALLIDAY PROJECT

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
40	5650	A	0	14.9	31.7	0.4	0	220
40	5650	B	1	15.1	16.7	1.0	0	202
40	5650	C	1	12.9	12.6	1.1	0	196
40	5650	D	3	49.1	26.3	4.0	0	200
40	5660	A	0	5.5	4.8	0.9	0	223
40	5660	B	3	46.5	24.0	4.1	0	179
40	5660	C	1	29.6	25.4	1.8	0	170
40	5660	D	0	11.0	12.6	0.8	0	170
40	5660	E	0	9.3	15.0	0.5	0	205
40	5660	F	0	14.4	27.6	0.4	0	227
40	5670	A	0	11.8	25.6	0.3	0	235
40	5670	B	0	6.0	8.2	0.5	0	252
40	5670	C	0	5.6	26.0	0.0	0	198
40	5670	D	2	35.4	19.9	3.4	0	171
40	5680	A	0	3.9	16.8	0.0	0	231
40	5680	B	0	2.9	12.2	0.0	0	238
40	5680	C	0	5.4	10.9	0.2	0	237
40	5690	A	0	5.5	10.3	0.3	0	232
40	5690	B	0	2.6	15.5	0.0	0	216
40	5710	A	0	10.2	12.3	0.7	0	229
40	5710	B	0	0.1	7.9	0.0	0	176
40	5720	A	2	41.0	24.1	3.3	0	182
40	5720	B	0	9.8	21.8	0.3	0	172
40	5730	A	0	8.4	14.2	0.4	0	225
40	5730	B	3	34.1	16.1	4.2	0	201
40	5730	C	0	2.2	5.0	0.1	0	202
40	5740	A	0	1.2	4.3	0.0	0	209
40	5740	B	2	26.0	14.1	3.2	0	214
40	5740	C	0	7.7	18.1	0.2	0	185
40	5750	A	0	12.1	36.9	0.2	0	205
40	5750	B	0	6.8	13.4	0.3	0	225
40	5750	C	1	13.9	11.7	1.4	0	207
40	5760	A	1	9.7	8.4	1.2	0	268
40	5760	B	0	5.0	11.2	0.2	0	245

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.

J8927 - FALCONBRIDGE LTD - HALLIDAY PROJECT

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	QUAD.	CONDUCTOR CTP MHOS	DEPTH MTRS	BIRD HEIGHT MTRS
40	5770	A	0	12.8	34.2	0.2	0	212
40	5770	B	0	15.5	28.5	0.5	0	220
40	5770	C	0	4.3	9.5	0.2	0	253
40	5770	D	1	14.4	15.9	1.0	0	203
40	5770	E	0	2.1	17.5	0.0	0	223
40	5781	A	0	2.7	16.5	0.0	0	206
40	5781	B	0	11.5	17.8	0.5	0	185
40	5781	C	0	7.0	18.0	0.2	0	232
40	5781	D	0	6.6	14.5	0.2	0	226
40	5781	E	0	24.1	38.6	0.7	0	220
40	5781	F	0	15.4	36.5	0.3	0	212
40	5790	A	0	10.0	25.4	0.2	0	217
40	5790	B	0	23.0	41.6	0.6	0	216
40	5790	C	0	4.9	12.9	0.1	0	208
40	5790	D	0	-1.1	4.3	0.0	0	251
40	5790	E	0	-0.7	5.5	0.0	0	246
40	5800	A	0	1.4	6.2	0.0	0	208
40	5800	B	0	5.7	12.0	0.2	0	211
40	5810	A	0	0.0	8.5	0.0	0	204
40	5820	A	0	1.9	8.9	0.0	0	206
40	5820	B	0	6.0	6.1	0.8	0	249
40	5820	C	0	4.0	12.4	0.1	0	190
40	5820	D	0	31.9	64.5	0.6	0	187
40	5830	A	0	6.8	14.0	0.3	0	245
40	5830	B	0	5.2	10.3	0.2	0	235
40	5830	C	2	27.5	18.4	2.4	0	207
40	5830	D	0	1.6	6.1	0.0	0	189
40	5840	A	0	1.1	7.0	0.0	0	175
40	5840	B	2	20.1	11.1	2.9	0	221
40	5840	C	0	5.4	5.0	0.8	0	292
40	5840	D	0	7.3	27.2	0.1	0	214
40	5850	A	0	5.9	11.0	0.3	0	221
40	5850	B	0	8.7	11.5	0.6	0	234
40	5850	C	2	21.8	12.6	2.8	0	223
40	5850	D	0	1.4	4.6	0.0	0	190

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.

APPENDIX III

CERTIFICATE OF QUALIFICATIONS

1. I hold a PhD in Geophysics from Charles University, Czechoslovakia having graduated in 1967.

2. I reside at 146 Three Valleyš Drive, in the town of Don Mills, Ontario.

3. I have been continuously engaged in both professional and managerial roles in the minerals industry in Canada and abroad for the past 19 years.

4. I have been an active member of the Society of Exploration Geophysicists since 1978 and a member of KEGS since 1978.

5. The accompanying report was prepared from information published by government agencies, materials supplied by Falconbridge Limited and from a review of the proprietary airborne geophysical survey flown by Aerodat Limited for Falconbridge Limited 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 Falconbridge Limited.

Signed

Z. Dvorak

Zbynek Dvorak
Consulting Geophysicist
for
AERODAT LIMITED

August 4, 1989

APPENDIX IV

PERSONNEL

FIELD

Flown	May-June, 1989
Pilot	J. Hall
Operator	B. Simon

OFFICE

Processing	T.J. Gamey
Report	Z. Dvorak

41P14NE0055 2.14034 HALLIDAY

900

Ministry of Northern Development and Mines
Ontario

DOCUMENT No. W 9160.00098

DOCUMENT No. W 9160.00099

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:

Type of Survey(s): Geophysical Airborne EM, Magnetometer, VLF-EM	Mining Division: Porcupine	Township or Area: Sothman, Semple, Halliday
Recorded Holder(s): Falconbridge Limited 2.14034		Prospector's Licence No.: A 21647
Address: P.O Box 1140, 571 Moneta Ave, Timmins, Ontario P4N 7H9		Telephone No.: 705-267-1188
Survey Company: Aerodat Limited, 3883 Nashua Drive, Mississauga, Ontario L4V 1R3		
Name and Address of Author (of Geo-Technical Report): Zbynek Dvorak		Date of Survey (from & to): 15 05 89 (Day Mo. Yr.) 16 06 89 (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 Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Other	
	Geological	
	Geochemical	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.		Days per Claim
	Electromagnetic	20
	Magnetometer	40
	Other VLF EM	20
Total miles flown over claim(s).		152

Date	Recorded Holder or Agent (Signature)
February 21, 1991	X [signature]

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Mining Claim Prefix	Mining Claim Number	Mining Claim Prefix	Mining Claim Number
See Attached Schedule					

ONTARIO GEOLOGICAL SURVEY GIS - ASSESSMENT FILES MAY 27 1991 RECEIVED

RECEIVED APR 17 1991 MINING LANDS SECTION

RECORDED MAR 18 1991

ONTARIO GEOLOGICAL SURVEY GIS - ASSESSMENT FILES MAY 27 1991 RECEIVED

Total number of mining claims covered by this report of work. 152

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: X STAN CLEMMER FALCONBRIDGE LIMITED, Box 1140, 571 Moneta Ave, Timmins, Ontario P4N 7H9

Telephone No.	Date	Certified By (Signature)
705-267-1188	February 21 1991	X [signature]

For Office Use Only

PORCUPINE MINING DIVISION RECEIVED "ACTG"

Received Stamp: PORCUPINE RECEIVED MAR 18 1991 4:00 pm cm

Total Days Cr. Recorded	Date Recorded	Mining Recorder
12,160	MAR. 18/91	[signature]
	Date Approved as Recorded	Provincial Manager, Mining Lands
	May 15, 1991	Ron C Gashinski

1362 (89/06)

SOTHMAN, SEMPLE, HALLIDAY ASSESSMENT

CLAIM # *	TOWNSHIP	NO. OF DAYS
1043624	SOTHMAN	80
1043625	SOTHMAN	80
1043626	SOTHMAN	80
1043627	SOTHMAN	80
1043628	SOTHMAN	80
1112880	SEMPLE	80
1112881	SEMPLE	80
1112882	SEMPLE	80
1112883	SEMPLE	80
1112884	SEMPLE	80
1112885	SEMPLE	80
1112886	SEMPLE	80
1112887	SEMPLE	80
1112888	SEMPLE	80
1112889	SEMPLE	80
1112890	SEMPLE	80
1112891	SEMPLE	80
1112892	SEMPLE	80
1112893	SEMPLE	80
1112898	SOTHMAN	80
1112899	SOTHMAN	80
1112900	SOTHMAN	80
1112901	SOTHMAN	80
1112902	SOTHMAN	80
1112903	SOTHMAN	80
1112904	SOTHMAN	80
1112906	SOTHMAN	80
1112907	SOTHMAN	80
1112908	SOTHMAN	80
1112909	SOTHMAN	80
1112910	SOTHMAN	80
1112911	SOTHMAN	80
1112912	SOTHMAN	80
1112916	SOTHMAN	80
1112917	SOTHMAN	80
1112918	SOTHMAN	80
1112919	SOTHMAN	80
1112921	SOTHMAN	80
1112922	SOTHMAN	80
1112923	SOTHMAN	80
1112924	SOTHMAN	80
1112925	SOTHMAN	80
1112927	SOTHMAN	80
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1112929	SOTHMAN	80
1112930	SOTHMAN	80
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1112934	SOTHMAN	80
1112935	SOTHMAN	80
1112936	SOTHMAN	80
1112937	SOTHMAN	80
1112938	SOTHMAN	80
1112939	SOTHMAN	80
1112940	SOTHMAN	80
1112941	SOTHMAN	80
1112942	SOTHMAN	80
1112943	SOTHMAN	80

1112944	SOTHMAN	80
1112953	SOTHMAN	80
1112956	SOTHMAN	80
1112957	SOTHMAN	80
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1112960	SOTHMAN	80
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1112962	SOTHMAN	80
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1112984	SOTHMAN	80
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1113007	SOTHMAN	80
1113008	SOTHMAN	80
1113009	SOTHMAN	80
1113010	SOTHMAN	80
1113011	SOTHMAN	80
1113012	SOTHMAN	80
1113013	SOTHMAN	80
1113014	SOTHMAN	80
1113015	SOTHMAN	80

SOTHMAN, SEMPLE, HALLIDAY ASSESSMENT

1113016	SOTHMAN	80
1113017	SOTHMAN	80
1113177	SOTHMAN	80
1113178	SOTHMAN	80
1113179	SOTHMAN	80
1113180	HALLIDAY	80
1113181	HALLIDAY	80
1113182	HALLIDAY	80
1113183	SOTHMAN	80
1113192	SOTHMAN	80
1113193	SOTHMAN	80
1113194	SOTHMAN	80
1113195	SOTHMAN	80
1113196	SOTHMAN	80
1113197	SOTHMAN	80
1113198	SOTHMAN	80
1113199	SOTHMAN	80
1113200	SOTHMAN	80
1113201	SOTHMAN	80
1113202	SOTHMAN	80
1113203	SOTHMAN	80
1113204	SOTHMAN	80
1113205	SOTHMAN	80
1113206	SOTHMAN	80
1114453	SOTHMAN	80
1114454	SOTHMAN	80
1114455	SOTHMAN	80
1115082	SOTHMAN	80
1115083	SOTHMAN	80
1115084	SOTHMAN	80
1115085	SOTHMAN	80
1115086	SOTHMAN	80

Survey performed between June 10 - 14, 1989 KK.

W9160.00099

TOTAL CLAIMS	TOTAL DAYS
152	12160

* ALL CLAIMS HAVE PREFIX "P"

PORCUPINE MINING DIVISION

Ministry of Natural Resources

Ontario

File_____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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

Type of Survey(s) Geophysical-Airborne EM, Magnetometer, VLF-EM

Township or Area Sothman, Semple, Halliday

Claim Holder(s) Falconbridge Limited

Survey Company Aerodat Limited

Author of Report Zbynek Dvorak, Aerodat Limited

Address of Author 3883 Nashua Drive, Mississauga, ON L4V 1R3

Covering Dates of Survey May 15, 1989 - June 16, 1989 (linecutting to office)

Total Miles of ~~Line Cut~~ Survey Flown 2,750 line km (1708 miles)

Total Miles Survey Flown on Claims 152 miles

MINING CLAIMS TRAVERSED
List numerically

See Attached Schedule
(prefix) (number)

If space insufficient, attach list

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 20 Radiometric _____
(enter days per claim) VLFEM-20

DATE: Feb 26 '91 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

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) Magnetometer, Electromagnetic, VLF-EM

Instrument(s) Scrintrex Model VIW 2321 H8 cesium, (magnetometer survey), Aerodat 4 frequency system (Electromagnetic survey) Herz Totem 2A (VLF-EM survey)
(specify for each type of survey)

Accuracy ~~0.1 nanoteslas (magnetometer survey), 1ppm (Electromagnetic Survey), 1% (VLF-EM~~ Survey
(specify for each type of survey)

Aircraft used Aerospatiale A-Star 350 D helicopter (G-oVB)

Sensor altitude 12m below helicopter (magnetometer survey), 30m below helicopter (Electromagnetic survey)

Navigation and flight path recovery method 12m below helicopter (VLF-EM Survey)

Aircraft altitude mean terrain clearance of 60 meters Line Spacing 100m

Miles flown over total area 1708 miles (2,750) Over claims only 152 miles

SCHEDULE

CLAIM #	TOWNSHIP	NO. OF DAYS
P-1043624	SOTHMAN	80.0
P-1043625	SOTHMAN	80.0
P-1043626	SOTHMAN	80.0
P-1043627	SOTHMAN	80.0
P-1043628	SOTHMAN	80.0
P-1112880	SEMPLE	80.0
P-1112881	SEMPLE	80.0
P-1112882	SEMPLE	80.0
P-1112883	SEMPLE	80.0
P-1112884	SEMPLE	80.0
P-1112885	SEMPLE	80.0
P-1112886	SEMPLE	80.0
P-1112887	SEMPLE	80.0
P-1112888	SEMPLE	80.0
P-1112889	SEMPLE	80.0
P-1112890	SEMPLE	80.0
P-1112891	SEMPLE	80.0
P-1112892	SEMPLE	80.0
P-1112893	SEMPLE	80.0
P-1112898	SOTHMAN	80.0
P-1112899	SOTHMAN	80.0
P-1112900	SOTHMAN	80.0
P-1112901	SOTHMAN	80.0
P-1112902	SOTHMAN	80.0
P-1112903	SOTHMAN	80.0
P-1112904	SOTHMAN	80.0
P-1112906	SOTHMAN	80.0
P-1112907	SOTHMAN	80.0
P-1112908	SOTHMAN	80.0
P-1112909	SOTHMAN	80.0
P-1112910	SOTHMAN	80.0

P-1112911	SOTHMAN	80.0
P-1112912	SOTHMAN	80.0
P-1112916	SOTHMAN	80.0
P-1112917	SOTHMAN	80.0
P-1112918	SOTHMAN	80.0
P-1112919	SOTHMAN	80.0
P-1112921	SOTHMAN	80.0
P-1112922	SOTHMAN	80.0
P-1112923	SOTHMAN	80.0
P-1112924	SOTHMAN	80.0
P-1112925	SOTHMAN	80.0
P-1112927	SOTHMAN	80.0
P-1112928	SOTHMAN	80.0
P-1112929	SOTHMAN	80.0
P-1112930	SOTHMAN	80.0
P-1112931	SOTHMAN	80.0
P-1112932	SOTHMAN	80.0
P-1112933	SOTHMAN	80.0
P-1112934	SOTHMAN	80.0
P-1112935	SOTHMAN	80.0
P-1112936	SOTHMAN	80.0
P-1112937	SOTHMAN	80.0
P-1112938	SOTHMAN	80.0
P-1112939	SOTHMAN	80.0
P-1112940	SOTHMAN	80.0
P-1112941	SOTHMAN	80.0
P-1112942	SOTHMAN	80.0
P-1112943	SOTHMAN	80.0
P-1112944	SOTHMAN	80.0
P-1112953	SOTHMAN	80.0
P-1112956	SOTHMAN	80.0
P-1112957	SOTHMAN	80.0
P-1112959	SOTHMAN	80.0
P-1112960	SOTHMAN	80.0
P-1112961	SOTHMAN	80.0

P-1112962	SOTHMAN	80.0
P-1112963	SOTHMAN	80.0
P-1112964	SOTHMAN	80.0
P-1112965	SOTHMAN	80.0
P-1112966	SOTHMAN	80.0
P-1112967	SOTHMAN	80.0
P-1112968	SOTHMAN	80.0
P-1112969	SOTHMAN	80.0
P-1112970	SOTHMAN	80.0
P-1112971	SOTHMAN	80.0
P-1112972	SOTHMAN	80.0
P-1112973	SOTHMAN	80.0
P-1112974	SOTHMAN	80.0
P-1112975	SOTHMAN	80.0
P-1112976	SOTHMAN	80.0
P-1112977	SOTHMAN	80.0
P-1112978	SOTHMAN	80.0
P-1112979	SOTHMAN	80.0
P-1112980	SOTHMAN	80.0
P-1112981	SOTHMAN	80.0
P-1112982	SOTHMAN	80.0
P-1112983	SOTHMAN	80.0
P-1112984	SOTHMAN	80.0
P-1112985	SOTHMAN	80.0
P-1112986	SOTHMAN	80.0
P-1112987	SOTHMAN	80.0
P-1112988	SOTHMAN	80.0
P-1112989	SOTHMAN	80.0
P-1112990	SOTHMAN	80.0
P-1112991	SOTHMAN	80.0
P-1112992	SOTHMAN	80.0
P-1112993	SOTHMAN	80.0
P-1112994	SOTHMAN	80.0
P-1112995	SOTHMAN	80.0
P-1112996	SOTHMAN	80.0

P-1112997	SOTHMAN	80.0
P-1112998	SOTHMAN	80.0
P-1112999	SOTHMAN	80.0
P-1113000	SOTHMAN	80.0
P-1113001	SOTHMAN	80.0
P-1113002	SOTHMAN	80.0
P-1113003	SOTHMAN	80.0
P-1113004	SOTHMAN	80.0
P-1113005	SOTHMAN	80.0
P-1113006	SOTHMAN	80.0
P-1113007	SOTHMAN	80.0
P-1113008	SOTHMAN	80.0
P-1113009	SOTHMAN	80.0
P-1113010	SOTHMAN	80.0
P-1113011	SOTHMAN	80.0
P-1113012	SOTHMAN	80.0
P-1113013	SOTHMAN	80.0
P-1113014	SOTHMAN	80.0
P-1113015	SOTHMAN	80.0
P-1113016	SOTHMAN	80.0
P-1113017	SOTHMAN	80.0
P-1113177	SOTHMAN	80.0
P-1113178	SOTHMAN	80.0
P-1113179	SOTHMAN	80.0
P-1113180	HALLIDAY	80.0
P-1113181	HALLIDAY	80.0
P-1113182	HALLIDAY	80.0
P-1113183	SOTHMAN	80.0
P-1113192	SOTHMAN	80.0
P-1113193	SOTHMAN	80.0
P-1113194	SOTHMAN	80.0
P-1113195	SOTHMAN	80.0
P-1113196	SOTHMAN	80.0
P-1113197	SOTHMAN	80.0
P-1113198	SOTHMAN	80.0

P-1113199	SOTHMAN	80.0
P-1113200	SOTHMAN	80.0
P-1113201	SOTHMAN	80.0
P-1113202	SOTHMAN	80.0
P-1113203	SOTHMAN	80.0
P-1113204	SOTHMAN	80.0
P-1113205	SOTHMAN	80.0
P-1113206	SOTHMAN	80.0

EIGHT CLAIMS STAKED BETWEEN MAY 15 - JUNE 6, 1989

P-1114453	SOTHMAN	80.0
P-1114454	SOTHMAN	80.0
P-1114455	SOTHMAN	80.0
P-1115082	SOTHMAN	80.0
P-1115083	SOTHMAN	80.0
P-1115084	SOTHMAN	80.0
P-1115085	SOTHMAN	80.0
P-1115086	SOTHMAN	80.0
TOTAL DAYS		12,160.00

LARDER LAKE MINING DIVISION

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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

Type of Survey(s) Geophysical Airborne EM, Magnetometer, VLF-EM

Township or Area Mond, Kemp

Claim Holder(s) Falconbridge Limited

Survey Company Aerodat Limited

Author of Report Zbynek Dvorak, Aerodat Limited

Address of Author 3883 Nashua Drive, Mississauga, ON L4V 1R3

Covering Dates of Survey May 15, 1989 - June 16/89 (linecutting to office)

Total Miles of ~~Line Cut~~ Survey Flown: 1708 miles (2,750 km)

Total Miles of Survey Flown on Claims: 56 miles

MINING CLAIMS TRAVERSED
List numerically

See Attached Schedule
(prefix) (number)

If space insufficient, attach list

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 20 ~~Radiometric~~ _____
(enter days per claim) VLF-EM 20

DATE: Feb 20 '91 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

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) Magnetometer, Electromagnetic, VLF-EM

Instrument(s) Scrintrex Model VIW 2321 H8 cesium, (Magnetometer survey), Aerodat 4 frequency system (Electromagnetic survey)
Herz Totem 2A (VLF-EM survey)

Accuracy 0.1 nanoteslas (magnetometer survey), 1ppm (Electromagnetic survey), 1% (VLF-EM survey)
(specify for each type of survey)

Aircraft used Aerospatiale A-Star 350 D helicopter (G-OVB)

Sensor altitude 12m below helicopter (magnetometer survey), 30m below helicopter (electomagnetic survey)
12m below helicopter (VLF-EM survey)

Navigation and flight path recovery method
Motorola Mini Ranger III, VHF radar navigation system

Aircraft altitude mean terrain clearance of 60 metres Line Spacing 100m

Miles flown over total area 1708 miles (2,750 km) Over claims only 56 miles

SCHEDULE

CLAIM #	TOWNSHIP	NO. OF DAYS
L-1036120	MOND	80.0
L-1036121	MOND	80.0
L-1036122	MOND	80.0
L-1036123	MOND	80.0
L-1036124	MOND	80.0
L-1036131	KEMP	80.0
L-1036132	KEMP	80.0
L-1036133	KEMP	80.0
L-1112839	MOND	80.0
L-1112840	MOND	80.0
L-1112841	MOND	80.0
L-1112842	MOND	80.0
L-1112843	MOND	80.0
L-1112844	MOND	80.0
L-1112845	MOND	80.0
L-1112846	MOND	80.0
L-1112847	MOND	80.0
L-1112848	MOND	80.0
L-1112849	MOND	80.0
L-1112850	MOND	80.0
L-1112851	MOND	80.0
L-1112852	MOND	80.0
L-1112853	MOND	80.0
L-1112854	MOND	80.0
L-1112855	MOND	80.0
L-1112856	MOND	80.0
L-1112857	MOND	80.0
L-1112858	MOND	80.0
L-1112859	MOND	80.0
L-1112860	MOND	80.0
L-1112861	MOND	80.0
L-1112862	MOND	80.0

L-1112863	MOND	80.0
L-1112864	MOND	80.0
L-1112865	MOND	80.0
L-1112866	MOND	80.0
L-1112867	MOND	80.0
L-1112868	MOND	80.0
L-1112869	MOND	80.0
L-1112870	MOND	80.0
L-1112871	MOND	80.0
L-1112872	MOND	80.0
L-1112873	MOND	80.0
L-1112874	MOND	80.0
L-1112875	MOND	80.0
L-1112876	MOND	80.0
L-1112877	MOND	80.0
L-1112878	MOND	80.0
L-1112879	MOND	80.0
L-1112948	KEMP	80.0
L-1112949	KEMP	80.0
L-1112950	KEMP	80.0
L-1112951	KEMP	80.0
L-1112954	KEMP	80.0
L-1112955	KEMP	80.0
L-1112958	KEMP	80.0
TOTAL NO. OF DAYS		4,480.0

FALCONBRIDGE

FALCONBRIDGE LIMITED - EXPLORATION
P.O. Box 1140, 571 Moneta Avenue
Timmins, Ontario
P4N 7H9
Telephone: 705-267-1188
Fax: 705-264-6080

April 2, 1991

Ministry of Northern Development & Mines
Mineral Development & Lands Branch
159 Cedar Street
4th Floor
Sudbury, Ontario
P3E 6A5

Dear Sir/Mme:

Eclosed please find two copies of the Technical Data Statement which should have accompanied the airborne geophysics reports submitted by this office yesterday. The reports were quite large and sent in a box. I hope this oversight did not cause any inconvenience.

Sincerely,

R. Pommer

R Pommer,
Information Services

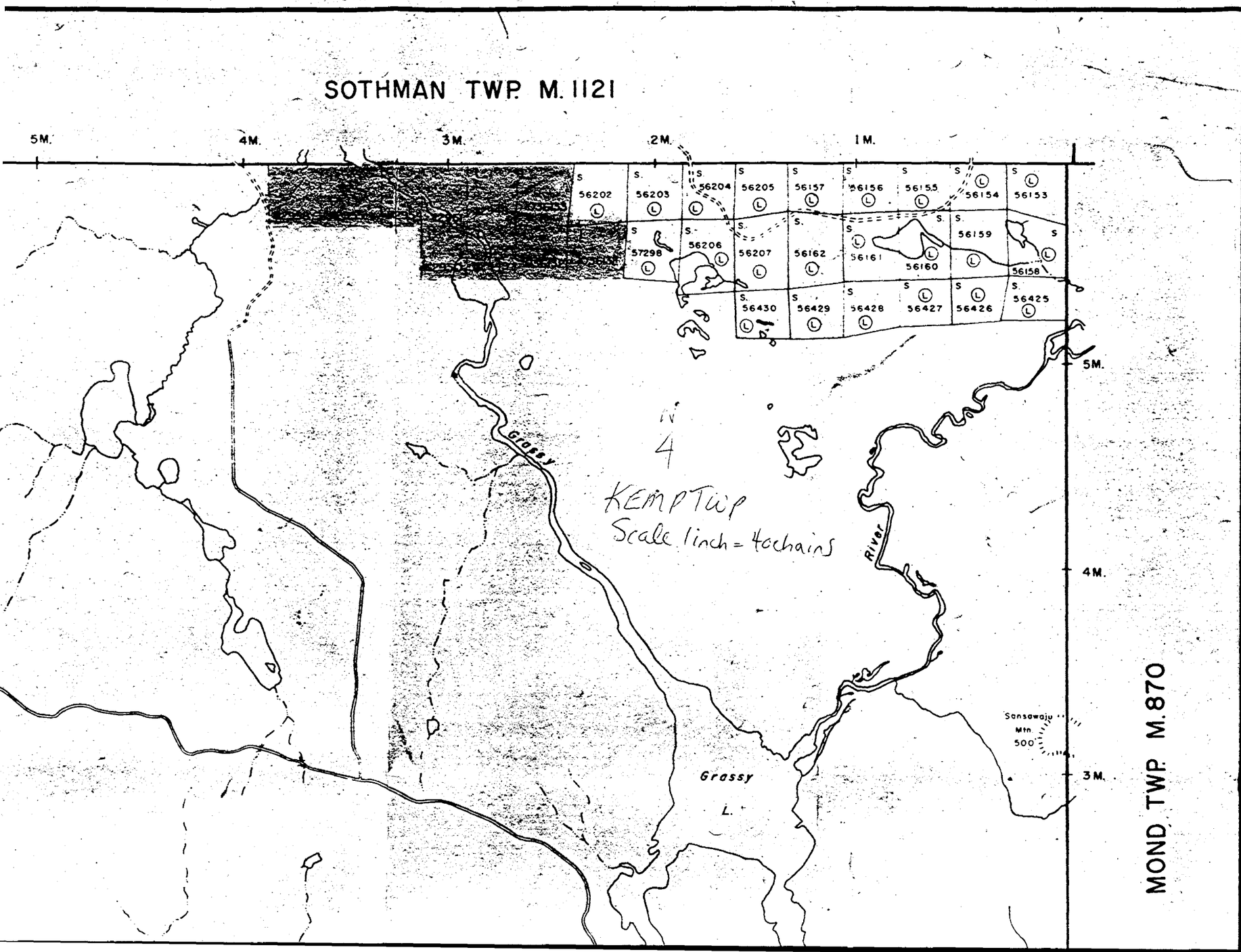
/Encl.

RECEIVED 7/33
APR 03 1991
MINING LANDS SECTION

TRIM LINE

geology reference-COBALT

RESIDENT GEO.



NOTES

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

■ Trapline Cabin

Areas withdrawn from staking under Section 43 of the Mining Act, R.S.O. 1970.

Order No.	File	Date	Disposition
W.66/76	188517	19/11/76	S.R.O.

