



42A10NE2015 2.22659 WALKER

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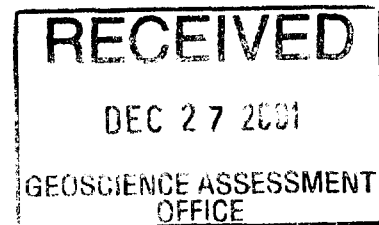
**REPORT ON
GEOPHYSICAL WORK**

**COSBY OPTION
WALKER TOWNSHIP**

NTS: 42-A/10

PROJ # : 8304

for
FALCONBRIDGE LIMITED



SEPTEMBER 2001

D. LONDRY
TIMMINS GEOPHYSICS LTD.

SUMMARY AND RECOMMENDATIONS

HLEM and magnetic surveys were carried out on the Cosby Option in August of 2001 for Falconbridge Limited.

The magnetic field on the property is dominated by the response from north-south striking diabase dikes. The HLEM survey outlined four anomalies which map bedrock conductors and a number of other anomalies map very poor conductivity on the property.

It is recommended that EM anomalies 'B' and 'C' are tested by diamond drilling. It is also recommended that the lines 6900 to 7400 East are extended both north and south to map the extension of a diabase dike in that area, the east extension of EM anomaly 'A' and other partially defined EM anomalies to the southeast. An induced polarization survey along selected lines would determine if very poor conductivity on the property is surficial or in bedrock.

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INTRODUCTION

Magnetic and horizontal loop electromagnetic (HLEM) surveys were carried out on the Cosby Option, Walker Township, in August of 2001 for Falconbridge Limited.

The property is located approximately 10 kilometres southeast of the town of Iroquois Falls in the northeast corner of Walker Township, Larder Lake Mining Division (Figure 1(a)). The property was accessed along gravel roads which run north and then west from the town of Matheson, approximately 16 kilometres to the south southeast of the property. The Black River flows north northwest directly to the southwest of the survey area.

The surveys covered parts of 12 claims (Figure 1(b)) in Lots 5 and 6, Concession V, which are comprised of a total of 31, forty acre claim units (Table 1).

The magnetic survey was carried out by J. derWeduwen and the HLEM survey was run by M. Ruel and the author of this report.

CLAIM #	# of UNITS	RECORDING DATE	RECORDED HOLDER	DESCRIPTION	TOWNSHIP
L905554	1		Patent	NE1/4 S1/2 Lot 4 Con V	Walker
L905555	1		Patent	SE1/4 S1/2 Lot 4 Con V	Walker
L1140850	1	Sept 17, 1990	Falconbridge Limited	SE1/4 N1/2 Lot 5 Con V	Walker
L1140851	1	Sept 17, 1990	Falconbridge Limited	SW1/4 N1/2 Lot 5 Con V	Walker
L1140854	1	Sept 17, 1990	Falconbridge Limited	NW1/4 S1/2 Lot 5 Con V	Walker
L1140855	1	Sept 17, 1990	Falconbridge Limited	NE1/4 S1/2 Lot 5 Con V	Walker
L1200338	1	Nov 5, 1993	Falconbridge Limited	NE1/4 N1/2 Lot 5 Con V	Walker
L1200339	1	Nov 5, 1993	Falconbridge Limited	NW1/4 N1/2 Lot 5 Con V	Walker
L1226442	4	June 15, 1998	Falconbridge Limited	S1/2 of S1/2 Lot 4 Con VI S1/2 of S1/2 Lot 5 Con VI	Walker
L1226520	2	June 15, 1998	Falconbridge Limited	W1/2 S1/2 Lot 4 Con V	Walker
L1236820	5	April 26, 2000	Falconbridge Limited	N1/2 Lot 6 Con V	Walker
L1236821	12	April 26, 2000	Falconbridge Limited	S1/2 of S1/2 Lot 5 Con V S1/2 of S1/2 Lot 6 Con V Lot 5 Con IV	Walker

