REPORT ON GEOPHYSICAL SURVEYS ON THE BLISS LAKE CLAIMS BLISS LAKE & BAD VERMILLION LAKE MAP AREAS ONTARIO

for

STEPHANA RESOURCES LTD.

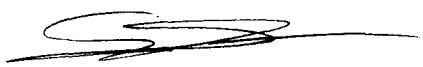
Aug, 1997 Seymour M. Sears

SUMMARY

An exploration program consisting of ground magnetometer and VLF-EM surveys was carried out over the northeast portion of the original four claim (26 units) property in Bliss Lake and Bad Vermilion Lake Map Areas, northwestern Ontario. The Bliss Lake property hosts the Titan Titanium Prospect, now owned by Stephana Resources Ltd. The work was designed to provide basic information and a control grid for continued exploration of the property.

A band of highly magnetic rocks up to 300 metres wide extends completely across the portion of the property covered by the survey. This broad zone is known from earlier reconnaissance work to be a sequence of favourable rocks consisting of mafic to ultramafic gabbro. Numerous layers of this sequence consist of magnetite and titanium bearing gabbroic rocks. Previous work has indicated significant reserves of titanium. Plans include extension of the grid towards the southwest, geological mapping, drilling and metallurgical testing.

Respectfully submitted,



Wawa, Ontario
Aug, 1997

Seymour M. Sears, B.A., B.Sc.
Geologist

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INTRODUCTION

This report presents a summary of the results from a work program carried out mainly in July and Agust, 1997 on the Bliss Lake Titanium Property of Stephana Resources Ltd. The work was carried out and supervised by personnel of Sears, Barry and Associates Ltd. of Wawa, Ontario with assistance from A.P. Pryslak of Winnnipeg, Manitoba.

PROPERTY, LOCATION AND ACCESS

The Bliss Lake Titanium property is located 40 km east of Fort Francis, Ontario (Figure 1). It is situated along the boundary of Bliss Lake and Bad Vermillion Lake Map Areas (Fig 2). The group consists of twenty six (26) claim units in four (4) individual claims. The work program was completed over most of the northeastern three claims of the property and is continuing towards the southwest. The claims are numbered as follows:

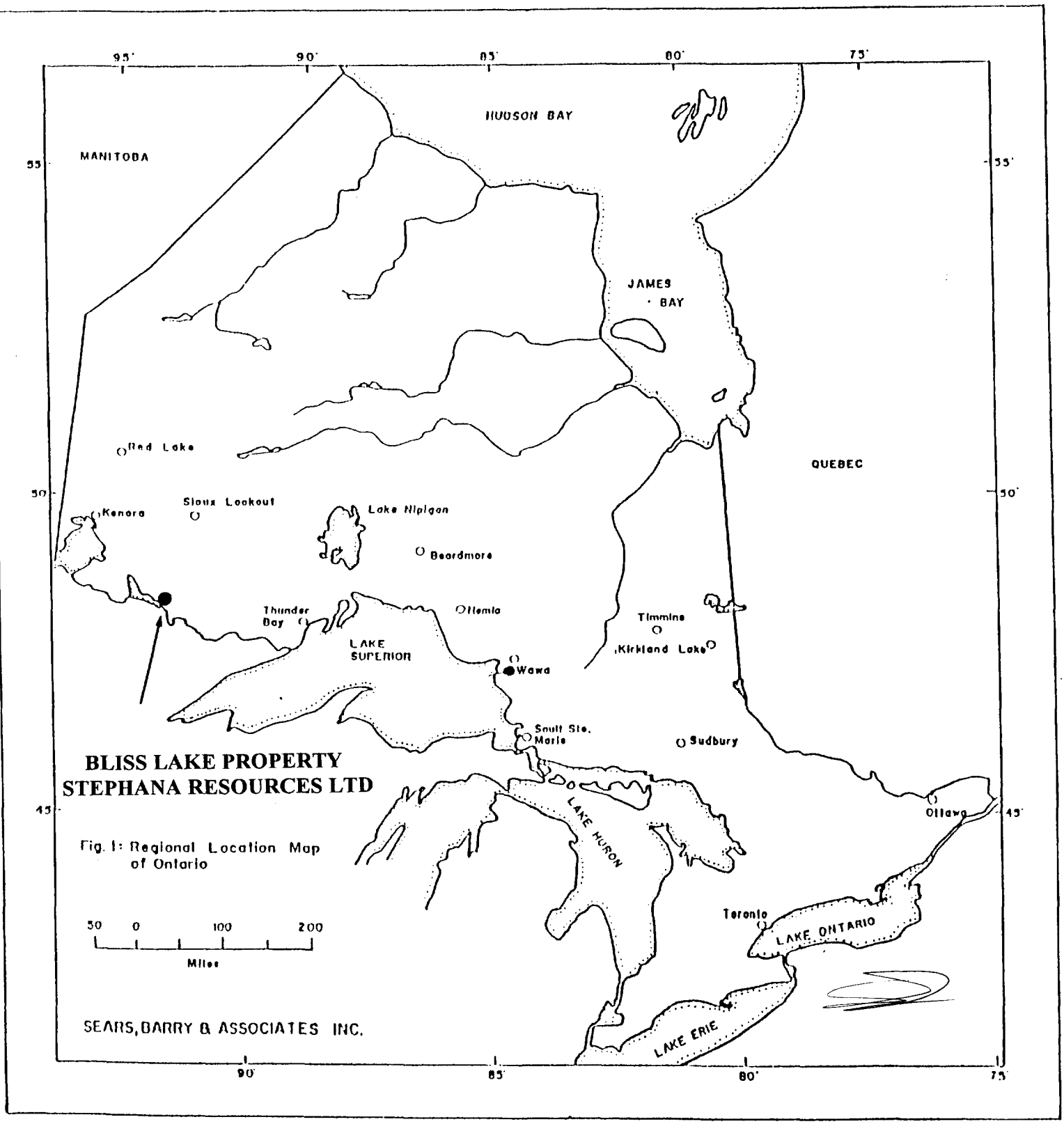
Claim #	K 1150285 (9 units)
	K 1150286 (12 units)
	K 1150287 (3 units)
	K 1150288 (2 units)
	TOTAL (26 Units)

Access to the property is by means of a ten (10) kilometre gravel logging road that departs southward from Highway 11 at a point 28 kilometres east of the Junction of Highway 502. Boat access via Bad Vermilion Lake is more practical for the northern part of the property. A linecutting camp was established on the south end of Bad Vermilion Lake during the course of this work program. A trailer camp was set up in the village of Mine Center and boat access used during the collection of geophysical data.

REGIONAL AND PROPERTY GEOLOGY

The Bliss Lake Property is underlain by an Archean Aged Gabbro-Anorthosite complex (Wood et al, 1980, OGS Map P.2201).

Titanium , as titaniferous magnetite, ilmenite and rutile is hosted within magnetite bearing lenses within layers of northeast trending gabbro-anorthosite that is sandwiched between mafic volcanic rocks (south) and a granitic complex (north).


95°
90°
85°
80°
75°
55°
50°
45°
HUDSON BAY
MANITOBA
JAMES BAY
QUEBEC
Red Lake
Kenora
Sioux Lookout
Lake Nipigon
Beardmore
Thunder Bay
Hemlo
LAKE SUPERIOR
Wawa
Timmins
Kirkland Lake
Sault Ste. Marie
Sudbury
LAKE HURON
Ottawa
Toronto
LAKE ONTARIO
LAKE ERIE
BLISS LAKE PROPERTY
STEPHANA RESOURCES LTD
Fig. 1: Regional Location Map of Ontario
50 0 100 200
Miles
SEARS, BARRY & ASSOCIATES INC.