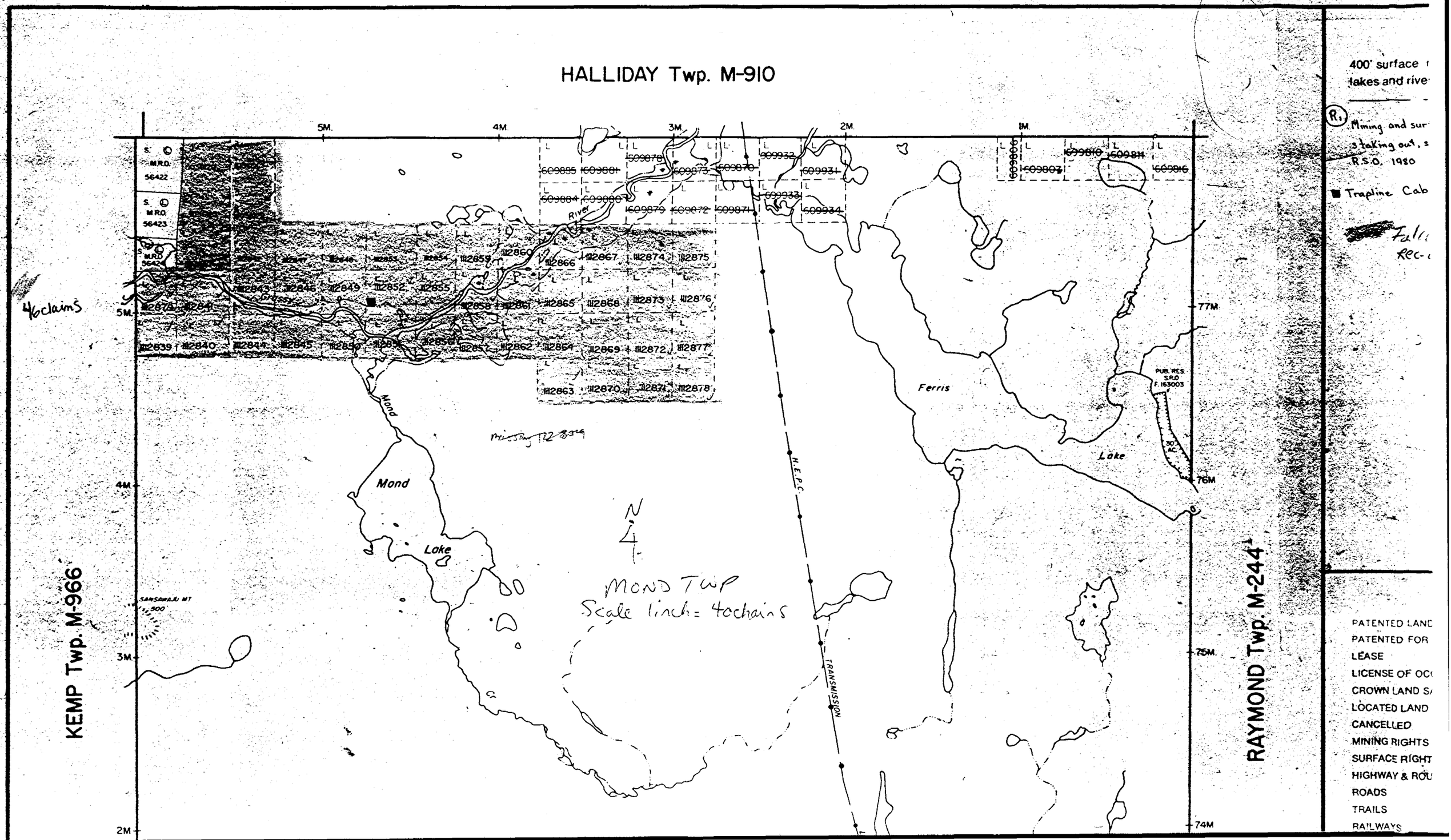
DATE OF ISSUE
FEB 8 1991
LAND & MINING RECORDER'S OFFICE

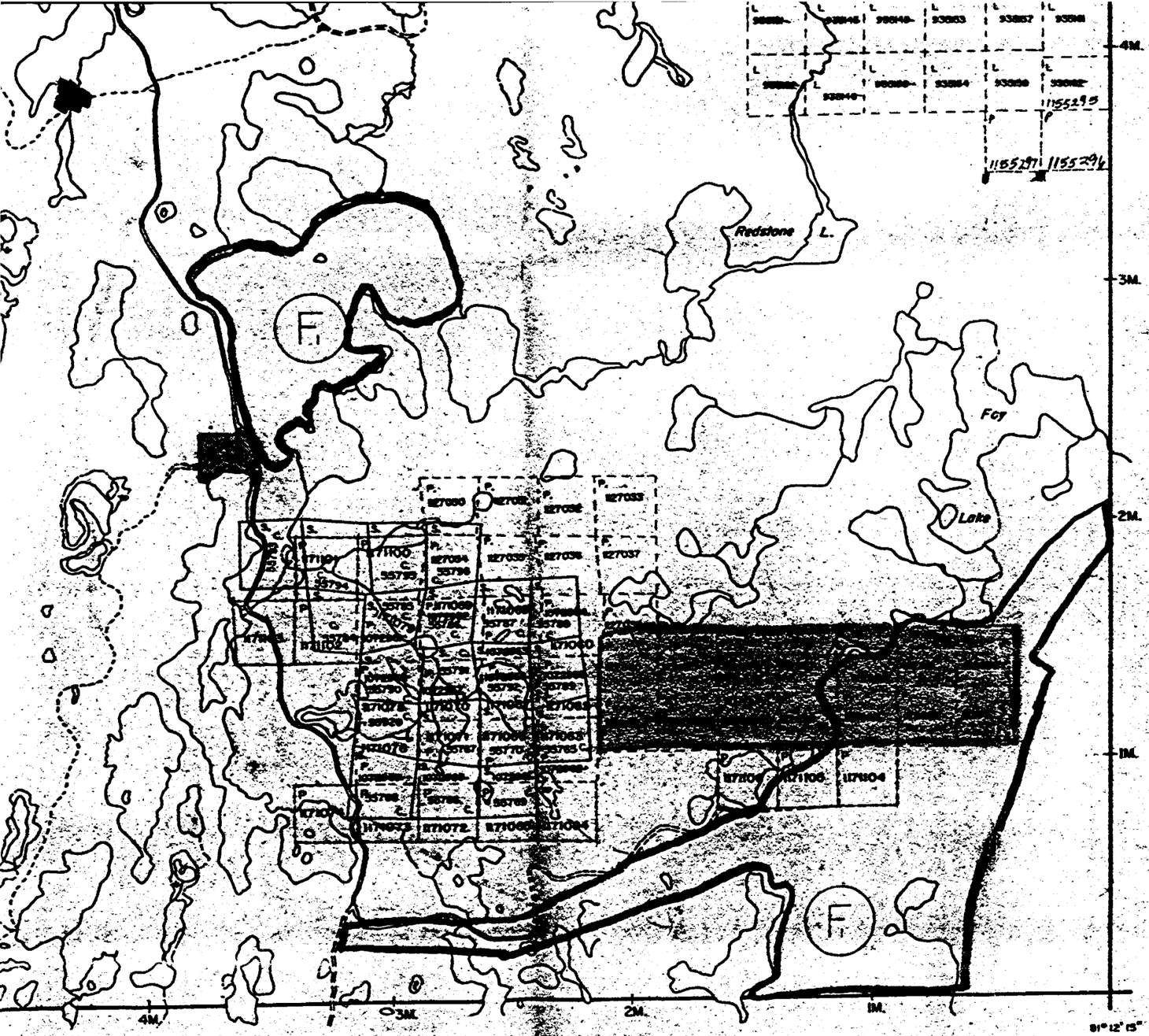
THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

LEGEND

PATENTED LAND	Ⓟ or ●*
PATENTED FOR SURFACE RIGHTS ONLY	◒*
LEASE	Ⓛ
LICENSE OF OCCUPATION	L.O.
CROWN LAND SALES	C.S.
LOCATED LAND	Loc.
CANCELLED	C.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
HIGHWAY & ROUTE NO.	17
ROADS	

HALLIDAY Twp. M-910





HUTT TWP. M-943

SOTHMAN TWP. M-1121

Falconbridge Claims 14 claims

ACTIVATED APRIL 24, 1990 D.C.

LEGEND

PATENTED LAND	Ⓟ or ●
PATENTED FOR SURFACE RIGHTS ONLY	●
LEASE	Ⓛ
LICENSE OF OCCUPATION	L.O.
CROWN LAND SALES	C.S.
LOCATED LAND	Loc.
CANCELLED	C
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
HIGHWAY & ROUTE NO.	17
ROADS	
TRAILS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	

used only with summer resort locations or when space is limited

TOWNSHIP OF

SEMPLE

DISTRICT OF SUDBURY

PORCUPINE MINING DIVISION

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

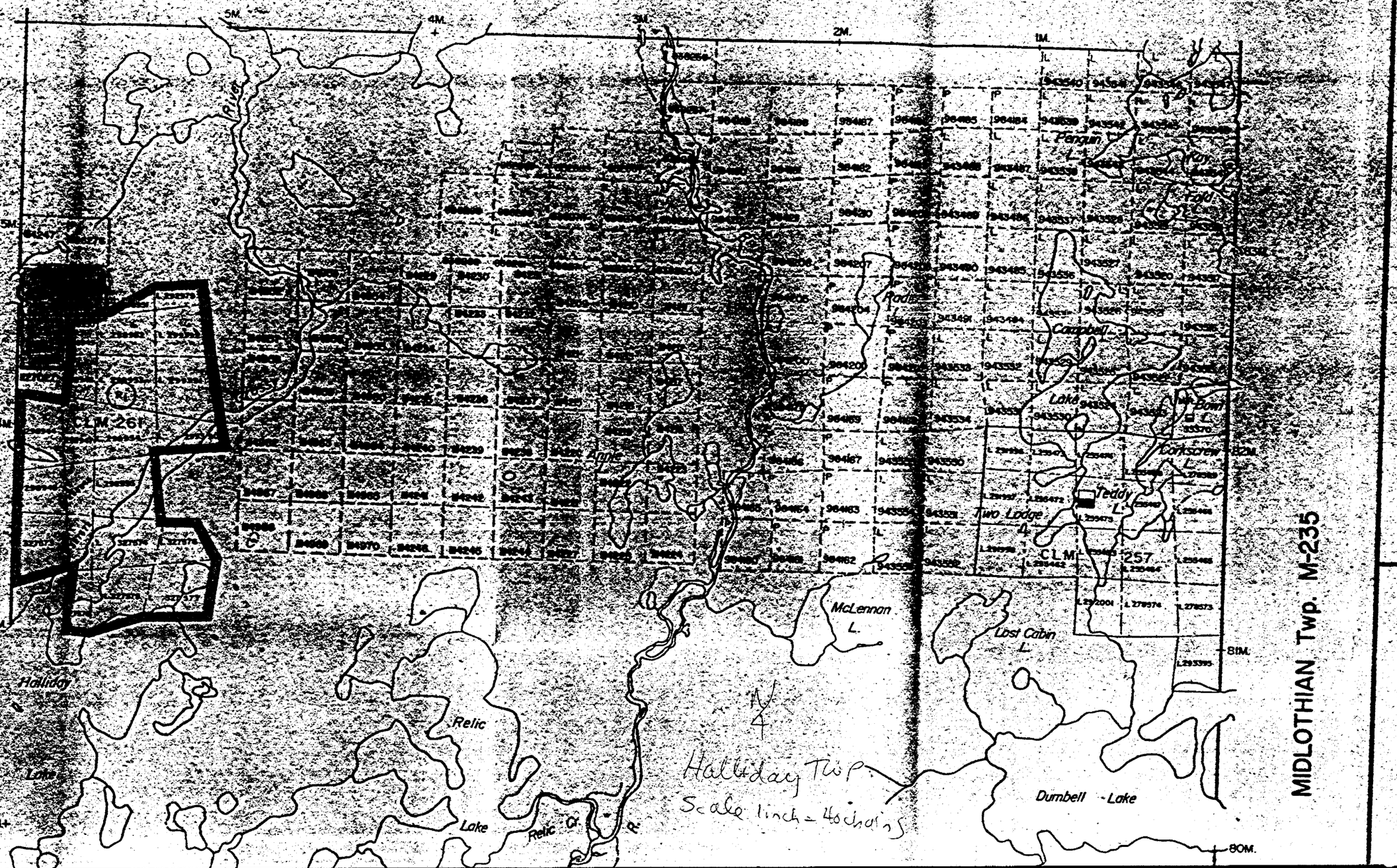
DR. R.W. NOBLE

DATE APR. 22, 71

PLAN NO. M-1100

ONTARIO
DEPARTMENT OF MINES
AND NORTHERN AFFAIRS

HUTT Twp. M-943

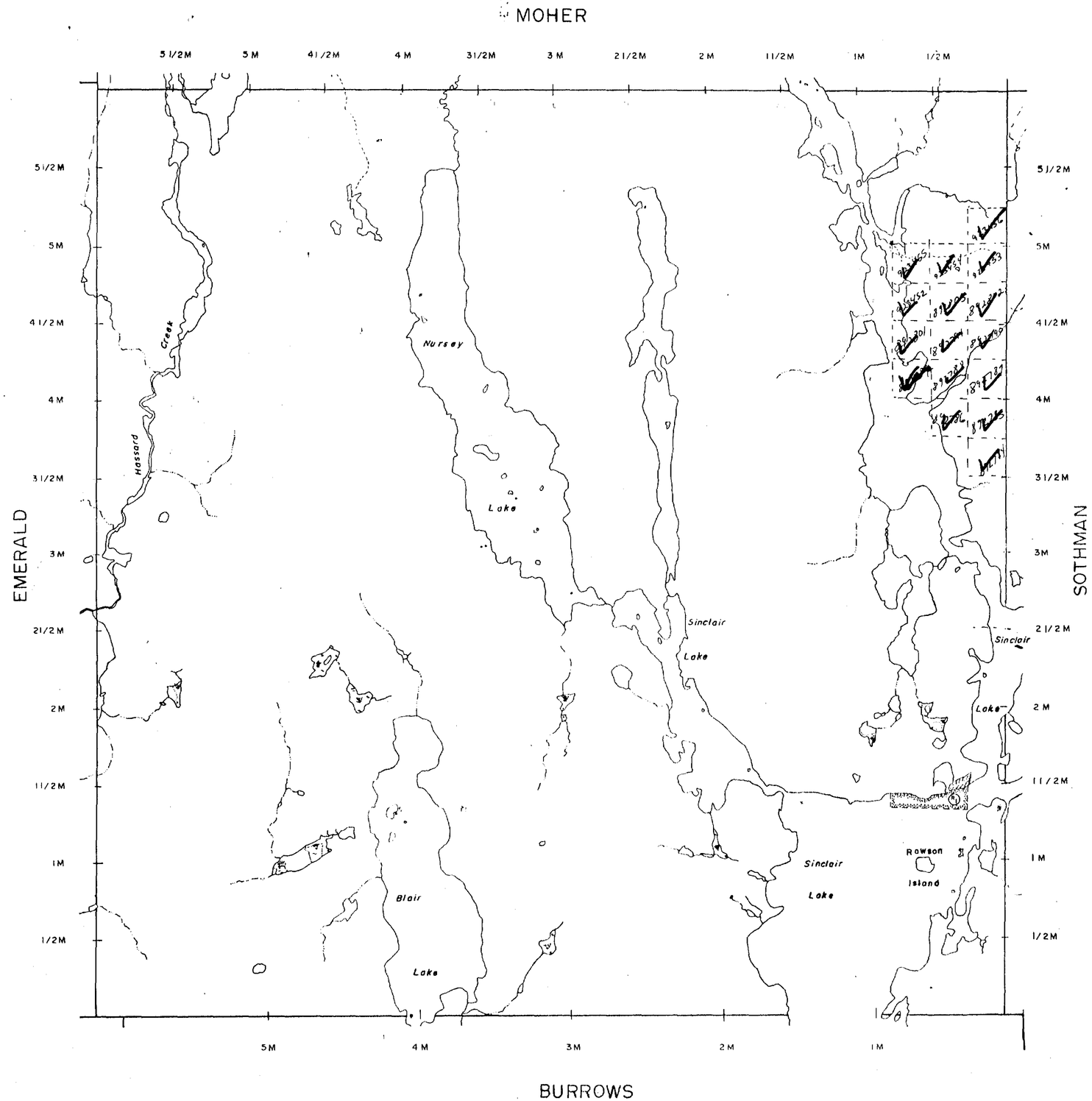


REFERENCES

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
MNR Res				77094



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	SYMBO
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	C
RESERVATION	
CANCELLED	
SAND & GRAVEL	

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

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000
METRES 0 200 1000 (1 KM) 2000 (2 KM)

TOWNSHIP

NURSEY TWP

M.N.R. ADMINISTRATIVE DISTRICT
GOGAMA
MINING DIVISION
LARDER LAKE
LAND TITLES / REGISTRY DIVISION
SUDBURY

Ministry of Natural Resources
Ontario
Land Management Branch

Date AUGUST 20, 1982
Number G-248

MAY 14 1986

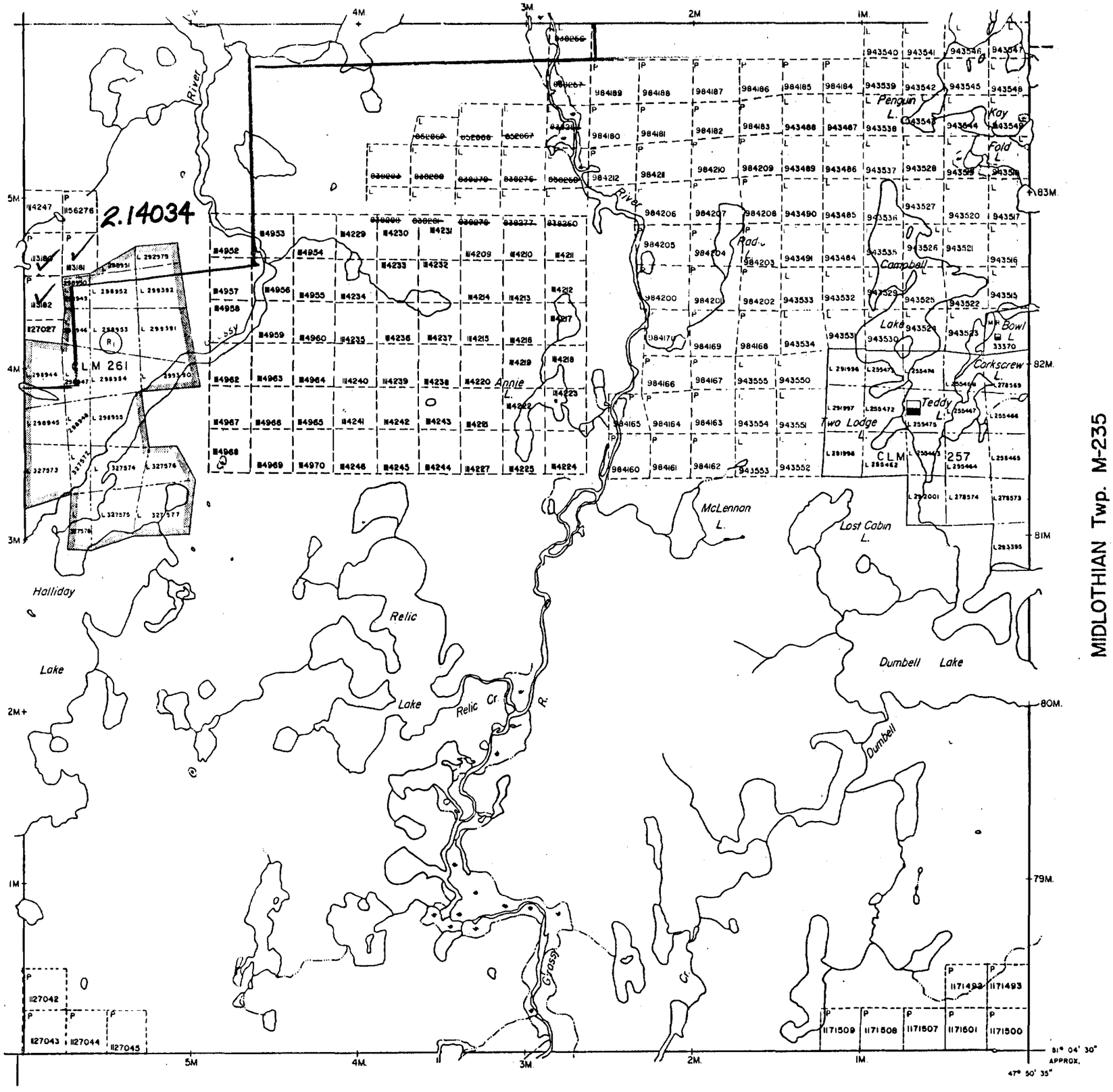
41P14NE0055 2.14034 HALLIDAY

200

HUTT Twp. M-943

SOTHMAN Twp. M-1121

MIDLOTHIAN Twp. M-235



MOND Twp. M-870

NOTES

400 surface rights ... lakes and rivers.

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
R1	NRW48/84	FEB. 22/84	M.R.O.	

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

DISPOSITION OF CROWN LANDS

PATENT, SURFACE AND MINING RIGHTS
" , SURFACE RIGHTS ONLY
" , MINING RIGHTS ONLY
LEASE, SURFACE AND MINING RIGHTS
" , SURFACE RIGHTS ONLY
" , MINING RIGHTS ONLY
LICENCE OF OCCUPATION

HIGHWAY & ROUTE NO.
ROADS
TRAILS
RAILWAYS
POWER LINES
MARSH OR MUSKEG
MINES

*used only with summer resort locations or when space is limited

TOWNSHIP OF

HALLIDAY

DISTRICT OF SUDBURY

PORCUPINE MINING DIVISION

RECEIVED MAR 1 1990 PORCUPINE MINING DIVISION

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

DR. RWN
DATE FEB. 2, 71
PLAN NO. M-910

Received MAY 11/87 88 CS

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

41P14NE0055 2.14034 HALLIDAY

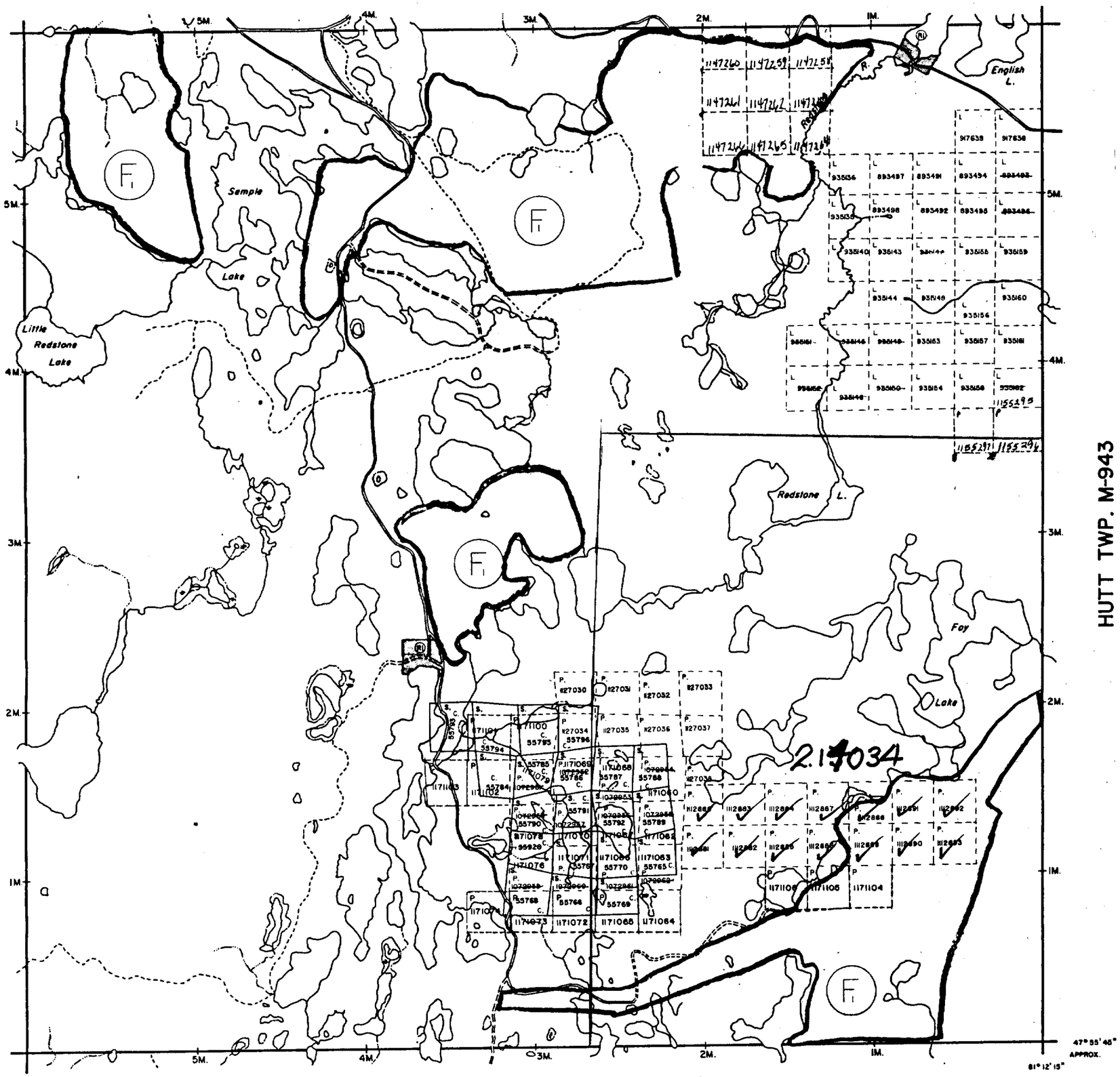
210

ENGLISH TWP. M-787

MOHER TWP. M-868

HUTT TWP. M-943

SOTHMAN TWP. M-1121



NOTES

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

(F) THIS TWP. IS SUBJECT TO FOREST ACTIVITIES IN 1990 FURTHER INFORMATION AVAILABLE ON FILE.

Areas withdrawn from staking under Section 43 of the Mining Act(R.S.O. 1970)

Order	File	Date	Disposition
(R) W.19 / 78	188543	10 / 4 / 78	S.R.O.

DEC 27 1990

ACTIVATED APRIL 24, 1990 D.C.

LEGEND

PATENTED LAND	(P) or ●*
PATENTED FOR SURFACE RIGHTS ONLY	◓*
LEASE	(L)
LICENSE OF OCCUPATION	L.O.
CROWN LAND SALES	C.S.
LOCATED LAND	Loc.
CANCELLED	C.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
HIGHWAY & ROUTE NO.	(17)
ROADS	
TRAILS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	

*used only with summer resort locations or when space is limited

TOWNSHIP OF

SEMPLE

DISTRICT OF
SUDBURY

PORCUPINE
MINING DIVISION

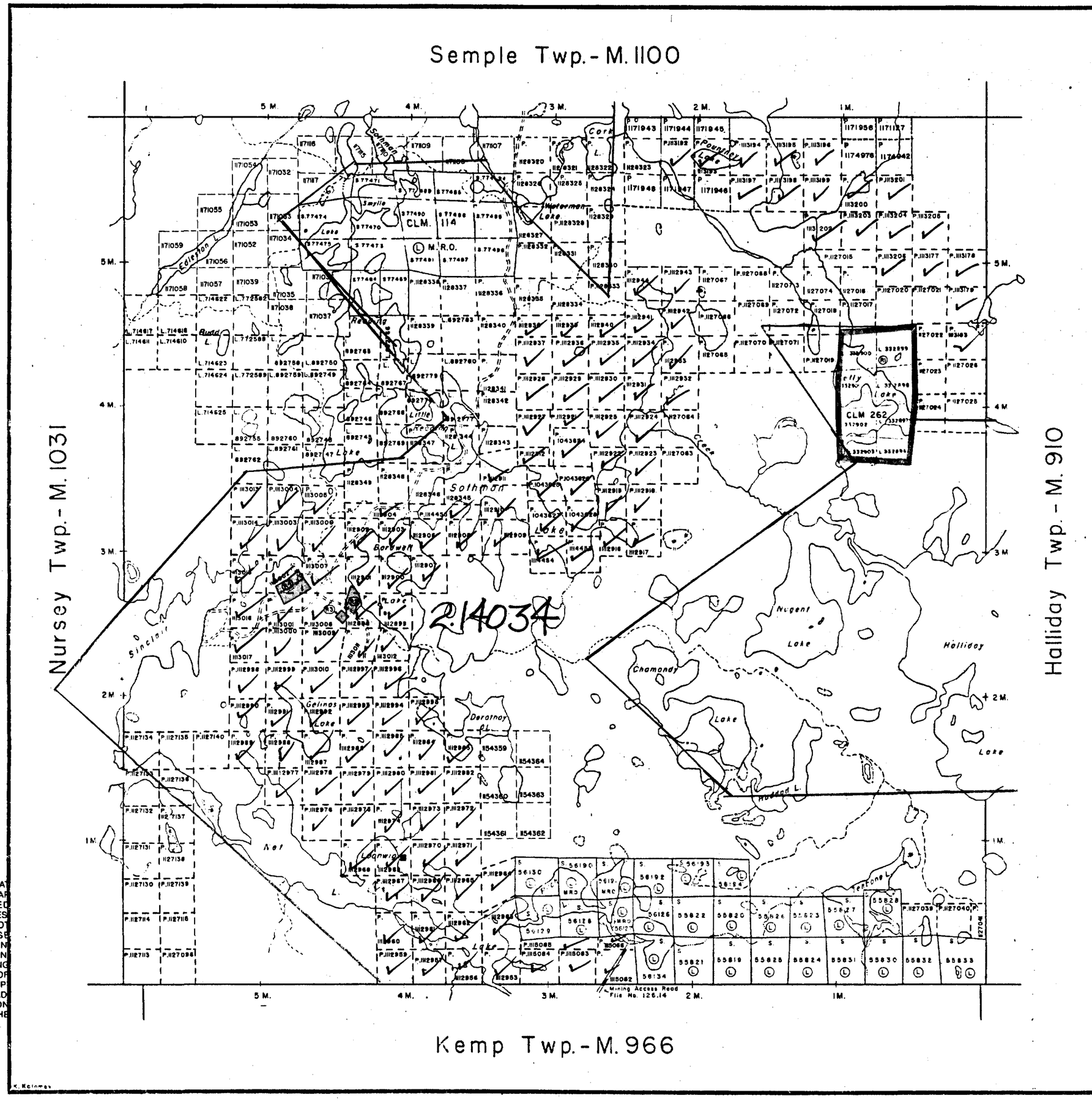
SCALE : 1 INCH = 40 CHAINS (1/2 MILE)

DR. R.W. NOBLE
DATE APR. 22, 71
PLAN NO. M-1100

ONTARIO
DEPARTMENT OF MINES
AND NORTHERN AFFAIRS

41P14NE0055 2.14034 HALLIDAY

220



THE TOWNSHIP OF

SOTHMAN

DISTRICT OF SUDBURY

PORCUPINE MINING DIVISION

SCALE: 1-INCH=40 CHAINS

LEGEND

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

NOTES

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

Flooding Rights -- L.O. 7191 File No.1162 vol. 4

Areas withdrawn from staking under Section 43 of the Mining Act (R.S.O. 1970)

	Order No.	File	Date	Disposition
R1	W 49/84	CLM 262	22/2/84	M.R.O.
R2	Waste Disposal Site Buffer Zone		2/9/81	
R3	W 89/81	188517	28/8/81	S.R.O.
R4	M.N.R. Gravel Reserve	3C37		

■ Trapline Cabin

PORCUPINE MINING DIVISION
RECEIVED
MAR 1 1991

ACTIVATED APRIL 25, 1990 D.C.

