

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 2806 MAP.....

GEOPHYSICAL

MAGNETOMETER SURVEY

Nicola M.D.

92E/7E

ST GROUP

120-51 NE : 5-11-70 : 19-11-70

Alfred R. Allen, P.Eng.

For:

RICHROCK MINES LTD. (N.P.L.)  
Vancouver, B.C.

By:

ALLEN GEOLOGICAL ENGINEERING LTD.  
507 - 789 West Pender Street  
Vancouver, B.C.

January 11th. 1971.

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REFERENCES

*\*1* MAP Magnetometer Survey

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FIELD CREW

Magnetometer Survey

ST 13-20 - 27-34 claims

Nicola M.D.

5-11-70 - 19-11-70

Alfred R. Allen, P.Eng., Operator

E. Hayes, Assistant

T. Thomas, Axeman

R. Thomas, Axeman

THE ST 1-40 CLAIMS

HELMER LAKE

NEAR MERRITT B.C.

MAGNETOMETER SURVEY

INTRODUCTION

A grid pattern was established over the middle section of the ST 1-40 claims group by slashing parallel lines at 400-foot intervals in an east-west direction and establishing stations with scribed cedar lathes every 100 feet along the lines.

A north-south base line was established along the west boundary of the grid area.

All lines were surveyed by chain and compass.

Magnetometer readings were recorded at each station.

The job was started November 5th. and completed November 19th. 1970.

The field party was made up of Alfred R. Allen, Edward Hayes, Terrence Thomas and Randy Thomas.

Merritt was used as a party headquarters. Two pick-up trucks were used for transportation between Merritt and the claims area.

The copper orebodies of the Craigmont mine contain sufficient iron mineralization to make the deposits detectable from the surface by a magnetometer.

The Craigmont is located at and near the contact between the Guichon Creek batholith and Kingsvale group, an older formation composed chiefly of volcanic and sedimentary rocks.

The ST 1-40 claims are located over the contact between the Nicola batholith, a zone of metamorphic Palaeozoic rocks and the Upper Triassic Nicola group.

The purpose of the survey was, therefore, to ascertain if there are variations in the magnetic properties of the rocks underlying the area covered, and if such variations may be associated with copper or other sulphide occurrences.

#### LOCATION AND ACCESSIBILITY

The ST 1-40 claims are located 16 miles northeast of Merritt, B.C., on the east side of Helmer Lake, and one mile northeast of Swakum Mountain.

Geographic location is  $120^{\circ}-38'$  west longitude and  $50^{\circ}-20'$  north latitude.

Access is via the Mammit Lake road, the road up Rey Creek, and the road along the B.C. Hydro line. A trail from the Hydro line leads onto the area surveyed.

#### PROPERTY

The property is made up of the ST 1-40 claims, 43963-44002, in good standing until December 9th. 1971.

Many of the lines and claim posts have been observed by the writer and the staking is in accordance with the requirements of the B.C. Mineral Act.

### TOPOGRAPHY

The property is on an upland plateau area between Nicola and Mammit lakes.

Elevations range from 4,000 to 4,500 feet above sea level. Swakum and Guichon mountains rise above the plateau to over the 5,600 foot elevation.

The drainage pattern is southerly into Clapperton Creek which flows into the Nicola River.

### GEOLOGY

North of Merritt there are two large Jurassic batholiths, the Guichon Creek and the Nicola. These plutonic masses are intrusive into the Permian Cache Creek and Triassic Nicola groups of sedimentary and volcanic rocks. Miocene volcanics, with some associated sedimentary strata, overlay the older rocks in irregularly scattered patches.

The ST 1-40 claims area straddles the contact between the Nicola group and a band of metamorphic rocks believed associated with the Nicola batholith.

The Nicola rocks in the area of the property are andesitic to basaltic flows with minor agglomerates and porphyries. The metamorphic phase is largely black amphibolite, and schist cut by granitic and aplitic dykes.

Overburden masks most of the claims area. There are no known mineral deposits exposed on the property.

MAGNETOMETER SURVEY

The magnetometer survey was conducted over a surveyed grid of slashed lines on the ST 13-20 and 27-34 claims.

Tied to a north-south base line along the west boundaries of the ST 13 and 14, 33 and 34 claims, parallel east-west lines were spaced 400 feet across the property, and scribed cedar stakes set at 100-foot intervals.

All lines were run with chain and compass.

