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REPORT

on the

MAGNETOMETER SURVEY

of the

LIS MINERAL CLAIMS

near

MERRITT, B. C.

March, 1959.

F.J. Hemsworth.

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INTRODUCTION

This report describes the procedure and results of a magnetometer survey completed on the Lis 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.

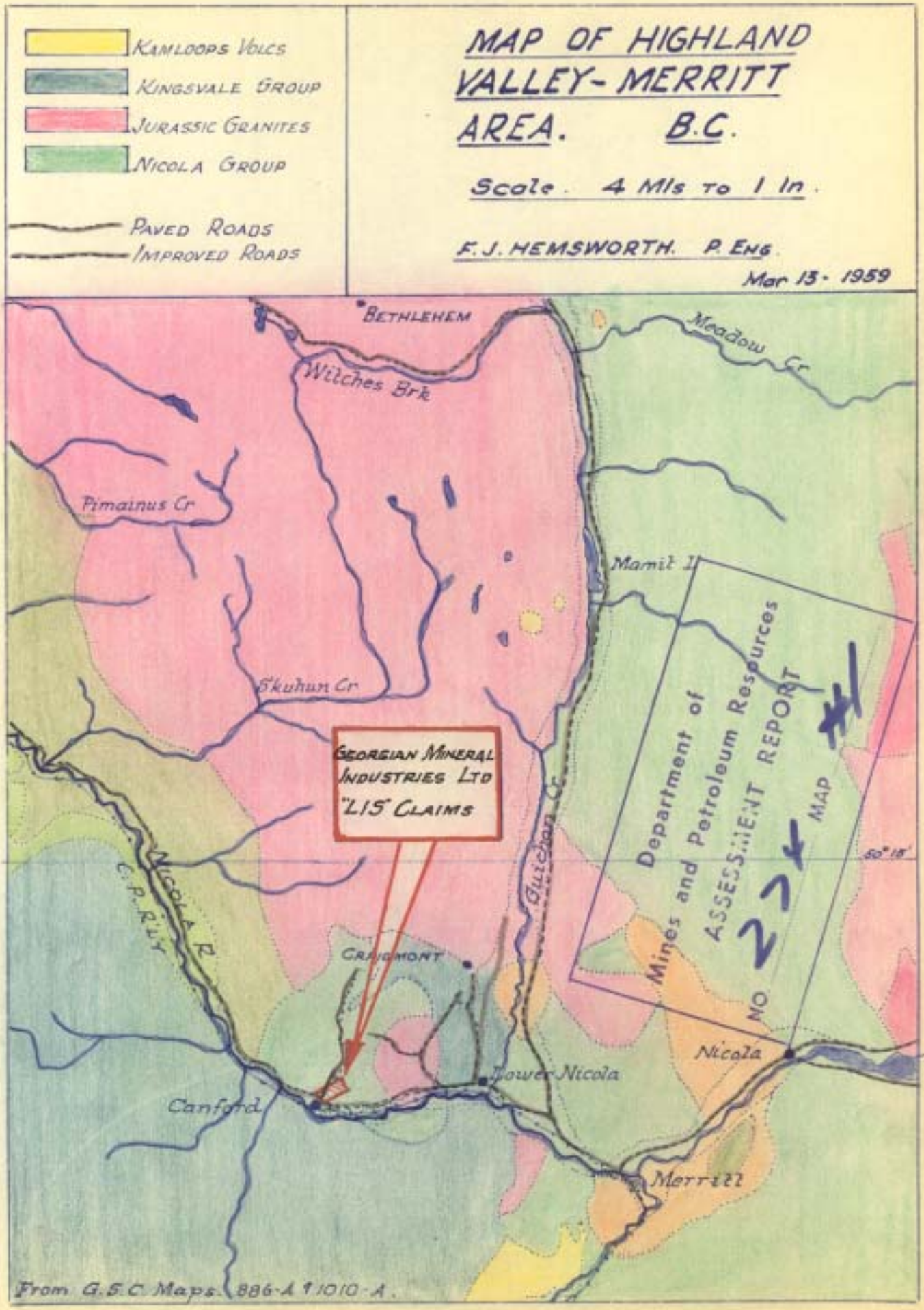
During the last few years the district adjacent to the towns of Merritt, Ashcroft, and Kamloops has been subjected to intense prospecting and exploration for copper deposits by several of the major mining companies.

Exploration work to date has resulted in the discovery of two copper mines, Bethlehem and Craigmont, besides numerous other possible orebodies. The whole area has been blanketed with mineral claims, and those claims underlain by favorable rock formations have a potential value.

