3145

AEROMAGNETIC SURVEY
VALEX MINES LTD.
MARG CLAIM GROUP
RACING RIVER AREA, LIARD M.D., B.C.
SEPTEMBER, 1970

94K/6W

MARG Claim Group: 100 miles S80W of Fort Nelson, B.C.

N.T.S. - 94K/6W

Report by: Barclay C. Isherwood
Geophysicist
GEOTRONICS SURVEYS LTD.
514 - 602 W. Hastings St.
Vancouver 2, B.C.

Submitted to: VALEX MINES LTD.
404 - 540 Burrard St.
Vancouver 1, B.C.

Aeromagnetic Survey
MARG Claim Group

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Geotronics Surveys

517 · 602 West Hastings Street, Vancouver, British Columbia, Canada ✱ Telephone 688·4342

AEROMAGNETIC SURVEY
VALEX MINES LTD.
MARG CLAIM GROUP

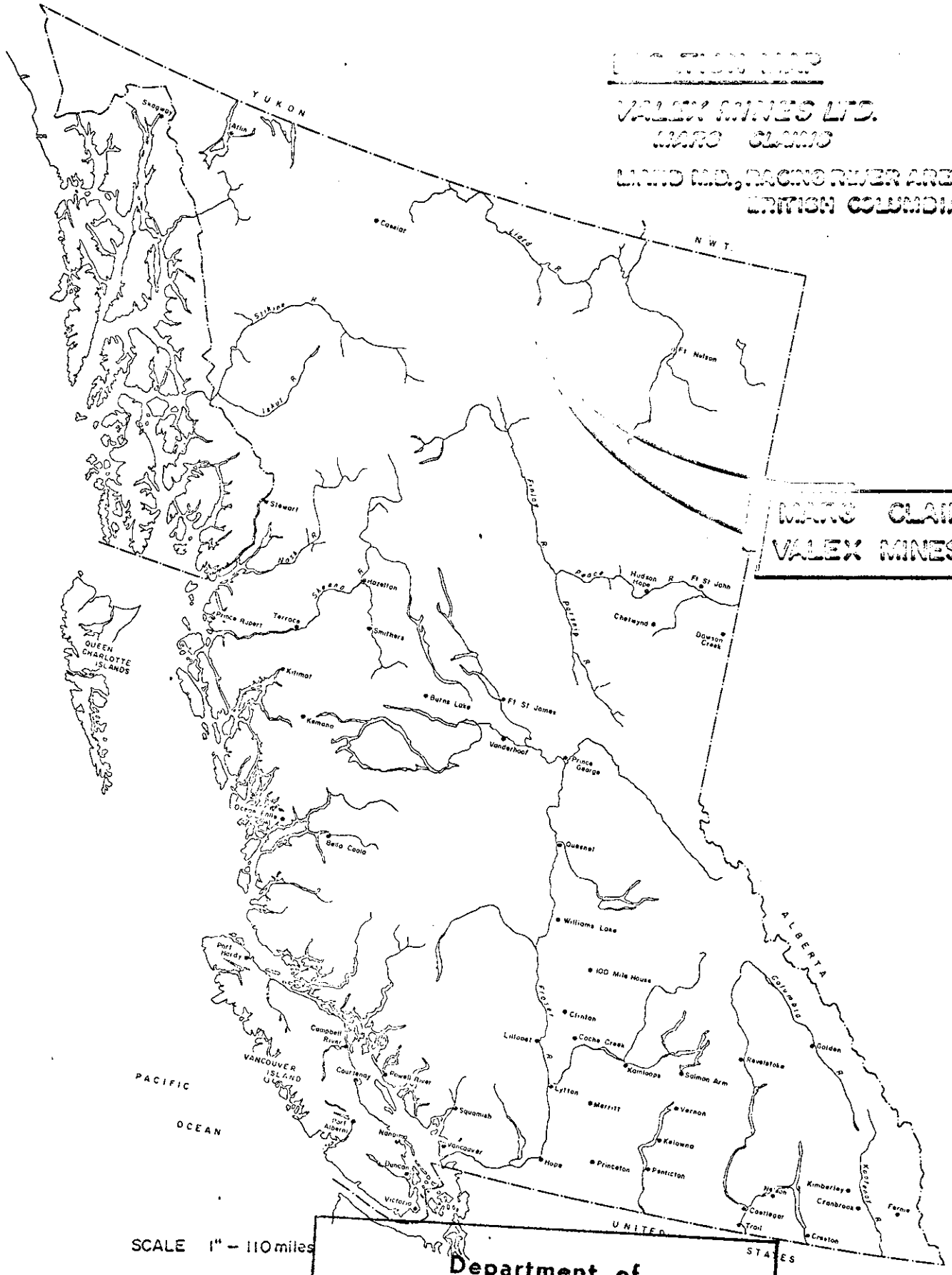
INTRODUCTION

This report discusses the results of an airborne magnetic survey carried out by GEOTRONICS SURVEYS LTD. of Vancouver, B.C. The survey was flown under the technical supervision of T. Rolston in early September 1970.

The object of the survey was to obtain information on the structural geology of the area. Of particular interest was the possibility of delineating any basic igneous dykes common to the area which are associated with high grade copper deposits (Menzies 1951). Since it is known that magnetite comprises nearly 15% of these dyke rocks, a magnetic survey was undertaken.

