

# 2630

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 2630 MAP

REPORT ON  
A MAGNETOMETER SURVEY  
ON SOME PANTHER CLAIMS  
IN THE HIGHLAND VALLEY AREA  
BRITISH COLUMBIA  
ON BEHALF OF  
CYCON RESOURCE MANAGEMENT LTD.

921/70

NO DEPOSIT  
50° 24'  
120° 56'  
plotted

Interpretation and Reporting by

Jon G. Baird, B.Sc., P.Eng.

September 30, 1970

Field Survey by

John Barber, P.Eng.

CLAIMS:

Name

PANTHER 37 - 40

SARAH 1 Fr.

LOCATION:

Highland Valley area

About 26 miles southeast of Ashcroft, B. C.

Kamloops Mining Division

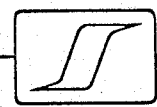
120° 50° SW

DATES OF FIELD SURVEY:

September 19 and 20, 1970

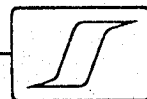
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(in envelope)	
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SUMMARY

The present magnetometer survey has revealed local, high amplitude responses possibly due to sources such as high magnetic susceptibility boulders in the overburden. With such high amplitude distortions interpretation of the magnetic character of the bedrock is difficult however one zone of low magnetic intensities may possibly reveal the presence of a dike or fault.



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INTRODUCTION

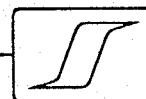
During the period September 19th and 20th, 1970, a magnetometer survey was executed on some PANTHER claims in the Highland Valley area, British Columbia by John Barber, P. Eng. of Cycon Resource Management Ltd. The resulting data have been submitted to Seigel Associates Limited for reduction, plotting and interpretation.

The property lies about 26 miles southeast of Ashcroft, B. C. and is reached by truck using an unimproved road northeastwards from the Spences Bridge-Merritt Road. Glacial drift covers most of the surface of the property and topographic relief is moderate. The elevation of the survey area is about one mile above sea level.

The claims covered, in whole or part, by this survey are listed on the title page of this report and are shown on Plate 2 on a scale of 1" = 200'.

The purpose of a magnetometer survey is to detect changes in the magnetic susceptibility of the rocks beneath the survey grid. Such changes may be interpreted to reveal areas underlain by different rock types or structural features such as faults. In addition, some ore bodies contain above normal concentrations of magnetite or pyrrhotite and may therefore give rise to increased magnetic intensities.

A Scintrex MF-1 vertical force fluxgate magnetometer was



employed for the survey. This instrument has a reading accuracy of  $\pm 5$  gammas on the lowest scale and  $\pm 15$  gammas on the scale used for most of the observations on the present property.

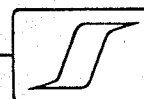
Five grid lines, each 3200' in length were laid out oriented N  $60^{\circ}$  W with an 800' interline spacing. Magnetic observations were taken each 100' along these lines as well as along a north-south baseline. The line layout is shown on Plate 2 on a scale of 1" = 200'. Diurnal and baselevel corrections were made using the baseline traverse for control.

### GEOLOGY

A description of the geology of the area including and surrounding the present claims is found in G.S.C. Memoir 262 "Ashcroft Map Area, British Columbia" by S. Duffell and K. C. McTaggart, 1952 and G.S.C. Memoir 249, "Nicola Map Area" by W. E. Cockfield, 1961. In addition, K. Northcote has mapped the geology of the Guichon Creek Batholith on the scale of 1" = 1 mile.

The Guichon Creek Batholith is a series of differentiated granitic and grandodioritic rocks. The property is believed to be underlain by the Bethlehem Phase of the intrusive while the contact with the Bethsaida Phase lies just west of the grid. The Highland Valley area is well known as a locale for disseminated copper sulphide deposits many of which lie near the Bethsaida-Bethlehem contact.

The present survey was undertaken in the hopes that a magnetic map would aid in geological interpretation. Available government aeromagnetic maps on the scale of 1" = 1 mile can be used to interpret

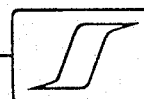


rock types and structural features. The Mamit Lake and Spences Bridge aeromagnetic sheets show that the Bethsaida Phase of the intrusive has lower magnetic susceptibility than the Bethlehem Phase. The contact between these two phases is clearly revealed by a north-northwest trending gradient increasing to the east and lying just west of the PANTHER Claims. Experience has shown that Highland Valley type ore bodies are not expected to give rise to magnetic anomalies since the magnetic susceptibilities of the ore zones are quite the same as the surrounding rocks.