Table 1 : Property Description

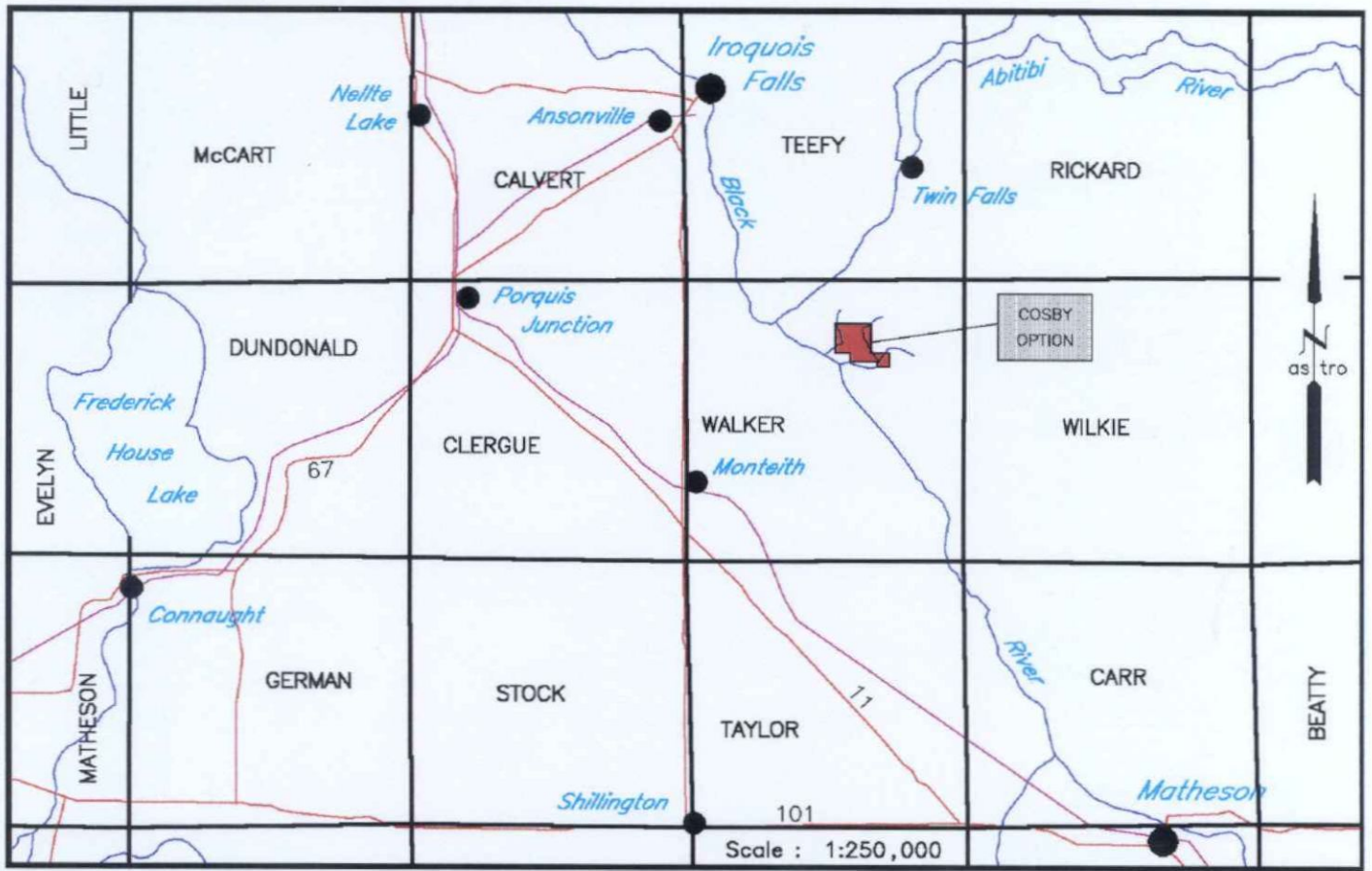


Figure 1(a) : Location Map

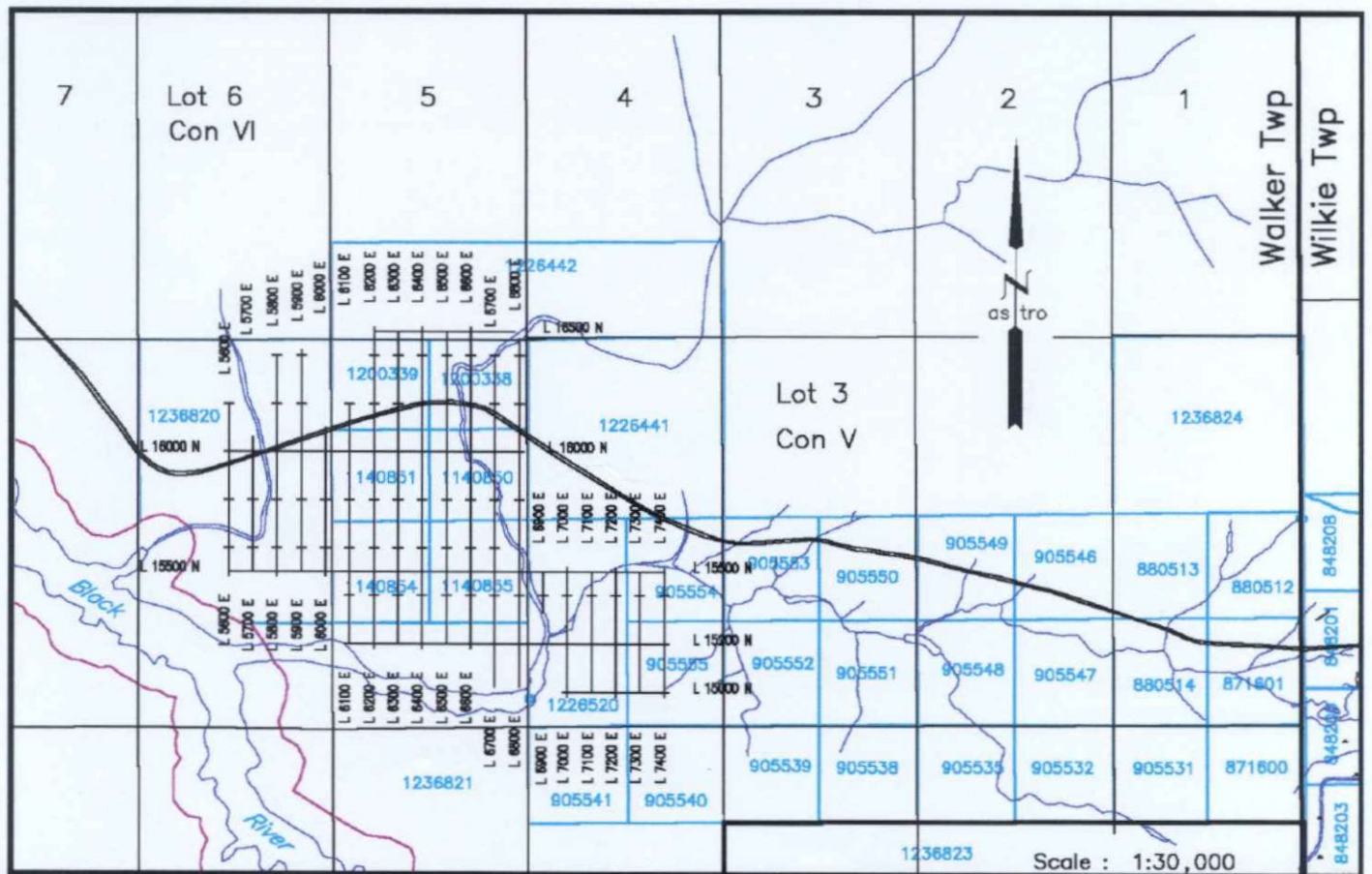


Figure 1(b) : Claim Map

GENERAL GEOLOGY

Walker Township is located in the Abitibi greenstone belt which consists of predominantly east-west striking, steeply dipping Archean sediments and ultramafic to felsic volcanics. These rocks have been intruded by ultramafic to felsic bodies, north-south striking Matachewan diabase dikes and east northeast striking Keweenawan diabase dikes.

The geology of Walker Township is presented on map 2205 at a scale of 1 inch to 4 miles (Pyke et al, 1973) and on map P3398 at a scale of 1:100,000 (Ayer et al, 1999).

Previous drill holes in the area indicate that the Cosby property is underlain by east-west striking felsic to intermediate volcanics and pyroclastics. Graphitic sediments have been intersected in previous drill holes within the present survey area and immediately to the east. North-south striking magnetic anomalies suggest that all of the rocks are cut by diabase dikes. The Black River Fault strikes north northwest through the eastern edge of the survey area.

PREVIOUS WORK

The following is a description of previous work which has been filed for assessment credits on the property (Table 2).

In 1979, **Hollinger Mines Ltd.** ran a magnetic survey over six claims in the south half of Concession V, Lots 3 and 4, Walker Township. The survey was run with a total field, proton precession magnetometer. Two drill holes (WA1-1-79 and WA1-2-79) were sunk directly to the east of the present survey area. Hole WA1-1-79 intersected a broad zone of graphitic tuff. Hole WA1-2-79, which was collared 270 metres to the south of WA1-1-79, intersected a number of graphite zones and massive pyrite.

In 1981, **Amax Minerals Exploration Ltd.** carried out a geological survey on eight claims located in Concession V, Lot 5. In 1982, a drill hole was sunk to test an EM anomaly; the hole intersected graphitic

YEAR	COMPANY	GEOPHYSICS	DRILL HOLES	AFRI FILE
1979 1979	Hollinger Argus Limited	Mag	WA1-1-79, 2-79	42A10NE0068 42A10NE0069
1981 1982	Amax Minerals Exploration Ltd.	Geol	1131-09-1	42A10NE0057 KL files
1985 1986 1987 1988 1994 1995	M. S. Cosby	Mag, VLF Geochem Geochem Geochem HLEM HLEM		42A10NE0048 42A10NE0046 42A10NE0045 42A10NE0045 42A10NE0006 42A10NE0028

Table 2. Summary of previous assessment work.

sediments.

In 1983, the **Ontario Geological Survey** flew an airborne magnetic and EM survey in the Black River-Matheson area which included Walker Township. This survey was flown along north-south lines spaced approximately every 200 metres.

The **Cosby** property consists of ten contiguous claims in Lot 5 and the north half of Lot 6, Concession V, Walker Township. In 1985, magnetic and VLF-EM surveys were carried out along north south

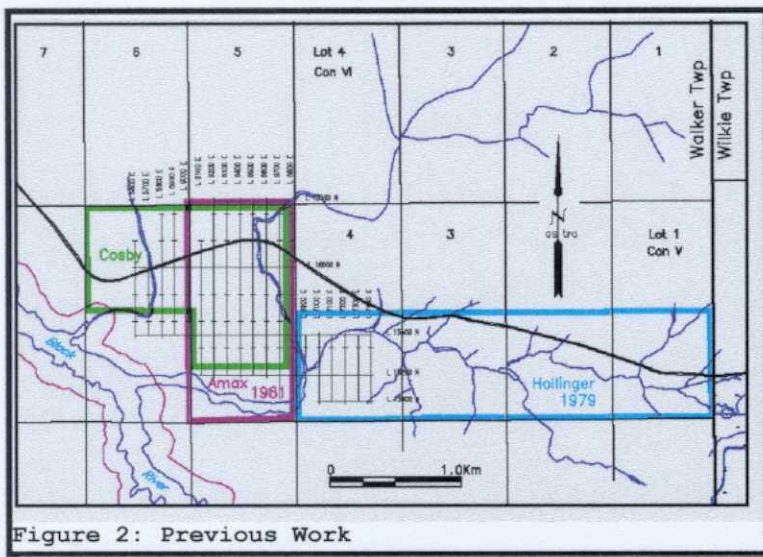


Figure 2: Previous Work

lines spaced every 400 feet over the east half of the property and east-west lines spaced every 400 feet over the west half of the property. The magnetic survey was run with a total field, proton precession magnetometer and the VLF survey was run using Cutler, Maine (24.0 kHz) as the transmitting station.

In 1986, geological and soil

geochemical surveys were carried out on the property. Samples were taken every 300 feet along the grid lines cut in 1985. Further soil samples were taken along selected lines in 1987 and 1988.

In 1994, 5.3 kilometres of grid lines were covered with an HLEM survey on the Cosby. The survey was run along north-south lines spaced 400 to 800 feet apart using a coil separation of 500 feet and frequencies of 444 and 1777 Hertz. In 1995, 8.4 kilometres of HLEM were carried out, along north-south lines spaced every 400 feet, with a coil separation of 150 metres and frequencies of 222, 888 and 3555 Hertz.

SURVEY DESCRIPTIONS

An east-west base line, designated 15500 North was established on the Cosby property and orthogonal grid lines, designated 5600 to 7400 East, were cut every 100 metres (Figure 1(b)); tie lines were cut at 15000, 15200, 16000 and 16500 North and all of the lines were picketed every 20 metres.

