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Report on an
Airborne Magnetometer Survey
of the
Churn Group of Mineral Claims
near Lillooet, B.C.

Maps

1. Location Map # 1
2. Airborne Magnetometer # 2
(in pocket)

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for
Canzac Mines Ltd. (N.P.L.)
#415 - 510 West Hastings Street
Vancouver, B.C.

Survey by
Husky Industries and Services Ltd.
97 - 845 Hornby Street
Vancouver, B.C.

Interpretation by
Joseph Sullivan, F.Eng.,
201 - 525 Seymour Street
Vancouver, B.C.

October 18, 1966.

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Introduction:

On September 22, 1966, Husky Industries and Services Ltd., 845 Hornby Street, Vancouver 1, B.C. conducted an airborne magnetometer survey for Canzac Mines Ltd. (N.P.L.) over the Churn Group of mineral claims.

The instrumentation was done by Mr. R. Robillard of the Husky Industries staff.

The ground control was the responsibility of the client.

Location: (Lat. 51° 10' Long. 122° 30')

The claim group lies near the boundary between the Clinton and Lillooet Mining Division and may spread into both areas. However, on the accompanying sketch the entire group is referred to the Lillooet Division.

In general the location is the divide between Churn Creek and the Yalakom River. More specifically the center of the group is three miles southeast of the peak of Folsom Mountain.

Property:

There are 60 located claims in one contiguous group, the Churn No's. 1 to 60. The recorded owner is Canzac Mines Ltd., 418 - 510 West Hastings Street, Vancouver, B.C.

Geological Summary:

There is little geological data available in the Canadian government geological reports so that the information of Mr. W. C. Cheesman, 1956 and 1957, is used here. Mr. Cheesman compiled his data while in the employ of the Granby Mining Company.

The mineralization which attracts prospecting to the district consists of pyrite, chalcopyrite, magnetite, and lesser molybdenite. Such occurrences may be as minute fracture filling or disseminations in biotite - diorite porphyry, and adjacent altered greywacke. Malachite is usually present on the surface exposures.

The underlying formations are said to be siliceous greywacke which has been intruded by a porphyry complex. Variations in the intrusive are from quartz-biotite-diorite to hornblend diorite and biotite diorite, with a general banded pattern.

Method of Survey:

A magnetometer, built to record the vertical component of the earth's magnetic field, was mounted on a Bell G3-B helicopter. The readings were fed into a chart recorder so that a continuous record of the gamma changes appeared on the charts. The claim group was traversed by twelve north-south lines at approximately 1000-foot spacings. Control

for the survey was directed by Mr. John Buchholz of Canzac Mines.

The operator's field record is included as Appendix I at the back of this report. Those lines marked with "A" are repeat runs of the original pattern.

Interpretation:

This analysis is based on a visual inspection of the recorder charts. Each chart is inspected primarily for gradients, (gradual increases or decreases in the gamma count) along the flight-line. Generally, such gradients are separated by a pronounced signature. The writer believes these signatures are due to faulting, lithographic changes, or topography. Consequently, when correlating between the flight-lines for reproduction of signatures the transverse trends expressed will be due to the same faulting, lithography, and topography.

Occasionally a marked signature appears to have no relationship to the general trends. These may be magnetic peaks, magnetic depressions or dipoles, and are considered to be anomalous.

The survey results are always compared to the known geology of the area, if the geological data is available.

This interpretation was done at the same time as another survey. The missing figures in naming the trends belong to the other area. The trends pertinent to this survey are located on the accompanying flight-line sketch.

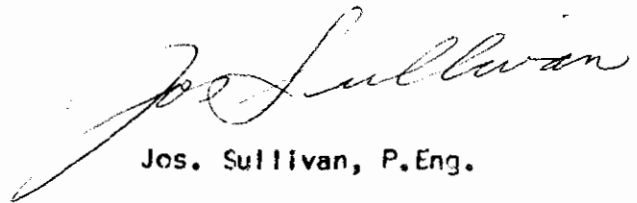
Trend No. 2 on lines 2 and 3 is the line of change from an area of high magnetic susceptibility on the northeast to one of relatively low susceptibility on the southwest. This type of change is common to a change in rock type.

Trend No. 5 is a pronounced drop in the gamma counts from east to west. The general pattern on the charts is the same on both sides of the trend, for this reason the writer suggests the presence of a fault or shear zone.

Recommendations:

The above interpretation for the anomalous conditions on this claim group should be checked on the ground. Frequently this can be done by prospecting and geological mapping. Faults, shears, and rock contacts are often the controlling structures for sulphide mineralization, consequently both trends plotted are worthy of further investigation.

Respectfully submitted,



Jos. Sullivan, P.Eng.

October 18, 1966.

Appendix I
 Airborne Magnetometer Survey for
 Canzac Mines Ltd. (N.P.L.)
Churn Group Lillooet M.C.

