

2102

Report on
Geological and Magnetometer Surveys
of the Roper Lake Group of Mineral Claims
South of Greenstone Mountain
Kamloops Mining Division, B.C.
50° 120° N.W.

by
F.J.L. Guardia, B.Sc.
R. G. Jury, P. Eng.

for
TRO-BUTTLE EXPLORATION LTD.

Field work of October 1969

November 28, 1969

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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2102 MAP

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INTRODUCTION

This report sets out the results of a combined geological and magnetometer survey on the Roper Lake Group of mineral claims, jointly owned by Tro-Buttle Exploration Ltd. and its associated company Dominic Lake Mining Ltd. Field work was conducted within the period October 3 - 23, 1969.

The geological work was done by Messrs. F. Guardia and K. Carter of Alrae Engineering Ltd., while the magnetometry was done by K. Carter assisted by C. Nelson, prospector. Mr. Carter is a graduate geologist and is qualified to perform such surveys. The results of the magnetic survey were compiled on accompanying maps by F. Guardia and all work was supervised by R. G. Jury, P. Eng.

Disseminated molybdenite mineralization, within the Roper Lake granitic stock and in the contact zones of the Nicola Group volcanic country rock, had been previously explored by trenching and 15 diamond drill holes. The aim of the present work was to document all outcrops in the mineralized area and to attempt to extend the known contacts under the drift by magnetometry.

LOCATION, ACCESS AND TOPOGRAPHY

The Roper Lake Group is situated at latitude 50°35'N and longitude 120°39'W, some 2-1/4 miles south of Greenstone Mountain. Access is by a one mile road that branches from the gravel road that extends from Cherry Creek on the Cache Creek - Kamloops Highway to the Dominic Lake Fishing Resort.

The average elevation of the claims is approximately 5,000 feet above sea level and total relief is in the order of 400 feet. The area is part of a relatively flat, wooded plateau, typical of south-central British Columbia.

PROPERTY

The Roper Lake Group is comprised of the following claims:

<u>Claim Name</u>	<u>Record Number</u>	<u>Record Date</u>	<u>Registered Owner</u>
Spur 6	49547	April 20, 1965	Dominic Lake Mining Ltd.
Spur 8	49549	April 20, 1965	"
Spur 10	49551	April 20, 1965	"
Spur 12	49553	April 20, 1965	"
'I' Fraction	63818	April 26, 1967	"
'H' Fraction	63820	April 26, 1967	"
'L' Fraction	62547	Jan. 10, 1967	"
TC 7	51464	Sept. 7, 1966	"
TC 9	51466	Sept. 7, 1966	"
TC 11	51468	Sept. 7, 1966	"
TC 13	51470	Sept. 7, 1966	"
TC 15	51472	Sept. 7, 1966	"
TC 25-34 (incl.)	51482 - 51491	Sept. 7, 1966	"
JC 1-8 (incl.)	74106 - 74113	Nov. 5, 1968	Tro-Buttle Expl. Ltd.

The ground to the north, south and west of the Roper Lake Group is also held by Dominic Lake Mining Ltd.

GEOLOGICAL SURVEY

The results of the geological field work are illustrated on the accompanying map, which also shows topography, claim boundaries, trenches and diamond drill holes.

The Roper Lake Group is underlain by basaltic to andesitic volcanic rocks of the Nicola Group of Triassic age. Intruded into these volcanic rocks is the Roper Lake stock, dominantly of granitic composition. Cutting both the Nicola rocks and the granitic stock are diorite and related andesite dykes.

The molybdenite mineralization occurs as disseminations and in narrow quartz stringers that apparently occur mainly in the marginal portions of the stock, and in the volcanics close to the contacts. No molybdenite is seen in the diorite and associated andesite dykes.

The volcanic rocks examined to the north of Roper Lake are mainly exposed by trenching and few solid rock surfaces exist for obtaining structural information. The predominant rock present is a medium grained, dark green, intermediate to basic volcanic which has undergone widespread uraltization that masks much of the femic constituents. Locally, ragged phenocrysts of amphibole are seen set in a dark green-grey groundmass. Chlorite and epidote alteration is usually present in various degrees.

