GÉRARD LAMBERT
GÉOSCIENCES
Consultation et génie-conseil en géophysique.

WABANA EXPLORATIONS Inc.

TEMAGAMI and COBALT AREAS

Gillies, Chambers & Strathy Townships, Ont.

N.T.S. 31 M/4 & 31 M/5

Report on Airborne Magnetic and Electromagnetic surveys

Rouyn-Noranda, Québec
January 17, 1997

Gérard Lambert, P.Eng.
Consulting Geophysicist

144, rue George, C.P. 2355, Rouyn-Noranda (Québec) Canada J9X 5A9
Tél.: (819) 762-2182 Fax: (819) 762-5264

TABLE OF CONTENTS

Introduction

In late November and early December 1996, airborne geophysical investigations, consisting namely of a combined magnetic/electromagnetic (Mag - E.M.) helicopter-borne survey, were carried out in the **Temagami-Cobalt** area, for **WABANA EXPLORATIONS Inc.**

The purpose of this survey was to provide additional geoscientific information about the underlying lithologies and to map with a better accuracy the distribution of semi-massive, massive or stringer sulfides in the bedrock, these sulfides being potentially of economic interest if they are found to carry significant concentrations of base and/or precious metals. The survey was performed particularly because of the important mining history of the Temagami and Cobalt camps and the need for adequately mapping the geological features of the bedrock with modern exploration tools, as well as because of the possibility of outlining new ore deposits using these tools.

This report describes the geophysical work done, discusses the results obtained as well as the interpretation of the data. Recommendations for any future work are presented in the conclusion.

The airborne survey was carried out by **SIAL Geophysics**, of Montréal, Québec, under a contract agreement with Wabana Explorations..

Survey blocks description and location

The **Temagami-Cobalt** survey area is located northeastern Ontario, near these two towns. (N.T.S. 31M). Please refer to Figure 1. next page, showing a location map of the four survey blocks, at 1:250,000 scale.

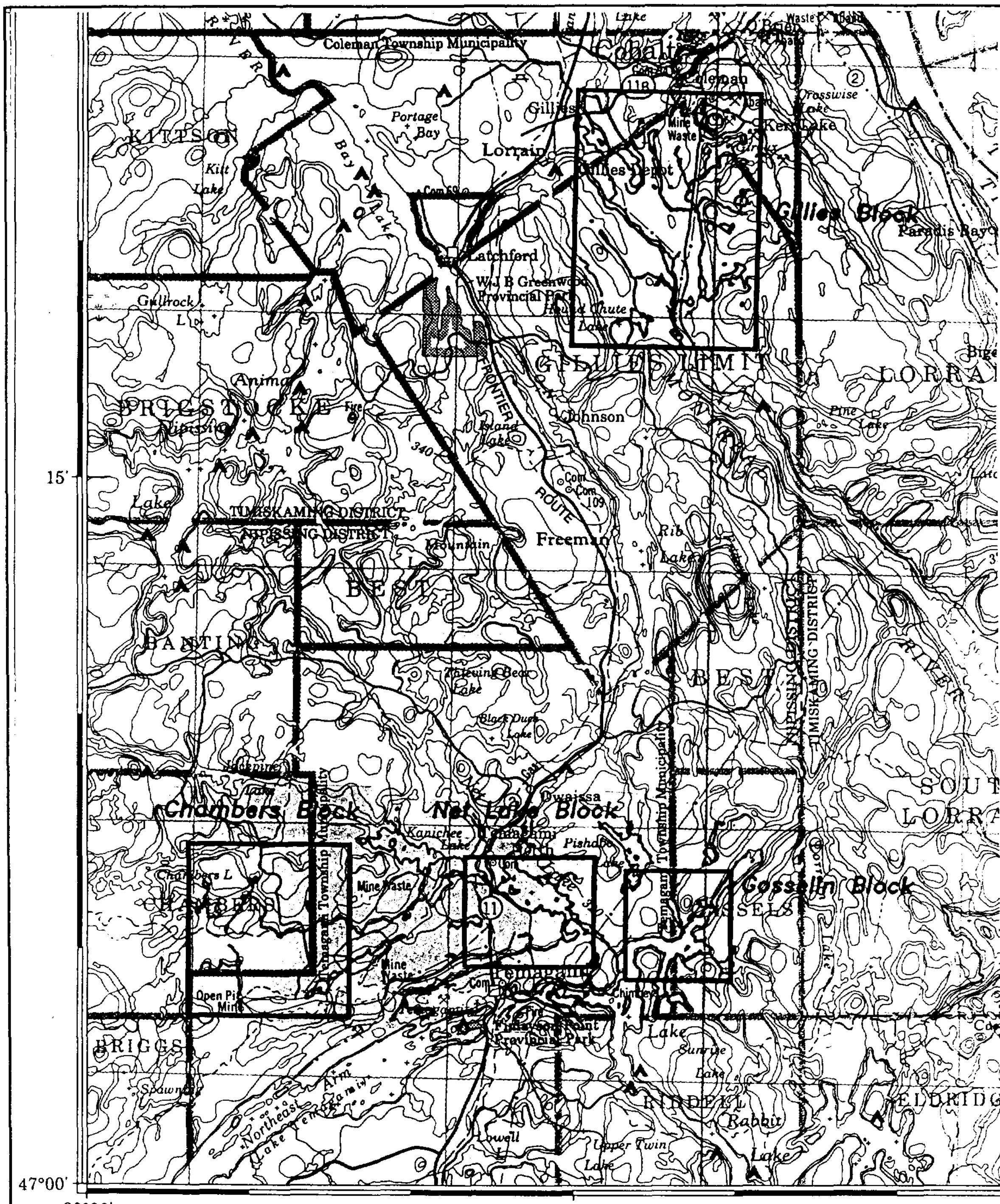


Figure 1.

Temagami-Cobalt area, Survey location map

Scale 1:250,000

N.T.S. 31 M

The survey areas consist of four flight blocks, covering Wabana's properties. The following table lists the parameters of the individual flight blocks.

BLOCK NAME	AREA (km²)	FLIGHT LINE DIRECTION	LINE SPACING	TOTAL DISTANCE FLOWN
Gillies (Cobalt)	57	E-W	100m	400 l-km
Gosselin	5.8	NW-SE	100m	50 l-km
Net Lake	11.5	N-S	100m	80 l-km
Chambers	19	N-S	100m	220 l-km
				Total: 750 l-km

The Gosselin, Net Lake and Chambers blocks are all in the immediate vicinity of Temagami. The Gillies block is situated just southwest of Cobalt. The survey crew was based in Ville-Marie, Qué, across Lake Temiskaming.

Description of the geophysical surveys

The aircraft was an Astar helicopter. The geophysical platform consisted of: a Sighem-4 electromagnetic system, operating at 5 frequencies: 874Hz coaxial pair, 933Hz coplanar pair, 4785Hz coaxial pair, 4201Hz coplanar pair and a 36kHz coplanar pair (for resistivity mapping). The coils are housed in a 7-meter kevlar "bird" towed below the aircraft by a 30m cable.

The magnetic sensor was positioned at the mid-point along the tow-cable. The magnetometer was a GEM-systems cesium-vapor magnetometer, capable of measuring the earth's magnetic field with an accuracy of 0.01 nanoTesla. A King KRA-1 radar altimeter was used to monitor the ground clearance. Navigation was made with differential G.P.S., backed up by video recording of the flight path and automatic fiducial marker.

The nominal flight altitude of the aircraft was 60m above ground, with the E.M. bird at 30 m above ground and the Mag bird at 45m. The nominal speed of the aircraft was 120 km/h. The geophysical measurements were made every 0.1 second, giving an average sample density of one reading every 3 meters along the flight lines. The data was digitally recorded and stored on an on-board computer. Calibrations of the E.M. system were made and verified each day, once at the beginning of a flight, once at the end, as well as during the flights. Each flight block had at least two control lines flown perpendicular to the survey lines, for the purpose of providing line-to-line leveling control of the data.

