REPORT ON COMBINED HELICOPTER-BORNE MAGNETIC AND VLF-EM SURVEY FOURNIER/OTTAWAY TOWNSHIPS, ONTARIO

for
CHEVRON CANADA RESOURCES LIMITED
by
AERODAT LIMITED
March, 1986

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DESCRIPTION OF MAPS

(Scale: 1:10,000)

Maps

1. Total Field Magnetic Contours.
2. Vertical Magnetic Gradient Contours.
3. VLF-EM Total Field Contours.
4. VLF-EM Total Field/Quadrature Profiles.
5. VLF-EM Quadrature Contours (Fraser Filtered).

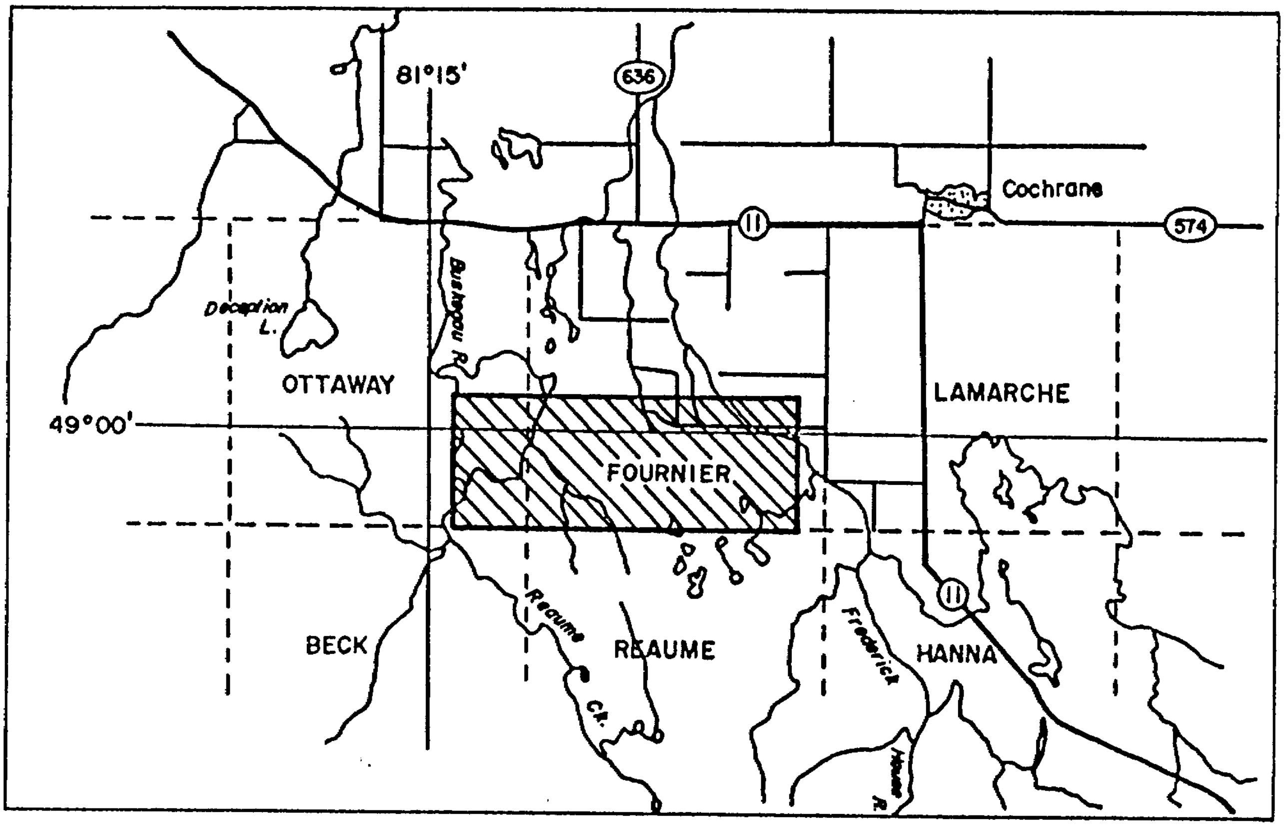
1. INTRODUCTION

This report describes an airborne geophysical survey carried out on behalf of Chevron Canada Resources Limited by Aerodat Limited. Equipment operated included a magnetometer, a VLF-EM system, a tracking camera, and a Motorola radar navigation system.

The survey area, near Cochrane Ontario, was flown from February 9 - 10, 1986. A total of 509 kilometres of data is presented in this report.

2. SURVEY AREA LOCATION

The survey area is depicted on the index map shown below (NTS Reference Map 42H/3). A nominal flight line direction of North-South and a flight line spacing of 100 metres was employed over the entire survey area.



3. AIRCRAFT AND EQUIPMENT

3.1 Aircraft

The helicopter used for the survey was an Aerospatiale A-Star 350B owned and operated by Lakeland Helicopters Limited (CGDUF). Installation of the geophysical and ancillary equipment was carried out by Aerodat. The survey aircraft was flown at a mean terrain clearance of 60 metres.

