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Report  
on  
Magnetometer Survey  
"Skeena" Group  
Nicola District, Merritt, B.C.

Contents;-

- Pages NO.1 & 2 Explanations by C.Rutherford  
Pages-3,4,5,6,7 Report by Hunting Survey Corporation  
and evaluation, working from map of  
survey supplied by C.Rutherford  
Maps.:- No. 1 Magnetic contouring  
No. 2 Interpretation

<p><b>Department of Mines and Petroleum Resources ASSESSMENT REPORT</b></p> <p>NO. <u>400</u> MAP</p>
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92I/3E

Report  
onMagnetometer Survey "Skeena Group" of Claims  
Nicola District, Merritt, B.C.

After a reconnaissance of the Group and taking into account that ores of the District commonly occur associated with magnetite it was decided to perform a magnetometer Survey.

Picket lines were run at 200' intervals across the most interesting claims with pickets placed each 100'. In other locations lines were run at 400' intervals with pickets still at 100' intervals. In locations where interesting readings were had lines were run at 100' intervals and readings taken at 50' intervals.

An A3 Magnetometer was employed. This Instrument manufactured by Sharpe Instrument Coy. Readings were taken each morning to check background and on some occasions when electrical disturbances caused the magnetometer to be erratic work was not proceeded with. Gamma readings shown on map are those over and above background.

While no formal geological map is being presented, geology was noted as the work progressed and found to be entirely of the Spences Bridge group of rocks.

The most interesting results were readings in the minus range up to 17,000 gammas with no corresponding high pluses. The writer did considerable studying on the subject and the only comparable results found were in Eastern Quebec where in subsequent drilling of minus anomalies a low grade ilmenite was found. Since there was doubt in my mind about the significance of the findings the map was submitted to Hunting Survey Corporation for evaluation.

"Skeena" Group Magnetometer Survey Cont'd-

Outcropping formation, of which there was considerable, at location of the 17,000 gamma anomaly showed particularly dead looking basalt. Thin sections made from two pieces of this material and under the microscope showed nothing to account for the readings. It must be concluded that they came from some underlying condition.

I am including copy of report by Hunting Survey Corporation and maps which show their interpretations.

All of which is respectfully submitted

  
C. Rutherford P. Engr.

Jan. 10th. 1962



(3)

## HUNTING SURVEY CORPORATION LIMITED

1450 O'Connor Drive Toronto 16 Canada • Plymouth 5-1141 Cables: Canhunt

successor to: The Photographic Survey Corporation Limited • Hunting Airborne Geophysics Limited • Hunting Technical & Exploration Services Limited

November 7th., 1961.

Skeena Silver Mines Limited,  
744 West Hastings Street,  
VANCOUVER 1, British Columbia.

Subject: Contouring and Interpretation, Ground  
Magnetometer Survey of "Merritt Claims",  
Skeena Silver Mines Limited

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### INTRODUCTION:

Skeena Silver Mines Limited carried out a ground magnetometer survey over its "Merritt Claims". The data were provided to the undersigned in the form of a map print at a scale of 1 inch to 300 feet, showing the lines surveyed, the magnetometer readings, the claim lines and the claim numbers.

The survey completely covers the following claims: Skeena Nos. 2, 4, 6, 8, 9, 10, 11, 13, 15, 16, 17, 18, 19 and 20. Partial coverage only is obtained over claims Skeena Nos. 12 and 14, Rudy Nos. 1 and 2 and over three unidentified claims. These claims are located between the Indian Reserves No. 9 and 10 in the Kamloops District. This property is approximately 12 miles to the west-northwest of Merritt, British Columbia.

The magnetometer data were obtained using an A-3 magnetometer. These data were contoured at 1,000 gamma intervals with intermediate 500 gamma contours where feasible without overcrowding the map. Due to the relatively high magnetic relief, it is of little consequence whether or not diurnal corrections were applied unless strong magnetic storms occurred during the survey.

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PRESENTATION:

Two maps accompany this report, both at the scale of 1 inch to 300 feet. The first map shows the contoured magnetometer data. The second map shows the interpretation of the data superimposed on the magnetic contours.

