

5114

92H/10E, 15E
GEOPHYSICAL NOTE

on the

Reconnaissance Fluxgate Magnetometer Survey

of the

CINDY No. 2 to No. 21 CLAIMS

situated 22 miles
North of Princeton
SIMILKAMEEN M. D.

on behalf of

BRONSON MINES LTD.

92H/10E & 15E

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5114 MAP

Report by:

D. R. Cochrane, P. Eng.

August 2, 1974

Delta, B. C.



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geology
geophysics
geochemistry

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PREAMBLE:

Late in June, 1974, the author was engaged by Mr. E. Sleeman of Vancouver, B.C. to make a study of the reconnaissance magnetometer data on the CINDY Claims. The area surveyed lies some twenty-two (22) miles north of Princeton at the headwaters of Allison Creek in the Similkameen Mining Division. The twenty contiguous full sized located mineral claims are underlain by Nicola Group (upper Triassic) volcanics and sediments which have been intruded by small dioritic dikes and plugs. The property lies immediately east of the Pike Mountain batholith, however most of the bedrock is covered by a mantle of drift and indirect methods of prospecting are therefore necessary.

The Princeton-Aspen Grove area is a well known copper metalogenic belt, and it has been found that some of the copper occurrences are characterized by relatively high magnetic response. The purpose of the reconnaissance magnetometer work was to aid in the search for copper mineralization.

SUMMARY AND CONCLUSIONS:

1. A McPhar 700 vertical field fluxgate magnetometer was utilized on a reconnaissance magnetometer survey of the CINDY Claims, located 22 miles north of Princeton in the Southern Interior of British Columbia.
2. Magnetometer readings were taken at 100 foot intervals along east-west directed cross lines spaced 400 and 600 feet apart. Just over 12 line miles of surveying was completed late



in June, 1974 by Sleeman and Butterworth of Bronson Mines Ltd.

3. The magnetometer values ranged from a low of -180 to a high of +2750 gammas and the arithmetic mean is close to 800 gammas.

A prepared frequency histogram of the results showed distribution is multimodal suggesting that several rock types underly the claims area.

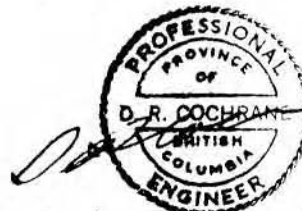
4. The isomagnetic plan was contoured at the 300, 800 and 1300 gamma levels, and these intervals were selected on the basis of an elementary statistical analysis of the data.

5. The isomagnetic plan shows a district northerly and north-north-westerly bias which may be in part due to the east west sample point bias.

6. Copper mineralization appears to be, in general, most prevalent in areas of anomalously high and rapid change in magnetic field areas. (high first derivative). However the correlation is rather tenuous.

7. Although the reconnaissance magnetometer survey remains a good guide to the overall geology, a priority rating tool such as geochemical soil sampling is suggested as an additional guide to the search for copper mineralization on the CINDY claims.

Respectfully submitted,



D. R. Cochrane, P. Eng.
August 2, 1974
Delta, B.C.



FIELD PROCEDURE:

A McPhar M-700 vertical force fluxgate magnetometer was used on the project. The station interval was 100 feet along east-west directed cross lines spaced 400 and 600 feet apart. Approximately 12 line miles of magnetometer surveying was completed and Messrs. Butterworth and Sleeman completed the field work. A base station was established and used for checking diurnal variation during the day. Variation on check in however was less than 20 gammas and therefore no corrections were applied. The field work was completed between June 18 and 22, 1974. All readings were taken while facing west, and notes as to magnetic reading, position and remarks were kept by the operators.

DATA PROCESSING:

Magnetometer values were not corrected for diurnal variation since daily variation at the base station never exceeded 20 gammas. The arithmetic mean and standard deviation was calculated by a standard program on a Wang 600 programmable electronic calculator. The frequency histogram was prepared manually. Contour intervals were selected on the basis of the statistical information. Drafting, at a scale of 1 inch:500 feet was completed by Mr. B.A. Cochrane of Cochrane Consultants Ltd.