PLAN NO.- M-1121

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

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.

41P14NE0055 2.14034 HALLIDAY
230

Semple Twp.- M.1100

Nursey Twp.- M.1031

Halliday Twp.- M.910

Kemp Twp.- M.966

THE TOWNSHIP OF

SOTHMAN

DISTRICT OF SUDBURY

PORCUPINE

MINING DIVISION

SCALE: 1-INCH=40 CHAINS

LEGEND

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

NOTES

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

Flooding Rights– L.O. 7191 File № 1162 vol. 4.

Areas withdrawn from staking under Section 53 of the Mining Act (R.S.O. 1970).

Order No.	File	Date	Disposition
(R1) W.49/84	CLM 262	22/2/84	M.R.O.
(R2) Waste Disposal Site Buffer Zone		2/9/81	
(R3) W.89/81	188517	28/8/81	S.R.O.
(R4) MNR GRAVEL RESERVE	3037		

■ Trapline Cabin

RECEIVED
APR 5 1988
#18

PLAN NO. M-1121

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

41P14NE0055 2.14034 HALLIDAY
240
K. Katamay

Falconbridge Ltd claims staked prior to survey

Falconbridge Ltd. 8 claims staked between May 15 - June 6, 1982

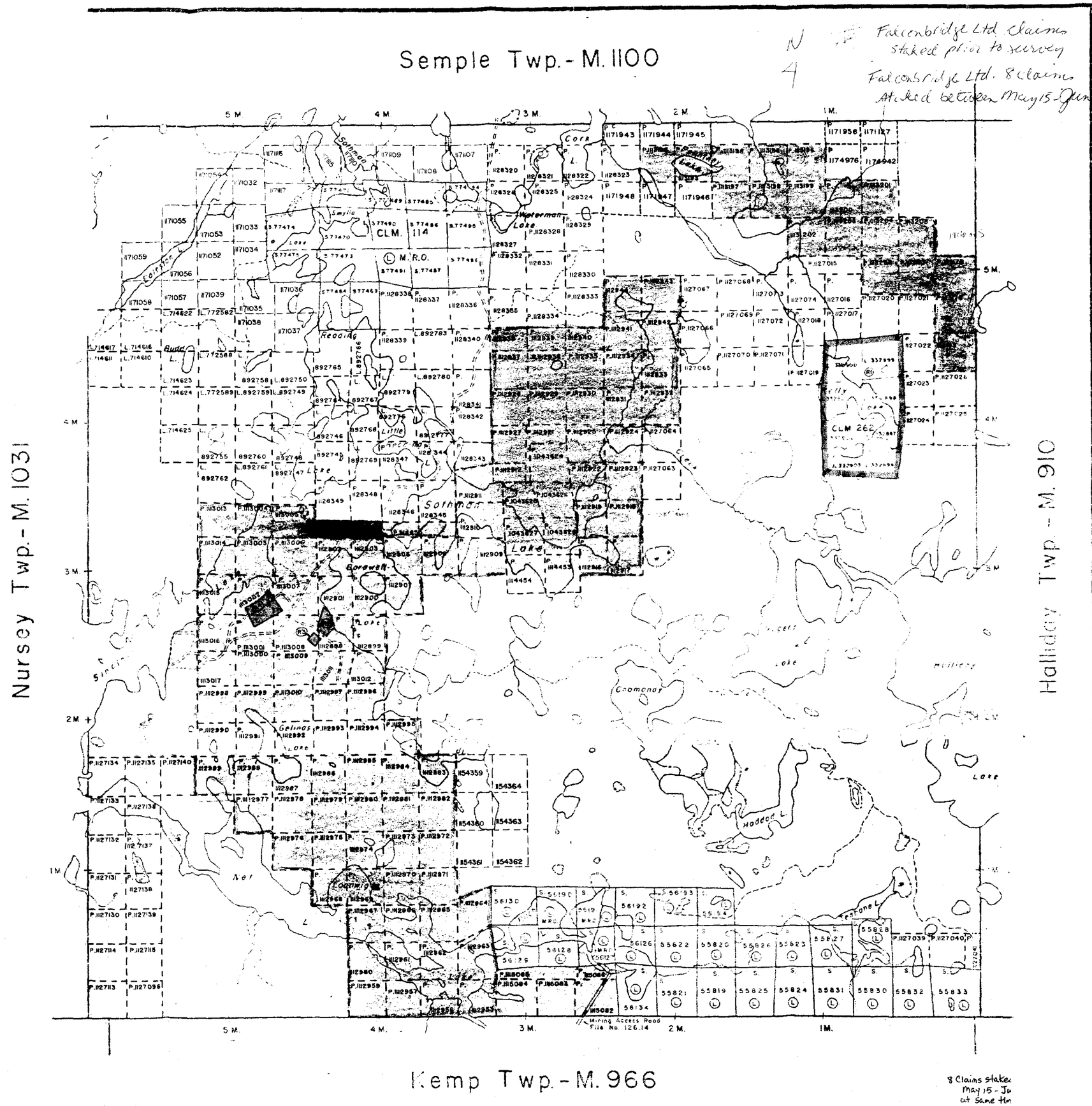
THE TOWNSHIP OF SOTHMAN

DISTRICT OF SUDBURY

PORCUPINE MINING DIVISION

1 INCH = 40 Chains

SCALE: 1-INCH=40 CHA



LEGEND

PATENTED LAND
CROWN LAND SALE
LEASES
LOCATED LAND
LICENSE OF OCCUPATION
MINING RIGHTS ONLY
SURFACE RIGHTS ONLY
ROADS
IMPROVED ROADS
KING'S HIGHWAYS
RAILWAYS
POWER LINES
MARSH OR MUSKEG
MINES
CANCELLED

NOTES

400 [illegible] rights reservation [illegible] shores of all lakes and rivers

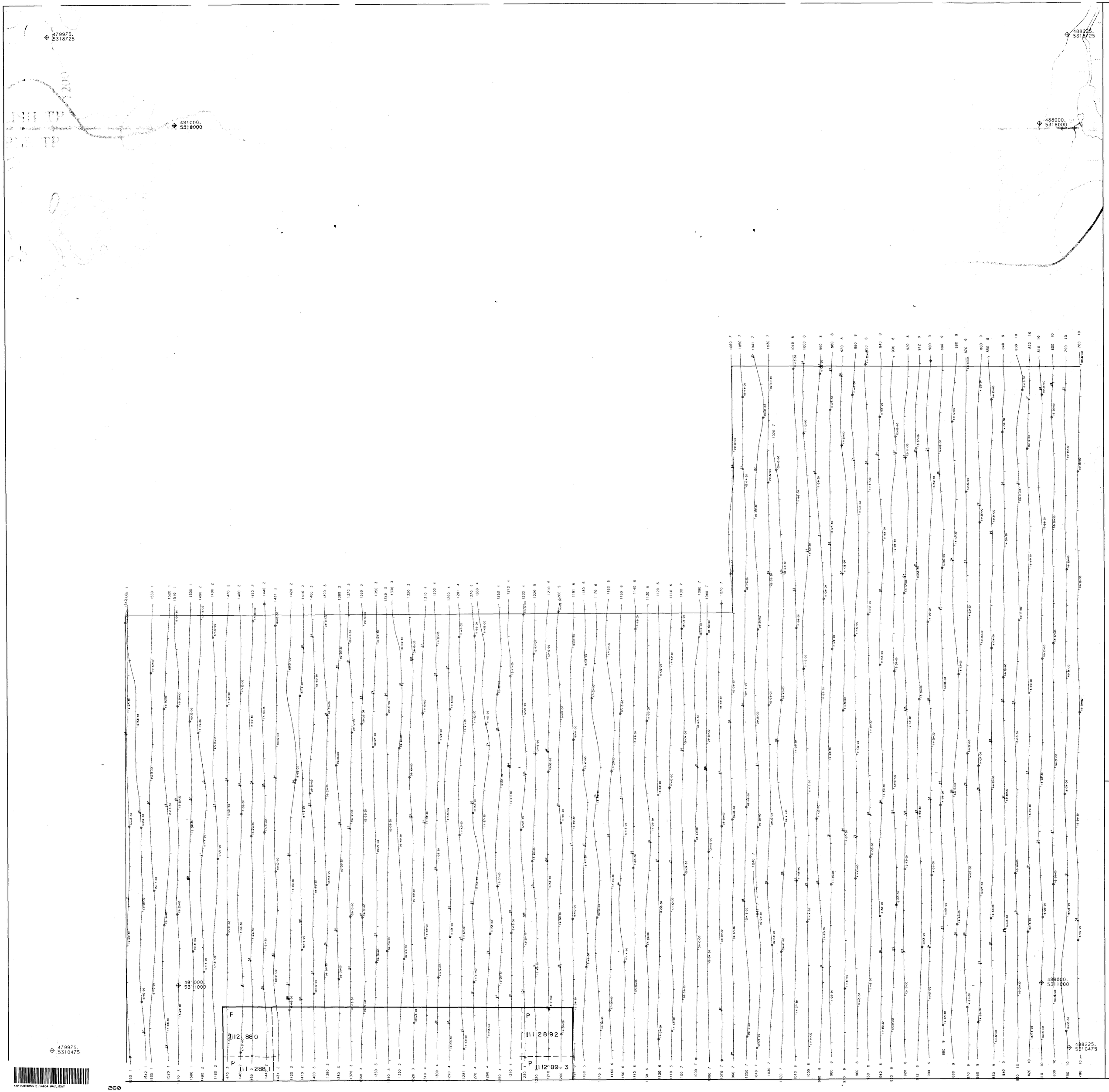
THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON

41P14NE0055 2.14034 HALLIDAY

250

8 Claims staked May 15 - Ju[illegible] at same tim[illegible]

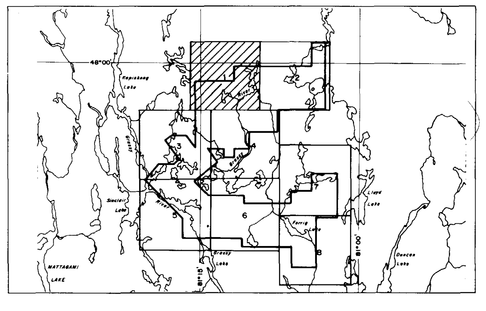
127 Claims stak[illegible]



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m



FALCONBRIDGE LTD

2.140341 FLIGHT PATH

HALLIDAY PROJECT

ONTARIO

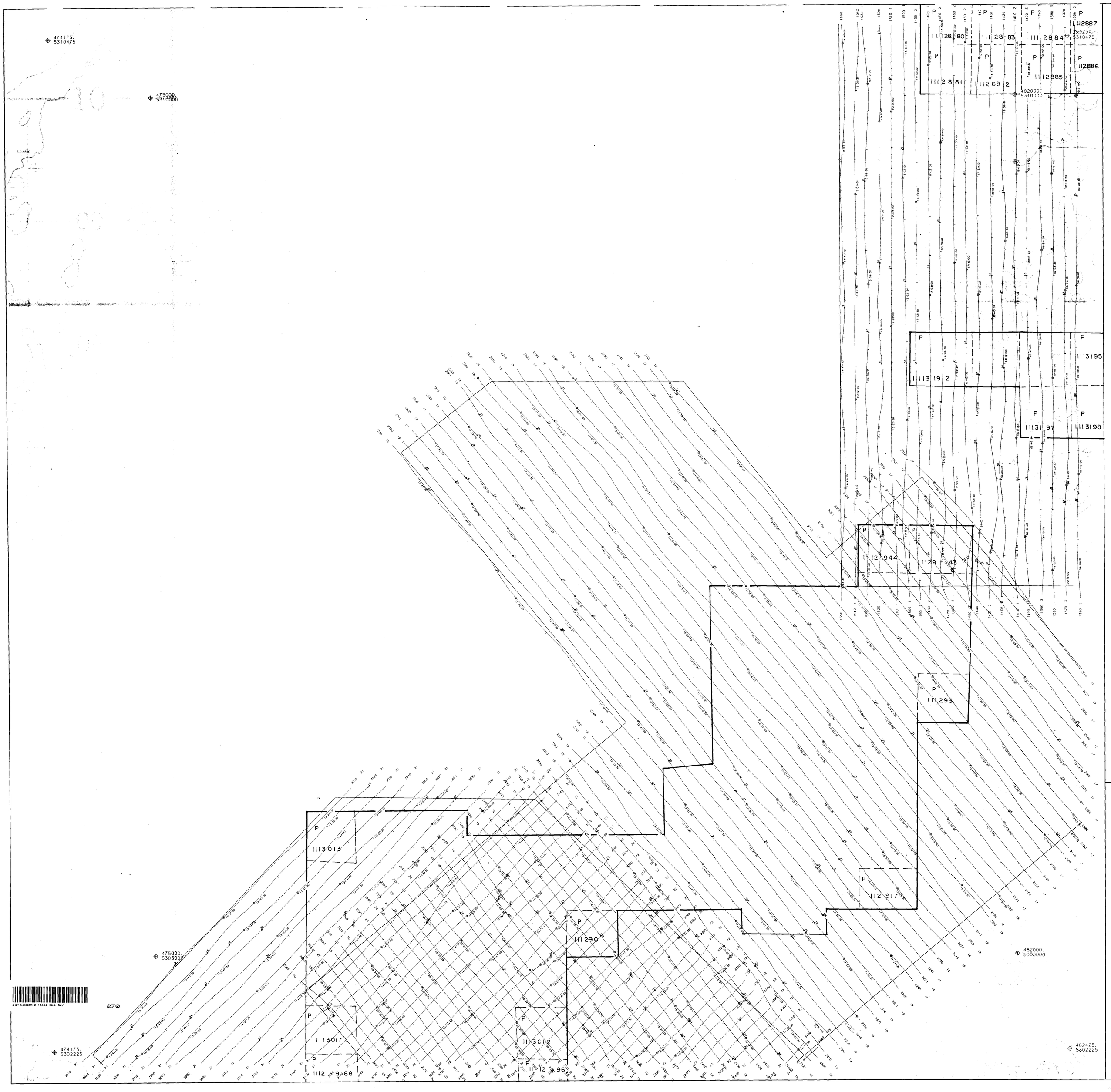
SCALE 1:10,000

0 330 660 1320 26 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

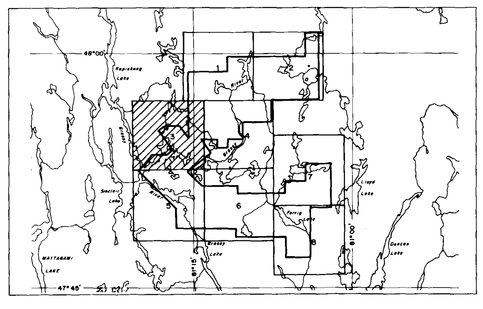
DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	2
	J8927-1



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m



FALCONBRIDGE LTD

FLIGHT PATH

2.14034 I
HALLIDAY PROJECT
ONTARIO

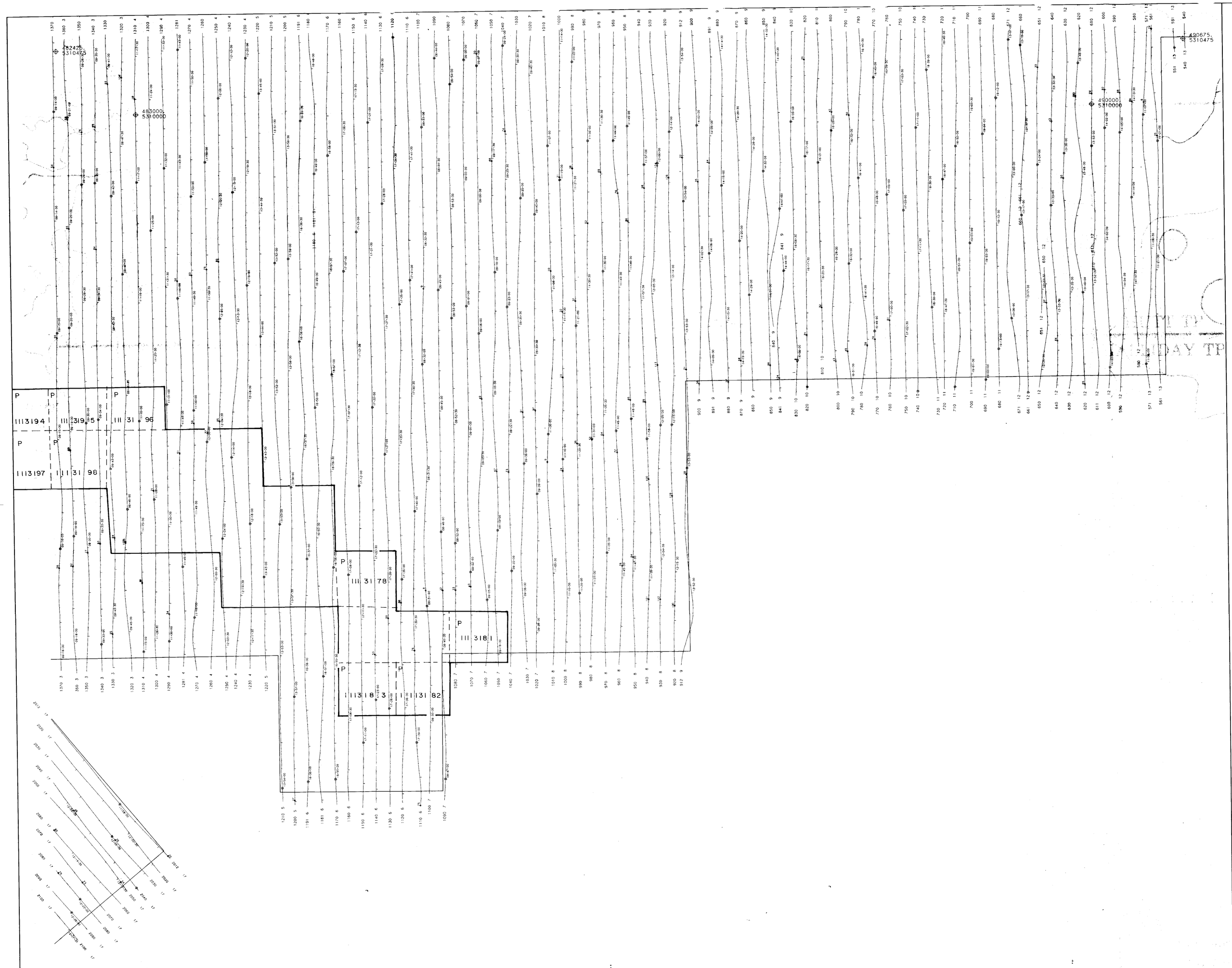
SCALE 1:10,000

0 330 660 1320 2640 Feet
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	2
	J8927-3

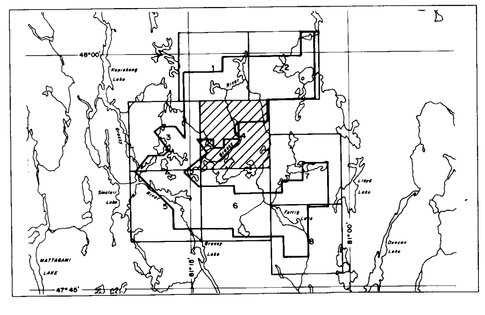
270



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m



FALCONBRIDGE LTD

FLIGHT PATH

2.14034

HALLIDAY PROJECT

ONTARIO

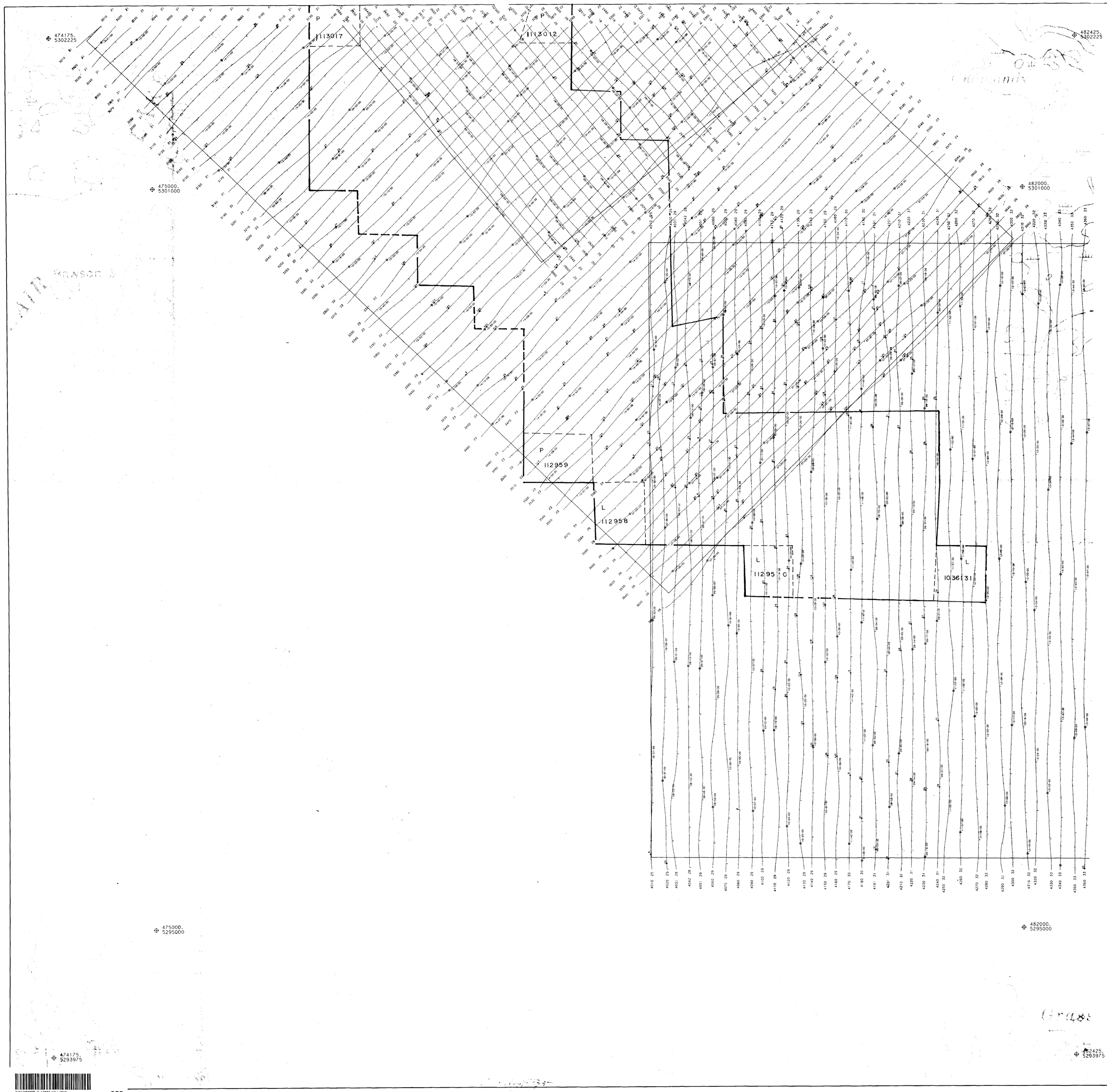
SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

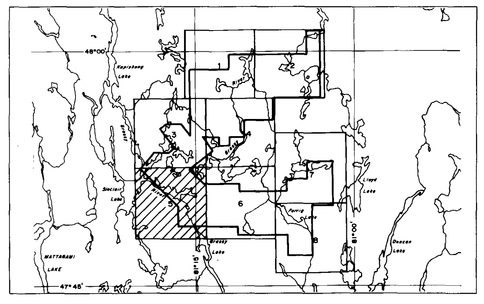
DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	2 J8927-4



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m



FALCONBRIDGE LTD

FLIGHT PATH

2.14034

HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

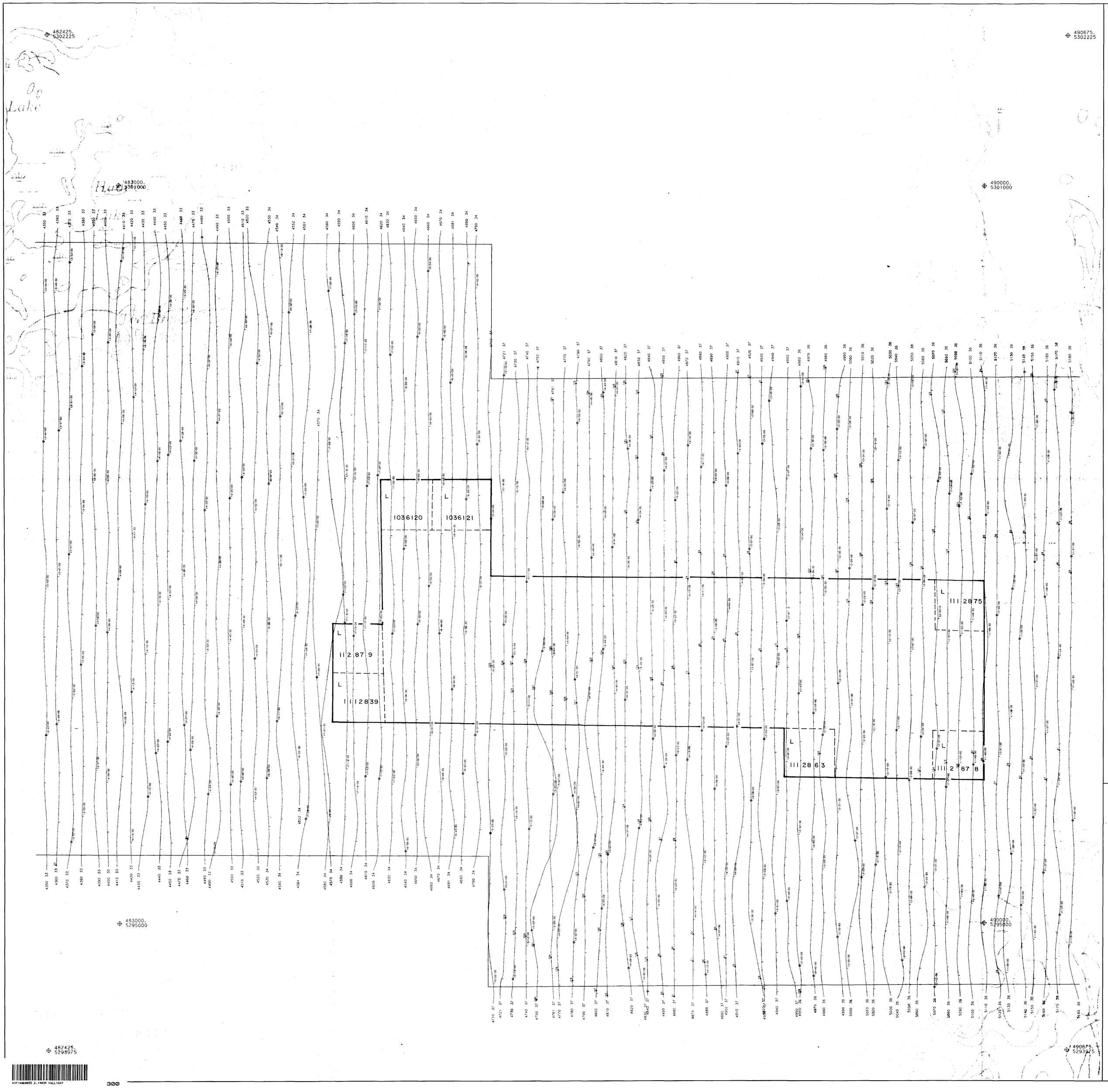
0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	2 J8927-5

41P14NE0055 2.14034 HALLIDAY

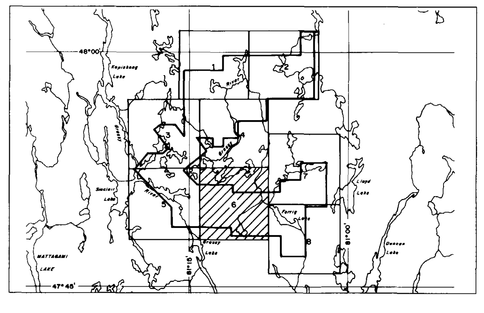


N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m



FALCONBRIDGE LTD

FLIGHT PATH

2.14n34 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

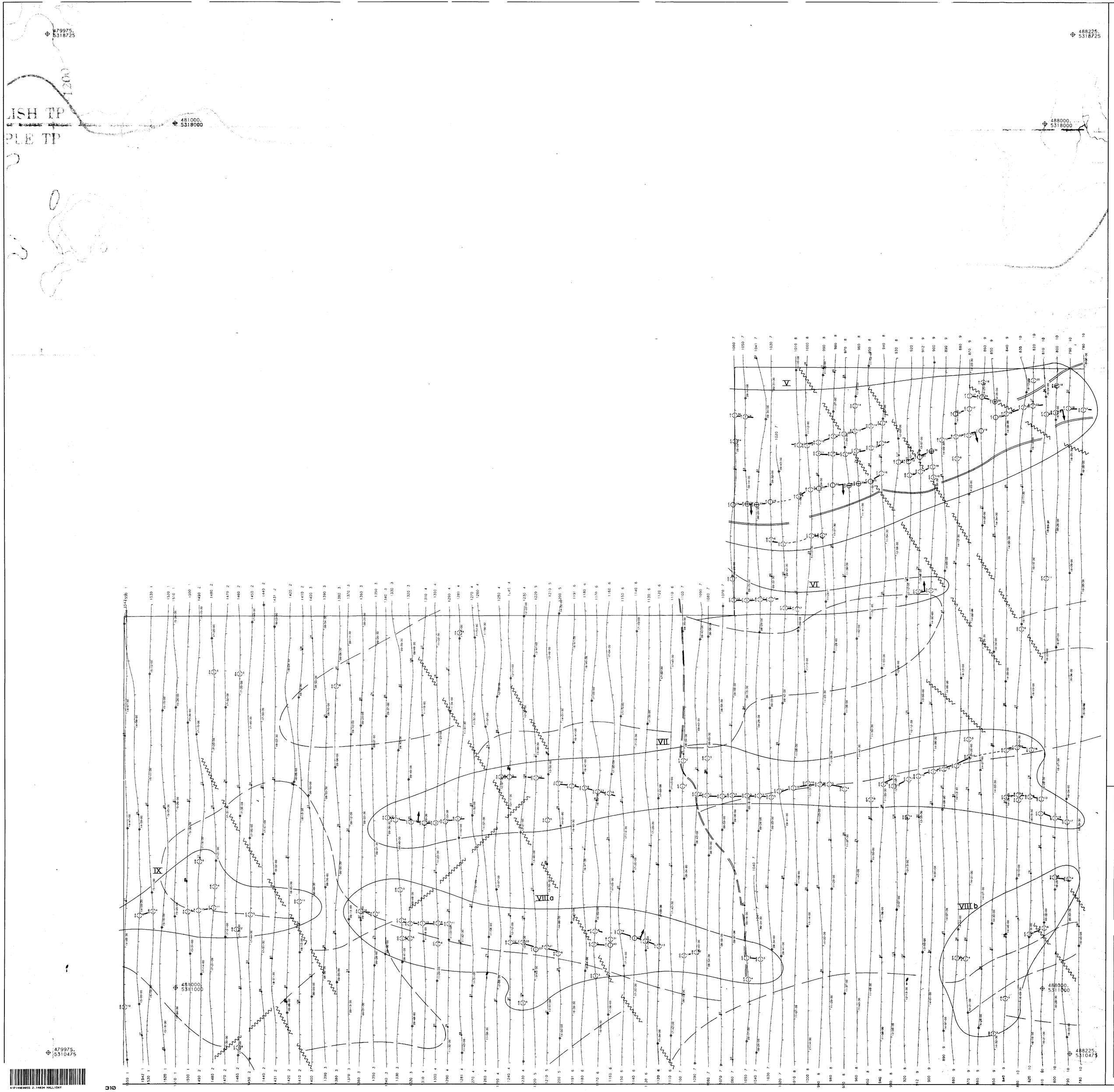
0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	2
	J8927-6

300



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

EM Anomalies

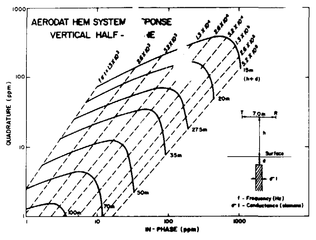
Conductivity Thickness (mhos)

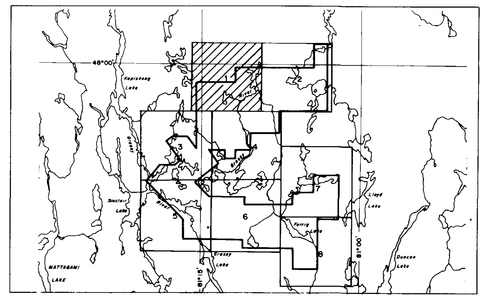
- 0 - 1
- 1 - 2
- 2 - 4
- 4 - 8
- 8 - 15
- 15 - 30
- > 30

EM Anomaly A, 4600 Hz inphase amplitude / ppm. Conductivity thickness (~2 mhos (see code).

