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REPORT ON
COMBINED HELICOPTER-BORNE MAGNETIC, ELECTROMAGNETIC AND VLF SURVEY
BEG PROPERTY
KIRKLAND LAKE, ONTARIO

FOR
LES RESSOURCES HALEX INC.
BY
AERODAT LIMITED
April 6, 1988

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LIST of MAPS
(Scale 1:10,000)

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

1. PHOTOMOSAIC BASE MAP;
Showing registration crosses corresponding to NTS co-ordinates on survey maps, on stable cronaflex film.

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

3. AIRBORNE ELECTROMAGNETIC SURVEY INTERPRETATION MAP;
showing conductor axes and anomaly peaks along with in-phase and Quadrature amplitudes and conductivity thick-ness values; on a cronaflex base; Interpretation Report

4. TOTAL FIELD MAGNETIC CONTOURS;
showing magnetic values contoured at 2 nanoTesla intervals; on a cronaflex base map.

5. COMPUTED VERTICAL MAGNETIC GRADIENT CONTOURS;
showing vertical gradient values contoured at 0.1 nano-Tesla per metre intervals showing flight lines and fiducials; on a cronaflex base map.

6. RESISTIVITY CALCULATED FROM 4175 Hz COPLANAR COILS;
contoured data at logarithmic resistivity intervals (in ohm.m.), on a base map.

7. VLF EM TOTAL FIELD CONTOURS;
of the VLF Total field from the Cutler, Maine trans-mitter; as a cronaflex base map.

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1. MAGNETICS - Colour of the total magnetic field with superimposed contours

2. MAGNETICS - Colour of the calculated Vertical Magnetic gradient with superimposed contours.

3. RESISTIVITY - Colour of apparent resistivity with superimposed contours.

4. VLF - Contour of Total Field VLF-EM with superimposed contours.

5. PROFILES - EM profile maps of in phase and quadrature components for each of the frequencies.

1. INTRODUCTION

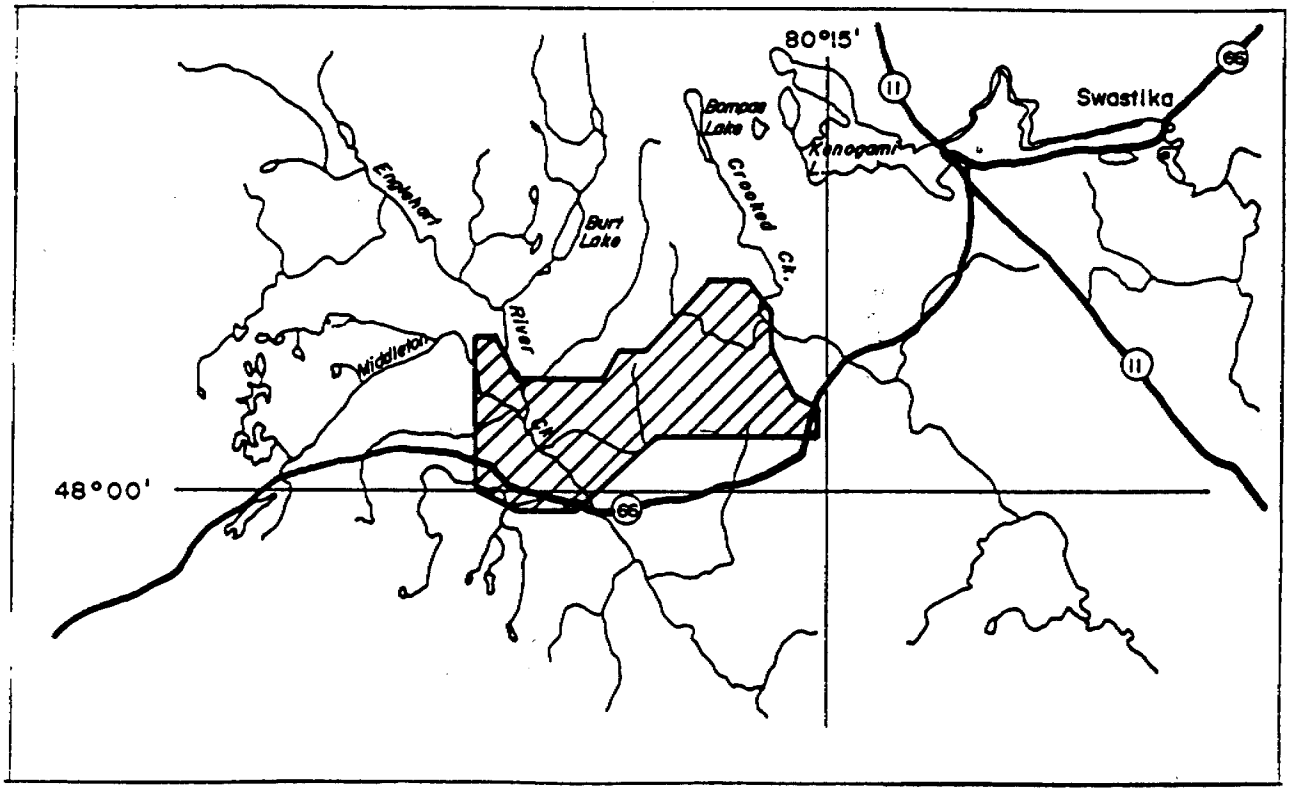
This report describes an airborne geophysical survey carried out on behalf of Les Ressources Halex Inc. by Aerodat Limited. Equipment operated included a 4 frequency electromagnetic system, a high sensitivity cesium vapour magnetometer, a dual frequency VLF-EM system, a video tracking camera, and an altimeter. Electromagnetic, magnetic and altimeter data were recorded both in digital and analog form. Positioning data was recorded on VHS video film, as well as being marked on the photomosaic base map by the operator while in flight.

The survey area, is comprised of 1 contiguous block in the Larder Lake Mining Division and is situated about 30 kilometres southwest of Kirkland Lake, Ontario. The survey was flown on March 1, 1988. Three flights were required to complete the survey with flight lines orientated at an azimuth of 180 - 360 degrees and flown at a nominal spacing of 100 m. Coverage and data quality were considered to be within the specifications described in the contract.

The purpose of the survey was to record airborne geophysical data over and around properties of Les Ressources Halex Inc. A total of 380 kilometres of the recorded data were compiled on 1 map sheet and are presented as part of this report according to specifications outlined by Les Ressources Halex Inc.

2. SURVEY AREA LOCATION

The survey area is outlined on the index map shown below. It is centred between latitudes 47 59′ 50" - 48 03′ 30" and longitudes 80 15′ - 80 25′. The area is located within 30 kilometres of Kirkland Lake, Ontario. The property is located along HWY # 66, which provides access to the southern half of the claim group. Hydro lines are present along the highway.



3. AIRCRAFT AND EQUIPMENT

3.1 Aircraft

An Aerospatiale A-Star 350 D helicopter, (C-GRGJ), piloted by K. McCrae, owned and operated by Ranger Helicopters Limited, was used for the survey. 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 34 kHz. The transmitter-receiver separation was 7 metres. Inphase 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 transmitter.

3.2.2 VLF-EM System

A Herz Totem 2A system was utilized. This instrument measures both the total field and quadrature

components of the selected frequency. The sensor was towed in a bird 12 metres below the helicopter. The transmitting station used was NAA, Cutler, Maine broadcasting at 24.0 kHz. This station is maximum coupled with E-W striking conductors and provides usable results for strikes + 45 degrees.