GEOLOGICAL SETTING:

The only geology available is that collected by S. Duffell and K. C. McTaggart (Ashcroft; Kamloops, Lillooet and Yale Districts, B.C.; G.S.C. Map 1010A, 1951; scale 1 inch to 4 miles). Duffell and McTaggart indicate that the claim group is underlain by the acid to basic volcanic rocks of the Spences Bridge Group (Lower Cretaceous). These rocks were deposited over the volcanic and sedimentary formations of the Nicola Group (Upper Triassic) and over the granites and diorites of the Guichon Creek batholith (Lower Jurassic). The rocks of the Nicola Group are mapped less than one-half mile to the east and southeast of the property whereas the outcropping Guichon batholith is located approximately one mile to the northeast of the claims. The sediments and basic volcanics of the Kingsvale Group (Lower Cretaceous) were deposited over the Spences Bridge Group to the northwest, west and southwest of the property.

Little or no structural geology is available in the immediate vicinity of the property. The copper deposit of the Craigmont Mines Limited is located a few miles to the east, in the older Nicola Group.

INTERPRETATION:

At first glance, the magnetic relief appears rather incoherent, but a closer scrutiny indicates the presence of consistent although highly disturbed trends. These trends are usually established by weak positive anomalies with definite variations in intensity along their strike. Their order of magnitude is quite in order for the basic volcanics which are believed to underlie this area. The magnetic trends which indicate the geological trend as well, are indicated on the accompanying interpretation map. The magnetic bodies are not outlined so as not to clutter up the map. These basic volcanic rocks are magnetic due to a low magnetite content. This magnetite may be related to selective metamorphism or may be part of the original composition of the rocks.

The indicated trends of the volcanic rocks are generally orientated in an east-west direction. They do vary, however, to west-

northwest and to east-northeast. The discontinuities and curvature of these trends suggest a number of possible faults and a few minor folds. The main direction of faulting appears to be in a northwesterly direction with subsidiary or older faults in the east-west and northeasterly directions. It is believed that the general structural picture is correctly interpreted. On the other hand, the individual fault or fold may not be correct. This is due to the smoothing effect of the relatively large line interval of 200+ feet in the detailed parts of the survey. Thus the structural deformation due to a minor fold could be interpreted as a fault or vice versa. In the region of the 600 foot line interval, very little structural information could be obtained as the contouring was far from unique. A particularly strong example of the effect of the lack of data is seen in the northern part of claim Skeena No. 19. There, mechanical but valid contouring produces a conspicuous magnetic low trending northwesterly. This feature could not be incorporated within the present interpretation without calling on some complex and improbable phenomena. The magnetic trends as shown on the map indicate a more probable, but interpretative, way of joining the anomalous peaks from line to line. The contouring was not changed to show the two possibilities in this area.

Four features are radically different from the general picture presented above, in that they cause negative anomalies, that is, the negative part of the anomaly is much more intense than the positive part. In this northerly magnetic latitude, such negative anomalies are usually caused by negative polarization of the magnetic bodies. Their shapes, and in one case at least their trend, distinguish them from the volcanic rocks of the area. The first of these features is a dike-like anomaly and trends northwesterly through the claim Skeena No. 8 almost at right angles to the volcanic trend. Thus, it is clearly intrusive in nature. The three other features are lens-like shapes more or less following the volcanic trend in the immediate vicinity. Two are located in the claim Skeena No. 9 and the last in north-central claim Rudy No. 2. Their intrusive nature is suggested mainly by their large width when compared to the magnetic volcanic strata.

