

ASSESSMENT REPORT
LINECUTTING AND GEOPHYSICAL SURVEY
SB 1-8 MINERAL CLAIMS

Kamloops Mining Division
British Columbia

NTS 92P/16W,16E
Lat. $51^{\circ}49.5'$ Long. $120^{\circ}16.5'$

Owned by: BP Minerals Limited
Operated by: BP Resources Canada Limited

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

15,187

BPVR 86-10

R. Farmer,
Project Geologist
BP Minerals Limited

Ian Wynne, B.Sc
Consulting Geophysicist
MWH Geophysics Ltd.

September 9, 1986.

FILMED

SUMMARY

Two grids were established on the SB 1-8 claims for a total of 35.4 line kilometres in preparation for a ground geophysical survey, hereafter termed the SB 1 and SB 5 grids.

An integrated geophysical program has been completed on the SB 1-8 mineral claims of BP Minerals Limited.

The purpose of the survey was to map shallow subsurface conductive units which had been detected by airborne geophysics, and to determine their source type.

An Apex Parametrics Max Min II was used to accurately delineate the surface trace of the conductive axis. Magnetics was run to map subsurface geology and locate any coincident magnetic and electromagnetic anomalies. Six electromagnetic anomalies were located. Four of these have coincident magnetic highs which may enhance the anomalies. One electromagnetic anomaly was located on the SB 5 grid and five on the SB 1 grid.

RECOMMENDATIONS

- 1) Followup work consisting of geological mapping and soil sampling should be carried out over both grids in an attempt to identify the source of the electromagnetic anomalies.
- 2) If favourable results are obtained from the above surveys diamond drilling or trenching should be carried out to test the anomalies.

TABLE OF CONTENTS

	<u>PAGE NO.</u>
SUMMARY	i
RECOMMENDATIONS	i
INTRODUCTION	1
LOCATION AND ACCESS	1
TOPOGRAPHY AND VEGETATION	2
LAND STATUS	2
REGIONAL GEOLOGY AND PREVIOUS WORK	3
a) Regional Geology	3
b) Previous Work	3
LINECUTTING	4
GEOPHYSICAL SURVEY	5
a) Instrumentation	5
b) Results	6
CONCLUSIONS	8
REFERENCES	9

INTRODUCTION

Two grids were established on the SB 1-8 mineral claims totalling 35.4 line kilometres between December 10 and December 15, 1985.

During April and June of 1986, a geophysical program was run on the SB Claims of BP Minerals Limited.

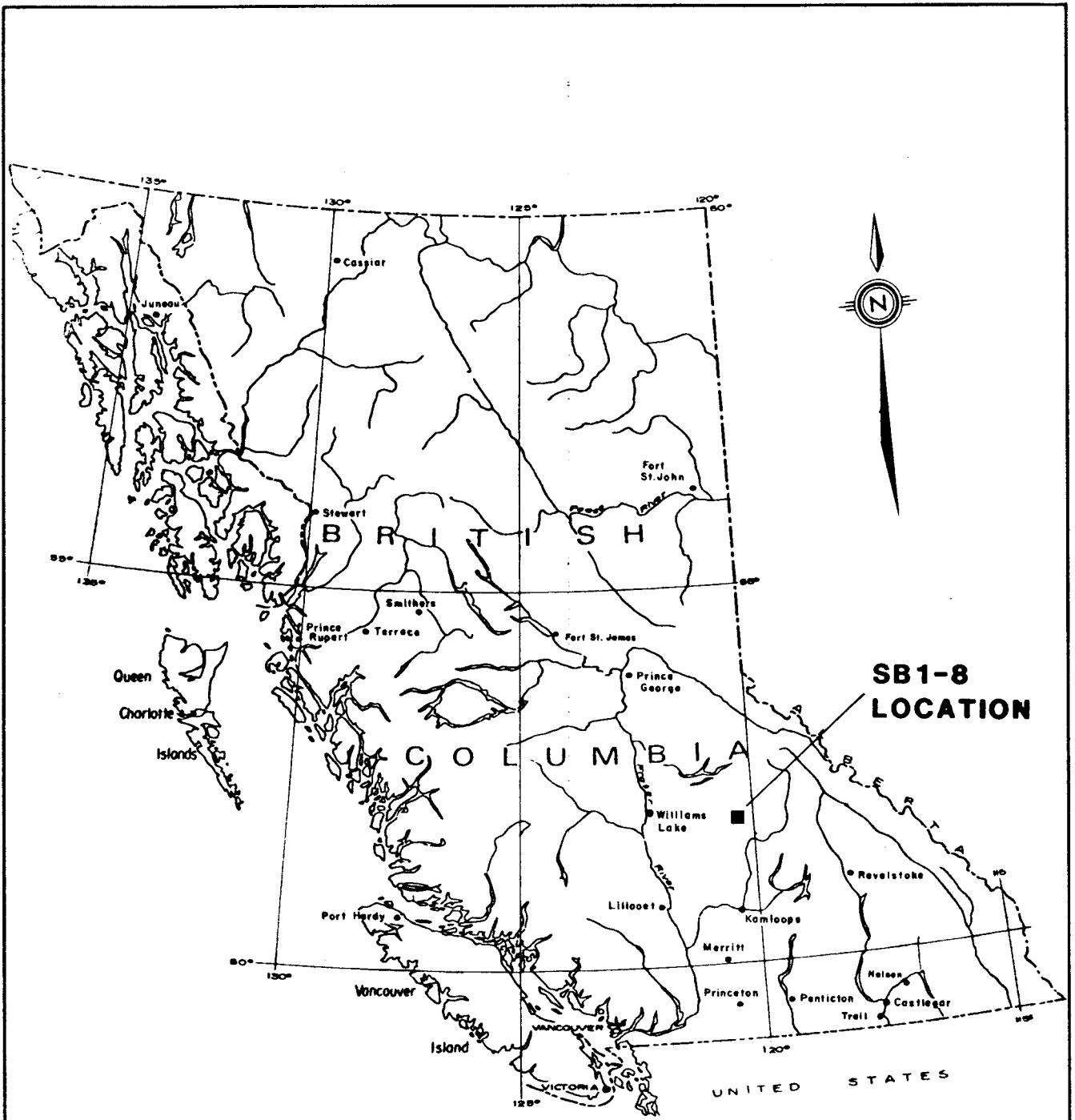
The purpose of these surveys was to accurately locate the surface traces of electromagnetic conductors previously detected by airborne electromagnetics, and to test whether any coincident magnetic anomalies were present.

Two grids totalling 33.6 line kilometres were completed on the SB claims. The geophysical survey was carried out by MWH Geophysics Ltd. of Sidney, B.C. This report describes the grid preparation and results of the geophysical survey.


LOCATION AND ACCESS

The SB claims are located near Ejas Lake approximately 40 kilometres by road northwest of Clearwater, B.C. (Fig. 1). The geographic centre of the claims is at latitude $51^{\circ} 51'$ north and longitude $120^{\circ} 17'$ west on NTS mapsheet 92P/16.

Access to the property is gained via the Mann Creek forest road from Clearwater B.C. The property itself is criss crossed by a complex network of secondary logging roads which lend excellent access to all portions of the claims.



**SB1-8
LOCATION**

 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
SB 1-8		
LOCATION MAP		
SCALE As shown	DRAWN BY:	FIG. 1
DATE JUNE 1986	DRAFTED BY: E. B. W.	
N.T.S.	PROJ. 10230	REPORT BPVR 86-10

TOPOGRAPHY AND VEGETATION

The SB claims are located at a fairly high altitude, between 4,400 ft. (1,354 m) ASL and 5,600 ft. (1,723 m) ASL, however, the property is not rugged. The claims cover the top and north side of a prominent ridge known as Swayback Ridge where topography is plateau-like.

Vegetation consists predominantly of spruce forest with some pine and fir. Approximately 60%-70% of the property has been clear cut.

