

2156

Report on  
Geological and Magnetometer Surveys  
of the GB #2 Group of Mineral Claims,  
Five Miles SSW of Port Hardy,  
50° 127° NW

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

for  
TRO-BUTTLE EXPLORATION LTD.  
Field Work of November - December 1969

January 15, 1970

TO PROTECT OUR CLIENTS, THE PUBLIC AND OURSELVES, ALL REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS AND AUTHORIZATION FOR PUBLICATION OF STATEMENTS, CONCLUSIONS AND EXTRACTS FROM OUR REPORTS MUST RECEIVE OUR WRITTEN APPROVAL.

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 2156 MAP \_\_\_\_\_

TABLE OF CONTENTS

	Page
INTRODUCTION . . . . .	1
LOCATION, ACCESS AND TOPOGRAPHY. . . . .	1
PROPERTY . . . . .	2
GEOLOGICAL SURVEY. . . . .	2
MAGNETIC SURVEY. . . . .	2
ADDITIONAL GEOCHEMICAL ANALYSES. . . . .	3
COSTS. . . . .	4
CONCLUSIONS. . . . .	5

ILLUSTRATIONS	Scale
Histogram of Zinc in Soils	
#1 Magnetometer Station Values	1" = 400'
#2 Magnetic profiles and geological Interpretation	1" = 400'
#3 Revised Geochemical Map	1" = 400'

Illustrations located in folder

TO PROTECT OUR CLIENTS, THE PUBLIC AND OURSELVES, ALL REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS AND AUTHORIZATION FOR PUBLICATION OF STATEMENTS, CONCLUSIONS AND EXTRACTS FROM OUR REPORTS MUST RECEIVE OUR WRITTEN APPROVAL.

## INTRODUCTION

This report sets out results of combined geological and magnetometer surveys on the GB #2 Group of mineral claims, situated some five miles south-southwest of Port Hardy, and on the west side of the Port Hardy-Coal Harbour Road. The claims are recorded in the name of Tro-Buttle Exploration Ltd. Field work was conducted in the period November 23 to December 6, 1969.

The geology and magnetometry were conducted by J. Pagella, geologist, R. Smith, field assistant and J. Bartle, prospector, of Alrae Engineering Ltd., of Vancouver. The results were compiled by F. Guardia, senior geologist and all work was under the supervision of R. Jury, P. Eng.

The GB #2 Group lies in an area of scant rock outcrop and dense forest growth. Magnetometry was conducted to attempt to define major sub-drift rock units in order to more fully evaluate results of the 1968 geochemical survey.

Additional analyses for zinc and molybdenum were conducted on samples previously collected in 1968. These were considered necessary in the light of new geological information becoming available since original analyses for copper and zinc were made.

## LOCATION, ACCESS AND TOPOGRAPHY

The GB #2 Group of mineral claims lie some five miles south-southwest of Port Hardy on Vancouver Island. The eastern edge of the claim group lies along the Port Hardy-Coal Harbour Road from which logging roads provide access to the property.

Average elevation of the claims is 200 - 900 feet above mean sea level. The major creek flowing west-east across the claims lies in a deeply incised gorge in the drift cover. Secondary forest

TO PROTECT OUR CLIENTS, THE PUBLIC AND OURSELVES, ALL REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS AND AUTHORIZATION FOR PUBLICATION OF STATEMENTS, CONCLUSIONS AND EXTRACTS FROM OUR REPORTS MUST RECEIVE OUR WRITTEN APPROVAL.

growth covers much of the area surveyed, greatly reducing visibility and impeding progress.

PROPERTY

The GB #2 Group consists of the following claims:

<u>CLAIM NAME</u>	<u>RECORD NUMBER</u>	<u>RECORD DATE</u>
GB 15-30 incl.	22186 - 22201	Dec. 22, 1967
GB 69	22836	Jan. 30, 1968
GB 70	22837	Jan. 30, 1968
GB 77-80 incl.	22840 - 22843	Jan. 30, 1968

All claims lie within the Nanaimo Mining Division and are recorded in the name of Tro-Buttle Exploration Ltd.

