

BIRKETT CREEK MINE OPERATORS LIMITED

—Geophysical Report on

MAGNETOMETER SURVEY OF MER-PAY GROUP  
OF CRAIGMONT MINES LIMITED PROPERTY

CLAIMS: Merchants 1,2,3, and Merchant 4Fr  
Paystin 1,2,4, and Paystin 3 Fr.

LOCATION: 12 miles northwest of Merritt,  
B.C. (50°, 120°SW)

DATE OF SURVEY: July 8 - August 8, 1958.

SUPERVISION AND REPORT BY: C.C. Rennie,  
P. Eng.

92I/2W

August 11, 1958

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BIRKETT CREEK MINE OPERATORS LIMITED

MAGNETOMETER SURVEY OF MER-PAY GROUP

EXPENSES INCURRED

LABOUR: Line cutting and magnetometer readings with five man crew 106 man days at \$15.00/man/day	\$1590.00
CALCULATIONS AND MAP PREPARATION:	
6 man days at \$15.00/man/day	\$ 90.00
SUPERVISION OF SURVEY AND MAP PREPARATION, AND REPORT COMPILATION BY PROFESSIONAL ENGINEER 3 days at \$35.00/day	\$ 105.00
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	\$1785.00
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CCR:MIC  
August 11, 1958

*C. C. Rennie*  
C.C. Rennie, P.Eng.  
Geological Engineer.

*C. C. Rennie*

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REPORT ON  
MAGNETOMETER SURVEY OF MER-PAY GROUP

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BIRKETT CREEK MINE OPERATORS LIMITED

REPORT ON  
MAGNETOMETER SURVEY OF THE MER-PAY GROUP

PURPOSE OF THE SURVEY

The survey was performed in search of magnetic anomalies resulting from concentrations of magnetite with which copper minerals might be associated.

Minor amounts of magnetite are found in the trenches on Paystin No. 1 claim where varying amounts of chalcopyrite are also found, but there appears to be no relation between chalcopyrite and magnetite mineralization in these workings.

LOCATION OF THE CLAIMS:

The group surveyed comprises the Merchants 1 - 3 claims and Merchants 4 Fraction, and Paystin 1,2,4, and Paystin 3 Fraction claims. These eight claims are centrally located in the Craigmont Mines Limited property twelve miles northwest of Merritt, B.C.

A narrow jeep road traverses the claims from the initial post of Merchants 1 claim to the west side of Paystin 4

claim. Another jeep road, ending approximately 800 feet south of Merchants 2 claim provides access to the area from the south.

GENERAL GEOLOGY OF THE AREA

REFERENCE: G.S.C. Memoir 249, "Geology and Mineral Deposits of Nicola Map Area, B.C. " by W.E. Cockfield, and Geological Map 826A which accompanies the Memoir.

The claims are almost entirely covered by overburden. A few scattered outcrops in the southern portion of the claims indicate that Kingsvale volcanics of Lower Cretaceous age underly the overburden. The depth of Kingsvale volcanics is unknown but is estimated to be not greater than 400 feet.

On the basis of scarce outcrops and considerable projection, the contact between the Upper Triassic Nicola series and the Jura-Cretaceous Guichon batholith must underly the Kingsvale volcanics on Merchants 2 claim on the south side of the group. The diorite and quartz-diorite of the south end of the Guichon batholith would be overlain by Kingsvale volcanics from Merchants 2 claim to the south side of Paystin 1 claim and by overburden from Paystin 1 claim north.

The "Paystin" showings in the approximate centre of Paystin 1 claim reveal chalcopyrite and malachite in

altered basic rock with walls of diorite. Attitude of the zone cannot be readily determined but the zone does not appear to be large. The copper content is moderate to low in grade and very little magnetite is associated with the copper mineralization.

