

ASSESSMENT REPORT  
 LINECUTTING AND GEOPHYSICAL SURVEY  
 CM 1-6 MINERAL CLAIMS  
 KAMLOOPS MINING DIVISION  
 BRITISH COLUMBIA

NTS 92P/8E  
 Lat.  $51^{\circ}18.5'$  Long.  $120^{\circ}06.3'$   
 OWNED BY BP MINERALS LIMITED

OPERATED BY BP RESOURCES CANADA LIMITED

**GEOLOGICAL BRANCH  
 ASSESSMENT REPORT**

**15,180**

and

R. Farmer  
 Project Geologist  
 BP Minerals Limited

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

BPVR 86-9

20 August, 1986

FILMED

SUMMARY

Four grids were established on the CM 1-6 claims for a total of 22.3 line kilometres in preparation for a ground geophysical survey.

An integrated geophysical program has been completed on the CM 1-6 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. Three electromagnetic anomalies were located, one on grid C and two on grid D. There are no coincident magnetic anomalies present associated with the EM conductors.

RECOMMENDATIONS

- 1) Followup work consisting of grid controlled geological mapping and soil sampling should be carried out over grids C and D to upgrade the electromagnetic anomalies identified there.
  
- 2) Geological traverses should be carried out in the area of grid B in an attempt to determine if an obvious source for the strong airborne anomaly not identified on the grid is present in the surrounding area.

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## INTRODUCTION

Four grids were established on the CM 1-6 mineral claims totalling 22.3 line kilometres between December 8 and December 12, 1985, in preparation for ground geophysical surveys.

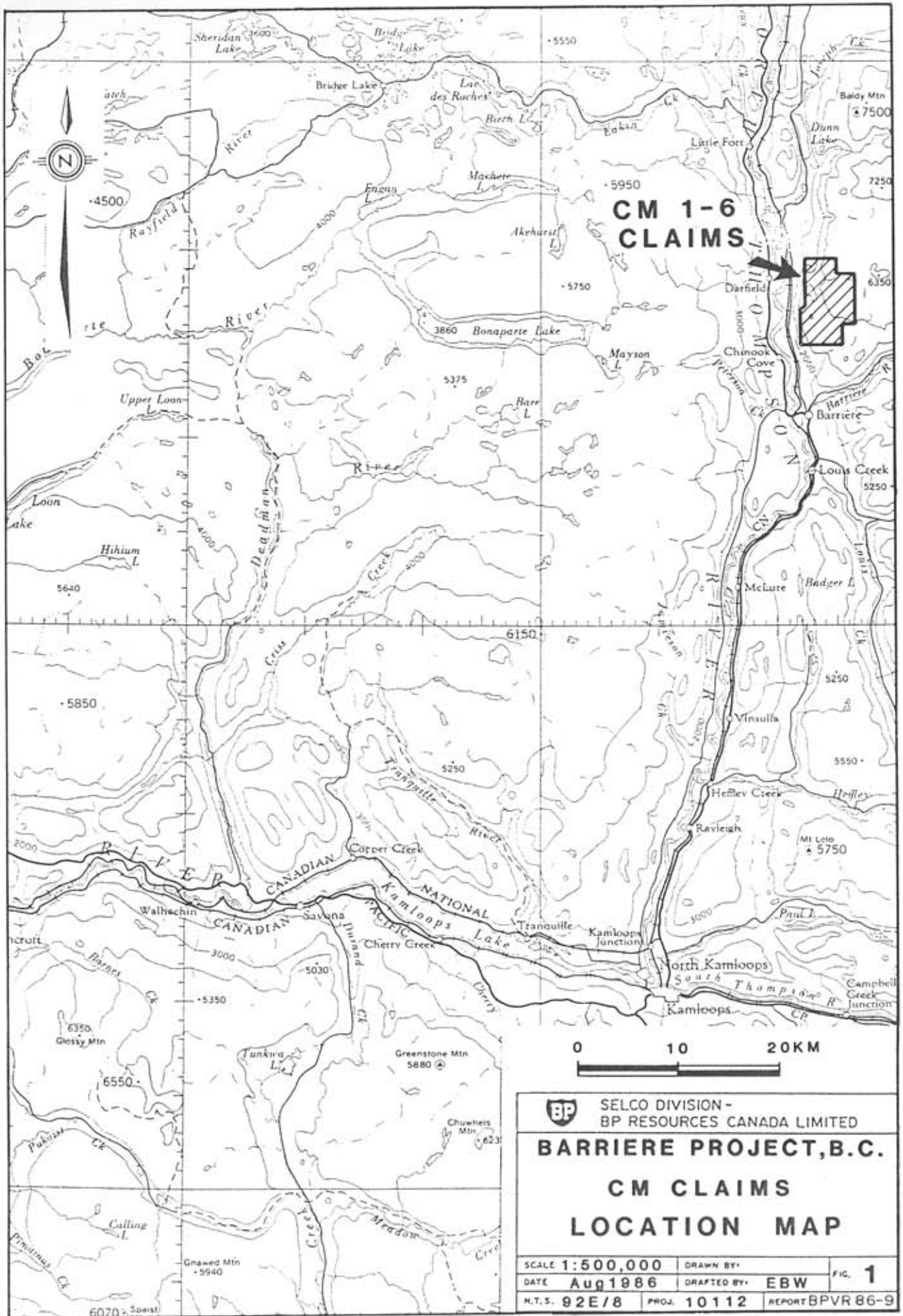
During April and June of 1986, a geophysical program was run on the CM claims of BP Minerals, Limited.

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.

Four grids totalling 17.1 line kilometres, plus one day of followup (1.1 line km) were completed on the CM 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 CM claims are located near Chinook Mountain approximately 10 kilometres north of Barriere, B.C. (Figure 1). The geographic centre of the claims is at latitude  $51^{\circ}18'$  north and longitude  $120^{\circ}07'$  west on N.T.S. mapsheet 92P/8E.



**CM 1-6  
CLAIMS**



**BP** SELCO DIVISION -  
BP RESOURCES CANADA LIMITED  
**BARRIERE PROJECT, B.C.**  
**CM CLAIMS**  
**LOCATION MAP**

SCALE 1:500,000	DRAWN BY:	FIG. 1
DATE Aug 1986	DRAFTED BY: EBW	
N.T.S. 92E/8	PROJ. 10112	REPORT BPVR 86-9

Access to the northern portion of the property (grids A,B,C,) is gained via the Dunn Lake road from Barriere, B.C. After following the Dunn Lake road for approximately 17 kilometres a right turn is made onto the Cold Creek logging road which follows Newhykulston Creek. It is approximately two kilometres to the property from this point. An alternate route to the southern part of the property (grid D) is gained by following the Barriere Lakes road for about 1.5 kilometres east from Barriere, B.C., and then turning left onto the Genier Lake road. This road becomes a logging road at Genier Lake and it is thence about 13 kilometres to grid D on the property.

#### TOPOGRAHY AND VEGETATION

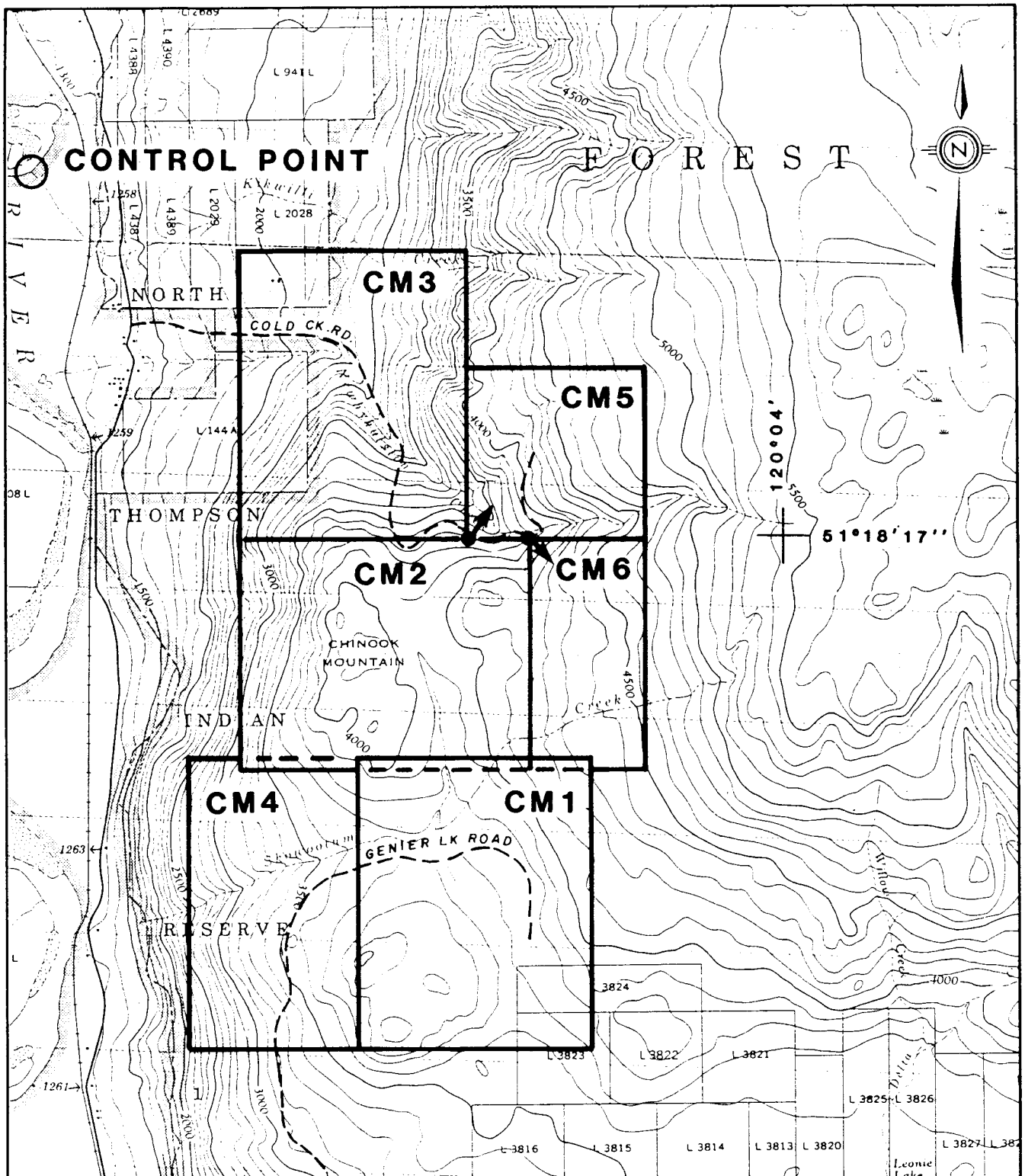
Topography is fairly rugged as the claims are situated along a prominent ridge along the east side of the North Thompson River. Elevations vary between 2000 feet (615 m) A.S.L. and 5000 feet (1538 m) A.S.L.