The raw field data was corrected for magnetic diurnal variations (using a fixed magnetic base station), for daily calibration variations in the E.M. system, and finally archived as final corrected data on CD-ROM, in Geosoft ASCII format. Each record includes X and Y coordinates (in UTM coordinates, NAD-27), fiducial markers, flight number, date/time, radar and barometric altitudes, amplitudes of the in-phase and quadrature components for each frequency and finally the corrected magnetic field intensity.

Results and interpretation

The results of the survey were computer-processed and presented as follows on base maps at 1:10,000 scale:

- **Magnetic field intensity contours** (colour-enhanced), using a contour interval of 50 nT.
- **Pseudo-apparent-resistivity contours** (colour-enhanced), using a logarithmic contour interval of 10^x (where x=0.1) ohm-meters. Resistivity values were created using the E.M. signal of the 36kHz coplanar pair.
- **Electromagnetic profiles**: in-phase and quadrature components, using a scale of 1cm=50ppm. Four E.M. profile maps were created for each block: 874Hz coaxial pair, 933Hz coplanar pair, 4785Hz coaxial pair, 4201Hz coplanar pair. The interpreted conductors appear on all these maps as well as on the other contour maps.

For each survey block, the topographic information was digitized from 1:50,000 federal topographic maps and used as a plotting base for the 1:10,000 geophysical maps. The four E.M. profile maps for each block show the flight lines as well as the in-phase/quadrature profiles. For clarity, the colour maps (magnetic relief and resistivity relief) do not show the flight lines.

Discussion:

The airborne Mag/E.M. survey technique can be viewed as an efficient prospecting tool for detecting conductive units in the bedrock, within the search range capability of the system used (about 50 to 70 meters vertical depth below ground surface, in the present case), and to obtain a visual image of the magnetic relief and of the resistivity patterns for the area flown.

The magnetic relief is of course primarily controlled by the distribution of **magnetite** in the underlying lithologies and is a good first approximation for outlining the limits of the various geological domains (felsic versus mafic) within a given area. The apparent resistivity relief is controlled mainly by the distribution of electrolyte-bearing ground water present in the surface material (soil and overburden) and also in porous lithological units. The bedrock's degree of porosity is in turn dependent on its degree of fracturation and therefore the resistivity patterns can be a useful guide to mapping tectonic structures and other fissure-inducing phenomena.

Of course the presence of highly-conductive material in the bedrock, such as metallic sulphides (pyrite, pyrrhotite, chalchopyrite, etc.) and graphitic beds will not only decrease the apparent resistivity of the rock (as measured at the high frequencies), but also will produce **E.M. anomalies** even at the lower frequencies. This is why any airborne E.M. system should carry a wide enough range of frequencies so as to provide the ability to better "characterize" the type of conductive phenomena being mapped.

In nature, there is quite a range of conductivity associated with metallic conductors. The main controlling factor here is the degree of interconnection between the metallic grains and, of course, the width of the conductors. Massive sulfides and formational graphitic horizons tend to have high conductivities and appreciable widths, whereas disseminated and stringer sulfides and narrow, patchy graphite as well as water-saturated tectonic shear zones tend to have a low conductivity. The discrimination between these families of conductors is made by analyzing the behaviour of the In-phase and Quadrature components of the secondary field and the change in amplitude of these components with changing frequencies. For the purpose of presenting the interpreted conductors on the various flight block, they have been classified into "strong" conductors and "weak" conductors and assigned appropriate symbolism on the interpretation maps.

Man-made conductive sources, such as electrical wires, metallic fences, railroads, bridges, pipelines etc., will also produce anomalies of their own and these must be discarded when interpreting the results of an electromagnetic survey. This should be taken into consideration when deciding to investigate conductors close to such noise sources.

Following is a discussion of the results for each individual blocks:

• GILLIES BLOCK

The magnetic relief is mainly controlled by a series of NW-SE formations which alternate between strongly magnetic and non-magnetic. The most abundant magnetic activity is concentrated in the southern half of the block. The magnetic units are directly related with the occurrence of diabase sills or dykes. There is a very strong correlation between linear features in the magnetic relief and linear topographic features. For instance the Montreal river coincides with the central axis of a NW-SE magnetic depletion. Similarly, portions of the stream flowing south from Giroux Lake also coincides with a magnetic low.

On first approximation, it can be asserted that the narrow and sharp linear contrasts and depletions in the magnetic relief are quite probably related with major faults or faulted contacts in the bedrock, whereas the wider areas of magnetic quiescence are more likely to be due to sediments. The dominant strike directions of the linear breaks in the magnetic relief vary between NW-SE, NNW-SSE and almost N-S.

The apparent resistivity contour map also confirms the presence of a series of low-resistivity trend oriented along similar directions. Most follow the main hydrographic features and although the sediments in streams and lake bottoms do contribute to the low resistivity, there is a definite geological cause to these lineaments.

In terms of E.M. conductors, only a few "good" conductors were mapped, mostly in the northern half of the survey block. They have been tagged GI-1 to GI-13. All these conductors lie at depths of less than 75m below surface. Because of numerous cultural noise sources, care should be exercised in assigning geological causes to some conductors, particularly around lakes with cottages (Cassidy Lake, for instance). The following table summarizes the conductors and their characteristics.

Conductor	Strike length	Magnetic Association	Possible cause	Remarks
GI-1	600m	A weak high	Sulfides	Merits a ground check
GI-2	600m	A weak high	Sulfides	Merits a ground check
GI-3	400m	A low	Culture ?	Check for man-made causes (Cottages)
GI-4	700m	Diabase sill	Culture ?	Check for man-made causes (Cottages)
GI-5	300m	Diabase sill	Culture ?	Check for man-made causes (Cottages)
GI-6	350m	A low	A sulphide-bearing shear zone	Situated along a major N-S structure
GI-7	200m	None	Sulfides ?	Somewhat noisy response
GI-8	350m	A weak high	A sulphide-bearing shear zone or fault	Under Lake Giroux. Merits a ground check
GI-9	200m	Near a moderate high	A sulphide-bearing shear zone or fault	Could be the NE extension of GI-8
GI-10	200m	Near a weak high	A small sulphide zone?	Merits a ground check
GI-11	200m (?)	Near a weak high	Sulfides or graphite	If real, **one of the best responses**. Merits a ground check, definitely
GI-12	150m	Near a moderate high	A small sulphide zone?	Merits a ground check
GI-13	175m	None	Surface material?	Worth a ground check; under Lake Giroux.

Gillies Block E.M. conductors

The remaining conductors on the **Gillies block** are in the "weak conductor" category and could be anything from overburden-filled bedrock depressions to sulphide-enriched porous shear zones to lenses and pods of stringer sulfides. These conductors will require ground follow-up with Induced Polarization (I.P.) in order to determine which ones do carry metallic material.

• CHAMBERS BLOCK

The magnetic relief on **Chambers** is characterized by a very strongly magnetic band striking at 075°, in the extreme south of the block, evidently caused by an Iron Formation, judging from the large amplitude of the magnetic anomaly.

The remaining area of this block is characterized by a series of narrow (probably diabase) dykes striking along two sets of directions: one (dominant) at about 290° and one (less dominant) at about 055°. These dykes have intruded through a rather magnetically-dull collection of intermediate volcanic rocks. The magnetic pattern in general is fairly undisturbed, giving little indication of significant structural activity.

The apparent resistivity contour map is characterized by generally high resistivities, except for some sporadic low-resistivity patches that could be due to electrolytic phenomena (overburden-filled bedrock depressions or water-saturated porous shear zones) of to poorly-conductive sulphides. The generally resistive conditions of this block suggests that the bedrock is close to surface, with minimal overburden cover.