3.2.3 Magnetometer

The magnetometer employed a Scintrex Model VIW 2321 H8 cesium, optically pumped 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 Hoffman HRA-100 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	Low Frequency Inphase	25 ppm/cm
CXQ1	Low Frequency Quadrature	25 ppm/cm
CXI2	High Frequency Inphase	25 ppm/cm
CXQ2	High Frequency Quadrature	25 ppm/cm
CPI1	Mid Frequency Inphase	100 ppm/cm
CPQ1	Mid Frequency Quadrature	100 ppm/cm
CPI2	High Frequency Inphase	200 ppm/cm

Channel	Input	Scale
CPQ2	High Frequency Quadrature	200 ppm/cm
VLT	VLF-EM Total Field, Line NAA	25%/cm
VLQ	VLF-EM Quadrature, Line NAA	25%/cm
VOT	VLF-EM Total Field,Ortho NLK	25%/cm
VOQ	VLF-EM Quadrature, Ortho NLK	25%/cm
RALT	Radar Altimeter, (150 m. at top of chart)	100 ft/cm
BALT	Barometric Altimeter	200 ft/cm
MAGF	Magnetometer, fine	25 nT/cm
MAGC	Magnetometer, coarse	250 nT/cm

3.2.8 Digital Recorder

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

Equipment	Recording Interval
EM System	0.1 seconds
VLF-EM	0.25 seconds
Magnetometer	0.25 seconds
Altimeter	0.25 seconds
Nav System	1.0 seconds
Power Line Monitor	0.25 seconds

3.2.9 Radar Positioning System

A Motorola Mini Ranger (MRS IV - Falcon) 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 and on the analog records for subsequent flight path determination.

4. DATA PRESENTATION

4.1 Base Map and Flight Path

A photomosaic base at a scale of 1:10,000 was prepared from 1:20,000 scale air photos supplied by the Ontario Ministry of Natural Resources on an unscreened cronaflex base.

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 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 flight number as an additional reference and the camera frame, 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 corrected profile data was interpolated onto a regular grid at a 25 metre true scale interval using a cubic spline technique. The grid provided the basis for threading the presented contours at a 5 nanoTesla interval. The

aeromagnetic data have been presented with flight path and electromagnetic information on a Cronaflex copy of the photomosaic base map.

4.4 VLF-EM Total Field

The VLF-EM signals from NAA, Cutler, Maine, broadcasting at 24.0 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 orthogonal VLF data was not utilized in the compilation due to lower field strengths and higher noise levels. The data was recorded on the analog records and on digital tape.

4.5 EM Resistivity Contours

The apparent resistivity was calculated from the 4175 Hz coplanar 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 Geological Perspective

The BEG property is centred on a segment of greenstone belt between Matachewan and Kirkland Lake. The host rocks are predominantly mafic volcanics with intercalated iron formation. The unit is bounded to the south by felsic intrusives and to the north by mafic intrusives and Gowganda Formation sediments. There is almost no up-to-date public reference data for the survey area, and it is not covered by regional public airborne surveys. There are no known mineral prospects in the area of the claims, and there is almost no sign of exploration activity on the airphoto mosaics.

5.2 Magnetic Interpretation

The magnetic data from the high sensitivity cesium vapour magnetometer provided virtually a continuous magnetic reading when recorded 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 total field, resulting in a contour map that is comparable in quality to ground data. Both the fine and coarse magnetic traces were recorded on the survey analog records.

The magnetic trends closely match the known regional geological trends striking in an east northeast direction. There are four main magnetic textures (or lithologies) in the survey area: an iron formation, a granitic domain, the Cross Lake Fault and the mafic volcanics (including any intrusives). Diabase dykes have a north south strike through the area, and are found in every lithology but not across the fault zone.

The iron formation may be traced from the southwestern end of the survey area to the granites at the eastern perimeter. A secondary unit of iron formation follows the northern area boundary, but does not have the susceptibility contrast of the former.

Low gradient magnetics characterize the granitic rocks known to occur at the east end of the property. Amplitudes are typically less than 58550 nT, decreasing towards the middle of the intrusive.

The Cross Lake Fault runs at an oblique angle through the area. On surface it is linear topographic depression now occupied by the Englehart River. Extensive alteration has accompanied the fault which has relatively little lateral displacement. The width of the zone, where magnetite is totally

absent, is approximately 750 m. An additional kilometre of width appears to have been partially altered.

The host rocks of the survey area, mostly mafic flows and pyroclastics, are typically active. A proliferation of diabase dykes and cross faulting has destroyed the continuity of many of the weaker marker horizons. From the symmetry of the total field contours, near vertical formation inclinations may be anticipated throughout the block.

5.3 Vertical Magnetic Gradient Contours

The high magnetic gradients detected as total magnetic field strength, makes the recognition and exact positioning of subtle anomalies difficult. The vertical gradient data clearly removes the regional background levels and sharpens the residual anomalies. Closely spaced anomalies can be more easily separated, interpreted and modelled.

Breaks and offsets are more clearly defined and some faults and shears are recognizable as definite marker horizon displacements. These have been drafted on the interpretation maps and often have a physiographic linear expression. Strike slip faults are not easily defined. Sometimes, they occur at the contact of a major lithological units, such as volcanics and

sediments. A linear magnetic (and gradient) low can mark these zones.

The "zero" contour level is a close approximation of the width of the susceptibility sources. If required, vertical gradient contour trends can be compiled into a pseudo geological map.

5.4 VLF-EM Total Field Interpretation

The VLF system results responded mainly to conductive overburden edges. These often have a similar appearance to bedrock conductors, but their orientation may be oblique to bedrock magnetic lithologies. This lineation direction is radial to the transmitter location, in this case approximately east south east, somewhat oblique to the regional trends. The faults and shears which have a reliable magnetic characterization and often a physiographic linear, have no VLF-EM conductivity in this area. Many conductors, especially the weaker zones, do have VLF coincident responses. This implies that the lithologies hosting the conductor is relatively homogeneous, except where cross faulting and diabase are present.

On the interpretation map, only the conductors which occur in resistive areas and which are interpreted as possible or

definite bedrock conductors have been plotted as dotted axes.

5.5 Electromagnetics

The electromagnetic data was first checked by a line to line examination of the analog records. The record quality was good, with only local noise spikes affecting the coaxial channels. These were removed by an appropriate filter. Instrument noise was well within specifications. Geological noise, in the form of surficial conductors, is present on the 3 high frequency coil pair profiles and to a minor extent on the 935 Hz quadrature.

Anomalies were picked off the analog traces of the low and high frequency coaxial responses and then validated on the coplanar profile data. These selections were then digitized, edited and replotted on a copy of the profile map. This procedure ensured that every anomalous response spotted on the analog data was plotted on the final map and allowed for the rejection and inclusion if warranted - of less obvious bedrock conductors. Each conductor or group of conductors was evaluated on the basis of magnetic and lithologic correlations as well as man made or surficial features not obvious on the analog charts.

RESULTS

The survey results are composed of cultural conductors, surficial responses and bedrock conductors. The cultural conductors with a 60 Hz component were eliminated if roads and the power line monitor (PWRL) were coincident. In areas developed since the photos, a check of the VHS flight path image either showed roads and powerlines or verified the response in question as a potential exploration target. Only bedrock response symbols were plotted on the map, based on the coaxial coil data channel peaks.