Preliminary surveys preparatory to the magnetometer work were carried out by the writer and a helper during the latter part of May and the early part of June, 1958. The instrument work to complete the survey was done during February and March, 1959. A map prepared from these surveys showed that the claims had been staked long and that there was some overlapping of previously held claims. Originally there were 18 Lis claims but Lis Nos. 1, 12, and 18, had little or no ground and have been allowed to lapse.

LOCATION AND PROPERTY

The Lis group of 15 claims is situated about ten miles west of Merritt, B.C., in the Nicola Mining Division. The geographical position is latitude N 50° 10', longitude W 120° 58'.


KAMLOOPS VOLCS
KINGSVALE GROUP
JURASSIC GRANITES
NICOLA GROUP
PAVED ROADS
IMPROVED ROADS
MAP OF HIGHLAND VALLEY - MERRITT AREA. B.C.
Scale. 4 Mls to 1 In.
F. J. HEMSWORTH. P. ENG.
Mar 13 - 1959
BETHLEHEM
Witches Brk
Meadow Cr
Pimainus Cr
Mamit L
Skuhun Cr
GEORGIAN MINERAL INDUSTRIES LTD "LIS" CLAIMS
Guichon Cr
Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO 274
MAP
50° 15'
Nicola R.
C.P.R.Ry
CRAIGMONT
Lower Nicola
Nicola
Canford
Merritt
From G.S.C. Maps. 886-A & 1010-A.

Access from the main Merritt-Spences Bridge highway is from a point just east of the town of Canford, B.C. From this point logging roads lead north through the claims.

Particulars of the Lis mineral claims

Name	Tag No.	Record No.	Record Date
Lis No. 2	252432	6446	March 24/58
Lis No. 3	252433	6447	March 24/58
Lis No. 4	252434	6448	March 24/58
Lis No. 5	252435	6449	March 24/58
Lis No. 6	252436	6450	March 24/58
Lis No. 7	252437	6451	March 24/58
Lis No. 8	252438	6452	March 24/58
Lis No. 9	252439	6453	March 24/58
Lis No. 10	252440	6454	March 24/58
Lis No. 11	317704	6322	March 21/58
Lis No. 13	317705	6324	March 21/58
Lis No. 14	317716	6455	March 24/58
Lis No. 15	317715	6456	March 24/58
Lis No. 16	317714	6457	March 24/58
Lis No. 17	317712	6458	March 24/58

NEIGHBORING PROPERTIES

The Lis claims are bounded on the northwest by Hank claims, on the north by PCM and PR claims, on the east by PL claims, while overlapping the whole area are the most recently staked Art claims. Considerable work has been done on these claims by Centennial Mines Limited, and New Hamil Silver Mines Limited. The Lis property lies about four miles west of the famous Craigmont mine.

GENERAL DESCRIPTION OF THE AREA

The country contained within the Lis claims consists of a series of alternating hills and valleys having a general northeast trend. Rock outcrops are general along the summit of the hillocks but the valleys, and the slopes are covered by a varying thickness of overburden. Small ponds and marshes are interspersed throughout the low land. The ground lies between elevations of 2,500 and 3,500 feet above sea level.

The area has been partially logged and is covered by a sparse growth of pine and interior fir, with clumps of birch and alder in the swampy areas.

GENERAL GEOLOGY AND MINERALIZATION

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. The Lis claims are underlain by volcanics and sediments of the favorable Nicola Series.

The Craigmont mine orebody is contained in steeply-dipping, siliceous and limey tuffs, and limestone members of the Nicola Series close to the contact with the Guichon diorite. The consulting engineers, Chapman, Wood & Griswold, estimate 8,105,000 tons of probable ore averaging 1.99% copper, and 21.7% iron. They estimate the presence of an additional 12,055,000 tons of possible ore of presently undetermined grade. The presence of magnetite iron associated with the copper in the Craigmont deposit facilitated the discovery and development.

Several pieces of float containing copper minerals were found at different places on the Lis claims. One piece a particularly interesting specimen, was found on line Q 500 feet northwest, just below a small magnetic anomaly. The specimen consisted of highly-altered greenstone, interlaced with veinlets of quartz and calcite, and containing considerable chalcopyrite, malachite, azurite, and siderite.

A map showing the position of the claims relative to the geology, transportation facilities, and topography is included in this report.