Vegetation consists of a mixed forest of spruce, fir, birch and poplar.

#### LAND STATUS

The CM 1-6 claims (Figure 2) lies within the Kamloops Mining Division on N.T.S. mapsheet 92P/8E. All claims are registered in the name of BP Minerals Limited. The names, record numbers, number of units and recorded dates are as tabulated:





 <b>SELCO DIVISION - BP RESOURCES CANADA LIMITED</b>		
<b>BARRIERE PROJECT, B.C. CM 1-6 CLAIMS CLAIM MAP</b>		
SCALE <b>1:50,000</b>	DRAWN BY:	FIG. <b>2</b>
DATE <b>Aug 1986</b>	DRAFTED BY: <b>EBW</b>	
N.T.S. <b>92P/8E</b>	PROJ. <b>10112</b>	REPORT <b>BPVR86-9</b>

<u>CLAIM NAME</u>	<u>RECORD NO.</u>	<u>UNITS</u>	<u>RECORD DATE</u>
CM 1	6367	20	Sept.13/85
CM 2	6368	20	Sept.13/85
CM 3	6369	20	Sept.13/85
CM 4	6370	15	Sept.13/85
CM 5	6469	9	Dec. 30/85
CM 6	6470	8	Dec. 30/85

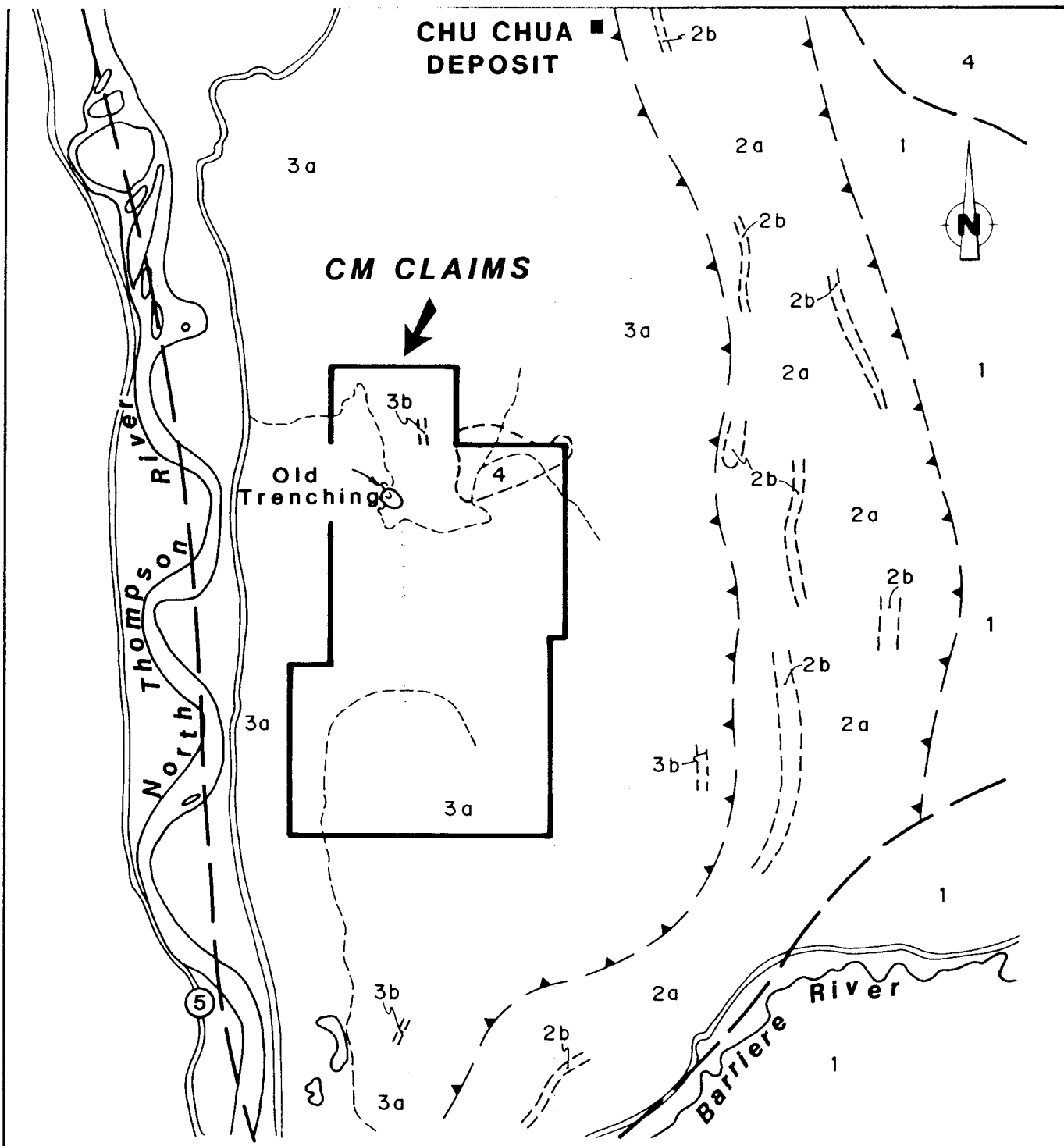
(Total 92 units)

#### GEOLOGY AND PREVIOUS WORK

##### a) Geology

The regional geology has been mapped by Preto and Schiarizza (1984) and Schiarizza (1983) of the British Columbia Ministry of Energy, Mines and Petroleum Resources.

The CM claims are underlain by basalts and chert of the Fennell Formation (Figure 3). Basalts are medium to dark green in colour and massive to pillowed. Cherts are grey to green, massive to banded and often highly fractured. They often appear more like cherty tuffs than true chert. The section strikes NNW, dips steeply to the west and faces west in the area of the CM claims.



**LEGEND**

**CRETACEOUS**

**BALDY BATHOLITH**

**4**

Granite, granodiorite

**MISSISSIPPIAN**

**FENNEL FORMATION**

**UPPER STRUCTURAL UNIT**

**3**

3a - Basalt  
3b - Chert

**LOWER STRUCTURAL UNIT**

**2**

2a - Basalt, minor sediments  
2b - Chert, argillite

**DEVONIAN ? & OLDER**

**EAGLE BAY FORMATION**

**1**

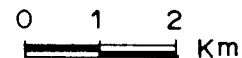
Intermediate to felsic volcanics, sediments, limestone

— — THRUST FAULT

— — FAULT

----- ROAD

*Simplified after Preto and Schiarizza 1984*



SELCO DIVISION -  
BP RESOURCES CANADA LIMITED

**BARRIERE LAKE PROJECT  
CM CLAIMS AREA  
REGIONAL GEOLOGY**

SCALE	1:100,000	DRAWN BY	R.F.	FIG.	3
DATE	SEPT 1986	DRAFTED BY	EBW		
N.T.S.	92E/8	PROJ.	10112	REPORT	BPVR86-9

7.

Magnetics

6.

Grid No.                  Metal Line Km                  Location Claim Block

5.

4.

A massive sulphide showing occurs on the property which is very similar to mineralization at Chu Chua which lies about 7 kilometres to the northeast. The trenched showing contains approximately 1.0 metre of cupriferous pyrite, massive sulphide and 3.0 metres of massive magnetite.

Mineralization is hosted by a grey, massive, highly fractured chert and black cherty argillite. The chert and enclosing volcanics are pyritic and show varying degrees of chlorite, carbonate and talc alteration. Detailed geology of the showings is unknown as exposure is very poor.

b) Previous Work

In the Newhykulston Creek area a gossan was uncovered in the 1950's and subsequent trenching followed the gossan for several hundred metres. The property has had some small diameter drilling done on it sometime pre 1970. This drilling evidently intersected a two foot band of massive sulphides which was later exposed by further trenching.

During 1970 some trenching and approximately 1200 feet of diamond drilling in three holes were done by Rio Tinto Canada under an option agreement from Kel Glem Mines. Some other diamond drill core has been found on the property but no information was found pertaining to it.

CM 1-6 Claims GRID C

A conductive zone is located at 100+45E on line 100+00N, slightly further east on line 101+00N. The zone is less than 10 metres deep and fairly weak, as it responds poorly to 444 HZ but well to 1777 HZ. Dip is to the west. There is no magnetic expression to this zone.

CM 1-6 Claims GRID D

There are two conductive zones on this grid. The most easterly zone has conductive axis on line 94+00N/102+25E, 95+00N/103+50E, 96+00N/104+25E, 97+00N/104+00E, 98+00N/103+75E. On line 96+00N, the unit has a conductivity thickness of 1.5 seimens, dips 60° to the west and is within 15 metres of surface. This is a weak conductor and has no magnetic relief. The second conductor on lines 97+00N, 98+00N and 99+00N can be interpreted in two ways. It can be caused by two parallel thin vertical conductors with axis respectively at 97+00N/97+25E and 99+50E, 98+00N/97+50E and 100+25E, and 99+00N/98+00E and 100+75E. It can also be caused by a flat lying conductor occupying the area whose edges are delineated by the above locations. This could be either a flat lying sulphide body or, more likely, an electrolyte clay. Because the conductive axis for the two frequencies used are not positioned identically,

as would be expected for vertical conductors, the unit is interpreted as a valley fill, clay conductor. No magnetic signature is recognized on this grid.

#### CONCLUSIONS

Four grids were established on the CM 1-6 claims for a total of 22.3 line kilometres in preparation for a ground geophysical survey.

Three EM anomalies were identified, one on grid C and two on grid D. All are weak conductive zones and do not possess a coincident magnetic anomaly. Further work in the form of geology and geochemistry is required to assess the significance, if any, of these anomalies.

REFERENCES

- 1) Preto, V.A. and Chiarizza, P. (1984): Geology of the Adams Plateau-Clearwater Area. B.C. Ministry of Energy, Mines and Petroleum Resources; Preliminary Map No. 56.
- 2) Schiarizza, P. (1983): Geology of the Barriere River-Clearwater Area. B.C. Ministry of Energy, Mines and Petroleum Resources; Preliminary Map No. 53.
- 3) Dvorak, Z. and Fraser, D.C. (1979): Dighem III Survey of North Thompson River, British Columbia, for Craigmont Mines Limited by Dighem Limited; Assessment Report No. 7659.