In the survey area, there are power lines along the highway, but they do not emit any 60 Hz noise component. A linear conductive effect south of the highway in Range V of Gross Tp. is most likely the effect of a grounded power or telephone line. Verification of this is suggested. Otherwise, there are no cultural responses within the survey block.

Surficial conductivity is present in over 60 percent of the survey area, but is most severe near the Burt - Eby Townline. In this environment, the system could not penetrate through the cover, probably varved clays. Elsewhere, the resistivity contours less than 2000 ohm m. outline areas of surficial

problems. The penetration capabilities of the system can be gauged by the negative inphase amplitudes arising from the magnetic permeability effect. Where these responses diminish in amplitude, over magnetic peaks, it is doubtful if any other bedrock target can be detected under similar surficial cover. The surficial sediments are only marginally less conductive than many bedrock conductors. There are undoubtedly weak and moderate conductance targets under the conductive cover which the EM systems can not resolve. Weak but above background EM deflections occur over the resistive portion of the survey area. Some have been interpreted as bedrock conductors, while others remain unclassified. Where they coincide with bedrock outcrop, the significance and priority may be upgraded.

Almost every conductor has been selected for follow-up surveys. The location of the selected responses is reasonably well distributed over lithologies in the southern half of the area, although the northern half is barren of bedrock conductors. Many conductors have magnetic correlations, both from iron formations and isolated peaks. As the strike lengths are short, with conductances and amplitudes quite variable, graphitic explanations are not anticipated for most conductors, and sulphides sources should be anticipated for many conductors.

Targets have been prioritized by their geological setting and probability of encountering a bedrock source (as compared to a surficial source). In addition, the interpretation symbology reflects the source quality and our confidence in a bedrock source.

Priority 1 - definite bedrock solid axes
2 - weak bedrock dashed axes
3 - questionable bedrock no axes

CONDUCTOR I

Priority 3

Resistivity : 200 - 500 ohm m.

VLF-EM : direct VLF EM conductor

Magnetics : coincidence for Line 50 & 70 only

Structure : conductor is cut by diabase

Comments : The responses form a linear trend north of the iron formation, subparallel to local magnetic lithology and on the north side of a surficial conductive zone. The responses have low amplitudes and poor Quadrature to inphase ratios, and are best classed as a resistivity lows. The zone may be an edge effect of the surficial conductor.

CONDUCTOR IIabc

Priority 2

Resistivity : 300 ohm.m.

VLF-EM : -

Magnetics : direct - Iron Formation

Structure : 2 N-S faults and/or diabase cut the horizon in at least 2 locations

Comments : response amplitudes and quality improves westward, off the map sheet. The responses are probable bedrock, but have low apparent conductance values which are consistent along strike. The line 170 B response has the best inphase amplitude and should be the focus of ground surveys.

CONDUCTOR IIIab

Priority 1

Resistivity : 200 ohm.m.

VLF-EM : -

Magnetics : on south flank of northern IF horizon

Structure : same as zone II, at least 2 faults

Comments : A south dipping conductor with low apparent conductance, but a distinct improvement over surficial conductivities Sharp inphase re-

sponses occur between lines 150 and 170. Coplanar coil peaks are greater on the north side of the axis, implying a northward dip.

CONDUCTOR IV

Priority 3

Resistivity : 600 ohm.m.

VLF-EM : direct coincident anomaly

Magnetics : generally flat magnetics except for diabase dykes

Structure : very linear even where cut by diabase

Comments : The zone parallels the south side of the Highway exactly. Logic dictates that a zone such as this should be surficial, but there is no physical evidence of this on the profiles. The profiles are sharp but wide, and low conductance. There is no power line monitor response. A field check should be made for cultural conductors. Failing this, the source could be a lithologic conductor or graphitic zone.

CONDUCTOR V

Priority 2

Resistivity : 800 ohm.m.

VLF-EM : -

Magnetics : flanking to direct, on N side of the magnetic source

Structure : none, although a break is present in the IF to the north

Comments : on the edge of a surficial conductor, a definite, albeit weak bedrock conductor with a definitive coaxial and coplanar response. The zone has an apparent steep southward dip.

CONDUCTOR VI

Priority 2

Resistivity : 1000 ohm.m.

VLF-EM : -

Magnetics : flanking the main IF, but in a low.

Structure : same as V, may be cut by a fault

Comments : A short strike length zone south of the Iron formation, also characterized by low amplitudes and low apparent conductances. The zone has a strike extension to the west on lines 480 and 490 with a direct magnetic association. Dis-

continuous (disseminated) mineralization could cause this type of response.

CONDUCTOR VII

Priority 2

Resistivity : 1000 ohm.m.

VLF-EM : coincident at ends of zone but, surprisingly, not in the middle of the conductor

Magnetics : direct

Structure : the conductor lies between faults

Comments : Sharp quadrature profiles are present with this zone, and represent a possible bedrock conductor within the iron formation. The In-Phase amplitudes are negative due to the effects high magnetic permeabilities.

CONDUCTOR VIII

Priority 2

Resistivity : 3000 ohm.m.

VLF-EM : direct conductor coincidence, extends the strike length further to the west

Magnetics : magnetic low

Structure : -

Comments : The conductor is located in a relatively resistive environment and is one of the most northerly horizons with a conductor. This zone is best described as a resistivity low, but from a vertical body.

CONDUCTOR IX

Priority 2

Resistivity : 6000 ohm.m.

VLF-EM : direct; extends the strike length of the weak responses.

Magnetics : direct association with Iron Formation which has been broken by faulting and diabase dykes.

Structure : several faults and diabase dykes have segmented the zone, although there is little evidence in the VLF to support this concept.

Comments : Very subtle weak conductors which occur sporadically within a resistive host rock with out any overburden complexities. A higher priority has been assigned to this target due to its location within favourable environment for gold.

CONDUCTOR X

Priority 3

Resistivity : 6000 ohm.m.

VLF-EM : -

Magnetics : flanking to direct magnetic association

Structure : probability of complex faulting at either end.

Comments : A possible surficial edge effect, although the profiles of both coaxial and coplanar coils match vertical bedrock sources. It is characterized by very weak quadrature amplitudes.

CONDUCTOR XI

Priority 3

Resistivity : 2000 ? ohm.m.

VLF-EM : flanking? coincident with magnetic anomaly to the south.

Magnetics : possible magnetic association

Structure : complex magnetics infer faulting.

Comments : The conductor is similar to zone X in amplitude, and may be a strike extension although they are somewhat offset on different magnetic lithologies. There is a minor inphase coaxial peak at a surficial edge.

CONDUCTOR XII

Priority 1

Resistivity :

VLF-EM : coincident conductor joins up with IX

Magnetics : best EM response is just offset from a magnetic peak on strike to the west.

Structure : faulting is suspected east of the zone but its westward strike extension is uncertain

Comments : Response 761 A has a relatively high inphase to Quadrature ratio, a vertical to north dip source, high conductance and short strike length in a resistive environment.

CONDUCTOR XIV

Priority 2

Resistivity : 5000 ohm.m.

VLF-EM : direct coincident anomaly extends the strike length of the EM conductor.

Magnetics : all responses are coincident with magnetic peaks.

Structure : faults may offset the conductor at both ends.

