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REPORT
on the
MAGNETOMETER SURVEY
of the
H S MINERAL CLAIMS
near
MERRITT, B. C.

March, 1959.

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REPORT
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MAGNETOMETER SURVEY
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HS MINERAL CLAIMS
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MERRITT, B.C.

INTRODUCTION

This report describes the procedure and results of a magnetometer survey completed on the HS groups of mineral claims at Merritt, B.C. The report is prepared for Georgian Mineral Industries Limited of Calgary, Alberta.

The magnetometer survey was part of a planned program aimed at finding zones of copper mineralization.

The report and accompanying magnetometer contour map are submitted in compliance with the Mineral Act for assessment credit for one year on the claims enumerated in the text.

LOCATION AND PROPERTY

The HS groups of 12 claims are situated about six miles west of the town of Merritt, B.C., in the Nicola Mining Division. The geographical position is latitude N 50° 8', longitude W 120° 55'. The claims lie on the south side of the Nicola river, about four miles south of the Craigmont Mine.

Access from the main Merritt-Spences Bridge Highway is from a point just beyond the town of Lower Nicola about six miles west from Merritt. From this point a ranch-road leads south across the Nicola river to the claims. Logging roads criss cross the property but were not passable at this time of year.

Particulars of the HS groups of mineral claims

<u>Name</u>	<u>Tag No.</u>	<u>Record No.</u>	<u>Record Date</u>
<u>H Group</u>			
HS No. 1	266753	6437	March 24/58
HS No. 2	266754	6438	March 24/58
HS No. 9	317701	6318	March 21/58
HS No. 10	317702	6319	March 21/58
HS No. 11	317706	6320	March 21/58
HS No. 12	317703	6321	March 21/58
<u>S Group</u>			
HS No. 3	266755	6439	March 24/58
HS No. 4	266756	6440	March 24/58
HS No. 5	266757	6441	March 24/58
HS No. 6	266758	6442	March 24/58
HS No. 7	266759	6443	March 24/58
HS No. 8	266760	6444	March 24/58

The property was staked two claims wide by six claims long, with the long axis east and west, paralleling the direction of the Nicola river.

GENERAL DESCRIPTION OF THE AREA

The property lies on the south side of the Nicola river and extends from the Canadian Pacific Railway track southward up the slopes of the Nicola Valley. The ground alternates from narrow flat terraces to steep slopes of up to 35 degrees. The elevations vary between 2,000 and 2,500 feet above sea level. The area has been partially logged and is covered by a sparse growth of pine and fir, with clumps of birch in the swampy areas.

A small creek, believed to be Logan creek, flows northward through the centre of the claims to join the Nicola river.

GENERAL GEOLOGY

At the time of the survey about four inches of dry snow covered the ground and obscured the rock outcrops.

The main geological feature and mineralizer of the Merritt area is the Guichon Batholith, and other smaller relative intrusive stocks. These plutonic masses, consisting primarily of quartz diorite of Jurassic Age, have intruded older volcanics, and sediments of the Nicola Series of Triassic Age. It has been found that favorable areas for copper mineralization are along the contacts between these two formations or in the Nicola Series adjacent to the contact.

The Nicola group consists largely of volcanic rocks (greenstones). These rocks are chiefly andesites but include basalts, breccias, and tuffs. Minor amounts of sedimentary rocks are associated with the volcanic members. Limestone is the most abundant type but argillite and conglomerate occur sparingly.

From the geological survey Nicola Map No. 886A the HS groups of claims are underlain by rocks of the Nicola Series close to the contact of a granitic stock. Rock outcrops which were observed consisted mainly of altered volcanics but cliffs of quartz diorite were noted on the HS No. 1 and No. 3 claims. Near the large anomaly, the rock consisted of altered greenstone impregnated with pyrite and pyrrhotite.

MAGNETOMETER SURVEY

Survey of Grid

A baseline was laid out with a Brunton compass and chain in an east to west direction, following the original location line of the claims. The baseline was cut out and lettered stations were established at 400-foot intervals. From each baseline, station lines were run at right angles in a north-south direction, and readings were taken at 200-foot intervals along these sidelines.

The grid thus formed had 400 foot-200 foot station intervals. The river and any other topographical features were noted.

Instrument

Readings were taken with a Sharpe Model A2 vertical force magnetometer. This instrument is a precision magnetic field balance measuring the vertical component of the earth's magnetic field. It has a sensitivity of 20.3 gammas per scale division.