The only bedrock conductors on this block occur in the south, in close association with the Iron Formation. Conductors CH-1, CH-2, CH-3 and CH-4 have been interpreted as being due to metallic material (presumably sulphides, but also possibly some graphite bands) closely associated to the Iron Formation. These conductors are part of a trend that comprise several other "weaker" conductors, and this whole corridor may be mineralized with metallic sulphides of variable conductance and metallic content. A ground check with E.M. (MaxMin) or better with I.P., is warranted and it should improve the definition of these zones.

Elsewhere, the "weak" conductors, often intimately associated with physiographic features, will have to be better defined with induced polarization to see which ones carry metallic material and which ones are simply unmineralized, electrolytic phenomena.

• **NET LAKE and GOSSELIN BLOCKS**

These two blocks were processed together, as they lie close to each other. The magnetic relief on these blocks is characterized by moderately magnetic dykes striking mainly along NW-SE directions but with also, on Gosselin, along NE-SW directions. A strongly magnetic olivine-diabase dyke can also be identified in the extreme northeast edge of the Gosselin block. It strikes NW-SE.

Apart from these dykes, the magnetic background of both blocks is relatively quiet. The western edge of Net Lake block shows some magnetic activity along a possible N-S trend. It could be the differentiated border of a granitic intrusive. The central portion of this felsic intrusive is also marked by a rather depleted magnetic susceptibility near the northern part of the Net Lake block.

The apparent resistivity relief is almost entirely controlled by the hydrographic system and it is strongly suspected that lake bottom sediments or other electrolytic conductivity is the chief cause of the decreased resistivities. It is also very probable that some very linear low-resistivity features are of tectonic origins (major faults). Example of this are Gosselin Lake, Johnny Creek and Boot Bay, as well as some arms in Cassels Lake.

Only a few conductors of presumed bedrock origins have been interpreted on these two blocks. Three are on the Net Lake block, only one on the Gosselin Lake block. They are described in the following table.

Conductor	Strike length	Magnetic Association	Possible cause	Remarks
NL-1	200m ?	A moderate high	Culture ??	Ground check for culture
NL-2	200m ?	A moderate high	Sulfides in a shear	Merits a ground check
NL-3	400m	A weak high	Sulphides	**A high priority target**
GO-1	200m	A low	Sulfides in a shear	Merits a ground check

Net Lake / Gosselin Lake Blocks, E.M. conductors

The remaining conductors on these two flight blocks are in the "weak conductor" category and could be anything from overburden-filled bedrock depressions to sulphide-enriched porous shear zones to lenses and pods of stringer sulfides. These conductors will require ground follow-up with Induced Polarization (I.P.) in order to determine which ones do carry metallic material.

Conclusion and recommendations

The airborne geophysical surveys which have been carried out on four blocks in the Temagami-Cobalt areas for **Wabana Explorations Inc.** have successfully provided valuable magnetic and resistivity information for the purpose of assisting the comprehension of the local geology and structure. Several late diabase dykes have been mapped, as well as a large number of potential tectonic faults and shear zones.

In addition, a fair number of electromagnetic conductors, interpreted to be of bedrock origin, have been recognized. They have been classified in two categories: "strong" conductors probably of metallic composition (sulphides, graphite) and "weak" conductors probably of low-conductivity metallic origins or due to electrolytic phenomena such as water-saturated porous structures or overburden-filled valleys.

It is recommended to study the results of these surveys in the light of a comprehensive compilation of mineralized showings, past exploration works, prospecting, geology, and previous diamond drilling, in order to set the priorities for exploring the new targets potentially generated by the present airborne surveys.

The geophysical ground follow-up should consist of horizontal loop E.M. (MaxMin-type) surveys over the selected "strong" conductors. A 100m or 150m coil separation and 3 frequencies (440Hz, 1760Hz and 3520Hz) should adequately investigate these conductors. Again, care should be exercised in the case of conductors situated close to man-made structures.

On the other hand, the "weaker" conductors, if selected for ground follow-up, should be checked with the induced polarization (I.P.) method, because the E.M. methods will probably not be able to confirm without a doubt if metallic material is present and if the conductivity originates from ionic conduction in poorly-connected metallic grains (giving an I.P. anomaly) or from electrolytic conduction (giving no I.P. effect).

It is not considered necessary to resurvey the selected targets with ground magnetics, as the quality of the airborne data is very good and I do not think that the minimal increase in anomaly resolution justifies the expense of ground surveying. A vertical gradient calculation of the airborne total field will advantageously replace a ground magnetic survey.

Rouyn-Noranda, Québec
January 17, 1997

Gérard Lambert, P.Eng.
Consulting Geophysicist

Ontario | Ministry of Northern Development and Mines

Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use): W9770.00104

Assessment Files Research Imaging

31M04SE0031 2.17134 CASSELS

900

2.17134

Personal Infor... 2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, the ... ment work and correspond with the mining land holder. Questions abc... ry of Northern Development and Mines, 6th Floor, 933 Ramsey L...

Instructions: - For work performed on Crown Lands before recording a claim, use form 0240.
- Please type or print in ink.

1. Recorded holder(s) (Attach a list if necessary)

Name	Client Number
DAVID LARONDE	157346
Address	**Telephone Number**
P.O. BOX 482	(705) 569-2904
TEMAGAMI, ONT. P0H 2H0	**Fax Number** (705) 569-2817
Name	**Client Number**
Address	**Telephone Number**
	Fax Number

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

☒ Geotechnical: prospecting, surveys, assays and work under section 18 (regs) ☐ Physical: drilling, stripping, trenching and associated assays ☐ Rehabilitation

Work Type		Office Use	
AIRBORNE MAGNETIC & ELECTROMAGNETIC		Commodity	
		Total $ Value of Work Claimed	4,333.00
Dates Work Performed: From 7 / 11 / 96 (Day / Month / Year) To 9 / 12 / 96 (Day / Month / Year)		NTS Reference	
Global Positioning System Data (if available)	Township/Area: CASSELS	Mining Division	Sudbury
	M or G-Plan Number: G-3415	Resident Geologist District	Sudbury

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required;
- provide proper notice to surface rights holders before starting work;
- complete and attach a Statement of Costs, form 0212;
- provide a map showing contiguous mining lands that are linked for assigning work;
- include two copies of your technical report.

RECEIVED
MAR 20 1997
MINING LANDS BRANCH

3. Person or companies who prepared the technical report (Attach a list if necessary)

Name	Telephone Number
GERARD LAMBERT	(819) 762-3182
Address	**Fax Number**
144, rue George. C.P. 2355, ROUYN-NORANDA QUE. J9X 5A9	(819) 762-5364
Name	**Telephone Number**
Address	**Fax Number**
Name	**Telephone Number**
Address	**Fax Number**

4. Certification by Recorded Holder or Agent

I, ____________________ (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent		Date
C.D. Stephenson		MARCH 3RD 1997
Agent's Address	**Telephone Number**	**Fax Number**
1411 Shirley Ave Val Therese P3P 1S8	(705) 969-4853	

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

2 17134

	Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
eg	TB 7827	16 ha	$26, 825	N/A	$24,000	$2,825
eg	1234567	12	0	$24,000	0	0
eg	1234568	2	$ 8, 892	$ 4,000	0	$4,892
1	S1198118	1	$289	$400	Ø	
2	S1198119	1	$289	$400	Ø	
3	S1198120	1	$289	$400	Ø	
4	S1198121	1	$289	$400	Ø	
5	S1198122	1	$289	$400	Ø	
6	S1118463	1	$289	Ø	$289	
7	S1118464	1	$289	Ø	$266	$23
8	S1118444	8	$2,310	Ø	$ Ø	$2,310
9						
10						
11						
12						
13						
14						
15						
		Column Totals	$4,333	$2000	$555	$2,333

I, CLIVE D. STEPHENSON (Print Full Name), do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done. will be faxed.