INTERPRETATION LEGEND

- Interpreted bedrock conductor axis
- Possible bedrock conductor axis
- Fault
- Conductive Zone
- Direction of dip
- Dike Hvy magnetic anomaly
- Possible dike
- Contacts boundaries





FALCONBRIDGE LTD

INTERPRETATION

2.14034

HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

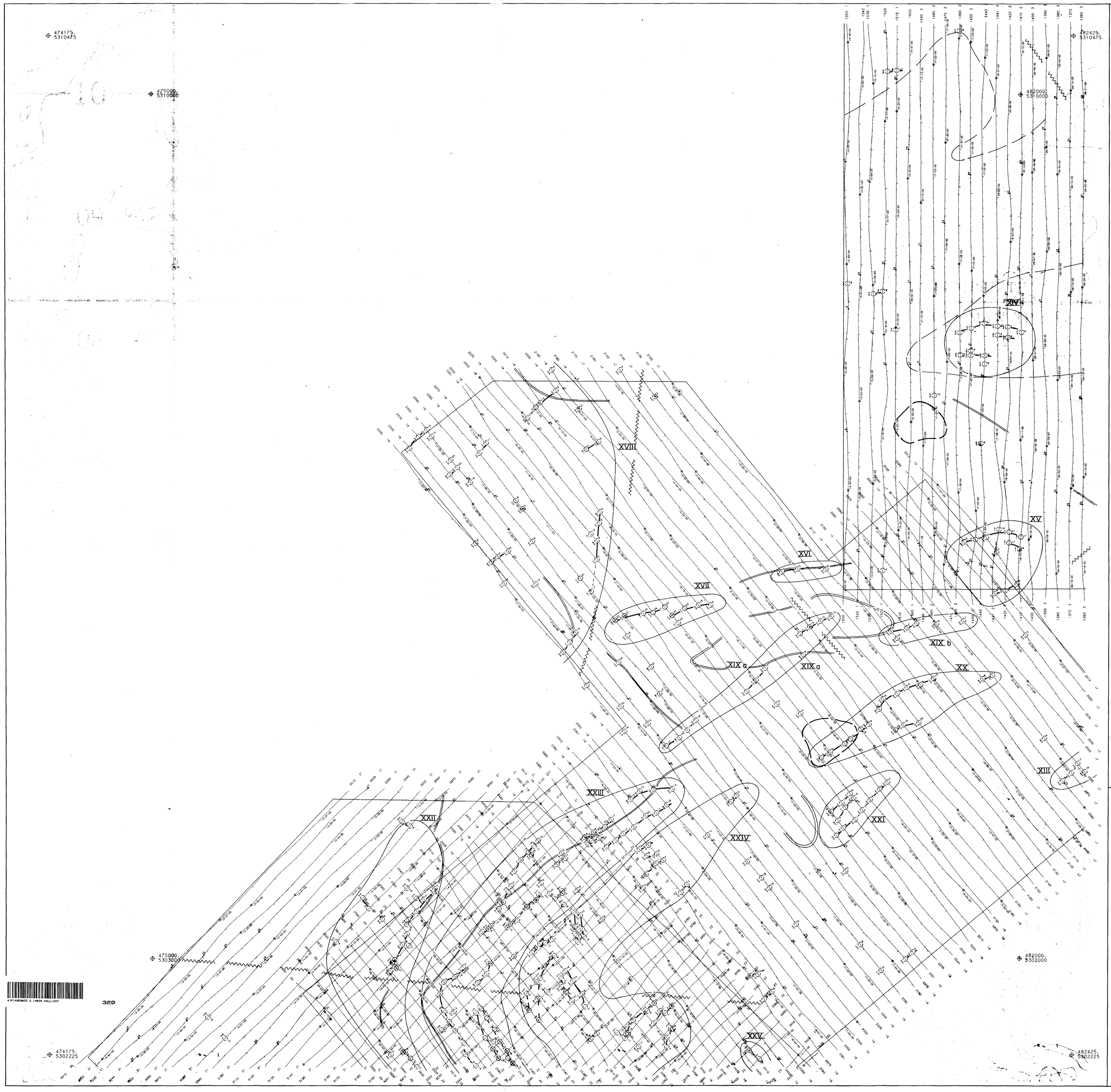
DATE: MAY, 1989

NTS No: 41 P/14

MAP No: 3 J8927-1

41P14NE0055 2.14034 HALLIDAY

310



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

EM Anomalies

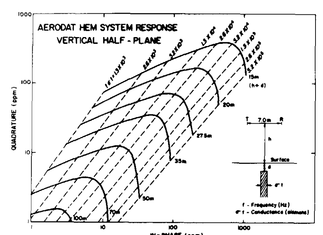
Conductivity Thickness (mhos)

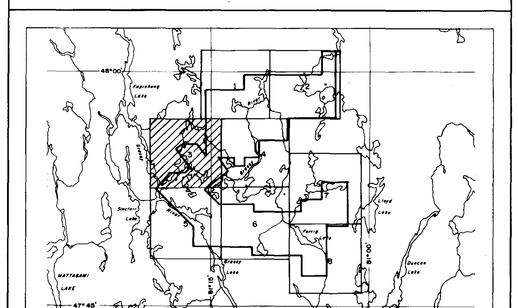
- 0 - 1
- 1 - 2
- 2 - 4
- 4 - 8
- 8 - 15
- 15 - 30
- + 30

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

INTERPRETATION LEGEND

- Interpreted bedrock conductor axis
- Possible bedrock conductor axis
- Fault
- Conductive Zone
- Direction of dip
- Dike-like magnetic anomaly
- Possible dike
- Contacts boundaries
- Possible intrusives





FALCONBRIDGE LTD

INTERPRETATION

2.14034

HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

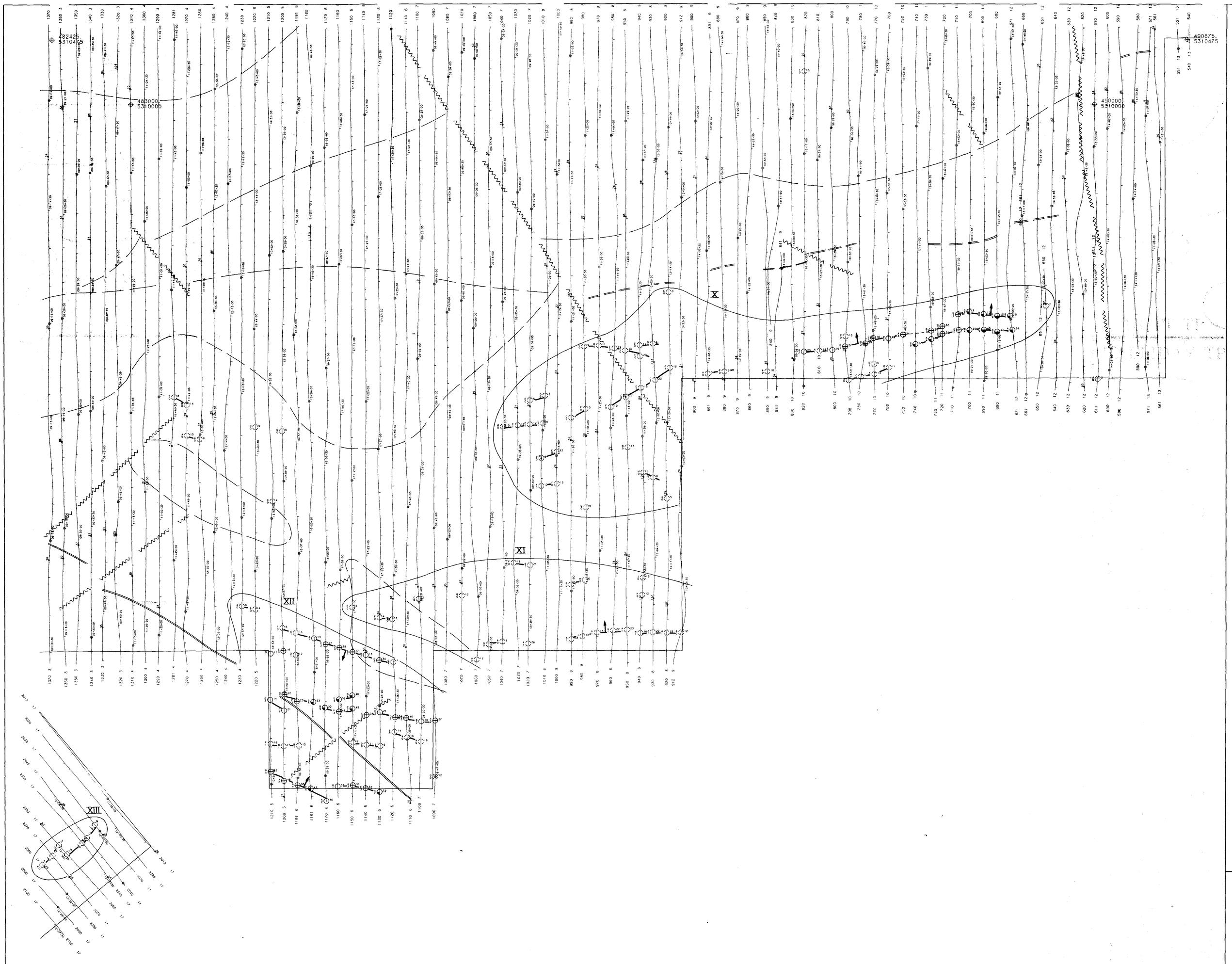
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	3 J8927-3

41P14NE0055 2.14034 HALLIDAY

320



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

EM Anomalies

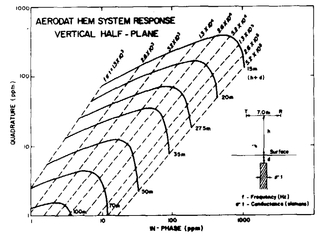
Conductivity Thickness (mhos)

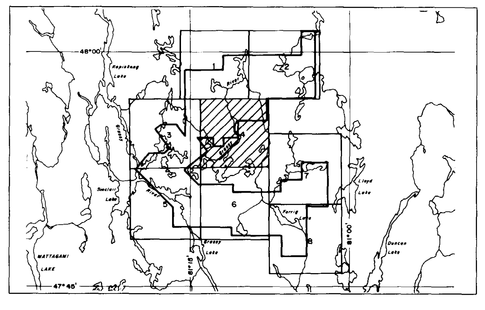
- 0 - 1
- 1 - 2
- 2 - 4
- 4 - 8
- 8 - 15
- 15 - 30
- > 30

EM Anomaly A, 4600 Hz inphase amplitude 7 ppm. Conductivity thickness 12 mhos (see code).

INTERPRETATION LEGEND

- Interpreted bedrock conductor axis
- Possible bedrock conductor axis
- Fault
- Conductive Zone
- Direction of dip
- Dike-like magnetic anomaly
- Possible dike
- Contacts boundaries





FALCONBRIDGE LTD

INTERPRETATION

2.14034

HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

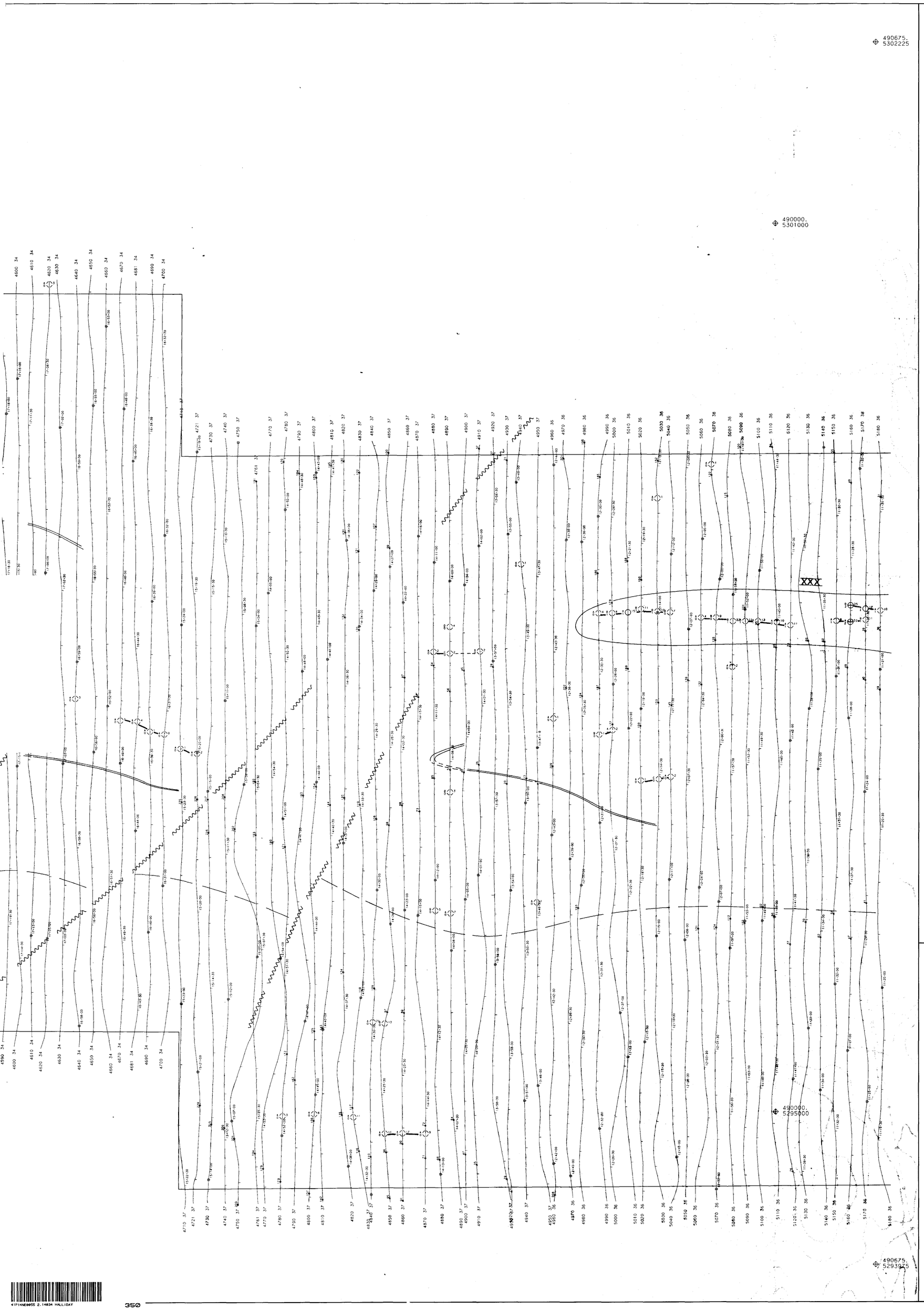
0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	3 J8927-4

N
Flight Path
EM Anomalies
0 - 1
1 - 2
2 - 4
4 - 8
8 - 15
15 - 30
30
EM Anomaly A. 4600 Hz
Inphase amplitude 7 ppm.
Conductivity thickness
2 mhos (see code).
INTERPRETATION LEGEND
Interpreted bedrock conductor axis
Possible bedrock conductor axis
Fault
Conductive Zone
Direction of dip
Dike-like magnetic anomaly
Possible dike
Contacts boundaries
AERODAT HEM SYSTEM RESPONSE
VERTICAL HALF-PLANE
IN-PHASE (ppm)
QUADRATURE (ppm)
Rawson
474175
5302225
482425
5302225
475000
5301000
482000
5301000
475000
5295000
482000
5295000
474175
5293975
482425
5293975
XXII
XXIII
XXIV
XXV
XXVI
XXVII
XXVIII
FALCONBRIDGE LTD
INTERPRETATION
2.14034
HALLIDAY PROJECT
ONTARIO
SCALE 1:10,000
2640 Feet
1000 Metres
AERODAT LIMITED
DATE: MAY, 1989
NTS No: 41 P/14
MAP No: 3
J8927-5
340



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation System.

Average terrain clearance 60m
Average line spacing 100m

EM Anomalies

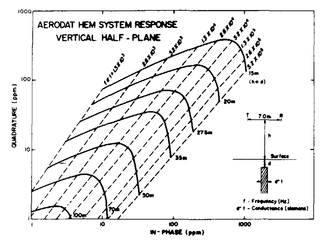
Conductivity Thickness (mhos)

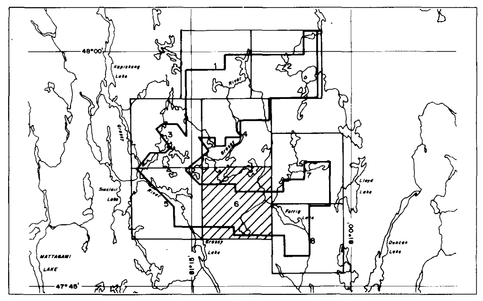
- 0 - 1
- 1 - 2
- 2 - 4
- 4 - 8
- 8 - 15
- 15 - 30
- > 30

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

INTERPRETATION LEGEND

- Interpreted bedrock conductor axis
- Possible bedrock conductor axis
- Fault
- Conductive Zone
- Direction of dip
- Dike-like magnetic anomaly
- Possible dike
- Contacts boundaries





FALCONBRIDGE LTD

INTERPRETATION

2.14034

HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	3 J8927-6

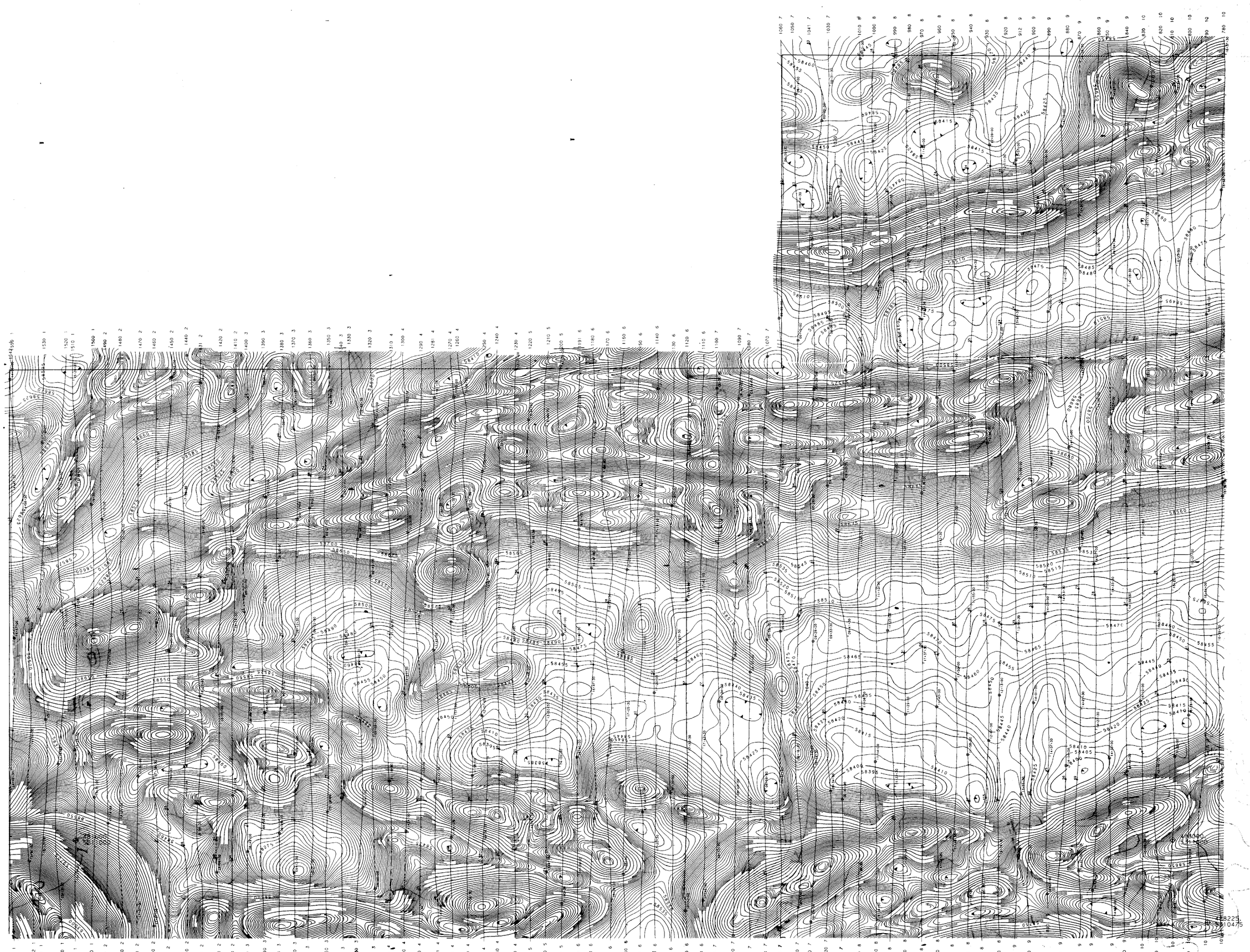
41P14NE0055 2.14034 HALLIDAY

479975.
5318725

488225.
5318725

481000.
5318000

488000.
5318000



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Magnetics

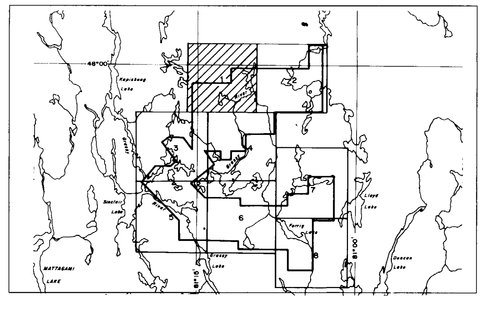
Total Field Magnetic Intensity Contours in nT.

Cesium high sensitivity magnetometer.

Sensor elevation 45m

Map contours are multiples of those listed below

- 5 nT
- 25 nT
- 100 nT
- 500 nT



479975.
5310475

488225.
5310475

FALCONBRIDGE LTD

TOTAL FIELD MAGNETIC CONTOURS

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

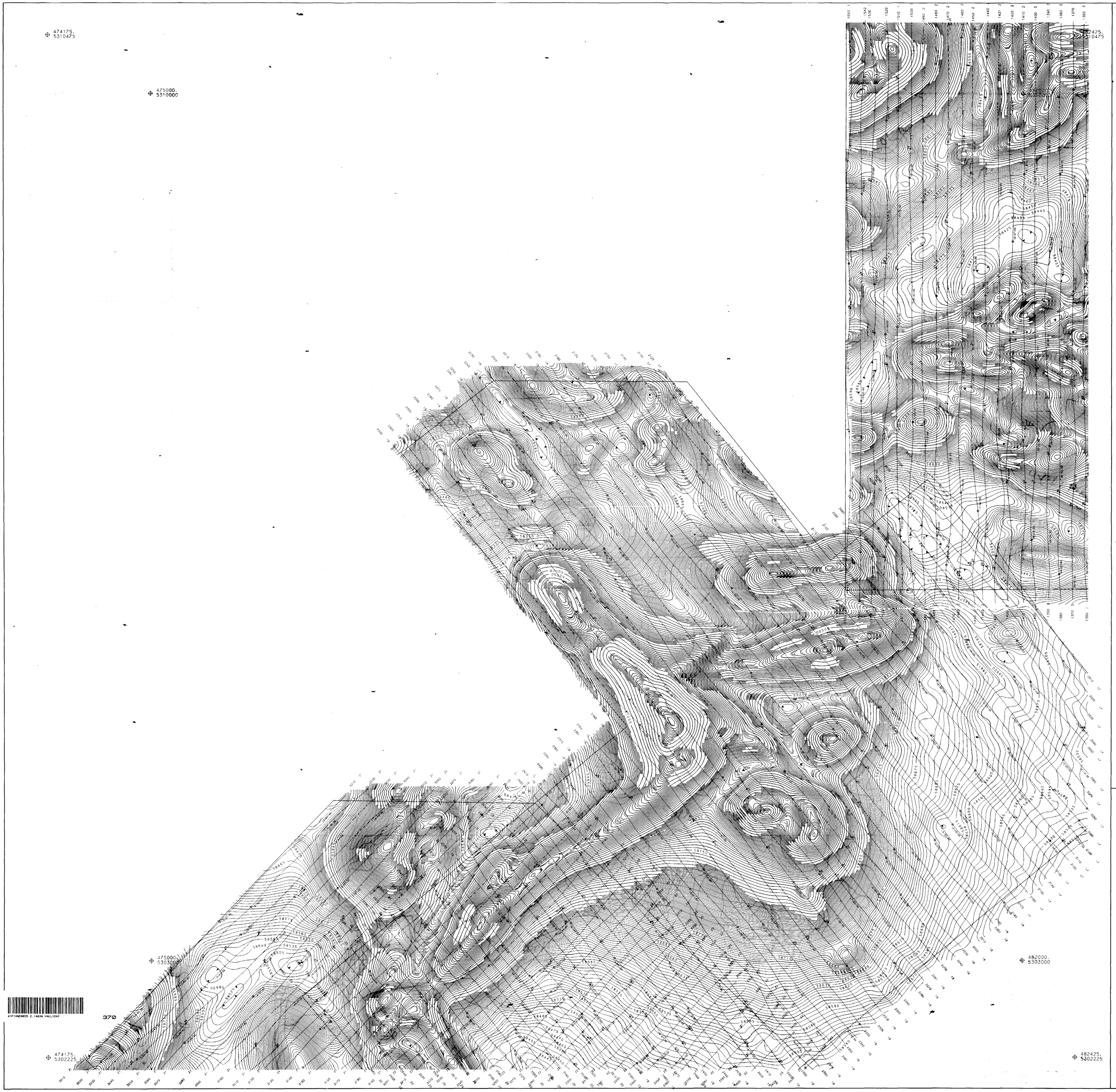
AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	4

J8927-1

41P14NE0055 2.14034 HALLIDAY

360



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Magnetics

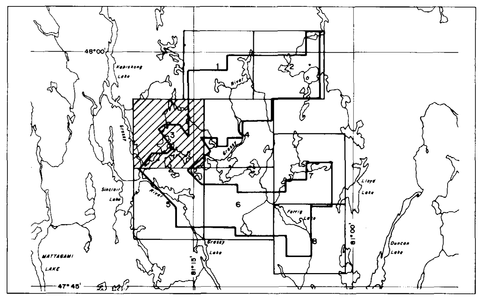
Total Field Magnetic Intensity Contours in nT.

Cesium high sensitivity magnetometer.

Sensor elevation 45m

Map contours are multiples of those listed below.