DISCUSSION:

The following summarizes the statistical information on the Cindy group magnetometer data:



Range: -800 to +2750
Arithmetic Mean: 804 gammas
Variance: 236700
Standard Deviation: 486 gammas

The frequency histogram (see figure 4) was prepared from a random sample of 78 of the over 600 magnetometer values, and sorted into 100 gamma groups. The distribution is multimodal with the lower primary mode lying in the 400 to (but not including) 500 gamma range and encompasses 13% of the total population. The upper primary mode lies in the 900 to (but not including) 1000 gamma range and this group also represents 13% of the sample population. A secondary mode occurs at 700 to 800 and a tertiary at 1500 to 1600 gammas. Thus the distribution is fairly complex, and at least two "families" of values are present and these are indicative of response from two differing rock types.

The following magnetic value classes are herein defined on the basis of the statistical data:

Anomolously low:	less than 300 gammas (that is the arithmetic mean minus one standard deviation approximately).
Below average:	300 to 800 gammas
Family "A"	less than 800 gammas and both of the above classes.
Family "B"	800 to 1300 gammas
Anomolously High	greater than 1300 gammas

The isomagnetic plan (see Figure 2) was contoured on the basis of these categories and the map shows a strong north, north-northwest bias. This maybe in part due to the east-west sample point bias (i.e. 100 foot stations east-west and 400 or 600 foot stations north-south),




however, Mr. D. Malcome's geological map shows the same general trends.

The most westerly third of the map area is somewhat distinct from the remainder, in that the amplitude of response is considerably dampened and very few plus 1300 gamma readings were recorded. The eastern portion on the other hand, is a rapid response zone characterized by many anomalously high areas juxtaposed with corresponding anomolous lows. This difference may be due to a change in rock types and/ or a thinning of overburden cover to the east.

The copper showings reported within the survey area have only very tentative correlation with magnetics. In general, it maybe observed that copper occurrences often accompany anomolous highs and rapid change zones however this is not necessarily always the case. It appears that a different exploration tool is required on the Cindy Group in order to delineate copper mineralization. The isomagnetic plan however acts as a general overall guide to the bedrock geology.

The author suggests that a geochemical soil sampling program be initiated if further assessment work is required on this claim group.

Respectfully submitted,



A circular professional seal for D. R. Cochran, a Professional Engineer in the Province of British Columbia. The seal contains the text "PROFESSIONAL ENGINEER OF BRITISH COLUMBIA" around the perimeter and "D. R. COCHRAN" in the center. A handwritten signature is written across the seal.

D. R. Cochran, P. Eng.
August 2, 1974
Delta, B.C.



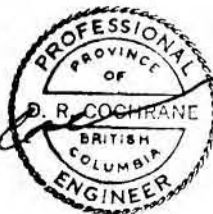
APPENDIX I

Certificate

I, D. R. Cochrane of the Municipality of Delta in British Columbia do certify that:

1. I am an independent consulting geological engineer with an office at 4882 Delta Street, Delta, B.C.
2. I have practised my profession continuously since graduation from the University of Toronto (B.A.Sc. '62) and Queen's University (M.Sc. Eng. '64).
3. I am a member in good standing of the Association of Professional Engineers, Province of British Columbia, and also a member in Ontario, Saskatchewan and The Yukon Territory,
4. This work is based on the magnetometer data given to me by Mr. Sleeman and Mr. Butterworth and that I have not examined the claims area as such, but have first hand knowledge of the general region.
5. I have no interest either direct or indirect in the CINDY claims nor do I expect to receive any such interest.

D. R. Cochrane, P. Eng.
August 2, 1974,
Delta, B.C.



APPENDIX II

Instrument Specifications McPhar M-700

MAXIMUM SENSITIVITY - 20 gammas per scale division on 1000 gamma range.

MAXIMUM MEASUREMENT - Zero to \pm 300,000 gammas in six range.