APPENDIX I

STATEMENT OF COSTS



STATEMENT OF COSTS

CM 1 Group (CM 1,2,3,4,5,6 - 92 units)

1) Linecutting

22.3 km @ \$271.00/km

Dec.8 - Dec.12, 1985

Amex Exploration Services Ltd. \$6043.30

Subtotal - Linecutting: \$6043.30

2) Geophysical Survey

Max/Min EM and Magnetic Surveys

5 days between April 8 - June 5, 1986

MWH Geophysics Ltd.

a) 17.1 line km @ \$195.00/km \$3334.50

b) 1 day followup @ \$675.00/day 675.00

c) Supervision -

R. Farmer, Project Geologist

2 days @ \$150.00/day 300.00

Subtotal - Geophysical Survey: \$4309.50

3) Report Preparation

a) Drafting and Reproduction

1 person day @ \$200.00/day \$ 200.00

b) Report Writing and Typing

R. Farmer - 1 day @ \$150.00/day 150.00

Secretary - 1 day @ \$100.00/day 100.00Subtotal - Report Preparation: 450.00

TOTAL COST: \$10,802.80

Allocation of Costs

One Year Applied to CM 1,2,3,4,5,6 (92 units) \$ 9,200

Balance of Costs - apply to BP Minerals PAC 1,600

TOTAL \$10,800

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APPENDIX II

CERTIFICATE OF AUTHOR

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 practiced my profession for more than six (6) years.
- 4) I supervised the linecutting and ground geophysical surveys on the CM 1-6 claims and reviewed the data described herein.
- 5) I hold no interest, direct or indirect, in the CM claims which are the subject of this report.

Respectfully submitted,

*Randy Farmer*

Randy Farmer  
Project Geologist

August 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.

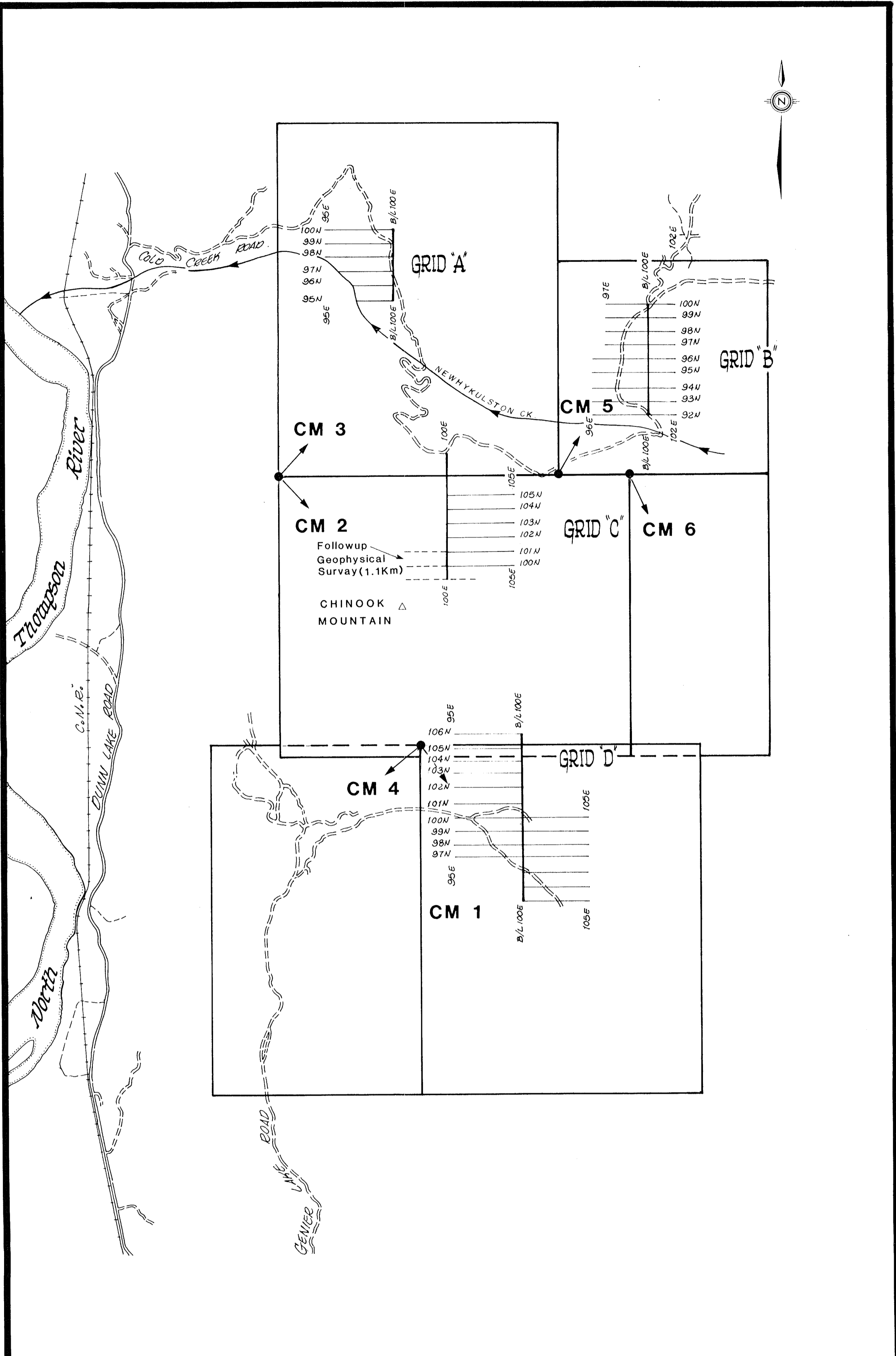
That the work reported on herein was supervised  
by me.

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

Alan Wynne.Bsc

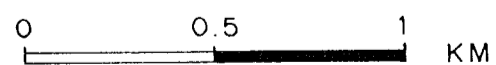
Sidney B.C.  
August 20, 1986.





GEOLOGICAL BRANCH  
ASSESSMENT REPORT

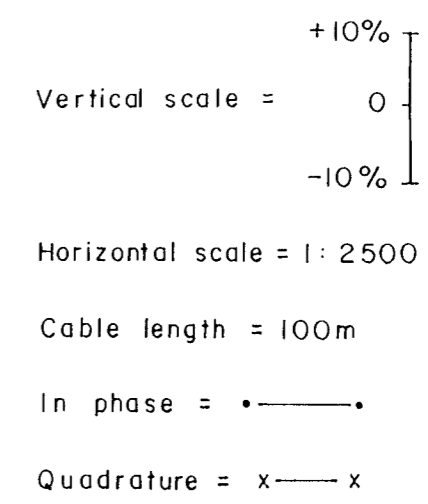
15,180 BP



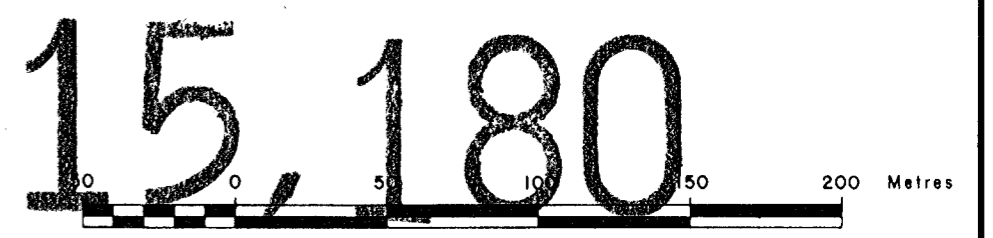
SELCO DIVISION - BP RESOURCES CANADA LIMITED		
BARRIERE PROJECT, B.C.		
CM 1-6 CLAIMS GRID LOCATION MAP GRIDS A, B, C, D		
SCALE 1 : 20,000	DRAWN BY: R. F.	FIG. 4
DATE FEB 1986	DRAFTED BY: E. B. W.	
N.T.S. 93P/8E	PROJ. 10112	REPORT BPVR 86-9