3.2 Equipment

3.2.1 VLF-EM System

The VLF-EM system was a Herz Totem 1A. 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 station used was NLK (Seattle, Washington, 24.8 kHz).

3.2.2 Magnetometer

The magnetometer was a Geometrics G 803 proton precession type. The sensitivity of the instrument was 1 gamma at a 0.5 second sampling rate. The sensor was towed in a bird 12 metres below the helicopter.

3.2.3 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.

3.2.4 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.

3.2.5 Tracking Camera

A Geocam tracking camera was used to record flight path on 35mm film. The camera was operated in strip mode and the fiducial numbers for cross-reference to the analog and digital data were imprinted on the margin of the film.

3.2.6 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
06	VLF-EM Total Field	2.5%/mm
07	VLF-EM Quadrature	2.5%/mm
13	Altimeter (500 ft. at top of chart).	10 ft./mm
14	Magnetometer	5 gamma/mm
15	Magnetometer	50 gamma/mm

3.2.7 Digital Recorder

A Perle DAC/NAV data system recorded the survey on magnetic tape. Information recorded was as follows:

Equipment	Interval
VLF-EM	0.5 seconds
Magnetometer	0.5 seconds
MRS III	0.5 seconds

3.2.8 Radar Positioning System A Motorola Mini-Ranger (MRS III) radar navigation system was utilized for both navigation and track recovery. Transponders located at fixed locations were interrogated several times per second and the ranges from these points to the helicopter measured to an accuracy of about 10 metres. A navigational computer triangulates the position of the helicopter and provides the pilot with navigational 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 photomosaic base at a scale of 1:10,000 was prepared by enlargement of aerial photographs of the survey area.

The flight path was derived from the Mini-Ranger 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 of the base map. The flight path is presented with fiducials for cross-reference to both the analog and digital data.

4.2 Total Field Magnetic Contours

The aeromagnetic data were corrected for diurnal variation by subtraction of the digitally recorded base station magnetic profile. No correction for regional variation was applied.

The corrected profile data were interpolated onto a regular grid at a 25m interval using a cubic spline technique. The grid provided the basis for threading the presented contours at a 5nT interval.

The aeromagnetic data have been presented on the photomosaic base with the flight path.

4.3 <u>Computed Vertical Magnetic Gradient Contours</u>

The vertical magnetic gradient was calculated from the gridded total field magnetic data. Contoured at a 1 gamma/m interval, the gradient data were presented on the photomosaic base with the flight path.

4.4 <u>VLF-EM Total Field Contours and Profiles</u>

The VLF-EM signal from NLK was compiled in map form. The mean response level of the total field signal was removed and the data was gridded and contoured at an interval of 2%. The VLF-EM data have been presented on the photomosaic base with the flight path.

5. INTERPRETATION AND RECOMMENDATIONS

The magnetic activity in the survey area supports the metavolcanics/metasediments description of the geology given on the Ontario Department of Mines Map #2161. The iron formation to the south-east of Dunn Lake is evident as noted on Map #2161, but does not appear to be as continuous as suggested. The fault zone to the west of Dunn Lake, striking North 27 degrees West, is not readily apparent in the magnetic contours.

The VLF-EM total field response was relatively inactive due to the conductive cover in the survey area. The quadrature component yielded more distinctive results, and when combined with the total field data, several conductive zones can be delineated. Those zones possessing flanking or coincident magnetic anomalies suggest a possible structural origin (see discussion in Appendix I).

A further analysis of the presented data should be performed by those most familiar with the geology and geophysics of the survey area.

Respectfully submitted,

AERODAT LIMITED,

Glenn Boustead, B.A.Sc.

March, 1986

J8549

APPENDIX I - General Interpretive Considerations

Magnetics

The total field magnetic map shows contours of the total magnetic field, uncorrected for regional variation. This data can be quite useful for geological mapping, as it reflects the varying magnetic properties of the underlying rocks. In general, the magnetic response increases in intensity as the rock type goes from felsic to intermediate to mafic. The amplitude, shape and size of the anomaly can be used to determine the geometry, position and depth of the causative body.

When correlated with electromagnetic data, the magnetics are a useful tool for outlining potential exploration targets. An apparent coincidence between a VLF-EM and a magnetic anomaly may be caused by a conductor which is also magnetic (such as sulphides containing pyrrhotite and/or magnetite), or be a conductor which lies in close association with a magnetic body (such as graphites and magnetites). It is often very difficult to distinguish between these cases.

More indirectly, varying intensities and pattern shifts on the magnetic contours can be interpreted as certain rock types, stratigraphic horizons, faults or folds which might be geologically favourable to a specific type of mineralization.

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 cores 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 inphase 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 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.