#### DISCUSSION OF RESULTS

Plate 2, on a plan scale of 1" = 200', shows the survey results in profile form with a vertical scale of 1" = 200 gammas. The actual magnetic values, corrected for diurnal and baselevel shifts are shown above or below the line trace depending upon their polarity. It is noted that the magnetic values are relative and not absolute so that there is no particular significance to a negative observation except that it is of lower intensity than a positive observation. By shifting the datum level it would be possible to show all values as positive.

The observed profiles are seen to be very random and show local relief of as much as 1000 gammas between stations 100' apart. Such sharp distortions must arise from narrow, near-surface sources such as lenses of magnetite or pyrrhotite or, more likely, boulders within the overburden. Since control observations at base stations generally agreed within 100 gammas it is not thought that the present distortions may be due to sharp diurnal changes of the earth's magnetic field as during a "magnetic storm".



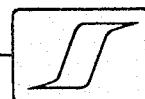
Since the observed profiles may be affected by near-surface sources, an attempt has been made to filter out the high frequency distortions to enhance lower frequency responses which may be more indicative of the magnetic character of the bedrocks. Since the amplitude of the high frequency "noise" is equal to or greater than the expected lower frequency "signal", it is not considered worthwhile to apply statistical techniques. The smoothed profiles shown on Plate 2 have therefore been drawn simply by mentally averaging the surrounding values.

The most pronounced feature of the smoothed profiles is a zone of low magnetic intensities centred about 4 W on lines 18 S, 26 S and 33 S. The same zone may be offset several hundred feet to the west on L 10 S and L 2 S. The maximum magnitude of this low is of the order of 700 gammas. This feature could arise from a body of low magnetic susceptibility about 300' in width, possibly a dike or fault.

Although L 18 S does show an overall gradient increasing to the east, there is no indication of the gradient seen on the aeromagnetic maps and in fact L 33 S shows a gradient decreasing to the east.

#### CONCLUSIONS AND RECOMMENDATIONS

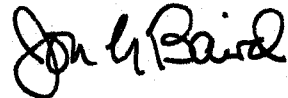
The present magnetometer survey has revealed local, high amplitude responses possibly due to sources such as high



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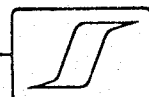
Respectfully submitted,

SEIGEL ASSOCIATES LIMITED



Jon G. Baird, B.Sc., P.Eng.  
Geophysicist

Vancouver, B. C.  
September 30, 1970





DOMINION OF CANADA:  
PROVINCE OF BRITISH COLUMBIA.  
To Wit:

In the Matter of a geophysical survey on behalf of  
Cycon Resource Management Limited.

I, J. L. McCrea for Seigel Associates Limited

of 750 - 890 West Pender Street, Vancouver,

in the Province of British Columbia, do solemnly declare that a magnetometer survey has been executed on some PANTHER claims, Highland Valley area, British Columbia between September 19 to September 20, 1970. The following expenses were incurred:

(1) Use of geophysical equipment 2 days at \$15.00/day	\$30.00
(2) Drafting - 10 hour at \$5.00/hour	50.00
(3) Paid to Seigel Associates Limited to cover geophysicist's interpretation and preparation of final reports	<u>150.00</u>
	\$230.00