<u>Line No.</u>	<u>Direction Flown</u>	<u>Line Length</u>	<u>Mileage</u>
1	S - N	9.0"	1.70
2	N - S	8.8"	1.67
3	S - N	8.5"	1.61
4	N - S	9.2"	1.74
5	S - N	9.1"	1.72
6	N - S	9.3"	1.76
7	S - N	8.9"	1.68
8	N - S	8.8"	1.67
9	S - N	9.1"	1.72
10	N - S	9.0"	1.70
11	S - N	9.0"	1.70
12	N - S	9.1"	1.72
1A	S - N	9.0"	1.70
2A	N - S	8.8"	1.67
3A	S - N	8.5"	1.61
4A	N - S	9.2"	1.74
5A	S - N	9.1"	1.72
6A	N - S	9.3"	1.76
			<u>30.59</u>

Date Flown - September 22, 1966.

Altitude - Approximately 700'

Air Speed - 60 M.P.H.

Sensitivity - 1000 gamma Full Scale

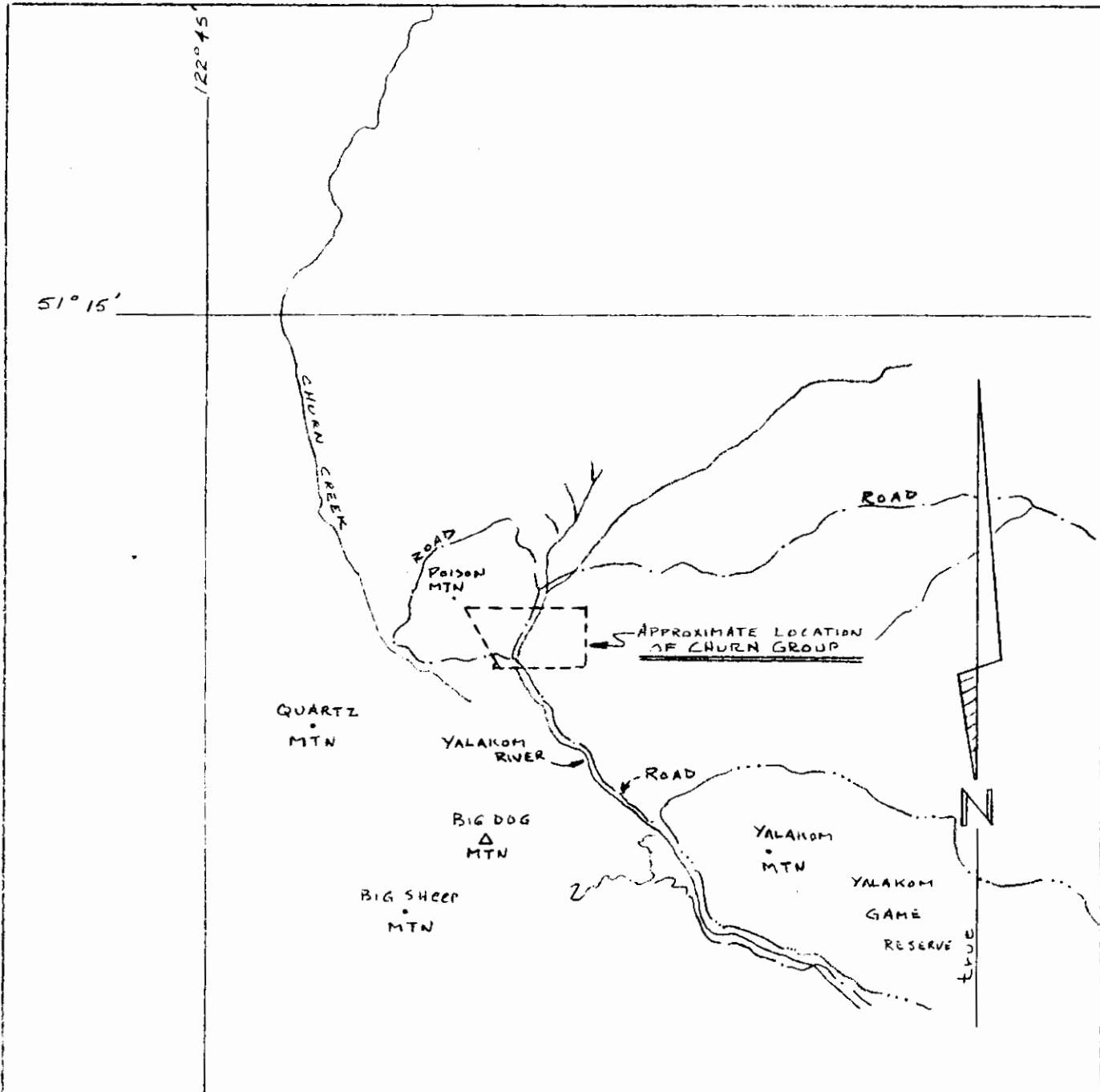