To Whom it may concern:

STATEMENT OF QUALIFICATIONS

GLENN BOUSTEAD

1. I hold a B.A.Sc. in Engineering Science (Geophysics Option) from the University of Toronto.

2. I am a Geophysicist and have been employed with Aerodat since June, 1983.

Yours truly,

Glenn Boustead

Glenn Boustead

42A14NE0602 2.9074 FOURNIER

900

Mining Lands Section

File No 2.9074

Control Sheet

TYPE OF SURVEY ✓ GEOPHYSICAL

GEOLOGICAL

GEOCHEMICAL

EXPENDITURE

MINING LANDS COMMENTS:

D Hurst

Signature of Assessor

May 5/86

Date

8.

gd

(1)

Ministry of Natural Resources
Ontario

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

#13.2 29074

The Mining Act

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

Type of Survey(s): HELICOPTER BORNE MAGNETIC AND VLF - EM

Township or Area: OTTAWAY

Claim Holder(s): CHEVRON CANADA RESOURCES LIMITED

Prospector's Licence No.: T - 1690

Address: 167B WILSON AVENUE, TIMMINS, ONTARIO P4N 2T2

Survey Company: AERODAT LIMITED

Date of Survey (from & to): 09 02 86 (Day Mo. Yr.) – 10 02 86 (Day Mo. Yr.)

Total Miles of line Cut: N/A

Name and Address of Author (of Geo-Technical report): GLENN BOUSTEAD,

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)	- Radiometric	
	- Other	
	Geological	
	Geochemical	

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

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

Expenditures (excludes power stripping)

Type of Work Performed:

Performed on Claim(s):

Calculation of Expenditure Days Credits

Total Expenditures $ ÷ 15 = Total Days Credits

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

Date: APRIL 21, 1986 | Recorded Holder or Agent (Signature): [signature]

Mining Claims Traversed (List in numerical sequence) PAGE 1

Prefix	Number	Expend. Days Cr.
P	834252	
	834253	
	834254	
	834255	
	834256	
	834257	
	834258	
	834259	
	834260	
	834261	
	834262	
	834263	
	834264	
	834265	
	834266	
	834267	
	834268	
	834269	

RECORDED APR 24 1986

RECORDED APR 24 1986

Total number of mining claims covered by this report of work: 123

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
9,840	April 24/86.	[signature]
	Date Approved as Recorded: 86 05 07	Branch Director: [signature]

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying: LESLIE A. TIHOR, 167B WILSON AVENUE, TIMMINS, ONTARIO P4N 2T2

Date Certified: April 21, 1986 | Certified by (Signature): [signature]

(2)

Ministry of Natural Resources
Ontario

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

The Mining Act

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

Type of Survey(s): HELICOPTER BORNE MAGNETICS AND VLF - EM
Township or Area: FOURNIER
Claim Holder(s): CHEVRON CANADA RESOURCES LIMITED
Prospector's Licence No.: T - 1690
Address: 167B WILSON AVENUE, TIMMINS, ONTARIO P4N 2T2
Survey Company: AERODAT LIMITED
Date of Survey (from & to): 09 02 86 (Day Mo. Yr.) 10 02 86 (Day Mo. Yr.)
Total Miles of line Cut: N/A
Name and Address of Author (of Geo-Technical report): GLENN BOUSTEAD,

Credits Requested per Each Claim in Columns at right

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

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

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

Expenditures (excludes power stripping)

Type of Work Performed:

Performed on Claim(s):

Calculation of Expenditure Days Credits

Total Expenditures $ ______ ÷ 15 = Total Days Credits ______

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

Mining Claims Traversed (List in numerical sequence) PAGE 1-2

Prefix	Number	Expend. Days Cr.
P	834331	
	834332	
	834333	
	834334	
	834335	
	834336	
	834337	
	834338	
	834339	
	834340	
	834341	
	834342	
	834343	

APR 24 1986

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

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
	Date Approved as Recorded	Branch Director

Date: APRIL 21, 1986
Recorded Holder or Agent (Signature): L A Tihor

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying: LESLIE A. TIHOR, 167B WILSON AVENUE, TIMMINS, ONTARIO P4N 2T2

Date Certified: April 21, 1986
Certified by (Signature): L A Tihor

1362 (81/9)

(3)

Ministry of Natural Resources
Ontario

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

The Mining Act

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

Type of Survey(s)	Township or Area
HELICOPTER BORNE MAGNETIC AND VLF - EM	FOURNIER

Claim Holder(s)	Prospector's Licence No.
CHEVRON CANADA RESOURCES LIMITED	T - 1690

Address: 167B WILSON AVENUE, TIMMINS, ONTARIO P4N 2T2

Survey Company	Date of Survey (from & to)	Total Miles of line Cut
AERODAT LIMITED	09 02 86 (Day Mo. Yr.) – 10 02 86 (Day Mo. Yr.)	N/A

Name and Address of Author (of Geo-Technical report): GLENN BOUSTEAD,

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)	- Radiometric	
	- Other	
	Geological	
	Geochemical	