South of Roper Lake the volcanics appear to be much fresher, generally lacking uraltization and are usually fine grained, brittle and green to grey or nearly black in colour. Flow banding and local flow-brecciation are common, the former providing loose evidence of a predominantly southeasterly strike and steep to vertical dip.

Although sedimentary members are known to occur in the Nicola Group regionally, none were detected on the property. However, an outcrop of light brownish-grey tuff is seen at the eastern end of Line 28S.

The Roper Lake stock is generally leucocratic and usually characterized by rounded, lentil-sized quartz phenocrysts. Sparse clusters of mafic minerals include both amphiboles and biotite, more or less altered to chlorite and epidote. Locally, the composition is that of a granodiorite, with increased mafic constituents and a lack of quartz phenocrysts.

Numerous dyke-like apophyses of the granite traverse the volcanics within 500 feet of the surface contact.

Pyrite is abundant as disseminations and fracture coatings in the volcanic rocks near the contact. Less commonly, molybdenite occurs as sparse fracture fillings in the volcanics but was not observed in the disseminated form. Most exposures of the mineralized country rock are well oxidized. In the granitic rocks, particularly the marginal areas and associated granitic dykes, molybdenite occurs as disseminations, minor fracture coatings and as discontinuous wisps within narrow quartz stringers. The quartz stringers are locally abundant and have variable attitudes and are not always molybdenite bearing. Insufficient undisturbed yet mineralized exposures exist to analyze the dominant attitudes of the quartz stringers.

Locally, the granite is intensely altered and invaded by carbonate. At one outcrop close to DDH #5 the white altered granite contains disseminated 1/4 inch cubes of pyrite. There does not appear to be a strong correlation between bleaching and carbonate alteration and distribution of molybdenite.

Whereas the granitic rocks and host rock volcanics almost invariably show some alteration and mineralization, the diorite and related andesite dykes that cut them are entirely fresh and devoid of sulphides. It is concluded that these rocks are post-mineralization and probably genetically related to Tertiary extrusives that outcrop to the northwest of the property. The diorite, which is only seen in contact with the older rocks at one point, is very abundant in drift on the Spur 7-10 claims and suggests an extensive body on the northern edge of the claim group.

Glacial drift forms a blanket over some 95% of the area studied. In the south and west of the area the drift is highly mixed

in composition and forms a gently undulating surface. In the north and east the drift is arranged in a series of subparallel and south-easterly trending ridges, often with steep sides and separated by long swampy draws. Locally, these ridges show cobbles dominantly of one rock type, similar to rocks outcropping nearby and suggesting very local derivation.

MAGNETOMETER SURVEY

The magnetometry was conducted on east-west lines approximately 400 feet apart with a station interval of 100 feet. Pre-existing cut lines were used to 3,100 feet east from the base line, thereafter the lines were relocated to 6,000 feet east of the base line by flagging.

The instrument used on the survey was a Sharpe Model MF-1 Fluxgate magnetometer capable of measuring variations in the vertical component of the earth's magnetic field. Day-to-day and diurnal variations in the field were compensated for by proportional corrections along loops between two base line stations whose magnetic values had been previously determined.

Corrected relative station values, and a contoured map based on those values, are submitted with this report.

Comparison of the magnetometry with the exposed geology indicates that the granitic rocks are reflected by generally low and uniform magnetic values, whereas the Nicola volcanic rocks give higher and more erratic readings. This simple picture is complicated by the apparently high susceptibility of the post-mineralization andesite dykes evidenced by the high relief in the contouring of the northwest quadrant of the area. In addition, a strong northwesterly trend to the magnetics is coincident with the strike of drift ridges and is apparently due to the differential masking of the magnetics by

alternate ridges and draws. The latter feature precludes detailed interpretation of the disposition of the main rock types but it can be seen that the granitic rocks are extensive under the drift in the southern portion of the area and probably also extend beyond the eastern margin between line 8S and 28S.