Signature of Recorded Holder or Agent Authorized in Writing: C. D. Stephenson

Date: MARCH 3/97

RECEIVED
MAR 20 1997
MINING LANDS BRANCH

6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- ☒ 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- ☐ 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- ☐ 3. Credits are to be cut back equally over all claims listed in this declaration; or
- ☐ 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

CLAIMS S1198118 – S1198122 INCL NEED $400 EACH TO BE APPLIED, CUTBACK REDUCTION SHOULD ENSURE THIS.

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

SUDBURY MINING DIV.
RECEIVED
MAR 03 1997
A.M. P.M.
7 8 9 10 11 12 1 2 3 4 5 6
11:35

SUDBURY MINING DIV.
RECEIVED
MAR 03 1997
A.M. P.M.
7 8 9 10 11 12 1 2 3 4 5 6

Deemed Approved Date	Date Notification Sent
Date Approved	Total Value of Credit Approved
Approved for Recording by Mining Recorder (Signature)	

Ontario | Ministry of Northern Development and Mines

Statement of Costs for Assessment Credit

Transaction Number (office use): W9770.00104

Personal information collected on this form is obtained under the authority of subsection 6(1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

2.17134

Work Type	Units of Work (Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.)	Cost Per Unit of work	Total Cost
AIRBORNE GEOPHYSICS	50 line kilometres	$86.66/line km.	$4,333
(TOTAL COST OF SURVEY IS $65,000 for 750 line kilometers/helicopter over 4 separate properties)			
Associated Costs (e.g. supplies, mobilization and demobilization).		INCL. IN ABOVE	
Transportation Costs		INCL IN ABOVE	
Food and Lodging Costs		INCL IN ABOVE.	
Total Value of Assessment Work			$4,333

RECEIVED
MAR 20 1997
MINING LANDS BRANCH

Calculations of Filing Discounts:

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK × 0.50 = Total $ value of worked claimed.

Note:
- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

Certification verifying costs:

I, CLIVE D. STEPHENSON (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as C.D. Stephenson (recorded holder, agent, or state company position with signing authority) I am authorized to make this certification.

Signature	Date
C.D. Stephenson	March 3/97

0212 (02/96)

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Ontario

Geoscience Assessment Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (888) 415-9846
Fax: (705) 670-5863

July 29, 1997

DAVID DENNIS LARONDE
P.O. BOX 482
TEMAGAMI, Ontario
P0H-2H0

Dear Sir or Madam:

Submission Number: 2.17134

		Status
Subject: Transaction Number(s):	W9770.00104	Approval After Notice

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice.

Please note any revisions must be submitted in DUPLICATE to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Lucille Jerome by e-mail at jerome_l@torv05.ndm.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,

ORIGINAL SIGNED BY
Blair Kite
Supervisor, Geoscience Assessment Office
Mining Lands Section

Correspondence ID: 11131

Copy for: Assessment Library

Work Report Assessment Results

Submission Number: 2.17134

Date Correspondence Sent: July 29, 1997 **Assessor:** Lucille Jerome

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9770.00104	1198118	CASSELS	Approval After Notice	July 29, 1997

Section:
15 Airborne Geophy AEM
15 Airborne Geophy AMAG

The 45 days outlined in the Notice dated May 08, 1997, have passed.

Assessment work credit has been approved as outlined on the attached Distribution of Assessment Work Credit sheet.

Correspondence to:

Resident Geologist
Sudbury, ON

Assessment Files Library
Sudbury, ON

Recorded Holder(s) and/or Agent(s):

Clive D. Stephenson
VAL THERESE, ONTARIO, CANADA

DAVID DENNIS LARONDE
TEMAGAMI, Ontario

Correspondence ID: 11131

Distribution of Assessment Work Credit

The following credit distribution reflects the value of assessment work performed on the mining land(s).

Date: July 29, 1997

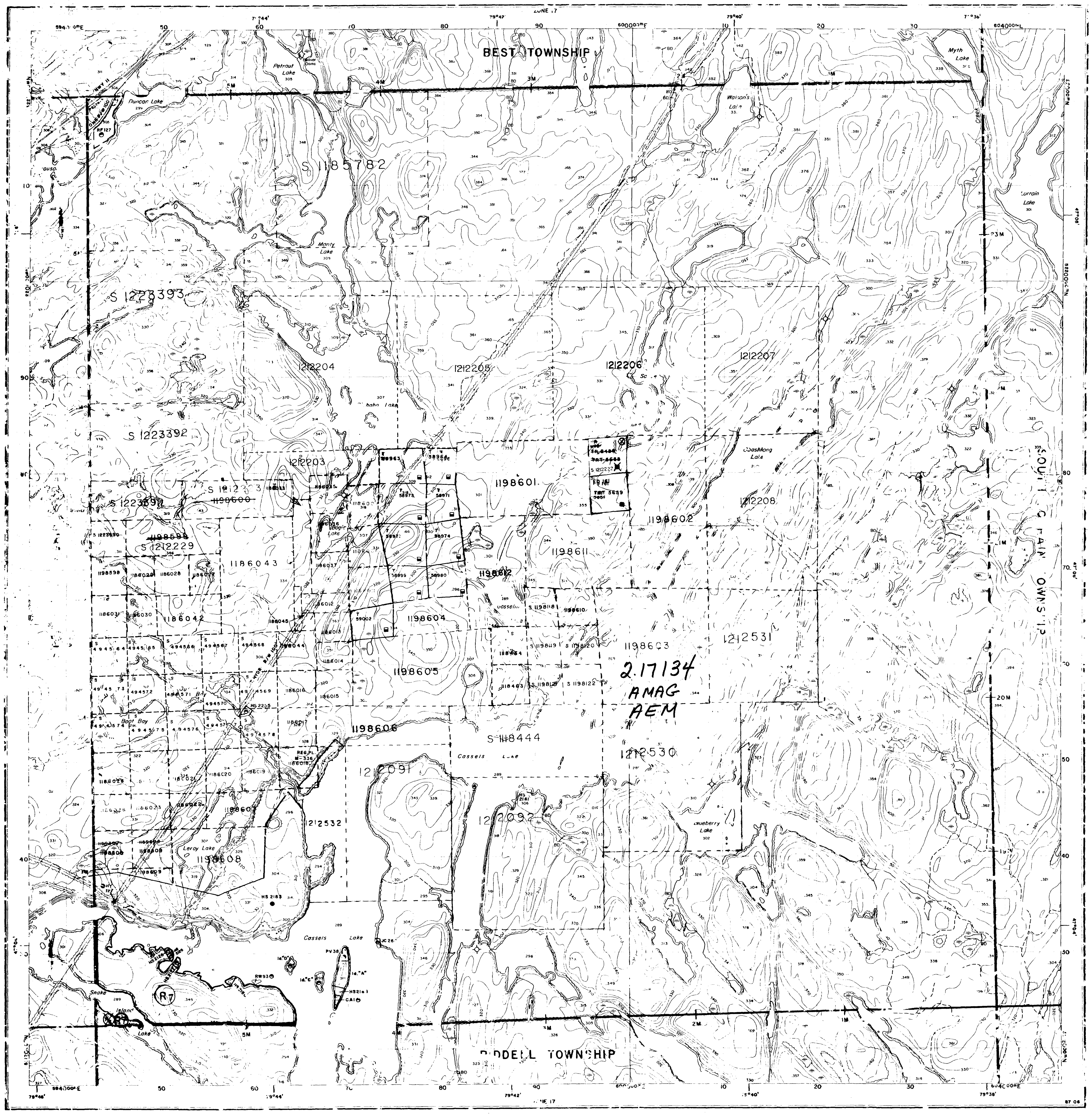
Submission Number: 2.17134

Transaction Number: W9770.00104

Claim Number	Value Of Work Performed
1198118	175.00
1198119	175.00
1198120	175.00
1198121	175.00
1198122	175.00
1118463	175.00
1118464	175.00
1118444	1,427.00
Total: $	2,652.00

Correspondence ID: 11131

[redacted]