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

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

Mining Claims Traversed (List in numerical sequence) PAGE 3

Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
P	834270		P	834293	
	834271			834294	
	834272			834295	
	834273			834296	
	834274			834297	
	834275			834298	
	834276			834299	
	834277			834300	
	834278			834301	
	834279			834302	
	834280			834303	
	834281			834304	
	834282			834305	
	834283			834306	
	834284			834307	
	834285			834308	
	834286			834309	
	834287			834310	
	834288			834311	
	834289			834312	
	834290			834328	
	834291			834329	
	834292			834330	

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

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures $ ÷ 15 = Total Days Credits

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

For Office Use Only		
Total Days Cr. Recorded	Date Recorded	Mining Recorder
	Date Approved as Recorded	Branch Director

APR 21 1986

Date	Recorded Holder or Agent (Signature)
APRIL 21, 1986	L A Tihor

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying: LESLIE A. TIHOR, 167B WILSON AVENUE, TIMMINS, ONTARIO P4N 2T2

Date Certified	Certified by (Signature)
April 21, 1986	L A Tihor

1362 (81/9)

(4)

Ministry of Natural Resources
Ontario

Report of Work

(Geophysical, Geological, Geochemical and Expenditures)

The Mining Act

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

Type of Survey(s)	Township or Area
HELICOPTER BORNE MAGNETIC AND VLF - EM	FOURNIER

Claim Holder(s)	Prospector's Licence No.
CHEVRON CANADA RESOURCES LIMITED	T - 1690

Address: 167B WILSON AVENUE, TIMMINS, ONTARIO P4N 2T2

Survey Company	Date of Survey (from & to)	Total Miles of line Cut
AERODAT LIMITED	09 02 86 (Day Mo. Yr.) – 10 02 86 (Day Mo. Yr.)	N/A

Name and Address of Author (of Geo-Technical report): GLENN BOUSTEAD, 3883 Nashua Drive, Mississauga, Ontario L4V 1K3

Credits Requested per Each Claim in Columns at right

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

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

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

Expenditures (excludes power stripping)

Type of Work Performed:

Performed on Claim(s):

Calculation of Expenditure Days Credits

Total Expenditures $ ÷ 15 = Total Days Credits

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

Mining Claims Traversed (List in numerical sequence) PH 6E-4

Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
P	806472			834229	
	806473			834230	
	806474			834231	
	806475			834232	
	834210			834233	
	834211			834234	
	834212			834235	
	834213			834236	
	834214			834237	
	834215			834238	
	834216			834239	
	834217			834240	
	834218			834241	
	834219			834242	
	834220			834243	
	834221			834244	
	834222			834245	
	834223			834246	
	834224			834247	
	834225			834248	
	834226			834249	
	834227			834250	
	834228			834251	

Total number of mining claims covered by this report of work. ~~123~~

For Office Use Only		
Total Days Cr. Recorded	Date Recorded	Mining Recorder APR 24 1986
	Date Approved as Recorded	Branch Director

Date	Recorded Holder or Agent (Signature)
APRIL 21, 1986	[signature]

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying: LESLIE A. TIHOR, 167B WILSON AVENUE, TIMMINS P4N 2T2

Date Certified	Certified by (Signature)
April 21, 1986	[signature]

1362 (81/9)

File________

Ontario

Ministry of Natural Resources

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) HELICOPTER BORNE MAGNETICS & VLF-EM

Township or Area OTTAWAY

Claim Holder(s) CHEVRON CANADA RESOURCES LIMITED
167B WILSON AVENUE, TIMMINS, ONTARIO

Survey Company AERODAT LIMITED

Author of Report GLENN BOUSTEAD, 3883 Nashua Drive

Address of Author Mississauga, Ontario L4V 1K3.

Covering Dates of Survey FEBRUARY 9-10, 1986
(linecutting to office)

Total Miles of Line Cut N/A

SPECIAL PROVISIONS CREDITS REQUESTED

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

ENTER 20 days for each additional survey using same grid.

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

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

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

DATE: April 21, 1986 SIGNATURE: [signature]
Author of Report or Agent

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
P	834252
	834253
	834254
	834255
	834256
	834257
	834258
	834259
	834260
	834261
	834262
	834263
	834264
	834265
	834266
	834267
	834268
	834269

If space insufficient, attach list

TOTAL CLAIMS 18

OFFICE USE ONLY

Res. Geol.______ Qualifications 2.6114

Previous Surveys

File No.	Type	Date	Claim Holder

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations ______ Number of Readings ______

Station interval ______ Line spacing ______

Profile scale ______

Contour interval ______

MAGNETIC

Instrument ______

Accuracy – Scale constant ______

Diurnal correction method ______

Base Station check-in interval (hours) ______

Base Station location and value ______

ELECTROMAGNETIC

Instrument ______

Coil configuration ______

Coil separation ______

Accuracy ______

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

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

Parameters measured ______

GRAVITY

Instrument ______

Scale constant ______

Corrections made ______

Base station value and location ______

Elevation accuracy ______

INDUCED POLARIZATION
RESISTIVITY

Instrument ______

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time ______ Frequency ______

