

5342

92I/6E, 7W

**Geophysical Report on the IDE, AM,
ANN, NEW IDE, and NEW ANN Mineral Claims.**

Highland Valley 50° 26' N, 121° 00' W; (NTS 92I/SW)

Kamloops Mining Division.

Highmont Mining Corp. Ltd.

16th October, 1974 - 11th December, 1974

By

A. J. Reed, P.Eng.

January 6th, 1975

Ashcroft, B.C.

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| Department of Mines and Geotechnical Resources ASSESSMENT REPORT NO. 5342 MAD |
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ILLUSTRATIONS

- #| Figure 1. Index Map, Mineral Claims, Grid Lines,
Observations and Filtered Values
1" = 400' In Pocket

Geophysical Report on the IDE, AM, ANN,
NEW IDE and NEW ANN Mineral claims,
Highland Valley 50° 26' N, 121° 00' W (NTS 92I/SW)
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INTRODUCTION

This report describes approximately 25 line-miles of VLF electromagnetic survey performed by Highmont Mining Corporation Ltd. at Gnawed Mountain in the Highland Valley area of British Columbia. The survey was performed on the IDE, AM, ANN, NEW IDE and NEW ANN mineral claims which are owned by Highmont Mining Corporation Ltd. The centre of the survey area is located at 50° 26' N, 121° 00' W.

Access to Gnawed Mountain is by 28 miles of paved highway from Ashcroft to the Highland Valley and then by 5 miles of bush road southwards from the Lornex turn-off. This survey was performed 16th October to 11th December, 1974 when ground conditions varied from a light scattering of snow on 16th October to a snowpack of 18 inches by 11th December. Four-wheel drive vehicles were used for access from Ashcroft to the edge of the survey area and snowshoes were used for the survey traverses.

ELECTROMAGNETIC SURVEY

Grid lines were cut and picketed over the Gnawed Mountain area in 1959. The present survey used these same lines, but because many of the pickets have been obliterated, a Topofil measurer was used to establish distances from the baseline.

The electromagnetic survey was performed by using a Ronka EM16 Electromagnetic Detector (Serial #78) made by Geonics Ltd. of Toronto, facing east to monitor the VLF radio signals transmitted from Seattle, Washington at a frequency of 18.6 KHz. Readings were taken every 50 feet along lines spaced 400 feet apart.

Figure 1 shows the numerical dip angle data recorded on a plan of the grid lines and the mineral claims together with the filtered values obtained by the method described by Fraser (1969,1971). Because of an error in applying the somewhat confusing convention of " east dips negative" in the filtering calculation, the anomalous areas are represented by high negative values instead of the more usual high positive values. Contours are drawn on the filtered results at values of -10 units to outline areas of anomalous values.

INTERPRETATION

Several of the anomalies defined in the present survey coincide with previously-known geological features on the ground. The northeasterly trending anomaly

crossing the eastern part of the AM 1 and AM 2 claims coincides with a strong fault known as the "Waterhole Fault". The anomaly which trends southwestwards from the IDE #8 claim across the NEW ANN #11 Fr. and IDE #16 to the IDE #15 where it abruptly turns southeastwards onto the IDE #13 claim coincides with the southerly extension of a fault which passes between the Highmont #1 and #2 ore-zones and which is called the " Dividing Fault " .

The south-trending anomaly on the AM #7 claim which crosses the AM #6 Fr. and bifurcates on the IDE #7 claim coincides with a zone of unusually rich molybdenum mineralisation known with-in the Highmont #2 ore-zone. The southsouth - easterly-trending anomaly which extends from the NEW IDE #20 claim across the NEW IDE #19 and IDE #15 claims coincides with the shear structure that contains the Highmont #5 ore-zone. The northwesterly-trending anomaly which extends from the IDE #3 claim across the IDE #5 to the AM #5 claim coincides with a zone of above average grade mineralisation known within the Highmont #1 ore-zone.

Similarly the northerly-trending anomalies on the IDE #1 and the ANN #3 Fr. coincide with zones of above average grade of mineralisation within the Highmont #1 ore-zone. The northerly-trending anomaly on the NEW IDE #20 claim coincides with known mineralisation within the Highmont #6 ore-zone.

From the above observations it is tempting to generalise and propose a tentative working hypothesis that :-

- (a) northeasterly-trending anomalies represent faults
- (b) northerly or northwesterly-trending anomalies represent potentially- ore-bearing structures.

Applying this hypothesis we have a very attractive anomaly extending northwesterly from the IDE #12 claim across the ANN #18 Fr to the IDE #4 claim. The northwesterly - trending anomaly which extends from the IDE #13 claim across the ANN #4 Fr to the IDE #15 claim where it joins the Dividing Fault anomaly is not quite so attractive because it occurs in an area of fairly deep overburden (approximately 50 feet) and may be due to conductive overburden rather than bedrock structures. Interesting northerly-trending anomalies occur on the IDE #7, #8 and #17 claims.