The magnetic readings were taken every 10 metres with a Scintrex IGS-2/MP-4. This instrument is a proton precession magnetometer which measures the earth's total magnetic field to an accuracy of 0.1 nT. Diurnal variations were monitored every 10 seconds with a Scintrex MP-3 base station magnetometer. A total of 2202 readings were taken along 21.9 kilometres of line.

The horizontal loop EM survey was carried out with the Apex Parametrics MaxMin I-5. This instrument measures the in-phase and quadrature components of the secondary field as a percentage of the primary field; the depth of penetration is approximately one half of the coil separation. Readings were taken every 20 metres using a coil separation of 200 metres and frequencies of 222, 444 and 1777 Hertz. A total of 759 stations were read along 19.4 kilometres of line.

MAGNETIC RESULTS

The total magnetic field is contoured every 20 nT on map 1 at a scale of 1:5000. The results are also presented in Figure 2 at a scale of 1:12,500.

A linear, north northwest striking anomaly between the south end of Line 5900 East and the north end of 5700 East most likely represents a diabase dike. A partially defined anomaly along the western edge of the survey area between 15500 North and 15800 North may also be diabase. Two other dikes are mapped by north-south anomalies between 16100 North and 16500 North on Line 6600 East, and between the north end of Line 7100 East and the south end of Line 7200 East.

A linear magnetic anomaly strikes east-west directly to the south of Tie Line 15500 North on Lines 6200 East to 6900 East. A second, more subtle anomaly, strikes east-west between Lines 6100 East and 6700 East at approximately 15880 North. These two anomalies are difficult to trace to the east and west because of their low amplitude, compared to the diabase dikes. There is no conductivity associated with either of these magnetic horizons.

EM RESULTS

The results of the HLEM survey are profiled on maps 2, 3 and 4 at a scale of 1:5000; the profile scale used for all of the frequencies is 1 cm = 20 %. The results using 444 Hertz are also presented in Figure 3 at a scale of 1:12,500.

The following is a description of four bedrock conductors detected in the survey and labelled 'A' to 'D' on the maps.

Anomaly 'A' strikes east-west between 15990 North on Line 6000 East and 15950 North on Line 6800 East. The source of the anomaly is a 20 metre wide zone of fair to good conductivity; the conductivity is highest on Line 6400 East and decreases to the east and west (Table 3). The depth is approximately

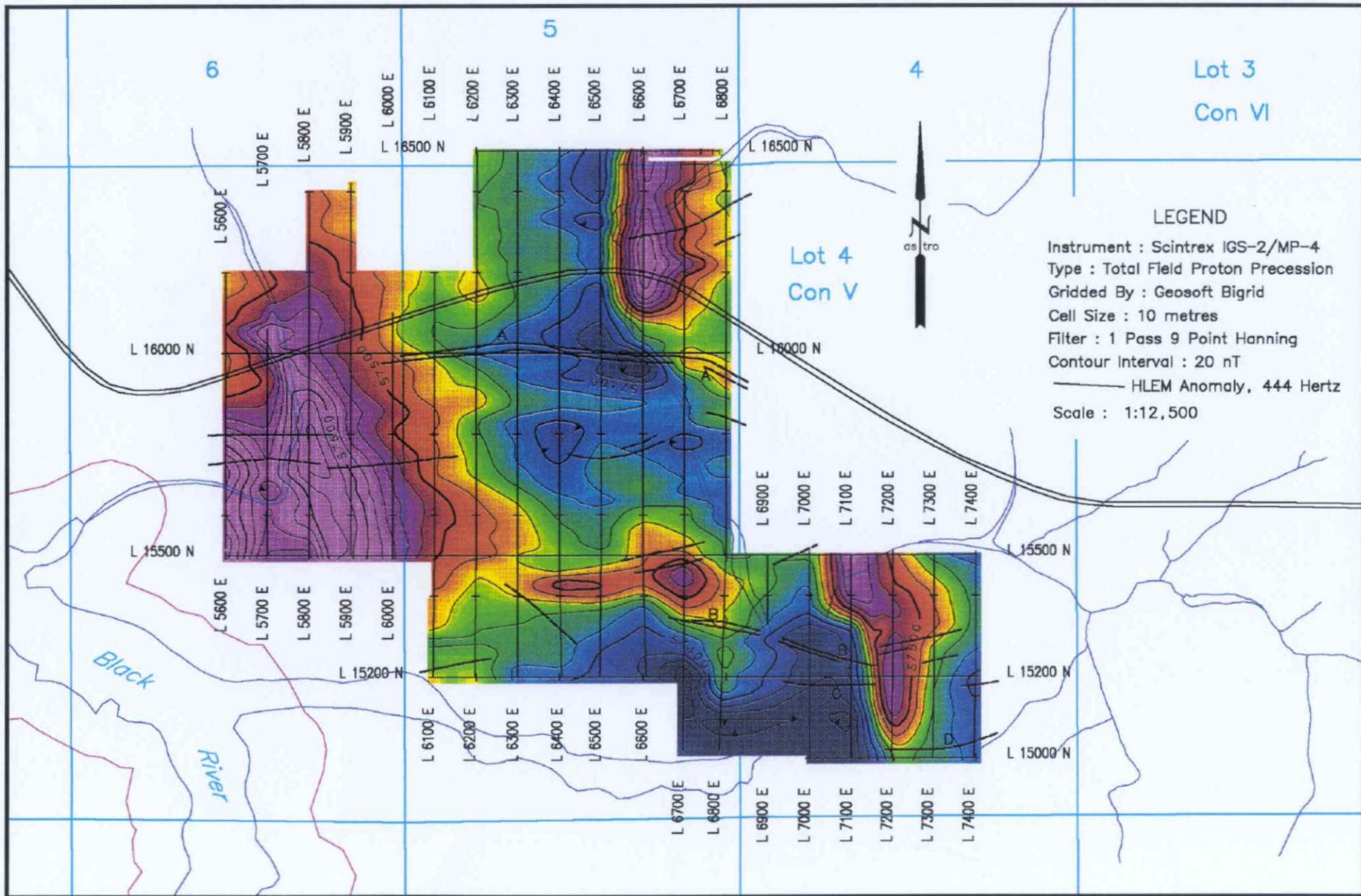


Figure 3 : Total Magnetic Field, Cosby Option

50 metres on Lines 6000 to 6600 East and 20 metres on Lines 6700 and 6800 East. The dip is steep to the north.

The poorest conductivity, on Lines 6700 and 6800 East, has a coincident high magnetic field. This magnetic anomaly, however, may represent diabase which has been diverted along the conductor from the dike to the northwest. Extending both surveys to the east would help determine the significance of the magnetics in this area.

Anomaly 'A' was the target of hole 1131-09-1 which was drilled by Amax in 1982. It intersected graphitic sediments.

LINE	ANOMALY CENTER	ANOMALY WIDTH (m)	IP (%)	Q (%)	DEPTH (m)	CONDUCTIVITY THICKNESS (mhos)	COMMENTS
6000 E	15990 N	?	-4	-6	52	6	
6100 E	16000 N	20	-7	-9	50	6	
6200 E	16005 N	20	-12	-12	46	10	
6300 E	16015 N	15	-14	-12	48	14	
6400 E	16010 N	15	-18	-13	44	17	
6500 E	15995 N	20	-15	-12	48	14	
6600 E	15990 N	15	-8	-11	40	6	
6700 E	15980 N	?	-8	-14	20	4	
6800 E	15950 N	20	-3	-6	20	4	

Table 3: Anomaly 'A' Interpretation, 444 Hz, 200 metre coil separation.