- 5 nT
- 25 nT
- 100 nT
- 500 nT



FALCONBRIDGE LTD

TOTAL FIELD MAGNETIC CONTOURS

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

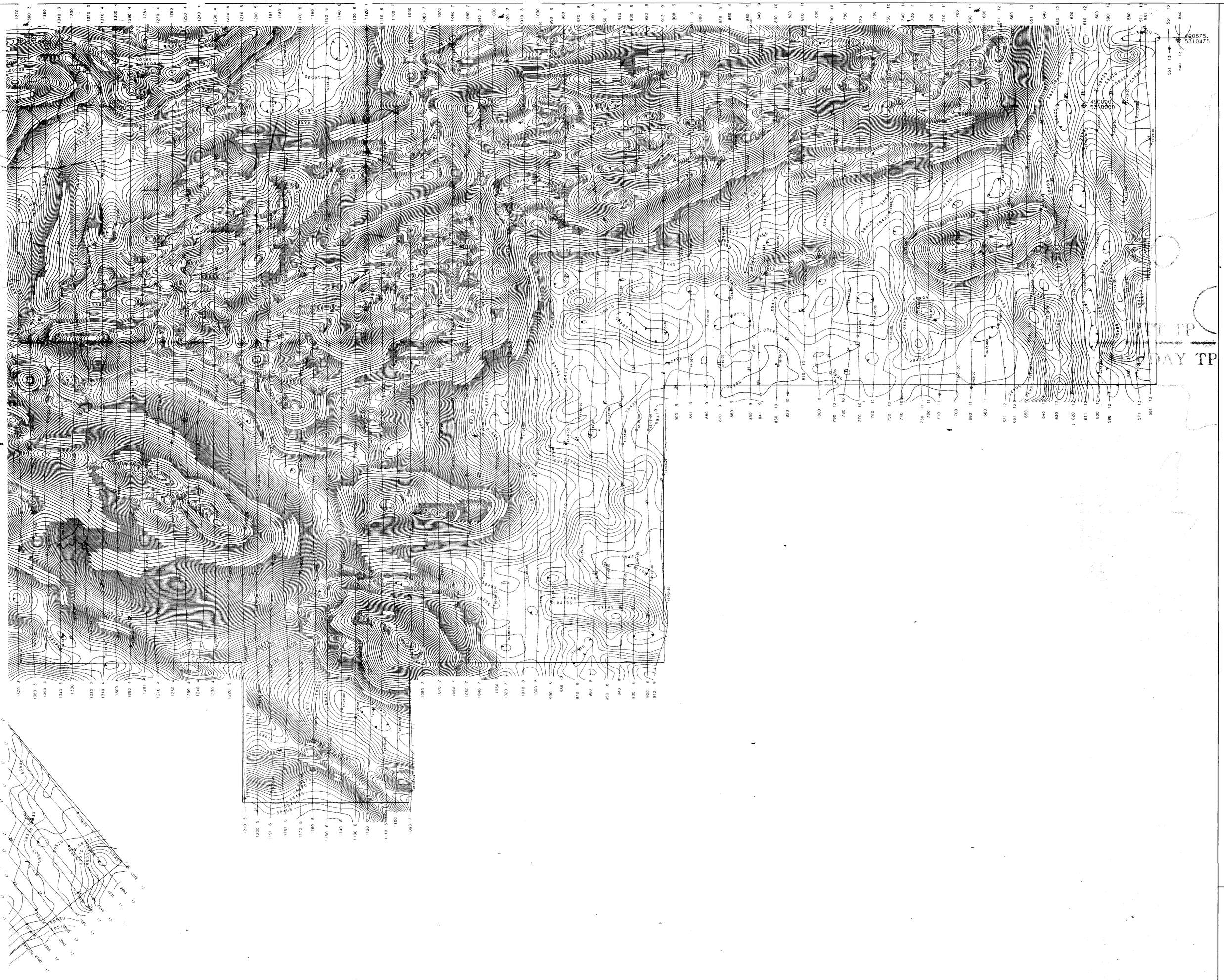
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	4 J8927-3

370

41P14NW003 2.14034 HALLIDAY



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Magnetics

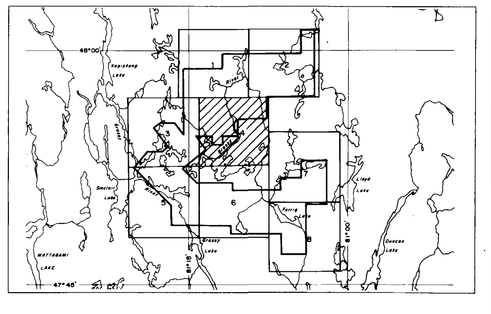
Total Field Magnetic Intensity Contours in nT.

Cesium high sensitivity magnetometer.

Sensor elevation 45m

Map contours are multiples of those listed below

- 5 nT
- 25 nT
- 100 nT
- 500 nT



FALCONBRIDGE LTD

TOTAL FIELD MAGNETIC CONTOURS

2.14034

HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	4
	J8927-4

380

N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Magnetics

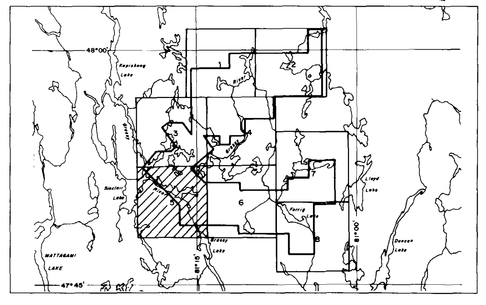
Total Field Magnetic Intensity Contours in nT.

Cesium high sensitivity magnetometer.

Sensor elevation 45m

Map contours are multiples of those listed below

- 5 nT
- 25 nT
- 100 nT
- 500 nT



FALCONBRIDGE LTD

TOTAL FIELD MAGNETIC CONTOURS

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

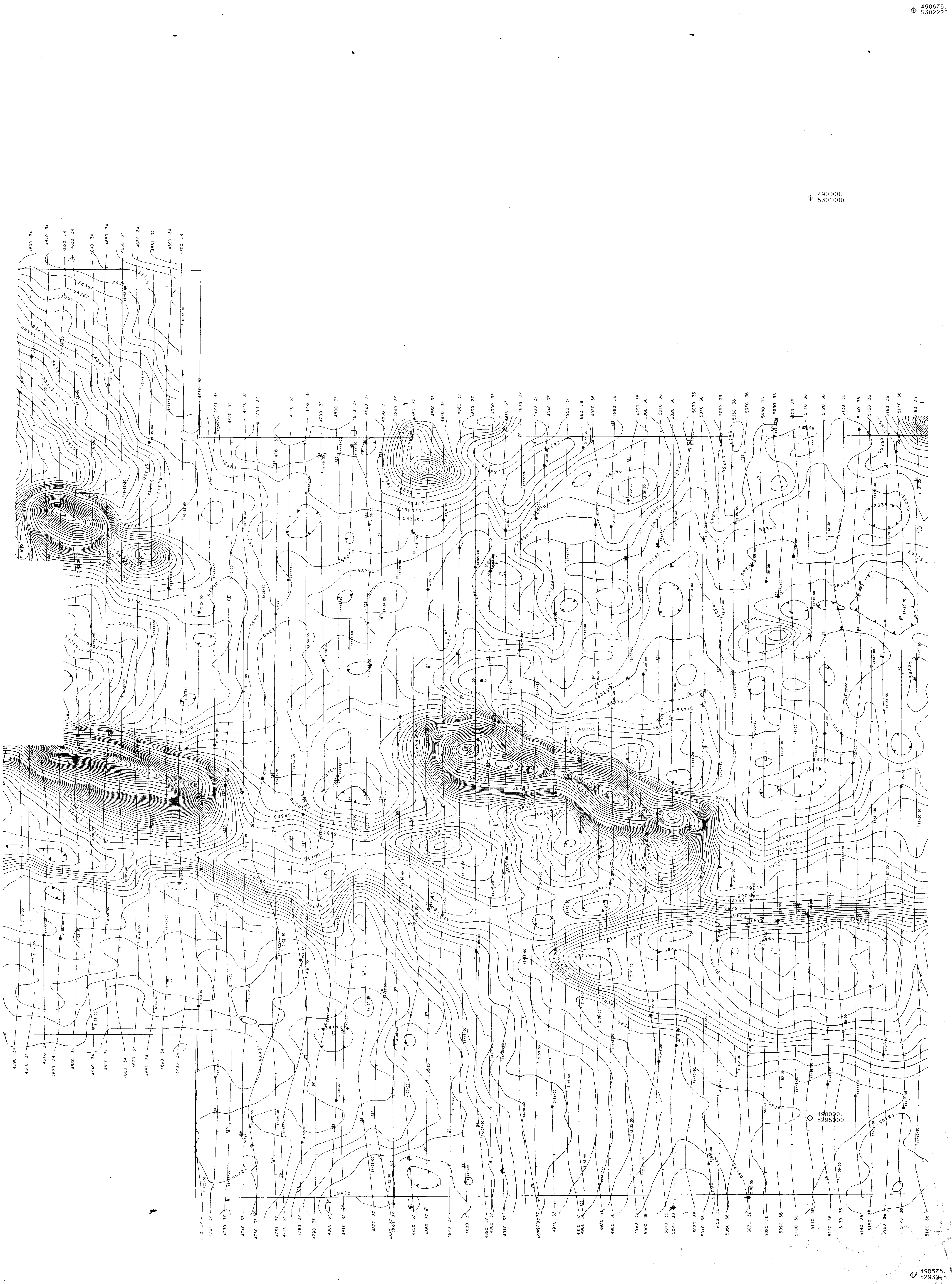
AERODAT LIMITED

DATE:	MAY, 1989
NTS NO:	41 P/14
MAP NO:	4

J8927-5

41P14NE0055 2.14034 HALLIDAY

390



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Magnetics

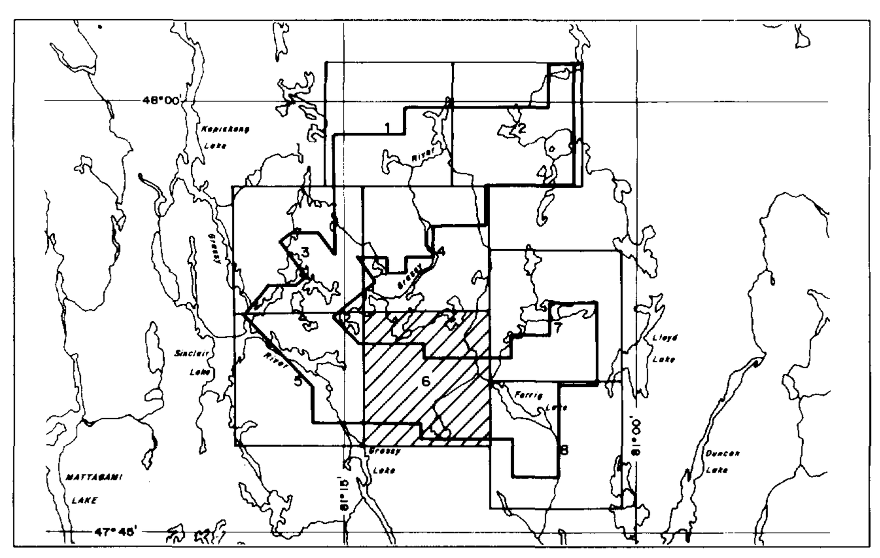
Total Field Magnetic Intensity Contours in nT.

Cesium high sensitivity magnetometer.

Sensor elevation 45m

Map contours are multiples of those listed below

5 nT
25 nT
100 nT
500 nT



FALCONBRIDGE LTD

TOTAL FIELD MAGNETIC CONTOURS

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

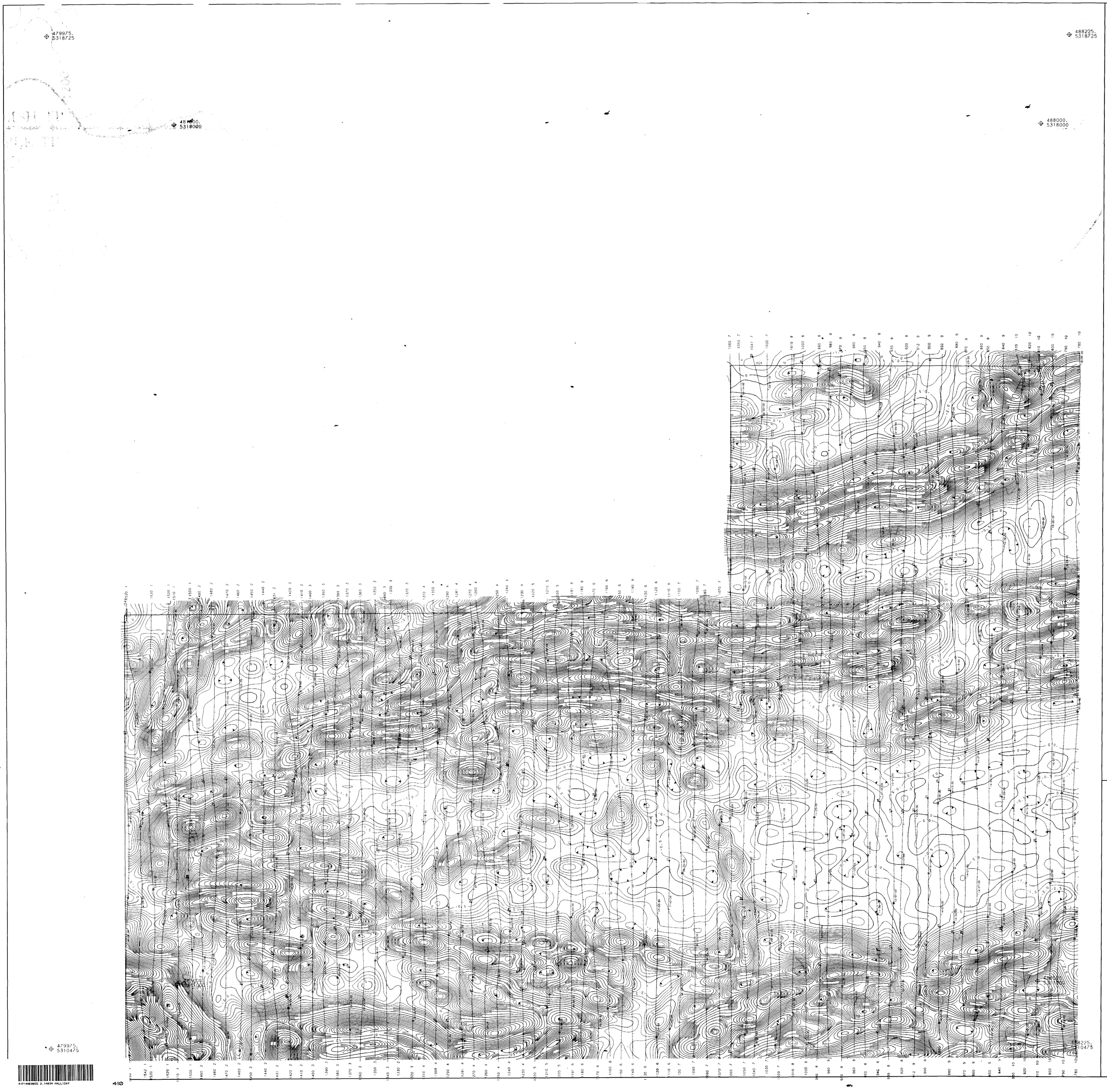
0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	4 J8927-6

400



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Vertical Gradient

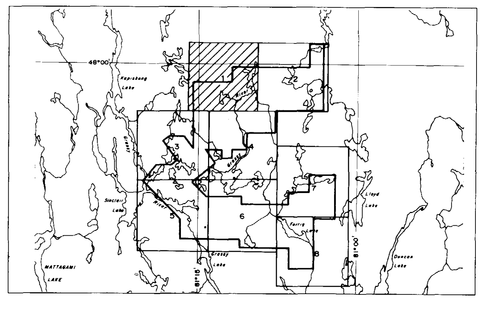
Vertical Magnetic Gradient calculated from the total field magnetic intensity in nT/m.

Cesium high sensitivity magnetometer.

Sensor elevation 45m

Map contours are multiples of those listed below

- 0.5 nT/m
- 2.5 nT/m
- 10 nT/m
- 50 nT/m



FALCONBRIDGE LTD

CALCULATED VERTICAL MAGNETIC GRADIENT

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

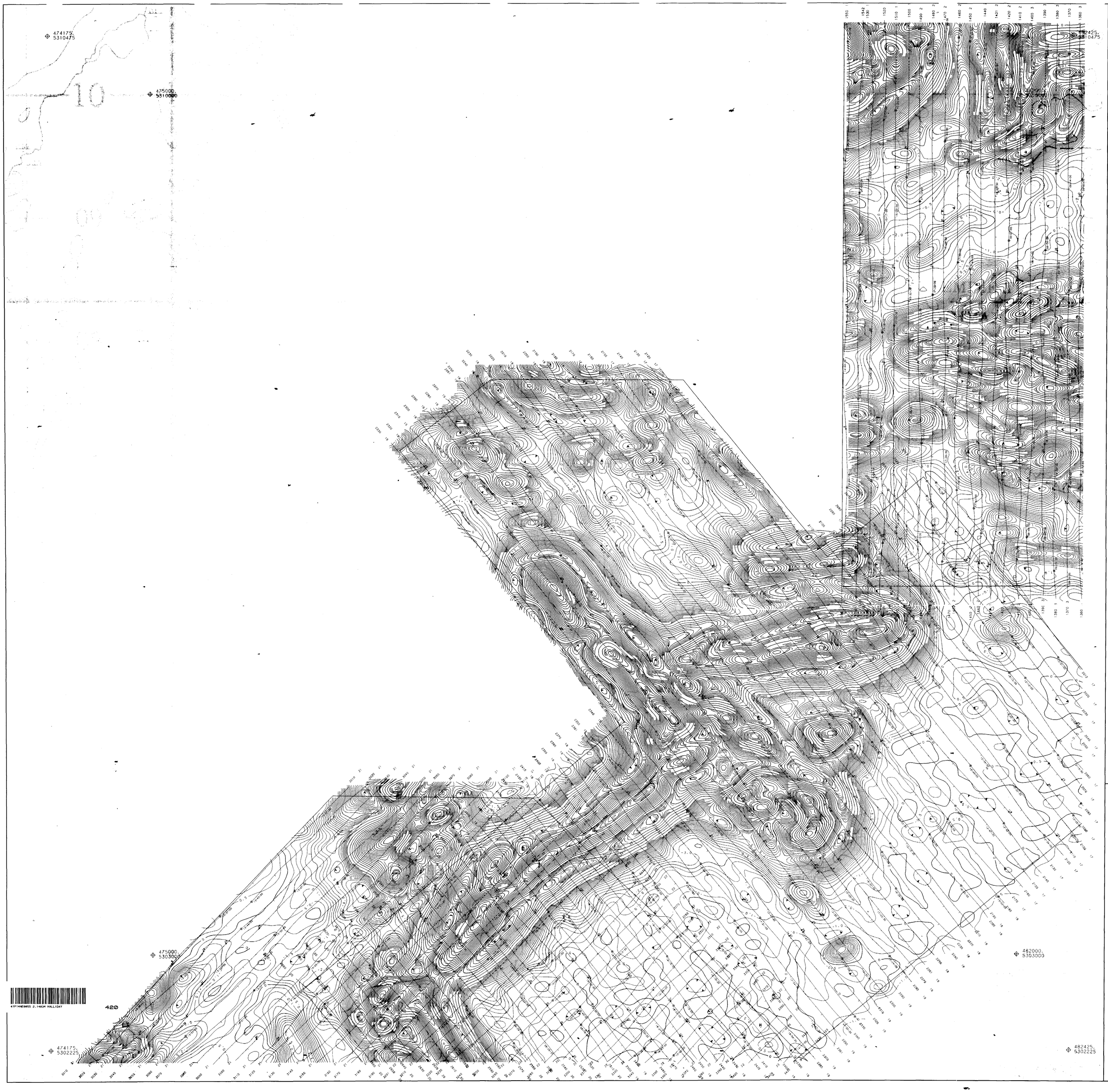
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	5
	J8927-1

479975.
5310475

410



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Vertical Gradient

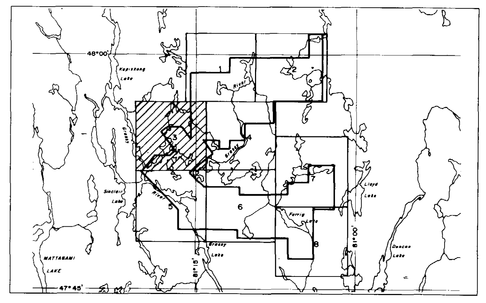
Vertical Magnetic Gradient calculated from the total field magnetic intensity in nT/m.

Cesium high sensitivity magnetometer.

Sensor elevation 45m

Map contours are multiples of those listed below

- 0.5 nT/m
- 2.5 nT/m
- 10 nT/m
- 50 nT/m



FALCONBRIDGE LTD

CALCULATED VERTICAL MAGNETIC GRADIENT

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

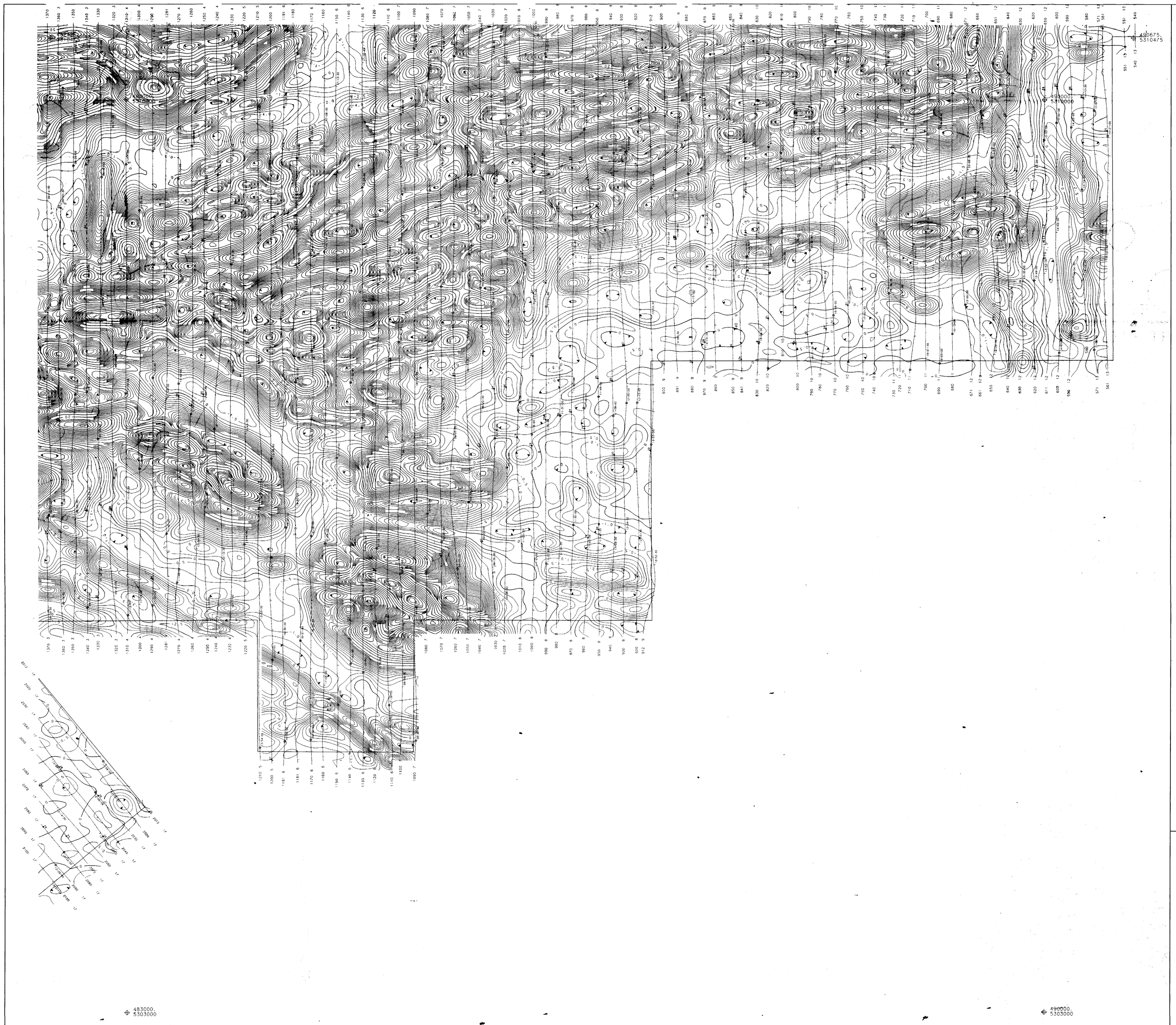
AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	5

J8927-3

420

41P14NE0005 2.14034 HALLIDAY



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Vertical Gradient

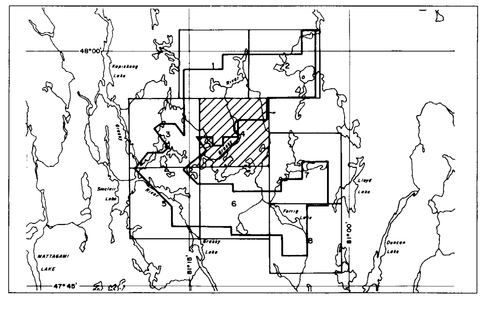
Vertical Magnetic Gradient calculated from the total field magnetic intensity in nT/m.

Cesium high sensitivity magnetometer.

Sensor elevation 45m

Map contours are multiples of those listed below

- 0.5 nT/m
- 2.5 nT/m
- 10 nT/m
- 50 nT/m



FALCONBRIDGE LTD

CALCULATED VERTICAL MAGNETIC GRADIENT

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

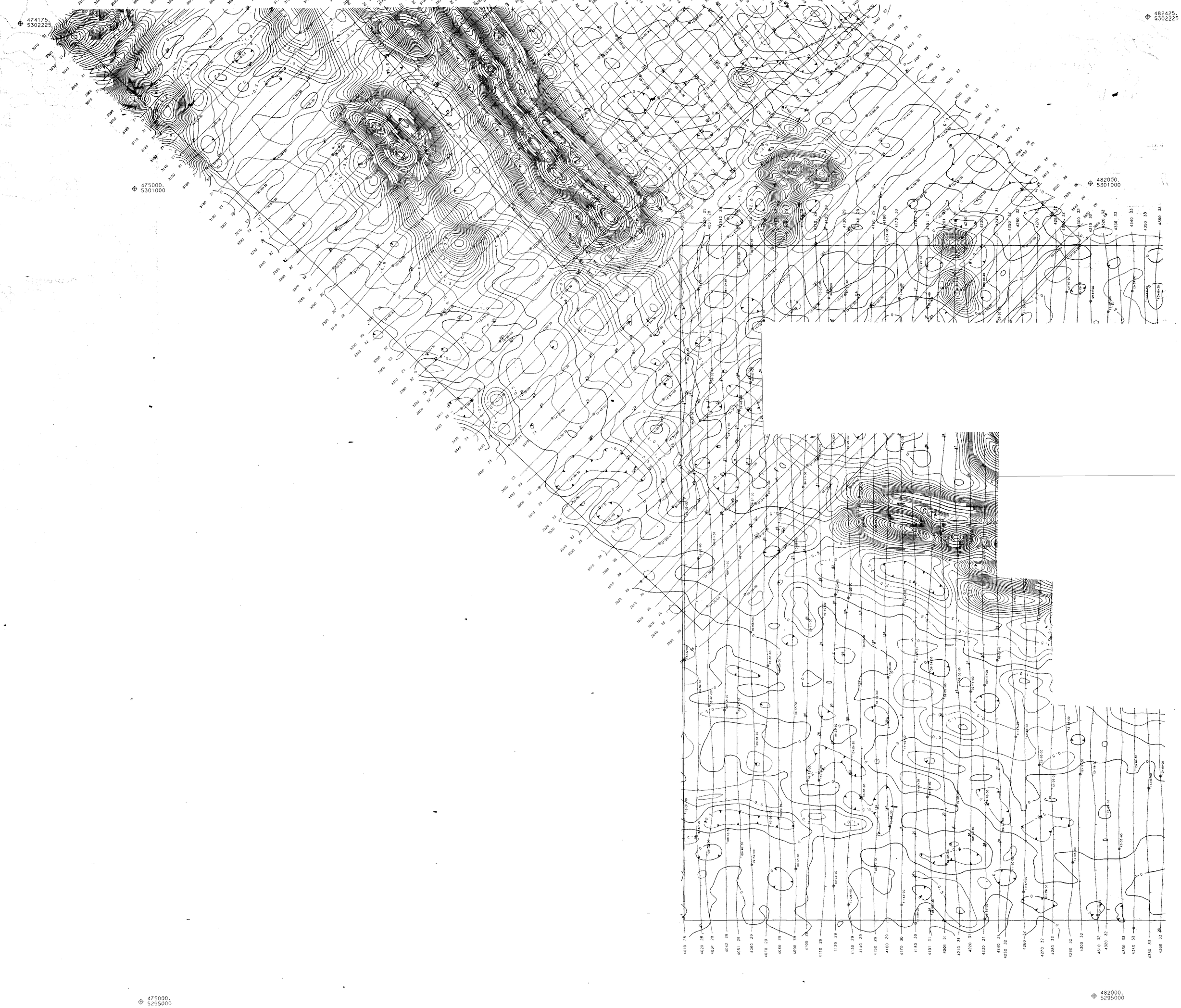
0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	5 J8927-4

430



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Vertical Gradient

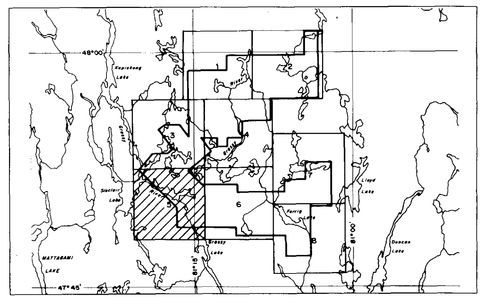
Vertical Magnetic Gradient calculated from the total field magnetic intensity in nT/m.

Cesium high sensitivity magnetometer.