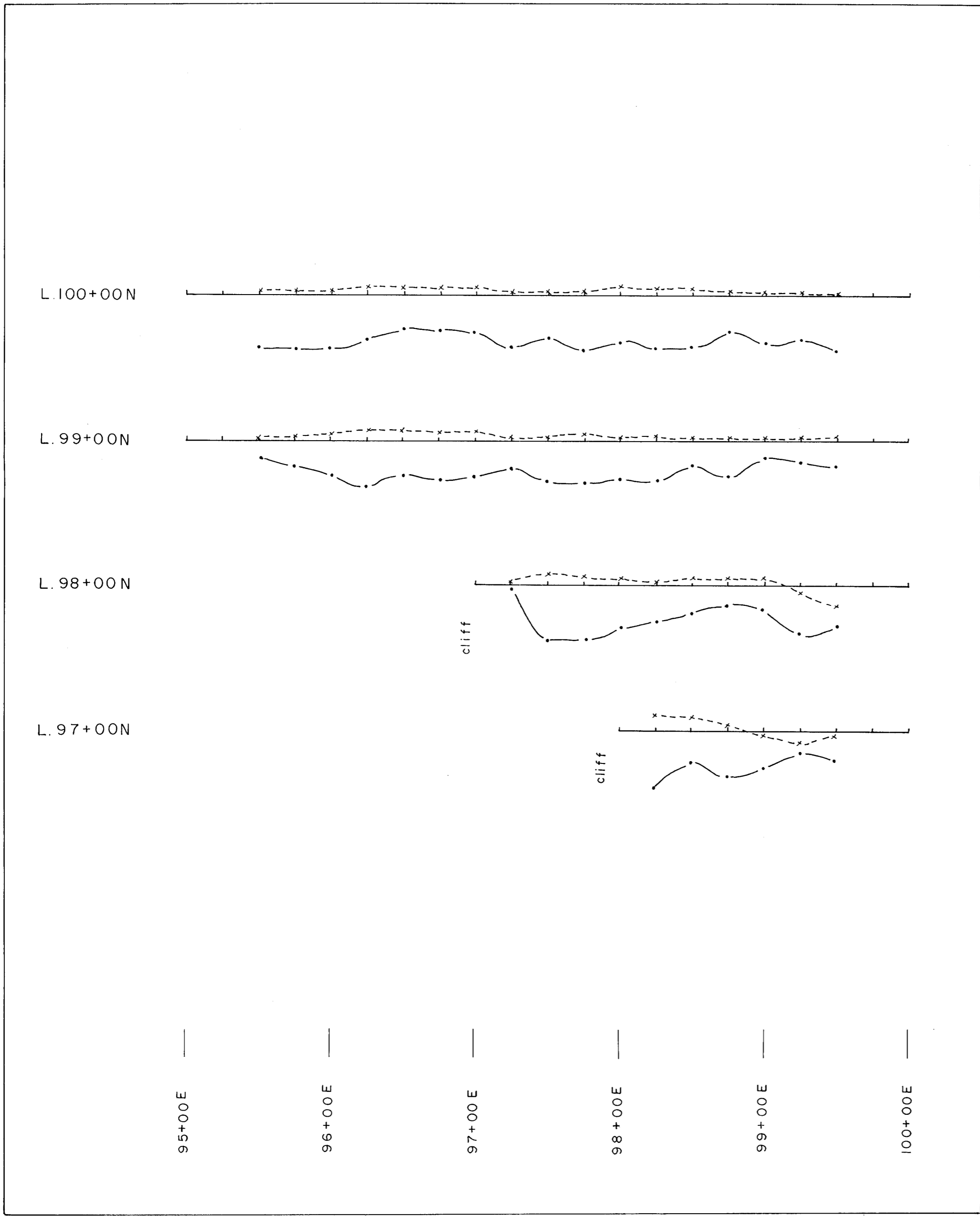
**LEGEND**



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**



SELCO DIVISION B.P. RESOURCES CANADA LTD.	
BARRIERE PROJECT, B.C. CM 1-6 CLAIMS GRID A	
MAX - MIN 444 Hz	
Project No: 10112	By: A. W.
Scale: 1:2500	Drawn: J. S.
Drawing No:	Date: APRIL 1986.
MWH Geophysics Ltd. BPVR 86-9	





LEGEND

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

Horizontal scale = 1:2500


Cable length = 100 m

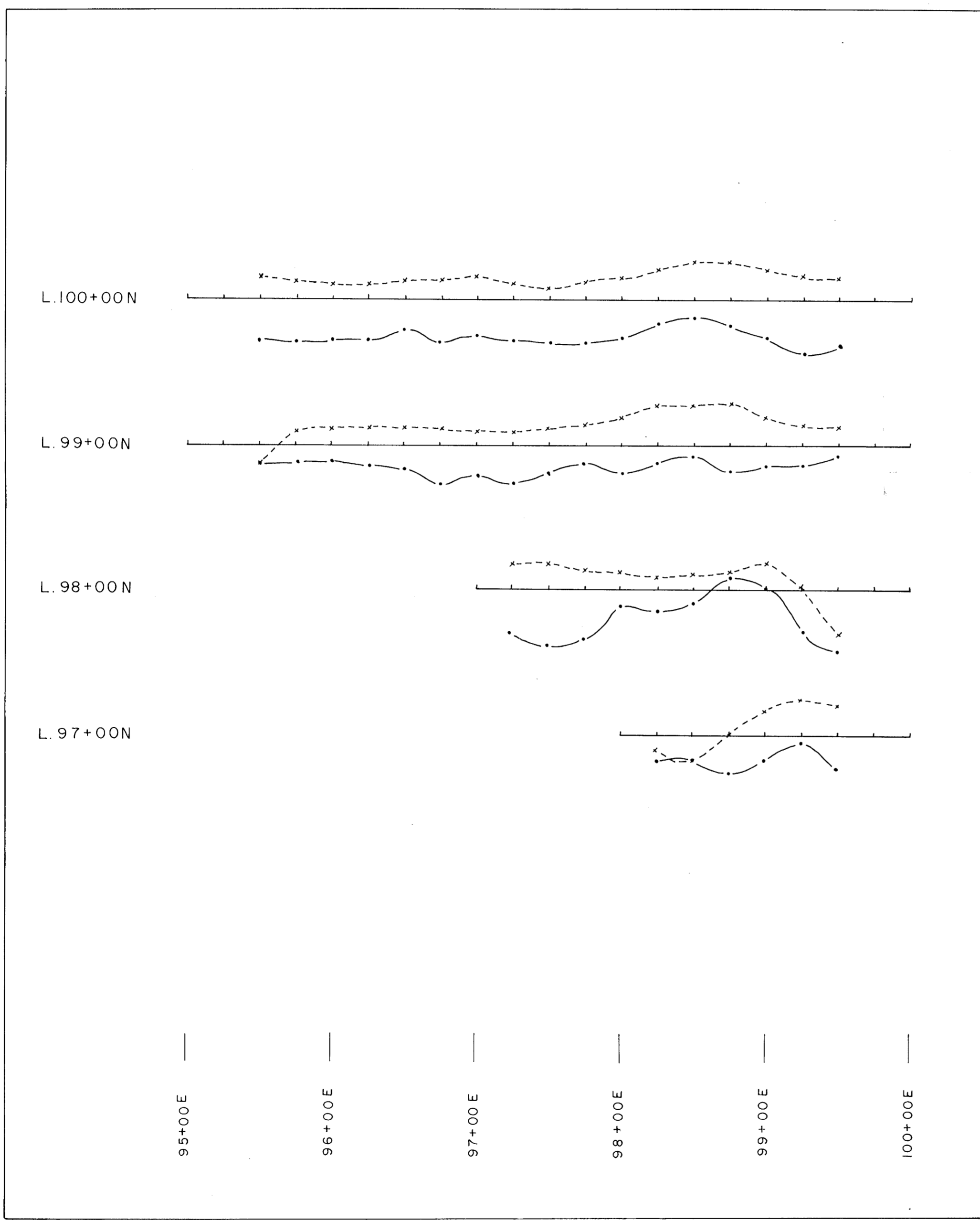
In phase = •—•

Quadrature = x—x

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**15,180**  
50 0 50 100 50 200 Metres

SELCO DIVISION B. P. RESOURCES CANADA LTD.	
BARRIERE PROJECT, B.C. CM 1-6 CLAIMS GRID A	
MAX - MIN 1777 Hz	
Project No: 10112	By: A. W.
Scale: 1:2500	Drawn: J. S.
Drawing No:	Date: APRIL 1986.
 MWH Geophysics Ltd. BPVR 86-9	







L. 100+00N

L. 99+00N

L. 98+00N

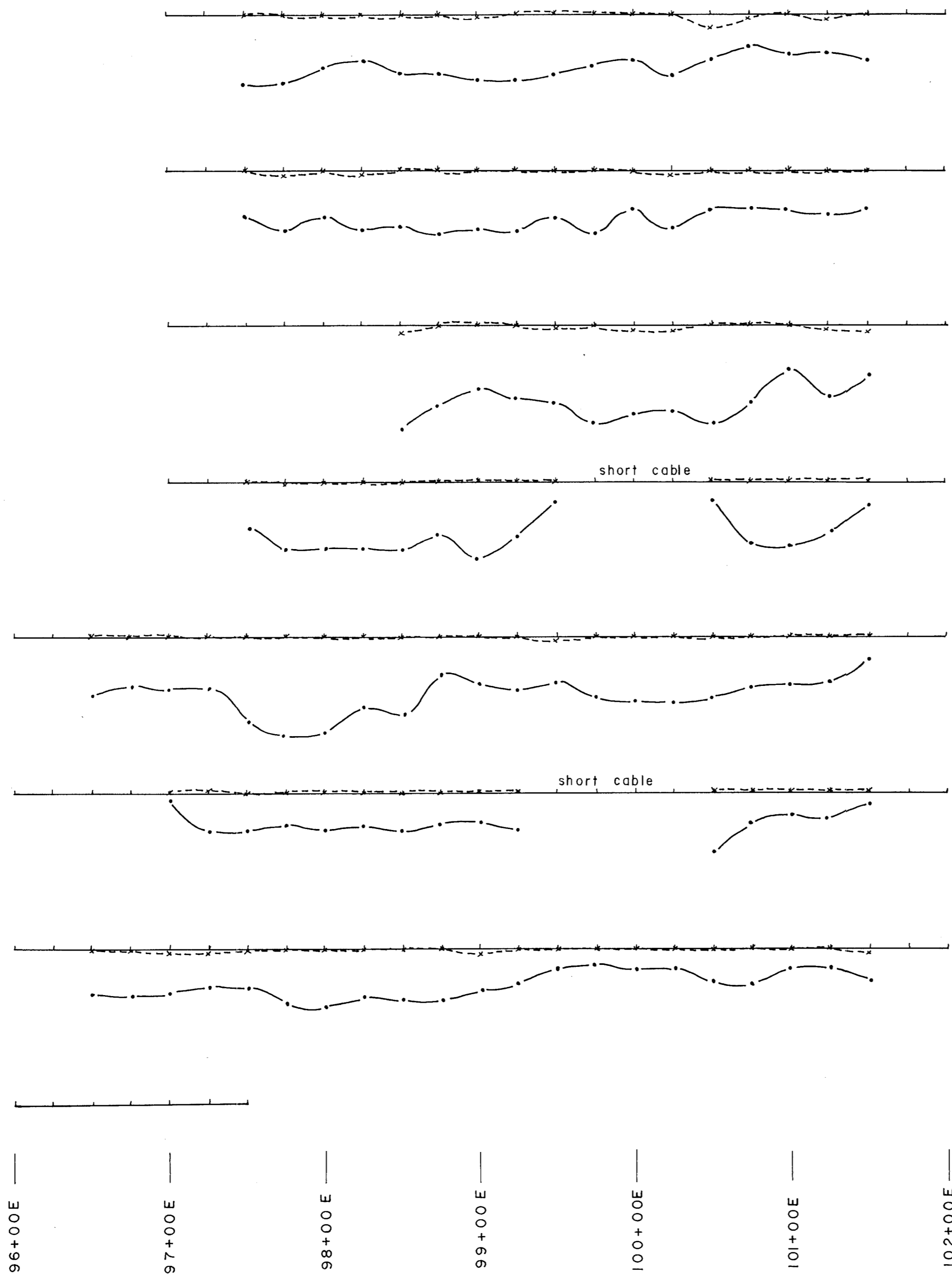
L. 97+00N

L. 96+00N

L. 95+00N

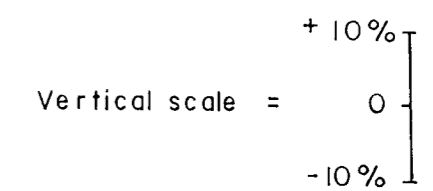
L. 94+00N

L. 93+00N



15,180

LEGEND



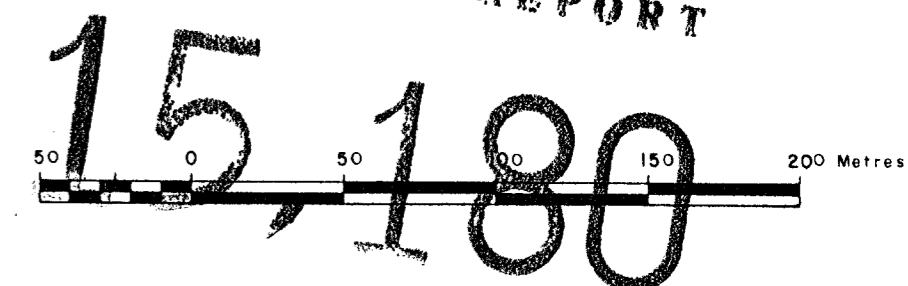
Horizontal scale = 1:2500

Cable length = 100m

In phase = •—•

Quadrature = x—x

GEOLOGICAL BRANCH  
ASSESSMENT REPORT



BPVR 86-9

SELCO DIVISION  
B. P. RESOURCES CANADA LTD.  
BARRIERE PROJECT, B.C.  
CM 1-6 CLAIMS  
GRID B  
MAX - MIN 444 Hz

Project No: 10112	By: A.W.
Scale: 1:2500	Drawn: J. S.
Drawing No:	Date: APRIL 1986.