– Off time ______ Range ______

– Delay time ______

– Integration time ______

Power ______

Electrode array ______

Electrode spacing ______

Type of electrode ______

SELF POTENTIAL

Instrument ______ Range ______

Survey Method ______

Corrections made ______

RADIOMETRIC

Instrument ______

Values measured ______

Energy windows (levels) ______

Height of instrument ______ Background Count ______

Size of detector ______

Overburden ______
(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey ______

Instrument ______

Accuracy ______

Parameters measured ______

Additional information (for understanding results) ______

AIRBORNE SURVEYS

Type of survey(s) MAGNETOMETER AND VLF – EM

Instrument(s) GEOMETRICS G803 PROTON PRECESSION (MAG), HERZ TOTEM 1A (VLF)
(specify for each type of survey)

Accuracy 1 gamma (MAG), 1% (VLF)
(specify for each type of survey)

Aircraft used AEROSPATIALE A-STAR 350B

Sensor altitude 48m above terrain

Navigation and flight path recovery method GOECAM TRACKING CAMERA w/ MOTOROLA MINI RANGER (MRS III) RADAR NAVIGATION

Aircraft altitude 60m Line Spacing 100m

Miles flown over total area 316.28 Over claims only 123.5

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken ______________________

____

____

Total Number of Samples ______________________

Type of Sample ______________________
(Nature of Material)

Average Sample Weight ______________________

Method of Collection ______________________

____

Soil Horizon Sampled ______________________

Horizon Development ______________________

Sample Depth ______________________

Terrain ______________________

____

Drainage Development ______________________

Estimated Range of Overburden Thickness ______________________

____

____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis ______________________

____

____

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General ______________________

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ANALYTICAL METHODS

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

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

Others ______________________

Field Analysis (______________________ tests)

Extraction Method ______________________

Analytical Method ______________________

Reagents Used ______________________

Field Laboratory Analysis

No. (______________________ tests)

Extraction Method ______________________

Analytical Method ______________________

Reagents Used ______________________

Commercial Laboratory (______________________ tests)

Name of Laboratory ______________________

Extraction Method ______________________

Analytical Method ______________________

Reagents Used ______________________

General ______________________

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File ____________

Ontario

Ministry of Natural Resources

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) HELICOPTER BORNE MAGNETIC & VLF-EM

Township or Area FOURNIER TOWNSHIP

Claim Holder(s) CHEVRON CANADA RESOURCES LIMITED
167B WILSON AVENUE, TIMMINS, ONTARIO

Survey Company AERODAT LIMITED

Author of Report GLENN BOUSTEAD, 3883 Nashua Drive

Address of Author Mississauga, Ontario L4V 1R3

Covering Dates of Survey FEBRUARY 9-10, 1986
(linecutting to office)

Total Miles of Line Cut N/A

SPECIAL PROVISIONS CREDITS REQUESTED

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

ENTER 20 days for each additional survey using same grid.

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

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

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

DATE: April 21, 1986 SIGNATURE: [signature]
Author of Report or Agent

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
P	806472
	806473
	806474
	806475
	834210
	834211
	834212
	834213
	834214
	834215
	834216
	834217
	834218
	834219
	834220
	834221
	834222
	834223
	834224
	834225
	834226

If space insufficient, attach list

TOTAL CLAIMS 105

OFFICE USE ONLY

Res. Geol. ____________ Qualifications ____________

Previous Surveys

File No.	Type	Date	Claim Holder

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations ____________ Number of Readings ____________

Station interval ____________ Line spacing ____________

Profile scale ____________

Contour interval ____________

MAGNETIC

Instrument ____________

Accuracy – Scale constant ____________

Diurnal correction method ____________

Base Station check-in interval (hours) ____________

Base Station location and value ____________

____

ELECTROMAGNETIC

Instrument ____________

Coil configuration ____________

Coil separation ____________

Accuracy ____________

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

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

Parameters measured ____________

GRAVITY

Instrument ____________

Scale constant ____________

Corrections made ____________

____

Base station value and location ____________

____

Elevation accuracy ____________

INDUCED POLARIZATION RESISTIVITY

Instrument ____________

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time ____________ Frequency ____________

– Off time ____________ Range ____________

– Delay time ____________

– Integration time ____________

Power ____________

Electrode array ____________

Electrode spacing ____________

Type of electrode ____________

SELF POTENTIAL

Instrument ______ Range ______

Survey Method ______

Corrections made ______

RADIOMETRIC

Instrument ______

Values measured ______

Energy windows (levels) ______

Height of instrument ______ Background Count ______

Size of detector ______

Overburden ______
(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey ______

Instrument ______

Accuracy ______

Parameters measured ______

Additional information (for understanding results) ______

AIRBORNE SURVEYS

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(specify for each type of survey)

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GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken ______

______

______

Total Number of Samples ______

Type of Sample ______
(Nature of Material)

Average Sample Weight ______

Method of Collection ______

______

Soil Horizon Sampled ______

Horizon Development ______

Sample Depth ______

Terrain ______

______

Drainage Development ______

Estimated Range of Overburden Thickness ______

______

______

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis ______

______

______

______

General ______

______

______

______

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______

ANALYTICAL METHODS

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

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

Others ______

Field Analysis (______ tests)