#### EQUIPMENT

The magnetometer used for this survey was manufactured by the Radar Exploration Company, Toronto, and bears serial number 37. The scale constant on this torsion type instrument is 22.6 gammas per division of the micrometer scale. This instrument, which is very light and portable, requires no locking of the motion before being moved from one station to the next. With practice, an operator can take readings at 100 foot intervals every two minutes or in excess of 200 readings per day. This instrument has no auxiliary magnets but has a range between 11,000 and 33,000 gammas.

#### METHOD OF SURVEY

An east-west base line was established by transit survey along <sup>a</sup>cut line just north of Merchants 2 final post. Picket lines were laid out by transit survey at 200 foot intervals at right angles to the base line and stations at 100 foot intervals along each line were marked with 4 foot cedar laths bearing the line and station numbers.

One man took the readings and recorded the notes. Permanent and daily base stations were established as a constant check on diurnal and instrument variation.

#### CALCULATION AND PLOTTING

The calculation and plotting of the notes was done by W.S. Pentland under the direction of the writer

A diurnal correction was applied wherever a diurnal variation was apparent. This correction was made by adding or subtracting scale divisions from the actual readings.

The instrument was adjusted so that all readings would be on the same base as other detailed magnetometer surveys on the Craigmont property. After the diurnal correction was applied, the readings were multiplied by the scale constant of 22.6 gammas per scale division, and then an arbitrary constant of 10,000 gammas was subtracted to give the magnetic intensity as plotted.

W.S. Pentland prepared the appended map showing the survey results in relation to claim boundaries.

#### INTERPRETATION OF THE MAGNETOMETER SURVEY RESULTS

Lines of equal magnetic intensity have been drawn on the map at 1000 gamma intervals only, since closer intervals would confuse the interpretation and add meaningless detail.



No anomalous readings were detected in the vicinity of the "Paystin" showings, illustrating that some chalcopyrite mineralization occurs in the area without attendant concentration of magnetite.

As a "rule of thumb" in the Craigmont area unless the readings vary abruptly several thousand gammas, display a definite trend and cover an area several hundred feet long and at least 100 feet wide the anomalous area cannot be considered an anomaly of economic interest in itself, unless supported by other geological, geophysical or geochemical data. High readings at one or two isolated stations can generally be disregarded as small segregations or replacement concentrations of magnetite and these are not indicative of any worthwhile quantity of mineralization.

However, if large variations of intensity are lacking and a definite trend is still apparent in the readings, the results could indicate a buried concentration of magnetic minerals. This is the type of anomaly that could be produced by a magnetic zone beneath a cap of Kingsvale volcanics or deep overburden. No such trend is apparent on the Mer-pay group.

Readings on the group range from a low of 6249 gammas to a high of 10566 gammas, a variation of 4317 gammas, but the general variation is about 1500 gammas. Approximately 60% of the readings range between 7000 and 8000 gammas and over 95% range between 7000 and 8500 gammas.

This range is considered background for the area.

CONCLUSIONS

1) The survey indicates that there are no large, near-surface, concentrations of magnetite and therefore no large, near-surface, chalcopyrite-magnetite ore bodies on this group of claims.

2) No magnetic trend is apparent to indicate magnetic zones of interest buried beneath Kingsvale volcanics or overburden.

3) The "Paystin" copper showing on Paystin 1 claim does not give a magnetic anomaly and therefore it is possible that copper bearing zones of interest lacking a magnetic response could occur in the area. Therefore, the absence of magnetic anomalies does not mean absence of copper mineralization but only an absence of detectable copper magnetite mineralization.

4) Small one station magnetic anomalies on the map are not considered to be of any further interest unless supported by additional information.