**MWH** MWH Geophysics Ltd.

L. 100+00N

L. 99+00N

L. 98+00N

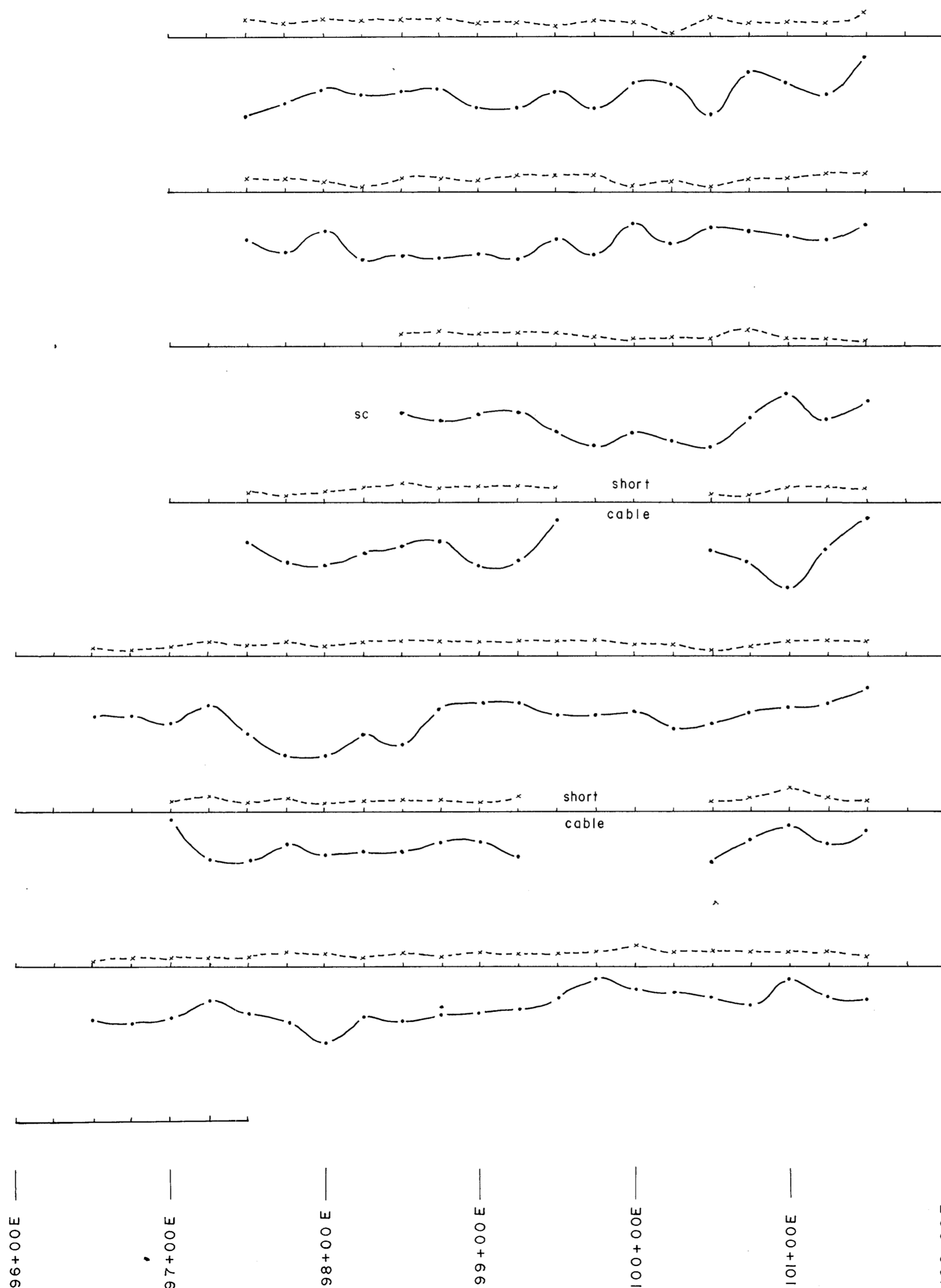
L. 97+00N

L. 96+00N

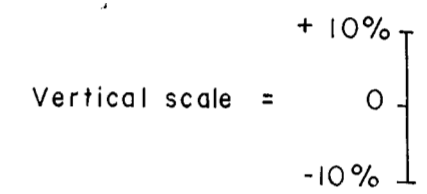
L. 95+00N

L. 94+00N

L. 93+00N



LEGEND



Horizontal scale = 1:2500

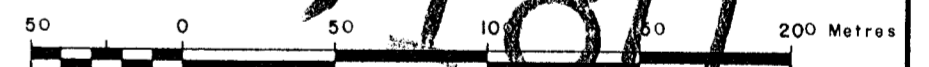
Cable length = 100m

In phase = •—•

Quadrature = x—x

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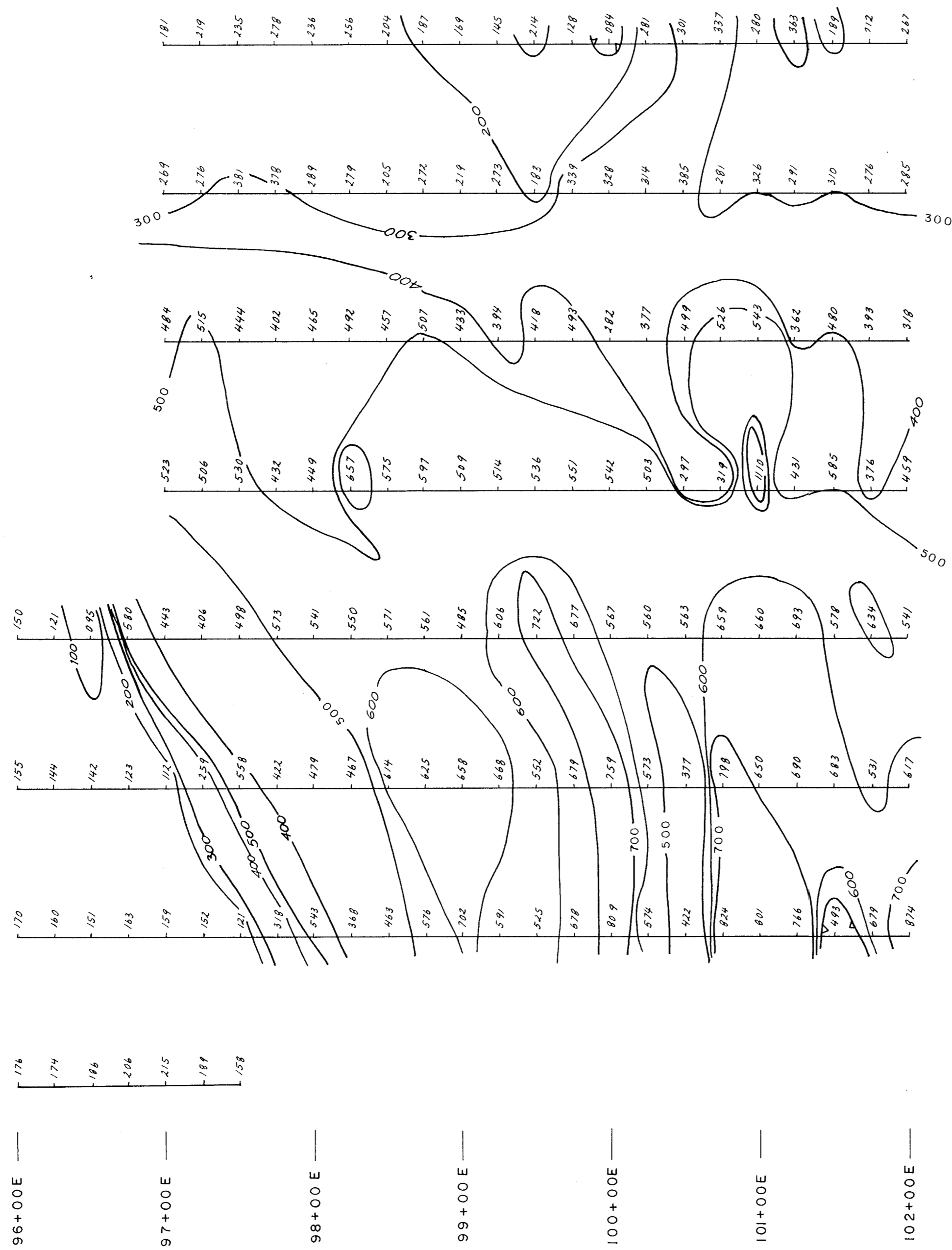
BPVR 86-9

SELCO DIVISION  
B. P. RESOURCES CANADA LTD.  
BARRIERE PROJECT, B.C.  
CM 1-6 CLAIMS  
GRID B  
MAX - MIN 1777 Hz

Project No: 10112	By: A.W.
Scale: 1:2500	Drawn: J.S.
Drawing No:	Date: APRIL 1986.