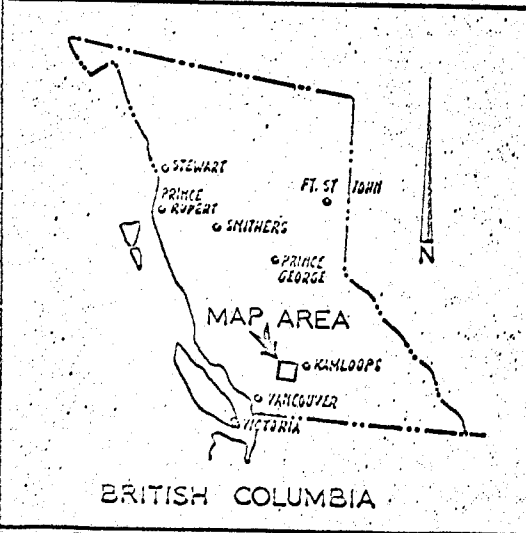
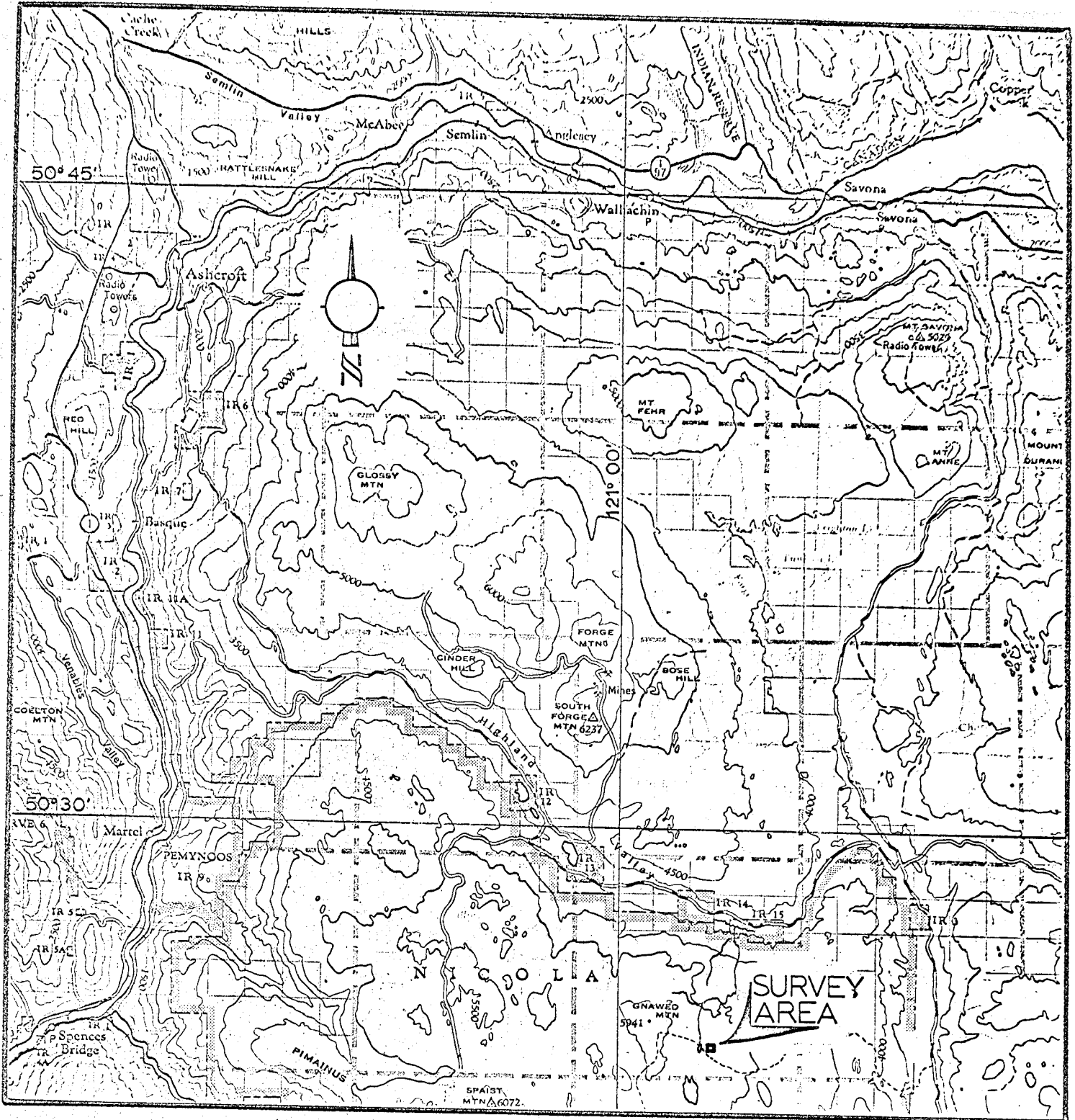
And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City  
of Vancouver, in the  
Province of British Columbia, this 1st  
day of October, 1970, A.D.

*J. L. McCrea*

*John Turner*  
A Commissioner for taking Affidavits within British Columbia or  
A Notary Public in and for the Province of British Columbia.

Sub-mining Recorder

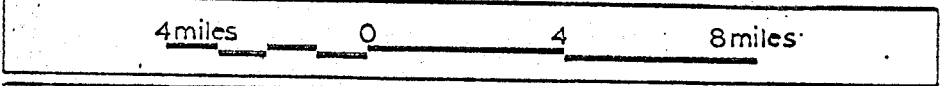


CYCON RESOURCE MANAGEMENT LTD.  
for KELVER MINES (N.P.L.) LTD.