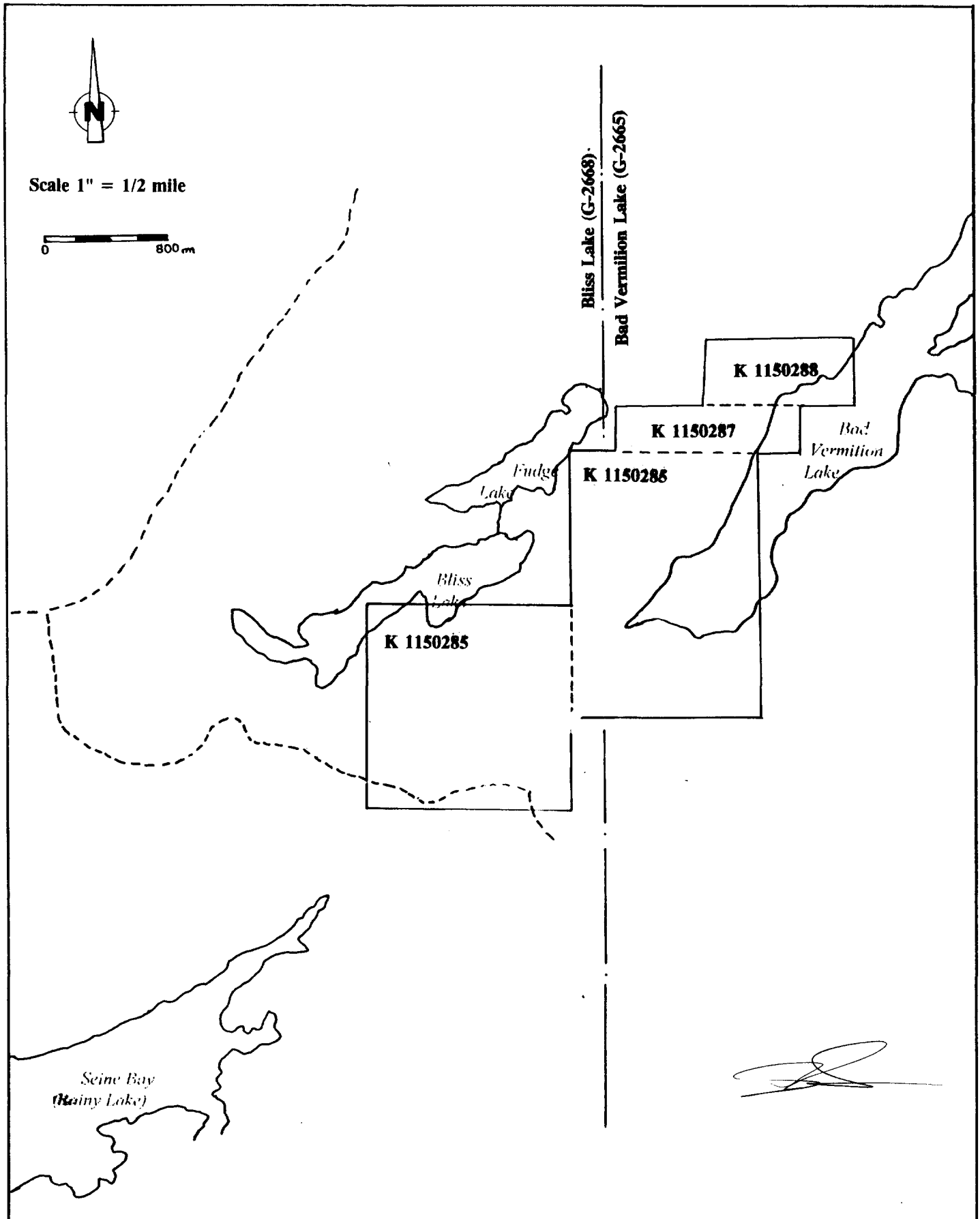


Figure 2 Claim Location Sketch - Bliss Lake Titanium Project Fort Francis Area, Ontario.

WORK HISTORY

There has been numerous periods of exploration activity on the claims. These are summarized below:

(1917-1918) **Mines Branch, Canadian Department of Mines** - Conducted a magnetometer? survey and drilled six (6) holes.

(1943-1944) **Butler Brothers** - Various Prospecting, trenching and sampling programs.

(1956-1958) **Stratmat Limited** - Geology, Magnetometer surveys and Diamond Drilling (10 Holes).