GEOLOGICAL SURVEY

Preliminary mapping by K.E. Northcote of the B.C. Ministry of Mines and Petroleum Resources (1968) indicates that the GB #2 Group is largely underlain by the Karmutsen Formation, a dominantly volcanic sequence, part of the Vancouver Group. Intrusive rocks of Mesozoic age are shown emplaced in the southeast corner of the claims. The present work despite only very sparse outcrops, but aided by the magnetic survey, indicates that almost the entire group is underlain by intrusive rocks of granitic to granodioritic composition. Volcanics, in the form of fine grained andesite and presumably belonging to the Karmutsen Formation occur only in the northeast part of the group.

A possible third rock type, unexposed but suggested by the magnetics, may underlie the southern edge of the claims.

MAGNETIC SURVEY

The magnetometry was conducted by J. Pagella and R. Smith on preexisting flagged but uncut north-south lines 800 feet apart. Station interval on these lines was 100 feet. Due to the very slow

progress caused by dense secondary growth and the wide line spacing, magnetometry was done by a series of line traverses and results presented as individual line profiles rather than contours. Day-to-day and diurnal variations have not been corrected for.

The instrument used for the traverses was a McPhar M500 fluxgate magnetometer capable of measuring variations in the vertical component of the earth's magnetic field.

Station values, line profiles and interpreted geological boundaries are shown on the accompanying maps.

#### ADDITIONAL GEOCHEMICAL ANALYSES

Due to the improved geological information provided by the Minister of Mines and Petroleum Resources reports, and new data on the important Utah Construction Company discovery at nearby Rupert Inlet, it was considered necessary to obtain additional analyses for molybdenum and zinc on soil samples collected from the GB #2 Group in May 1968.

101 additional analyses for zinc and 232 analyses for molybdenum were made by Chemex Labs Ltd. of North Vancouver, B.C., on November 10, 1969.

Samples were originally collected by auger, wherever possible from the 'B' horizon, dried and then shipped to Chemex Labs Ltd. The additional analyses were performed on the pulps retained by that laboratory. The following procedure was used in analysis of the samples:

1. Samples are sorted, recorded and dried at 60°C.
2. Dried samples are sieved to -80 mesh fraction in nylon and stainless steel sieves.
3. 1 gram of -80 mesh fraction is weighed into test tube and digested with hot 70% perchloric and concentrated nitric acid.

TO PROTECT OUR CLIENTS, THE PUBLIC AND OURSELVES, ALL REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS AND AUTHORIZATION FOR PUBLICATION OF STATEMENTS, CONCLUSIONS AND EXTRACTS FROM OUR REPORTS MUST RECEIVE OUR WRITTEN APPROVAL.