LAND STATUS

The SB 1-8 claims (Fig. 2) lie within the Kamloops Mining Division on NTS mapsheet 92P/16W. All claims are registered in the name of BP Minerals Limited. The names, record numbers, number of units and recorded dates are as tabulated:

<u>Claim Name</u>	<u>Record No.</u>	<u>No. of Units</u>	<u>Mining Division</u>	<u>N.T.S.</u>	<u>Recording Date</u>
SB 1	6372	20	Kamloops	92P/16W	Sept.23/85
SB 2	6373	16	Kamloops	92P/16W	Sept.23/85
SB 3	6374	20	Kamloops	92P/16W	Sept.23/85
SB 4	6375	20	Kamloops	92P/16W	Sept.23/85
SB 5	6376	15	Kamloops	92P/16W	Sept.23/85
SB 6	6377	20	Kamloops	92P/16W	Sept.23/85
SB 7	6378	20	Kamloops	92P/16W	Sept.23/85
SB 8	6379	14	kamloops	92P/16W	Sept.23/85

Total 145 Units

Grouped as follows: 1) SB1 Group - SB1,2,3,4 - 76 Units
2) SB5 Group - SB5,6,7,8 - 69 Units

COMPETITOR
CLAIMS
LIZARD 1
AQUATAINE
DDH

MAURY
LAKE

SB 1

SB 2

EJAS
LAKE

COMPETITOR
CLAIMS
LIZARD 2

SB 3

SB 4

SB 5

SB 6

SB 7

SB 8



SELCO DIVISION -
BP RESOURCES CANADA LIMITED

BARRIERE PROJECT, B.C.

SB CLAIMS

CLAIM MAP

SCALE 1 : 50,000	DRAWN BY: R. F.	FIG. 2
DATE JAN 1986	DRAFTED BY: E. B. W.	
N.T.S. 92 P / 16	PROJ. 10112	BPVR86-10

REGIONAL GEOLOGY AND PREVIOUS WORK

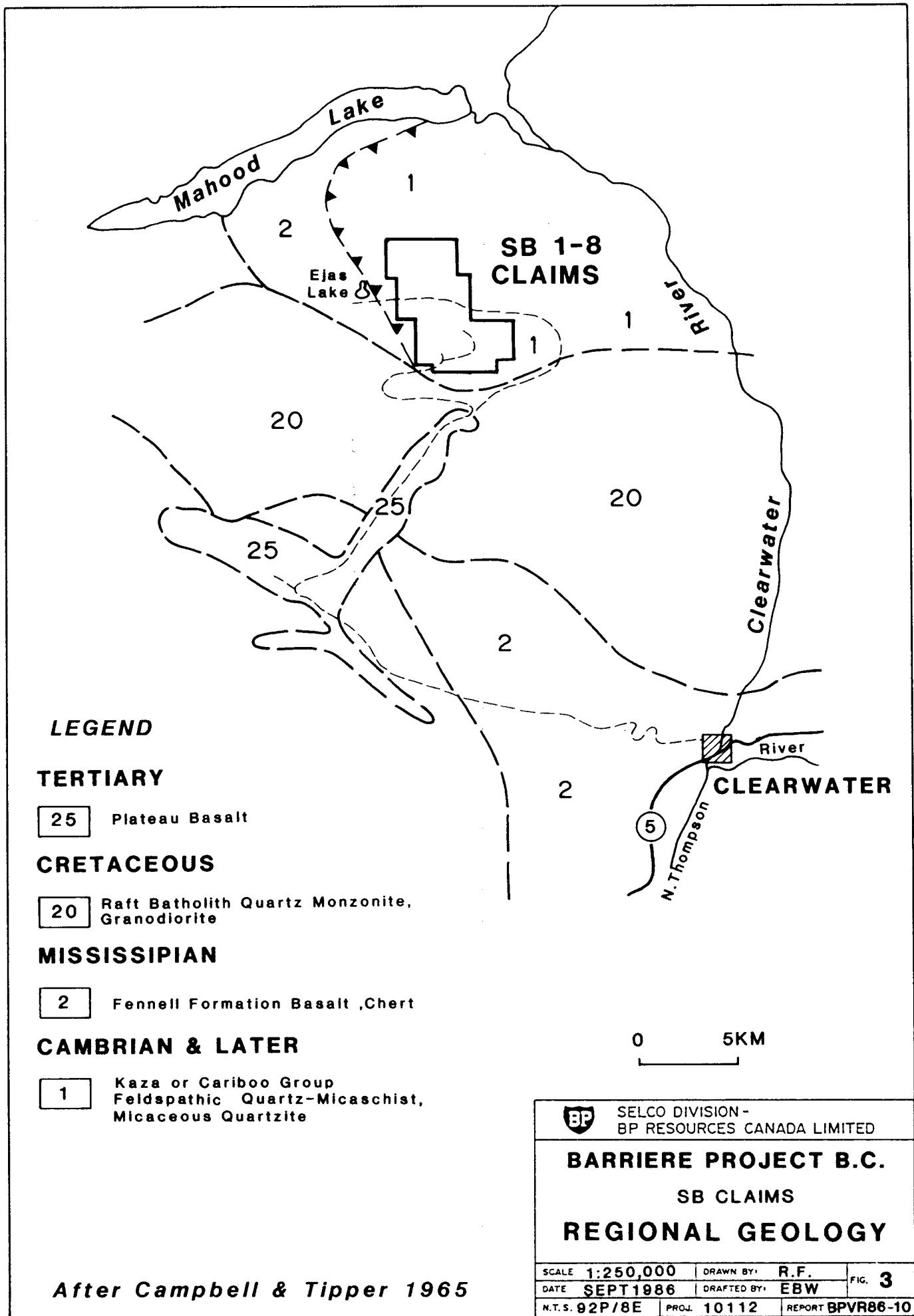
a) Regional Geology

The regional geology has been mapped by Campbell and Tipper (1965) of the Geological Survey of Canada; as Cambrian or later, Kaza or Cariboo Group feldspathic quartz-mica schists and micaceous quartzites bounded to the west by Mississippian Fennell Formation basalts, and to the south by the Raft Batholith (Fig. 3).

Subsequent logging has uncovered exposures of felsic fragmental rocks and quartz porphyry intrusive ? rocks. The age of these rocks is unknown, however, the presence of felsic volcanic rocks suggested a potential for volcanogenic massive sulphide mineralization. The extent of these rocks is unknown at this time.

b) Previous Work

Considerable exploration has been carried out to the south for copper-molybdenum and uranium mineralization associated with the Raft Batholith and Tertiary basalt respectively. An area around Ejas Lake has been held by several companies and individuals, most notably Aquataine of Canada Ltd. Aquataine flew an airborne EM survey (Aerodat) in 1978 over a large area including that presently covered by the SB claims, did