MAGNETOMETER SURVEY

Survey of Grid

Three baselines were laid out with Brunton compass and chain in a southwest direction, following the original location lines of the claims. The baselines were cut out and lettered stations were established at 400-foot intervals. From each baseline station, lines were run at right angles in a northwest-southeast direction, and readings were taken at 200-foot intervals along these sidelines. The grid thus formed had 400 foot-200 foot station intervals. The road and any other topographical features were noted.

Instrument

Readings were taken at 200-foot intervals with a Radar Magnetometer. This instrument has a sensitivity of 25.7 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 300 gamma intervals are shown by joining points of equal magnetic intensity, interpolating where necessary.

The setting of the instrument was high, and in order to facilitate mapping, 15,500 gammas were subtracted from all the readings.

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 necessarily 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 magnetometer survey shows the presence of three anomalous areas. These areas will be designated by the letters A, B, and C. None of the anomalous areas show particularly high magnetic intensity readings but are sufficiently higher than the normal to be of interest. The normal background reading is around 500 gammas and the designated areas all have intensities greater than 1,200 gammas. It is noticed that all the anomalous shapes have a general

north, northeast trend similar to the strike of larger anomalies on the adjoining Hank claims and lining up with them. There is an apparent northeasterly trending series of magnetic highs which cuts across the structural strike of the rock ridges at a small angle.

Anomaly A

Anomaly A is situated on the western boundary of Lis No. 6 claim but lies mainly in the Art No. 19 Fraction. It consists of two small magnetic positives of 1,842 gammas, separated by a low of minus 5,828 gammas. These several unusual readings are of particular interest because of the specimen of well-mineralized copper float rock which was found just below the anomalous area.

Anomaly B

Anomaly B is on Lis No. 15 and Lis No. 16 and the fraction between. Measured on the 1,200 gamma contour there are two halos; the western one has dimensions of 700 feet long by 200 feet to 500 feet wide. This is an interesting anomaly that merits geological study and exploratory investigation.

Anomaly C

Anomaly C is a northwesterly trending dumbell-shaped figure when the 900 gammas contour is considered. However, the 1,200 gamma contours show two halos with a north-northeast trend. The highest magnetic intensity reading was 1,348 gammas.

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 several magnetic anomalies. The area is geologically favorable for copper mineralization. The outlook is encouraging and additional exploratory work is recommended.

Respectfully submitted,

March, 1959.

F.J. Hemsworth, P.Eng.

Statement of Labor Expenses on the

Magnetometer Survey of the Lis 2-11,

13-17 Mineral Claims, Merritt, B.C.,

in the Nicola Mining Division

R.J. Young-May 27-June 4, 1958, 9 days @$15.00/day-----	$135.00
F.J. Hemsworth-May 27-June 4, 1958, 9 days @$45.00/day-----	405.00
John Sirola-Geophysicist-Feb. 23-28, March 2-16, 1959, 21 days @$30.00/day------	630.00
Roy Watson-Helper-Feb. 23-28, March 2-16, 1959, 21 days @$22.00/day-	462.00
F.W. Reger-Computations & Mapping - March 17-20, 1959, 4 days @$24.00--------	96.00
8% of Payroll for Workmen's Compensation, Unemployment Insurance and Holiday Pay-----	98.16
F.J. Hemsworth-P.Eng.-March 17-20, 1959, 4 days @$45.00----------	180.00
Total	$2,006.16

Certified Correct

March 20, 1959.

F.J. Hemsworth

F.J. Hemsworth.

APPROX BOUNDARY "HANK" CLAIMS

LIS. 17

LIS. 16

"B"

LIS. 15

"C"

LIS. 14

LIS. 2

"A"

LIS. 6

MAGNETIC LOW -5828

LIS. 8

LIS. 10

LIS. 9

LIS. 7

LIS. 4

LIS. 5

LIS. 13

LIS. 3

LIS. 11

ART 21 FR

ART 22 FR

ART 19 FRAC

ART 23

ART 18

ART 20

ART 7

ART 5

PL 24

PL 22

PL 48

PL 46

PL 47

RCM 35

RCM 34

APPROXIMATE POSITION OF "CANFORD" R.R. STATION

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 274 MAP #2

MAGNETOMETER SURVEY

"LIS" CLAIMS. MERRITT, B.C.

SCALE. 1 IN = 400 FT

274

CONTOUR INTERVAL 300 GAMMAS.

F. J. HEMSWORTH, P.ENG.

F. J. Hemsworth

MARCH 20. 1959.

ROADS THUS:-