COSTS

The costs of the combined geological and magnetometer surveys were as follows:

Wages:

F. Guardia	15 days	\$ 1,235.00
K. Carter	21 days	1,050.00
C. Nelson	10 days	321.44
R. Jury	Supervision	<u>200.00</u>
		\$ 2,806.44

Camp costs	335.45
Vehicle rental, gas, repairs	443.04
Travel	76.00
Miscellaneous equipment and expense	<u>220.63</u>
	\$ <u>1,075.12</u>
TOTAL COSTS	\$ <u><u>3,881.56</u></u>

CONCLUSIONS

Molybdenite mineralization occurs as disseminations and fracture coatings in the Roper Lake Stock and the country rock Nicola volcanics close to the contact. The geological survey of the Roper Lake Group of claims documented all outcrops and trench exposures and established the relationships of the various rock types present.

The magnetometry, although clearly differentiating between host rocks and granitic intrusive, was not useful in defining the sub-drift contacts of these rocks due to a strong linearity imposed on the magnetics by the masking effect of numerous southeasterly

trending drift ridges.

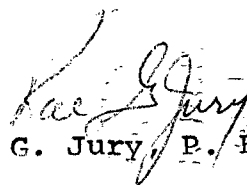
The results of the combined surveys have not resulted in establishment of new exploration targets on the Roper Lake Group.

Respectfully submitted:



F.J.L. Guardia, B.Sc.

Endorsed by:



Rae G. Jury, P. Eng.

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NO. **2102** MAP #1

LEGEND

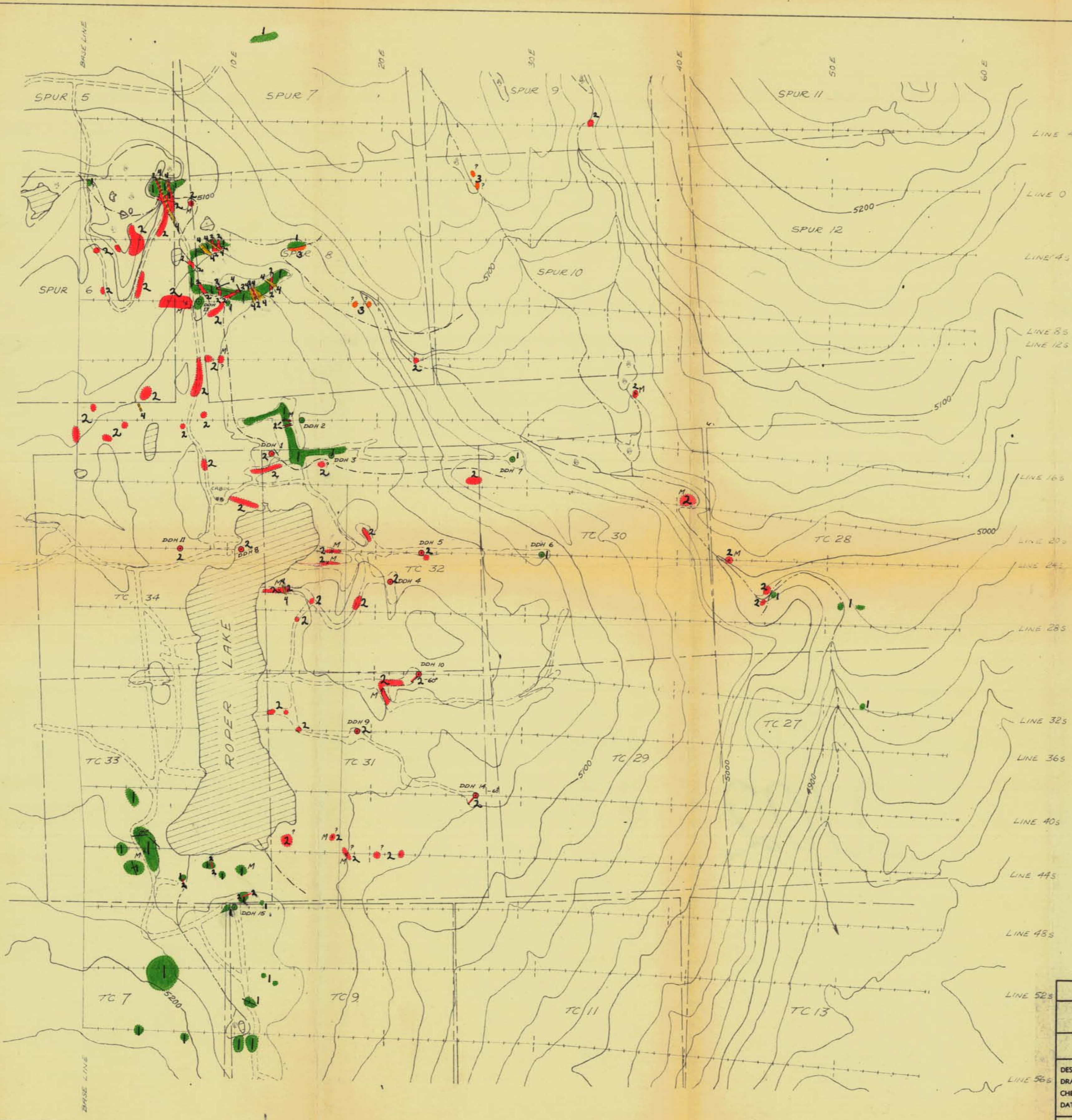
- DRIFT
 - 4 ANDESITE DYKE
 - 3 DIORITE INTRUSIVE
 - 2 ROPER LAKE GRANITE
 - 1 NICOLA VOLCANICS
- } POST-MINERALIZATION
- OUTCROP OR TRENCH EXPOSURE
 - DOUBTFUL OUTCROP
 - GEOLOGICAL BOUNDARY - DEFINED
 - " " - ASSUMED
 - " " - INTERPRETED
 - SHOWING OF MoS₂
 - DIP OF FLOW BANDING (INCLINED, VERTICAL)
 - DIAMOND DRILL HOLE (1967 DRILLING)