Range Switch Position	Full Scale in Gammas	Gammas per Scale Division
1K	1,000	20
3K	3,000	50
10K	10,000	200
30K	30,000	500
100K	100,000	2,000
300K	300,000	3,000

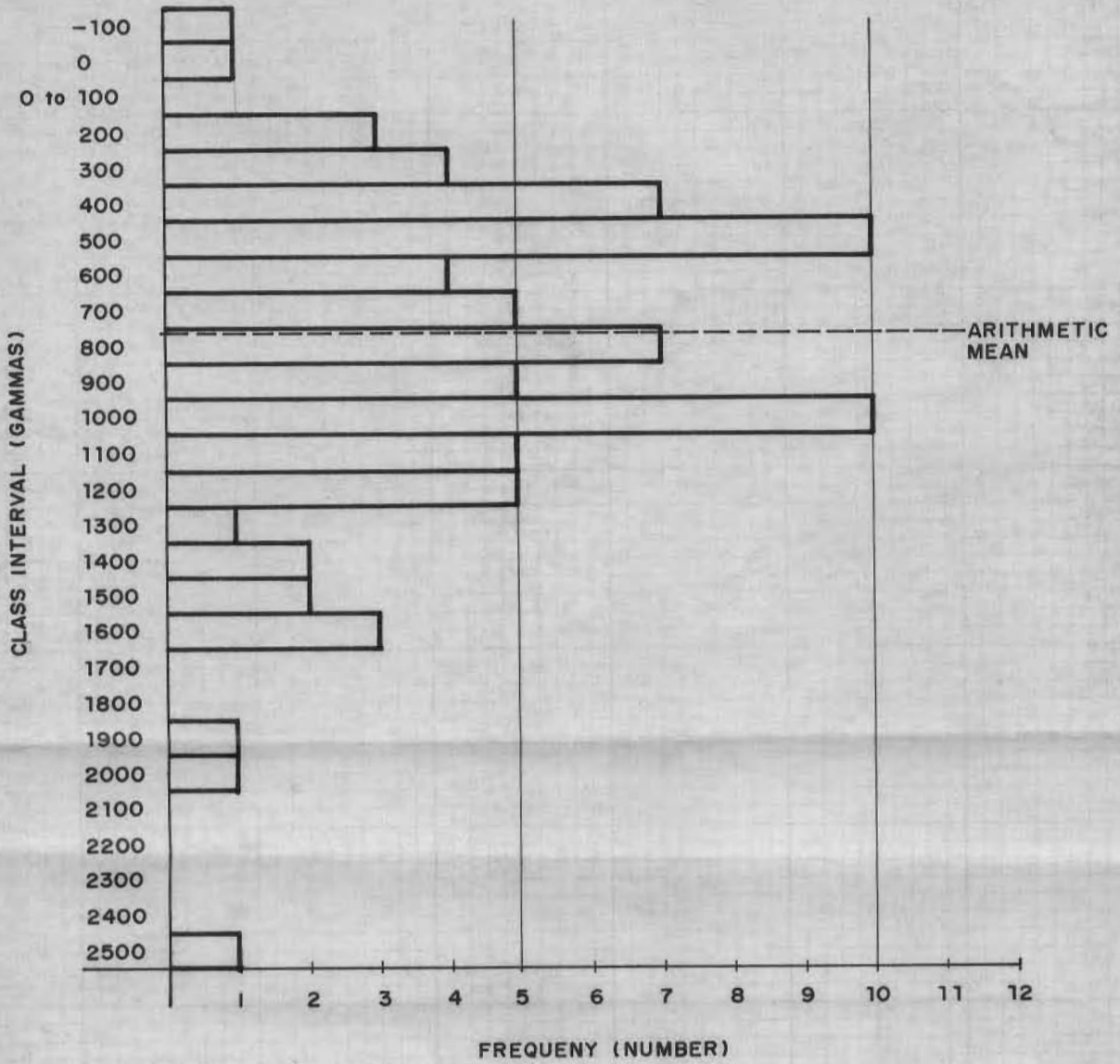
MEASUREMENT POLARITY - The above ranges can be reversed in polarity as a simple function of the on-off switch.

LATITUDE ADJUSTMENT - A fine and course latitude adjustment permit cancelling the earth's field up to 100,000 gammas.

WEIGHT - 6 pounds, including batteries and leather Carrying Case.

CASE DIMENSIONS - 4 x 7 x 11½ inches.