Corrections

(a) Diurnal

Short traverses were run, each loop being approximately 3,000 feet, and diurnal variations were noted. The diurnal variations were very small and were not considered significant in this type of magnetometer reconnaissance, consequently no diurnal corrections were made.

(b) Day to Day

A reading was taken at the base station each day before beginning the field work, and each day after field work was completed. The variation between the base reading on any particular day, and the original base reading was the day to day correction.

Mapping

The results of the magnetometer survey are shown on the map contained in the envelope at the back of the report. The corrected readings were plotted on a map of the area on a scale of 400 feet

to the inch. The stations, picket lines, claim posts, and claim outlines are shown. Contour lines at 500 gamma intervals are shown by joining points of equal magnetic intensity, interpolating where necessary.

DISCUSSION OF MAGNETIC INTENSITIES

The purpose of the magnetometer survey was to find if any magnetic anomalies existed on the property, and to determine their size and intensity. An anomaly would result from the presence or absence of magnetite in the rocks investigated. Copper minerals have been found associated with magnetite on other claims in the neighborhood and for this reason a magnetic anomaly would be an area of interest for possible orebodies, and hence worthy of more detailed attention.

The changes in magnetic intensity between different stations depend on the kind of underlying rock, the thickness of the formation, the depth below the surface, the attitude of the formation, and its susceptibility to magnetic fields. One of the main purposes of a magnetic survey is to present a generalised picture of the bedrock geology, and anomalies, as such, are not always directly associated with ore. Nevertheless, by means of a magnetic intensity map of an area, geological conditions and formations bearing a relationship to possible ore locations may be traced.

ANALYSIS OF MAGNETOMETER RESULTS

A study of the plan of the magnetometer survey shows the existence of three anomalous areas. These areas will be designated by the letters A, B, and C. The normal background reading is about 500 gammas and the anomalous areas all have magnetic intensities greater than 2,000 gammas.

Anomaly A

Anomaly A is the largest and the one with the highest magnetic intensity. This anomaly extends from the southern part of the mineral claim HS No. 3 across the fraction onto HS No. 5, in a general east-west direction. When measured on the 2,000 gamma contour, it is 1,400 feet long and from 200 to 900 feet wide. The highest magnetic intensity reading was 5,384 gammas at station P 1,700 feet south. This is a most interesting anomaly and merits considerable geological study and exploratory investigation.

Anomaly B

Anomaly B is a small anomaly in the southwest corner of claim HS No. 1. It is an elliptical halo with dimensions of 500 feet for the longer east-west axis and 300 feet for the shorter north-south axis. The highest reading is 3,094 gammas at K 1,400 feet south.