Anomaly 'B' strikes east southeast between 15340 North on Line 6700 East and 15240 North on Line 7100 East. The source of this anomaly is fair to good conductivity which is up to 20 metres wide and at a depth which ranges from 20 metres on Line 6800 East to 54 metres on Line 7100 East (Table 4). The

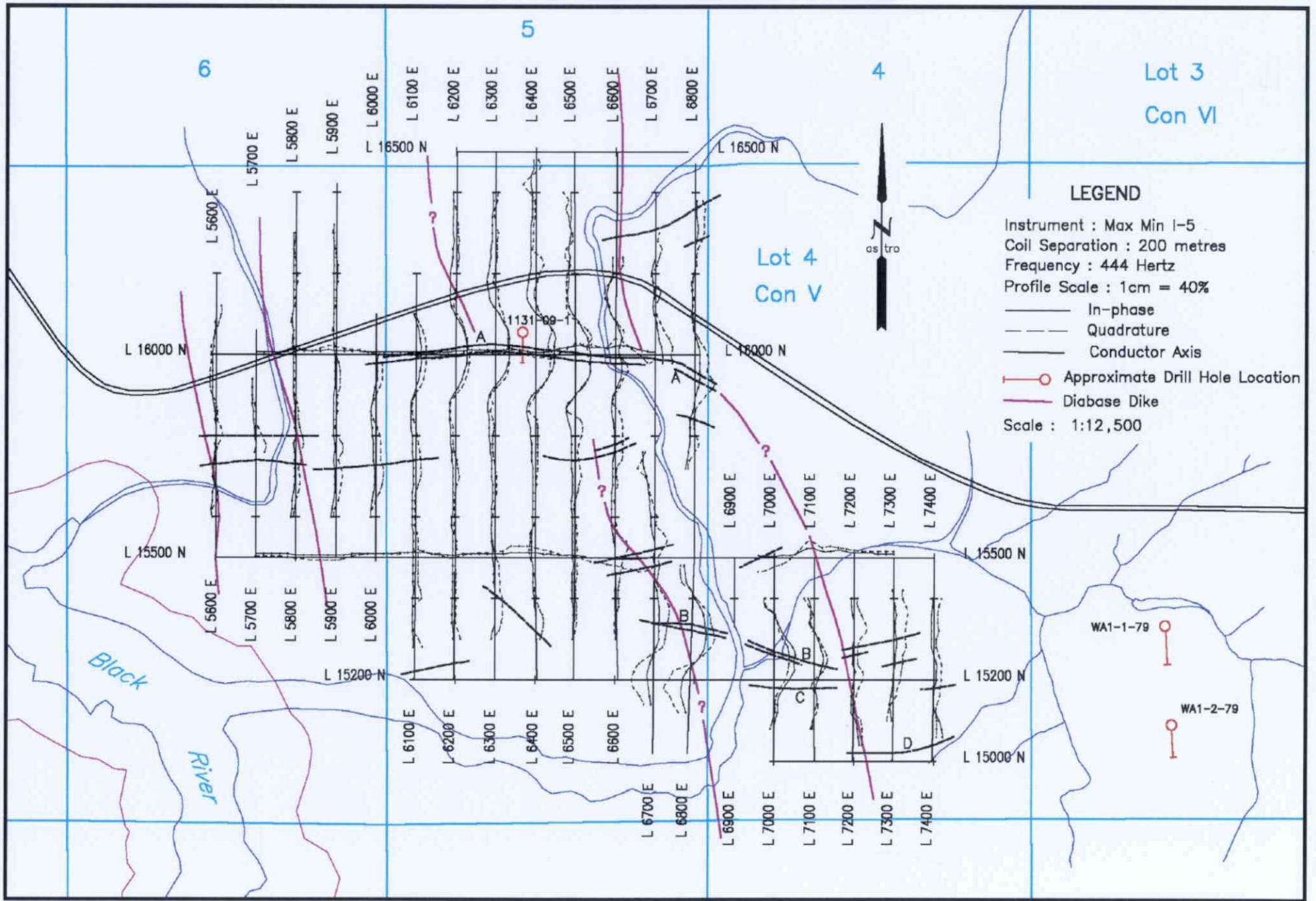


Figure 4 : HLEM Results, 444 Hertz, Cosby Option

shoulders of the anomalies are not well defined on most of the lines, however the profiles on Lines 6700 and 6800 East suggest that the dip is to the south. The anomaly is in an area of low magnetic field; it ends in the east at a north-south striking magnetic anomaly which most likely represents a diabase dike.

LINE	ANOMALY CENTER	ANOMALY WIDTH (m)	IP (%)	Q (%)	DEPTH (m)	CONDUCTIVITY THICKNESS (mhos)	COMMENTS
6700 E	15340 N	narrow	-7	-12	30	4	
6800 E	15330 N	20	-15	-19	20	7	
7000 E	15265 N	10	-19	-12	46	18	
7100 E	15240 N	20	-10	-10	54	10	

Table 4: Anomaly 'B' Interpretation, 444 Hz, 200 metre coil separation.

Anomaly 'C' strikes east-west along the south flank of EM anomaly 'B'. It is poorly defined because of the much higher amplitude of anomaly 'B, however, the in-phase response suggests that it represents good conductivity. The only parameter which can be interpreted is the south edge of the conductor.

Anomaly 'D' is a partially defined anomaly along the south end of Lines 7200 to 7400 East. The source of the anomaly on Line 7200 East is good conductivity at a depth of 70 metres and the source on Line 7400 East is very good conductivity at a depth of 92 metres. The width and dip can not be determined because the south shoulder of the anomalies is not defined.

LINE	ANOMALY CENTER	ANOMALY WIDTH (m)	IP (%)	Q (%)	DEPTH (m)	CONDUCTIVITY THICKNESS (mhos)	COMMENTS
7200 E	15020 N	?	-8	-7	70	14	
7300 E							
7400 E	15040 N	20	-11	-3	92	71	

Table 5: Anomaly 'D' Interpretation, 444 Hz, 200 metre coil separation.

A number of other conductors have been identified but not labelled on the maps. These anomalies are mainly quadrature responses in the lower frequency results. All represent conductivity of approximately 1 mho, however, they may be significant in gold exploration. An induced polarization survey should be carried out to test whether they have a bedrock or surficial source.

Sept. 26/01
Date


D. Londry
Timmins Geophysics Ltd.

REFERENCES

Ayer, J.A., Berger, B.R. and Trowell, N.F.

1999: Geological Compilation of the LakeAbitibi Area, Abitibi Greenstone Belt; Ontario Geological Survey, Preliminary **Map P.3398**, scale 1:100,000.

Ontario Geological Survey

1988: Airborne Electromagnetic and Total Intensity Survey, Matheson-Black River Area, **Walker Township**, District of Cochrane; by Questor Surveys Limited, for the Ontario Geological Survey, Geophysical/Geochemical Series **Map 80573**. Scale 1:20,000. Survey and Compilation March 1983 to July 1983.

Pyke, D.R., Ayres, L.D. and Innes, D.G.

1973: Timmins-Kirkland Lake Sheet, Districts of Cochrane, Sudbury and Timiskaming; Ontario Div. Mines, **Map 2205**, Geol. Comp. Ser., Scale 1 inch to 4 miles.

Date: 2002-JAN-14

GEOSCIENCE ASSESSMENT OFFICE
933 RAMSEY LAKE ROAD, 6th FLOOR
SUDBURY, ONTARIO
P3E 6B5

FALCONBRIDGE LIMITED
SUITE 1200, 95 WELLINGTON STREET WEST
TORONTO, ONTARIO
M5J 2V4 CANADA

Tel: (888) 415-9845
Fax: (877) 670-1555

Submission Number: 2.22659
Transaction Number(s): W0180.31315

Dear Sir or Madam

Subject: Approval of Assessment Work

We have approved your Assessment Work Submission with the above noted Transaction Number(s). The attached Work Report Summary indicates the results of the approval.

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

If you have any question regarding this correspondence, please contact BRUCE GATES by email at bruce.gates@ndm.gov.on.ca or by phone at (705) 670-5856.

Yours Sincerely,



Ron Gashinski
Senior Manager, Mining Lands Section

Cc: Resident Geologist
Falconbridge Limited
(Claim Holder)
Dean Rogers
(Agent)

Assessment File Library
Falconbridge Limited
(Assessment Office)



MINISTRY OF
NORTHERN DEVELOPMENT
AND MINES
PROVINCIAL MINING
RECORDS OFFICE

**MINING LAND TENURE
MAP**

Date / Time of Issue: Jan 7 2002 08:11h Eastern

TOWNSHIP / AREA

PLAN

WALKER

G-3584

ADMINISTRATIVE DISTRICTS / DIVISIONS

Mining Division: Larder Lake
Land Titles/Registry Division: COCHRANE
Ministry of Natural Resources District: COCHRANE

TOPOGRAPHIC

- Abandoned Mine Shaft
- Contour Line
- Elevation Spot
- Road
- Stream
- Utility Line
- Boundary Line
- Fenced Area
- Mine Structure
- Pit
- Road
- Trail
- Pipeline
- Telephone Line
- Power Line
- Fenced Area
- Mine Structure

LAND TENURE

- Freehold Title
- Leasehold Title
- License of Occupation
- Mining Claim
- Mining Lease