DRIFT - ½ gamma per °C



STATISTICS:

N = 78
 \bar{x} = 804
 VARIANCE = 236, 714.
 σ = 486

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 NO. 5114 MAP #3

BRONSON MINES LIMITED

Cindy Group
 Allison Creek Area
 Similkameen Mining Division, B.C.
FREQUENCY HISTOGRAM

DRAWN: July, 1974

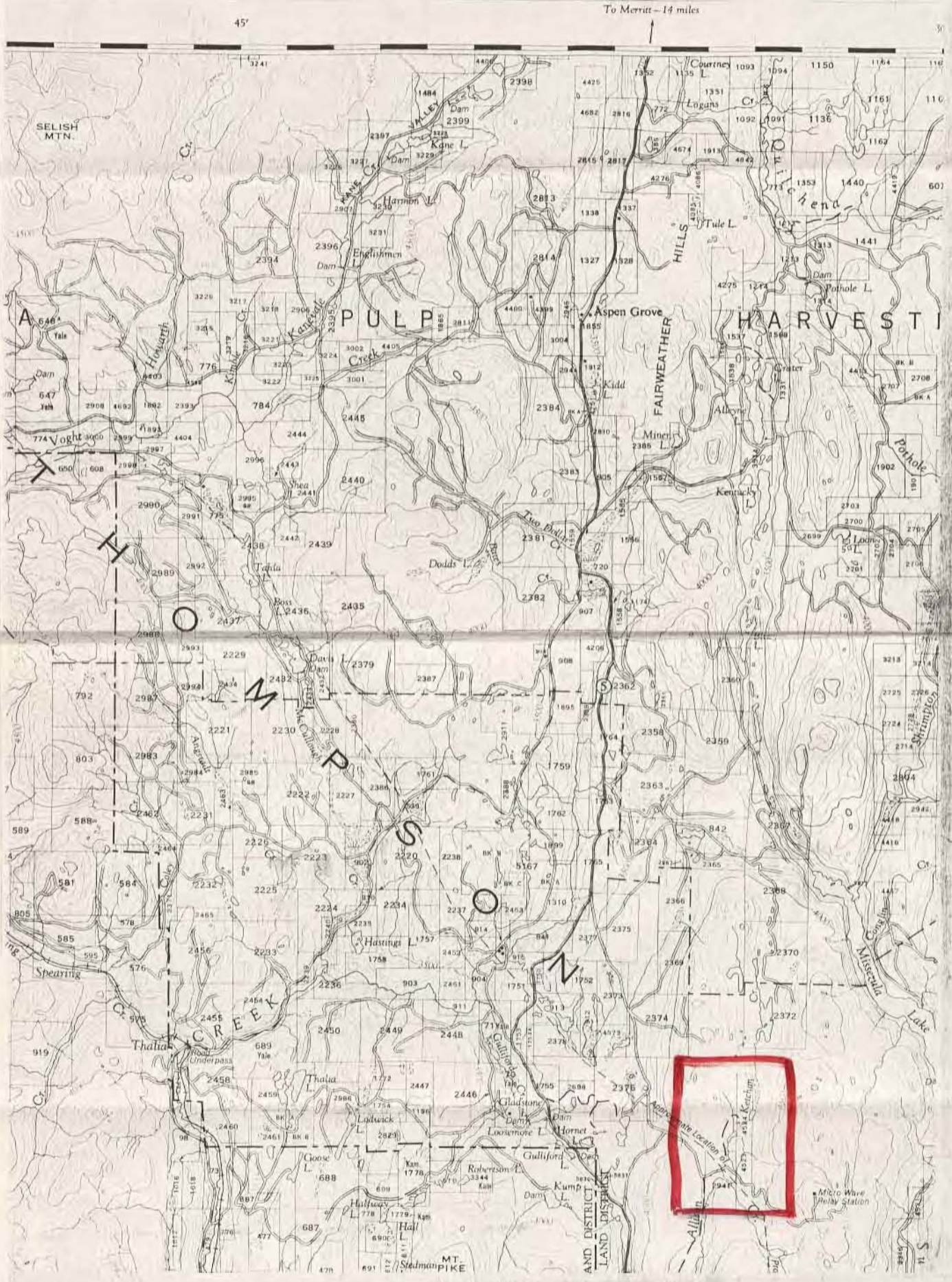
N.T.S.: 92H/10



Figure 3

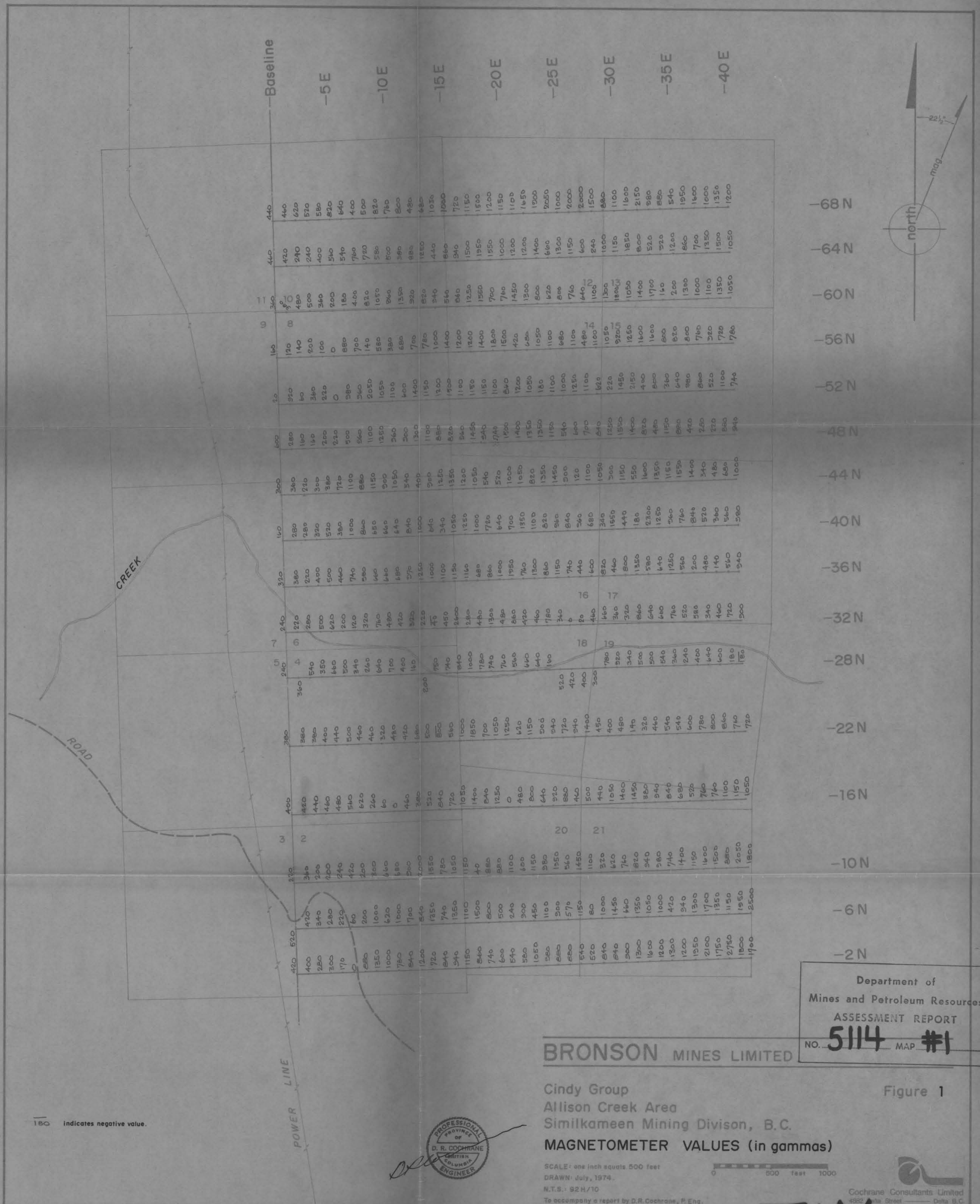


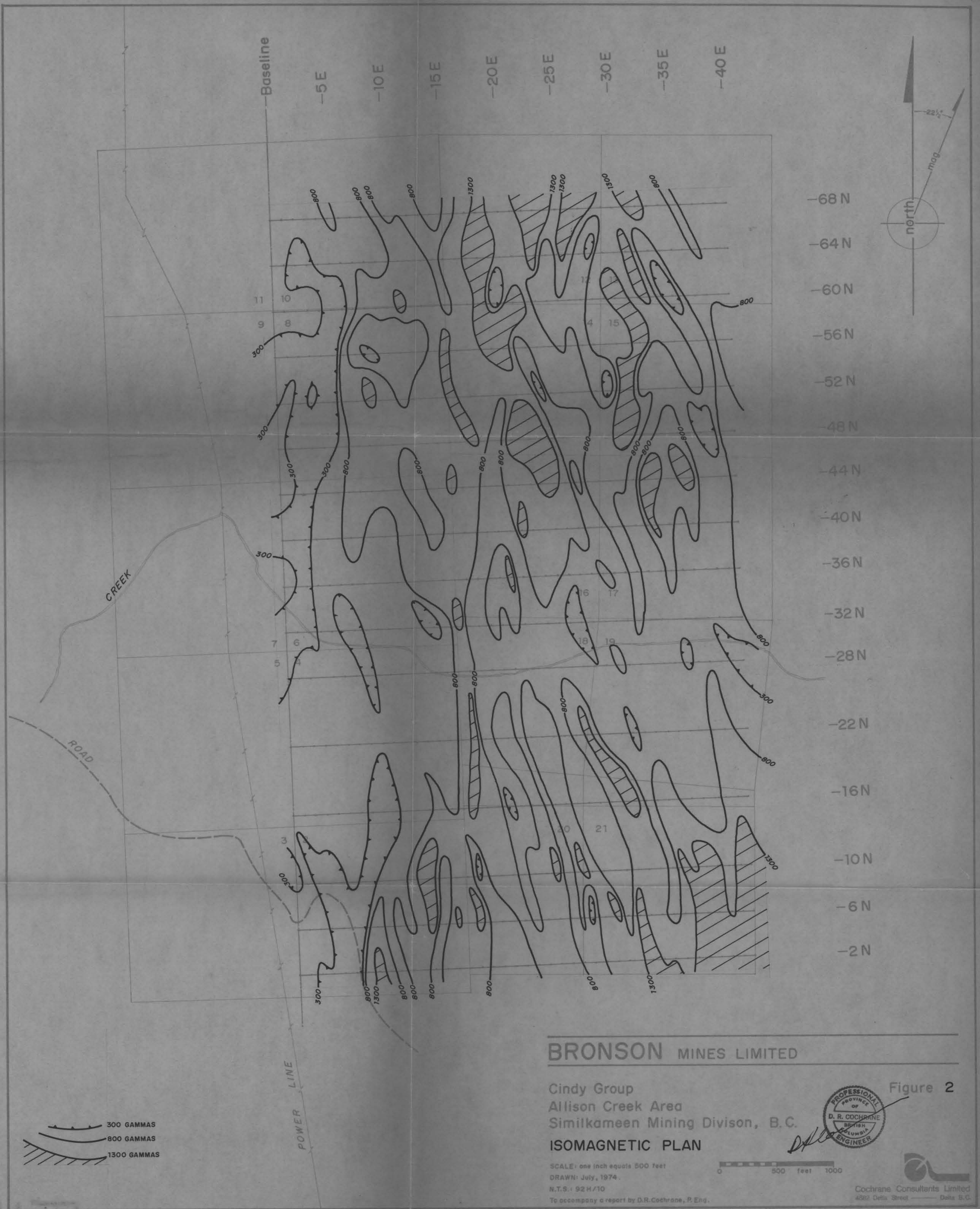
DEPARTMENT OF LANDS, FORESTS AND INLAND WATERS
BRITISH COLUMBIA
HONOURABLE R. G. WILSON
D. BORTHWICK, DEPUTY MINISTER OF LANDS



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Approximate Claim Boundary
OF THE Cindy CLAIM GROUP
OWNED BY BRANSON MINES LTD.
TULAMEEN SHEET 92 1/4 NE
SCALE 1:126,720





BRONSON MINES LIMITED

Cindy Group
 Allison Creek Area
 Similkameen Mining Division, B.C.