Sensor elevation 45m

Map contours are multiples of those listed below

- 0.5 nT/m
- 2.5 nT/m
- 10 nT/m
- 50 nT/m



FALCONBRIDGE LTD

CALCULATED VERTICAL MAGNETIC GRADIENT

2.14034

HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

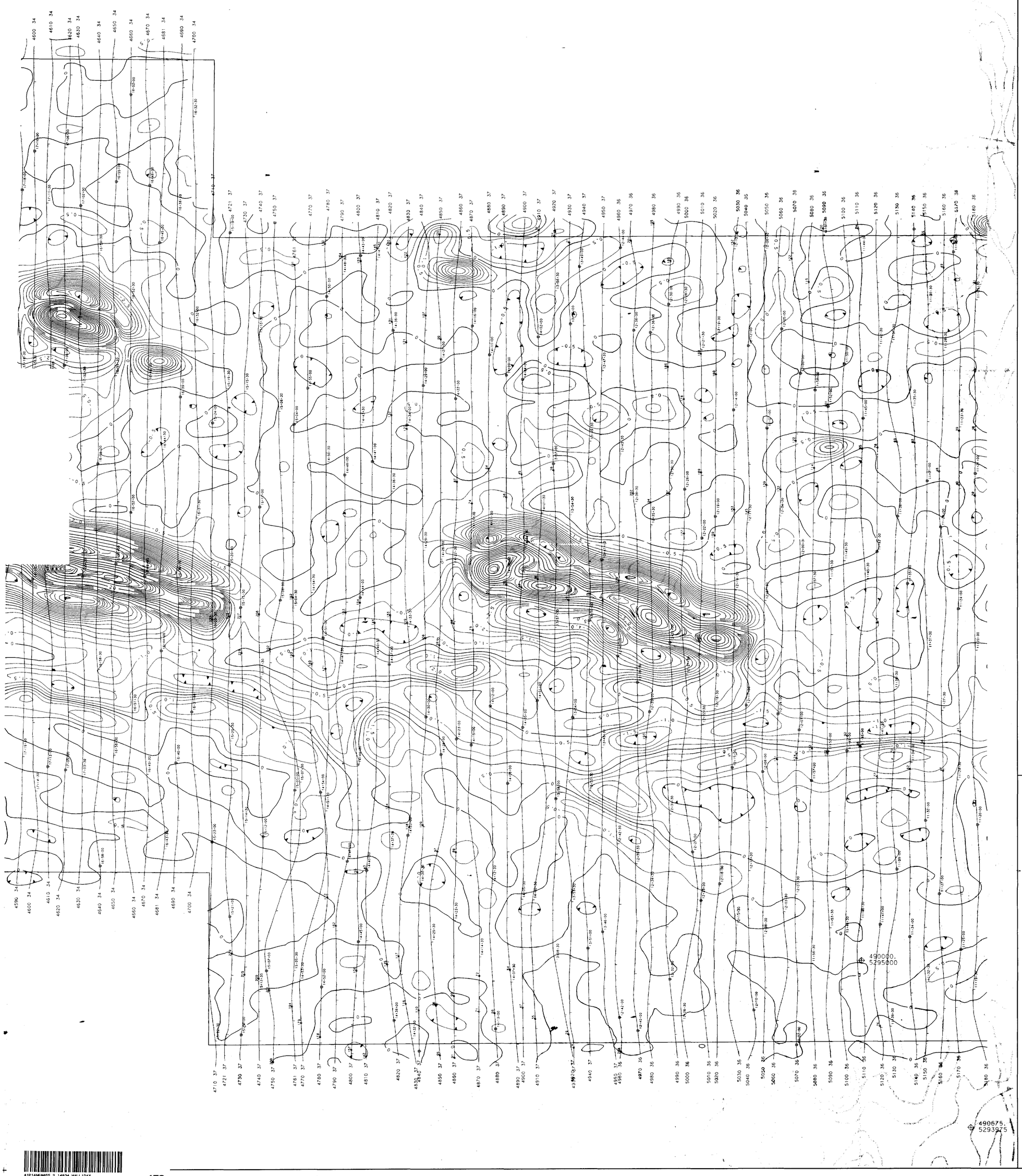
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	5
	J8927-5

440

41P14NE0055 2.14034 HALLIDAY



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Vertical Gradient

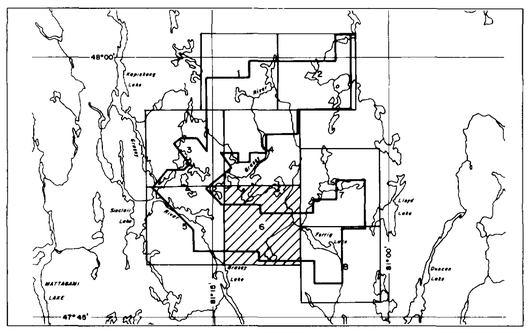
Vertical Magnetic Gradient calculated from the total field magnetic intensity in nT/m.

Cesium high sensitivity magnetometer.

Sensor elevation 45m

Map contours are multiples of those listed below

- 0.5 nT/m
- 2.5 nT/m
- 10 nT/m
- 50 nT/m



FALCONBRIDGE LTD

CALCULATED VERTICAL MAGNETIC GRADIENT

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

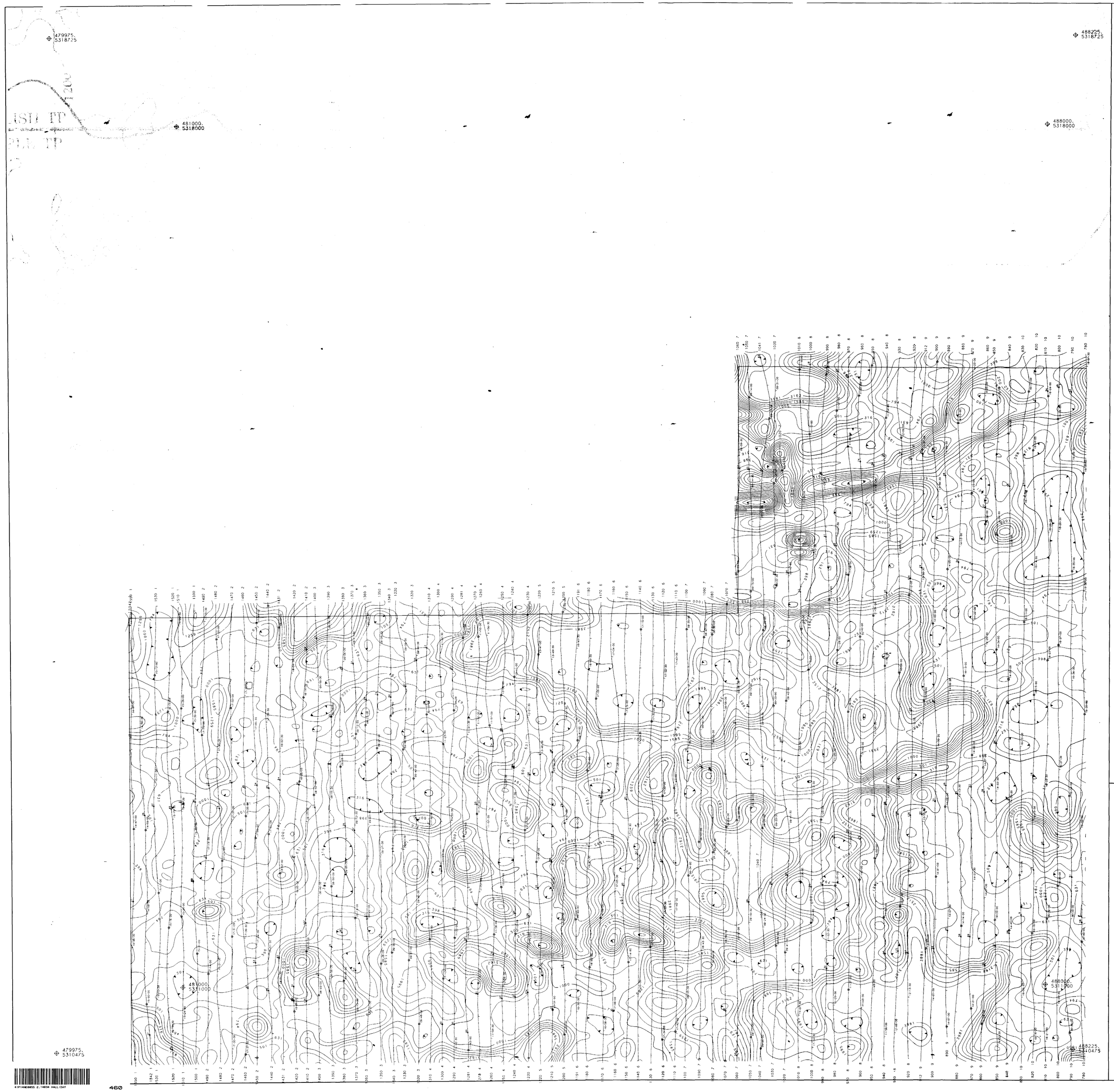
0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	5 J8927-6

41P14NE0055 2.14034 HALLIDAY



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Apparent Resistivity

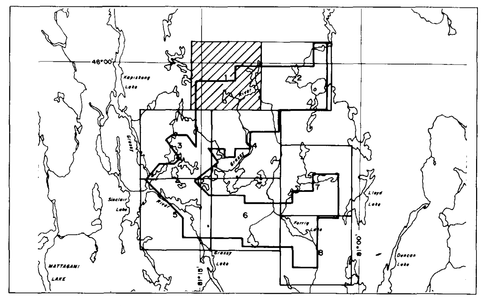
Calculated from 4600 Hz coaxial EM response assuming a 200 m conductive layer

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)
- 2.5 log(ohm•m)



FALCONBRIDGE LTD

APPARENT RESISTIVITY CONTOURS

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	6 J8927-1.

41P14NE0003 2.14034 HALLIDAY

460

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Apparent Resistivity

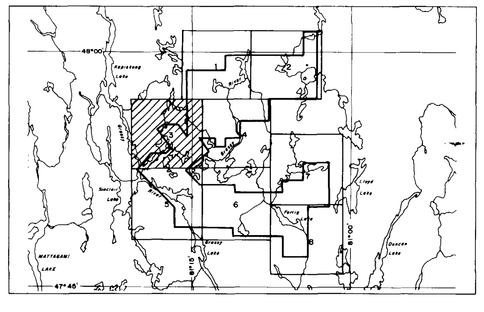
Calculated from 4600 Hz coaxial EM response assuming a 200 m conductive layer.

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)
- 2.5 log(ohm-m)



FALCONBRIDGE LTD

APPARENT RESISTIVITY CONTOURS

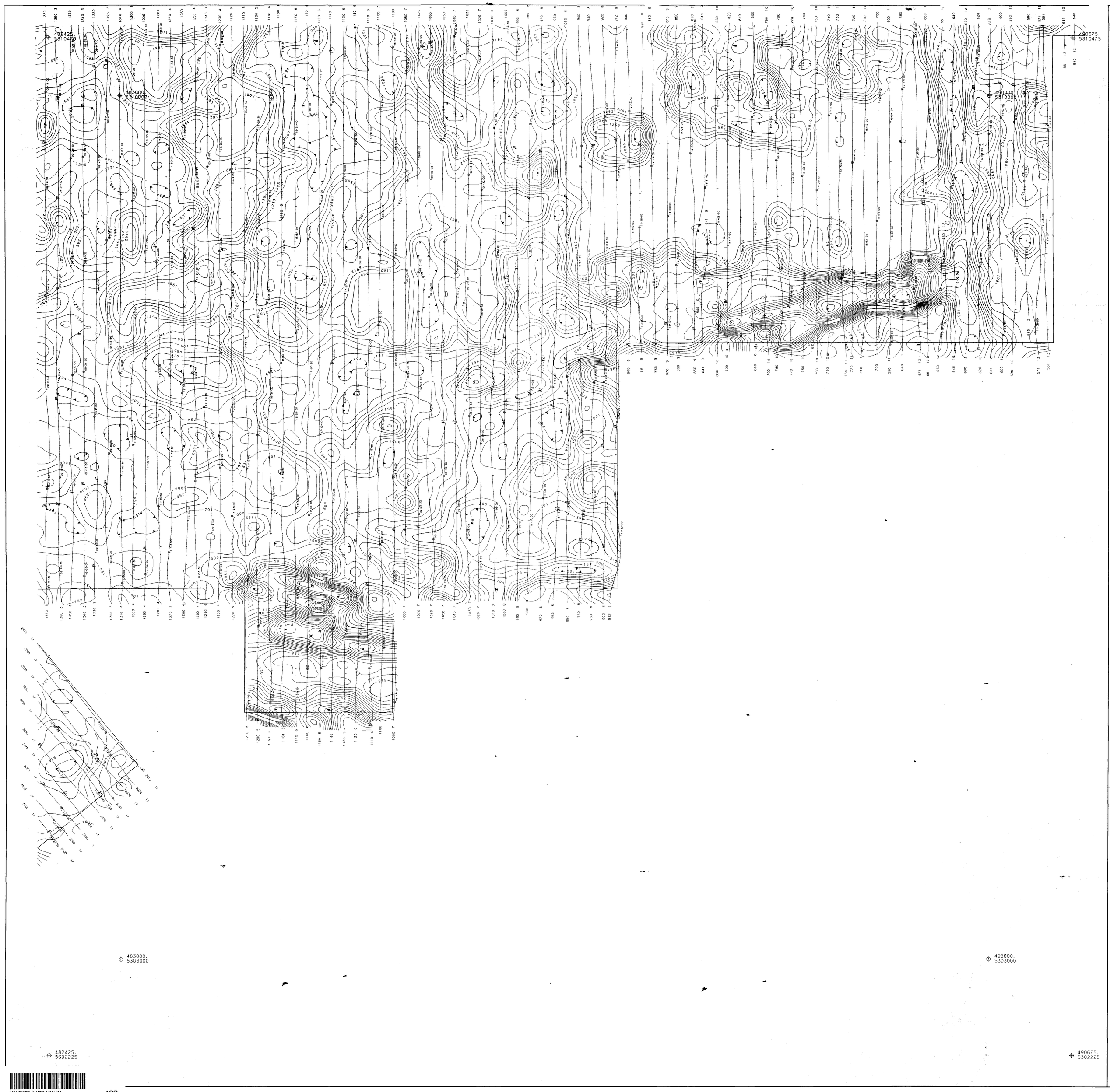
2.14034 HALLIDAY PROJECT
ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	6 J8927-3



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Apparent Resistivity

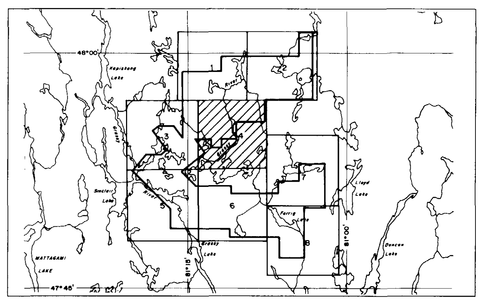
Calculated from 4600 Hz coaxial EM response assuming a 200 m conductive layer.

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)
- 2.5 log(ohm-m)



FALCONBRIDGE LTD

APPARENT RESISTIVITY CONTOURS

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

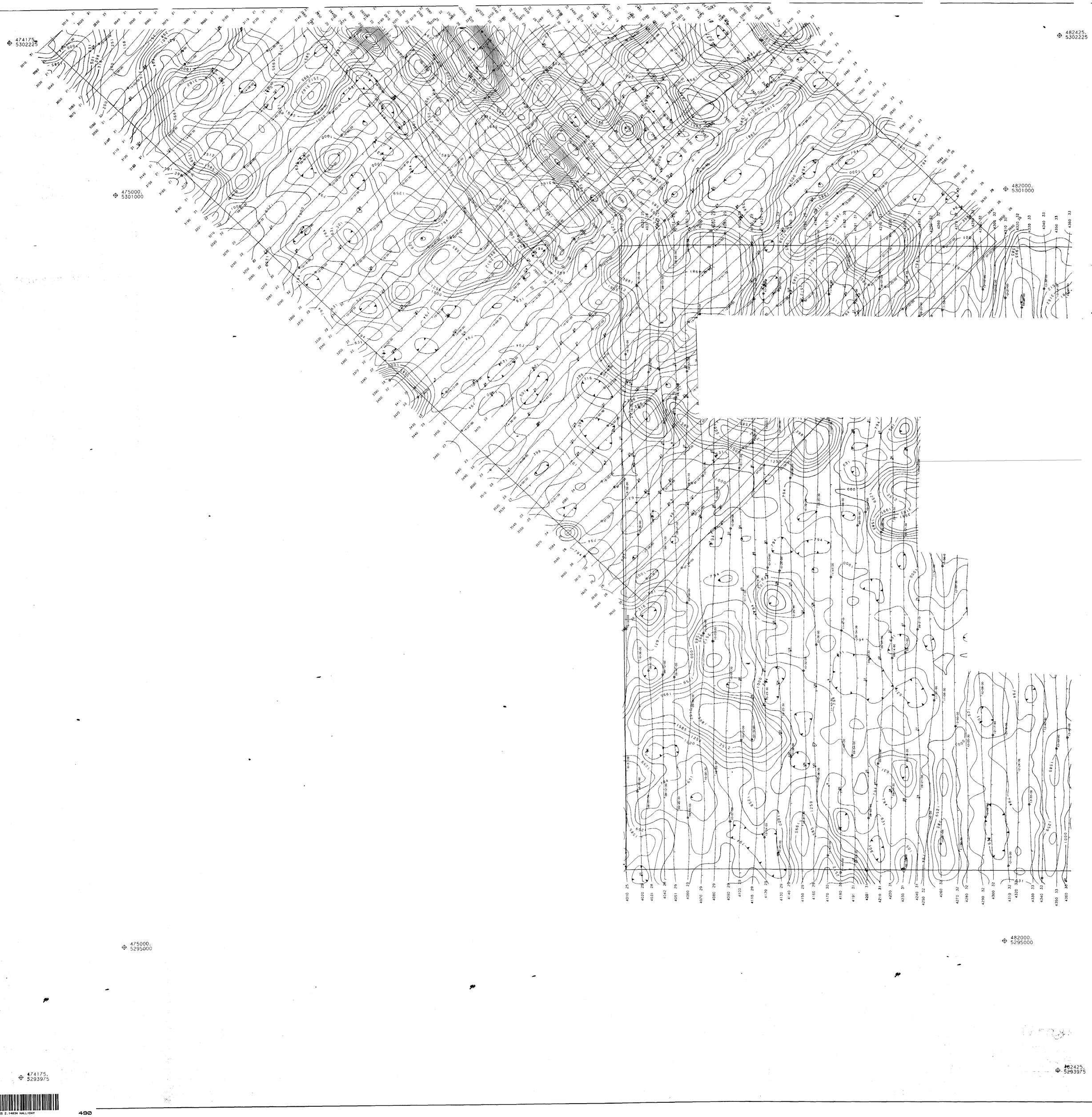
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	6 J8927-4

41P14NE0055 2.14034 HALLIDAY

480



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Apparent Resistivity

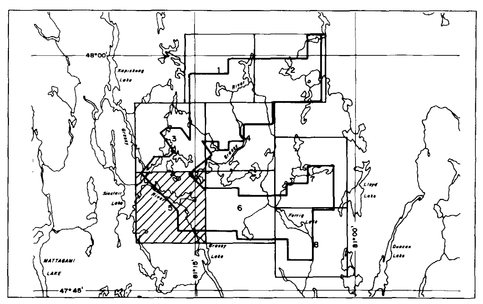
Calculated from 4600 Hz coaxial EM response assuming a 200 m conductive layer.

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)
- 2.5 log(ohm•m)



FALCONBRIDGE LTD

APPARENT RESISTIVITY CONTOURS

2.14034 HALLIDAY PROJECT

ONTARIO

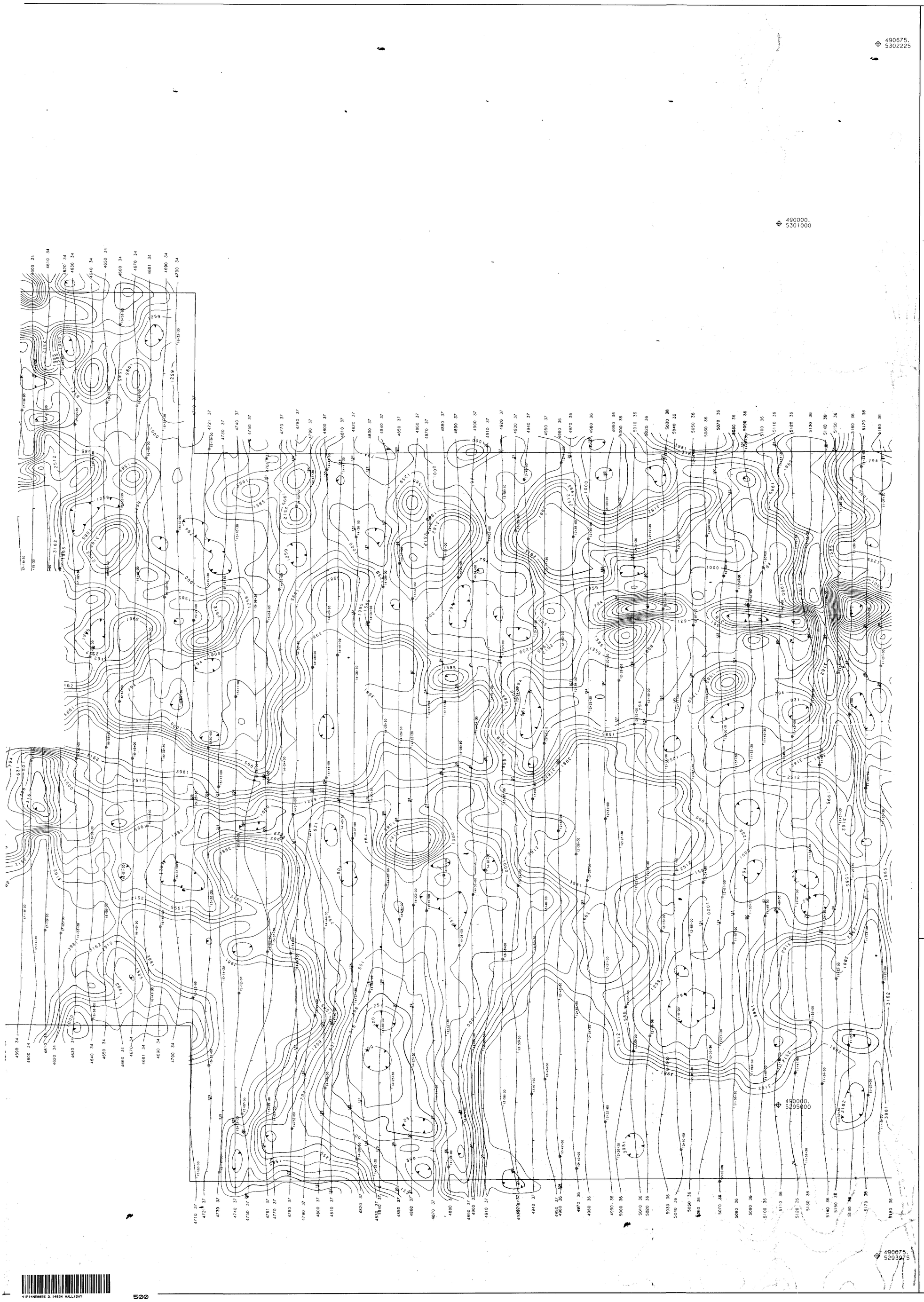
SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	6 J8927-5



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

Apparent Resistivity

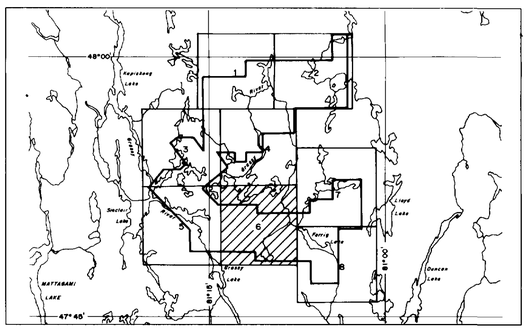
Calculated from 4600 Hz coaxial EM response assuming a 200 m conductive layer.

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)
- 2.5 log(ohm•m)



FALCONBRIDGE LTD

APPARENT RESISTIVITY CONTOURS

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

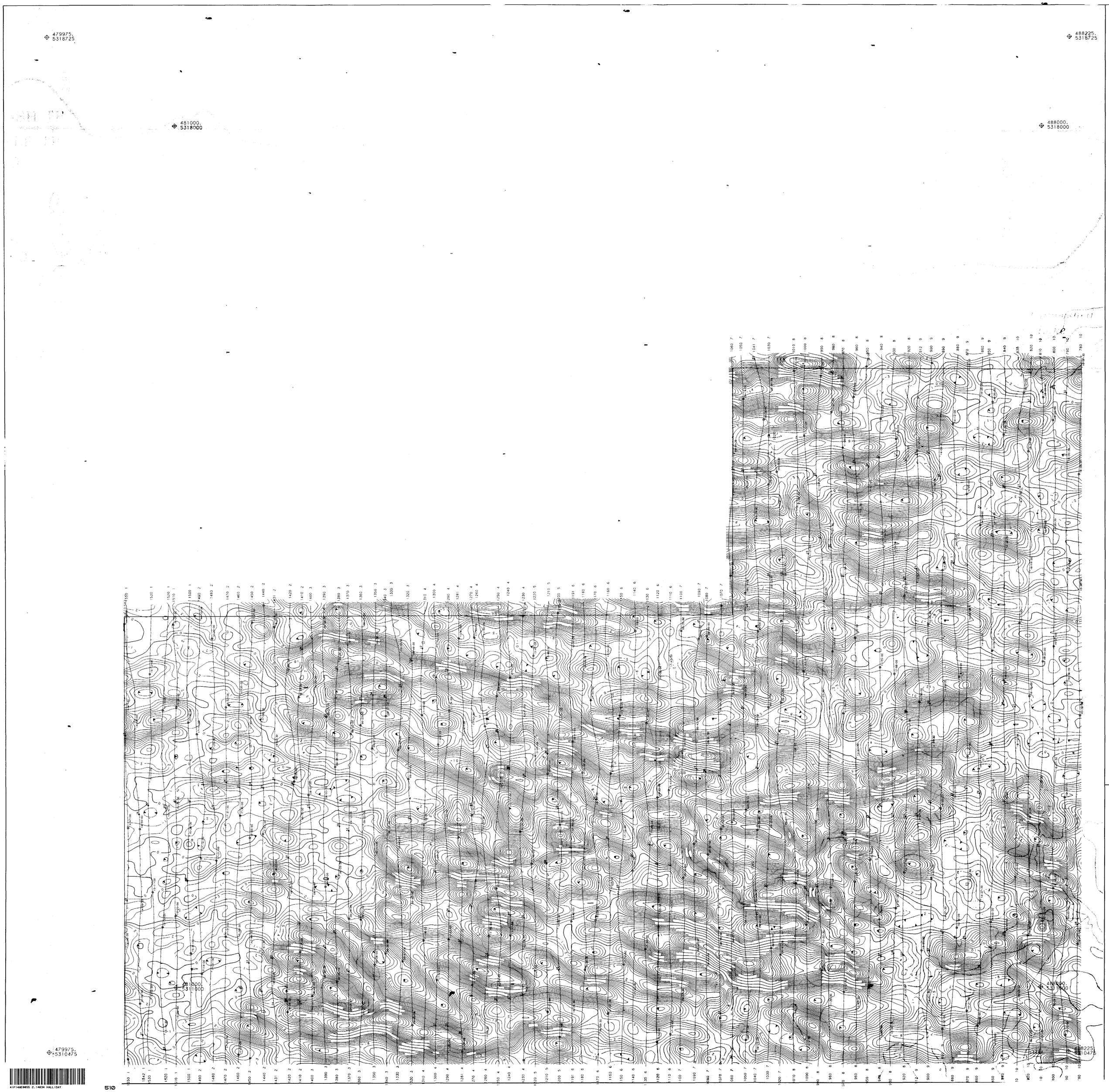
AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	6

J8927-6

41P14NE0055 2.14034 HALLIDAY

500



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

VLF-EM

VLF-EM Total Field Intensity Contours in percent.

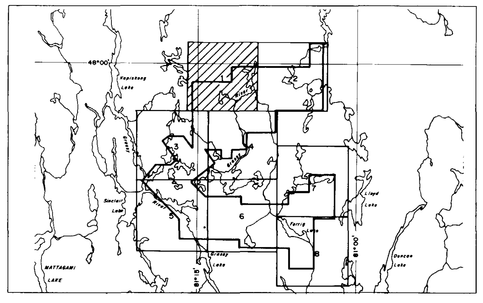
NLK Jim Creek, Wash. 24.8kHz
Flights 1-11, 17-23, 38-40

NSS Annapolis, Md. 21.4kHz
Flights 12-16, 24-37

Sensor elevation 45m

Map contours are multiples of those listed below

1 %
5 %
25 %



FALCONBRIDGE LTD

VLF-EM TOTAL FIELD CONTOURS

2.14034

HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

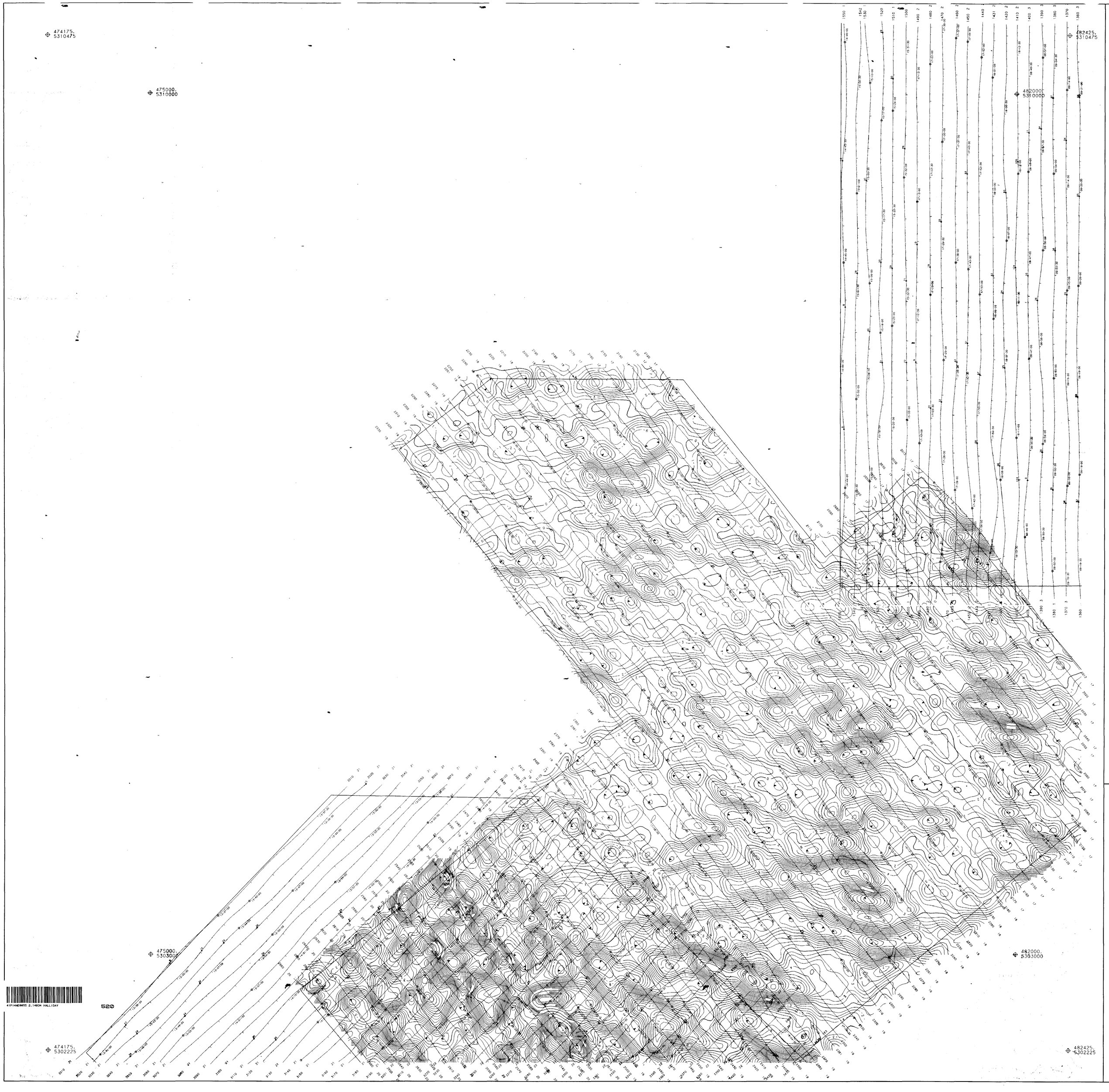
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	7 J8927-1

41P14NE0055 2.14034 HALLIDAY

510



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

VLF-EM

VLF-EM Total Field Intensity Contours in percent.