Respectfully submitted,

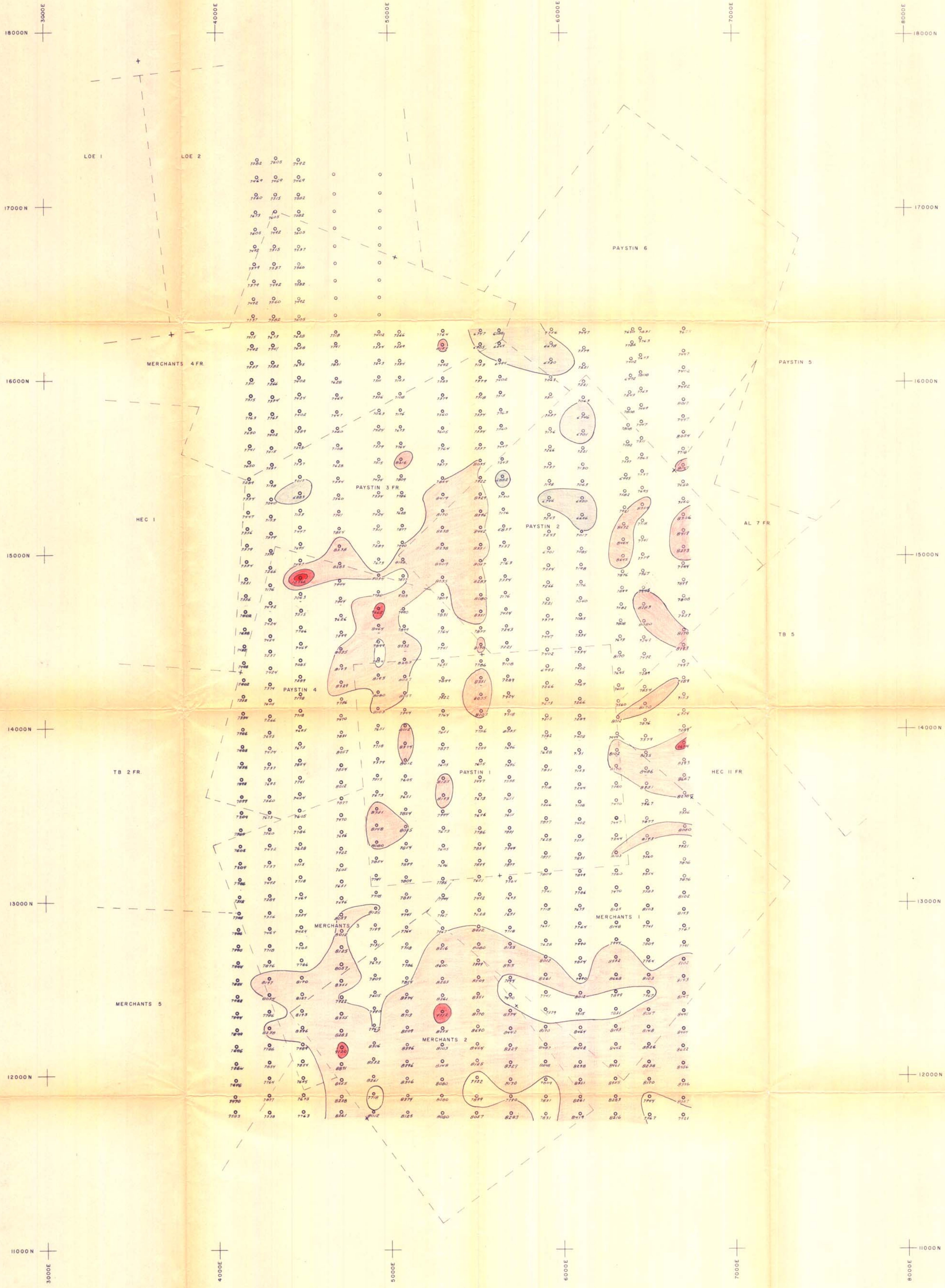
*C. C. Rennie*

CCR:MIC  
August 11, 1958

C.C. Rennie, P. Eng.,  
Geological Engineer.