LOCATION

The property is located approximately 100 miles west of Fort Nelson, B.C. at 58° 28' latitude and 125° 20' longitude.



[illegible] MAP

VALEX MINES LTD.
MARO CLAIMS

LAND M.D., RACING RIVER AREA
BRITISH COLUMBIA

MARO CLAIMS
VALEX MINES

TOPOGRAPHY

The terrain over the MARG Claim Group is very rugged with a relief in excess of 3,000 feet. The elevation varies from 4,500 feet in the southwest corner of the property to over 7,500 feet in the northeast corner. The Delano Creek flows through the southern tip of the claim block. On either side of the creek there are talus slides with an incline of 30° to 45°. These slides are interspersed with rock bluffs and extend for approximately 1,500 to 3,000 feet to larger, often impassable bluffs.

INSTRUMENTATION

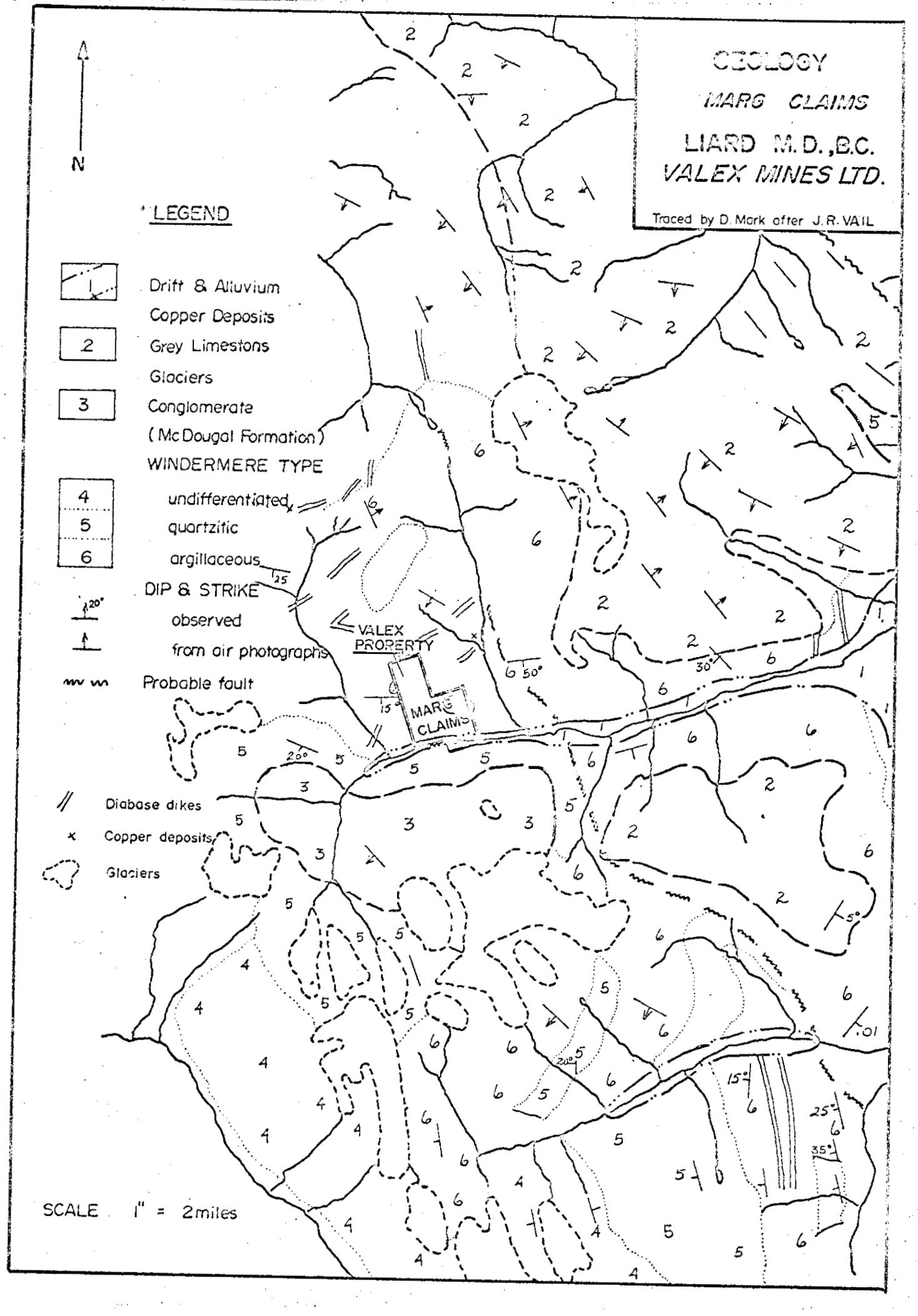
The instrument used to carry out the survey was an ELSEC nuclear free precession proton magnetometer. The magnetometer measures the total magnetic field intensity and has a sensitivity of ± 0.5 gammas. The data were recorded on a Bausch & Lomb 6-inch strip chart recorder which was operated on the 4,000-gamma full scale deflection range for the entire survey. The equipment was operated from a helicopter owned and piloted by Okanagan Helicopters Ltd.