Ministry of Natural Resources

Ministry of Northern Development and Mines

Ontario

IN SERVICE FEBRUARY 10, 1989

INDEX TO LAND DISPOSITION

PLAN

G-3415 **2.17134**

TOWNSHIP

CASSELS

M.N.R. ADMINISTRATIVE DISTRICT

TEMAGAMI

MINING DIVISION

SUDBURY

LAND TITLES/REGISTRY DIVISION

NIPISSING

31M04SE0031 2.17134 CASSELS

200

Scale 1:20 000

Metres 1000 0 1000

Feet 1000 0 1000 2000 3000 4000 5000 6000 7000 8000

Contour Interval 10 Metres

SYMBOLS

Boundary

Township, Meridian, Baseline

Road allowance; surveyed

shoreline

Lot/Concession; surveyed

unsurveyed

Parcel; surveyed

unsurveyed

Right-of-way; road

railway

utility

Reservation

Cliff, Pit, Pile

Contour

Interpolated

Approximate

Depression

Control point (horizontal)

Flooded land

Mine head frame

Pipeline (above ground)

Railway, single track

double track

abandoned

Road; highway, county, township

access

trail, bush

Shoreline (original)

Transmission line

Flooded area

AREAS WITHDRAWN FROM DISPOSITION

MRO - Mining Rights Only

SRO - Surface Rights Only

M+S - Mining and Surface Rights

Description	Order No.	Date	Disposition	
~~Sec. 36/80~~ 0-S-01/92	~~W- 84~~ CR	~~16/1/86~~ JAN. 7/92	~~M.R.S.~~	
	0-ONT-06/92 NER/CR	MAR.16/92	M & S	195150
	0-ONT-07/92 NER/CR	JUNE 1/92	M & S	195150
SEC. 35/90	W-S-77/96 ~~W-S-15/96~~	09/3/96 ~~APR.16/96~~	M & S	195150

JUNE 1, 1996 OPENINGS TR 2486

TRT 5658

THIS TOWNSHIP FALLS WITHIN THE TEMAGAMI COMPREHENSIVE PLANING AREA. SPEACIAL WORKING CONDITIONS MAY APPLY TO EXPLORATION ACTIVITIES. FOR MORE DETAILS PLEASE CONTACT:

DISTRICT MANAGER,
NORTH BAY DISTRICT
MINISTRY, NATURAL RESOURSES

DATE OF ISSUE

MAR 1 0 1997

SUDBURY
MINING RECORDER'S OFFICE

DISPOSITION OF CROWN LANDS

Patent

Surface & Mining Rights

Surface Rights Only

Mining Rights Only

Lease

Surface & Mining Rights

Surface Rights Only

Mining Rights Only

Licence of Occupation

Order-in-Council

Cancelled

Reservation

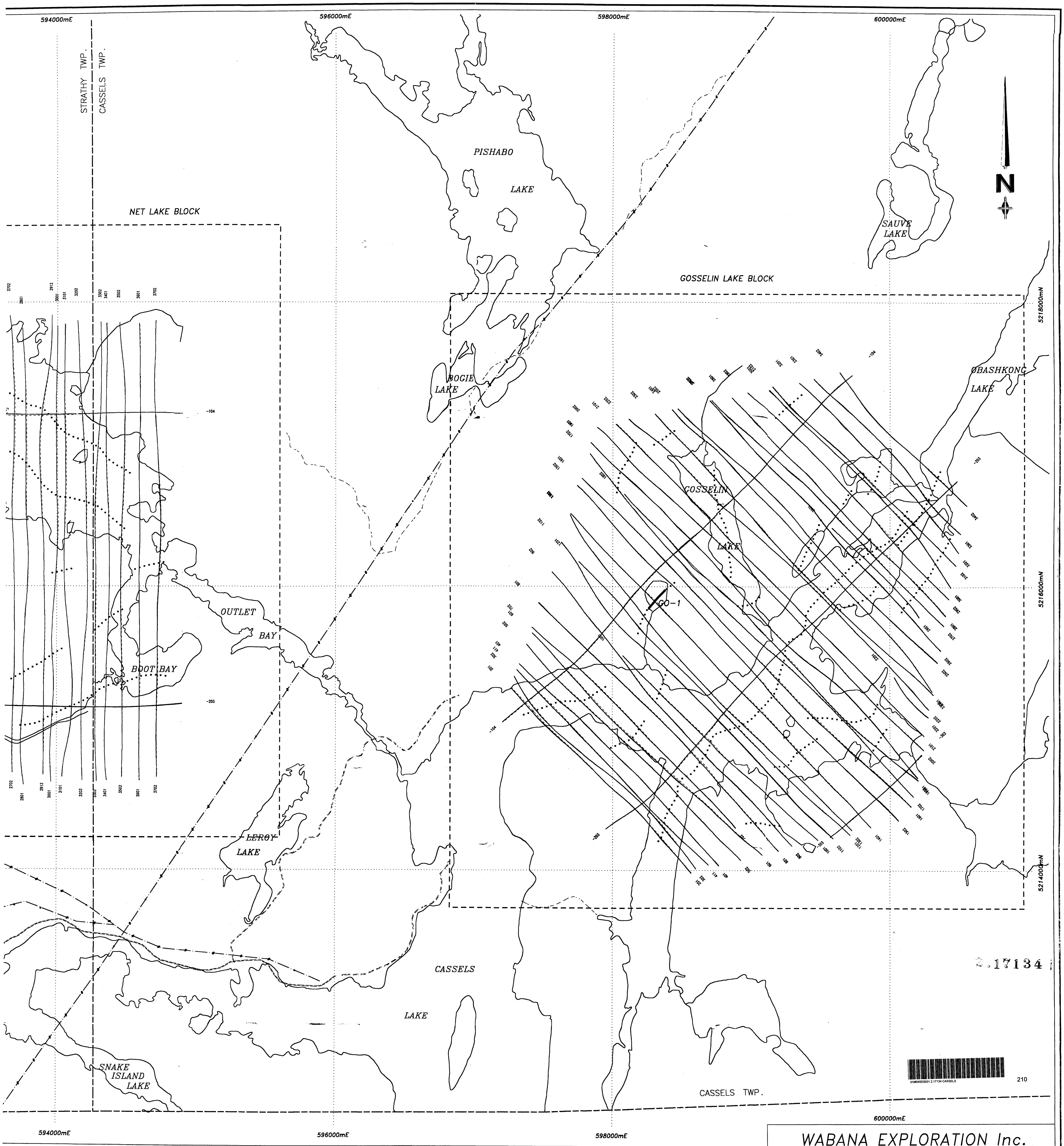
Sand & Gravel

LAND USE PERMIT

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

Map base and land disposition drafting by Surveys and Mapping Branch, Ministry of Natural Resources.

The disposition of land, location of lot fabric and parcel boundaries on this index was compiled for administrative purposes only.



metallic material
high conductance

material (stringer
-enriched sulfides)
ng in porous, water-
ears. Also possibly
ions.

Scale 1:10,000

250m 0 500m 1000m

UTM Coordinates, NAD 27

WABANA EXPLORATION Inc.