Extraction Method ______

Analytical Method ______

Reagents Used ______

Field Laboratory Analysis

No. (______ tests)

Extraction Method ______

Analytical Method ______

Reagents Used ______

Commercial Laboratory (______ tests)

Name of Laboratory ______

Extraction Method ______

Analytical Method ______

Reagents Used ______

General ______

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834227	834250	834291	834329
834228	834251	834292	834330
834229	834270	834293	834331
834230	834271	834294	834332
834231	834272	834295	834333
834232	834273	834296	834334
834233	834274	834297	834335
834234	834275	834298	834336
834235	834276	834299	834337
834236	834277	834300	834338
834237	834278	834301	834339
834238	834279	834302	834340
834239	834280	834303	834341
834240	834281	834304	834342
834241	834282	834305	834343
834242	834283	834306	
834243	834284	834307	
834244	834285	834308	
834245	834286	834309	
834246	834287	834310	
834247	834288	834311	
834248	834289	834312	
834249	834290	834328	

May 2, 1986 File: 2.9074

Mining Recorder
Ministry of Northern Development and Mines
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

We received reports and maps on April 29, 1986 for Airborne Geophysical (Magnetometer & Electromagnetic) Surveys submitted on Mining Claims P 806472, et al, in the Townships of Fournier & Ottaway.

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

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

Yours sincerely,

J.C. Smith, Supervisor
Mining Lands Section

Whitney Block, 6th Floor
Queen's Park
Toronto, Ontario
M7A 1W3

Telephone: (416) 965-4888

AB/mc

cc: Chevron Canada Resources Limited
167B Wilson Avenue
Timmins, Ontario
P4N 2T2

Aerodat Limited
3883 Nashua Drive
Mississauga, Ontario
L4V 1K3

Chevron

Chevron Canada Resources Limited
Minerals Staff
167B Wilson Ave., Timmins, Ontario P4N 2T2 Phone (705) 264-2291

Earl D. Dodson
Manager, Minerals Staff

April 24, 1986

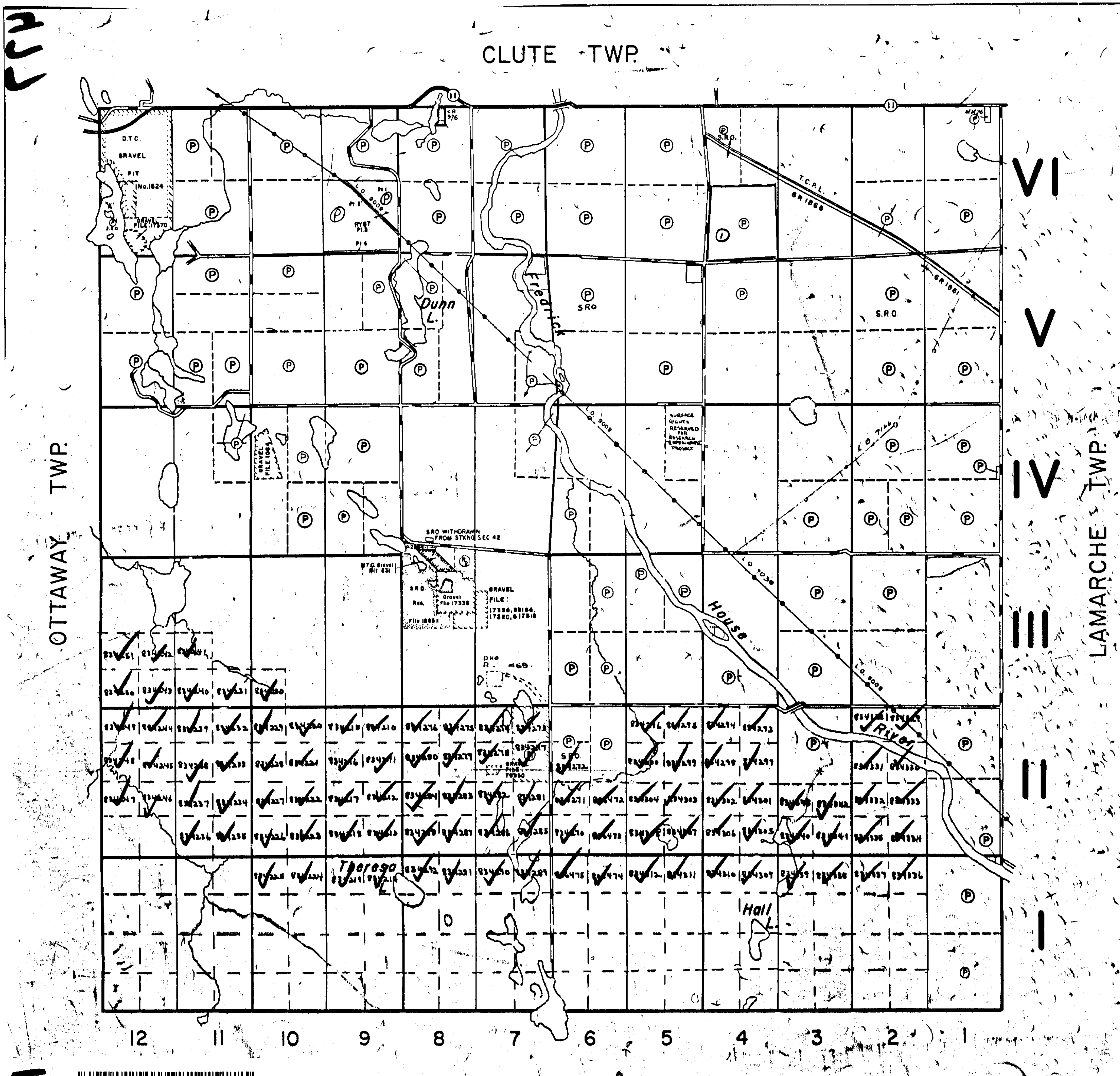
S.E. Yundt, Director,
Land Management Branch,
Mining Lands Section
Whitney Block, 6th Floor,
Queens Park,
Toronto, Ontario
M7A 1W3