GB # 2 GROUP

GEOCHEMICAL SOIL SURVEY - MAY 1968

HISTOGRAM OF ZINC IN SOILS

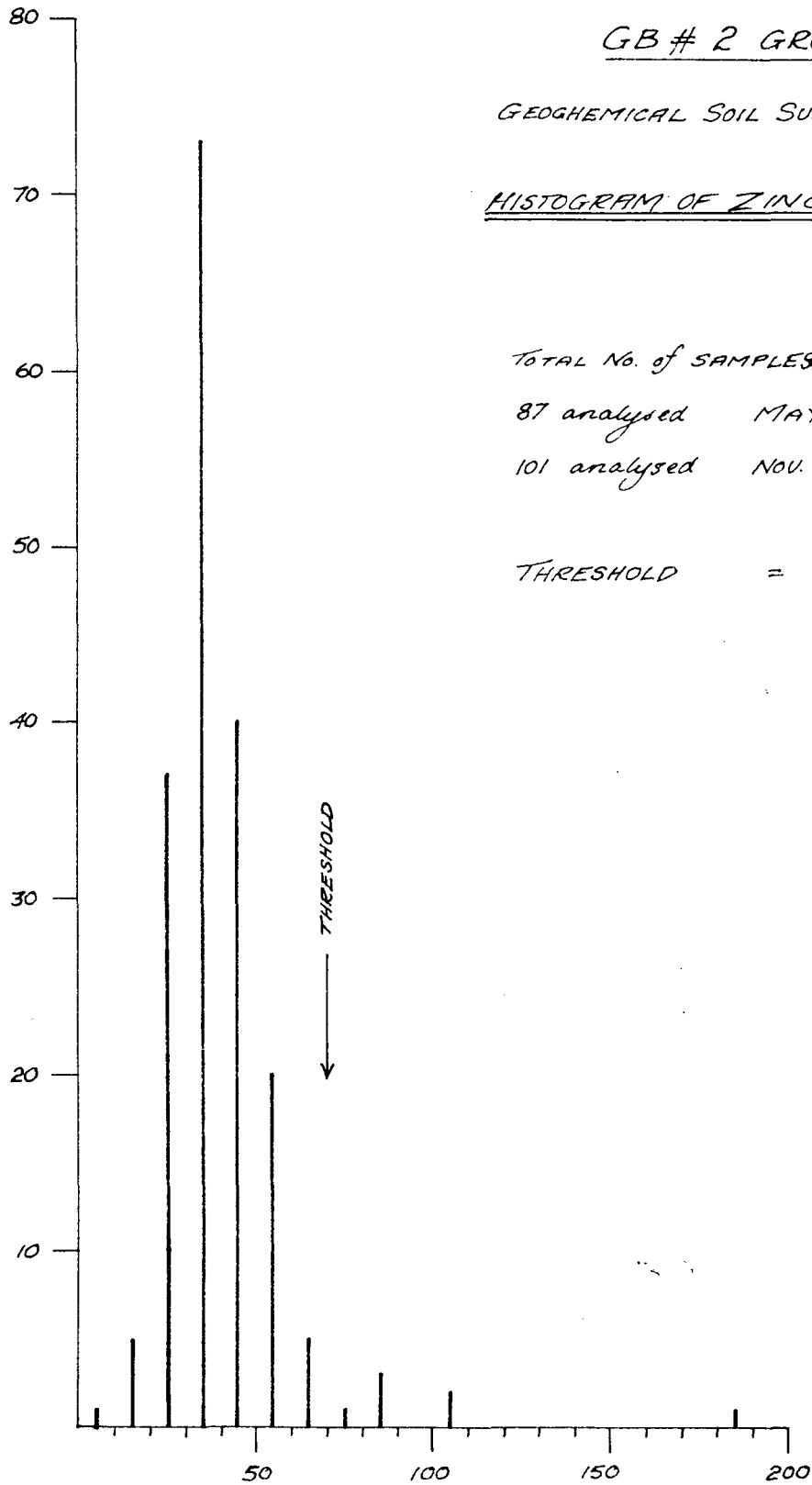
TOTAL No. of SAMPLES — 188

87 analysed MAY 1968

101 analysed NOV. 1969

THRESHOLD = 70 ppm zinc

NUMBER OF SAMPLES



ppm ZINC

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 2156 MAP

4. Digested samples are diluted to 50 ml. volume with demineralized H<sub>2</sub>O and mixed thoroughly. Solutions are settled until clear.
5. Copper and zinc are analyzed in aqueous solution with Techtron A-A-3 Atomic Absorption Unit - Detection Limit in soils and stream sediments is 1 ppm.
6. Molybdenum is analyzed colorimetrically, with stannous chloride - ammonium thiocyanite extraction and 'Moly' complex is read on Bausch and Lomb Spectronic -20. Detection Limit - 1 ppm.

The results of both the additional analyses and previous analyses (from report of G.A. Dirom, January 4, 1967) are presented on the Revised Geochemical Map accompanying this report.

Threshold for zinc has been recalculated for the additional samples and a histogram for zinc in soils accompanies this report. Threshold for zinc is calculated at 70 ppm and is exceeded by six samples. However, the highest values is only 180 ppm and is probably not significant.

Of 232 samples analyzed for molybdenum, 188 gave zero values and an arbitrary threshold of five parts per million Mo. has been arrived at by inspection. 18 samples exceeded threshold and of these six that exceed nine parts per million Mo. are considered to be anomalous.