LAND TENURE WITHDRAWALS

- Mining Act Withdrawal
- Other Withdrawal

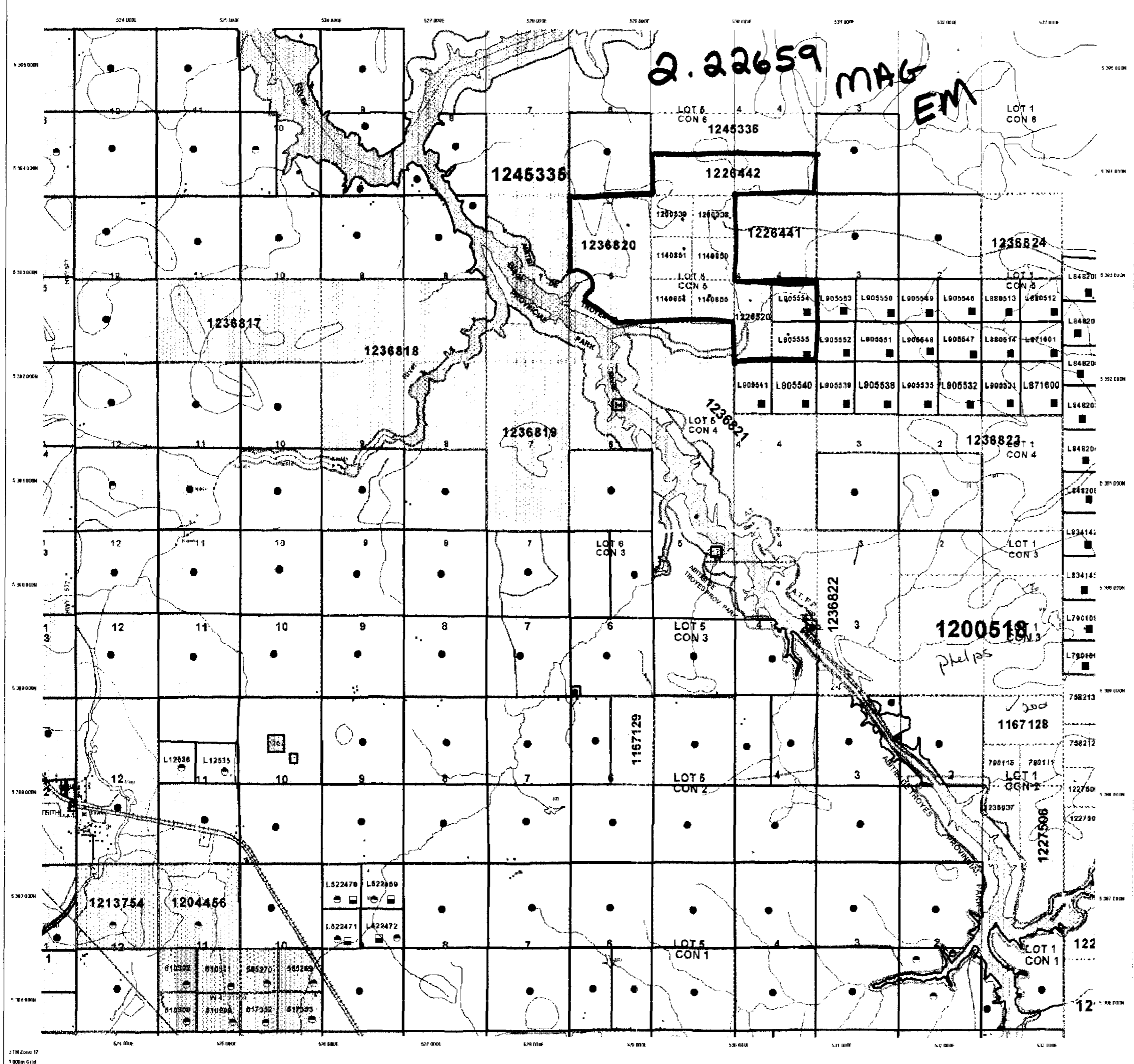
IMPORTANT NOTICES

LAND TENURE WITHDRAWAL DESCRIPTIONS

Number	Type	Date	Description
3146	Wm	Jan 1 2001	FEEDING RIGHTS TO WELLS ALONG THE WOODS OF SIBBING LAKE'S WEST AND DRIFTING CREEK
3170	Wm	Jan 1 2001	ABANDONED RIGHTS TO WELLS ALONG THE WOODS OF SIBBING LAKE'S WEST AND DRIFTING CREEK
3238	Wm	Jan 1 2001	FEEDING RIGHTS TO WELLS ALONG THE WOODS OF SIBBING LAKE'S WEST AND DRIFTING CREEK
3239	Wm	Jan 1 2001	FEEDING RIGHTS TO WELLS ALONG THE WOODS OF SIBBING LAKE'S WEST AND DRIFTING CREEK
WL 2109	Wm	Nov 5 2000	Sec 35 WL 2100 200005-10 M.N.O. 18510

IMPORTANT NOTICES

Some land tenure descriptions, conditions and other information may be subject to change without notice. Please refer to the original records for the most current information.