TEMAGAMI AREA

AIRBORNE ELECTROMAGNETIC AND MAGNETIC SURVEY

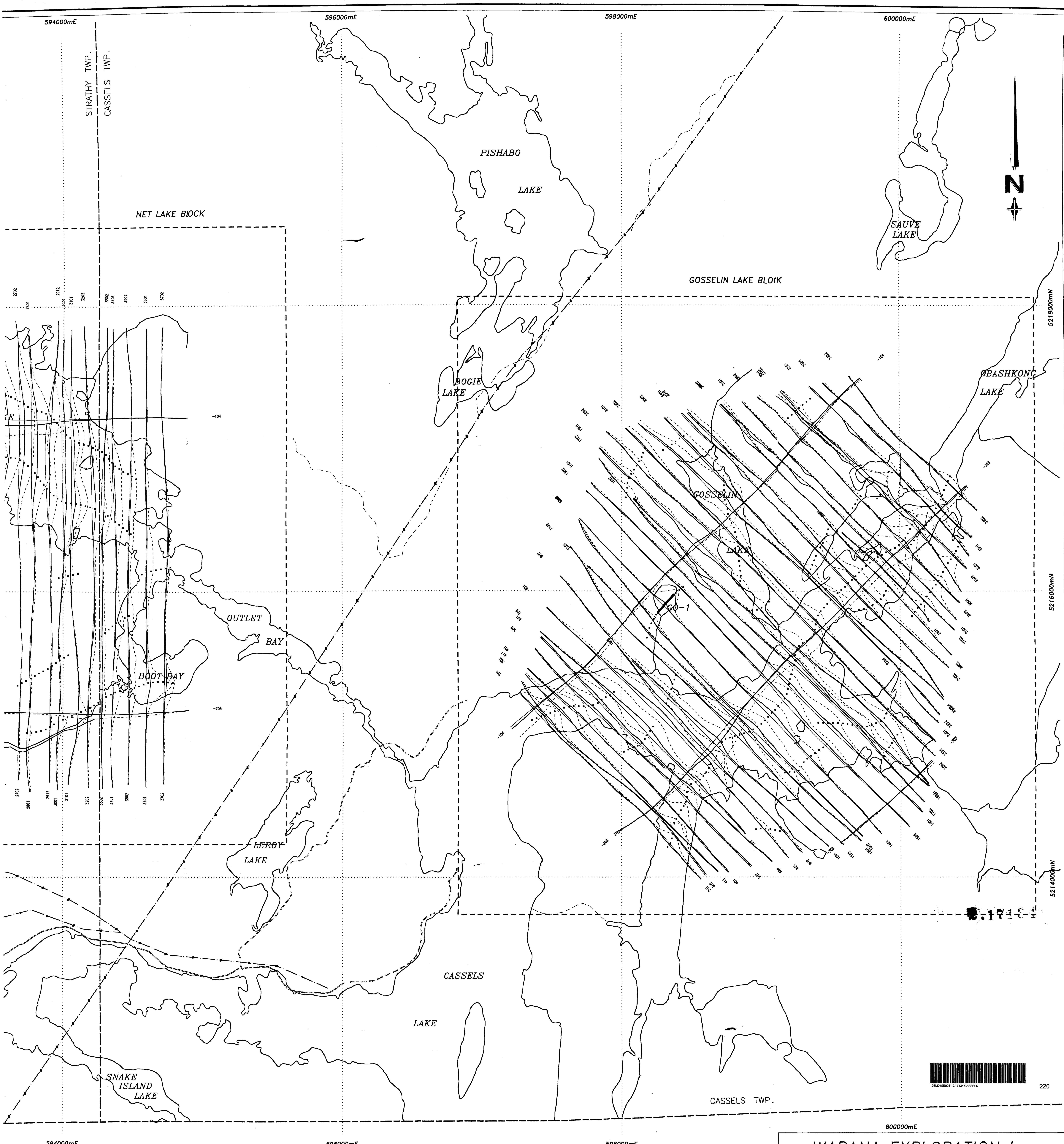
Profiles of the In-Phase and Quadrature components

NET LAKE BLOCK
GOSSELIN BLOCK

Frequency: 874Hz, coaxial pair — Profile scale: 1cm=50ppm

Data processing and interpretation:	Survey by: SIAL GEOSCIENCES Ltd. Montreal, Que. December 1996
G. Lambert, P.Eng.	
LAMBERT GEOSCIENCES Ltd.	N.T.S. 31M/4, 31M/5
January 1997	Scale 1:10,000

INGENIEUR-ENGINEER GERARD LAMBERT 33174 QUEBEC



R.
've metallic material
'ith high conductance

llic material (stringer
rite–enriched sulfides)
ating in porous, water–
shears. Also possibly
ssions.

Scale 1:10,000

250m 0 500m 1000m

UTM Coordinates, NAD 27

WABANA EXPLORATION Inc.

TEMAGAMI AREA

AIRBORNE ELECTROMAGNETIC AND MAGNETIC SURVEY

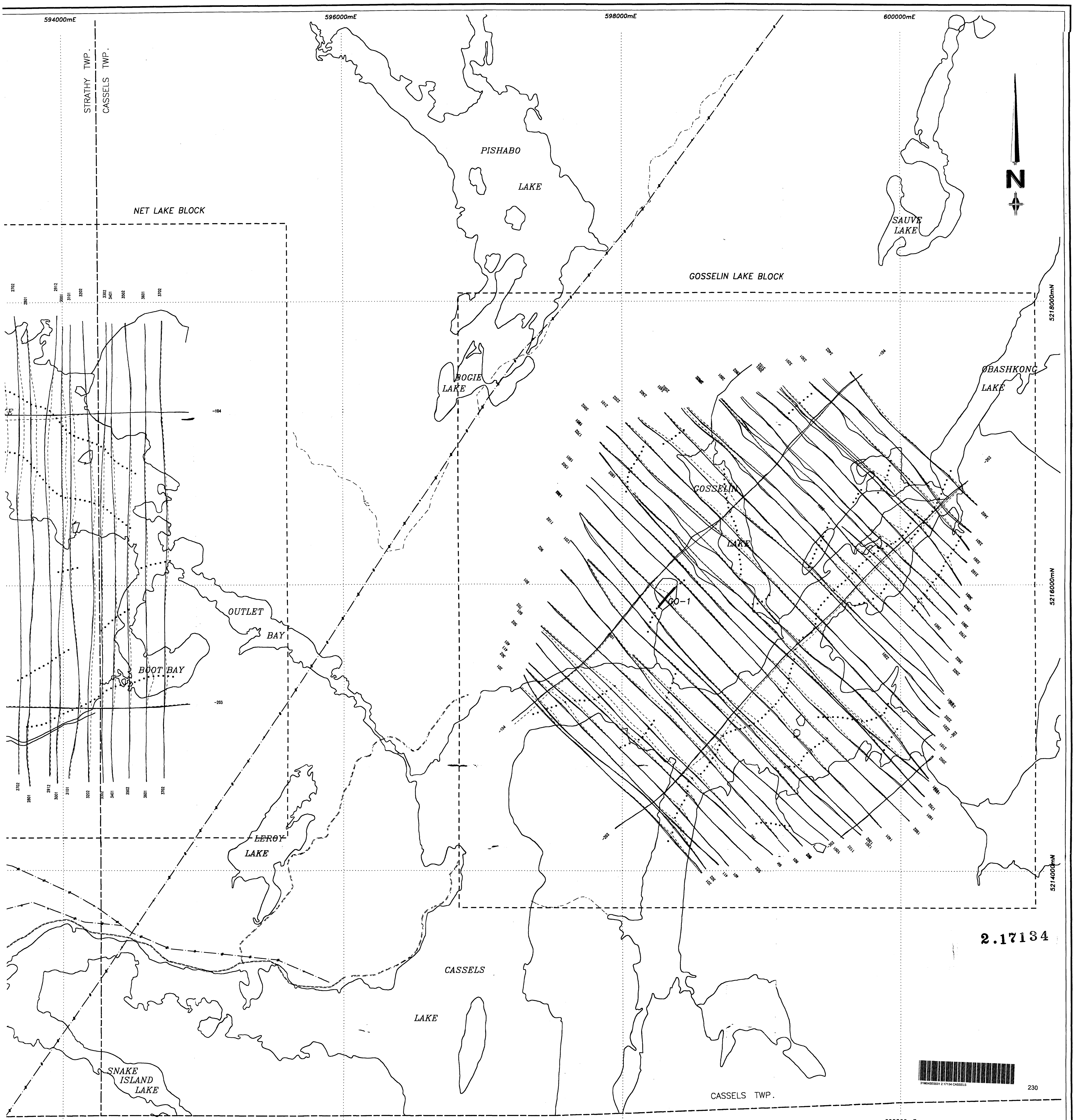
Profiles of the In–Phase and Quadrature components

NET LAKE BLOCK
GOSSELIN BLOCK

Frequency: 4201Hz, coplanar pair Profile scale: 1cm=50ppm

Data processing and interpretation:	Survey by: SIAL GEOSCIENCES Ltd. Montreal, Que. December 1996
G. Lambert, P.Eng.	
LAMBERT GEOSCIENCES Ltd.	N.T.S. 31M/4, 31M/5
January 1997	Scale 1:10,000

220



230

e metallic material
th high conductance

lic material (stringer
ite-enriched sulfides)
ting in porous, water-
shears. Also possibly
sions.

