

84-1037-13018

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

13,018

A Magnetic And Geochemical Report

on the

GROGAN GROUP

located in the

Likely Area, Cariboo Mining Division

Map M93A/12E

Latitude $52^{\circ}37.5'N$ and Longitude $121^{\circ}31.5'W$

for

Howard C. Cook

by

Raymond A. Cook B.Sc., M.Sc., Geology

October 25 1984

Raymond A. Cook

TABLE OF CONTENTS

I.	INTRODUCTION	page 1
	Property.....	page 1
	Location and Access.....	page 1
	Topography and Vegetation.....	page 1
	Performed Work.....	page 2
II.	RESULTS.....	page 2
	Magnetic Survey.....	page 2
	Geochemical Survey.....	page 3
III.	INTERPRETATION.....	page 4
IV.	CONCLUSIONS.....	page 4
	APPENDIX I.....	page 6
	APPENDIX II.....	page 7
	FIGURES 2,3 and 4.....	in pocket

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I. INTRODUCTION

A magnetic and geochemical survey was conducted from October 5 to October 28 1983 on the Grogan Group claims.

Property

The claims included in the Grogan Group are located in the Quesnel lake area of the Cariboo Mining Division, British Columbia. The claims are held by Howard C. Cook and include:

<u>Claim</u>	<u>Record No.</u>
Nina	5392
Howie	5393
Rory	5394
Matt	5395
Paul	5396