General Information and Limitations

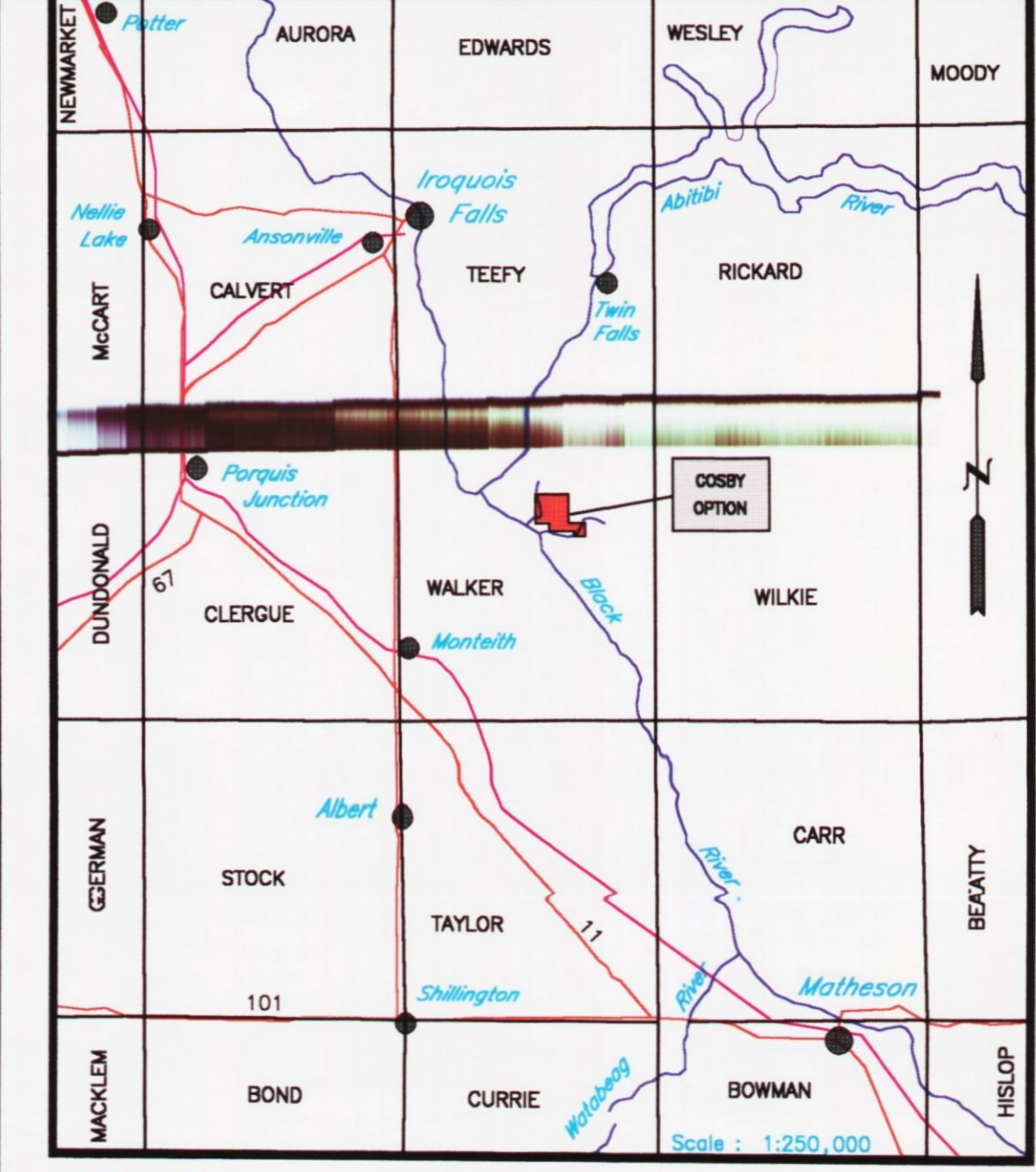
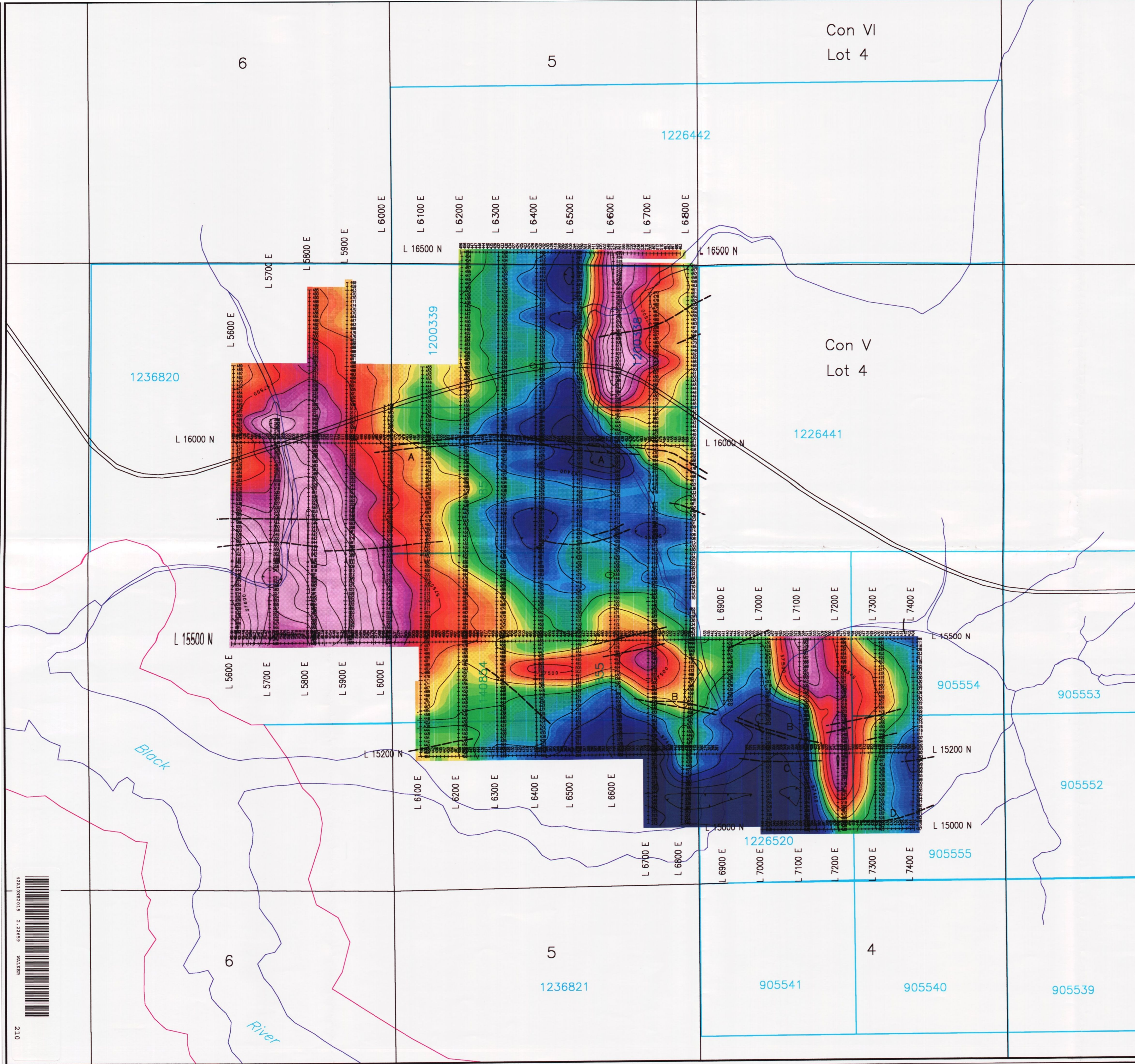
Copyright Information:
Provincial Mining Records Office
333 Ramsey Lake Road
Tumbler Bay, Ontario
Canada
M1S 1V7
Tel: 1 (800) 455-5345
Fax: 1 (827) 370-1141
E-mail: info@miningrecords.on.ca

Map Data:
Source: 1:50,000
Projection: UTM
Datum: NAD 83
Scale: 1:50,000
Map Date: 1998
Map Title: Mining Land Tenure Map
Ministry of Northern Development and Mines, Provincial Mining Records Office

These drawings to show mining claims should be consulted with the Provincial Mining Records Office of the Ministry of Northern Development and Mines for additional information on the status of the land tenure system. It is the user's responsibility to verify the information shown on this map with the appropriate records. The information shown is derived from digital data available in the Provincial Mining Records Office at the time of downloading from the Ministry of Northern Development and Mines web site.

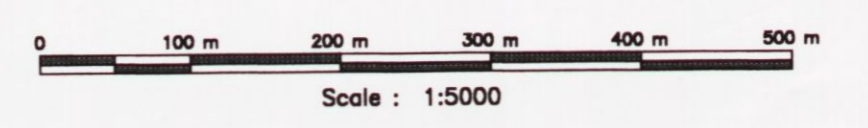


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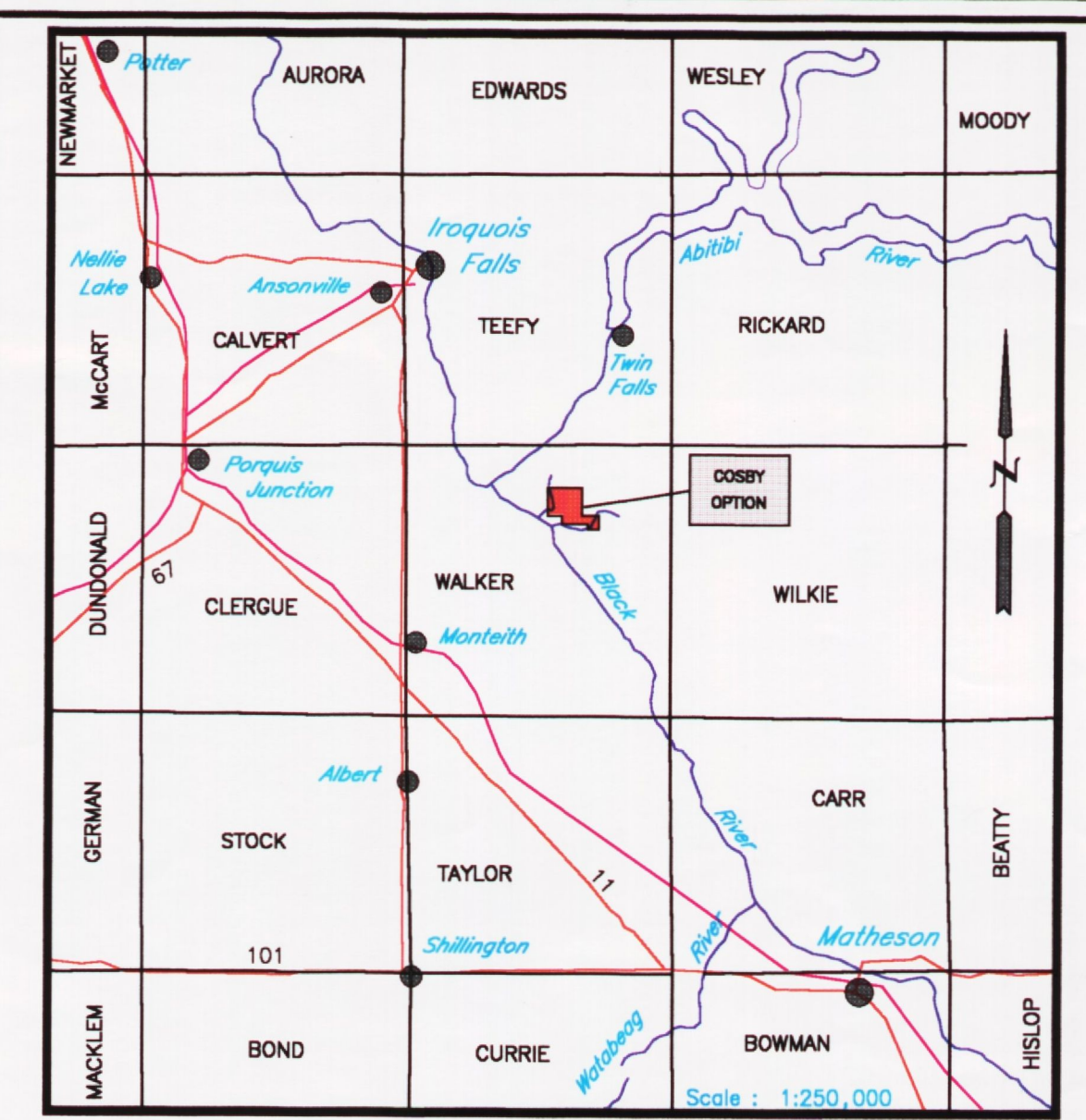
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LEGEND
 Instrument : Scintrex IGS-2/MP-4
 Type : Total Field Proton Precession
 Datum Level : 57000 nT
 Contour Interval : 20 nT
 Gridded By : Geosoft Bigrid
 Cell Size : 10.0 metres
 Filter : 1 Pass 9 Point Hanning
 --- EM Anomaly, 444 Hertz