ISOMAGNETIC PLAN

SCALE: one inch equals 500 feet
 DRAWN: July, 1974.

N.T.S.: 92 H/10

To accompany a report by D.R. Cochrane, P. Eng.

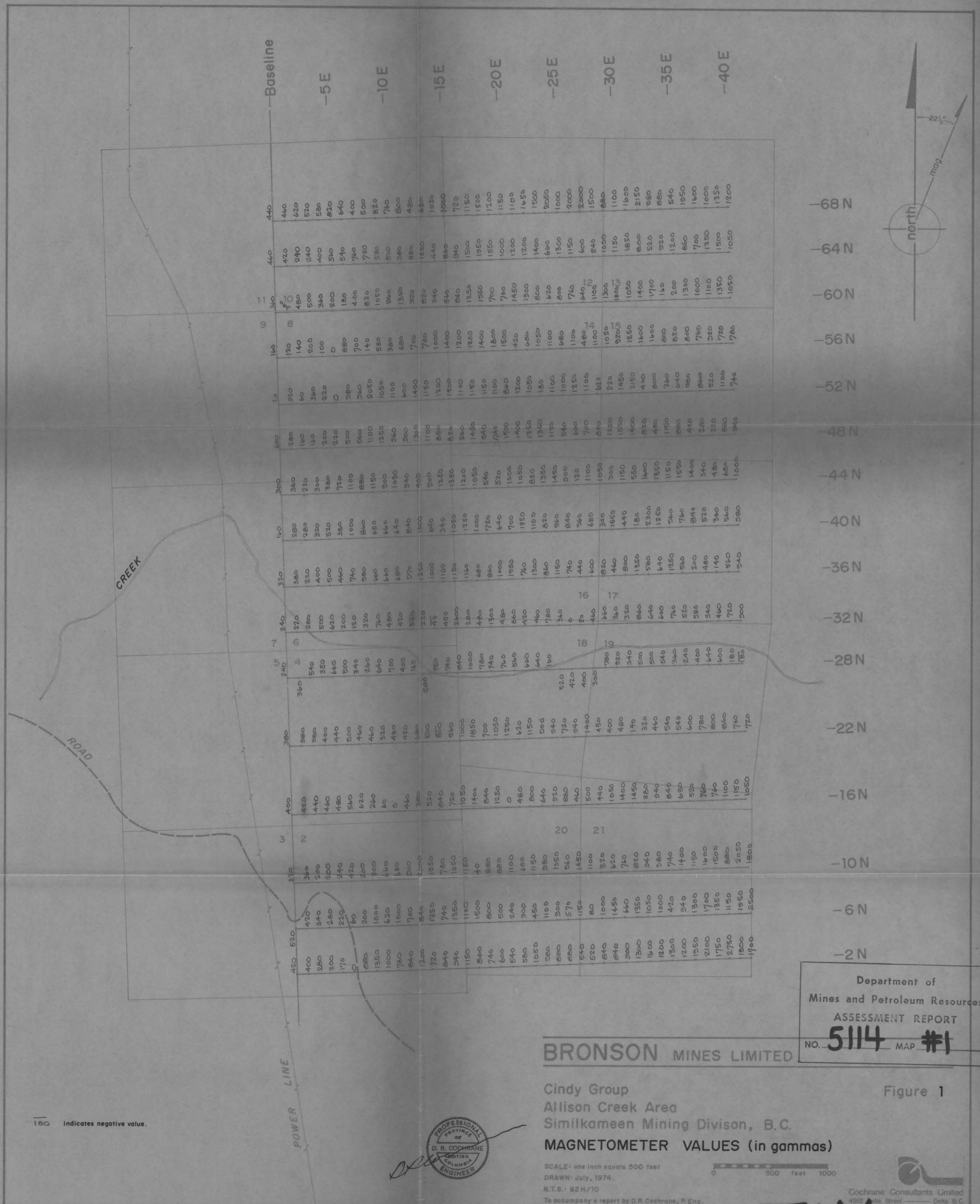


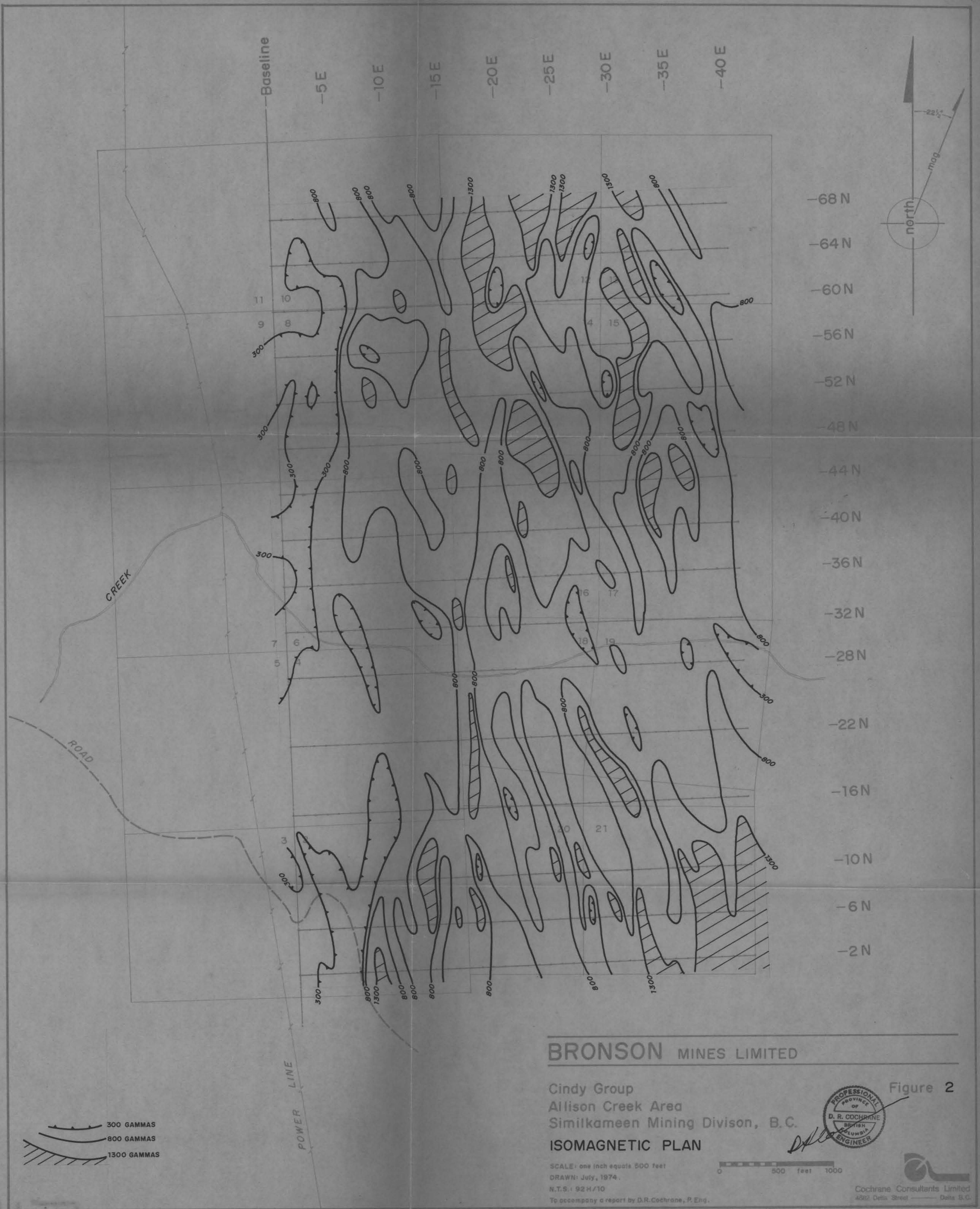
Figure 2




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 300 GAMMAS
 800 GAMMAS
 1300 GAMMAS

BRONSON MINES LIMITED

Cindy Group
 Allison Creek Area
 Similkameen Mining Division, B.C.

ISOMAGNETIC PLAN

SCALE: one inch equals 500 feet
 DRAWN: July, 1974.

N.T.S.: 92 H/10

To accompany a report by D.R. Cochrane, P. Eng.



Figure 2

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