(1984-1985) **Titan Titanium International Inc.** - Completed magnetometer surveys, diamond drilling (24 holes), and reserve calculations; estimated a reserve of 1,530,000 tons of greater than 15% titanium oxide or 3,480,000 tons of 10% titanium oxide.

(1996) **Stephana Resources Ltd.** - Completed an orientation magnetometer survey and geological mapping on a small grid in the southwest part of the claim group and followed this up a modest stripping program.

WORK PROGRAM AND RESULTS

Overview

The 1997 work program on the Bliss Lake Property included the following:

Linecutting (Base & Tie Lines (7.1) Cross Lines (25.8) - 32.9 kms
Ground Magnetometer Survey - 25.8 kms (5,160 readings)
VLF-EM Survey - 25.8 kms (1,032 readings)

Magnetometer Survey

The ground magnetometer survey was completed using a Geometrics G-816 Portable Proton Magnetometer. This instrument measures the total intensity of the earths magnetic field in gammas. A Geometrics G-856A recording Base Station magnetometer was used during the survey to monitor the diurnal variations of the magnetic field. This data was then utilized for correcting the field data. The Base Station was located along Tieline 500 S at 1050 East. It had a value of 59,500 gammas.

Magnetic intensities were observed at 5.0 metre intervals along 50 metre spaced grid lines. The diurnally corrected data was plotted at a scale of 1:1250 and contoured (Map 1).

The data on Map 1 was contoured at a 2000 gamma interval because of the extremely high intensity of the

area. This effectively defines a broad band of highly magnetic rocks that represent the favourable zones for titanium mineralization. The band stretches from 200 S to 500 S on Line 2000 East and extends to Line 3750 East (the last complete grid line on the claim group. On Line 3750 East the zone extends from 200 S to 375 S. On the east end it either pinches out or it continues under the waters of Bad Vermilion Lake where coverage is incomplete. A widening of the overall zone as well as local changes in direction of the axis of smaller features within it suggests some disruption between L 2550 East and 3100 East. There is a coincident north-south trending creek and swamp system in this area. The disruption may be a fold or a thickening due to a north south fault.

To the north of this magnetic "high" band occurs a relatively uniform trend of 58,500 to 59,500 gammas thought to represent the granitic rocks in this area. To the south of the magnetic "high" trend lies a zone of 58,000 to 59,000 gammas representing less magnetic members of an ultramafic to mafic complex.

VLF-EM Survey

The VLF-EM survey utilized a Geonics EM-16 VLF-EM instrument. As with any VLF-EM method, the instrument measures certain components of the electromagnetic fields set up by communication stations operating in the 15 to 30 kHz frequency range. For this survey, the Cutler, Maine (NAA) transmitting station (24.0 Khz) was utilized. When the radio waves from this station encounter conductive bodies in the ground, eddy currents are induced creating secondary fields in the area of these conductors. The EM-16 measures in-phase and quadrature-phase portions of the vertical components of these secondary electro-magnetic fields, as a percentage of the primary field of the original signal.

The VLF-EM dip angle data is plotted in Profile form at a scale of 1:1250 on Map 2. The axis of the prominent conductive features as determined by Fraser Filtering the data are superimposed on the VLF-EM Survey data, Map 2, where they are labeled for Reference purposes.

The survey detected one very prominent conductor (**"A"**) extending from the west limit of the grid (375 S, Line 2000 E) to the northeast edge of the property (250 S, Line 3800 E). The conductor is strong throughout but contains several areas of greater intensity assumed to be related to local areas of more massive magnetite. It appears to weaken somewhat towards the eastern end. This is consistent with the regional scale pinching out of the magnetite zone. Conductor "A" is coincident with a strong magnetic high trend that extends across the property. This trend is also coincident with a steep ridge. The probable cause is massive magnetite layers.

Two weaker conductors are apparent (**"B" & "B1"**). These conductors parallel the Conductor "A" on it's south flank. They are linear and relatively narrow. Probable cause - small lenses of massive magnetite parallel to the main body.

One small conductor (**"C"**) extends from 125 N, Line 2250 E to 100 N, Line 2350 E. This is coincident with a topographic depression in this area and is probably an overburden effect.