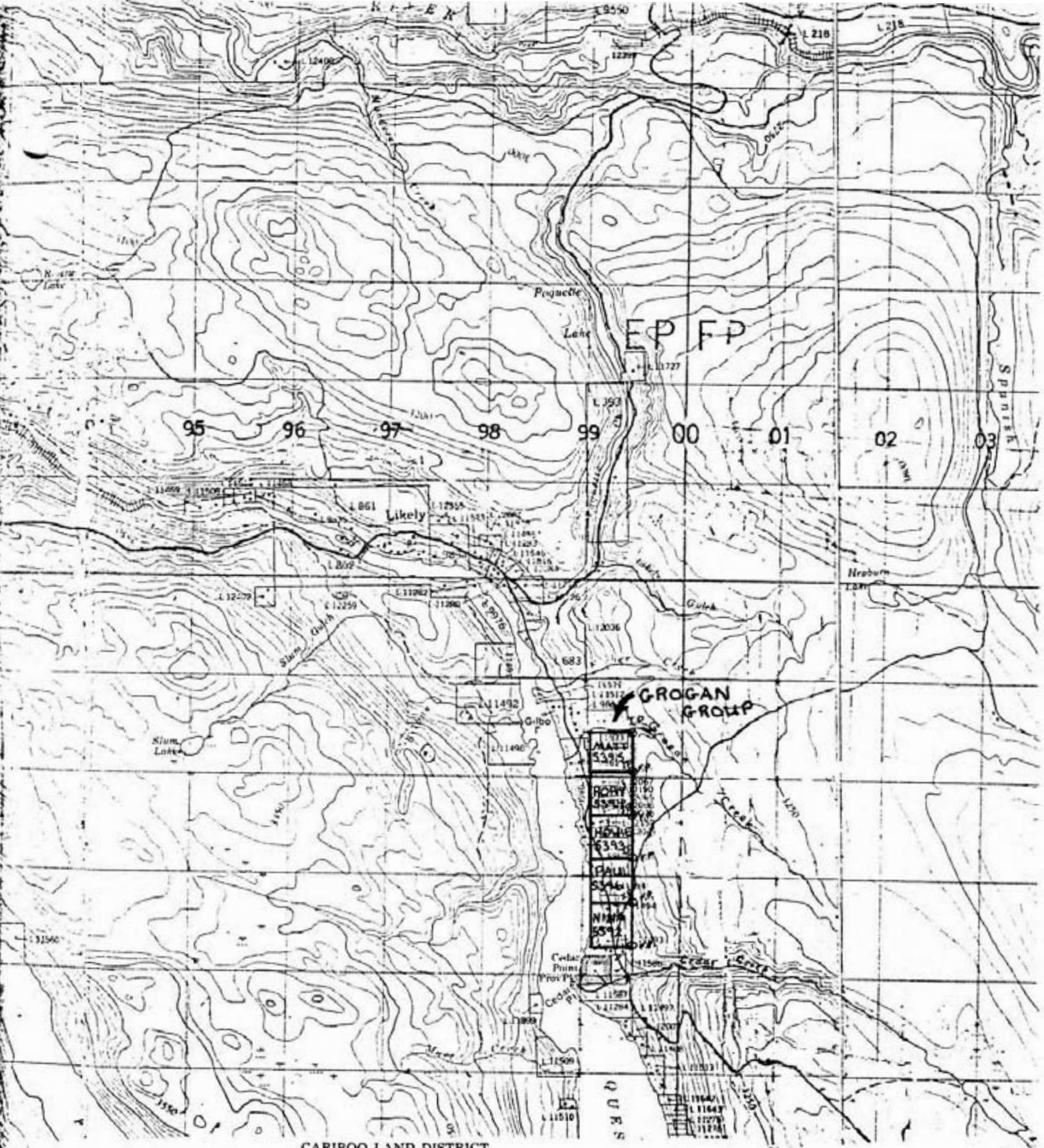
Location and Access

The Grogan Group is located 3 to 5 kilometers southeast of the town of Likely, British Columbia. Likely is some eighty-three kilometers from One Hundred and Fifty Mile House by a partially paved and gravelled road. The property is accessible by a paved road from Likely which branches to the northeast toward Grogan Creek, figure 1. The road crosses the Paul claim south and west of Grogan Creek.

Topography and Vegetation

The elevation of the property varies from 750 meters at Quesnel Lake to 920 meters for the Grogan Creek plateau. The topography is divided between the flat plateau on the east and the slope descending to the lake on the west. The vegetation cover is thick with several periods of regrowth composed of cedar, birch, hemlock, fir, pine and alder trees with a variety of shrubs.

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CARIBOO LAND DISTRICT
BRITISH COLUMBIA

Scale 1:50,000 Échelle

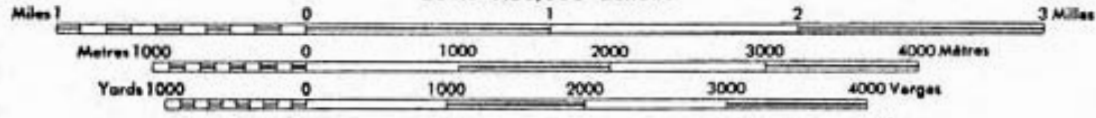


FIGURE 1. GROGAN PROPERTY

Roger A. Cook

This Provisional Map is equivalent to a standard map in accuracy of content.

Some names on this map are not yet official. Corrections or additions are invited by the Surveys and Mapping Branch.

CONTOUR INTERVAL 100 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection

Performed Work

The property was partially surveyed both magnetically and geochemically from October 5 to October 28 1983 with 16,800 meters magnetically tested at 25 meter intervals and 9000 meters geochemically tested at 50 meter intervals. Survey lines were cut, flagged and chained with stations marked at 50 meter intervals.

The magnetic survey was conducted using a Barringer portable proton-mag model GM-122. Magnetic readings were corrected diurnally using frequent base station checks and averaged using a 3 point moving average.

Soil samples for geochemical analysis were collected from depths of approximately 46 centimeters which tests the B soil horizon. Samples were collected using a stainless steel spade and placed in tight weave cotton bags. Bags were tagged with station identification both on the outside and inside. One hundred and seventy four samples were delivered to Barringer Magenta Laboratories in Calgary Alberta for geochemical analysis of gold, silver, copper and lead.

II. RESULTS

Magnetic Survey

Magnetic values range from 409 gammas to 934 gammas above the regional background (57,000 gammas). Magnetic contours trend north-south with a decrease in values with changing elevation of approximately 150 gammas. Several areas possess closely spaced magnetic contours delineating magnetic highs and lows. Notable magnetic highs occur; (1) adjacent Grogan Creek at stations 22, 23 and 24 north on lines 1 west to 4 east, (2) lines 5 and 6 west from stations 8 to 14 north, (3) line 5 west from stations 1 to 2 north, (4) lines 3 and 4 east at stations 00 to 4 north, 8 to 9 north and 15 north.

The magnetic highs are mainly circular to elongate in form and parallel

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the regional northwest-southeast geological trend with the exception of the Grogan Creek east-west magnetic anomaly.