The Highmont #7 ore-zone is represented by the -18 filtered value on line 88N at 10W, and this suggests that other single observations of this magnitude occurring within the survey area, as at 11E on line 88N for example, should be worthy of further investigation.

SUMMARY AND CONCLUSIONS

A VLF-EM survey on the Highmont property shows a remarkable correlation with the presently-known economic copper and molybdenum mineralisation and also indicates an additional number of interesting anomalies. The anomalies should be further investigated by VLF-EM surveys along intermediate grid-lines to allow more precise definition of the anomalies, and then by detailed soil geochemistry around the individual anomalies.

A handwritten signature in cursive script that reads "Alan J. Reed". The signature is written in dark ink and is positioned to the right of the typed name below.

A.J. Reed, P.Eng.
January 6th, 1975

REFERENCES

1. Fraser, D.C. (1969)
" Contouring of VLF-EM Data ", Geophysics XXXIV,
6, pp. 958-967. December, 1969

2. Fraser, D.C. (1971)
" VLF-EM Data-processing", CIM Bulletin,
January, 1971 pp. 39-41.

STATEMENT OF PERSONNEL AND COSTS

| | | | |
|---|----------------|------------------------|-------------------|
| M.J. Porter | Superintendent | 16 Oct.- 11 Dec.,1974 | \$2000.00 |
| Box 144, Savona, B.C. | | | |
| G.H. McDonald | Engineer | 18 Nov.- 11Dec.,1974 | 800.00 |
| #37- 2400 Oakdale Way, Kamloops, B.C. | | | |
| A.J.Reed | Geologist | 16 Oct.-25Oct.,1974 | |
| Box 158, Ashcroft, B.C. | | 4 Dec. - 11 Dec.,1974 | 750.00 |
| 4 X 4 Pickup | | 16 Oct. - 11 Dec.,1974 | 1000.00 |
| Topofil & Ronka EML6 Rental | | 16 Oct. - 11 Dec.,1974 | 150.00 |
| Snowshoes rental | | | 40.00 |
| Preparation of report | | | 300.00 |
| TOTAL | | | <u>\$ 5040.00</u> |

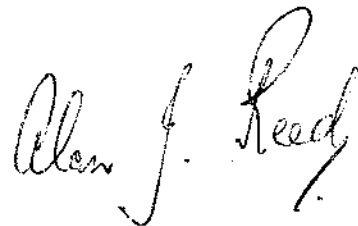
Alan J. Reed

A.J. Reed, P.Eng.
January 6th, 1975

CERTIFICATE

I, Alan James Reed of Ashcroft, British Columbia, do hereby certify that:

1. I am a geologist employed by Highmont Mining Corporation Ltd. of 1199 West Hastings Street, Vancouver, B.C.
2. I am a Professional Engineer registered in the Province of British Columbia and the Province of Ontario.
3. I am a graduate of the University of Leeds with a B.Sc. (Hons. 1963) in Geology.
4. I have practised my profession since 1963 while employed with the Geological Survey of Jamaica, Siscoe Metals of Ontario Ltd., and Highmont Mining Corporation Ltd.
5. This report deals with work performed on the IDE, AM, ANN, NEW IDE and NEW ANN mineral claims under my supervision during the period October 16th to December 11th, 1974.