SURVEY PROCEDURE

Operating from the Fort Nelson Airport, the equipment was test-flown and calibrated before proceeding with the survey. Throughout the survey, elevation over the local terrain was maintained at approximately 500 feet. Flight line separation averages 1/8 mile. However, the separation does vary from 400 feet to 1,000 feet due to adverse surveying conditions. The total air survey miles flown was 40 line miles. All magnetic intensity values were transferred from the recorder chart paper, plotted, contoured, and mapped at a 1 inch to 1/4 mile scale.

GEOLOGY

The MARG Claim Group is located on lower Cambrian sediments of the Windermere Formation. According to Vail, 1957, this sequence consists of shales, in places calcareous, then sandstone and quartzite bands, limestones and argillites. Cutting these older sedimentary rocks are a series of basic igneous dykes. They are generally vertical or dip at angles and strike in mainly northeast and northwest directions. Vail has done an extensive microscopic analysis of the rocks from these dykes and found them to contain as much as 15% magnetite. In many cases, these basic dykes


GEOLOGY
MARG CLAIMS
LIARD M.D., B.C.
VALEX MINES LTD.
Traced by D. Mark after J.R. VAIL
N
LEGEND
Drift & Alluvium
Copper Deposits
Grey Limestone
Glaciers
Conglomerate
(McDougal Formation)
WINDERMERE TYPE
undifferentiated
quartzitic
argillaceous
DIP & STRIKE
observed
from air photographs
Probable fault
Diabase dikes
Copper deposits
Glaciers
VALEX PROPERTY
MARG CLAIMS
SCALE 1" = 2 miles

contain quartz carbonate fissure veins which carry "pockety" copper mineralization, principally in the form of chalcopyrite.

INTERPRETATION

The overall magnetic relief over and immediately adjacent to the survey area is approximately 700 gammas with a minimum of 900 gammas and a maximum of 1,400-1,600 gammas. The regional background level is 1,100 gammas.

The magnetic map, Sheet 2, indicates that the contours are generally elongated in a north-south direction. Although the mineralized dykes of interest are known to strike in this direction, most of the magnetic features are not large enough in terms of intensity to represent magnetite mineralization. It is more likely that this effect has been produced by survey technique. Readings are taken along the flight lines every 100 feet while flight line separation is about 800 feet. Consequently, contours around most anomalies will be elongated perpendicular to the flight line direction.