**NN** MWH Geophysics Ltd.

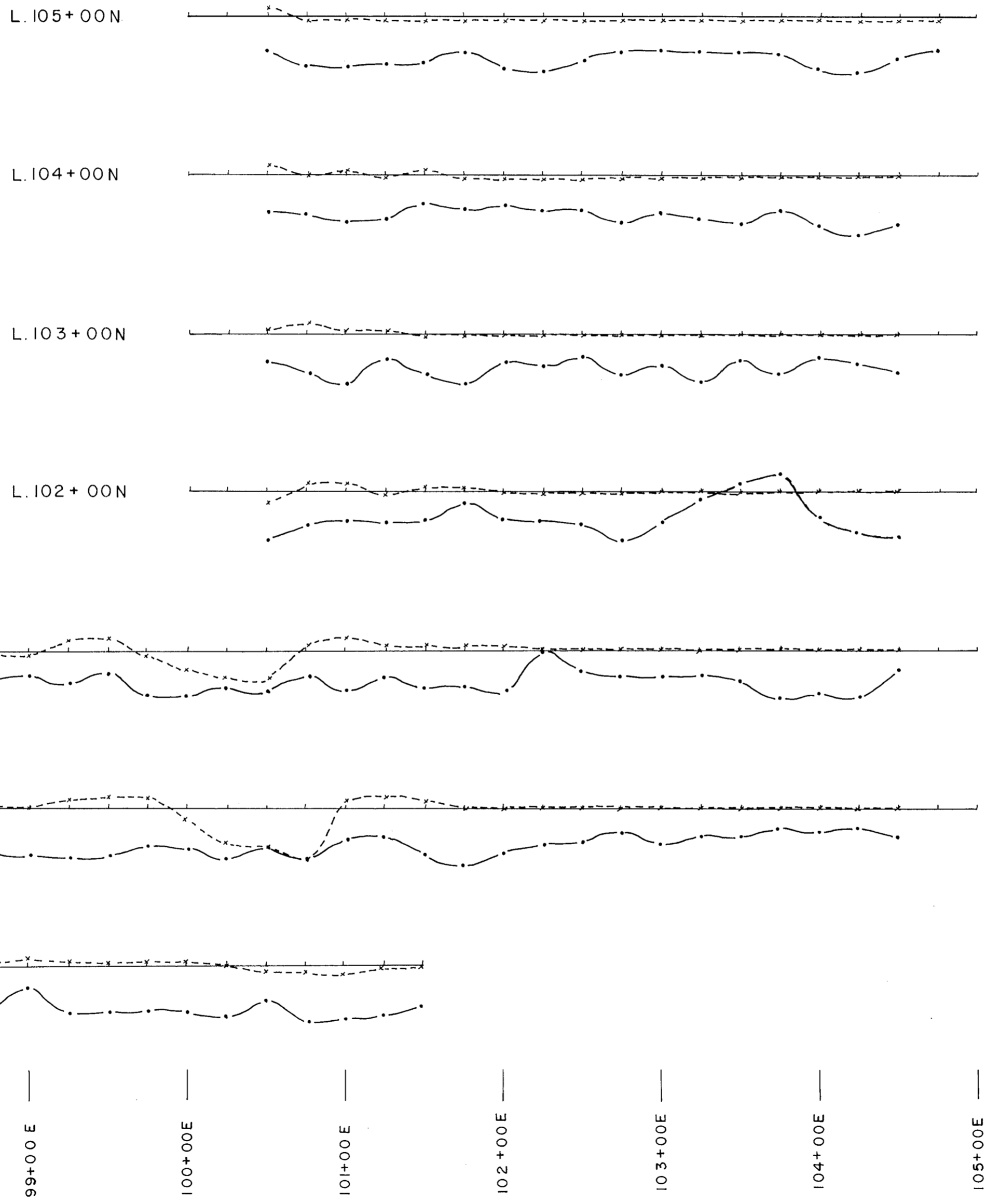
L. 100+00N  
 L. 99+00N  
 L. 98+00N  
 L. 97+00N  
 L. 96+00N  
 L. 95+00N  
 L. 94+00N  
 L. 93+00N



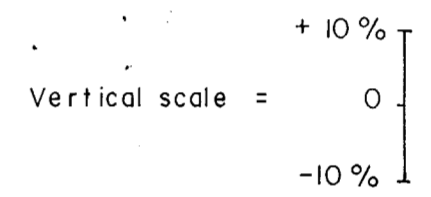
GEOLOGICAL BRANCH  
 ASSESSMENT REPORT  
 Value = 58000 gamma  
 CONTOUR INTERVAL 100g  
**15,180**



SELCO DIVISION B. P. RESOURCES CANADA LTD.	
BARRIERE PROJECT, B.C. CM 1-6 CLAIMS GRID B MAGNETICS	
Project No: 10112	By: A.W.
Scale: 1 : 2 500	Drawn: J. S.
Drawing No:	Date: APRIL 1986.
MWH Geophysics Ltd. BPVR 86-9	



**LEGEND**



Horizontal scale = 1: 2500

Cable length = 100 m

In phase = • — •

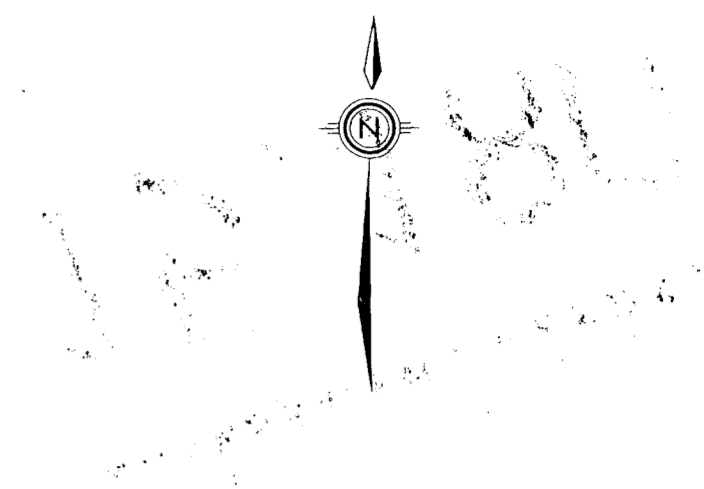
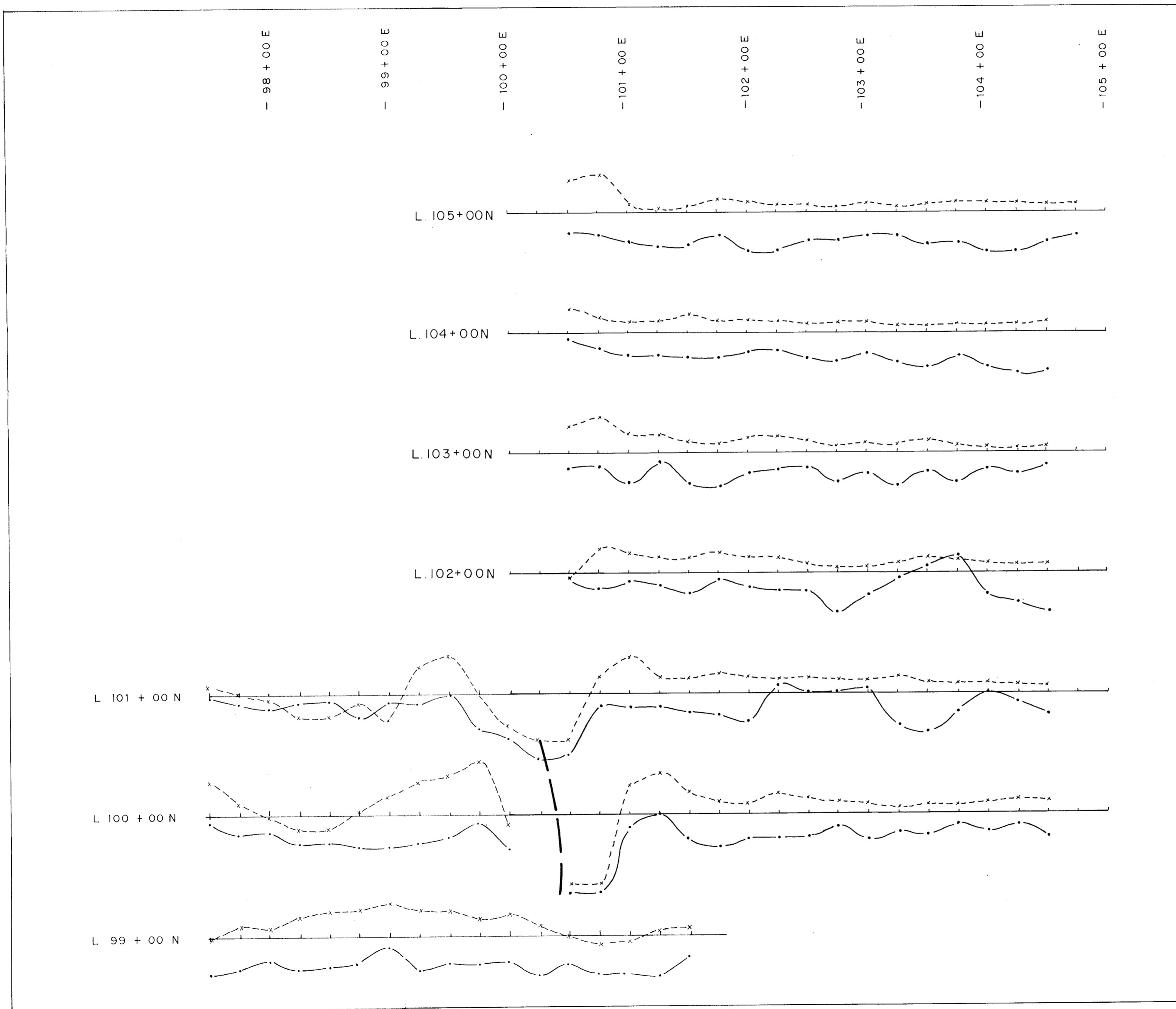
Quadrature = x — x

Conductive axis —

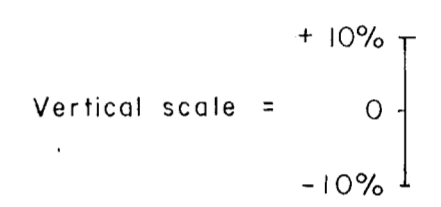
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**15,180**



SELCO DIVISION B. P. RESOURCES CANADA LTD.	
BARRIERE PROJECT, B.C. CM 1-6 CLAIMS GRID C	
MAX - MIN 444 Hz	
Project No: 10112	By: A.W.
Scale: 1: 2500	Drawn: J. S.
Drawing No:	Date: APRIL 1986.