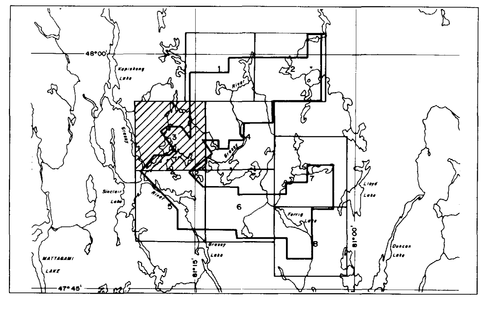
NLK Jim Creek, Wash 24.8kHz
Flights 1-11, 17-23, 38-40

NSS Annapolis, Md. 21.4kHz
Flights 12-16, 24-37

Sensor elevation 45m

Map contours are multiples of those listed below

1 %
5 %
25 %



FALCONBRIDGE LTD

VLF-EM TOTAL FIELD CONTOURS

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

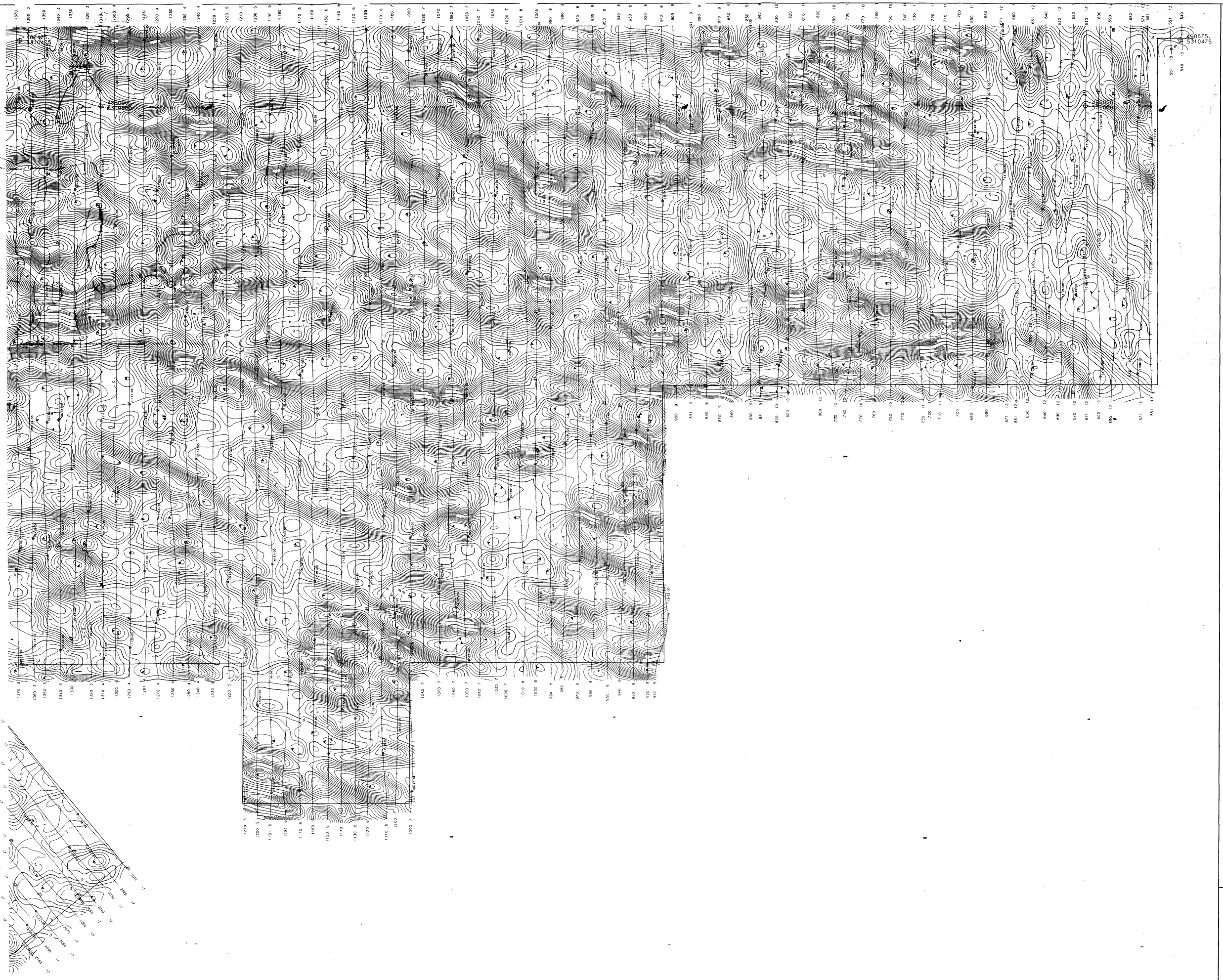
AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	7

J8927-3

41P14NE0055 2.14034 HALLIDAY

520



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

VLF-EM

VLF-EM Total Field Intensity Contours in percent.

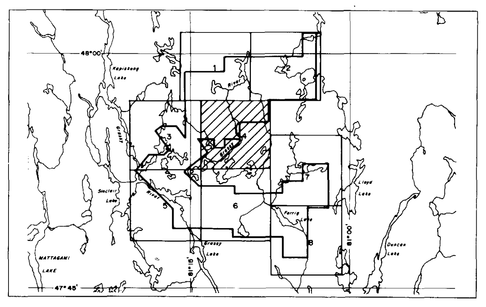
NLK Jim Creek, Wash. 24.8kHz
Flights 1-11, 17-23, 38-40

NSS Annapolis, Md. 21.4kHz
Flights 12-16, 24-37

Sensor elevation 45m.

Map contours are multiples of those listed below

1 %
5 %
25 %



FALCONBRIDGE LTD

VLF-EM TOTAL FIELD CONTOURS

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

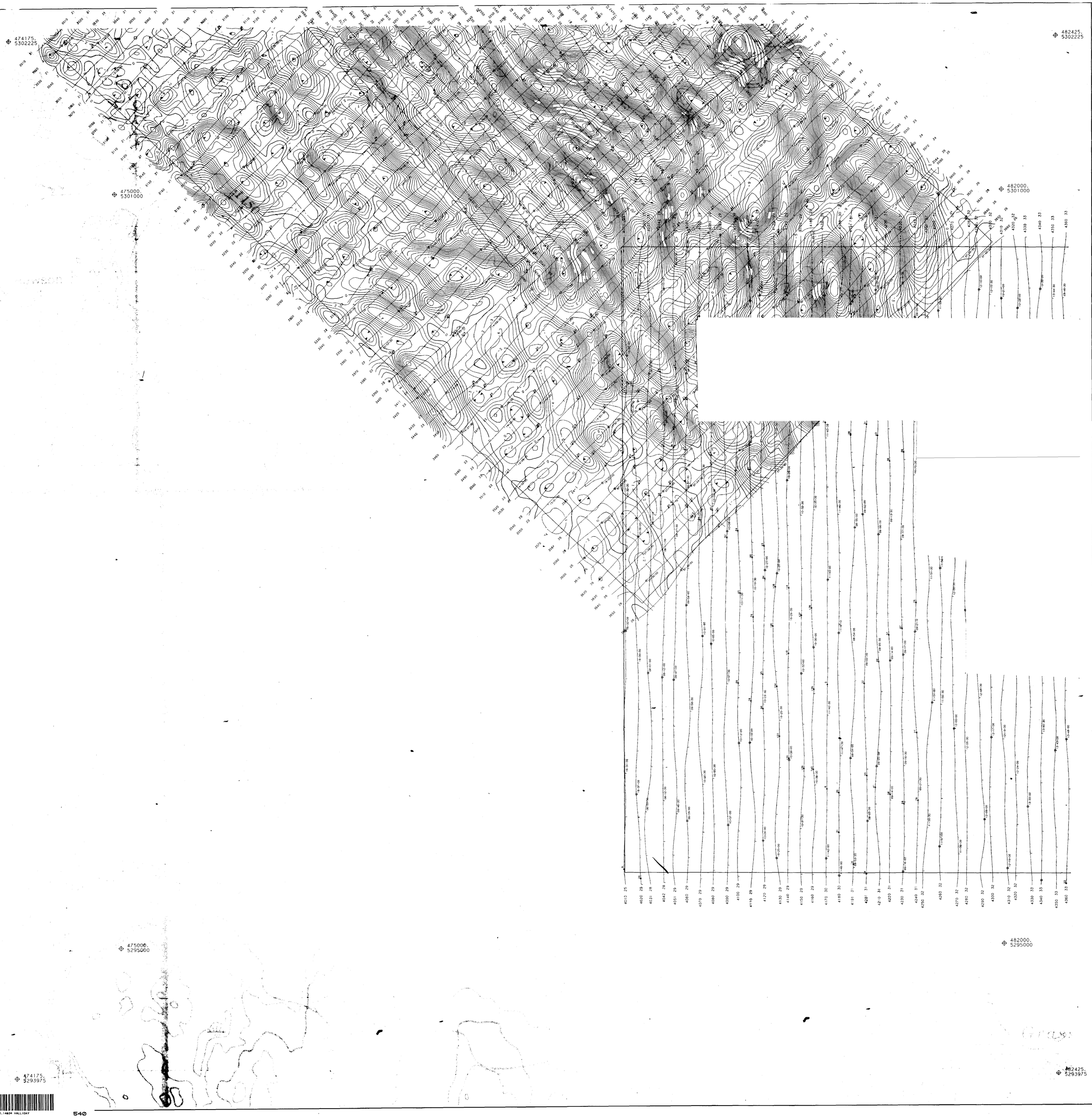
AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	7

J8927-4

41P14NE0055 2.14034 HALLIDAY

530



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system

Average terrain clearance 60m
Average line spacing 100m

VLF-EM

VLF-EM Total Field Intensity Contours in percent.

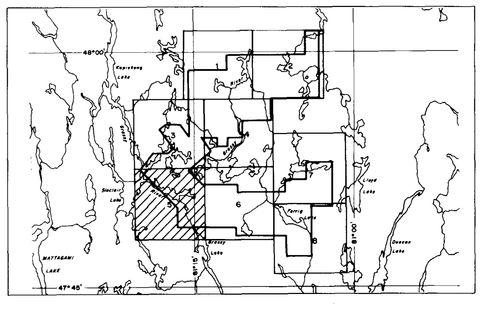
NLK Jim Creek, Wash 24.8kHz
Flights 1-11, 17-23, 38-40

NSS Annapolis, Md. 21.4kHz
Flights 12-16, 24-37

Sensor elevation 45m

Map contours are multiples of those listed below

1 %
5 %
25 %



FALCONBRIDGE LTD

VLF-EM TOTAL FIELD CONTOURS

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

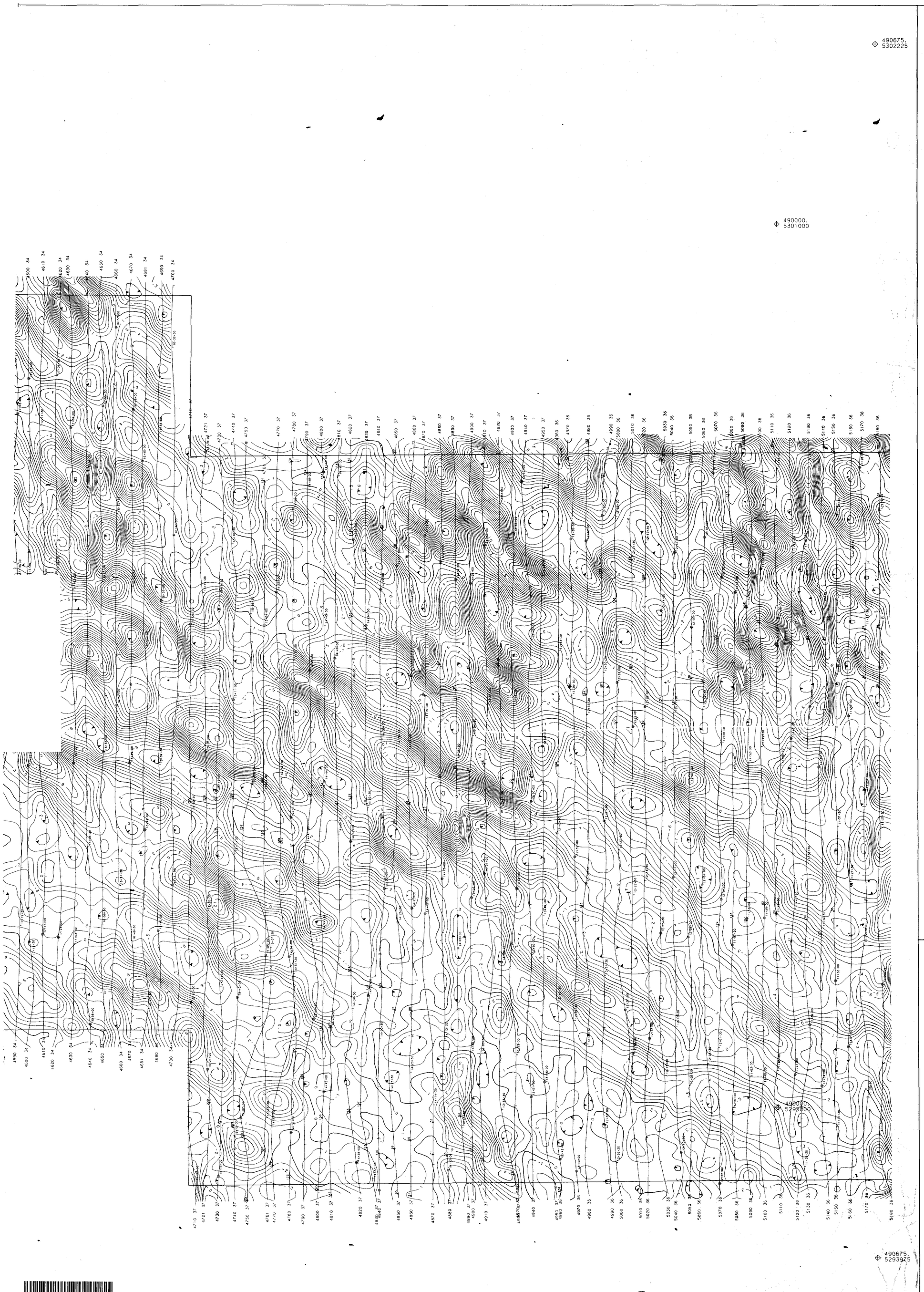
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	7
	J8927-5

41P14NE0055 2.14034 HALLIDAY

540



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

VLF-EM

VLF-EM Total Field Intensity Contours in percent.

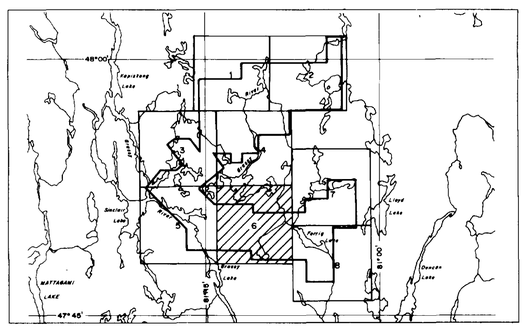
NLK Jim Creek, Wash 24.8kHz
Flights 1-11, 17-23, 38-40

NSS Annapolis, Md. 21.4kHz
Flights 12-16, 24-37

Sensor elevation 45m

Map contours are multiples of those listed below

1 %
5 %
25 %



FALCONBRIDGE LTD

VLF-EM TOTAL FIELD CONTOURS

2.14034

HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

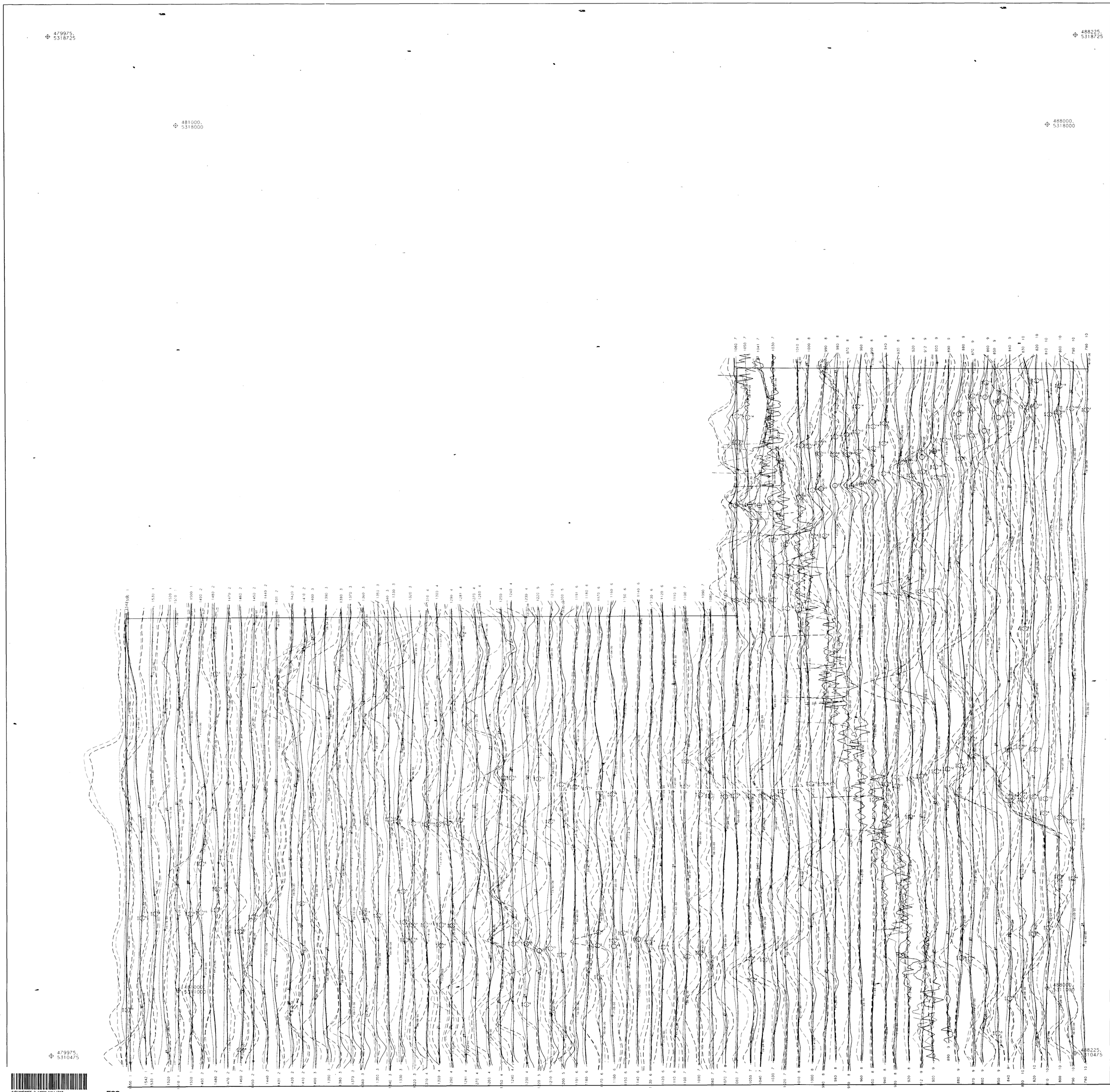
0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	7 J8927-6

41P14NE0055 2.14034 HALLIDAY



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

EM Profiles

935 Hz Coaxial 2 ppm/mm
inphase component
quadrature component

32000 Hz Coplanar 16 ppm/mm
inphase component
quadrature component

Sensor elevation.....30m
Coil separation.....7m

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 1 ppm, conductivity thickness 1-2 mhos (see code).

FALCONBRIDGE LTD

ELECTROMAGNETIC PROFILES

2.14034

HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

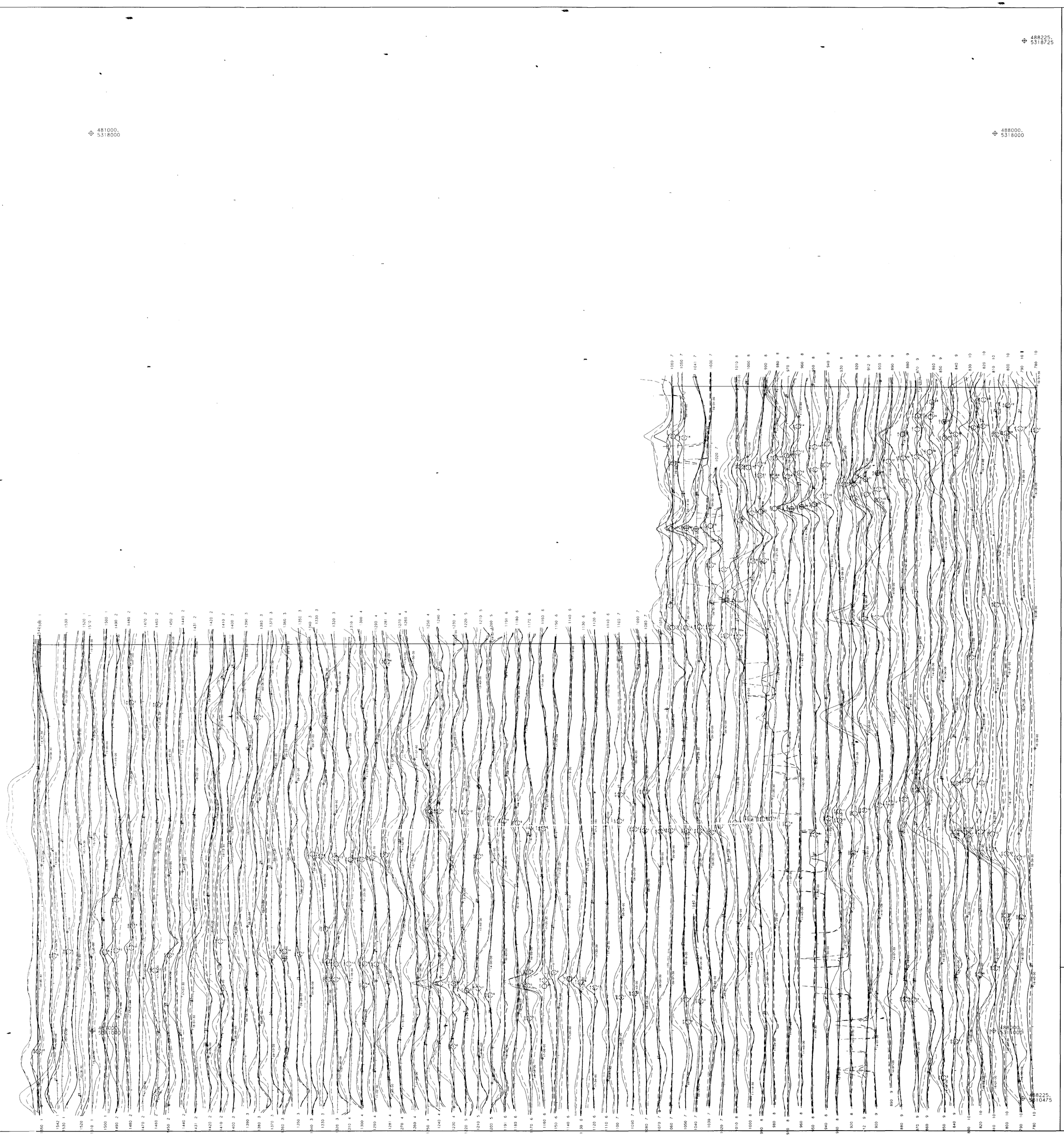
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	8 J8927-1

41P14NE0055 2.14034 HALLIDAY

560



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

EM Profiles

4600 Hz Coaxial 2 ppm/mm
——— inphase component
——— quadrature component

4175 Hz Coplanar 8 ppm/mm
— — — inphase component
— — — quadrature component

Sensor elevation.....30m
Coil separation.....7m

EM Anomalies

Conductivity Thickness (mmos)

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

EM Anomaly A1, 4600 Hz inphase amplitude 7 ppm, conductivity thickness 1-2 mmos (see code).

FALCONBRIDGE LTD

ELECTROMAGNETIC PROFILES

2.14034 HALLIDAY PROJECT

ONTARIO

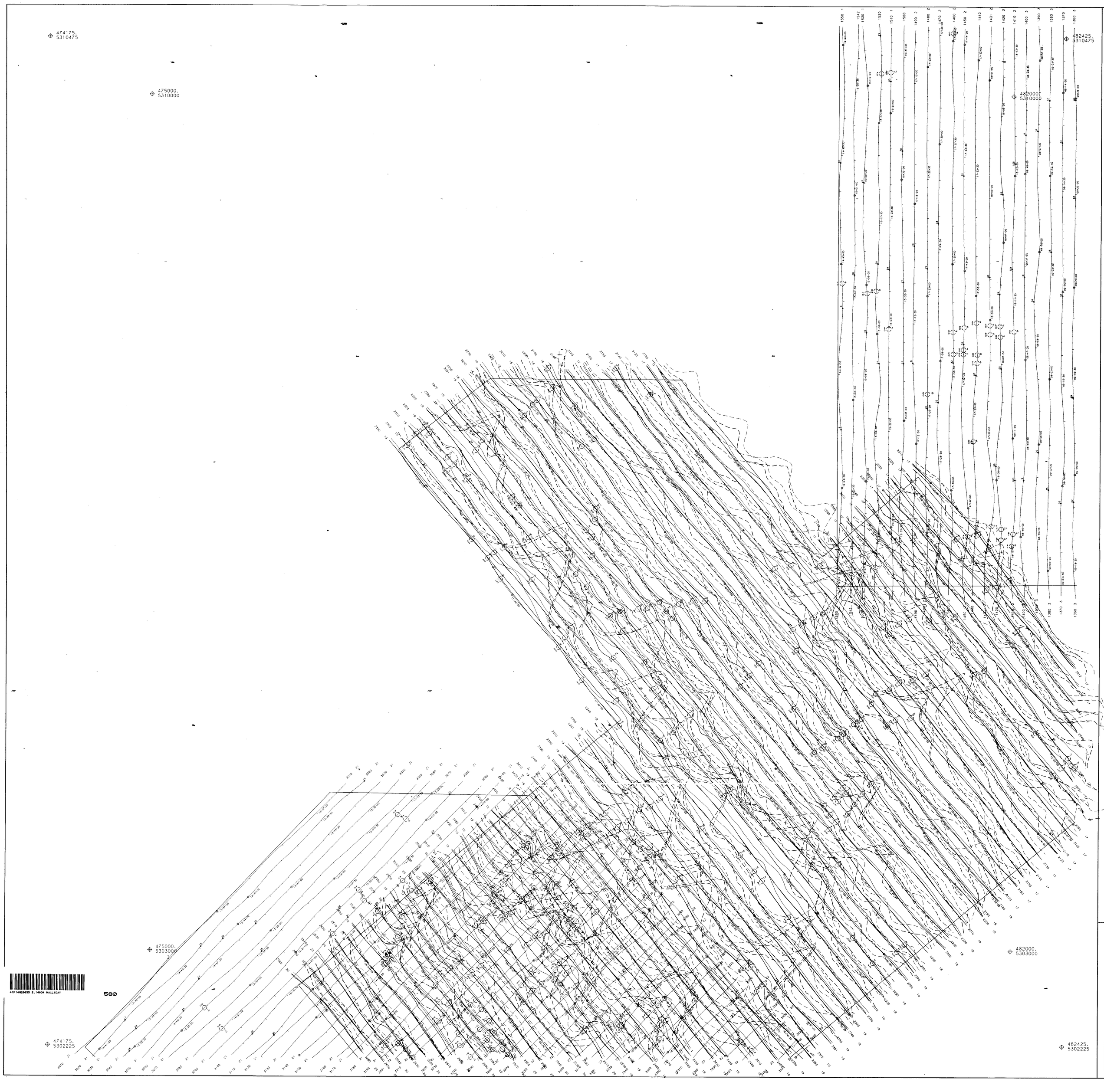
SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	8 J8927-1



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

EM Profiles

935 Hz Coaxial 2 ppm/mm
inphase component
quadrature component

32000 Hz Coplanar 16 ppm/mm
inphase component
quadrature component

Sensor elevation.....30m
Coil separation.....7m

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 coded).