Considering a regional background value of 1,100 gammas, there does not appear to be any areas on the

north or central part of the property which are magnetically significant. The absence of marked magnetic relief over the claim group is due to the uniformity of the sedimentary rocks underlying this area.

There is, however, one magnetically high feature (1,400 gammas) appearing on the south-central edge of the property. Although this anomaly is not very large in areal extent it does display a lineal character and strikes in the same general direction as the dykes of interest. This feature may well indicate some interesting mineralization and warrants further investigation as outlined below.

CONCLUSIONS AND RECOMMENDATIONS

The work done so far on the property is limited to aeromagnetic survey only. It is strongly recommended that the aeromagnetic target areas be located and followed up by a ground magnetometer survey combined with geochemical soil sampling and geological mapping and prospecting.

Respectfully submitted,

GEOTRONICS SURVEYS LTD.

Barclay C. Isherwood

BARCLAY C. ISHERWOOD, M.Sc.
Geophysicist

BCI:ly
June 19, 1971

REFERENCES

Hoge, C.O.: Geology Adjacent to the Alaska Highway, Fort St. John to Nelson Forks; Geological Survey of Canada, Paper 44-30, 1944.

Menzies, N.M.: Geology and Mineralogy of the Strangward Copper Property, South Tetsa River, B.C.; University of British Columbia, M.A.Sc. Thesis, 1951.

Vail, J.R.: Geology of the Racing River Area, British Columbia; University of British Columbia, M.Sc. Thesis, 1957.

Williams, M.L.: Geology Along the Alaska Highway, Fort Nelson to Watson Lake; Geological Survey of Canada, Paper 44-28, 1944.

RESUME OF TECHNICAL AND FIELD EXPERIENCE OF T. W. ROLSTON

1. Eleven years with the R.C.A.F. as Instrument and Electronic Technician with crew supervisory capacity in various electronic and instrumentation systems.

2. Two years with Kerr-Addison Mines Ltd. as Electronic Technician servicing, repairing and maintaining various types of geophysical instruments. Also 2 seasons as Field Supervisor and Geophysical Instrument Operator in mining exploration, including airborne and ground geophysical surveys, geochemical surveys, geophysical and geochemical drafting and mapping.

3. Three years as Field Supervisor of geophysical and geochemical surveys and Instrument Operator of various geophysical instruments, such as airborne and ground systems magnetometer, electromagnetic, gravity meter, self-potential meter, scintillometer and induced polarization.

4. Three years contracting geophysical/geochemical surveys in close association with mining engineers for various mining companies.

5. President and Manager of Geotronics Instruments Ltd., geophysical instrument design, manufacture and distribution.

6. President and Project Manager of Geotronics Surveys Ltd., mining exploration, geophysics and services.

7. Electronics Engineering understudy with Cleveland Institute of Electronics.

8. Member of the British Columbia Geophysical Society.

RESUME OF PROFESSIONAL AND TECHNICAL EXPERIENCE

OF

BARCLAY C. ISHERWOOD, M.Sc.

EDUCATION

Graduate of the University of British Columbia with a B.Sc. and a M.Sc. in Geophysics.

EXPERIENCE IN INDUSTRY

Considerable experience in the computer analysis of seismic and potential field data, at both the hardware and software levels.

1970 - Present - Geophysicist for Geotronics Surveys Ltd., Vancouver, B.C.

1969 - 1970 (exploration seasons) - Geophysicist with Geo-Recon Explorations Ltd., Vancouver, B.C. - refraction seismic and resistivity investigations including interpretation.

1968 (exploration season) - Geophysicist with Chevron Standard Ltd., Calgary, Alberta, designing digital filter operators for seismic data.

1967 - Seismological and geological studies for the Department of Geophysics at the University of British Columbia during the exploration season.

* * * * * * *

Member of the British Columbia Geophysical Society, Vancouver, B.C.

P. Eng. applied for with the Association of Professional Engineers of B.C.

E. P. SHEPPARD & ASSOCIATES LTD.
CONSULTING GEOLOGISTS
314-402 WEST PENDER STREET,
VANCOUVER 3, B.C.

July 2, 1971

Mr. T. W. Rolston
Geotronics Surveys Ltd.
514-602 W. Hastings Street
Vancouver 2, B. C.