Dear Mrs Yundt;

Enclosed please find two copies of our report of work on Airborne Geophysics performed on claims #P806472 et al in Fournier & Ottaway Townships.

Yours truly,

Leslie A. Tihor



THE TOWNSHIP OF

FOURNIER

DISTRICT OF COCHRANE

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.
ROADS	
IMPROVED ROADS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	

NOTES

AREAS SHOWN THUS ——— RESERVED TO DEPT. of HIGHWAYS.

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

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

Order No.	File	Date	Disposition
W.H/78	17317	15/2/78	S.R.O.
NR W.13/78	18651	21/12/78	S.R.O.

L.W. Terminated Oct. 15/79

Ⓘ Bona fide Appl.

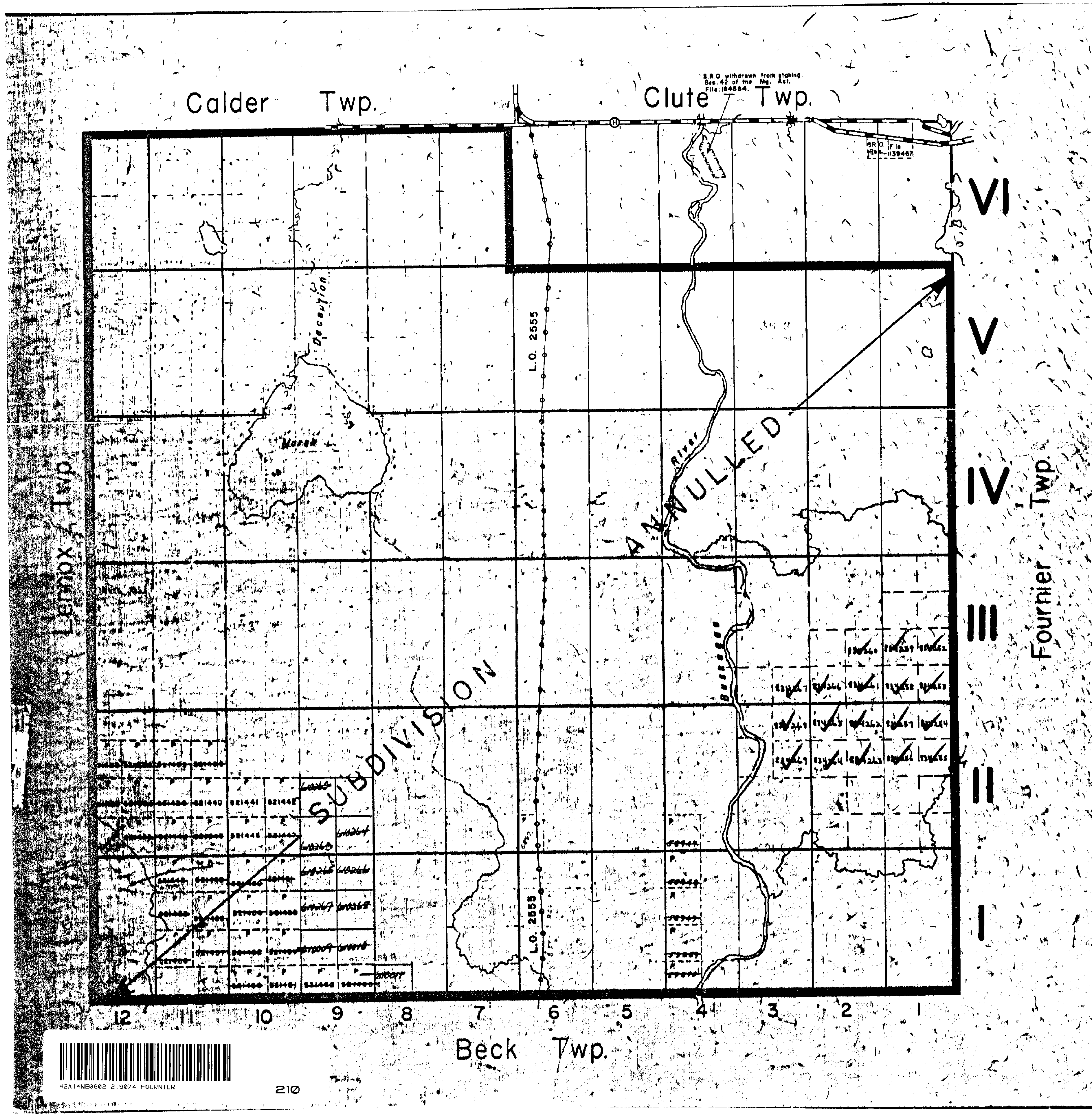
Dec 20/84

PLAN NO. M. 477

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

42A14NE0602 2.9874 FOURNIER