Lines - Approximately 1000' Apart

Line Bearings - North and South

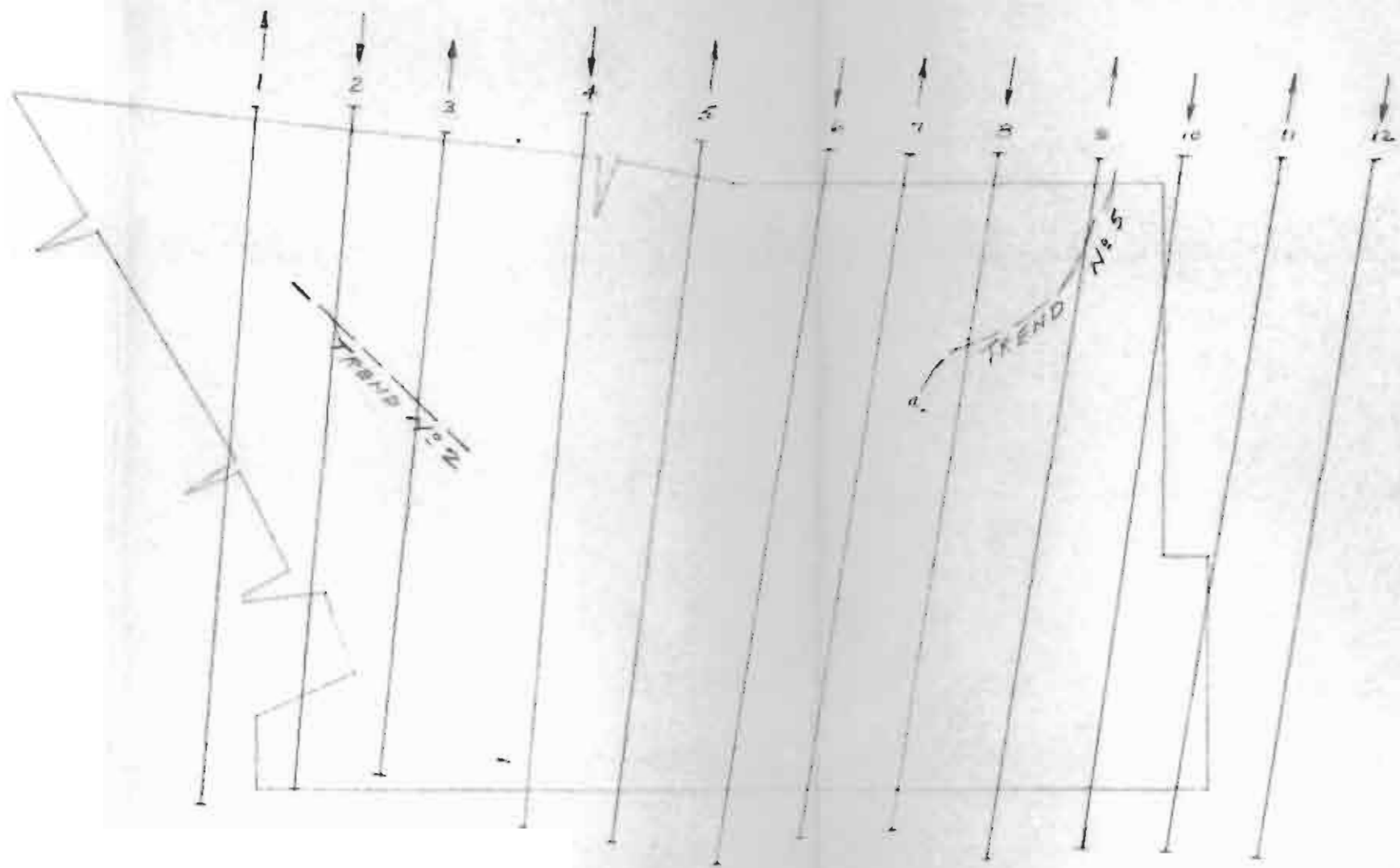
Operator - R. Robillard

Control - John Fuchholz

BY D.M.F. DATE 22-9-66 SUBJECT HUSKY INDUSTRIES & SERVICES LTD. SHEET NO. OF
CHKD. BY DATE AIRBORNE MAGNETOMETER SURVEY FOR JOB NO. 6-A
SCALE 1" = 4 MILES CANZAC MINES LTD. (N.P.L.) CHURN GROUP



LOCATION SKETCH



FLIGHT LINES
& TRENDS

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HUSKY INDUSTRIES & SERVICES LTD.	
CANZAL MINES LTD. (N.P.L.)	LILLOET M.D.
SCALE 1" = 2000'	SEPTEMBER 22, 1966
BY: D.M.E.	

AST



CHURN GROUP
CLAIM SKETCH

926