FALCONBRIDGE LIMITED	
MAGNETIC SURVEY	
COSBY OPTION	
WALKER TOWNSHIP	
File : WALK.XYZ	Date : August, 2001
NTS : 42-A/10	Proj # : 8304
WORK BY : <i>Timmins Geophysics Ltd.</i>	

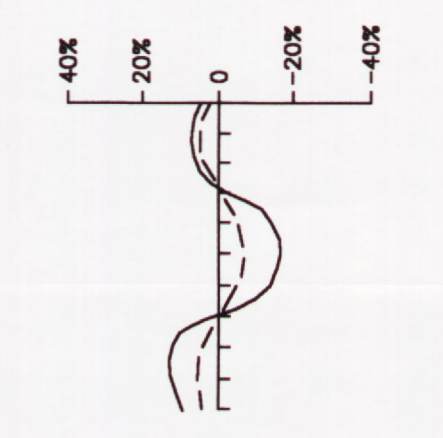
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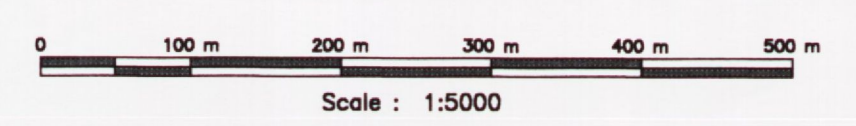
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LEGEND

Instrument : Apex Parametrics MaxMin I-5
 Coil Separation : 200 metres
 Frequency : 222 Hertz
 Profile Scale : 1cm = 20%

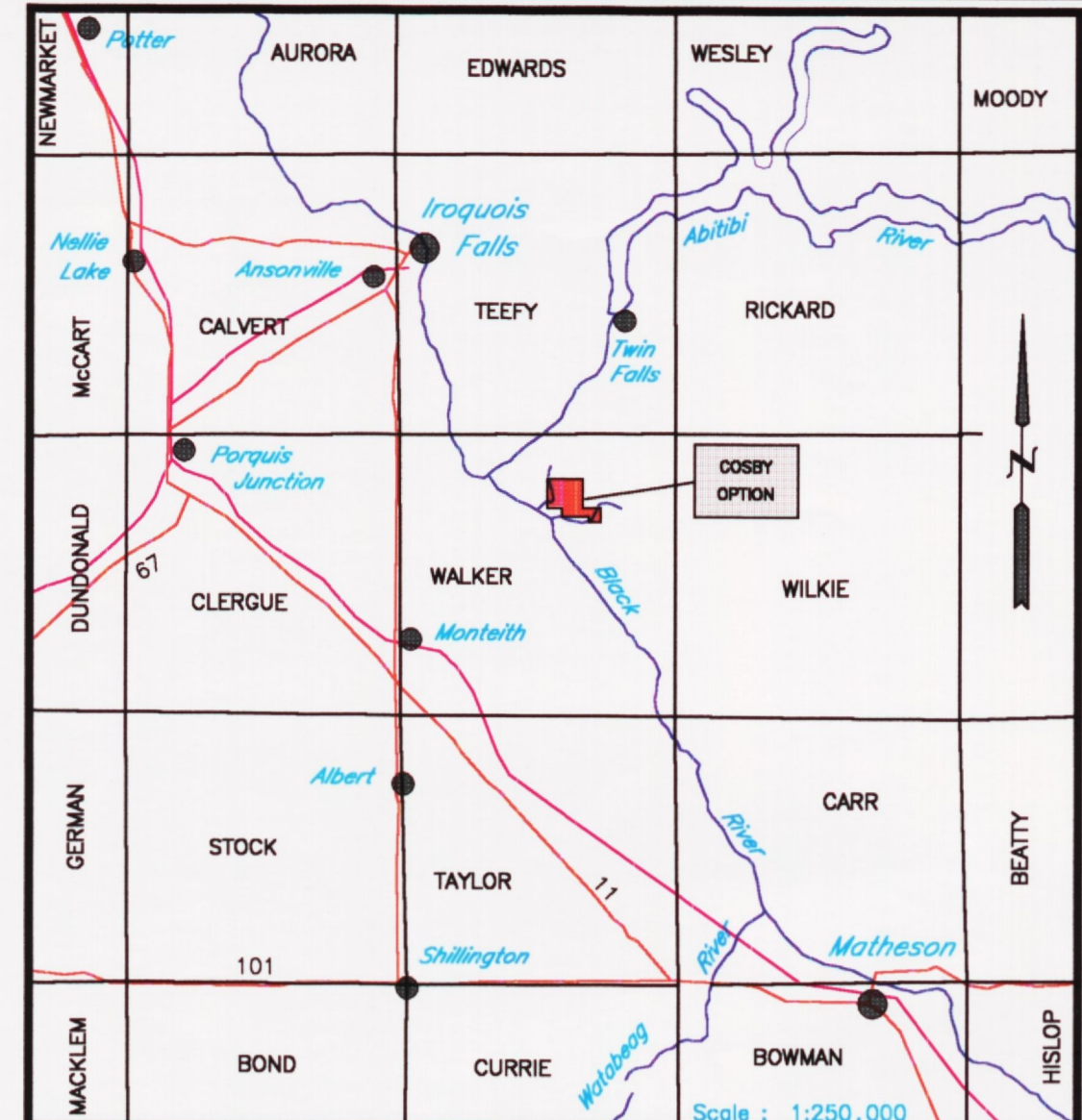


In-phase
 Quadrature



FALCONBRIDGE LIMITED	
HLEM SURVEY (222 Hz)	
COSBY OPTION	
WALKER TOWNSHIP	
File : WALKHL.XYZ	Date : August, 2001
NTS : 42-A/10	Proj # : 8304
WORK BY : <i>Timmins Geophysics Ltd.</i>	





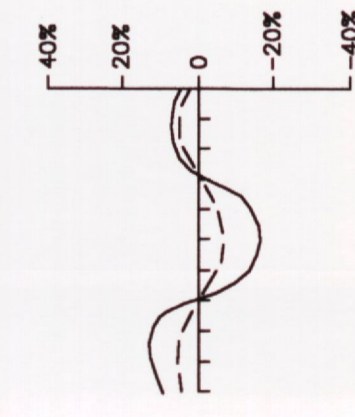
INDEX MAP



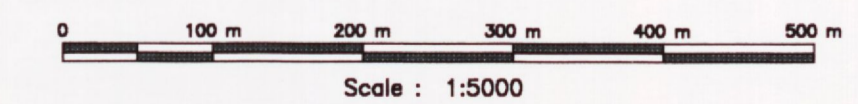
222659

LEGEND

Instrument : Apex Parametrics MaxMin I-5
 Coil Separation : 200 metres
 Frequency : 444 Hertz
 Profile Scale : 1cm = 20%