There are several other scattered, weak features, also containing no associated magnetic expression. These are thought to be overburden related.

CONCLUSIONS AND RECOMMENDATIONS

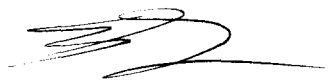
Ground magnetometer and VLF-EM surveys were conducted along 25.8 kilometres of grid lines covering the northeastern portion of the Bliss Lake Property of Stephana Resources Ltd. The work has provided basic data and a cut control grid to be utilized in a more extensive exploration program on the claims.

A 300 metre wide band of highly magnetic rocks has been outlined across the portion of the property covered by this survey, a distance of 1800 metres. This magnetic "high" band is thought to be related to a gabbroic sequence made up of lenses and layers of magnetite bearing gabbro. The small, linear, extremely high magnetic features within this zone are probably massive titaniferous magnetite. Previous work on several of these lenses have shown titanium grades in excess of 25% titanium oxide.

It is strongly recommended that the grid and ground geophysical surveys be continued to cover the southwest part of the original claim group. A detailed geological mapping program accompanied by extensive rock sampling should be completed across the entire grid. Once completed, large composite samples of several of the lenses should be collected and metallurgical work relating to titanium extraction carried out. This work can then be followed up by diamond drilling.

Wawa, Ontario
August, 1997

Respectfully Submitted,



Seymour M. Sears, B.A., B.Sc.
Geologist

STATEMENT OF QUALIFICATIONS

I, Seymour M. Sears, of Wawa, Ontario do certify that:

1. I am a consulting geologist for Sears, Barry and Associates Ltd., P.O. Box 2058, Wawa, Ontario.

2. I am a B. Sc. Graduate in Geology and a B A. Graduate in Psychology from Mount Allison University, Sackville, New Brunswick.

3. I have been practicing my profession continuously since 1972.

4. I am a Fellow of the Geological Association of Canada.

August, 1997

Respectfully submitted,

22 Caverhill Street
P.O. Box 2058
Wawa, Ontario
P0S 1K0

Seymour M. Sears, B.A., B.Sc.
Geologist

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)
W9710.00309
Assessment Files Research Imaging

Personal information c
Mining Act, the informa
Questions about this
933 Ramsey Lake Roa

900

36(3) of the Mining Act. Under section 8 of the
ork and correspond with the mining land holder.
Northern Development and Mines, 6th Floor,

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

2.17626

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

Name	Client Number
Stephana Resources Ltd	301591
Address	**Telephone Number**
2005 - 9th St. S.W.	(403) 229-9522
Calgary, Alberta T2T 3C4	Fax Number (403) 229-9518
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
Linecutting / Mag + VLF-EM Surveys	Commodity
	Total $ Value of Work Claimed $16,030
Dates Work Performed From 06 Day 07 Month 97 Year To 16 Day 08 Month 97 Year	NTS Reference
Global Positioning System Data (if available) —	Township/Area Bliss Lake / Bad Vermilion Lake
	M or G-Plan Number G-2668 / G-2665
	Mining Division Kenora.
	Resident Geologist District Kenora.

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.

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

Name	Telephone Number
Seymour M. Sears (Sears Barry & Assoc Ltd)	(705) 856-2018
Address	**Fax Number**
Box 2058 Wawa, Ontario P0S 1K0	(705) 856-1147
Name	Telephone Number
Address	Fax Number
Name	Telephone Number
Address	Fax Number

RECEIVED AUG 25 1997 GEOSCIENCE ASSESSMENT OFFICE

RECEIVED AUG 2 6 MINING LANDS BRANCH

4. Certification by Recorded Holder or Agent

I, Seymour M. Sears (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 (S. Sears)		Date Aug 24/97
Agent's Address	Telephone Number	Fax Number
Box 2058, Wawa, Ont. P0S 1K0	705 856-2018	705 856-1147

Deemed Nov. 23/97

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.

	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	K 1150285	9	~~0~~	3,600		✓
2	1150286	12	11,060	4,592	3600	2868 ✓
3	1150287	3	2,885	1,200	ϕ	1685 ✓
4	1150288	2	2,085	800	ϕ	1285 ✓
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
		Column Totals	16,030	10,192	3600	5838

I, Seymour M. Sears (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.