200



THE TOWNSHIP OF

OTTAWAY

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND

CROWN LAND SALE — C.S.

LEASES

LOCATED LAND

LICENSE OF OCCUPATION — L.O.

ROADS

IMPROVED ROADS

RAILWAYS

POWER LINES

MARSH OR MUSKEG

NOTES

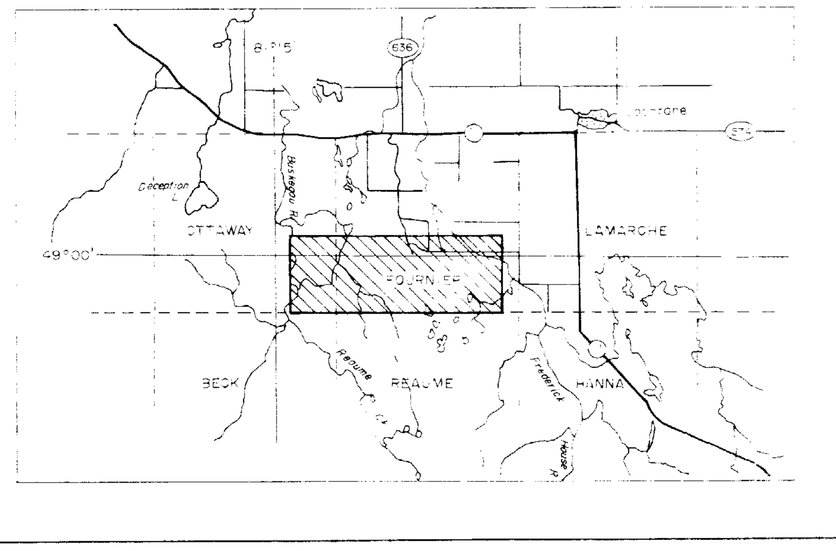
400' Surface Rights Reservation around all Lakes and Rivers.

PLAN NO. - M.561

ONTARIO

MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH



CHEVRON CANADA RESOURCES LIMITED

TOTAL FIELD MAGNETIC MAP

FOURNIER AND OTTAWAY TOWNSHIPS

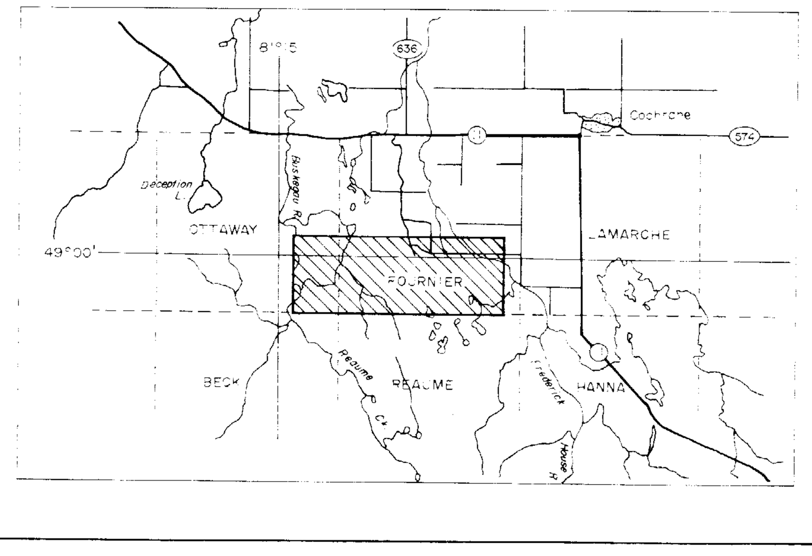
ONTARIO

▼ AERODAT LIMITED

DATE	February 1986
N.T.S. No.	42 A, 42 H
MAP No.	1

J8349

220



CHEVRON CANADA RESOURCES LIMITED

VLF-EM TOTAL FIELD AND QUADRATURE PROFILES

FOURNIER AND OTTAWAY TOWNSHIPS

ONTARIO

▼ AERODAT LIMITED

DATE	February 1986
N.T.S. No.	42A,42H
MAP No.	4

230