Comments : The zone is linear and has consistent geophysical characteristics along its strike length. The amplitudes are low and the apparent

conductances are both low and consistent. A graphitic source would explain the conductance, but not the magnetics.

CONDUCTOR XV

Priority 2

Resistivity : 7000 ohm.m.

VLF-EM : -

Magnetics : magnetic low

Structure : its intermittent nature may be the result of both faulting and diabase dykes intersecting the zone regularly along its length.

Comments : there is no improvement in quality over more than 2 Km of intermittent strike length. Quadrature amplitudes predominate and apparent conductances are consistently low. Discontinuous mineralization can be anticipated.

CONDUCTOR XVI

Priority 1

Resistivity : < 50 ohm.m.

VLF-EM : no correlation

Magnetics : no magnetics

Structure : zone of faults and diabase dykes.

Comments : The conductor is situated at the edge of a surficial conductor, but the dominant inphase profile can only have a bedrock source. The geological environment is confused by the positioning of diabase dyke at the end of the zone, and the nearby contact of granite with mafic volcanics.

CONDUCTOR XVII

Priority 1

Resistivity : 1000 ohm.m.

VLF-EM : direct and exact duplication of curved conductive lithology detected with low frequency EM channels

Magnetics : direct low amplitude magnetic anomaly follows the EM conductor.

Structure : The zone appears to be cut off by a fault contact at its eastern end and a diabase dyke on the east. faults and diabase dykes.

Comments : A pyrrhotite source would explain all of the geophysical responses from this zone. The 980 B response intercept has characteristics normally associated with a narrow north dipping isolated

conductor. The zone is in a resistive environment.

There are other isolated single line responses not specifically addressed in this summary. These should be considered during geological mapping, but do not warrant ground followup on the basis of the airborne results alone.

5.6 Resistivity Contours

The resistivity contours approximate the profile amplitude trends only in particular situations. Resistivities vary over a wide range, with the thickness of the conductive layer modulating the responses over a substantial part of the survey area. It is interesting to note the variation of the surficial conductances throughout the area. From the calculated resistivities, it is difficult recognize favourable bedrock conductors and trends which might influence an exploration program. As expected, the zones with the lowest regional resistivities are almost devoid of bedrock conductors. Bedrock conductors, due to their short spatial wavelengths, often are seen as minor inflections in regional patterns of overburden resistivity lows. The resistivity lows extend the strike length of some conductors.

6. CONCLUSIONS

There are severe overburden problems over a significant fraction of the area. However, the airborne system has detected more than 15 unique conductors with a wide variety of geophysical response characteristics. These conductors span a range of sources from massive to disseminated mineralization. Magnetic associations are inconsistent, but quite clearly, pyrrhotite appears to be a minor constituent of the conductor explanations.

The magnetic survey and the calculated gradient provides a representation of the bedrock geology. Faults and diabase dykes add to the complexity of regional geology and may enhance possibilities of encountering gold mineralization. With the help of magnetics, it will be possible to extrapolate geology under the surficial cover and to identify additional cross faulting. VLF-EM was generally ineffective due to the abundance of surficial conductivity. Very few VLF-EM conductors do not have any associated bedrock conductor. Structures in the survey area do not as a rule have any VLF-EM responses associated. Resistivity processing and presentations delineate the surficial conductivity problem areas. Due to the narrow apparent range of bedrock conductances, this processing does not add any significant gain in the data interpretations.

7. RECOMMENDATIONS

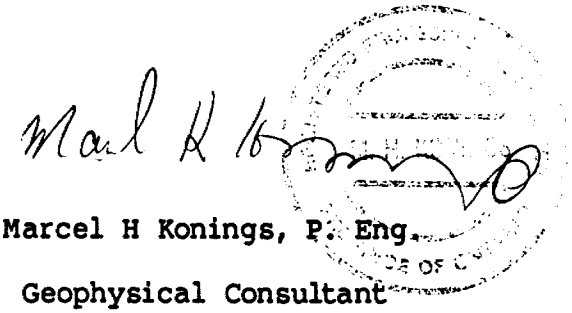
Bedrock conductors have been prioritized into 3 classes for the purpose of qualifying further followup. Detailed geological mapping and sampling is recommended for every response. With additional information, the explorationists may be able to explain some conductors and reject unfavourable geological environments. Geophysical surveys are warranted on zones which can not be adequately tested by surface sampling.

Max Min with at least 4 frequencies should adequately resolve the selected targets. The frequency range should span 111 Hz through 14 kHz and a coil separation of 100 m should be sufficient to resolve the targets. A combined magnetic/gradiometer survey may help to resolve local structures, to pinpoint magnetic strata and to extrapolate mapping under areas obscured by surficial sediments.

The selected conductors should serve as a starting point in ground explorations. There are many types of gold deposits which have no detectable airborne EM or VLF-EM response.

The selected targets have been prioritized according to the following table :

Priority	1	2	3
	IIIab	IIab	I
	XII	V	IV
	XVI	VI	X
	XVII	VII	XI
		VIII	XIII
		IX	
		XIV	
		XV	



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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 lower frequency 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 ratio 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 measureable 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 the 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	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	CONDUCTOR DEPTH MTRS	BIRD HEIGHT MTRS
1	10	A	0	8.4	24.7	0.2	0	200
1	20	A	0	6.3	25.2	0.1	0	188
1	31	A	0	6.8	26.6	0.1	0	186
1	40	A	0	6.8	29.5	0.1	0	173
1	50	A	0	6.7	14.0	0.3	0	231
1	50	B	0	5.1	26.0	0.0	0	189
1	50	C	0	18.6	27.2	0.7	0	200
1	60	A	0	8.4	18.3	0.3	0	223
1	60	B	0	8.6	21.5	0.2	0	206
1	61	A	0	3.2	28.3	0.0	0	180
1	70	A	0	4.0	24.7	0.0	0	195
1	70	B	0	9.4	32.5	0.1	0	189
1	80	A	0	6.4	21.6	0.1	0	212
1	90	A	0	13.3	24.5	0.4	0	209
1	110	A	0	2.6	5.5	0.1	0	199
1	120	A	0	13.1	30.3	0.3	0	201
1	130	A	0	14.6	33.9	0.3	0	169
1	130	B	0	17.2	50.2	0.3	0	181
1	140	A	0	16.6	59.4	0.2	0	174
1	140	B	0	11.6	34.1	0.2	0	184
1	150	A	0	0.1	10.8	0.0	0	192
1	150	B	0	23.9	44.3	0.6	0	177
1	150	C	0	14.0	48.2	0.2	0	176
1	150	D	0	15.2	69.3	0.1	0	171
1	160	A	0	4.4	14.5	0.1	0	203
1	160	B	0	8.7	26.9	0.2	0	188
1	160	C	0	12.3	23.9	0.4	0	218
1	160	D	0	19.8	24.8	0.9	0	211
1	170	A	0	18.6	31.7	0.6	0	178