FALCONBRIDGE LTD

ELECTROMAGNETIC PROFILES

2.14034

HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

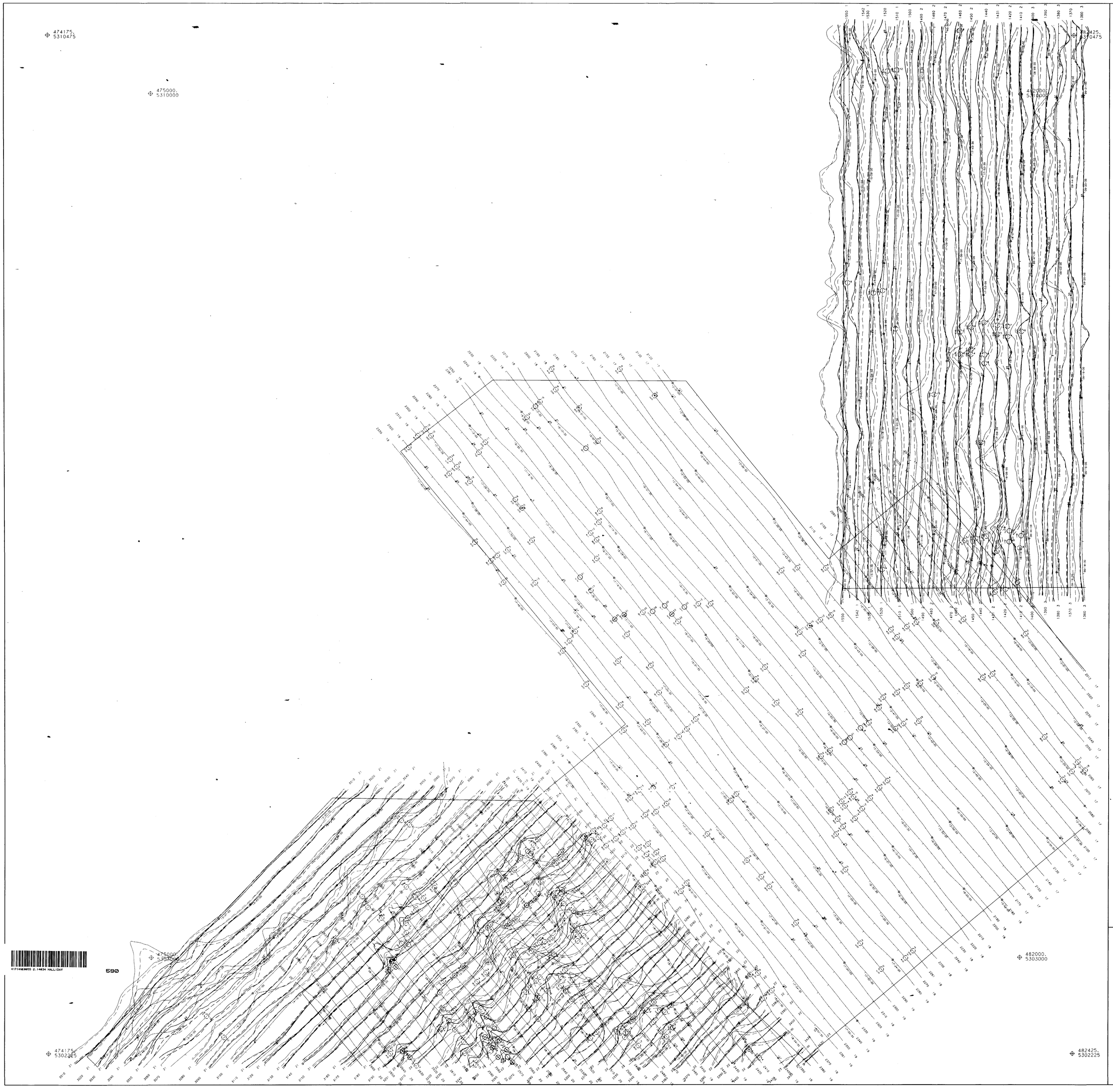
AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	8

J8927-3

41P14NE0055 2.14034 HALLIDAY

580



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

EM Profiles

4600 Hz Coaxial 2 ppm/mm
——— inphase component
— — — quadrature component

4175 Hz Coplanar 8 ppm/mm
— — — inphase component
— — — quadrature component

Sensor elevation.....30m
Coil separation.....7m

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).

590

FALCONBRIDGE LTD

ELECTROMAGNETIC PROFILES

2.14034 HALLIDAY PROJECT

ONTARIO

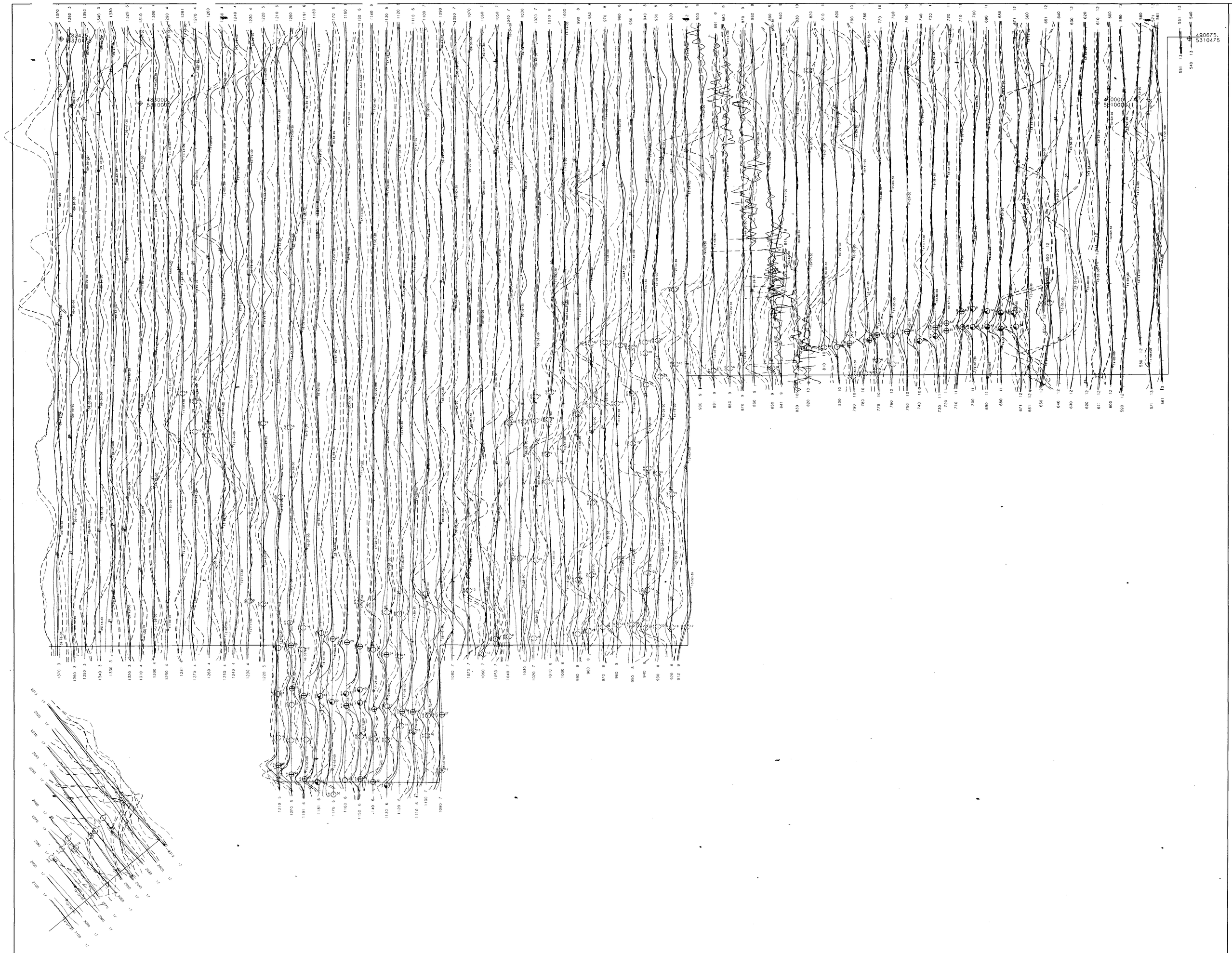
SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	8 J8927-3



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

EM Profiles

935 Hz Coaxial 2 ppm/mm
——— inphase component
——— quadrature component

32000 Hz Coplanar 16 ppm/mm
— — — — inphase component
— — — — quadrature component

Sensor elevation.....30m
Coil separation.....7m

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).

FALCONBRIDGE LTD

ELECTROMAGNETIC PROFILES

2.14034

HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

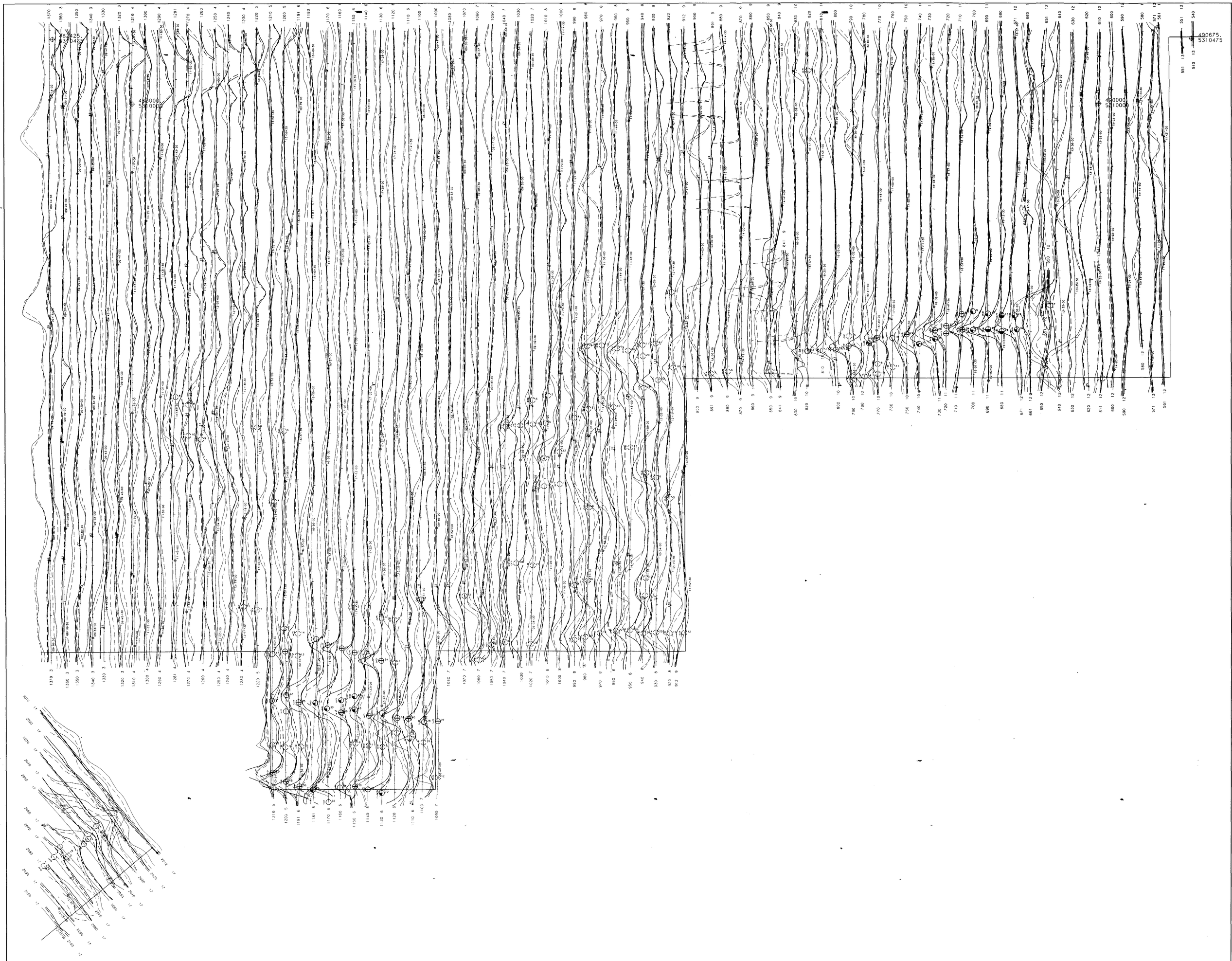
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	8 J8927-4

41P14NE0005 2.14034 HALLIDAY

600



Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

EM Profiles

4600 Hz Coaxial 2 ppm/mm
——— inphase component
——— quadrature component

4175 Hz Coplanar 8 ppm/mm
— — — — inphase component
— — — — quadrature component

Sensor elevation.....30m
Coil separation.....7m

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).

FALCONBRIDGE LTD

ELECTROMAGNETIC PROFILES

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

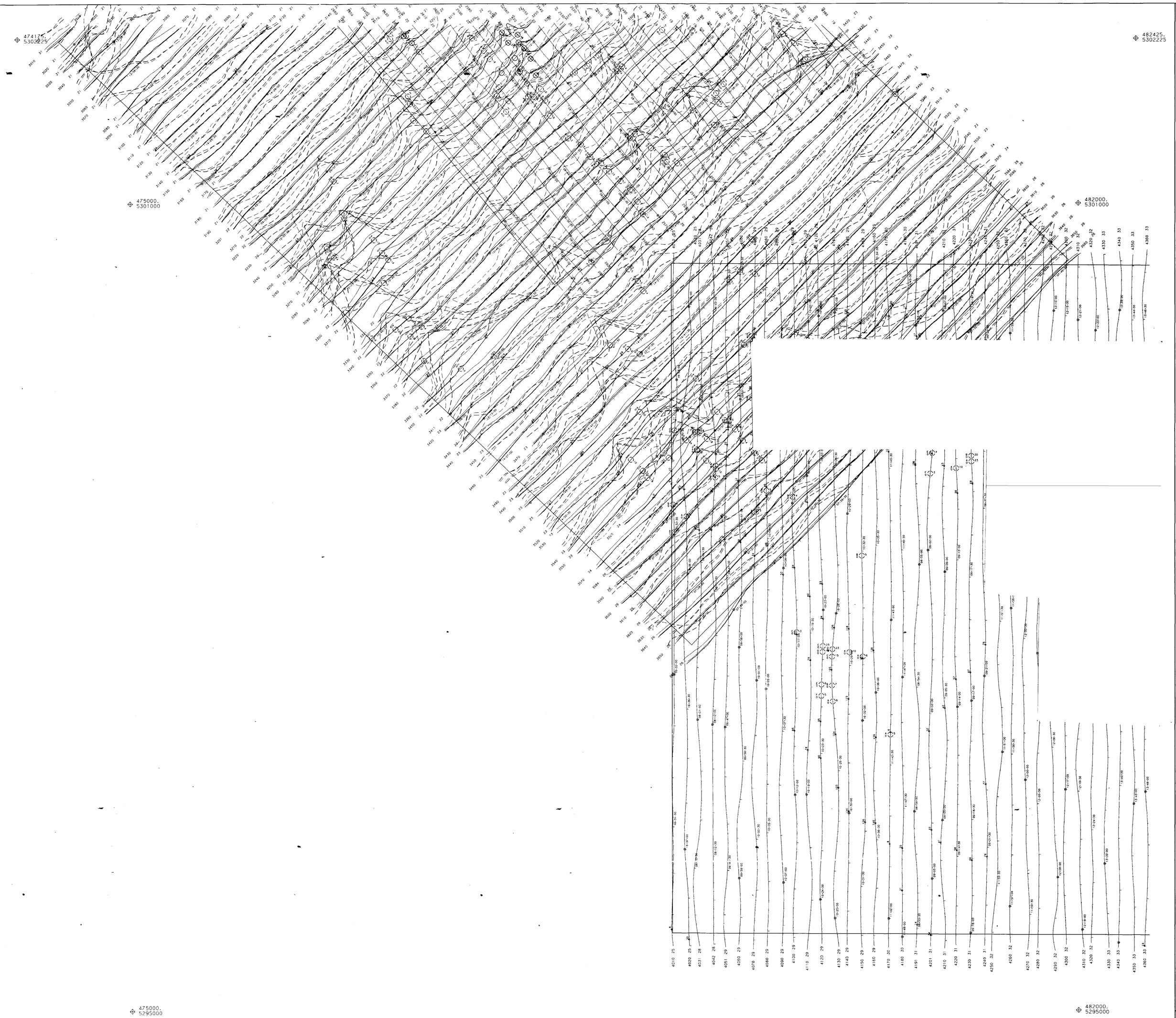
0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	8 J8927-4

610



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

EM Profiles

935 Hz Coaxial 2 ppm/mm
——— inphase component
——— quadrature component

32000 Hz Coplanar 16 ppm/mm
— — — inphase component
— — — quadrature component

Sensor elevation.....30m
Coil separation.....7m

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).

FALCONBRIDGE LTD

ELECTROMAGNETIC PROFILES

2.14034

HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

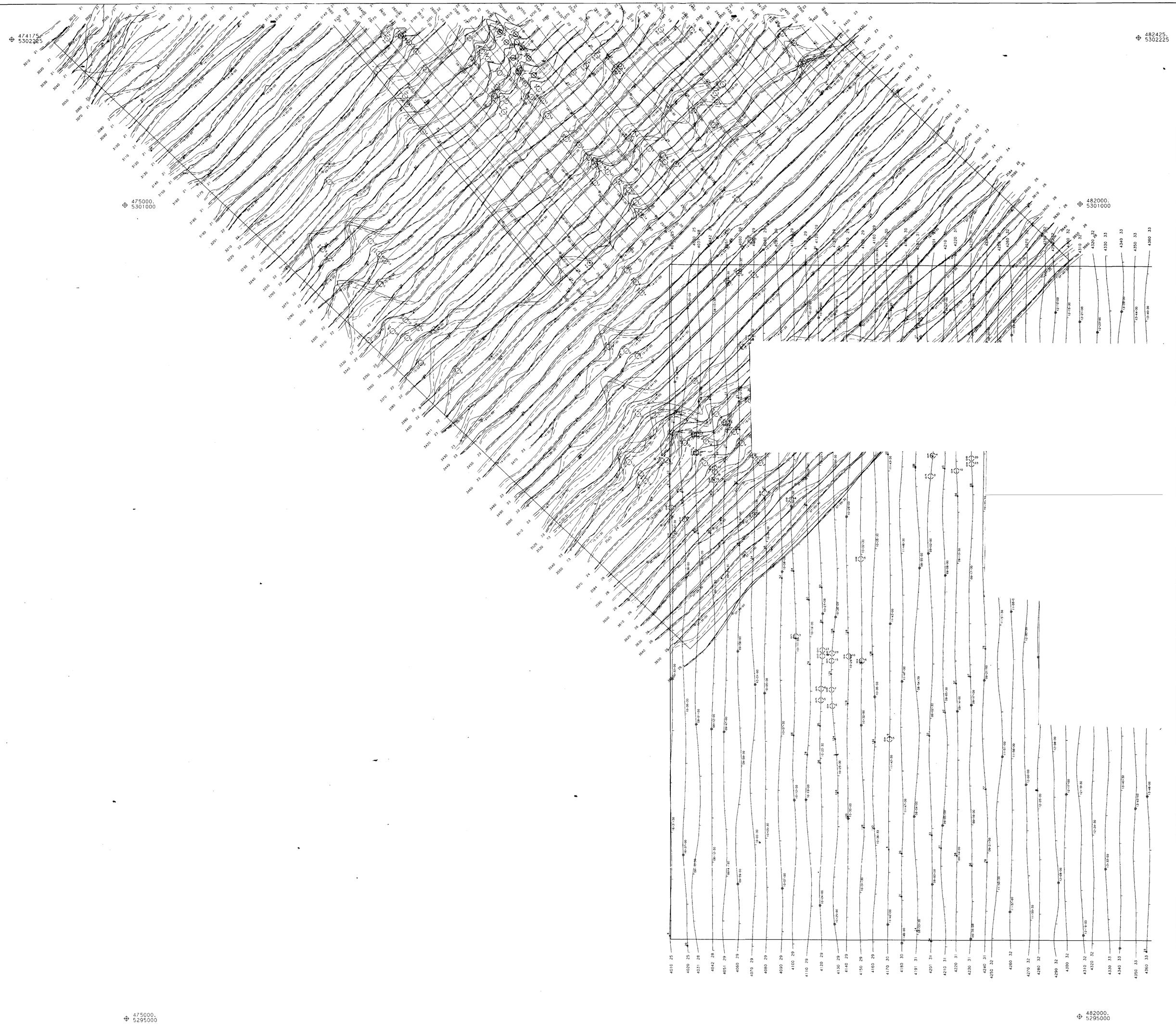
0 330 660 1320 2640 Feet
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	8 J8927-5

41P14NE0055 2.14034 HALLIDAY

620



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

EM Profiles

4600 Hz Coaxial 2 ppm/mm
——— inphase component
——— quadrature component

4175 Hz Coplanar 8 ppm/mm
— — — — inphase component
— — — — quadrature component

Sensor elevation.....30m
Coil separation.....7m

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).

FALCONBRIDGE LTD

ELECTROMAGNETIC PROFILES

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

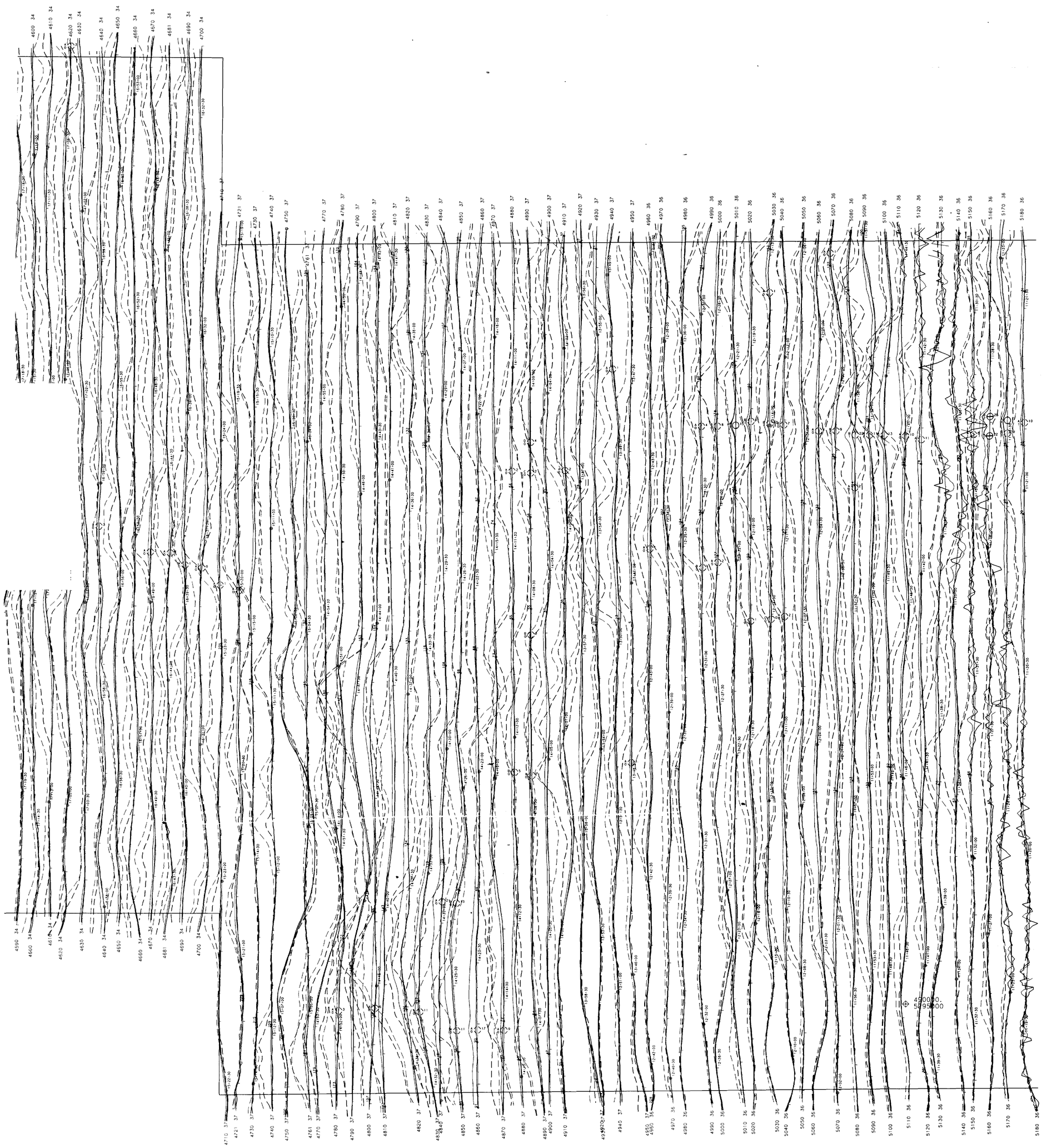
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	8 J8927-5

41P14NW0055 2.14034 HALLIDAY

630



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

EM Profiles

935 Hz Coaxial 2 ppm/mm
——— inphase component
——— quadrature component

32000 Hz Coplanar 16 ppm/mm
— — — inphase component
— — — quadrature component

Sensor elevation.....30m
Coil separation.....7m

EM Anomalies

Conductivity Thickness (mmos)

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

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

FALCONBRIDGE LTD

ELECTROMAGNETIC PROFILES

2.14034 HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

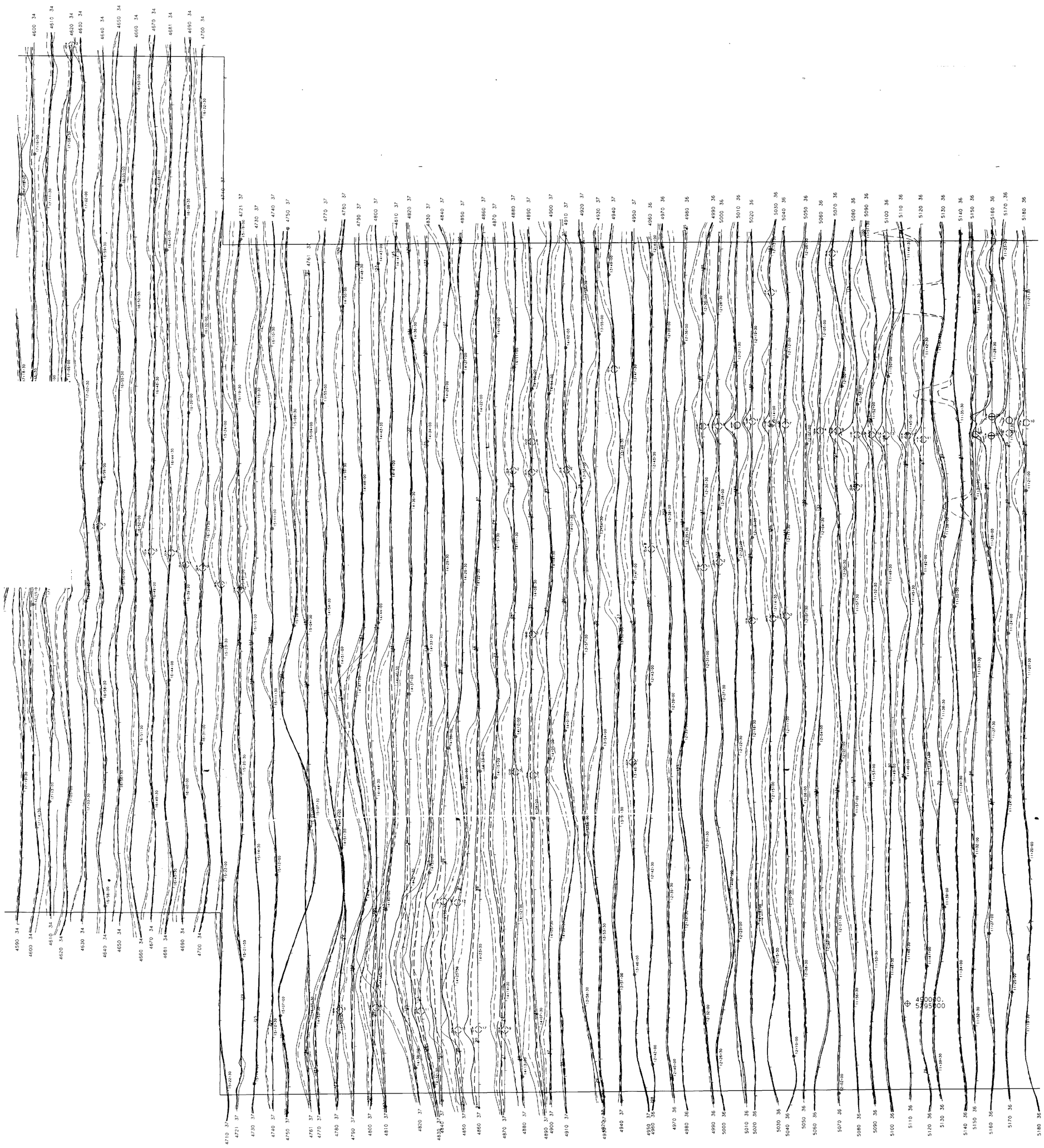
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	8 J8927-6

41P14NE0055 2.14034 HALLIDAY

640



N

Flight Path

Navigation and recovery using Motorola Mini-Ranger (MRS III) radar navigation system.

Average terrain clearance 60m
Average line spacing 100m

EM Profiles

4600 Hz Coaxial 2 ppm/mm
——— inphase component
——— quadrature component

4175 Hz Coplanar 8 ppm/mm
— — — — inphase component
— · — · — quadrature component

Sensor elevation.....30m
Coil separation.....7m

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).

FALCONBRIDGE LTD

ELECTROMAGNETIC PROFILES

2.14034

HALLIDAY PROJECT

ONTARIO

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	MAY, 1989
NTS No:	41 P/14
MAP No:	8 J8927-6

41P14NE0055 2.14034 HALLIDAY