LOCATION MAP  
PANTHER CLAIMS

*J. Barber*

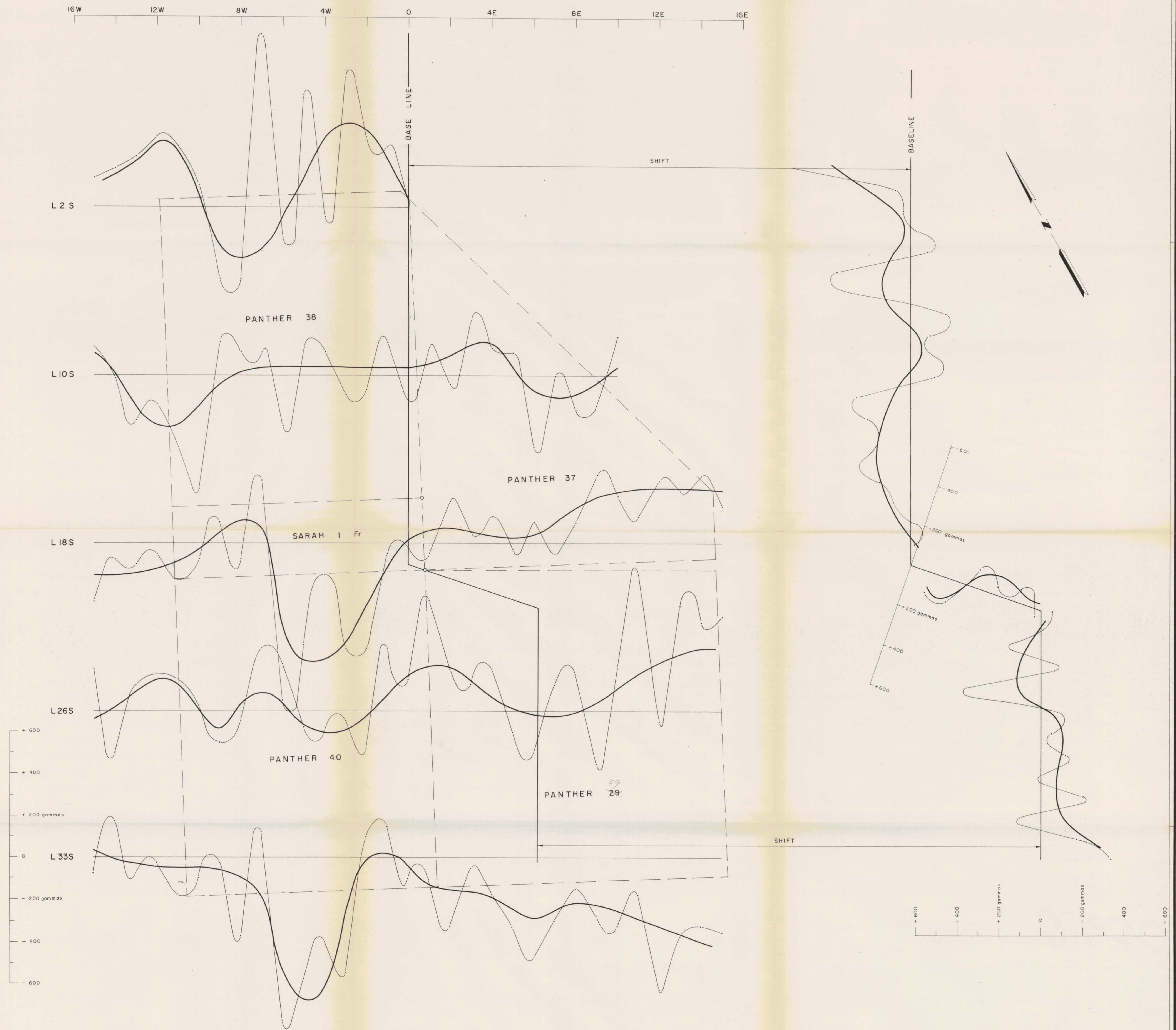
HIGHLAND VALLEY AREA, BRITISH COLUMBIA



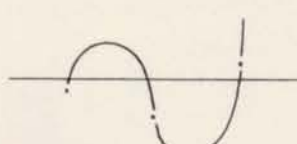
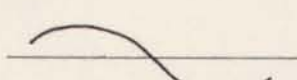
Survey by  
J. BARBER P. eng.  
September 1970

PLATE 1





**LEGEND**

-  OBSERVED MAGNETIC PROFILE  
VERTICAL SCALE 1" = 200 GAMMAS
-  ARBITRARILY SMOOTHED MAGNETIC PROFILE

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2630 MAP #2

TO ACCOMPANY A GEOPHYSICAL REPORT BY  
J.G. BAIRD DATED SEPTEMBER 30, 1970.

PLATE 2

CYCON RESOURCE MANAGEMENT LTD.  
FOR KELVER MINES LTD.  
PANTHER CLAIMS  
HIGHLAND VALLEY AREA, B.C.

MAGNETOMETER SURVEY  
**2630**

1" = 200'  
SCALE IN FEET

SURVEY BY CYCON RESOURCE MANAGEMENT  
DATA COMPILATION AND REPORTING BY  
SEIGEL ASSOCIATES LIMITED

*J.G. Baird*