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	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	CONDUCTOR DEPTH MTRS	BIRD HEIGHT MTRS
1	170	B	0	18.5	40.3	0.4	0	174
1	170	C	0	9.4	31.1	0.1	0	168
1	180	A	0	7.7	25.9	0.1	0	202
1	180	B	0	9.0	26.4	0.2	0	189
1	190	A	0	7.8	16.6	0.3	0	210
1	190	B	0	10.9	25.2	0.3	0	201
1	190	C	0	13.5	39.9	0.2	0	177
1	200	A	0	6.8	25.0	0.1	0	201
1	200	B	0	11.1	30.3	0.2	0	200
1	200	C	0	6.4	14.6	0.2	0	215
1	200	D	0	2.6	13.5	0.0	0	171
1	210	A	0	9.1	14.8	0.4	0	211
1	210	B	0	10.6	33.2	0.2	0	182
1	220	A	0	9.7	36.8	0.1	0	190
1	230	A	0	12.9	43.5	0.2	0	175
1	240	A	0	9.5	33.7	0.1	0	188
1	240	B	0	11.5	42.8	0.1	0	151
1	250	A	0	8.6	33.1	0.1	0	172
1	260	A	0	4.1	15.1	0.1	0	203
1	270	A	0	7.6	31.3	0.1	0	164
1	280	A	0	6.9	18.2	0.2	0	214
1	290	A	0	14.0	34.2	0.3	0	178
1	300	A	0	11.9	19.3	0.5	0	232
1	310	A	0	15.3	26.1	0.5	0	199
1	330	A	0	10.9	17.8	0.5	0	201
1	340	A	0	14.0	19.4	0.7	0	242
1	440	A	0	7.0	13.4	0.3	0	172
1	480	A	0	7.2	16.2	0.2	0	198

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.

BEG PROPERTY J8762

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	CONDUCTOR DEPTH MTRS	BIRD HEIGHT MTRS
1	490	A	0	4.0	8.9	0.2	0	229
2	500	A	0	0.3	3.8	0.0	0	208
2	500	B	0	-2.2	1.7	0.0	0	198
2	510	A	0	3.2	13.7	0.0	0	186
2	520	A	0	1.7	8.7	0.0	0	166
2	520	B	0	4.1	10.9	0.1	0	191
2	520	C	0	7.6	35.2	0.1	0	172
2	530	A	0	4.2	8.6	0.2	0	170
2	530	B	0	1.1	5.7	0.0	0	176
2	540	A	0	1.8	7.1	0.0	0	157
2	540	B	0	2.7	8.1	0.1	0	163
2	550	A	0	5.2	12.9	0.2	0	163
2	550	B	0	2.4	8.2	0.0	0	187
2	560	A	0	2.1	17.2	0.0	0	205
2	570	A	0	0.5	11.8	0.0	0	203
2	580	A	0	-6.5	8.6	0.0	0	185
2	580	B	0	2.4	25.3	0.0	0	182
2	590	A	0	-13.5	6.8	0.0	0	175
2	681	A	0	0.4	3.8	0.0	0	200
2	690	A	0	0.3	5.7	0.0	0	192
2	700	A	0	-1.3	2.6	0.0	0	174
2	710	A	0	0.8	5.5	0.0	0	174
2	710	B	0	-1.5	3.9	0.0	0	173
2	710	C	0	-0.4	2.4	0.0	0	190
2	720	A	0	0.9	5.1	0.0	0	172
2	720	B	0	4.0	4.6	0.5	0	182
2	730	A	0	4.7	10.3	0.2	0	168
2	730	B	0	7.2	22.3	0.1	0	181

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.

BEG PROPERTY J8762

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	CONDUCTOR DEPTH MTRS	BIRD HEIGHT MTRS
2	730	C	0	0.0	5.9	0.0	0	182
2	740	A	0	-3.0	7.1	0.0	0	160
2	740	B	0	2.5	17.0	0.0	0	180
2	750	A	0	3.2	8.5	0.1	0	193
2	750	B	1	10.5	10.4	1.0	0	189
2	761	A	2	20.8	14.3	2.1	0	172
2	781	A	0	1.1	6.2	0.0	0	188
2	781	B	1	19.7	20.2	1.2	0	188
2	791	A	0	2.4	9.4	0.0	0	195
2	791	B	0	-0.3	2.9	0.0	0	193
2	800	A	0	-1.6	2.1	0.0	0	179
2	800	B	0	-0.9	3.7	0.0	0	193
2	810	A	0	-0.2	1.9	0.0	0	195
2	810	B	0	-2.5	2.6	0.0	0	189
2	820	A	0	-1.3	5.6	0.0	0	179
2	820	B	0	-1.1	2.2	0.0	0	160
2	830	A	0	-1.8	3.5	0.0	0	178
2	840	A	0	-2.2	2.4	0.0	0	187
2	850	A	0	-0.9	2.1	0.0	0	183
2	850	B	0	-3.0	4.2	0.0	0	199
2	860	A	0	-5.3	4.9	0.0	0	183
2	860	B	0	-0.5	3.6	0.0	0	193
2	860	C	0	-2.8	1.8	0.0	0	170
3	870	A	0	2.5	7.6	0.1	0	190
3	870	B	0	6.1	24.1	0.1	0	201
3	870	C	0	5.6	26.7	0.0	0	186
3	880	A	0	-1.3	2.1	0.0	0	189
3	900	A	0	0.0	1.4	0.0	0	163
3	900	B	0	-1.4	1.3	0.0	0	178
3	910	A	0	-1.5	5.9	0.0	0	182

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.

BEG PROPERTY J8762

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM) INPHASE	AMPLITUDE (PPM) QUAD.	CONDUCTOR CTP MHOS	CONDUCTOR DEPTH MTRS	BIRD HEIGHT MTRS
3	910	B	0	-0.6	1.4	0.0	0	192
3	910	C	0	0.2	2.8	0.0	0	184
3	910	D	0	1.1	13.6	0.0	0	179
3	920	A	0	5.1	28.3	0.0	0	182
3	920	B	0	-0.4	3.9	0.0	0	169
3	920	C	0	-1.2	0.6	0.0	0	195
3	920	D	0	-1.9	3.6	0.0	0	188
3	930	A	0	-0.1	0.7	0.0	0	205
3	930	B	0	1.4	14.5	0.0	0	190
3	940	A	0	7.1	28.8	0.1	0	195
3	960	A	0	0.9	16.1	0.0	0	168
3	960	B	0	1.8	11.9	0.0	0	179
3	960	C	2	31.1	16.2	3.6	0	162
3	960	D	0	-0.9	3.1	0.0	0	173
3	970	A	0	1.6	4.0	0.1	0	184
3	970	B	0	2.6	15.7	0.0	0	190
3	970	C	0	2.5	17.7	0.0	0	178
3	980	A	0	5.9	28.8	0.0	0	173
3	980	B	2	26.3	15.2	2.9	0	172
3	990	A	0	0.0	4.3	0.0	0	193
3	990	B	1	6.4	5.6	1.0	0	178
3	1010	A	0	2.4	20.1	0.0	0	191
3	1020	A	0	3.8	21.7	0.0	0	179
3	1020	B	0	3.5	23.8	0.0	0	184
3	1030	A	0	-1.6	2.4	0.0	0	158
3	1060	A	0	4.3	36.3	0.0	0	144
3	1060	B	0	5.2	21.9	0.0	0	191
3	1070	A	0	5.2	22.0	0.0	0	164
3	1070	B	0	4.1	26.6	0.0	0	170
3	1080	A	0	2.7	19.1	0.0	0	172
3	1090	A	0	5.1	18.9	0.1	0	182

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

arcel H. Konings Certify that:

I reside at R.R. # 1, (Part E 1/2-L9-C6 Adjala Twp), Colgan, Ontario, L0G 1G0.