After Campbell & Tipper 1965

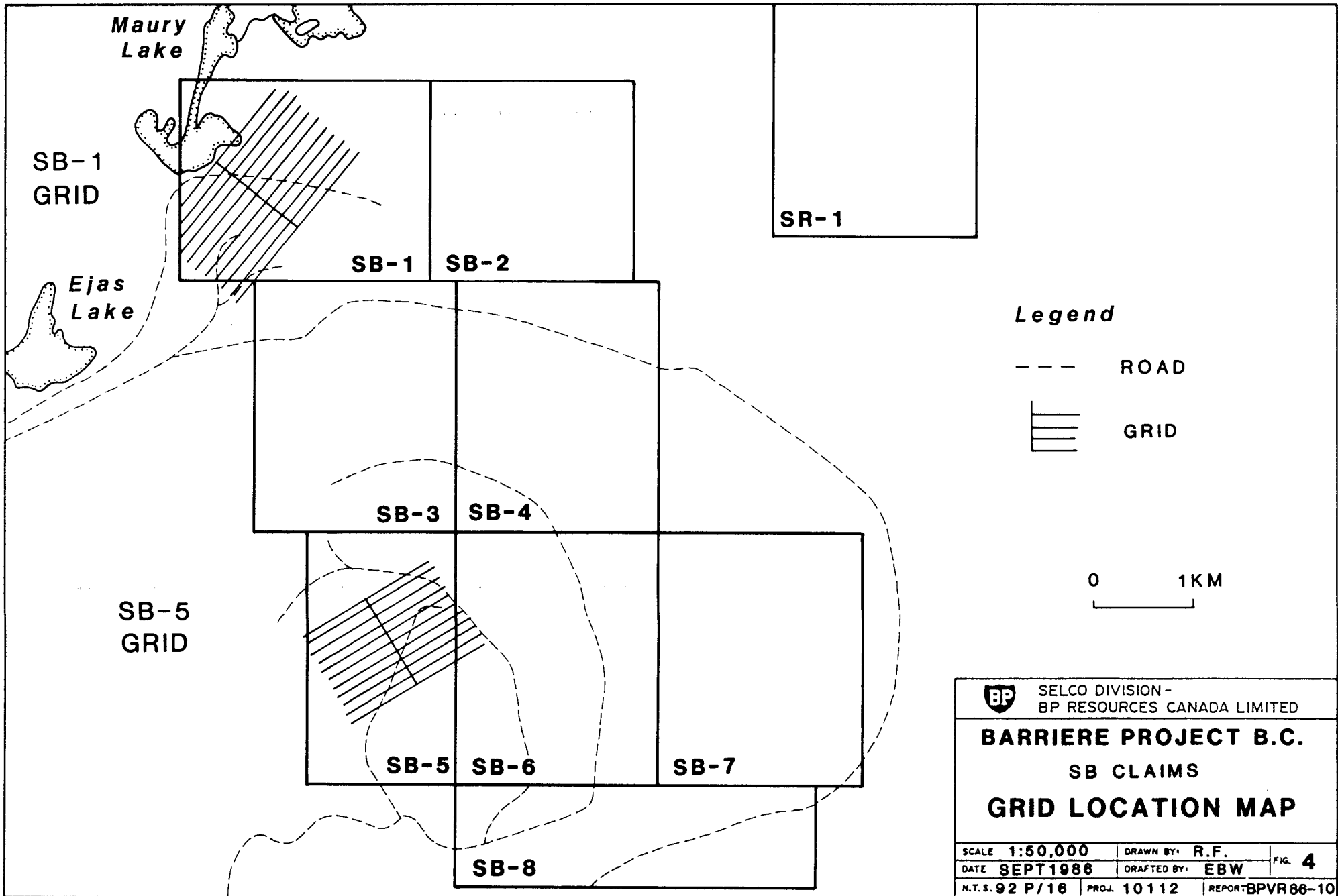
some ground geophysics and drilled one hole near Ejas Lake. The hole intersected phyllites and graphitic argillite. This ground is presently held as the Lizard 1 and 2 claims by Kidd Creek Mines.

LINECUTTING

Two grids were established on the SB claims between December 10 and December 15, 1985 in preparation for ground geophysical surveys. The grids are here termed the SB 1 and SB 5 grids named for the dominant claim block on which each occurs (Fig. 4). The two grids combine for a total of 35.4 line kilometres.

Lines were chain and compass surveyed, blazed and flagged and slope corrected to maintain accurate station separation. Lines were spaced 100 metres apart with stations established every 50 metres along lines and identified on tyvex tags. Baselines were established across the centre of the grids to maintain desired line separation and control, and were identified in the same manner as the lines. While large trees and logs were not cut lines were bushed out where necessary to facilitate easy transportation of geophysical equipment.

Amex Exploration Services Ltd. of Kamloops was contracted to carry out the linecutting. The following is a breakdown of the grids established:



<u>Grid No.</u>	<u>Total line Km</u>	<u>Location-Claim Block</u>
SB1	17.9	SB1
SB5	<u>17.5</u>	SB5-SB6
	Total: 35.4	

GEOPHYSICAL SURVEY

a) Instrumentation

Two geophysical surveys were run over the grid areas with readings taken every 25 metres. A total of 17.1 line km was surveyed on grid SB 1 and 16.5 line km on grid SB 5. In addition the geophysical crew had to be put on standby for three days while on grid SB 1 due to problems with the lines and adverse weather conditions. The surveys were conducted during April and June of 1986.

The logistics and instrumentation of these surveys are described.

Max Min

An Apex Parametrics Max Min II unit was used to carry out the survey. This is a multi frequency, horizontal loop electromagnetic induction system. The system measures the in phase and quadrature of the secondary field as a percentage of the primary field intensity. A 150 metre coil separation was utilized except on grid SB 1, where poor bush conditions

and excessive terrain necessitated a 100 metre coil separation. Coils were kept coplanar and data was slope corrected to maintain proper separation. Two frequencies, 444 Hz and 1777 Hz were read at 25 metre intervals. Data is presented as profiles (Fig. 6 and 7 in pocket).

Magnetics

An EDA PPM 350 field magnetometer and a PPM 375 base station magnetometer was utilized. This system is a microprocessor controlled set of proton precession magnetometers that monitor the field and base station magnetic fields and correct for diurnal drift and magnetic activity. Data is presented as posted contour maps. (Fig. 6 and 7 in pocket).

b) Results

The surface traces of the conductive zones are shown on the 1777 Hz Max/Min profile maps.

Grid SB 5

There is a conductive axis running from 110+00S/99+50E to 100+00S/99+50E with a slight curve to the west. The dip appears to switch along strike length of this anomaly. Lines 110+00S to 107+00S dip east, 106+00S - 102+00S dip west, 101+00S east, 100+00S vertical. On line 107+00S, depth is

less than 15 metres, width less than 5 metres, conductivity thickness of 2 seimens, dip steeply east. There is a related magnetic feature with the conductor indicating a dipping thin sheet with the dip to the east. This is a very interesting zone.

Grid SB 1

There are five conductive zones on this grid. From north to south they are:

- line 101+00E/106+75N to 108+00E/105+00N. This zone is very shallow, is up to 50 metres wide, dips south and is associated with a magnetic high. It is of interest.
- line 101+00E/99+00N to 103+00E/98+50N. Depth of 20 metres, poor mag correlation, southerly dip.
- line 105+00E/96+50N to 106+00E/97+50N. Depth 20 metres, poor mag correlation.
- line 101+00E/95+50N to 103+00E/95+50N. Very strong, shallow, corresponds to a magnetic high, width of 25 metres, south dip. Of interest.
- line 102+00E/93+50N to 105+00E/93+00N. Thin south dipping ribbon, depth of 20 metres, corresponds to magnetic high. Of interest.

CONCLUSIONS

Two grids were established on the SB claims for a total of 35.4 line kilometres in preparation for a ground geophysical survey. A total of 33.6 kms were surveyed utilizing Max/Min EM and Magnetic methods.

Six EM anomalies were identified, one on grid SB 5 and five on grid SB 1. Four of these have related magnetic highs and should be given priority. These are the conductor on SB 5 and the three conductors on SB 1, at 106+00N, 95+50N and 93+00N.

REFERENCES

Campbell, R.B., and Tipper, H.W. (1965): Geology Bonaparte Lake, British Columbia. G.S.C. Map 1278A.

Crosby, Richard O. (1977): Report on Airborne Geophysical Surveys, Grit Mineral Claims, Clearwater River Area, B.C. on behalf of Aquataine Company of Canada Ltd. Assessment Report No. 6622.

APPENDIX I

Statement of Costs

Cost Statement1. Linecutting

35.4 line km @ \$264.00/km
 Amex Exploration Services Ltd.
 December 10-15, 1986

Subtotal - Linecutting: \$ 9,345.60

2. Ground Geophysics

a) 33.6 line km @ 195/km
 Max/Min EM Magnetics,
 April 8-June 5, 1986 - \$6,552.00

b) 3 days standby @ \$525/day
 MWH Geophysics Ltd. - \$1,575.00

Subtotal - Geophysics: \$ 8,127.00

3. Report Preparation

a) Drafting and Reproduction
 1 person/day @ \$200/day \$ 200.00

b) Report Writing and Typing
 R. Farmer-1 manday @ \$ 150.00
 Secretary-1 person day @ 100.00

Subtotal - Preparation: \$ 450.00

TOTAL COST OF PROGRAM:

\$17,922.60

=====

Cost Allocation

A) SB 1 Group (SB 1,2,3,4 - 76 Units)

1. Linecutting

17.9 line km @ \$264.00/km \$ 4,725.60

2. Geophysical Survey

a) 17.1 line km @ \$195.00/km \$ 3,334.50

b) 3 days standby @ \$525.00/day 1,575.00

Subtotal - Geophysics: \$ 4,909.50

3. Report Preparation

1/2 X total cost of \$450.00 \$ 225.00

TOTAL EXPENDITURES SB 1 GROUP:

\$ 9,860.10

=====

One year applied to SB 1,2,3,4

B) SB 5 Group (SB 5,6,7,8 - 69 Units)

1. Linecutting

17.5 line km @ \$264.00/km \$ 4,620.00

2. Geophysical Survey

16.5 line km @ \$195.00/km \$ 3,217.50

3. Report Preparation

1/2 X total cost of \$450.00 \$ 225.00

TOTAL EXPENDITURES SB 5 GROUP:

\$ 8,062.50

=====

One year applied to SB 5, 6, 7, 8.