Geochemical Survey

The elements copper, lead and silver have commonly been associated with gold values in local bedrock mineral occurrences as exemplified in the "Wonder Group" showing of Cedar Creek canyon to the south. Results of the geochemical survey are plotted in figures 3 and 4. Geochemical response is described below:

<u>Variation</u>	<u>Au (ppm)</u>	<u>Ag (ppm)</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>
Background	< .01	tr (<0.2)	< 60	tr (<1)
Threshold	.01 to .04	0.2 to 0.4	60 to 80	tr to 4
Anomalous	>.04	>0.4	>80	> 4
Strongly Anomalous	>0.1	—	>250	> 30

Contours of gold, silver, copper and lead outline two main anomalous zones. One anomalous zone occurs centered on station 14 north for lines 1 east to 5 west. The northern anomaly trends generally northeast to southwest with copper to 900 ppm, lead to 35 ppm, silver to 0.6 ppm and gold to 0.2 ppm. Copper, silver and lead show good spatial coincidence while gold and silver define several small coincident anomalies. The southern anomaly is north of the Grogan Creek road and on the eastern boundary and due east of the Howie claim. Lines 1 east to 2 west from stations 00 to 5 north encompass the southern anomaly. Copper values are to 340ppm, lead to 115 ppm, silver to 2.2 ppm and gold to 0.04 ppm. Gold and copper values are lower than the northern anomaly while silver and lead have higher ranges.

The copper contours for both the northern and southern geochemical anomalies are drawn out to the west suggesting a topographic gravity effect. Lead, silver and gold contours give a bullseye effect showing no apparent gravity

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movement of precious metals.

Anthropogenic influence on geochemistry was anticipated prior to the survey due to the presence of the Grogan Creek road to the south and the paved Cedar Creek road 100 to 300 meters west of the surveyed area. Bedrock outcroppings in the area of the geochemical anomalies contained abundant hornblende diorite dyke material and fair sulphides while minor outcrop away from the anomalies contained unaltered porphyritic andesite. Bedrock composition apparently affects the geochemical anomaly pattern to a greater extent than anthropogenic influence.

III. INTERPRETATION

Coincidence of magnetic and geochemical anomalies is good especially with copper and silver values. Silver and gold values show a common occurrence. Gold values are not widely distributed throughout the study area and occur in anomalous to strongly anomalous quantities in mainly the northern region.

Exposed bedrock shows hornblende diorite dyke with sulphides associated with magnetic and geochemical anomalies. Dyke wallrock is altered, silicified and saussuritized volcanics. The magnetic anomaly over Grogan Creek coincides with a lithologic change from volcanics to the south of the creek to monzonite exposed in the creek canyon.

IV. CONCLUSIONS

- 1.) Anomalous gold, silver, copper and to a lesser extent lead where coincident with high magnetics occur in soils commonly overlying highly altered volcanic andesite crosscut by hornblende diorite.
- 2.) Four areas with prevalent magnetic highs occur on the property. Magnetic highs and associated lows are circular to elongate in character.
- 3.) Geochemical anomalies including copper, lead, silver and gold occur in the northern and southern parts of the study area. Geochemical anomalies

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occur above or adjacent to magnetic anomalies.

4.) Bedrock composition with diorite dyke affects the magnetic and geochemical distribution of anomalies rather than the anthropogenic (man associated) influence.

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APPENDIX I
COST STATEMENT-GROGAN GROUP

Magnetic and Geochemical Survey October 5 to October 28, 1983

<u>Name</u>	<u>Work</u>	<u>Dates Worked</u>	<u>No. of Days</u>	<u>Rate/Day</u>	<u>Cost</u>
R. Cook	Geologist, Magnetometer operator, Cut and flagline	Oct. 5 to Oct. 28	23	\$150	\$3450.
G. Richmond	Soil sampling, Cut and flagline	Oct. 5 to Oct. 28	23	\$120	\$2760.
I. Smith	Soil sampling, Cut and flagline	Oct. 5 to Oct. 28	23	\$120	\$2760.
				Subtotal	<u>\$8970.</u>

GENERAL EXPENSES

Accommodation (23 days)	\$368.
Meals (23 days-3 men)	\$1242.
Truck Rental (4x4-23 days)	\$ 900.
Assays	\$2262.
Magnetometer Rental	\$225.
Miscellaneous (laundry, flagging, sample bags, etc.)	\$140.
Report Compilation	\$750.
Subtotal	<u>\$5887.</u>

Total \$14857.