I am a qualified Geological Engineer, having received my academic training at the University of Toronto, specializing in Exploration Geophysics and having graduated in 1974.

I am a registered Professional Engineer of the Province of Ontario, in good standing.

I have been professionally engaged in my profession, the application of Mining Geophysical Methods to mineral exploration, continuously for 14 years in Canada and internationally.

I have been an active member of the Society of Exploration Geophysicists since 1977 and hold memberships in other professional societies involved in the mineral exploration industry.

The accompanying report was prepared from data supplied by Aerodat.

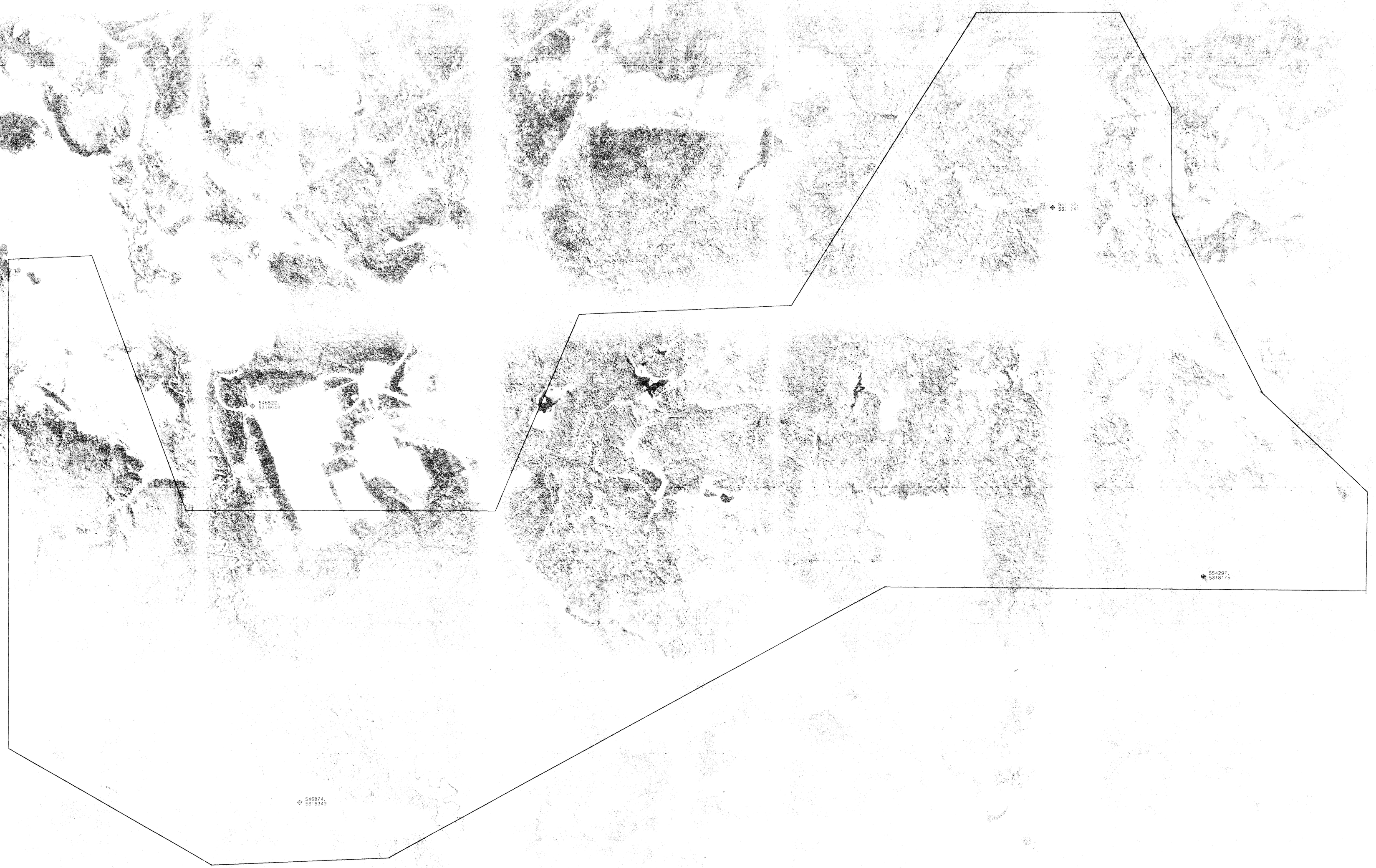
I have no interest, direct or indirect, in the property described nor do I hold securities in Les Ressources Halex Inc.

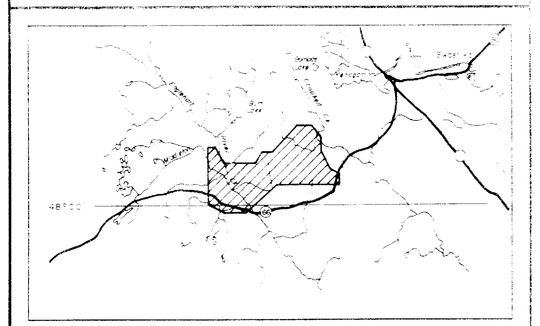
I hereby consent to the use of this report in a Statement of Material Facts of the Company and for the preparation of a prospectus for submission to the Ontario Securities Commission and/or other regulatory authorities.

Signed

Marcel H. Konings, P. Eng.

.l 6, 1988
an, Ontario
6) 936-4853





LES RESSOURCES HALEX INC.