APPENDIX II

Certificate of Authors

CERTIFICATE OF AUTHOR

I Randy Farmer, of #110-44 Whiteshield Crescent South Kamloops, British Columbia hereby certify that:

1. I am a geologist residing at the above address.
2. I am a graduate of Lakehead University, Thunder Bay, Ontario with an Honours B.Sc degree in Geology (1980).
3. I have practised my profession for more than 6 years.
4. I supervised linecutting and ground geophysical surveys on the SB 1-8 Claims and reviewed the data described herein.
5. I hold no interest, direct or indirect, in the SB Claims which are the subject of this report.

Respectfully submitted,

A handwritten signature in cursive script that reads "Randy Farmer".

Randy Farmer
Project Geologist

September, 1986
Kamloops, B.C.

CERTIFICATE

I, Alan J Wynne, do hereby certify:

That I am a consulting Geophysicist with offices
at 8573 Ebor Terrace, Sidney, B.C. V8L 1L4.

That I am a graduate in Geophysics/Geology of the
University of British Columbia, Bsc 1976.

That I have practised my profession for the past
10 years.

That I am a member of the society of exploration
geophysicists.

That the work reported on herein was supervised
by me.

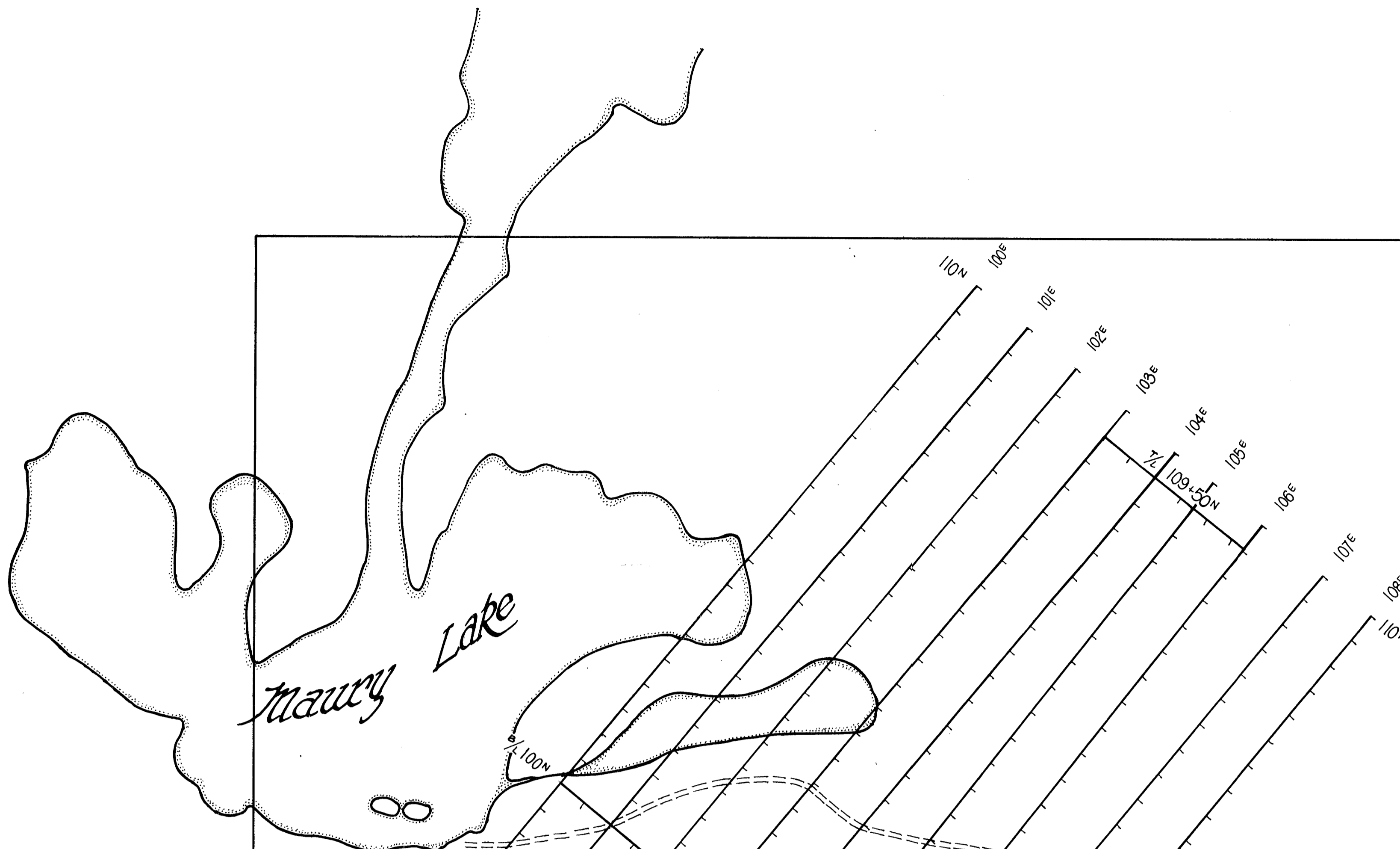
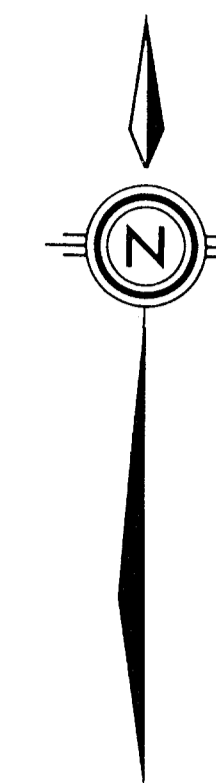
That I own no direct or indirect interests in the
subject property.

Alan Wynne.Bsc

Sidney B.C.

August 20, 1986.