Signature of Recorded Holder or Agent Authorized in Writing	Date
	Aug 24/97

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):

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

Received Stamp	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): W9710.60309

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.

2.17626

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
LINECUTTING	32.9 km.	$ 300 -	$ 9870.00
Mag + VLF-EM Survey	25.8 km	$ 200 -	$ 5160.00
Associated Costs (e.g. supplies, mobilization and demobilization).			
Linecutting Crew Mob Demob ($500 each way from Timmins area)		$ 1000 -	$ 1000.00
Transportation Costs			
Food and Lodging Costs			
		Total Value of Assessment Work	$ 16,030.00

RECEIVED AUG 25 1997 MINING LANDS SECTION

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.

RECEIVED AUG 25 1997 GEOSCIENCE ASSESSMENT OFFICE

Certification verifying costs:

I, Seymour M. Sears (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 Agent (recorded holder, agent, or state company position with signing authority) I am authorized to make this certification.

Signature	Date
	Aug 24/97

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

October 20, 1997

STEPHANA RESOURCES LTD.
PRESIDENT: RICHARD KANTOR
2005 - 9 ST S.W.
CALGARY, AB
T2T-3C4

Dear Sir or Madam:

Submission Number: 2.17626

		Status
Subject: Transaction Number(s):	W9710.00309	Deemed Approval

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: 11481

Copy for: Assessment Library

Work Report Assessment Results

Submission Number: 2.17626

Date Correspondence Sent: October 20, 1997 **Assessor:** Lucille Jerome

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9710.00309	1150286	BLISS LAKE, BAD VERMILION LAKE	Deemed Approval	October 17, 1997

Section:

14 Geophysical MAG
14 Geophysical VLF

Correspondence to:

Resident Geologist
Kenora, ON

Assessment Files Library
Sudbury, ON

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

Seymour Sears
WAWA, ON

STEPHANA RESOURCES LTD.
CALGARY, AB

Correspondence ID: 11481

FLOODING RIGHTS RESERVED UP TO 1113.61' ABOVE MEAN SEA LEVEL ON ALL LANDS BORDERING ON RAINY LAKE. FILE: 4922, 5476.

LEGEND

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

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY
S.R.O. – SURFACE RIGHTS ONLY
M.+ S. – MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File
(R2) CROWN RESERVE		14/11/62	S.R.O.	42432 165472

SAND & GRAVEL

(G1) M.N.R. Gravel Reserve — FILE 163472
(G2) MTC PIT 1074
(G3) QUARRY PERMIT

DATE OF ISSUE

OCT 17 1997

PROVINCIAL RECORDING OFFICE - SUDBURY

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.