BASE MAP

BEG PROPERTY

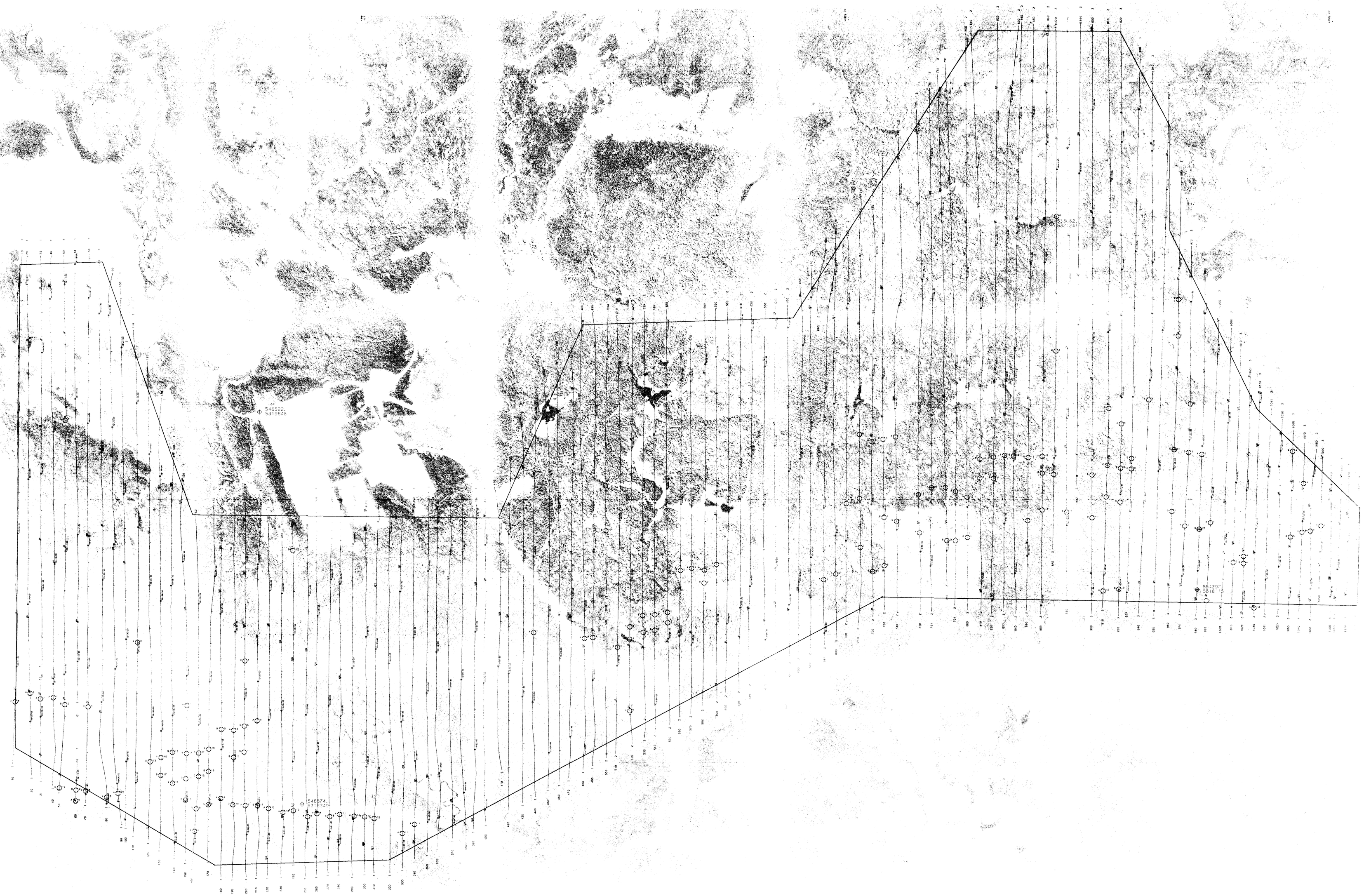
ONTARIO

AERODAT LIMITED

DATE: MARCH 1988

NTS INDEX: 41P/16, 42A/01

DRAWING: 1 J762



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Flight Path

Navigation and acquisition system:
Motorola 6 VHF Ranger (VOR/DME) with Polaron radar navigation system

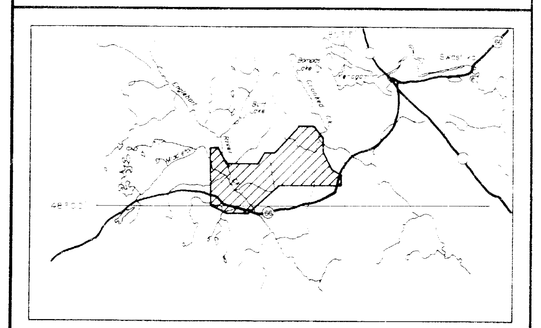
Average terrain clearance 60m
Line spacing 150m

EM Anomalies

Conductivity (mhos)
- 0.1
- 0.2
- 0.3
- 0.5
- 0.75
- 1.0
- 1.25
- 1.5
- 2.0

Cultural Features

Electromagnetic anomaly (in-phase component > 0.1 mhos)
Conductivity (out-of-phase component > 0.1 mhos)



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FLIGHT PATH

BEG PROPERTY
ONTARIO

AERODAT LIMITED

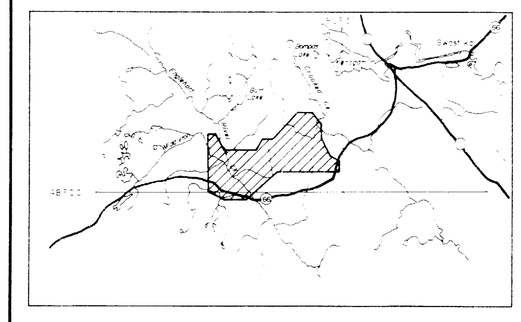
DATE: MARCH 1988
NTS NO: 41P/16, 42A/01
MAP NO: 2 JB762

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Flight Path



LES RESSOURCES HALEX INC.