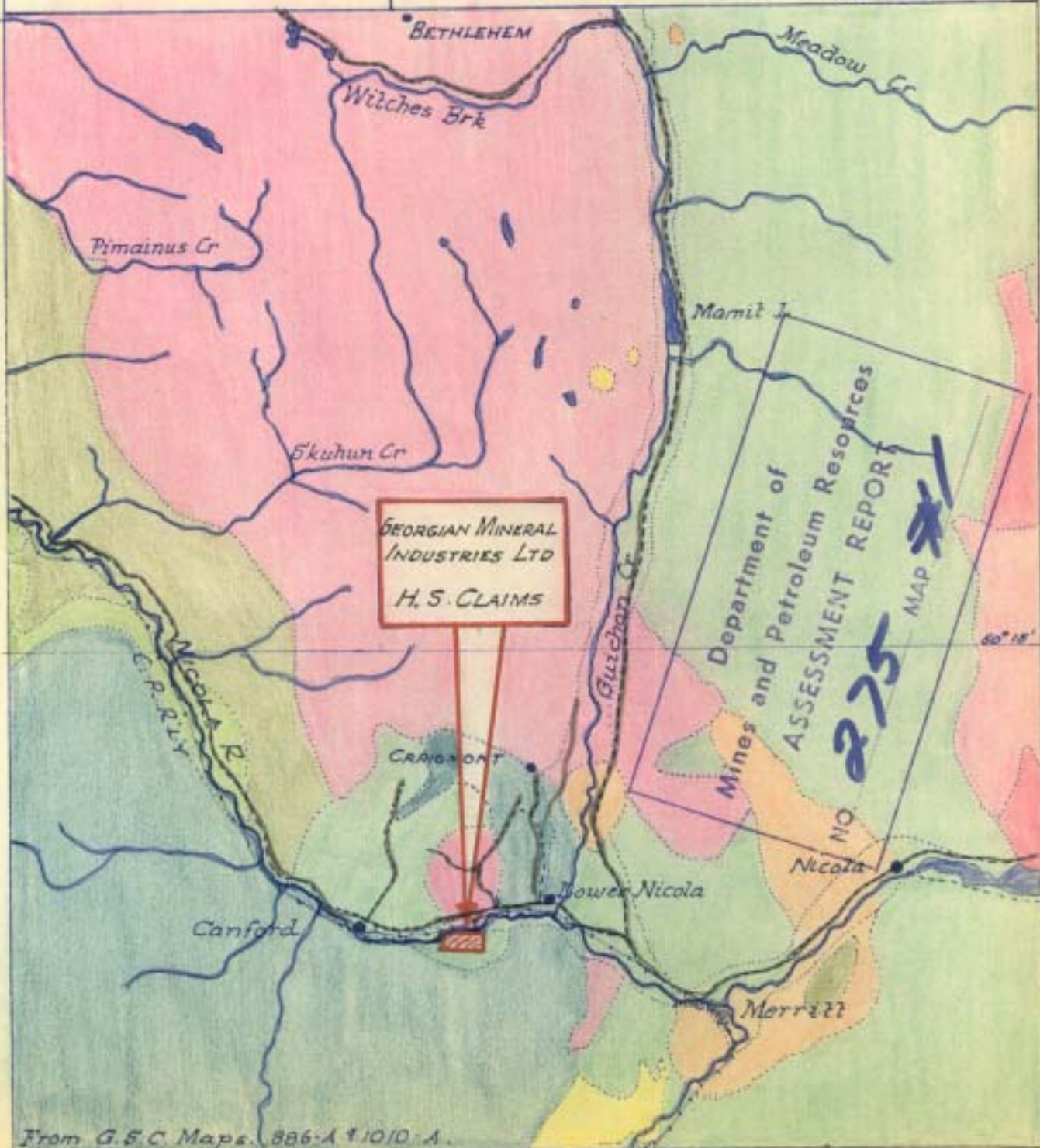
MAP OF HIGHLAND VALLEY-MERRITT AREA. B.C.

Scale. 4 MIs to 1 In.

F. J. HEMSWORTH. P. ENG.

Mar 15 - 1959

KAMLOOPS VOLCS
 KINGSVALE GROUP
 JURASSIC GRANITES
 NICOLA GROUP
 PAVED ROADS
 IMPROVED ROADS



From G.S.C. Maps. 886-A & 1010-A.

Anomaly C

Anomaly C is another small anomaly and is situated in the northeast corner of claim NS No. 9. It is 500 feet long by 100 feet wide and strikes northwesterly. The highest reading is 2,871 gammas at E 200 feet north plus 100 feet east.

RECOMMENDATIONS

When the ground is free of snow, a close inspection should be made of the rocks and minerals outcropping in the area of the anomalies. Geological mapping and additional magnetometer readings may assist in the interpretation of the magnetic phenomena.

If the areas are covered by overburden, some surface stripping and trenching by bulldozer is recommended.

The results of this preliminary work will determine how much diamond drilling is merited and the best position and direction for the holes.

CONCLUSION

A geophysical survey has indicated one large magnetic anomaly and two smaller ones. The area is geologically favorable for copper mineralization. The outlook is encouraging and considerable exploration is recommended.

Respectfully submitted,


F. J. Hemsworth, P. Eng.

March, 1959.