Dear Mr. Rolston:

At your request I have reviewed the references cited below and examined the report prepared by employees of your Company on the survey carried out under your technical supervision in September 1970 - "AEROMAGNETIC SURVEY, VALEX MINES LTD., MARG CLAIM GROUP, RACING RIVER AREA, LIARD M.D., B.C."

The 20-claim group is located approximately 100 miles west of Fort Nelson, B. C., at 58° 28' latitude and 125° 20' longitude.

The topography is rugged and the elevation varies from 500 feet in the southwest corner of the property to over 7500 feet in the northeast corner. The Delano Creek flows through the southern portion of the claims group.

Geology: The area is underlain by Windermere type grey-black argillite shale, sandstones and quartzites. The series is cut by near-vertical green basic dykes trending southwest-northeast.

The series exhibits three sets of fracturing. The principal deposits of the area - Churchill Copper, Davis-Keays, and Largo Mines - are vein deposits containing chiefly chalcopyrite in quartz-calcite veins. They are associated with basic dykes over 100 feet in width striking southwest-northeast, which is the direction of one set of fractures. The dykes are known to contain up to 15% magnetite. Thus, airborne magnetic surveying appears to be the logical approach to locating the basic dykes which provide a target for the location of vein deposits associated with them.

The airborne magnetic survey revealed that the overall magnetic relief is approximately 700 gamma with a minimum of 900 gamma and a maximum of 1400-1600 gamma. The regional background level is 1100 gamma.

One magnetic high was outlined on the south central edge

of the property. This small anomaly exhibits a linear characteristic and strikes northerly in the same direction as the basic dykes. This feature may well indicate the position of a dyke and warrants further exploration.

The remainder of the survey indicates the area to be underlain by sedimentaries of the type described in the geology of the area.

The geophysical report and maps submitted by your Company show careful preparation and professional presentation. I am satisfied that the field work performed was of the same high quality.

Respectfully submitted,

E. P. Sheppard

E. Percy Sheppard, P. Eng.
Consulting Geologist

REFERENCES

Hoge, C.O.: Geology Adjacent to the Alaska Highway, Fort St. John to Nelson Forks; G.S.C., Paper 44-30, 1944

Menzies, N.M.; Geology & Mineralogy of the Strangward Copper Property, South Tetsa River, B.C.; U.B.C., M.A.Sc. Thesis 1951

Vail, J.R.; Geology of the Racing River Area, British Columbia; U.B.C., M.Sc. Thesis, 1957

Williams, M.L.; Geology Along the Alaska Highway, Fort Nelson to Watson Lake; G.S.C. Paper 44-28, 1944

EPS:d

END LINE 2

START LINE 5

START LINE 6

END LINE 6

START LINE 7

END LINE 7

START K-1

END K-2

START K-3

END K-4

START K-5

END LINE 5

Creek

DELANO CREEK

D

LEGEND

FLIGHT LINES & Readings

PHOTO POINT 9

PROPERTY BOUNDARY

CLAIM LINE

CLAIM No. 4

3145

NTS 94K/6W

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3145 MAP #3

E. P. SHEPPARD
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA

TO ACCOMPANY GEOPHYSICAL REPORT BY B. ISHERWOOD, B.Sc.

VALEX MINES LTD.