KENORA MINING DIV. RECEIVED MAY 31 1984

Effective as shown

SCALE: 1 INCH = 40 CHAINS

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

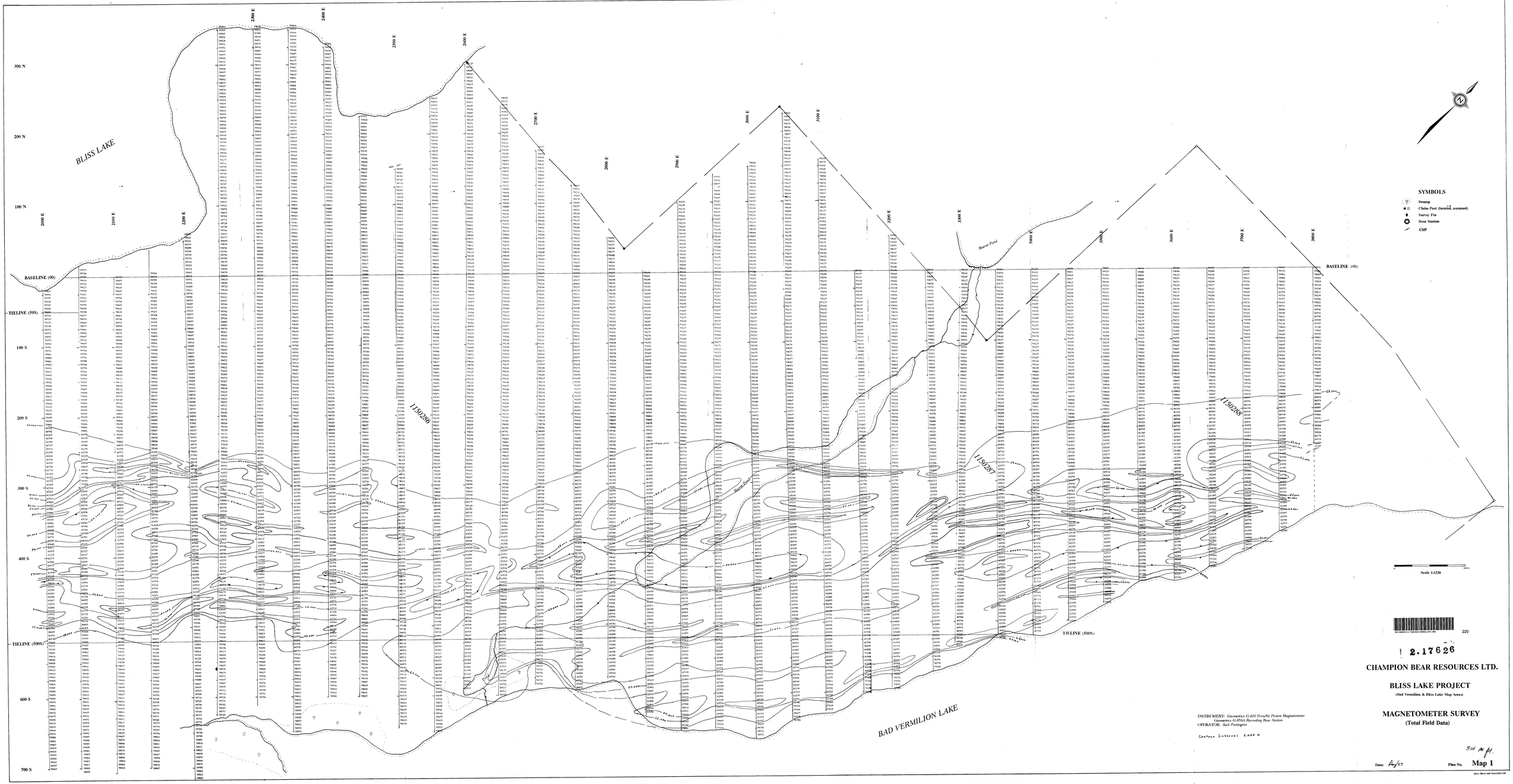
AREA **BLISS LAKE**
(RAINY LAKE)

M.N.R. ADMINISTRATIVE DISTRICT
FORT FRANCES
MINING DIVISION
KENORA
LAND TITLES / REGISTRY DIVISION
RAINY RIVER

Ontario — Ministry of Natural Resources — Land Management Branch

Date MARCH, 1984
M-2467
Number **G-2668**

210
52C10NE0012 2.17626 BAD VERMILLION LAKE



220

2.17626

CHAMPION BEAR RESOURCES LTD.

BLISS LAKE PROJECT

(Bad Vermillion & Bliss Lake Map Areas)