COSTS

Geological and Magnetic Surveys

Wages:	J. Pagella	6-1/2 days	325.00	
	R. Smith	13-1/2 days	450.00	
	J. Bartle	8 days	320.00	
	F. Guardia	6-1/2 days	520.00	
	A. Ditto)	Crew	100.00	
	R. Jury )	Mobilization	<u>50.00</u>	\$ 1,765.00

TO PROTECT OUR CLIENTS, THE PUBLIC AND OURSELVES, ALL REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS AND AUTHORIZATION FOR PUBLICATION OF STATEMENTS, CONCLUSIONS AND EXTRACTS FROM OUR REPORTS MUST RECEIVE OUR WRITTEN APPROVAL.



Personnel expenses: Pagella, Smith, Guardia and Bartle	665.88	
Telephone	13.45	
Maps - Riley's Datashare Ltd.	6.00	
Field Supplies	5.05	
Warehouse Services	5.40	
Overhead	<u>75.17</u>	\$ 770.95
Rentals: GMC Truck - Nov 23 - Dec 6/69	270.00	
Camp, Field Gear       "	<u>100.00</u>	370.00
Additional Geochemical Assays: Chemex Labs plus overhead (10%)		<u>310.86</u>
<b>TOTAL COSTS</b>		<b>\$ <u>3,216.81</u></b>

### CONCLUSIONS

Evidence from the sparse outcrops combined with the magnetometer traverses strongly suggest that some three-quarters of the property is underlain by intrusive rocks of granitic to granodioritic composition. The remainder, mainly that occupying the northeast corner of the claims and possibly also the southern fringe, is underlain by volcanic material probably belonging to the Karmutsen Formation.

Past and recent analyses of geochemical soil samples collected in May 1968 has shown a weakly anomalous zone for copper and molybdenum in the eastern part of the claim group close to the volcanic/intrusive contact. Lack of continuity within the zone and generally weak anomalous values do not suggest the need for further investigation.

Anomalous values for molybdenum occur with a rough northeasterly trend in the northwest corner of the surveyed area. The

magnetics suggest that intrusive rocks underlie this zone. However, as most of the anomalous zone is covered by ground belonging to other parties, no further investigation is contemplated at this time.

Respectfully submitted:

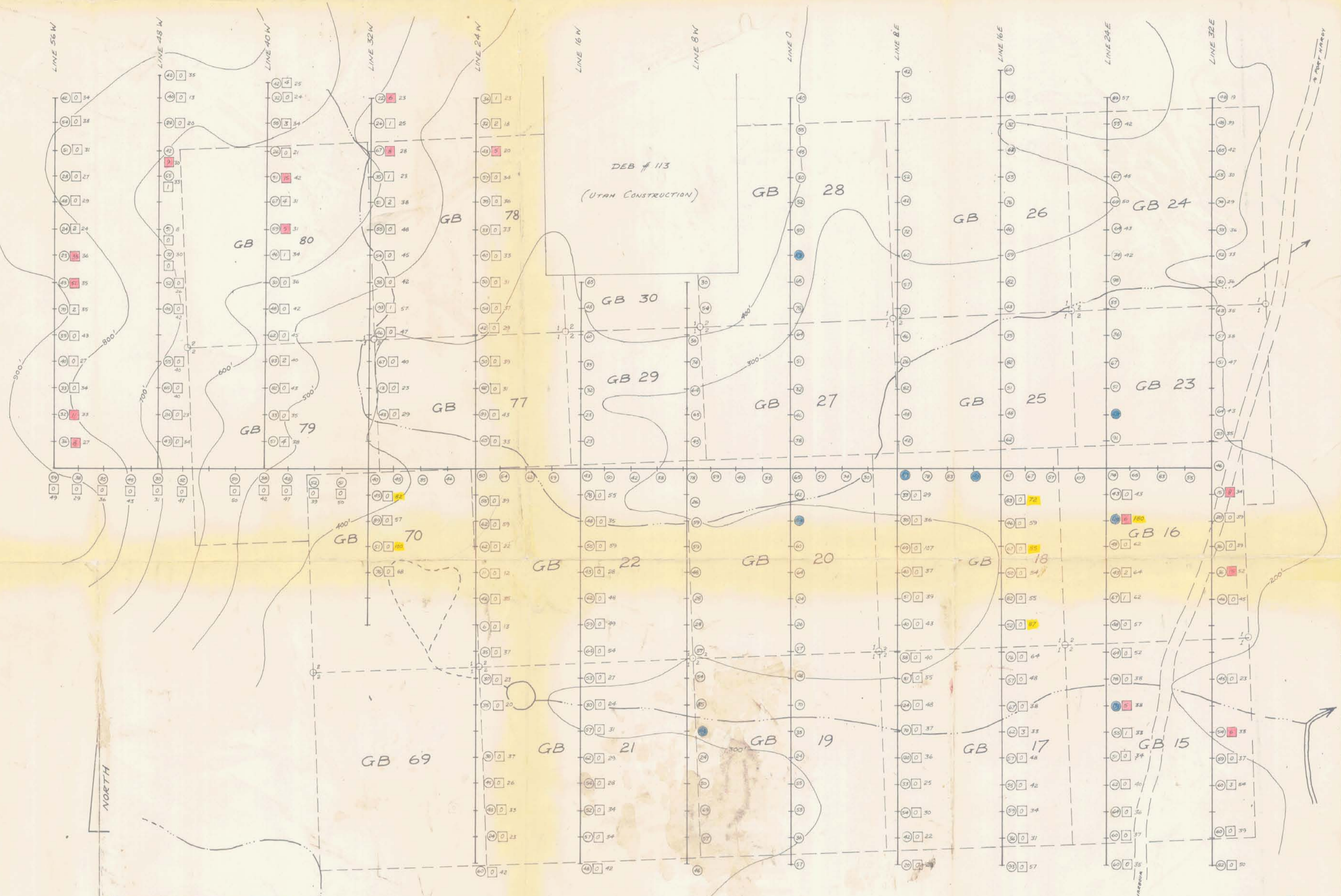


F.J.L. Guardia, B.Sc.

Endorsed by:



Rae G. Jury, P. Eng.



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2156 MAP #3

Note: Map to accompany report on Geological & Magnetometer Surveys on the G.B. # 2 Group, Nanaimo M.D., by F.J.L. Guardia, dated January 15, 1970. Endorsed by R.G. Jury, P. Eng.