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APPENDIX II
Qualifications

I, Raymond A. Cook have been practising my profession as a geologist since 1973.

I have an honours B.Sc., in Geology from the University of Alberta, Edmonton 1973 and a M.Sc., Geology from the University of British Columbia, Vancouver 1981.

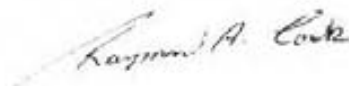
In applying my profession I have worked with Eldorado Nuclear, Cominco, Terra Mines Ltd., Union Carbide, Crowdis Oil Consultants, Belloy Petroleum Consultants, Home Oil and Rhamco Resource Explorations and Consultants Inc., in mineral and oil-gas exploration-development.

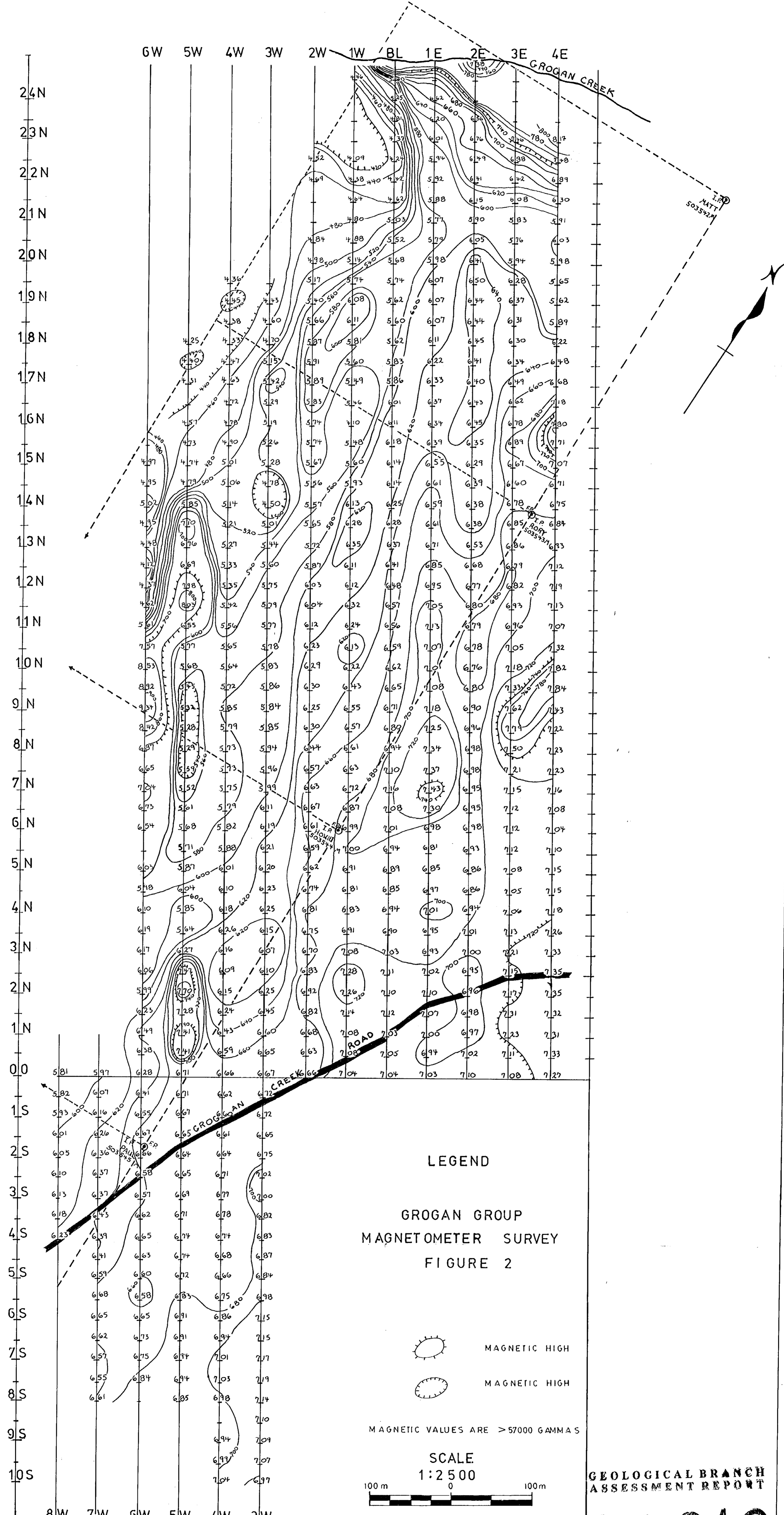
I have worked on research projects in geology for the University of Alberta, Edmonton, Alberta and the University of British Columbia, Vancouver, British Columbia.