The composition of the negatively polarized bodies can only be surmised on the basis of the available data. The dike-like feature could be composed of diabasic material as similar phenomena are related sometimes to young diabase dikes. The three lens-shaped masses could be composed of the same diabasic material or may be related to some other intrusive rocks. The only intrusive rocks mapped by Duffell and McTaggart, shown on their Ashcroft Sheet, which could be expected to intrude the Spences Bridge Group are the small quartz-diorite, albite-syenite plugs mapped along the zone of weakness of the Fraser River Valley. It is possible that in small masses this material may show negative polarization due to some phenomena related to physical conditions during its intrusion. Thus, it is possible that the

three lens-shaped and the single dike-like intrusives may be composed of albite-syenite or related material. Basically, however, the composition of these four intrusive masses is not known. The negative polarization, in itself, is mainly of academic interest and does not warrant further discussion at this time.

#### CONCLUSION:

The ground magnetometer survey was carried out to help in the search for economic mineral deposits within the claim group. The interpretation of the survey data shows that no economic magnetite deposits are present. Some structural information is obtained which may have some control on the formation of base metal deposits, but the present survey cannot indicate the presence or absence of such deposits. The four negatively polarized masses are believed to be intrusive in nature and their composition remains basically unknown.

Of the features interpreted, the faulting, folding and drag-folding are too problematical to warrant drilling without first verification of their reality and location by some other means. The four negatively polarized bodies are sufficiently well located to permit a drilling program. Whether or not they warrant such an expenditure must be based on more information of possible mineralogical associations in the area than is available to the interpreter.

#### RECOMMENDATIONS:

On the basis of a limited amount of available geological information and of the results of the above interpretation of the ground magnetometer survey, a two-part program is recommended.

The first part of the program consists of a study of outcrop areas and trenching in the vicinity of the interpreted faults, folds and drag-folding and on the four intrusive masses, to verify their presence and location and to determine their possible structural control on mineralization.

The second part of the program consists of additional geophysical exploration if it is warranted by the results of the geological investigation. The geophysical work should consist of an Electromagnetic survey if fairly massive sulphide deposits are expected, or

of an Induced Polarization survey if disseminated deposits are indicated. The first is certainly less expensive but could overlook a five percent (5%) chalcopryrite deposit if no other sulphides are present.

HUNTING SURVEY CORPORATION LIMITED




C. W. Faessler,  
Geophysicist.



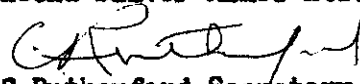
Expenses on Skeena Group of Claims, Merritt, B.C.  
 April 12th. to July 20th. incl 1961 re Magnetometer  
 Survey

<u>Name</u>	<u>Occupation</u>	<u>Rate</u>	<u>Dates</u>	<u>Amount</u>
P. Gottselig	Prospector, picket lines	450 to 475 per mth plus B.	Apr. 16th to July 20th.	1,776.66
A.M. Dinwoodie	Compass man, picket lines	375.00 mth plus board	May 1st.-July 20	1,187.50
W. Cutts	axeman " "	350.00 mth. plus board	May 16-June 30	658.50
C. Balsdon	" " "	do	April 12-May 15	433.90
G. Rutherford	Engineer & Manager	\$500.00	Apr. 1st.-July 15 3½ mths	1,650.00
			Workmen's Compensation	161.86
			Unemployment Ins.	34.80
				<u>\$5,903.22</u>
			Paid Huntin Survey Corporation for evaluating Survey	300.00
			Total	<u>\$6,203.22</u>

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Sworn and subscribed to at Vancouver, BC.  
 this 11th day of January  
 1962, before me  


A Notary Public in and for the  
 Province of British Columbia.

Certified true copy of costs.  
 Skeena Silver Mines Ltd.  
  
 C. Rutherford Secretary





SKEENA SILVER MINES LIMITED  
 MERRITT CLAIMS  
 SIMILKAMEEN DISTRICT, B.C.  
 GROUND MAGNETOMETER SURVEY  
 INTERPRETATION  
 NOVEMBER, 1961