Magnetometer readings were recorded in a field book at all stations. Diurnal check points were used twice daily.

The work was under the direction of Alfred R. Allen, P.Eng. Mr. Edward Hayes, Mr. Terrence Thomas and Mr. Randy Thomas, all experienced and trained field men, acted as axemen and assistants.

A Scintrex G 100 Fluxgate magnetometer was used.

The magnetometer readings from each station were included on a map showing grid lines and claims.

The map accompanies this report.

A. Allen Note:  
phoned to explain  
Nos plotted are 2nd & 3rd digits  
of the total vertical intensity

SURVEY RESULTS

The central portion of the surveyed area, lines 12N and 16N, is a distinctive anomalous zone with low magnetic intensity. The vertical component fluxgate magnetometer measured the field from 51500 to 54500 gammas over this east-west strip.

A weak protruberance of this low extends 1600 feet south to line 45, from station 9 to 17 east.

This anomaly is designated as number three. It lies across the projected contact between the Nicola volcanic rocks and the Palaeozoic(?) metamorphic rocks. The southern weak extension of it, on the ST 13 and 15 claims, lies close to the contact mentioned above. The significance of this magnetic low is not apparent from available geological information on that portion of the property.

A second but weaker low anomaly, designated as number 4, lies southeast of number 3, mostly on the ST 18 claim. The field in this area is from 540000 to 54500 gammas. The cause of this subtle area of low readings has not been determined.

In the central part of ST 31 claim there is an area about 600 feet long and 200 feet wide which has been designated as anomaly number two. It straddles the projected contact between the Nicola volcanics and zone of metamorphic rocks. Magnetometer readings range from 55500 to 56000 gammas at three stations.



Anomaly number one is similar in intensity to number 2, but it encompasses a large area extending easterly across the ST 32 and 34 claims, on the west side of the projected contact mentioned above, and repeats itself 800 feet to the south across the ST 30 and 32 claims, and extends 100 to 300 feet into the ST 29 and 31 claims. This large but weak anomalous high extends over a length of 3,300 feet, but the cause or significance of same is not known at this time.

The survey results indicate that the area shows no significant areas of magnetic mineralization, such as heavy pyrrhotite or magnetite-rich deposits.

#### CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the magnetometer survey did not clearly indicate the contact zone between the Nicola volcanics and metamorphic complex mapped by the Geological Survey of Canada. Neither did it indicate the presence of magnetic mineral deposits. However, an area of low magnetic intensity was outlined which warrants further investigation.

So far as this central area of the ST Group is concerned, it is recommended that the area of anomaly #3 be prospected to determine if possible what geological data may be acquired to account for the low magnetic effects thereon.

Respectfully submitted,  
ALLEN GEOLOGICAL ENGINEERING LTD.

Per Alfred S. Allen P.Eng.

Vancouver, B.C.  
Jan. 11th. 1971.

REFERENCES

Cockfield, W.E., G.S.C.      Memoir 249

Duffel, S., and McTaggart, K.C.      G.S.C. Memoir 262

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ALFRED R. ALLEN

507 - 789 West Pender St.  
Vancouver, B.C.

January 11th. 1971.

MAGNETOMETER SURVEY

ST 13-20 and ST 27-34 claims  
of the ST Group  
Nicola M.D.  
16 miles N.E. of Merritt, B.C.

EXPENDITURES

Crew

Alfred R. Allen, 1970: Nov. 5-8, 14, 15, 18, 27, 28; 1971: Jan. 11, 12.	\$1,830.00
E. Hayes, 1970: Nov. 6-11, 15, 18, 19	540.00
T. Thomas, 1970: Nov. 6-14	360.00
R. Thomas, 1970: Nov. 6-14	360.00