**LEGEND**



Horizontal scale = 1 : 2500

Cable length = 100m

In phase = •—•

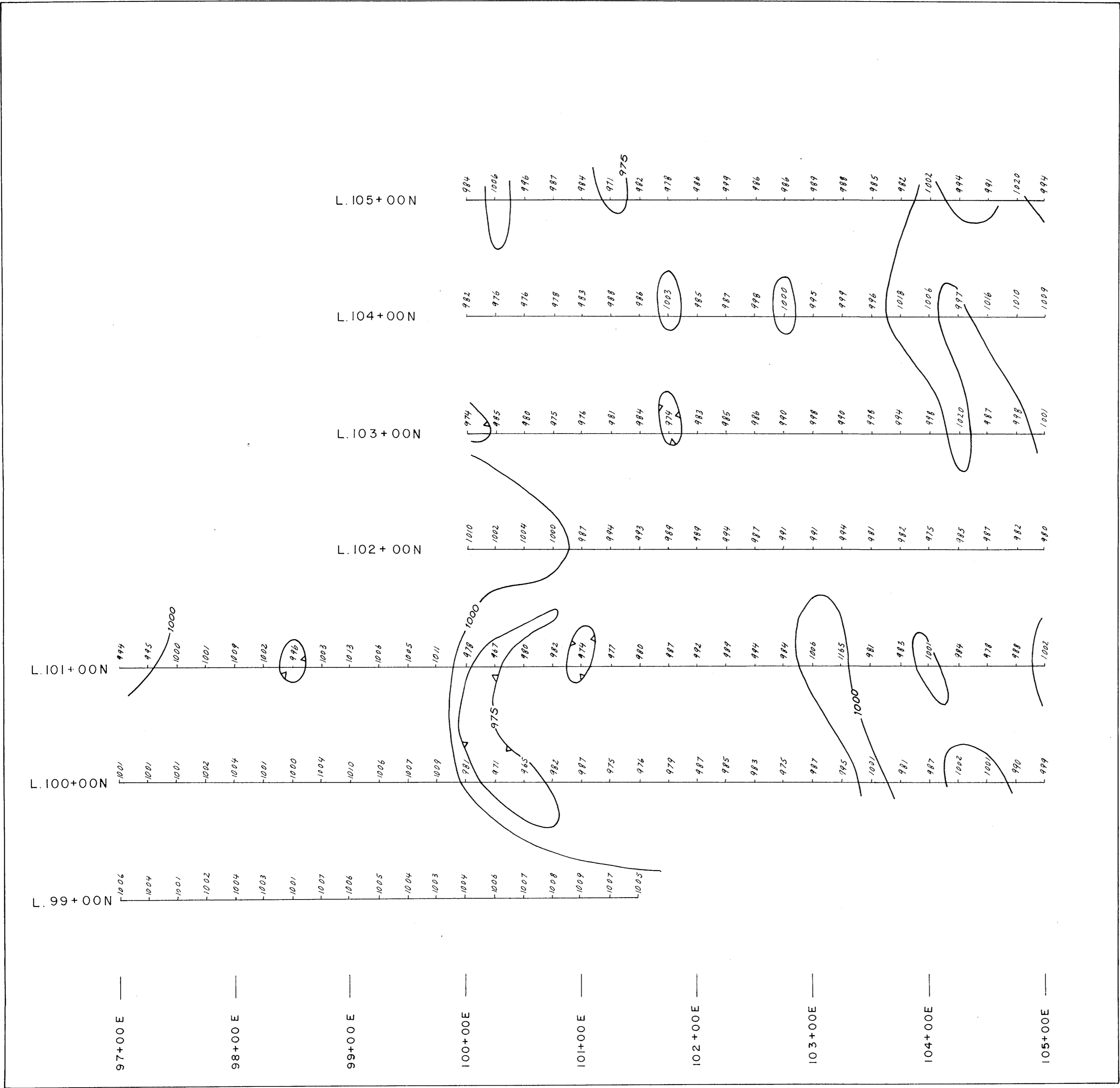
Quadrature = x—x

Conductive axis = —

**GEOLOGICAL BRANCH  
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15 180

SELCO DIVISION B. P. RESOURCES CANADA LTD.	
<b>BARRIERE PROJECT, B.C.</b> CM 1-6 CLAIMS GRID C	
MAX - MIN	1777 Hz
Project No: 10112	By: A.W.
Scale: 1 : 2500	Drawn: J.S.
Drawing No:	Date: APRIL 1986.




Base value = 57000 gammas.  
 CONTOUR INTERVAL = 25 g

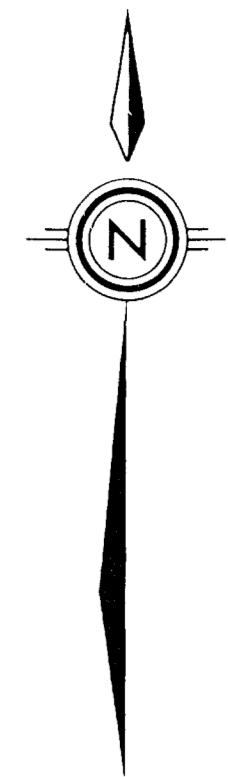
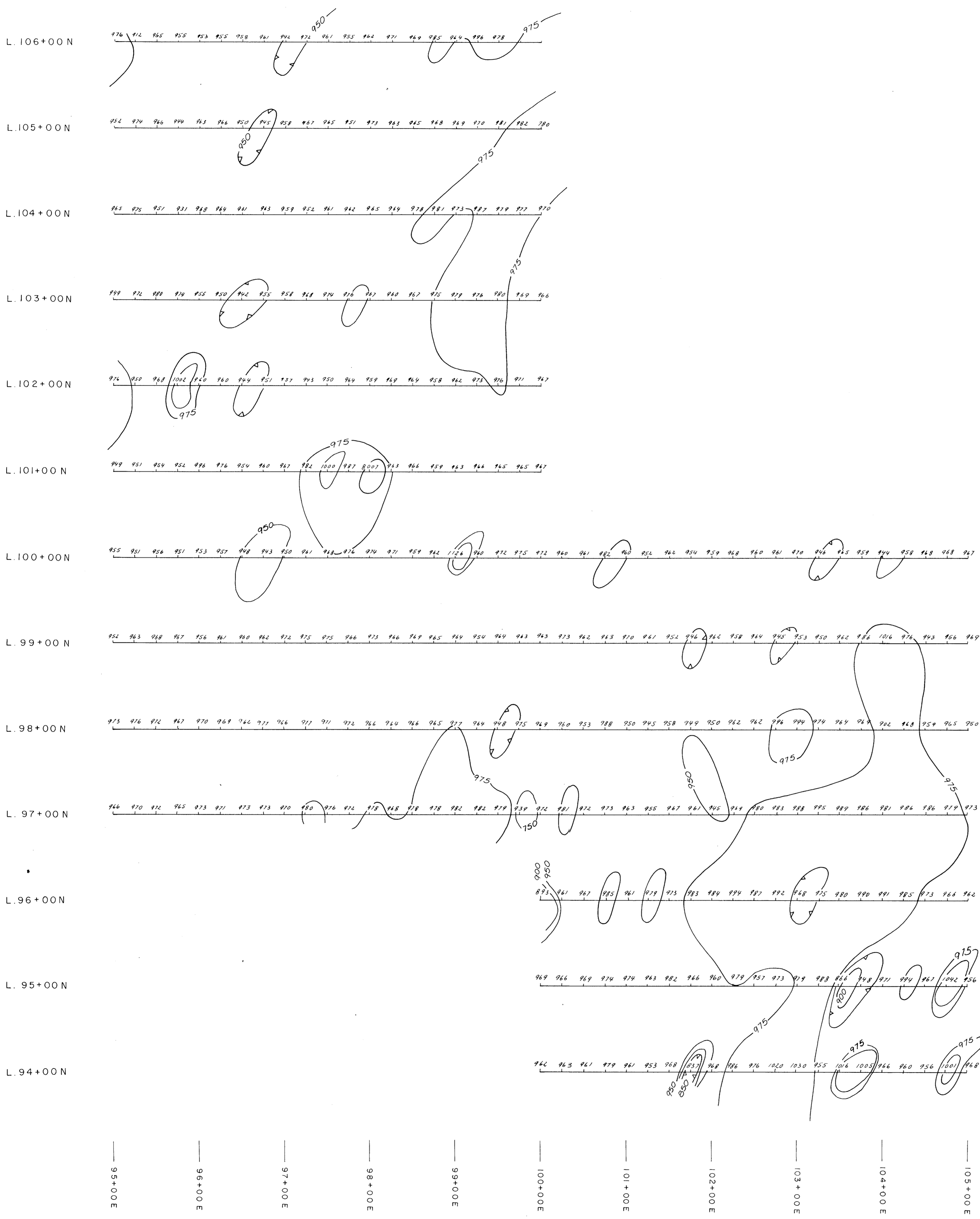
**GEOLOGICAL BRANCH  
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**15,180**

0 50 100 150 200 Metres

SELCO DIVISION B. P. RESOURCES CANADA LTD.	
BARRIERE PROJECT, B.C. CM 1-6 CLAIMS GRID C MAGNETICS	
Project No: 10112	By: A.W.
Scale: 1:2500	Drawn: J.S.
Drawing No:	Date: APRIL 1986.
 <b>MWH Geophysics Ltd.</b> BPVR 86-9	





Base value = 57000 gammas.  
 CONTOUR INTERVAL = 25 g

**GEOLOGICAL BRANCH  
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 15,180

SELCO DIVISION B. P. RESOURCES CANADA LTD.	
BARRIERE PROJECT, B.C. CM 1-6 CLAIMS GRID D MAGNETICS	
Project No: 10112	By: A. W.
Scale: 1:2500	Drawn: J. S.
Drawing No:	Date: APRIL 1986.
 MWH Geophysics Ltd. BPVR 86-9	