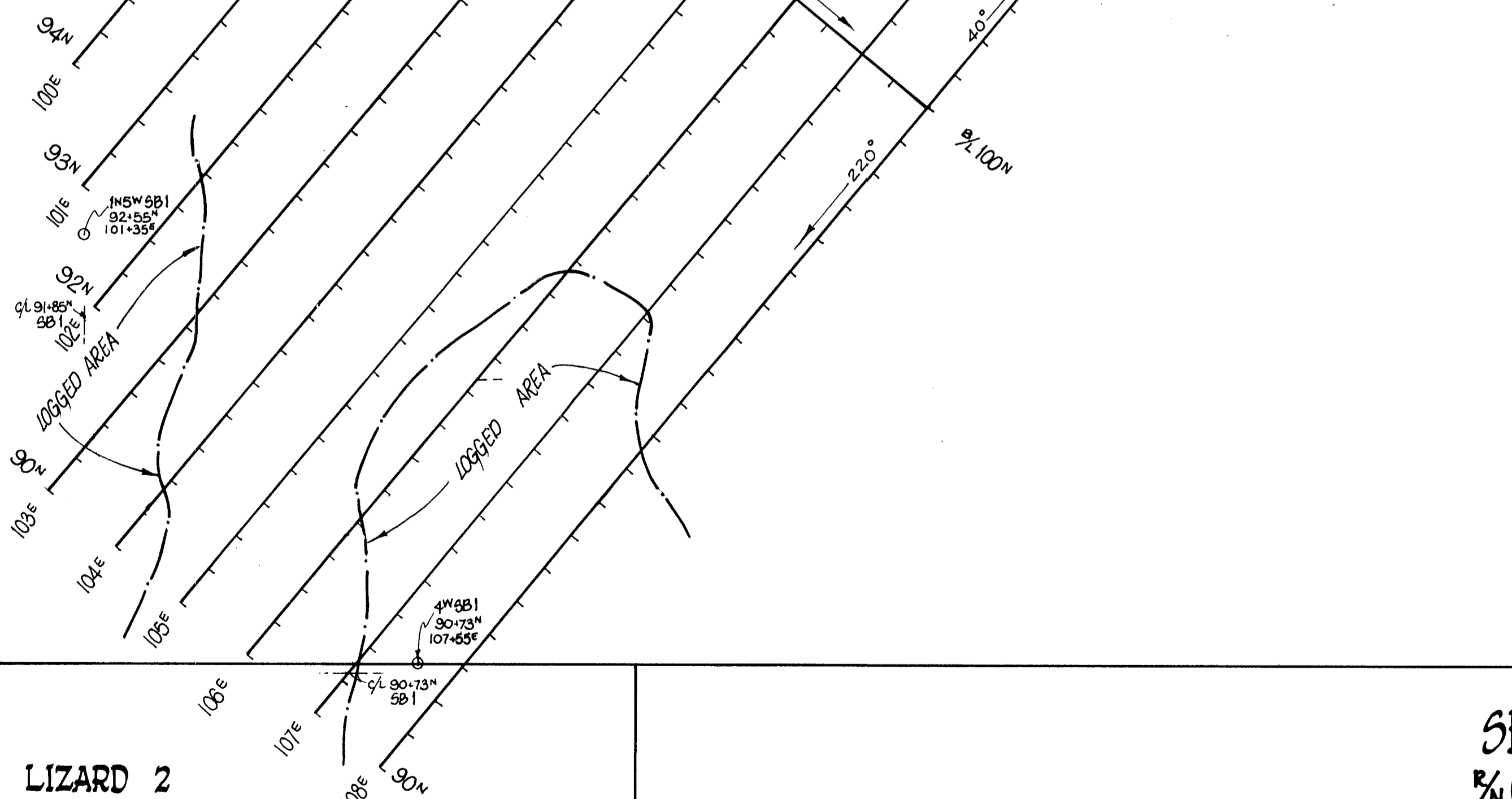
A handwritten signature in cursive script, appearing to read 'Alan Wynne', with a long horizontal flourish extending to the right.



LIZARD 1
R/N 4943
5^N4^E

SB 1
R/N 6372
5^N4^N

SB 2
R/N 6373
4^N4^E



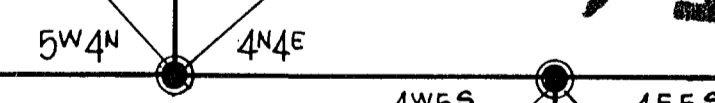
LIZARD 2
R/N 4944
5^S4^E

SB 3
R/N 6374
4^N5^S

SB 4
R/N 6375
4^E5^S

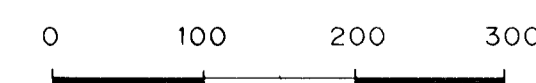
GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,187



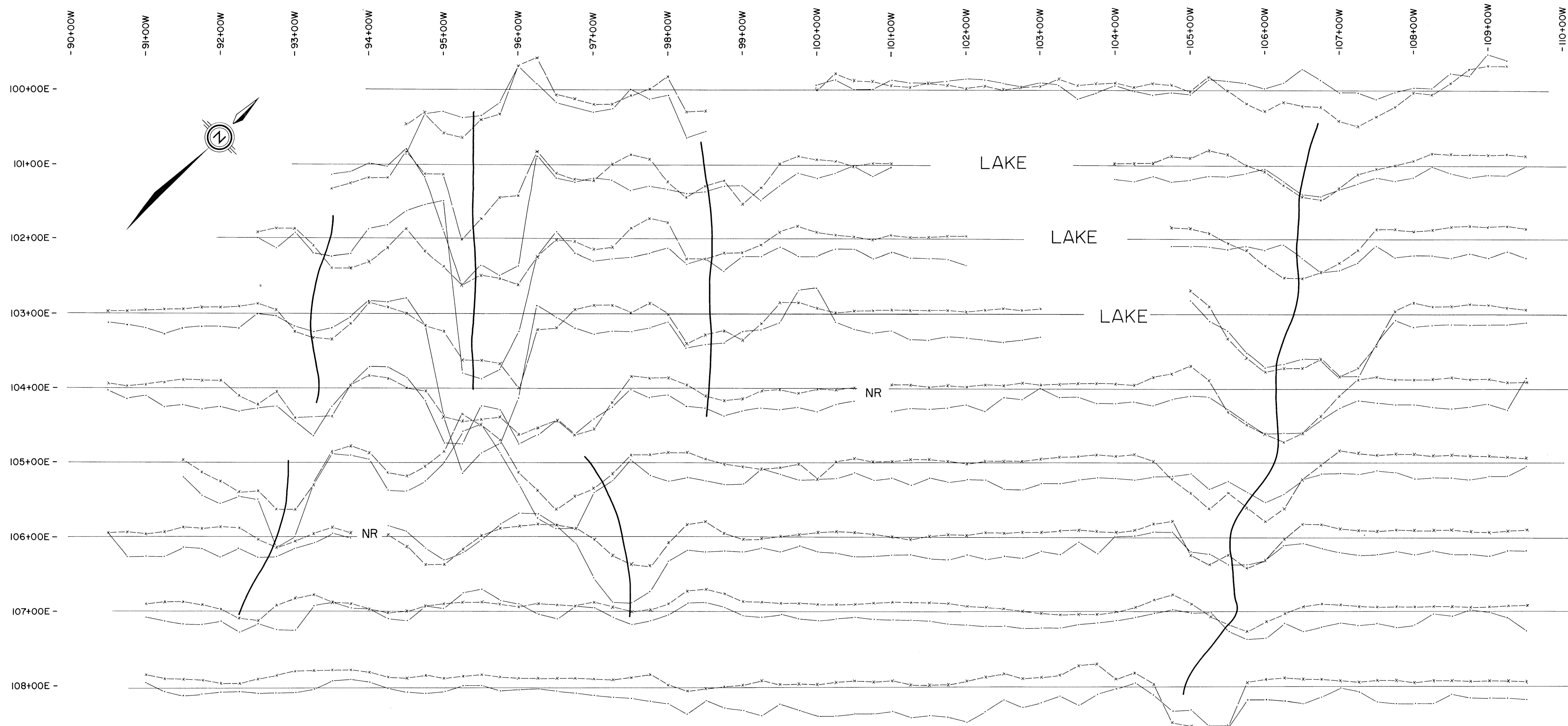
LEGEND

- LOGGED BOUNDARY
- ROAD
- CLAIM LINE
- CLAIM POST



SELCO DIVISION - BP RESOURCES CANADA LIMITED			
BARRIERE PROJECT, B.C.			
SB 1 CLAIM			
GRID NO. 1			
SCALE 1 : 5,000	DRAWN BY:	FIG. 5A	
DATE FEB 1986	DRAFTED BY:		
N.T.S.	PROJ. 10112	REPORT BPVR 86-10	