RENTALS

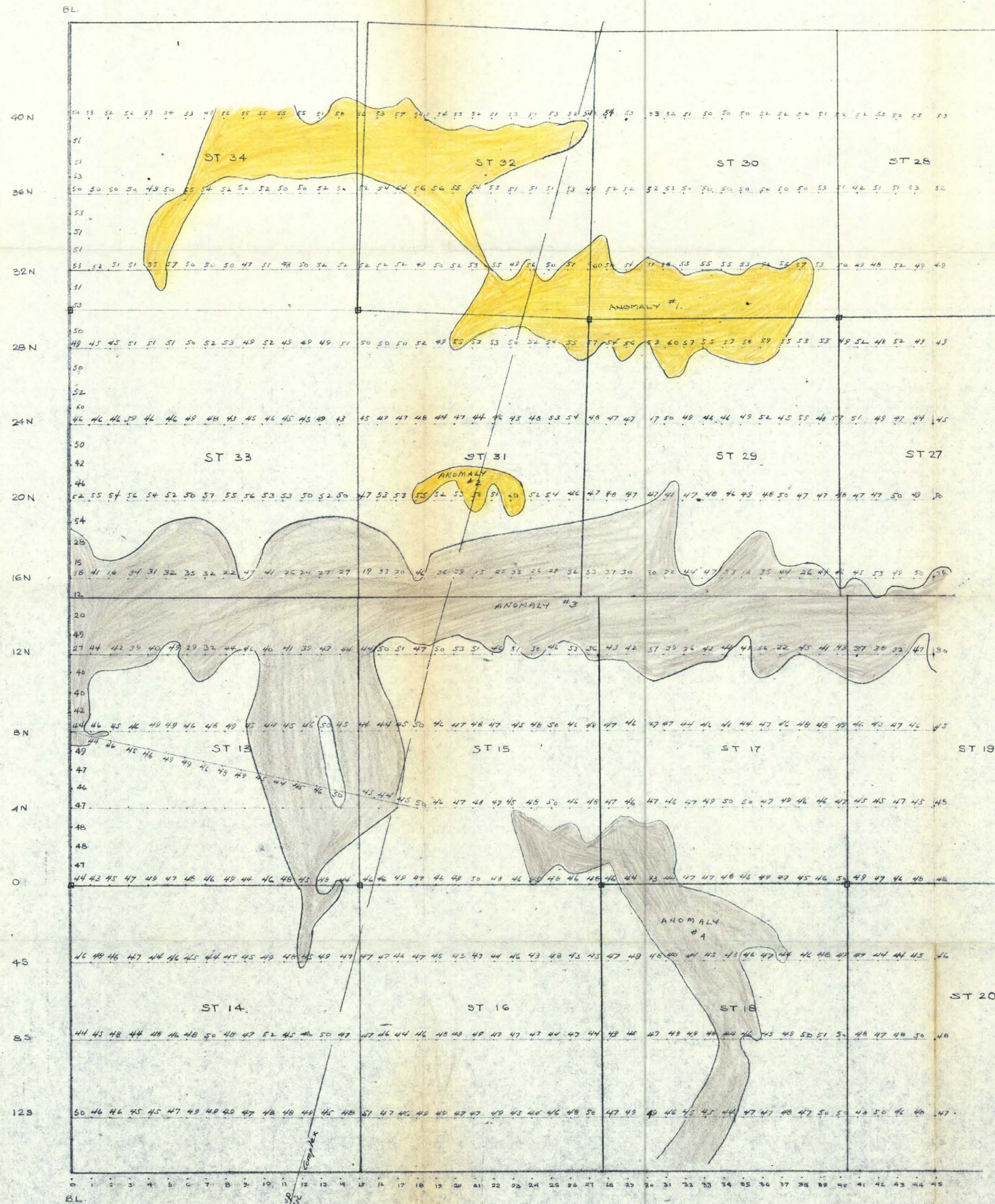
Magnetometer	80.00
Two trucks, cars, gas, oil etc.	584.62

SUPPLIES

Food and Motel	156.66
Lathes, maps, miscellaneous supplies	63.59

OFFICE

Drafting, mapping, and reports	130.00
	<u>\$4,104.87</u>



2811 M-1  
5811 W-1

2811 M-1

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2811 MAP #1

**LEGEND**

- Base Line: ————
- Grid Lines: ————
- Magnetometer Readings: 47 44 49
- 47 ± 54100 Gammas
- Claim Lines & Posts: —□—
- 55,500 - 56,000 Gammas: [Yellow Shaded Box]
- 54,500 - 55,500 Gammas: [White Box]
- 53,500 - 54,500 Gammas: [Grey Shaded Box]
- Approximate Geological Contact: ————

**NOTE:**  
Instrument: Fluxgate G-100 Magnetometer  
Vertical Component

**RICHROCK MINES LTD. (N.P.L.)**

**MAGNETOMETER SURVEY**

SCALE: 1" = 800'

DRAWN BY: ARB/iam	DATE: Jan 1971	ALLEN GEOLOGICAL ENGINEERING LTD.
CHECKED BY: GRU	DWG. No: R-1	Allen R. Allen