I have worked privately on interests of my own in British Columbia and the Northwest Territories since 1975.

I hold interest in the property described in this report and have supervised and directed all exploration activity.



Raymond A. Cook, B.Sc., M.Sc., Geology

A handwritten signature in cursive script that reads "Raymond A. Cook". The signature is written in dark ink and is positioned below the typed name.



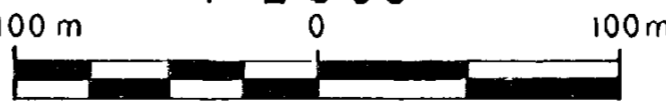
LEGEND

GROGAN GROUP
MAGNETOMETER SURVEY
FIGURE 2

 MAGNETIC HIGH
 MAGNETIC HIGH

MAGNETIC VALUES ARE > 57000 GAMMAS

SCALE
1:2500

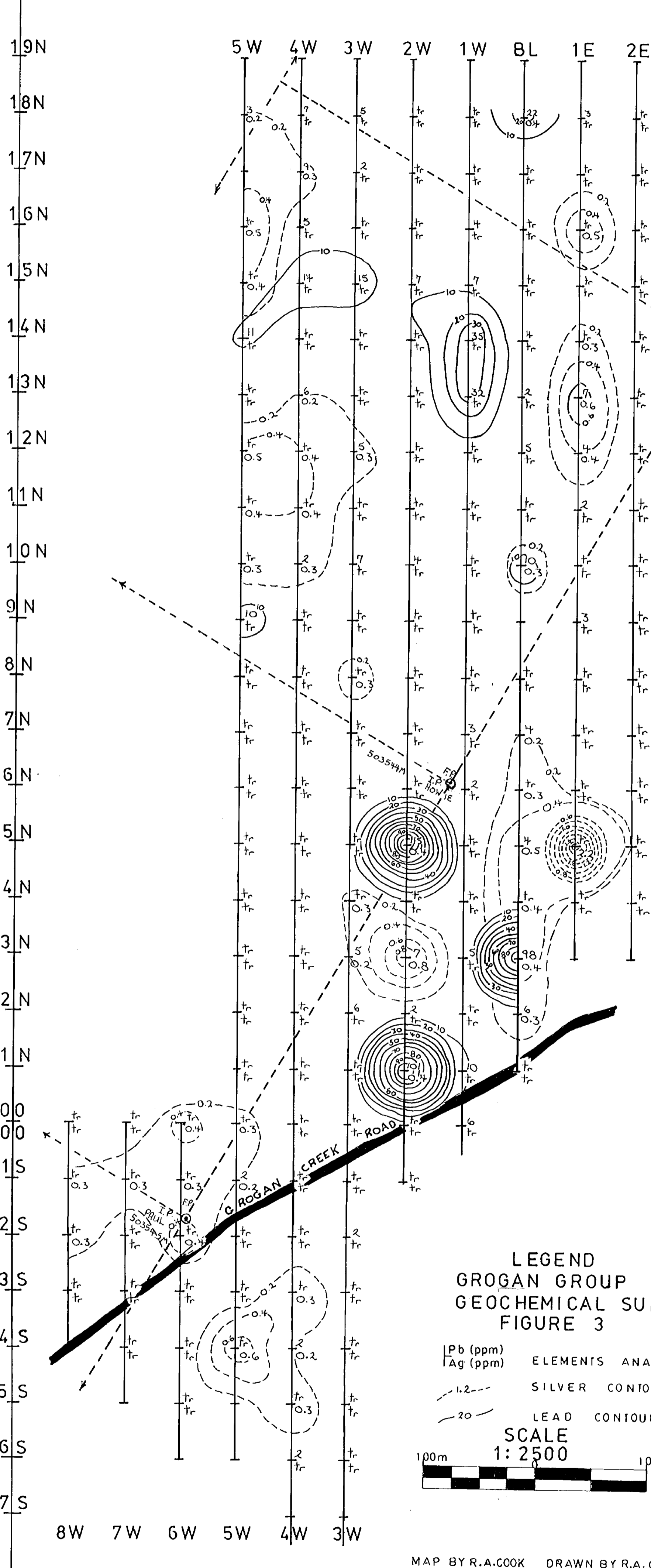


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ASSESSMENT REPORT

MAP BY: R. A. COOK DRAWN BY: R. A. COOK