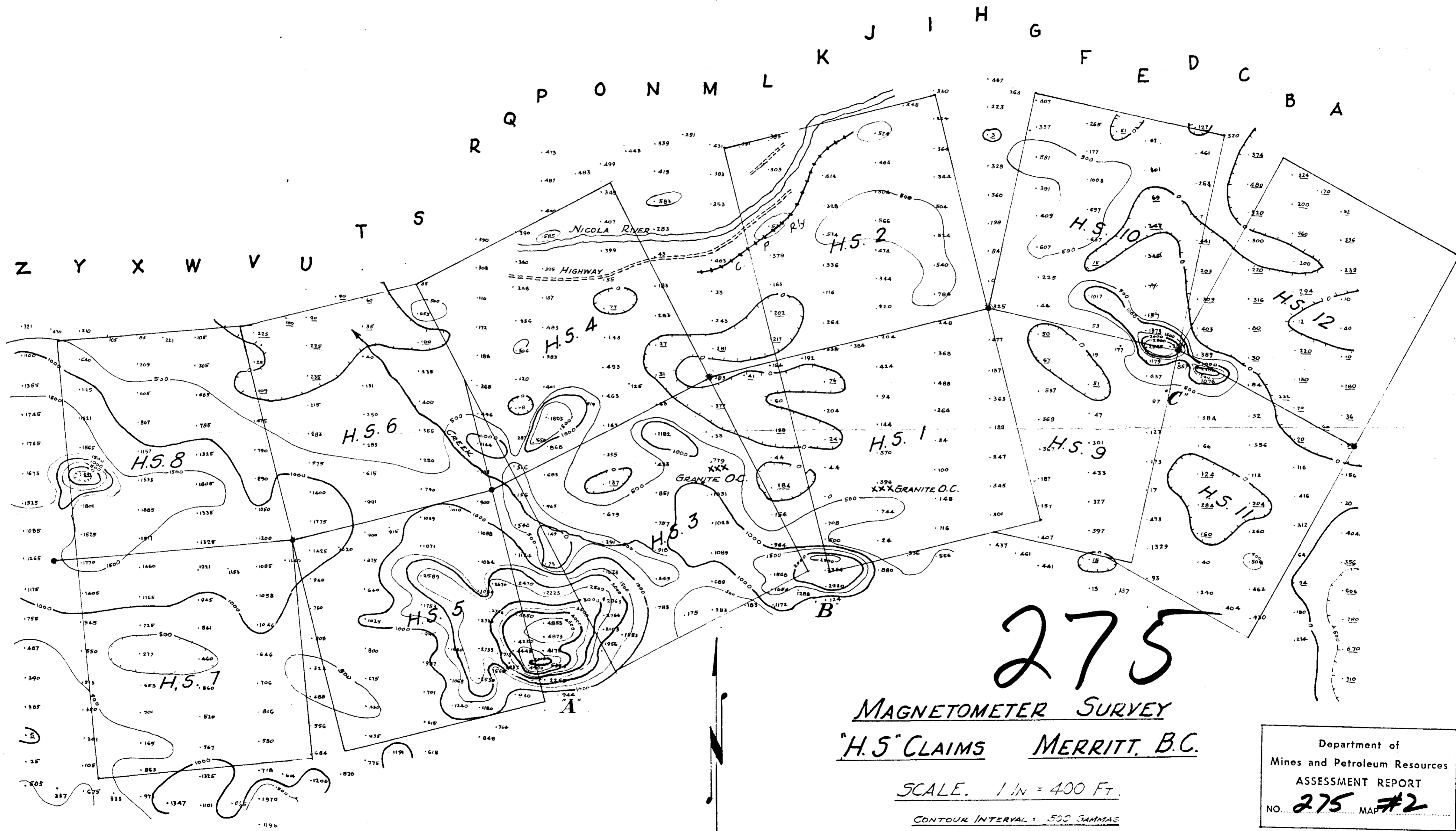
Statement of Labor Expenses on the Magnetometer
Survey of the HS Nos. 1-12 Mineral Claims, near
Merritt, B.C., in the Nicola Mining Division.

D.A. Sloan-P.Eng., Geophysical Operator-	
Feb. 26-March 11, 1959, 14 days @ \$35.00/day--	\$490.00
R. Berchtold-Helper-Feb. 23-Mar.16, 1959,	
22 days @ \$22.00/day-----	484.00
8% of payroll for Workmen's Compensation, Holiday Pay, and Unemployment Insurance-----	77.92
F.W. Reger-Computations & Drafting-March 12,13,16, 1959,	
3 days @ \$24.00/day-----	72.00
F.J. Hemsworth-P.Eng.-Feb.23-25, March 12-16, 1959,	
8 days @ \$45.00-----	360.00
Total	<u>\$1,483.92</u>

Certified Correct

March 19, 1959.


F.J. Hemsworth.



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MAGNETOMETER SURVEY
"H.S." CLAIMS MERRITT, B.C.

SCALE. 1 IN = 400 FT.

CONTOUR INTERVAL = 500 GAMMAS

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 275 MAP #2

F. J. HEMSWORTH, P. ENG. MARCH 16 - 1959.

F. J. Hemsworth