7813

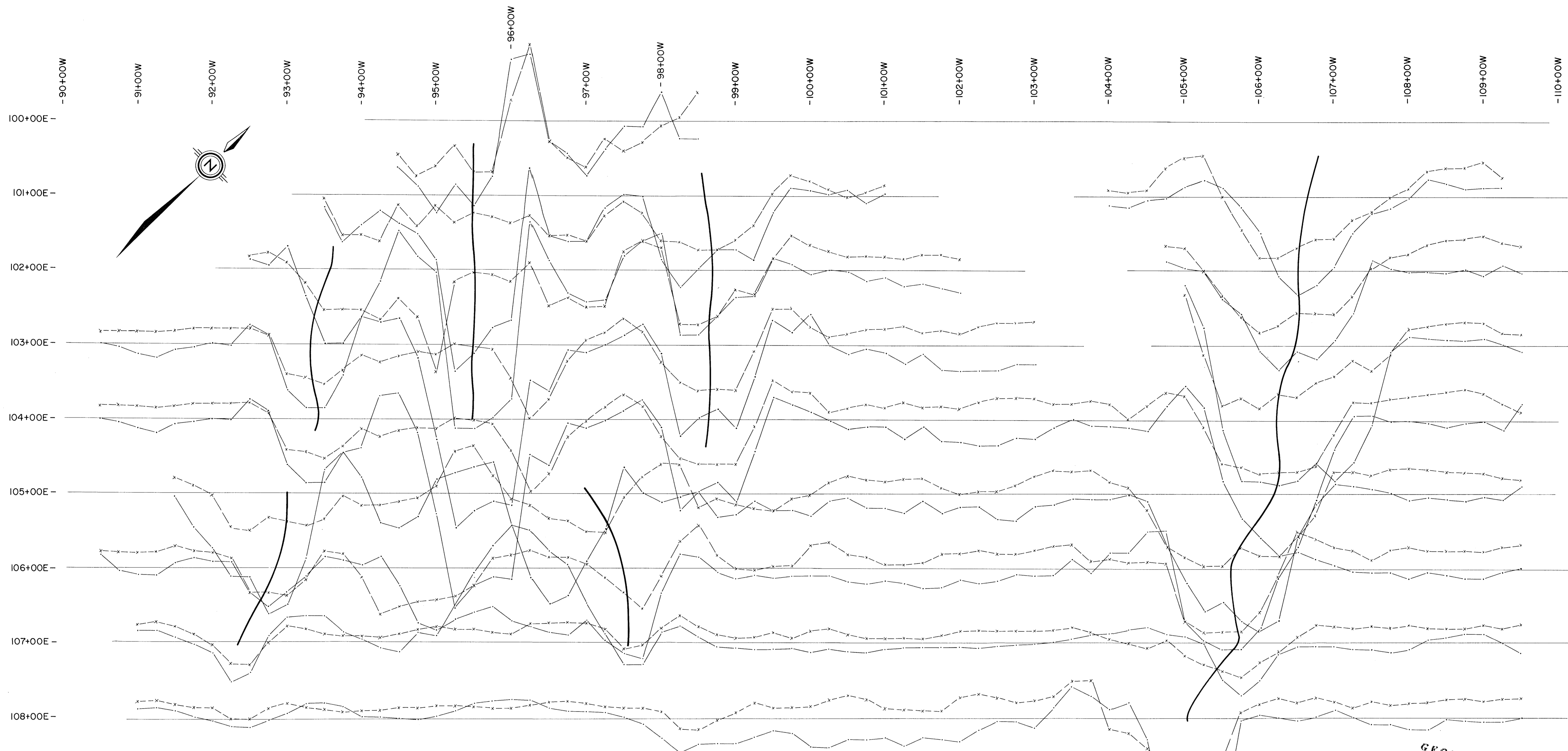


GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,187

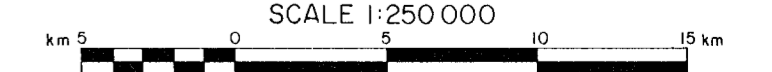
VERTICAL SCALE $\begin{matrix} +10\% \\ 0 \\ -10\% \end{matrix}$
 IN PHASE ---
 QUADRATURE ---x---x
 CABLE LENGTH = 100m
 CONDUCTIVE AXIS ---

SELCO DIVISION
 BP RESOURCES CANADA LTD.
 SBI CLAIM
 MAX MIN
 444 I+2
 SCALE 1:250000
 MWH GEOPHYSICS LTD.
 BPVR 86-10



GEOLOGICAL BRANCH
ASSESSMENT REPORT
15,187

VERTICAL SCALE $\begin{matrix} +10\% \\ 0 \\ -10\% \end{matrix}$
 IN PHASE ---
 QUADRATURE ---x---
 CABLE LENGTH = 100m
 CONDUCTIVE AXIS ---

SELCO DIVISION
BP RESOURCES CANADA LTD.
SBI CLAIM
MAX MIN
1777 H2
SCALE 1:250 000

 MWH GEOPHYSICS LTD.
BPVR 86-10

-90N -91N -92N -93N -94N -95N -96N -97N -98N -99N -100N -101N -102N -103N -104N -105N -106N -107N -108N -109N -110N



— CONDUCTIVE AXIS
 — CONTOUR INTERVAL = 100G

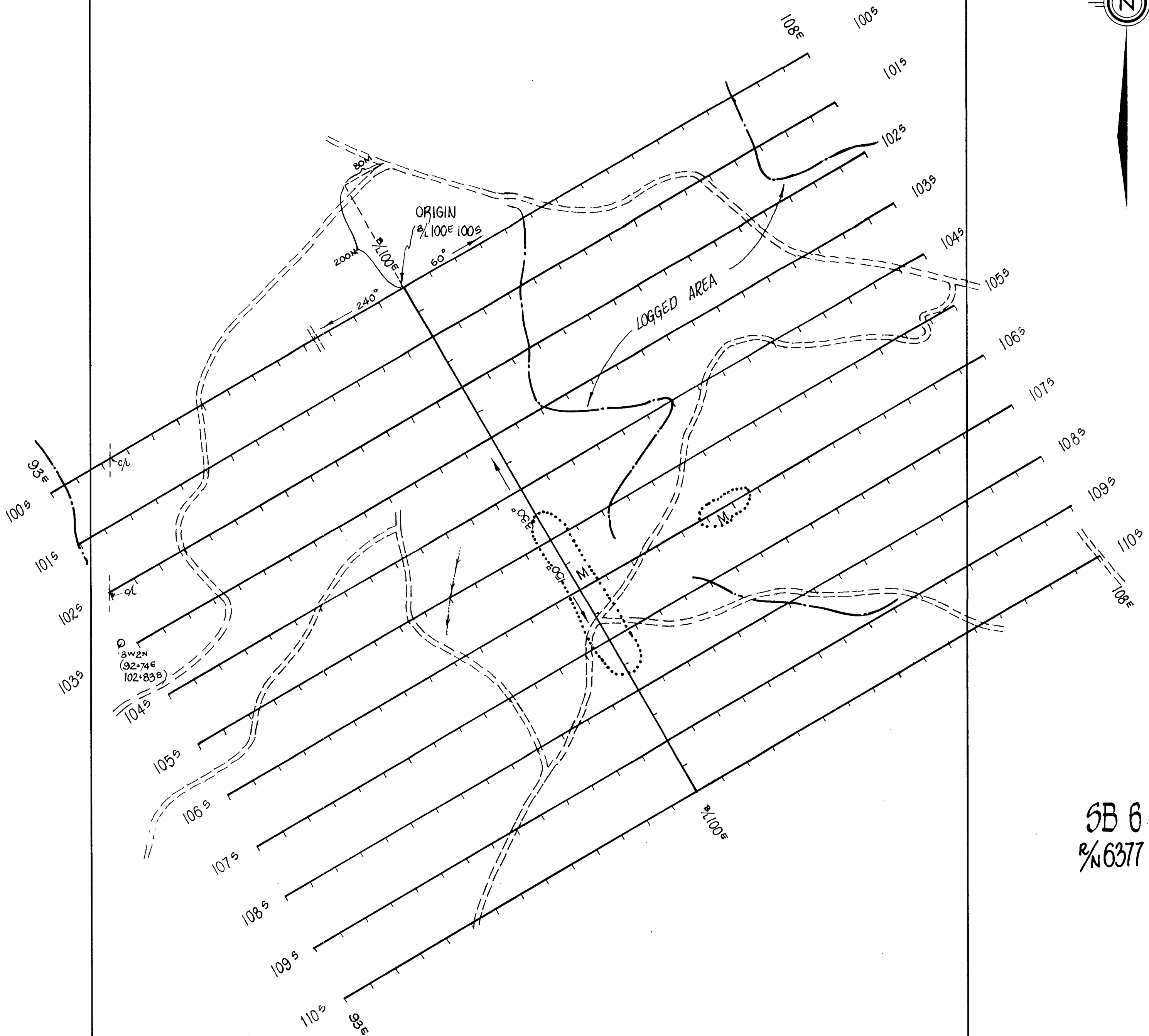
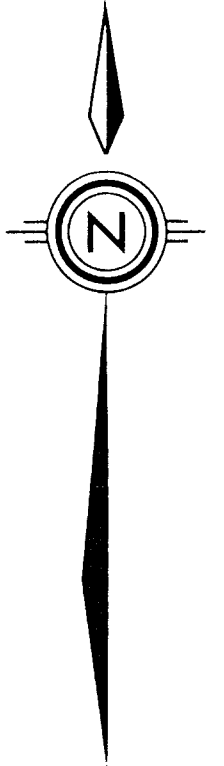
**GEOLOGICAL BRANCH
 ASSESSMENT REPORT**