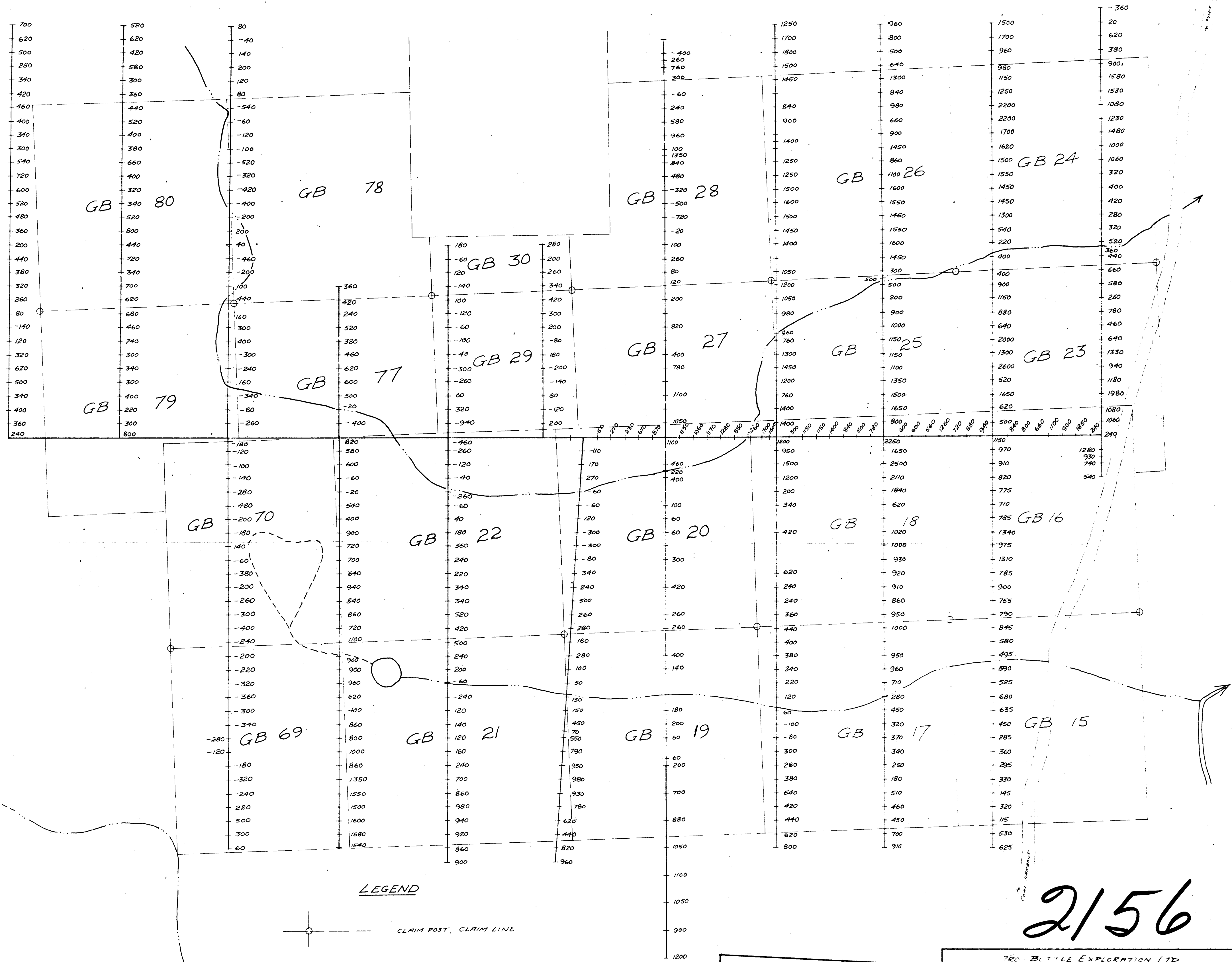
Rae E. Jury

LEGEND

Cu	100	ppm copper	IN SOILS
	100	Copper value above threshold (threshold 100 ppm)	
Mo	5	ppm molybdenum	
	5	Molybdenum value above threshold (threshold 5 ppm)	
Zn	70	ppm zinc	
	70	Zinc value above threshold (threshold 70 ppm)	