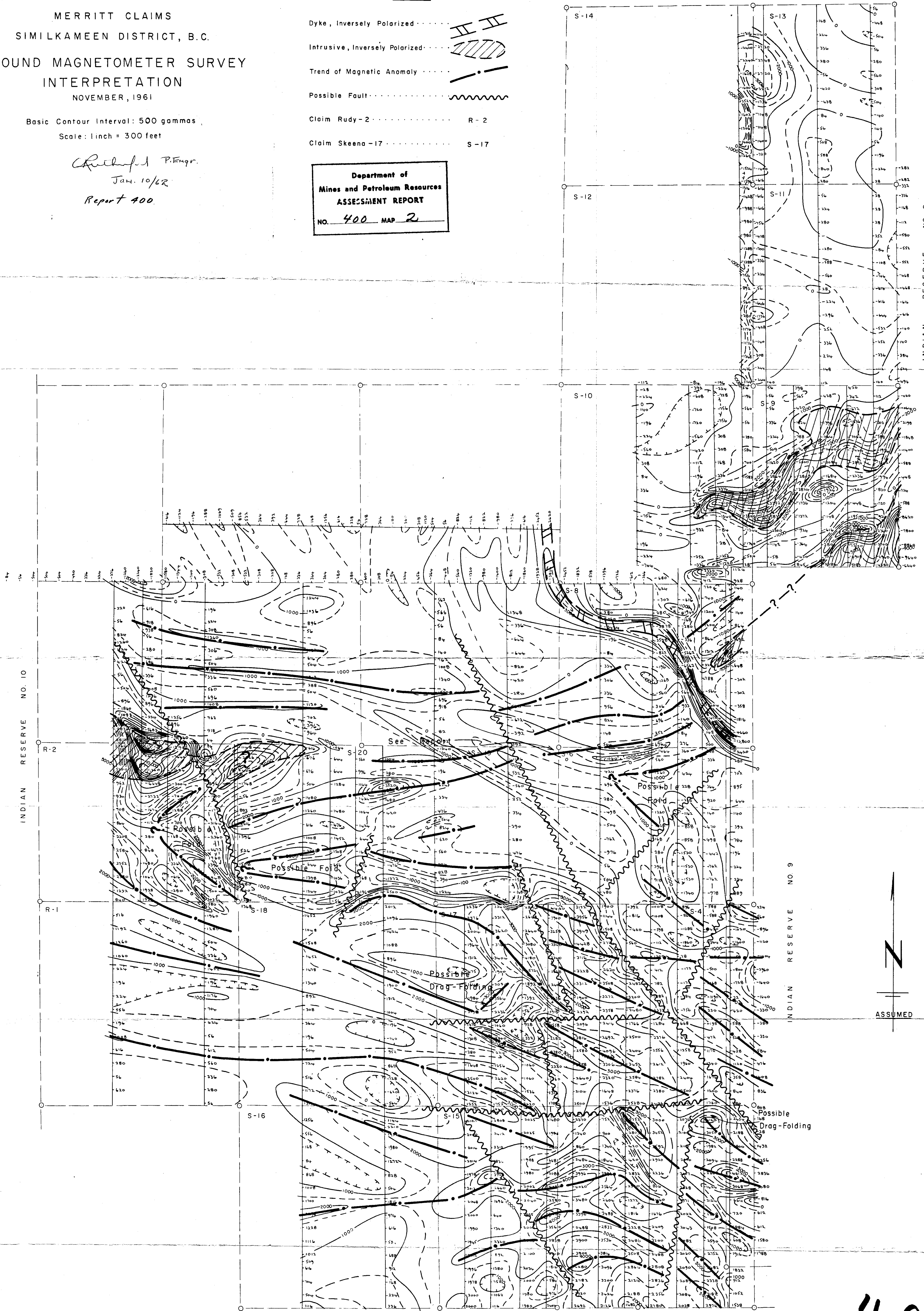
Basic Contour Interval: 500 gammas  
 Scale: 1 inch = 300 feet

*Charles P. Engr.*  
 Jan. 10/62  
 Report 400

LEGEND

- Dyke, Inversely Polarized . . . . .
- Intrusive, Inversely Polarized . . . . .
- Trend of Magnetic Anomaly . . . . .
- Possible Fault . . . . .
- Claim Rudy-2 . . . . . R-2
- Claim Skeena-17 . . . . . S-17

Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 400 MAP 2



400 (M2)