15,187

SELCO DIVISION
 BP RESOURCES CANADA LTD.
 SBI CLAIM
 MAGNETIC CONTOURS
 BASE = 58000 GAMMAS
 SCALE 1:250000

MWH GEOPHYSICS LTD.
 BPVR 86-10

SB 5
R/N 6376



SB 6
R/N 6377

LEGEND

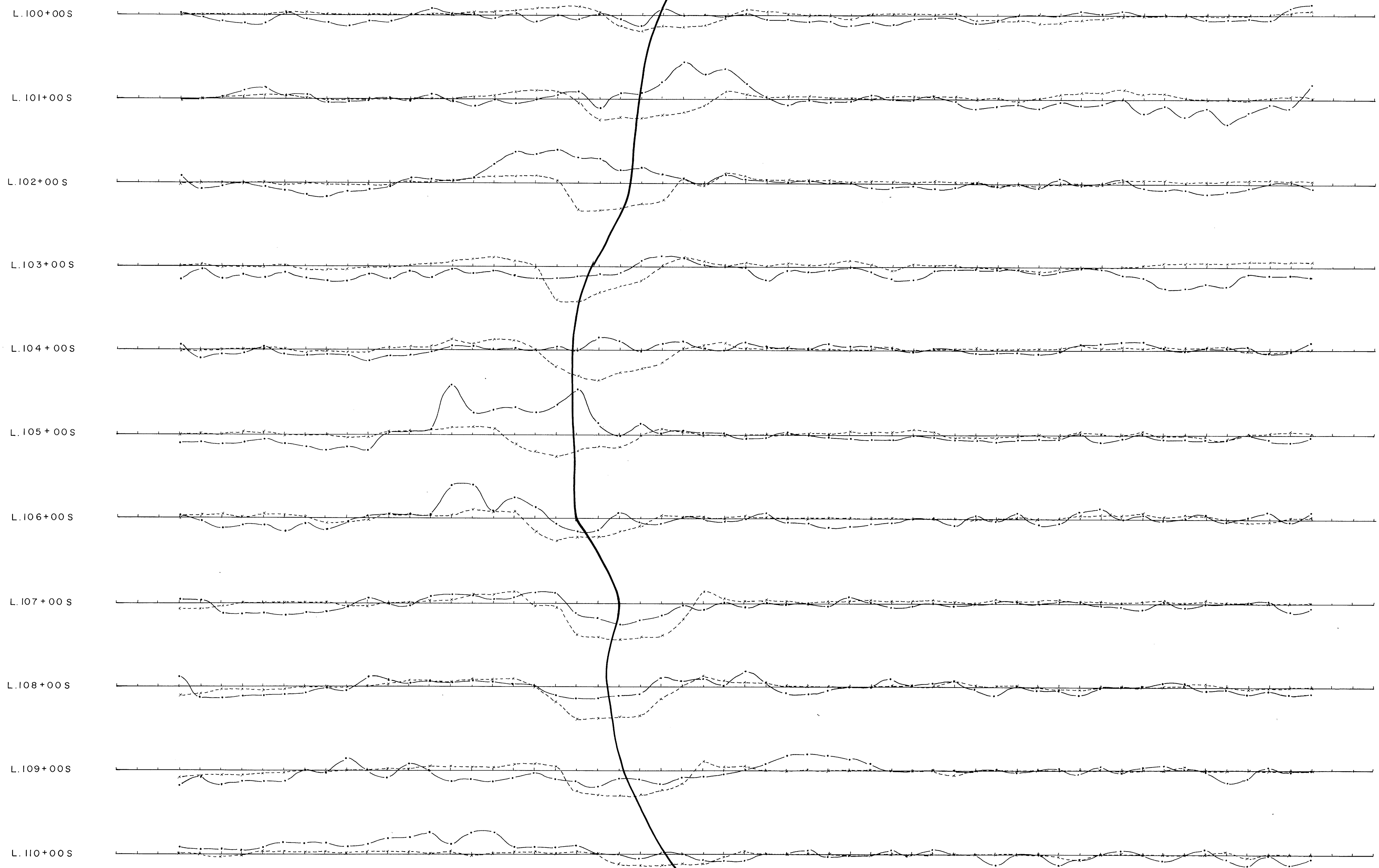
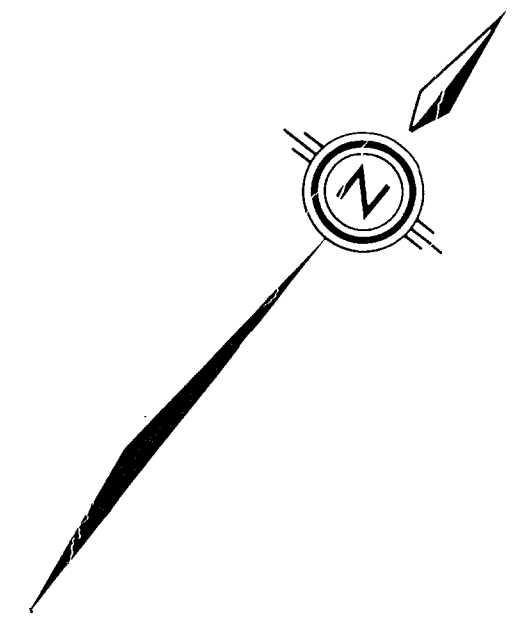
- MAGNETICS ENCOUNTERED M
- LOGGED BOUNDARY
- ROAD
- CREEK
- CLAIM LINE
- CLAIM POST

GEOLOGICAL BRANCH
ASSESSMENT REPORT

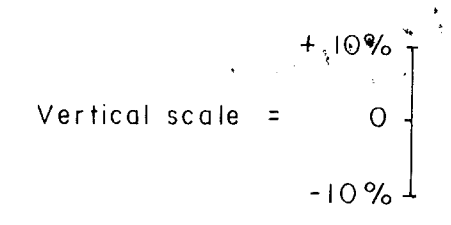
15,187

SB 8
R/N 6379

BP		SELCO DIVISION - BP RESOURCES CANADA LIMITED	
BARRIERE PROJECT, B.C.			
SB 5 CLAIM			
GRID NO. 2			
SCALE 1 : 5,000	DRAWN BY:	FIG. 5B	
DATE FEB 1986	DRAFTED BY:		
N.T.S. 92 P / 16 W	PROJ. 10112	REPORT BPVR 86-10	