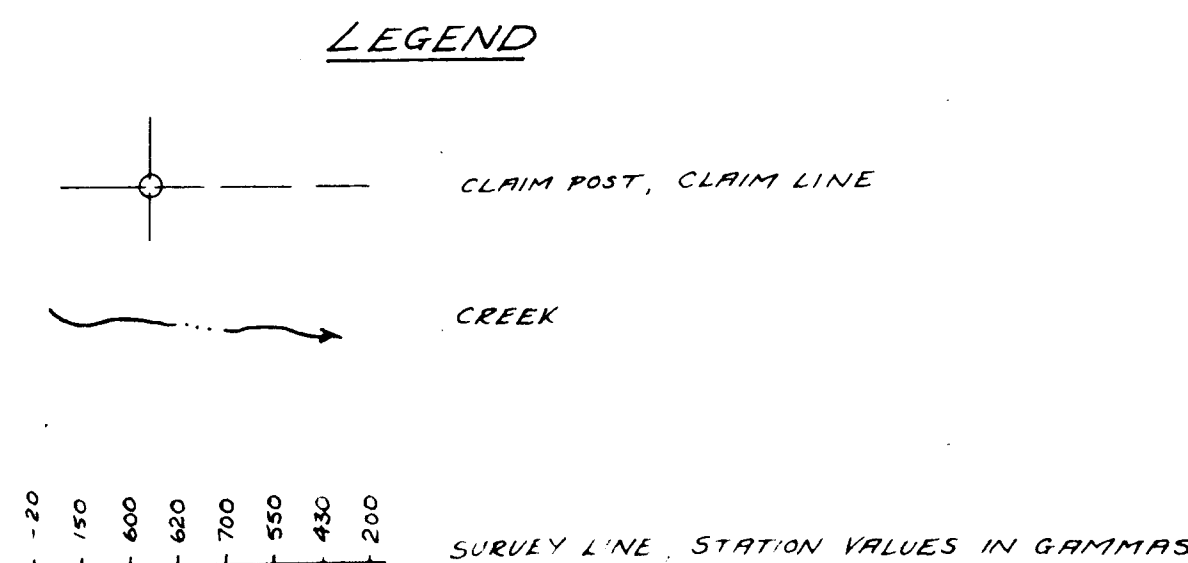
2156

TRO-BUTTE EXPLORATION LTD	
REVISED GEOCHEMICAL MAP	GB # 2 GROUP PORT HARDY 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: JANUARY 15, 1970	



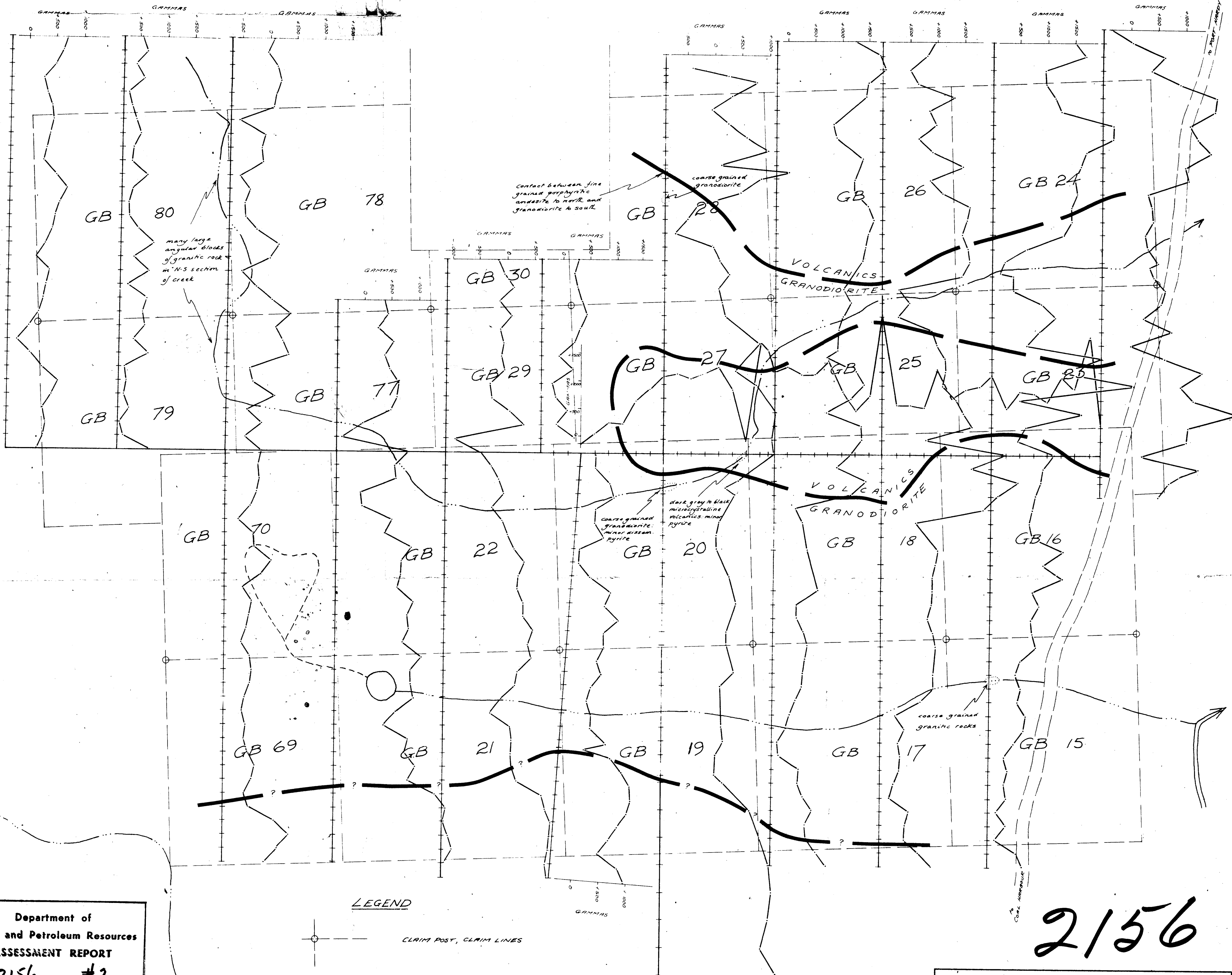
NOTE: Map to accompany report on Geological & Magnetometer Surveys on the GB # 2 Group, Nanaimo M.P., by F.J.L. Guardia, dated January 15, 1970. Endorsed by R.G. Jury, P. Eng.