TOTAL FIELD MAGNETIC CONTOURS

BEG PROPERTY

ONTARIO

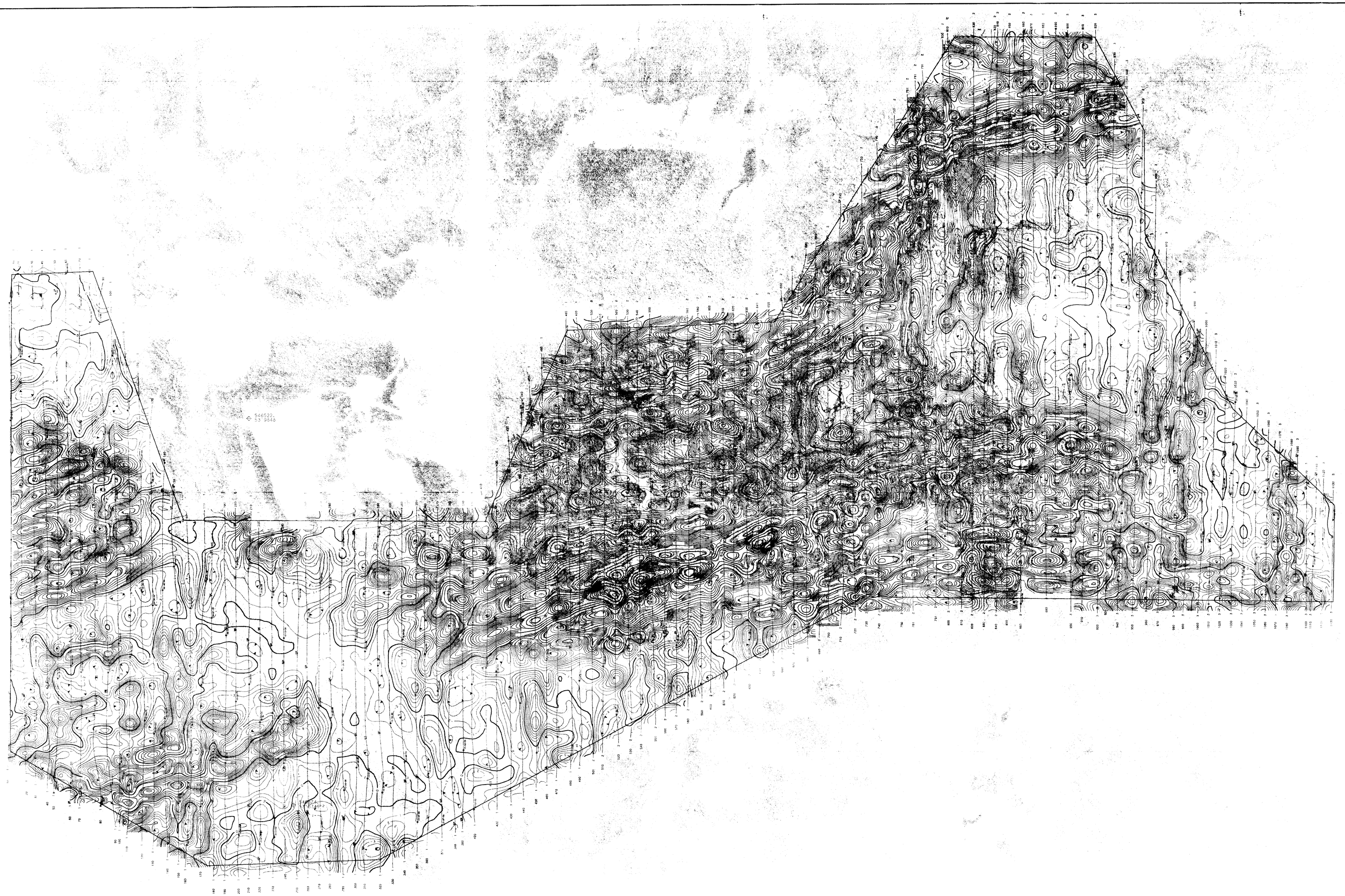
AERODAT LIMITED

DATE: MARCH 1988

NTS NO.: 41P/16, 42A/01

MAP NO.: 4 JB762

220



N

Flight Path

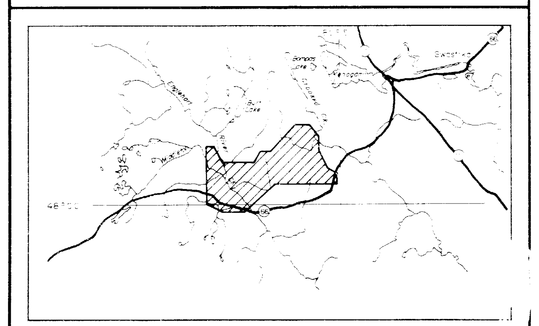
Navigation and recovery aids for
Motorola Mini-Ranger (MRE) / LA FALCON
Radar Navigation System

Average terrain clearance 60m
Line spacing = 100m

Contours in nT/m

Cesium vapor sensitivity magnetometer
Sensor elevation 45m

Map contours are mylar copies of
those used on the



LES RESSOURCES HALEX INC.

CALCULATED VERTICAL MAGNETIC GRADIENT

BEG PROPERTY

ONTARIO

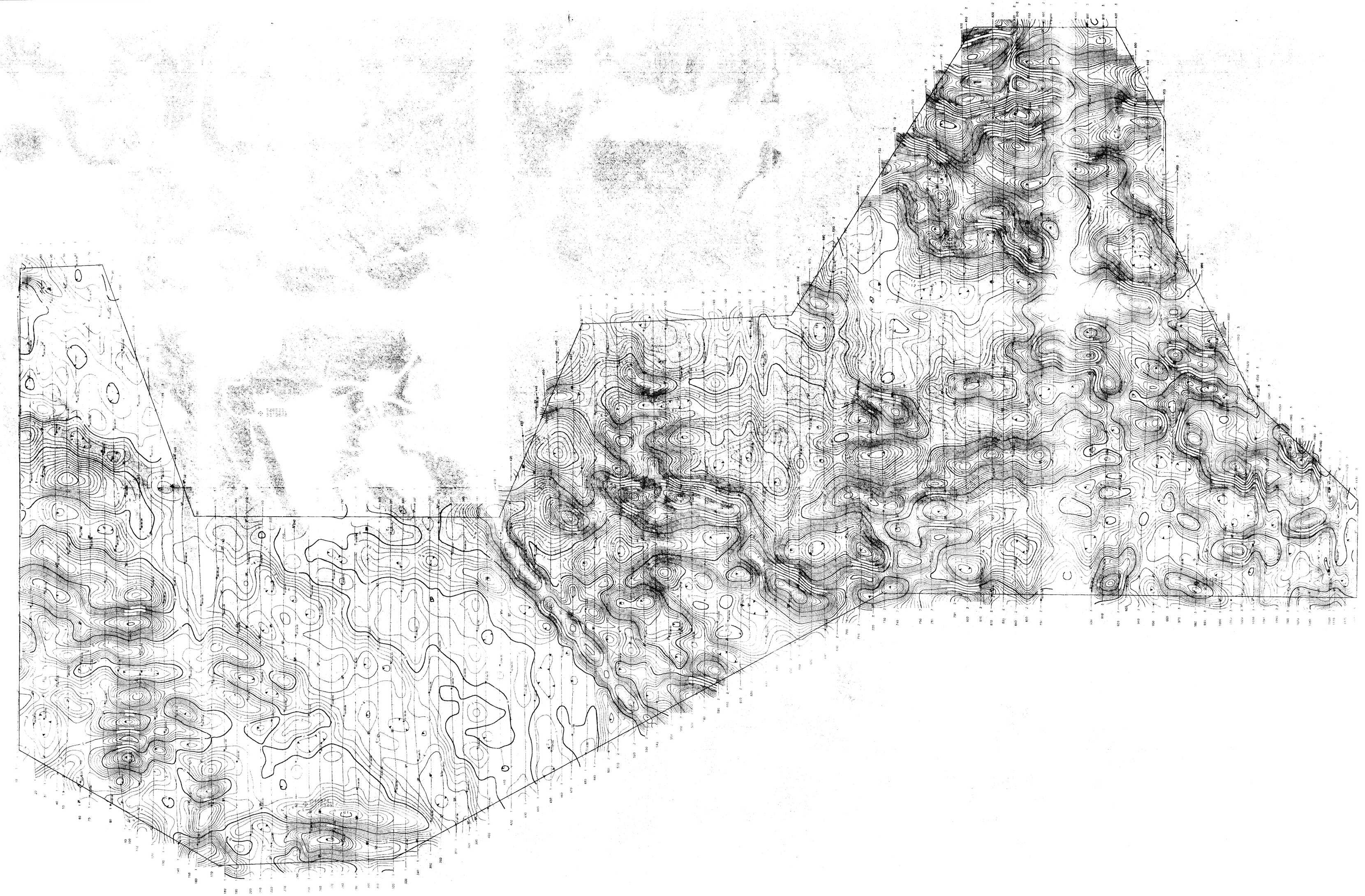
AERODAT LIMITED

DATE: MARCH 1988

NTS NO: 41P/16, 42A/01

MAP NO: 5 J8762

230



VLF-EM

LES RESSOURCES HALEX INC.

VLF-EM TOTAL FIELD CONTOURS

BEG PROPERTY

ONTARIO

AERODAT LIMITED

MARCH 1988

41P/16, 42A/01

6

J8762

240

N

Flight Path

LES RESSOURCES HALEX INC.

APPARENT RESISTIVITY CONTOURS

BEG PROPERTY

ONTARIO

AERODAT LIMITED

MARCH 1988

41P/16, 42A/01

7

5762

250

260

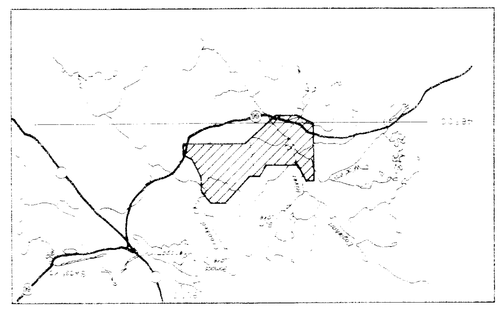
LES RESSOURCES HALEX INC.

INTERPRETATION

BEG PROPERTY

ONTARIO

AERODAT LIMITED	
DATE: MARCH 1988	
JOB No.: 41P/15, 42A/01	
MAP No.: 3	JB762



INTERPRETATION LEGEND

Flight Path

N