LEGEND



Horizontal scale = 1: 2500

Cable length = 150 m

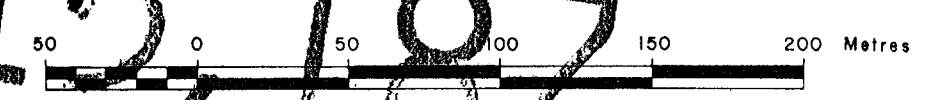
In phase = ———

Quadrature = - - - - -


Conductive axis = ———

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

15,187

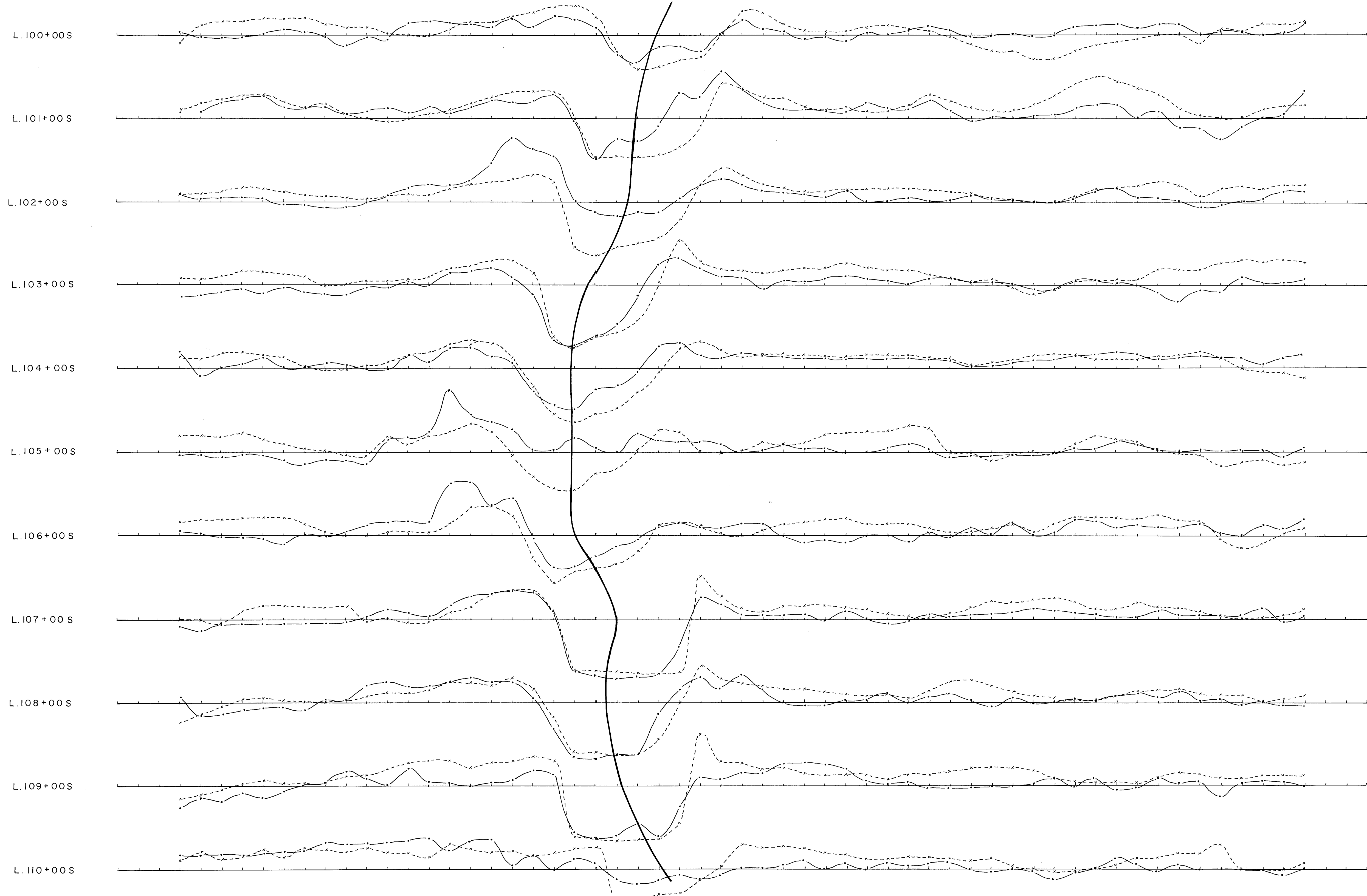
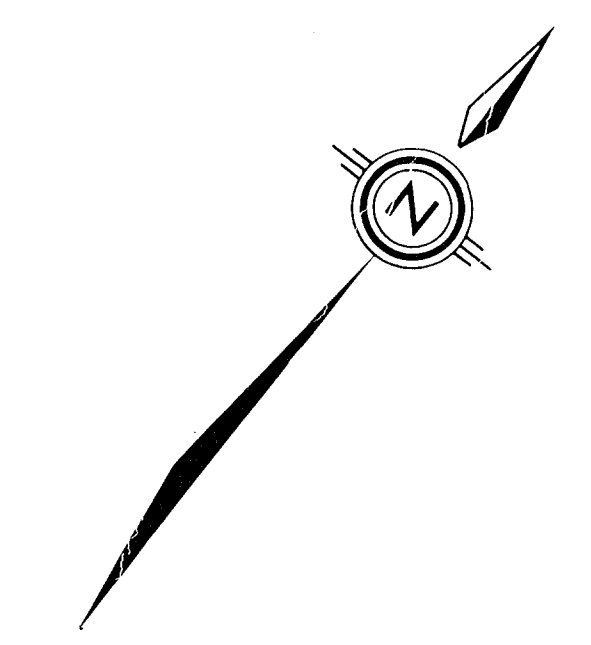


93+00E 94+00E 95+00E 96+00E 97+00E 98+00E 99+00E 100+00E 101+00E 102+00E 103+00E 104+00E 105+00E 106+00E 107+00E 108+00E

SELCO DIVISION B.P. RESOURCES CANADA LTD.	
SB 5 CLAIMS	
MAX - MIN 444 Hz	
Project No :	By : A. W.
Scale : 1 : 2500	Drawn : J. S.
Drawing No :	Date : APRIL 1986.
 MWH Geophysics Ltd. BPVR 86-10	

001

001



LEGEND

Vertical scale = $\begin{matrix} +10\% \\ 0 \\ -10\% \end{matrix}$

Horizontal scale = 1 : 2500

Cable length = 150 m

In phase = ·····

Quadrature = - - - -

Conductive axis = ———

GEOLOGICAL BRANCH
ASSESSMENT REPORT

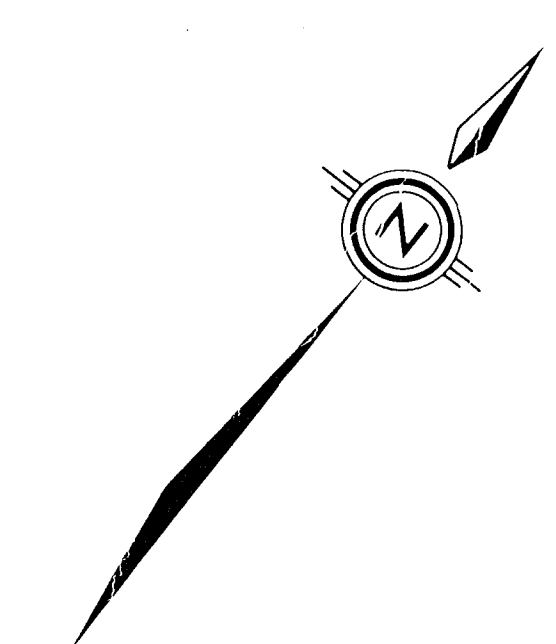
15,187



93+00E 94+00E 95+00E 96+00E 97+00E 98+00E 99+00E 100+00E 101+00E 102+00E 103+00E 104+00E 105+00E 106+00E 107+00E 108+00E

SELCO DIVISION B. P. RESOURCES CANADA LTD.	
SB 5 CLAIMS	
MAX - MIN	1777 Hz
Project No :	By : A. W.
Scale : 1 : 2500	Drawn : J. S.
Drawing No :	Date : APRIL 1986.
MWH Geophysics Ltd. BPVR 86-10	

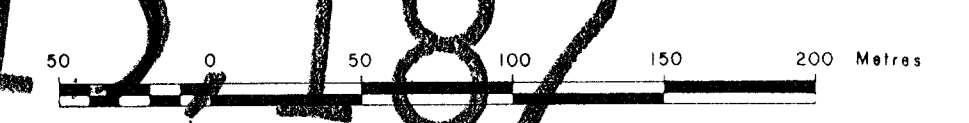
81



Base value = 57 000 gammas.
 CONTOUR INTERVAL = 100G.

**GEOLOGICAL BRANCH
 ASSESSMENT REPORT**

15,187



93+00E | 94+00E | 95+00E | 96+00E | 97+00E | 98+00E | 99+00E | 100+00E | 101+00E | 102+00E | 103+00E | 104+00E | 105+00E | 106+00E | 107+00E | 108+00E

SELCO DIVISION B. P. RESOURCES CANADA LTD.	
SB 5 CLAIMS MAGNETICS	
Project No :	By : A. W.
Scale : 1 : 2 500	Drawn : J. S.
Drawing No :	Date : APRIL 1986.
 MWH Geophysics Ltd. BPVR 86-10	