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13,018



LEGEND
GROGAN GROUP
GEOCHEMICAL SURVEY
FIGURE 3

Pb (ppm)
Ag (ppm) ELEMENTS ANALYZED
-1.2- SILVER CONTOUR
-20- LEAD CONTOUR
SCALE
1:2500
100m 100m

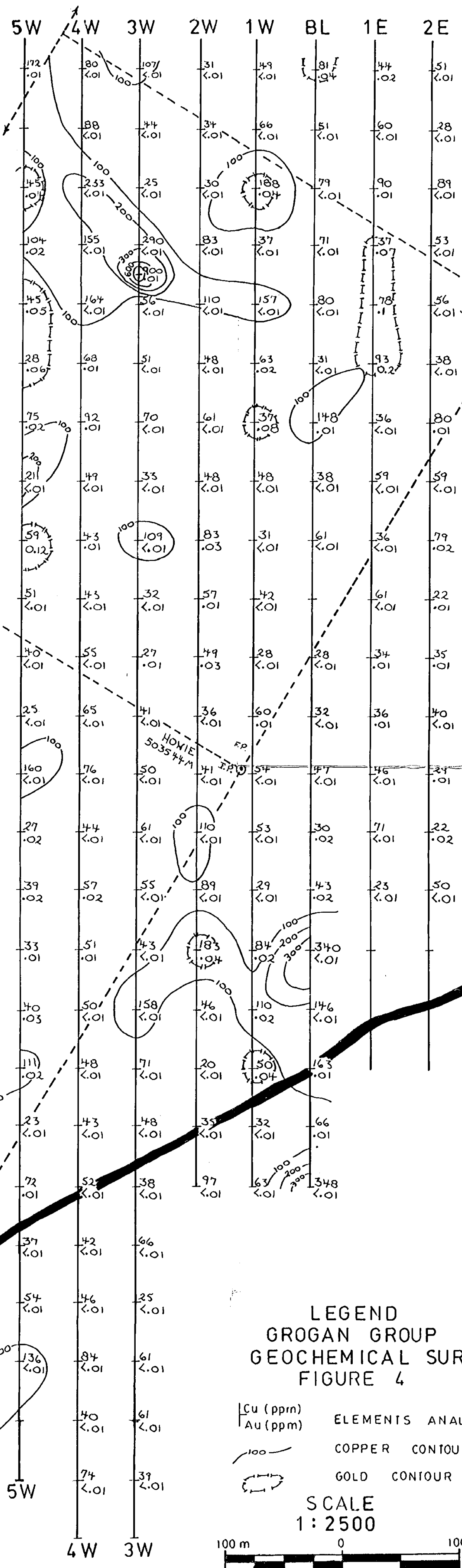
MAP BY R.A.COOK DRAWN BY R.A.COOK

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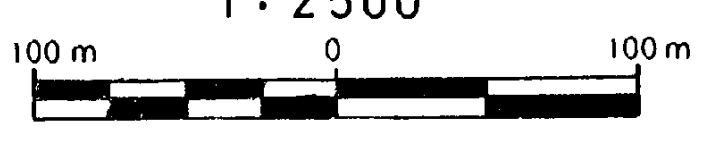
19 N
18 N
17 N
16 N
15 N
14 N
13 N
12 N
11 N
10 N
9 N
8 N
7 N
6 N
5 N
4 N
3 N
2 N
1 N
00
1 S
2 S
3 S
4 S
5 S
6 S
7 S



LEGEND
GROGAN GROUP
GEOCHEMICAL SURVEY
FIGURE 4

- [Cu (ppm) Au (ppm)] ELEMENTS ANALYZED
- 100 COPPER CONTOUR
- Gold Contour >0.04 ppm

SCALE
1:2500



MAP BY: R.A. COOK DRAWN BY: R.A. COOK

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