2102

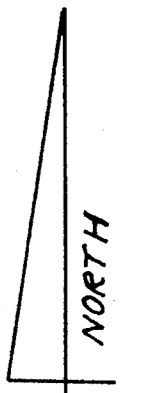
NOTE: To accompany geological & geophysical report on the Roper Lake Group, south of Greenstone Mountain, Kamloops M.D., by F.J.L. Guardia, B.Sc., dated November 28, 1969.

Endorsed by *Randy Gary*

TRO-BUTTLE EXPLORATION LTD.	
GEOLOGY ROPER LAKE AREA	
ALRAE ENGINEERING LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B.C.	
DESIGNED: F.G.	SCALE: HOR. 1" = 400'
DRAWN: F.G.	VERT.
CHECKED: R.G.J.	DWG. No.
DATE: November 28, 1969	



2102



LEGEND

↑ 785 STATION VALUE IN GAMMAS

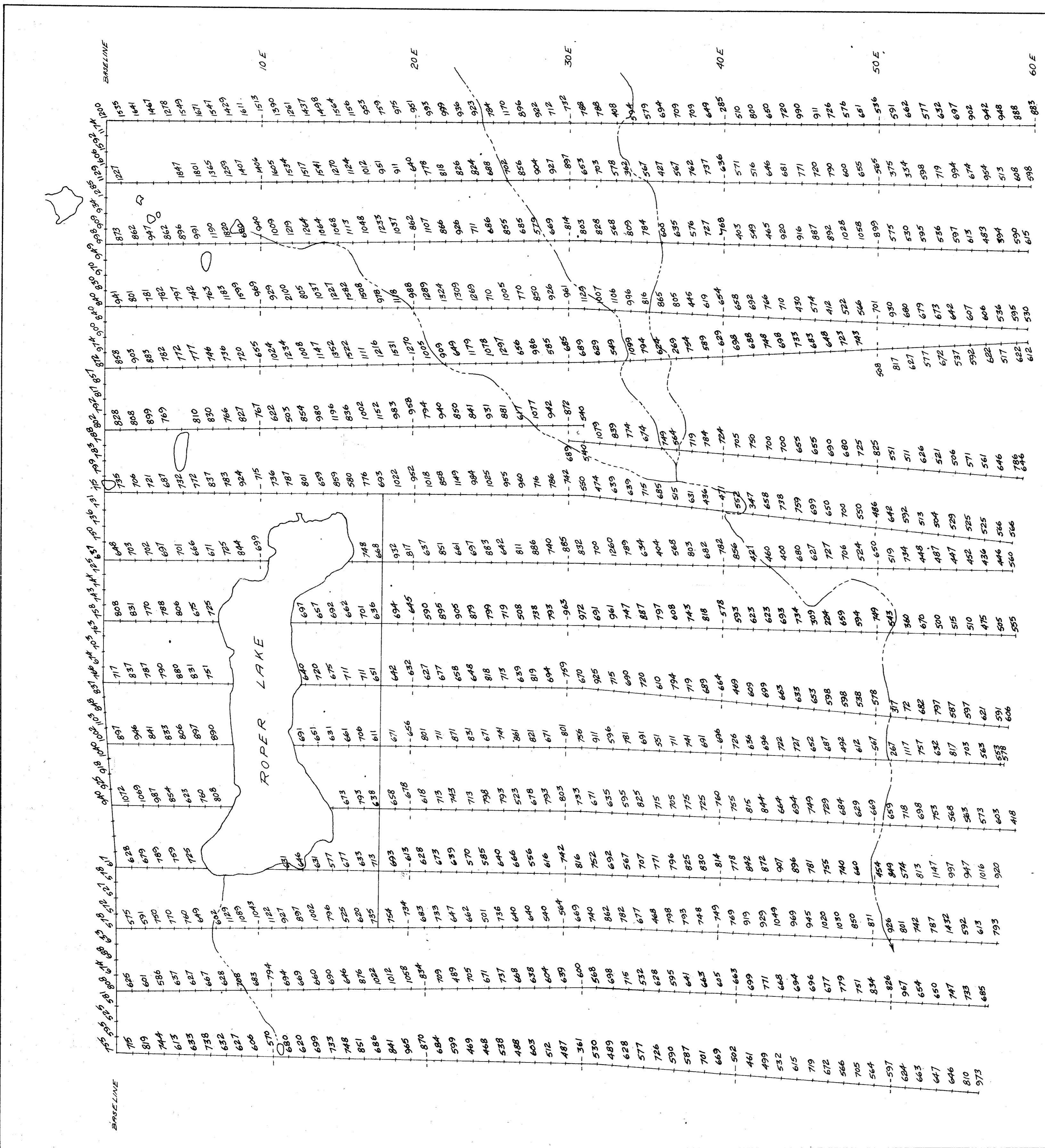
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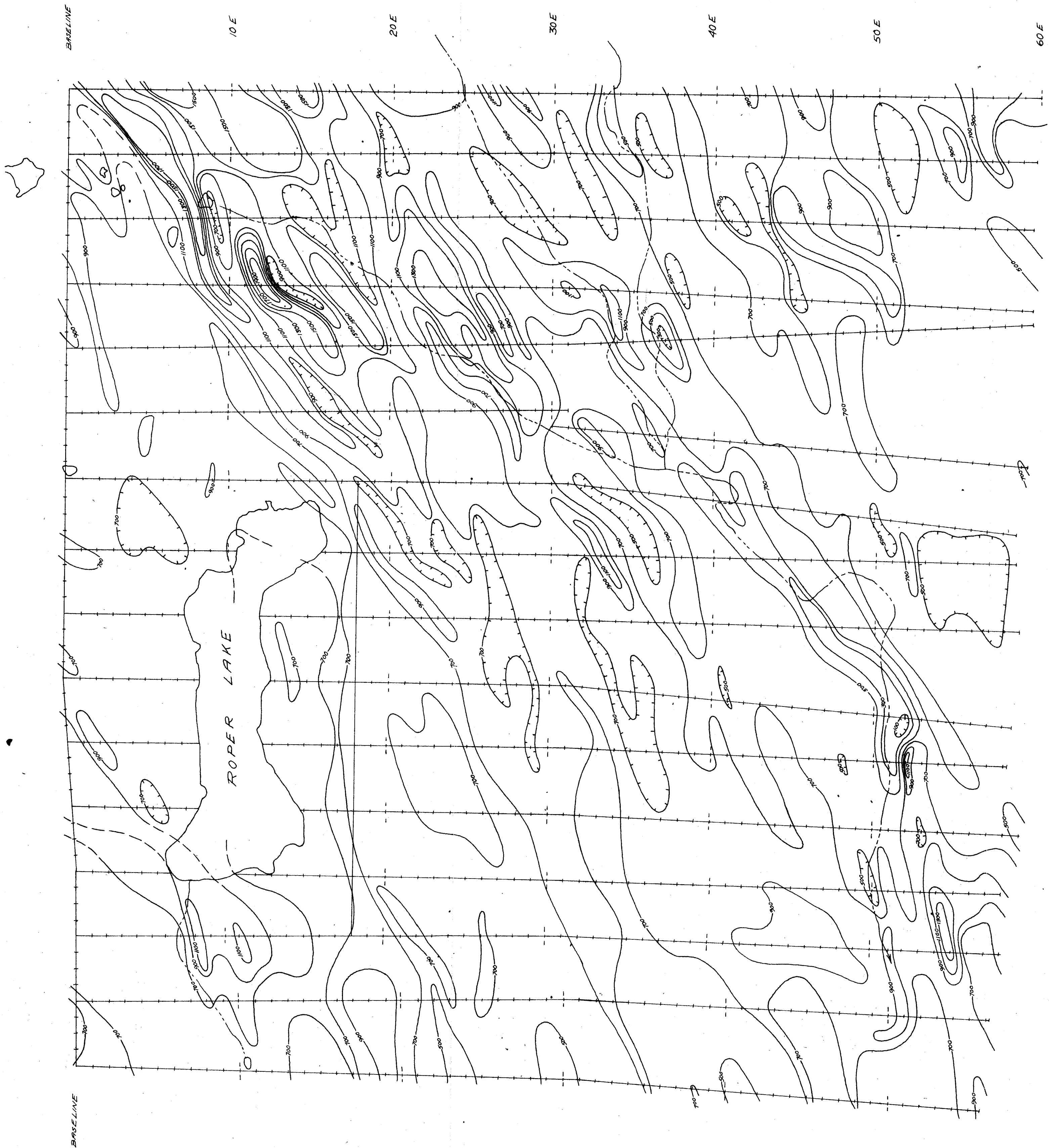
LINE 4N
LINE O
LINE 4S
LINE 8S
LINE 12S
LINE 16S
LINE 20S
LINE 24S
LINE 28S
LINE 32S
LINE 36S
LINE 40S
LINE 44S
LINE 48S
LINE 52S
LINE 56S