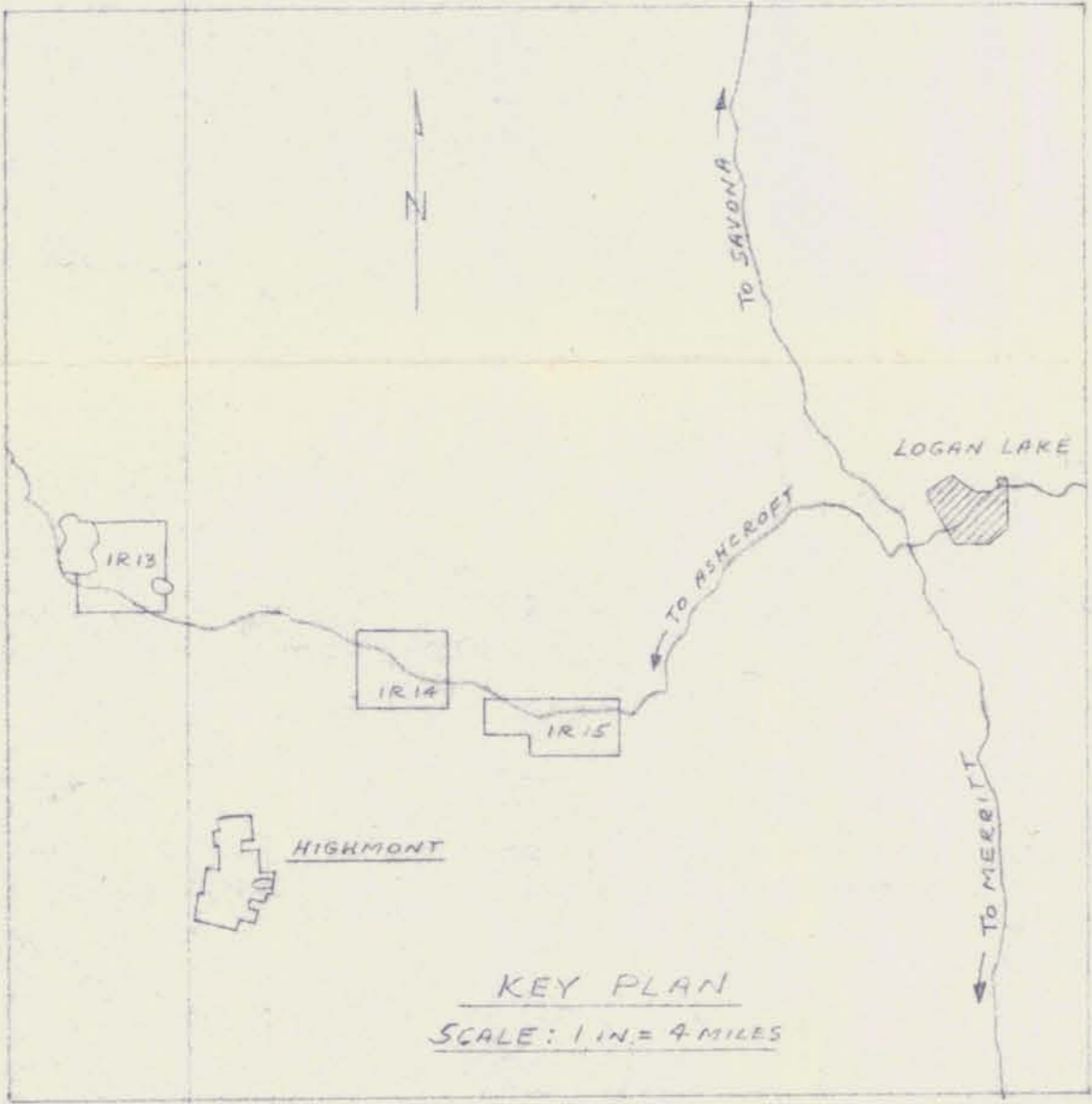


Alan James Reed, P.Eng.

January 6th, 1975
Ashcroft, B.C.

82000N

82000N



78000N

78000N

74000N

74000N

80N

76N

72N

68N

104000E

108000E

112000E



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5342 MAP #1

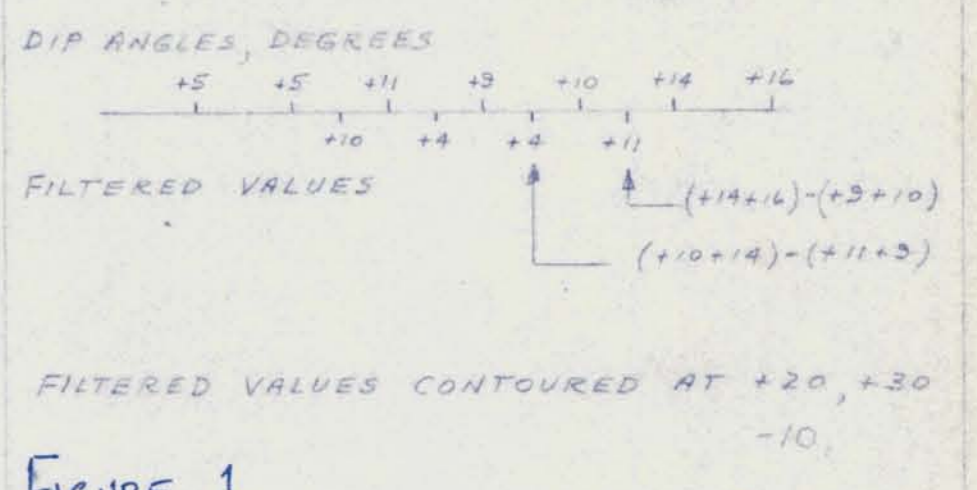


FIGURE 1.
To accompany Geophysical Report
by A. J. Reed, P. Eng.

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MAP 1

HIGHMONT MINING CORP. LTD.
KAMLOOPS M.D., B.C.
RONKA EM "16" SURVEY
SCALE: 1" = 400' DATE: DEC 79 DRN: G.H.M.

Alan J. Reed
6th January, 1975.