*Rae & Jury*



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2156 MAP #1

720 BUTTE EXPLORATION LTD	
GB # 2 GROUP	
MAGNETOMETER STATION VALUES	
ALRAE ENGINEERING LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B. C.	
DESIGNED..... P.R.	SCALE: HOR 1" = 400'
DRAWN..... F.G.	VERT
CHECKED..... R.G.J.	DWG No
DATE..... JANUARY 15, 1970	

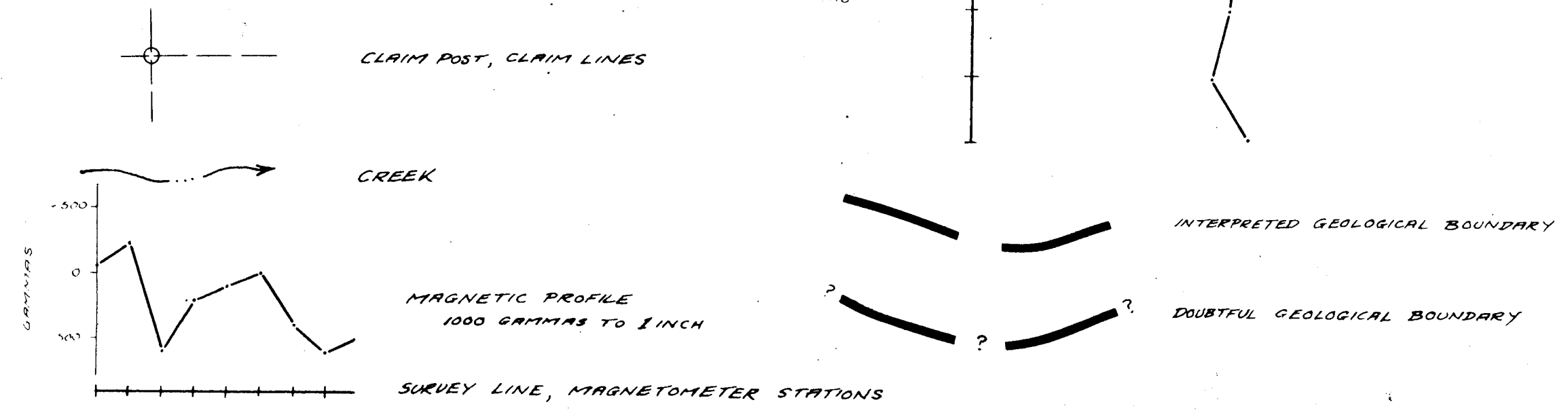


Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2156 MAP #2

NOTE: Map to accompany report on Geological & Magnetometer Surveys on the GB #2 Group, Nanaimo M.D., by F.J.L. Guardia, dated January 15, 1970. Endorsed by R.B. Jury, P. Eng.

Rae E. Jury

LEGEND



2156

TRO-BUTTE EXPLORATION LTD.	
GB #2 GROUP	
MAGNETIC PROFILES & GEOLOGICAL INTERPRETATION	
ALBAE ENGINEERING LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B.C.	
DESIGNED..... F.G.	SCALE HOR. 1" = 400'
DRAWN..... F.G.	VERT.
CHECKED..... R.B.J.	DWG. No.
DATE..... JANUARY 15, 1970	