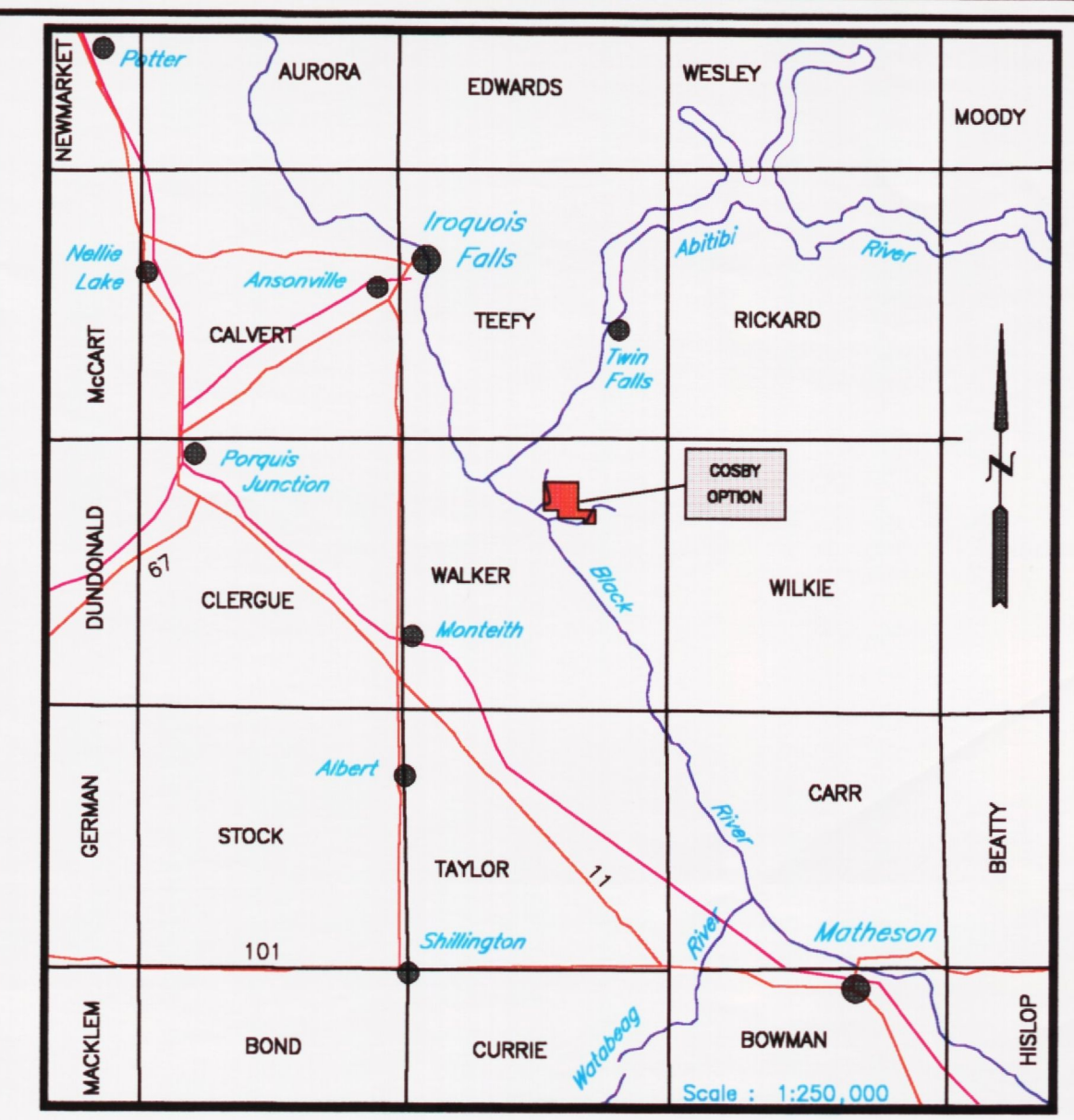
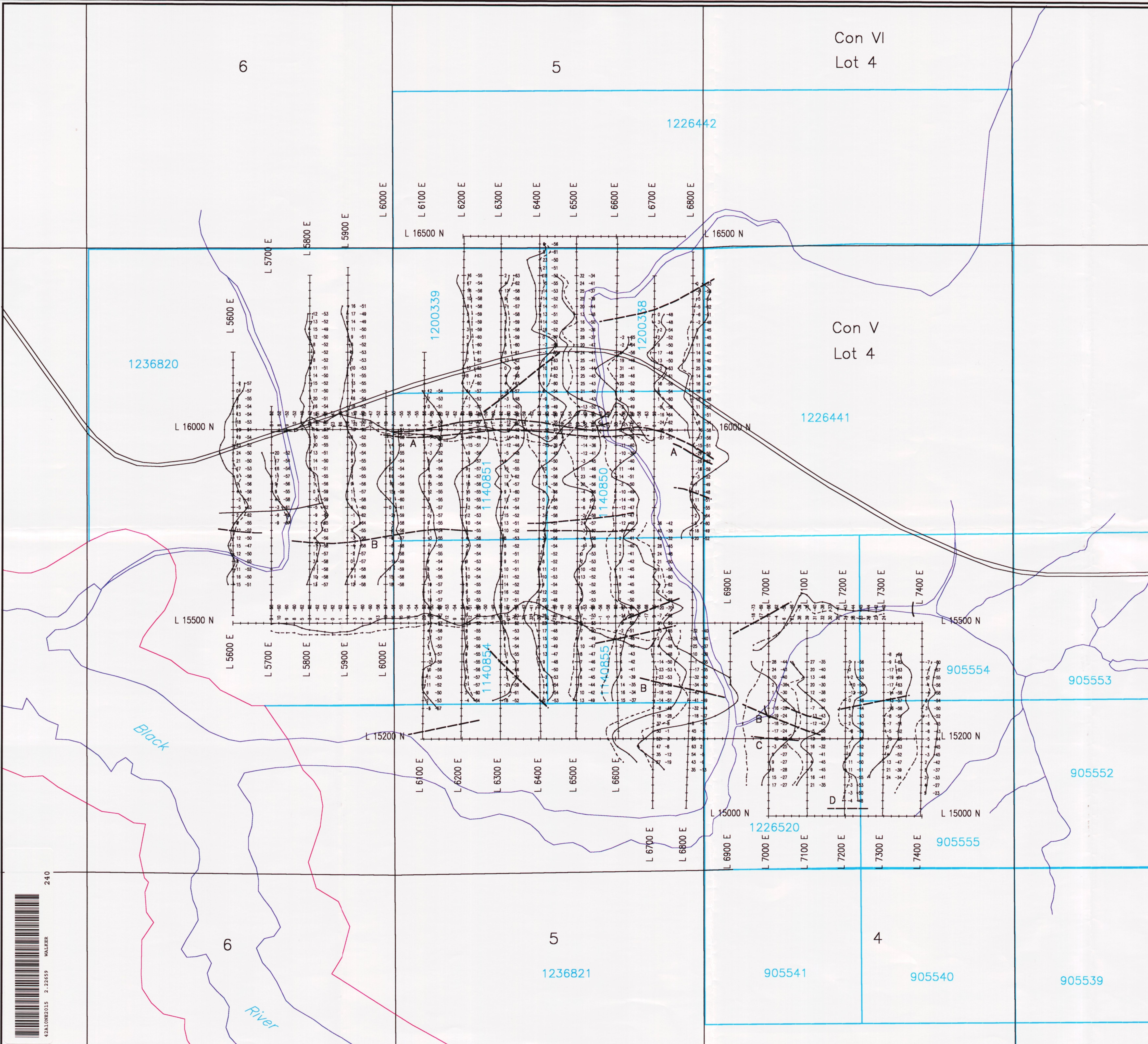


In-phase ———
 Quadrature - - - - -



FALCONBRIDGE LIMITED	
HLEM SURVEY (444 Hz)	
COSBY OPTION	
WALKER TOWNSHIP	
File : WALKHL.XYZ	Date : August, 2001
NTS : 42-A/10	Proj # : 8304
WORK BY : <i>Timmins Geophysics Ltd.</i>	

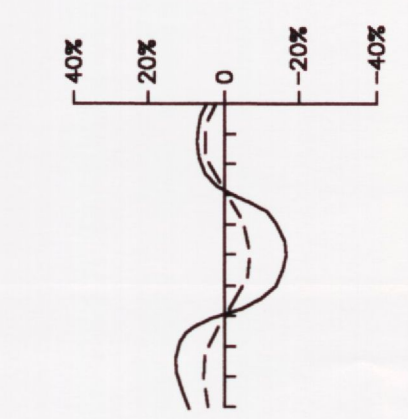




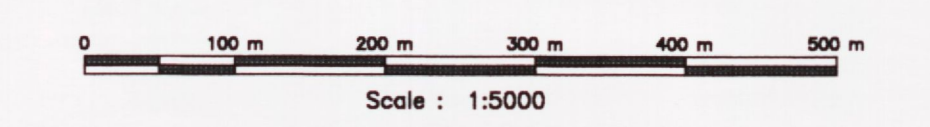
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LEGEND

Instrument : Apex Parametrics MaxMin I-5
 Coil Separation : 200 metres
 Frequency : 1777 Hertz
 Profile Scale : 1cm = 20%



In-phase
 Quadrature



FALCONBRIDGE LIMITED	
HLEM SURVEY (1777 Hz)	
COSBY OPTION	
WALKER TOWNSHIP	
File : WALKHL.XYZ	Date : August, 2001
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