MARG CLAIMS 1-20

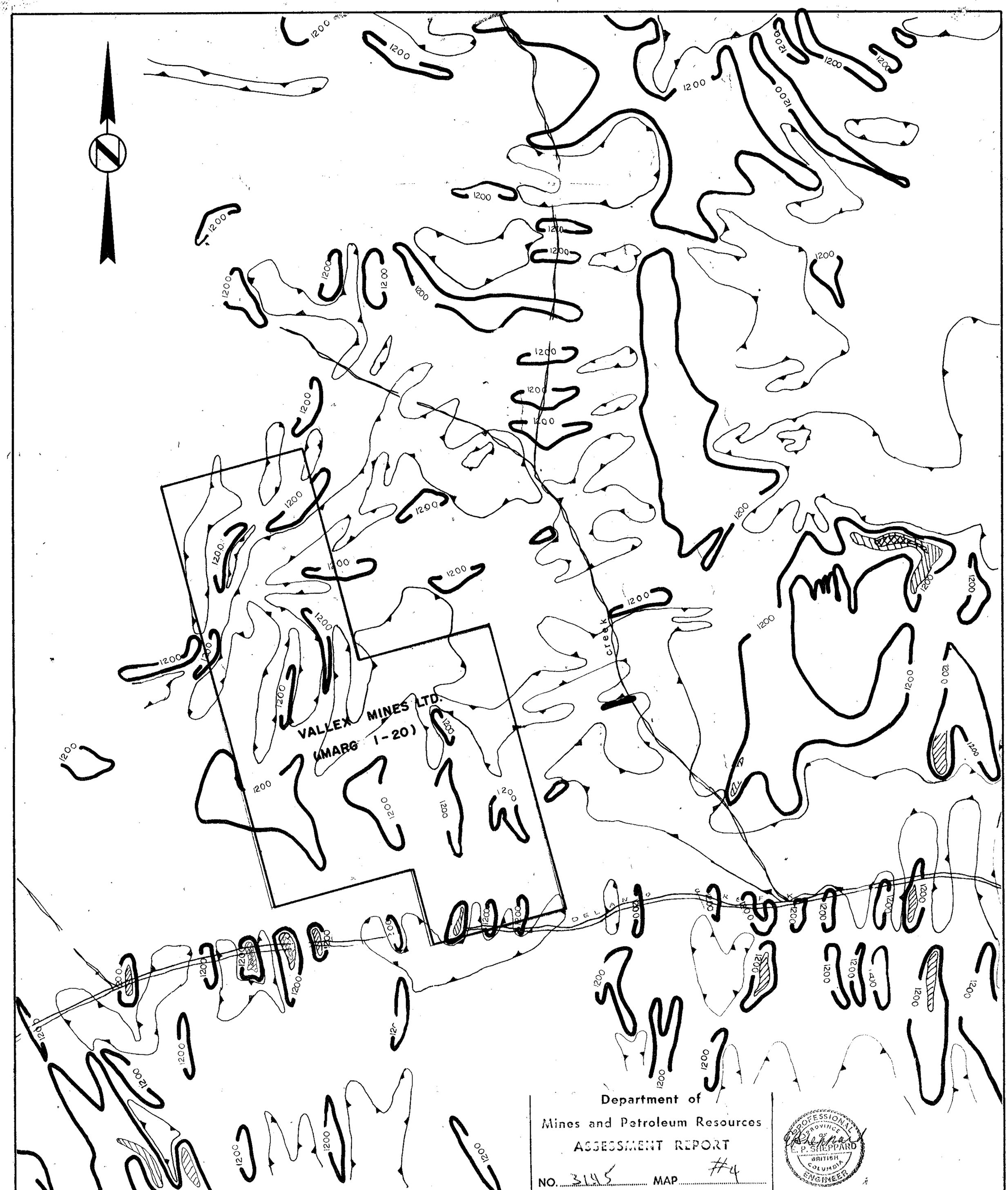
LIARD M.D., DELANO Cr., RACING RIVER, B.C.

Aeromagnetic Survey

type of survey: FLIGHT LINES & CLAIM Location

scale	date	job no.	sheet no.	drawn by
1"apx. 1/4 mile	MAY 1971	70-54	1	P.

Geotronics Surveys Ltd.
Geophysical Surveys, Ground & Airborne
517 - 602 West Hastings Street, Vancouver, British Columbia.



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3145 MAP #4

LEGEND

TO ACCOMPANY GEOPHYSICAL REPORT BY B. ISHERWOOD, B.Sc.

PROPERTY BOUNDARY

CONTOURS

BELOW 1000 gammas

1200 – 1400 "

1400 – 1600 "

NOTE CONTOUR INTERVAL 100 gamma

NTS 94K/6W

3145 M4

VALLEX MINES LTD.

MARG CLAIMS

Liard M.D., Delano Cr., Racing River

Aeromagnetic Survey

type of survey: ***CONTOUR MAP***

scale	date	job no.	sheet no.	drawn by
1"apx. 1/4 mile	MAY 1971	70 - 54	2	P.

Geotronics Surveys Ltd.
Geophysical Surveys, Ground & Airborne
517 – 602 West Hastings Street, Vancouver, British Columbia.