NOTE: To accompany geological & geophysical report on the Roper Lake Group, south of Greenstone Mtn., Kamloops N.D., by F.J.L. Guardia, B.Sc., dated November 28, 1969. Endorsed by *Rex Spurr*

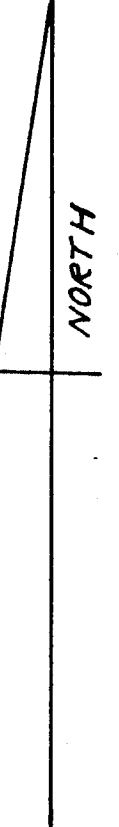
INSTRUMENT: SHARPS MODEL ME-1

TRO-BUTTLE EXPLORATION LTD.	
MAGNETOMETER SURVEY - STATION VALUES	
ROPER LAKE AREA	
ALRAE ENGINEERING LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B. C.	
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LINE 4N
LINE 0
LINE 4S
LINE 8S
LINE 12S

LINE 16S

CONTOURS AT 100 GAMMA INTERVAL

LINE 20S
LINE 24S

LEGEND

- 500 CONTOUR VALUE IN GAMMAS
- MAGNETIC LOW

LINE 28S

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LINE 32S

LINE 36S

NOTE: To accompany geological & geophysical report
on the Roper Lake Group, south of Greenstone Men.,
Kamloops M.D., by F.J.L. Guardia, B.Sc., dated
November 28, 1969. Endorsed by *[Signature]*

LINE 40S

INSTRUMENT: SHARPE MODEL MF-1

LINE 44S

LINE 48S

LINE 52S

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MAGNETOMETER SURVEY - CONTOURS ROPER LAKE AREA	
ALRAE ENGINEERING LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B. C.	
DESIGNED: F.G.	SCALE HOR. 1" = 400'
DRAWN: F.G.	VERT.
CHECKED: E.G.J.	
DATE: November 28, 1969	DWG No.

LINE 56S