Scale 1:10,000

250m 0 500m 1000m

UTM Coordinates, NAD 27

WABANA EXPLORATION Inc.

TEMAGAMI AREA

AIRBORNE ELECTROMAGNETIC AND MAGNETIC SURVEY

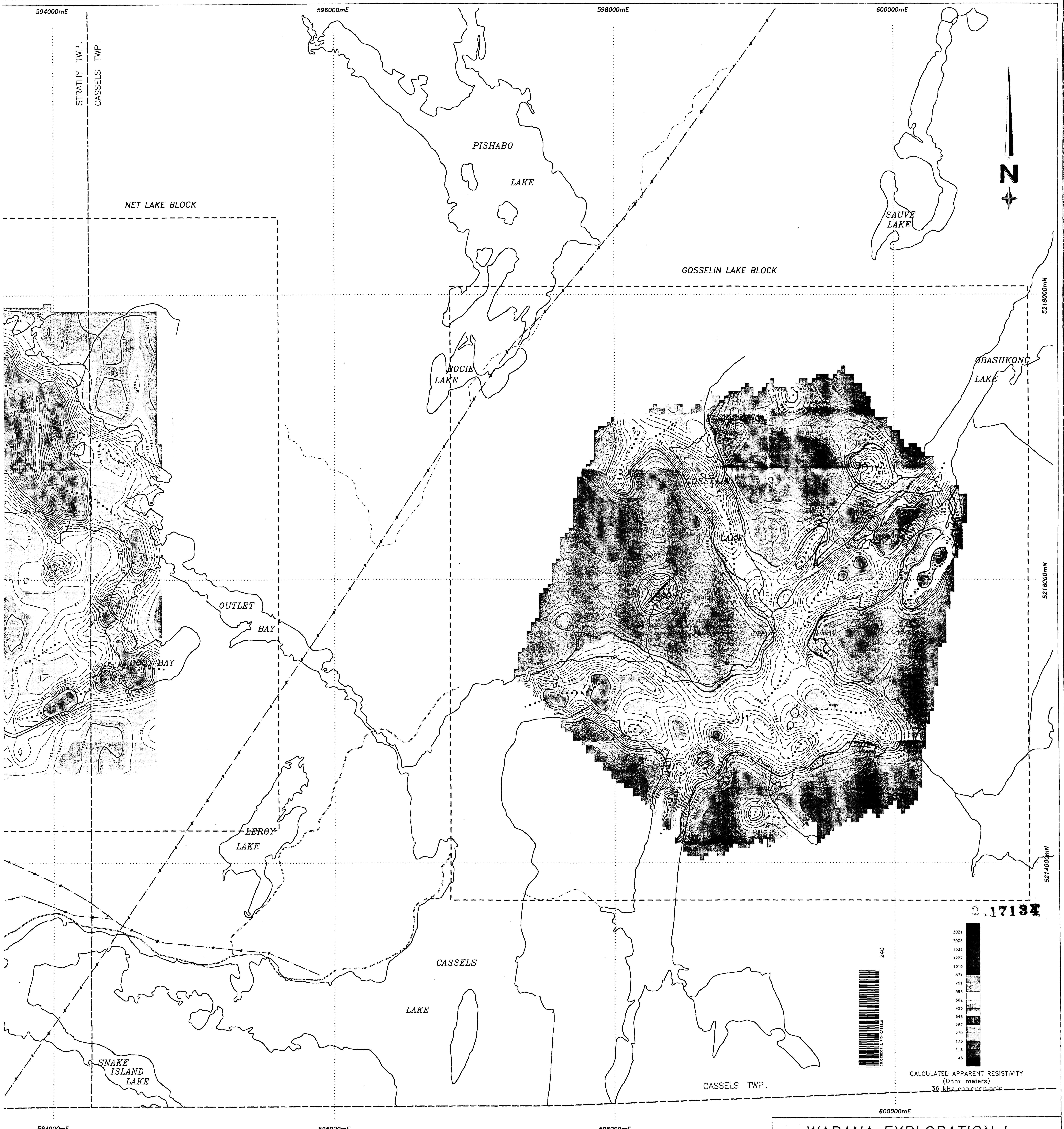
Profiles of the In-Phase and Quadrature components

NET LAKE BLOCK
GOSSELIN BLOCK

Frequency: 933Hz, coplanar pair   Profile scale: 1cm=50ppm

Data processing and interpretation:	Survey by: SIAL GEOSCIENCES Ltd. Montreal, Que. December 1996
G. Lambert, P.Eng.	
LAMBERT GEOSCIENCES Ltd.	N.T.S. 31M/4, 31M/5
January 1997	Scale 1:10,000

INGENIEUR – ENGINEER GERARD LAMBERT 33174 QUEBEC



metallic material
high conductance

material (stringer
–enriched sulfides)
g in porous, water–
ors. Also possibly
ons.

Scale 1:10,000

250m 0 500m 1000m

UTM Coordinates, NAD 27

WABANA EXPLORATION Inc.