MAGNETOMETER SURVEY

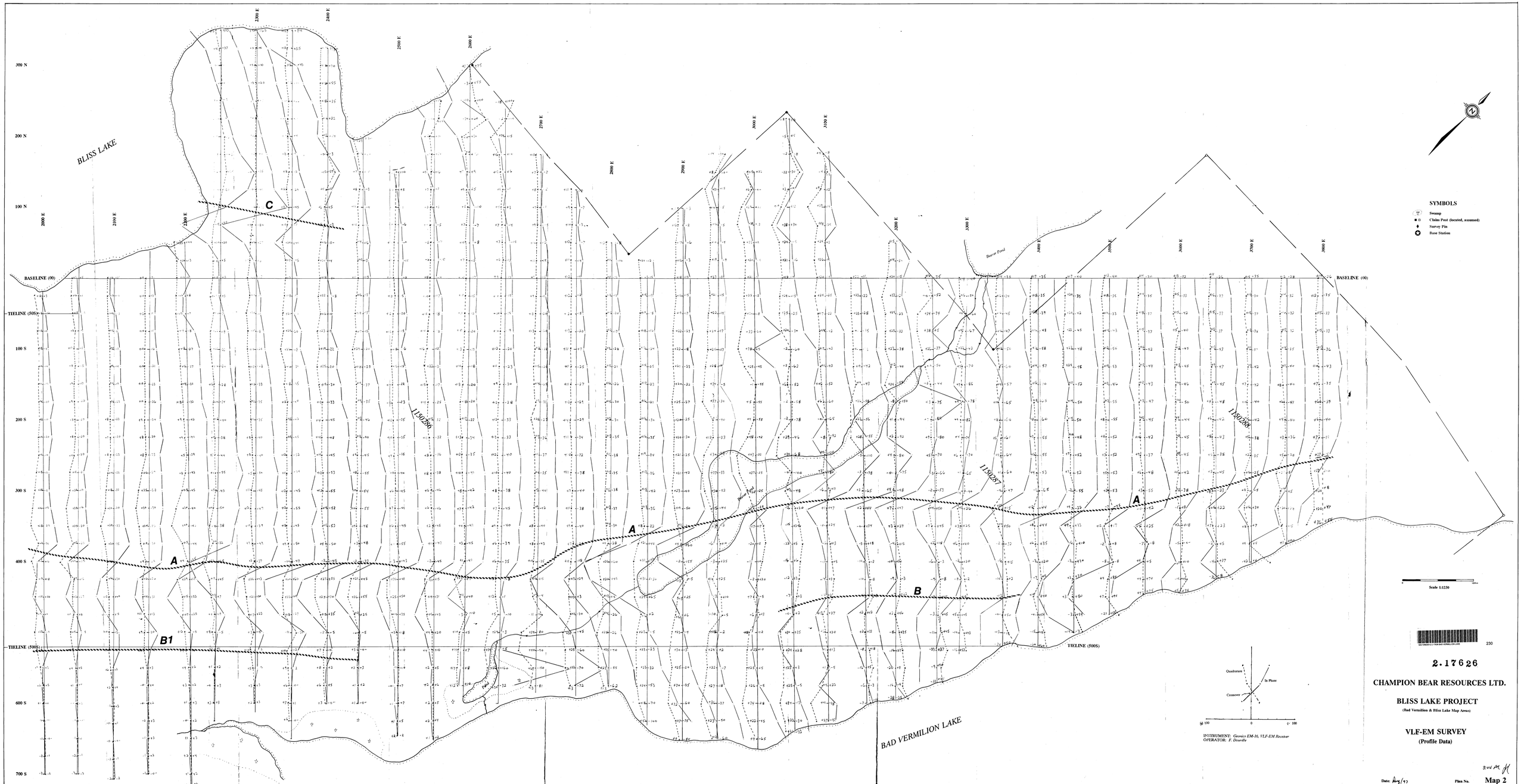
(Total Field Data)

304 NW

Date: Aug 17

Plan No. **Map 1**

Scott Beatty and Associates Ltd.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2000 E
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BASELINE (00)
TIELINE (505)
100 S
200 S
300 S
400 S
TIELINE (500S)
600 S
700 S
BLISS LAKE
BAD VERMILION LAKE
Barrie Pond
Barrie Pond
C
A
A
A
B
B1
1150286
1150287
1150288
SYMBOLS
Swamp
Claim Post (located, assumed)
Survey Pin
Base Station
Scale 1:1250
Quadrature
In Phase
Crossover
INSTRUMENT: Geonics EM-16, VLF-EM Receiver
OPERATOR: F. Dourdile
230
2.17626
CHAMPION BEAR RESOURCES LTD.
BLISS LAKE PROJECT
(Bad Vermilion & Bliss Lake Map Areas)
VLF-EM SURVEY
(Profile Data)
Date: Aug/97
Plan No. Map 2
Sears Barry and Associates Ltd.