L. 106+00 N

L. 105+00 N

L. 104+00 N

L. 103+00 N

L. 102+00 N

L. 101+00 N

L. 100+00 N

L. 99+00 N

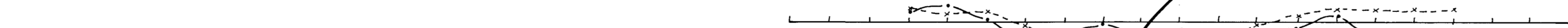
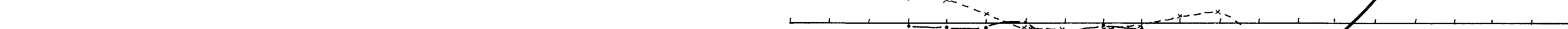
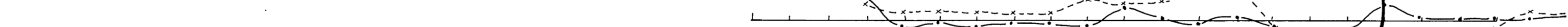
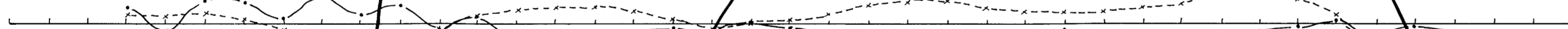
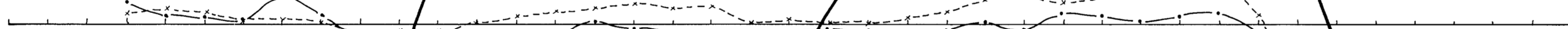
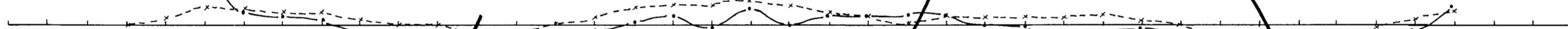
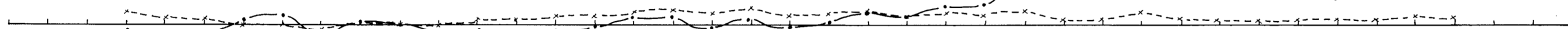
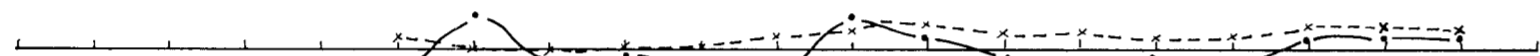
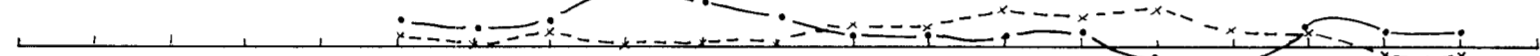
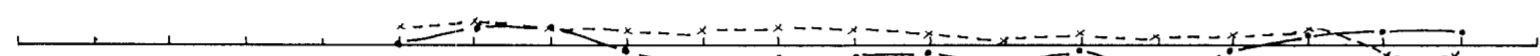
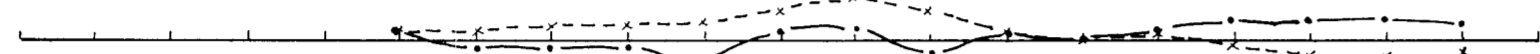
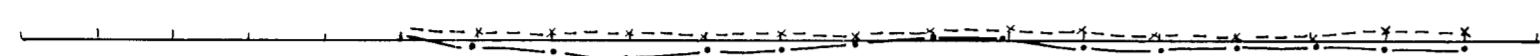
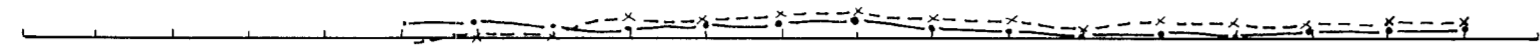
L. 98+00 N

L. 97+00 N

L. 96+00 N

L. 95+00 N

L. 94+00 N



95+00 E

96+00 E

97+00 E

98+00 E

99+00 E

100+00 E

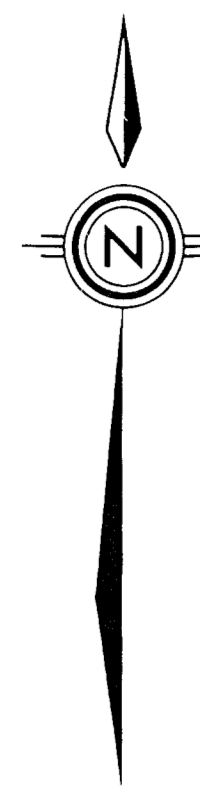
101+00 E

102+00 E

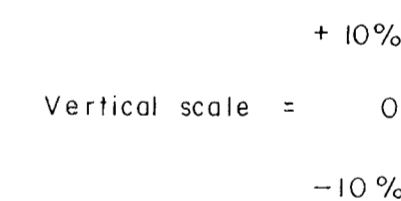
103+00 E

104+00 E

105+00 E



LEGEND



Horizontal scale = 1:2500

Cable length = 150 m

In phase = —•—•—

Quadrature = x—x—x

Conductive axis = ———

GEOLOGICAL BRANCH  
ASSESSMENT REPORT  
**15,180**

SELCO DIVISION  
B. P. RESOURCES CANADA LTD.

BARRIERE PROJECT, B.C.  
CM 1-6 CLAIMS  
GRID D

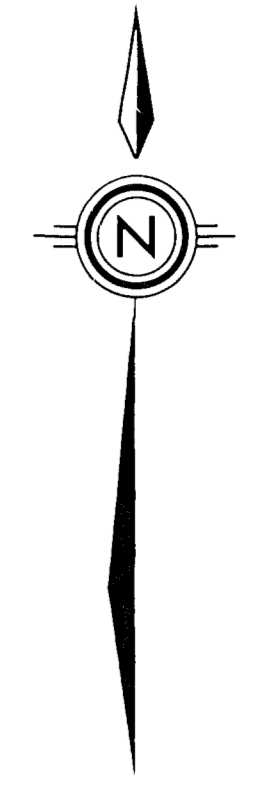
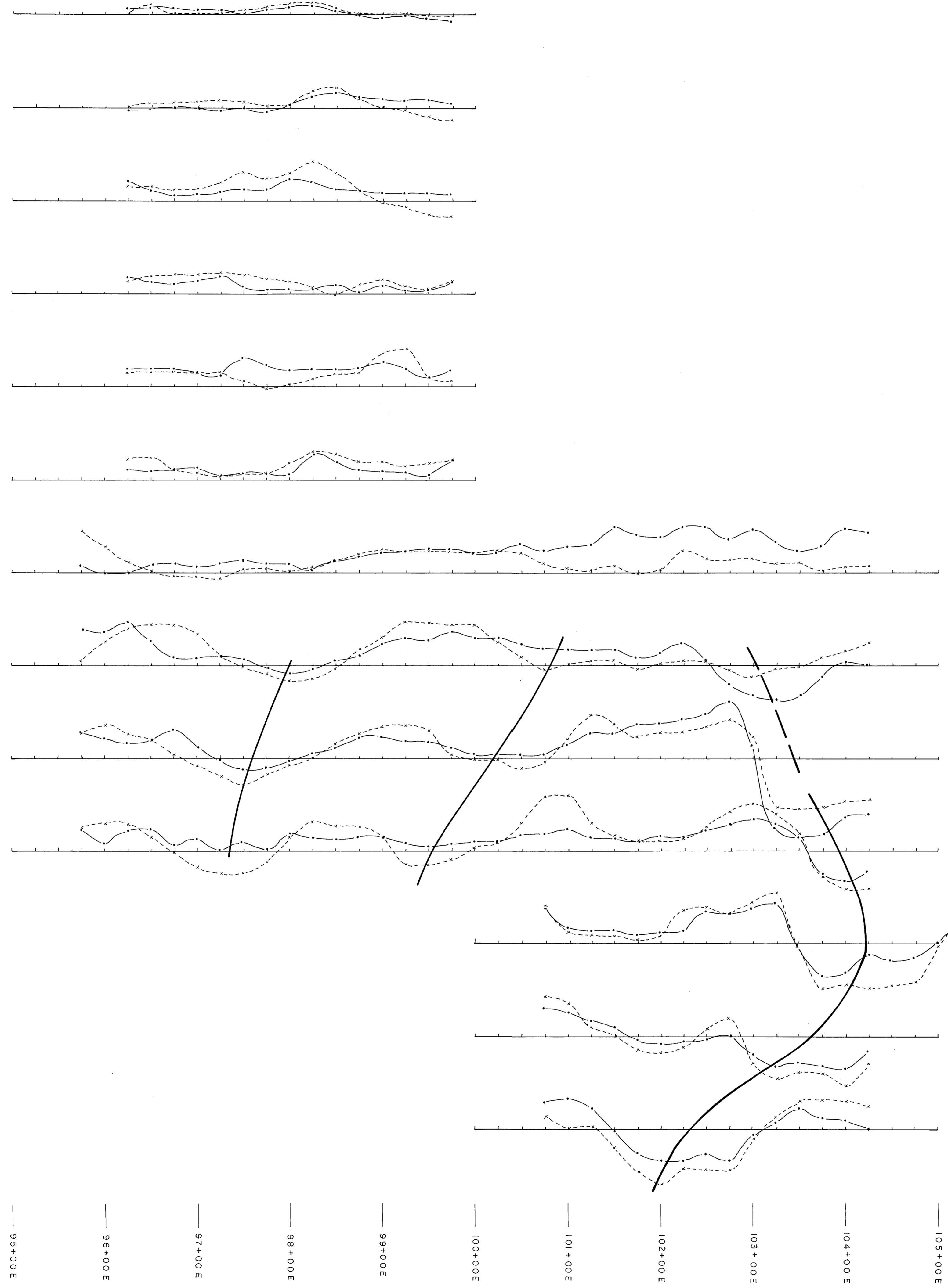
MAX - MIN 444 Hz

Project No : 10112	By : A. W.
Scale : 1 : 2 500	Drawn : J. S.
Drawing No :	Date : APRIL 1986.

MWH Geophysics Ltd.




L. 106+00 N  
 L. 105+00 N  
 L. 104+00 N  
 L. 103+00 N  
 L. 102+00 N  
 L. 101+00 N  
 L. 100+00 N  
 L. 99+00 N  
 L. 98+00 N  
 L. 97+00 N  
 L. 96+00 N  
 L. 95+00 N  
 L. 94+00 N



LEGEND

+ 10%  
 Vertical scale = 0  
 - 10%  
 Horizontal scale = 1 : 2500  
 Cable length = 150 m  
 In phase = —•—  
 Quadrature = x—x  
 Conductive axis = —

GEOLOGICAL BRANCH  
 ASSESSMENT REPORT  
 15,180  
 50 0 50 200 Metres

SELCO DIVISION B. P. RESOURCES CANADA LTD.	
BARRIERE PROJECT, B.C. CM 1-6 CLAIMS GRID D MAX - MIN 1777 Hz	
Project No: 10112	By: A.W.
Scale: 1 : 2 500	Drawn: J. S.
Drawing No:	Date: APRIL 1986.
 MWH Geophysics Ltd. BPVR 86-9	