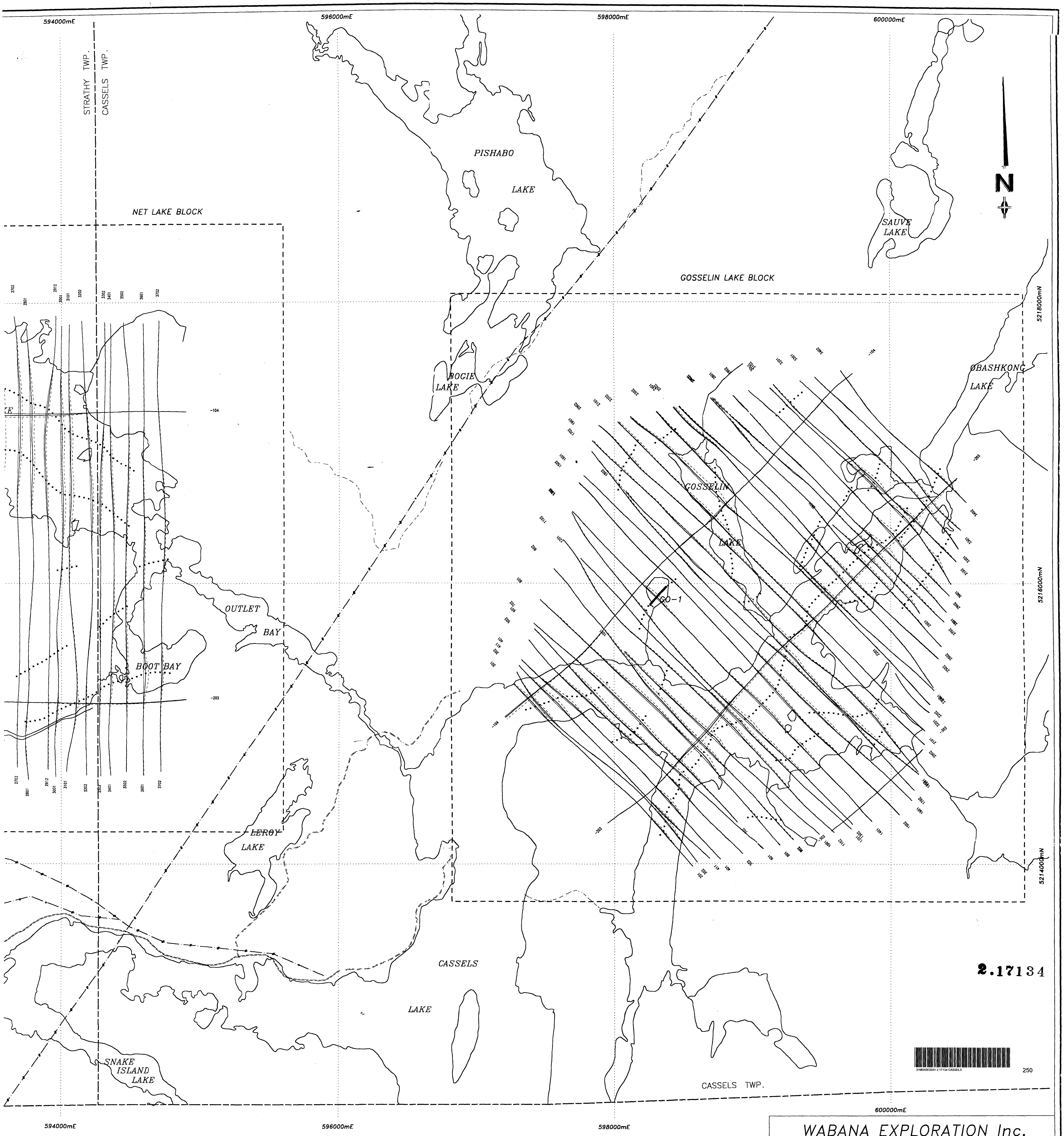
TEMAGAMI AREA

AIRBORNE ELECTROMAGNETIC AND MAGNETIC SURVEY
Contours of the calculated apparent resistivity

Frequency: 36,363Hz, coplanar pair — NET LAKE BLOCK, GOSSELIN BLOCK

Data processing and interpretation:	Survey by: SIAL GEOSCIENCES Ltd. Montreal, Que.
G. Lambert, P.Eng.	December 1996
LAMBERT GEOSCIENCES Ltd.	N.T.S. 31M/4, 31M/5
January 1997	Scale 1:10,000

INGÉNIEUR–ENGINEER GÉRARD LAMBERT 33174 QUÉBEC



?.
ve metallic material
ith high conductance

llic material (stringer
rite–enriched sulfides)
ating in porous, water–
shears. Also possibly
ssions.

Scale 1:10,000

250m 0 500m 1000m

UTM Coordinates, NAD 27

WABANA EXPLORATION Inc.

TEMAGAMI AREA

AIRBORNE ELECTROMAGNETIC AND MAGNETIC SURVEY

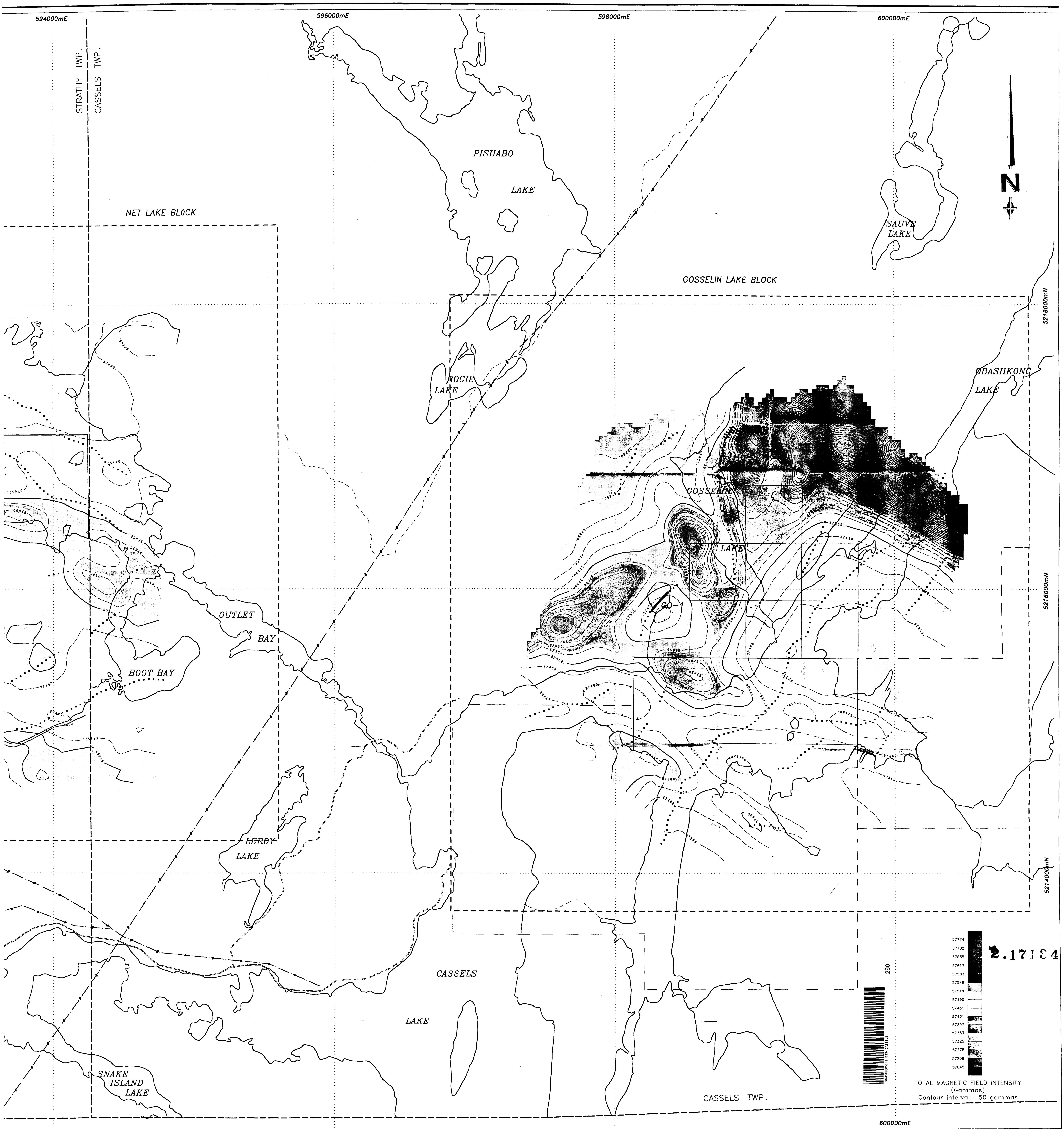
Profiles of the In–Phase and Quadrature components

NET LAKE BLOCK
GOSSELIN BLOCK

Frequency: 4785Hz, coaxial pair Profile scale: 1cm=50ppm

Data processing and interpretation:	Survey by: SIAL GEOSCIENCES Ltd. Montreal, Que. December 1996
G. Lambert, P.Eng.	
LAMBERT GEOSCIENCES Ltd.	N.T.S. 31M/4, 31M/5
January 1997	Scale 1:10,000

INGÉNIEUR–ENGINEER
GÉRARD LAMBERT
33174
QUEBEC



metallic material
high conductance

material (stringer
—enriched sulfides)
g in porous, water—
ars. Also possibly
ns.

Scale 1:10,000

250m 0 500m 1000m

UTM Coordinates, NAD 27

WABANA EXPLORATION Inc.

TEMAGAMI AREA

AIRBORNE ELECTROMAGNETIC AND MAGNETIC SURVEY

Contours of the total magnetic field

NET LAKE BLOCK
GOSSELIN BLOCK

Data processing and interpretation:	Survey by: SIAL GEOSCIENCES Ltd. Montreal, Que.
G. Lambert, P.Eng.	December 1996
LAMBERT GEOSCIENCES Ltd.	N.T.S. 31M/4, 31M/5
January 1997	Scale 1:10,000