*C. C. Rennie*





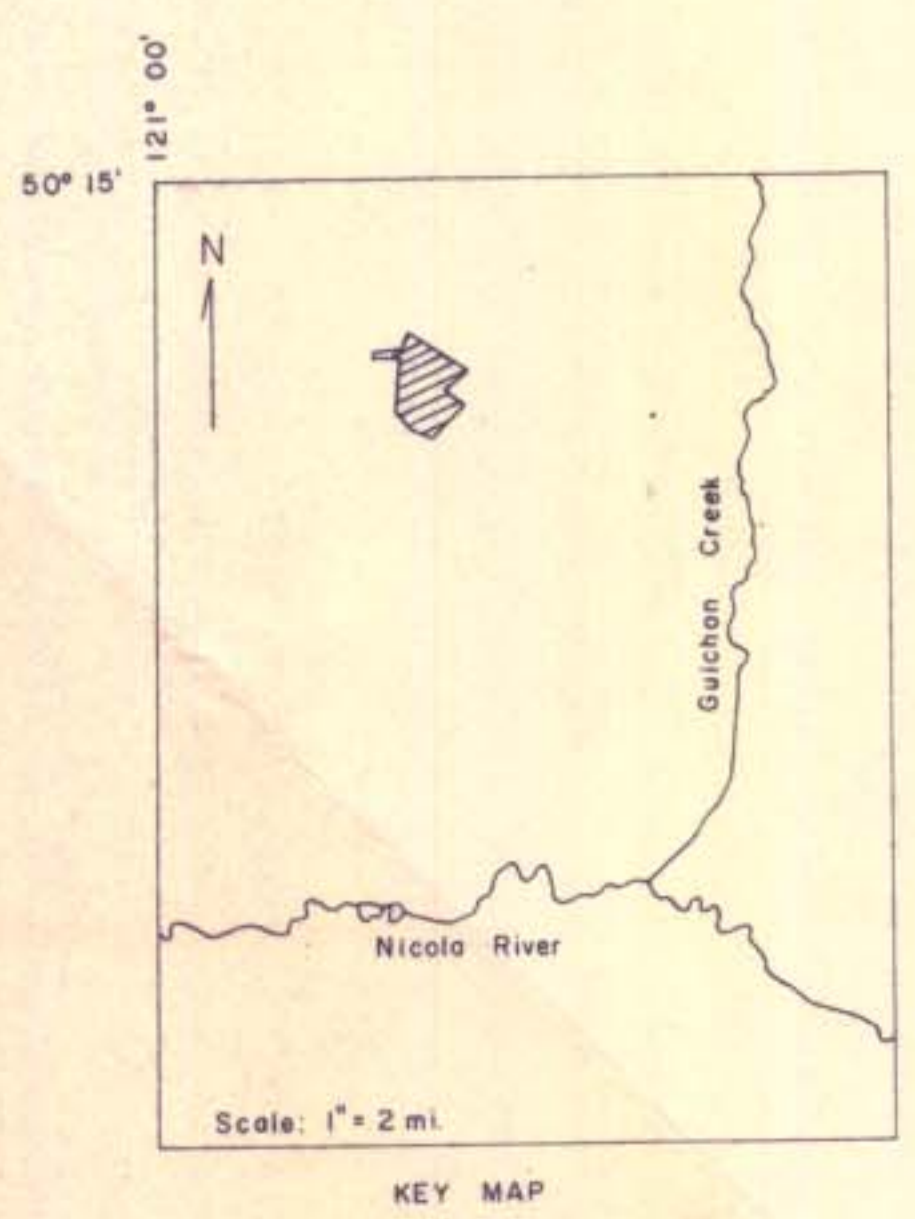
LEGEND

[White]	11000 f +
[Light Red]	10000 f - 11000 f
[Red]	9000 f - 10000 f
[Dark Red]	8000 f - 9000 f
[Light Orange]	7000 f - 8000 f
[Orange]	6000 f - 7000 f

A MAP SHOWING  
 THE  
 MAGNETIC VALUES AND CONTOURED RESULTS  
 ON THE  
 MER-PAY GROUP OF MINERAL CLAIMS  
 NEAR  
 MERRITT, B. C.  
 IN THE  
 NICOLA MINING DIVISION

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SCALE: 1" = 200'  
 DRAWN BY: W. PENTLAND  
 AUG 9, 1958



Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 209 MAP #1

