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*BLUE ROCK MINING CORPORATION
BIG CATION PROJECT

Geological, Geochemical and Geophysical
Surveys on the Charlie Group
Omineca Mining District, B.C.

BY

C. C. McFall, Ph.D. -and-
J. A. Simson, Ph.D. P. Eng.

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Figure 4 Radem EM Survey and Mag survey Line O, Big Onion Prospect	1" = 400'
(In pocket at end of Text)	
Map 1 Claim and Drillhole Map Big Onion Prospect	1" = 600'

INTRODUCTION

Geological, geochemical, and geophysical surveys were carried out and the one short hole was drilled from June 15 to August 15, 1970 within the Charlie group of claims at the Big Onion Project in the Cominca mining district.

LOCATION AND ACCESS

The Charlie group is 11-1/2 air miles east of Smithers along the Babine Lake Road, an all-weather gravelled road.

CLAIMS

The 40 claims in the Charlie group are as follows:

<u>Claim Name</u>	<u>Record Number</u>
Jack 33-36	80813-16
Jack Fraction 16	80780
Ralph 10	33508
Ralph 12	33510
Ralph 14	33512
Jill 1-21	88469 - 88489
Jill Fraction 1-2	88490 - 88491
Jill Fraction 5-10	88494 - 88499
BA 9	78024
BA 11	78026
BA 25	78040

The work to be applied, as indicated on the accompanying B forms, is two years for each claim in the group.

GEOLOGICAL SETTING

Small intrusive quartz diorite plugs intruding gently to steeply dipping rocks of the Jurassic and Cretaceous Hazelton Group underlie an extensive veneer of Pleistocene glacial debris in the general area. The Hazelton rocks are andesite lavas and tuffs overlain by pyrite-bearing argillites and minor quartzites. The whole sequence dips generally southwest, but is offset along steep northeast trending reverse faults and is somewhat contorted by the igneous stocks. No stocks are known on the Charlie group but could be present under glacial cover or at depth in the Hazelton rocks.

GEOCHEMICAL SURVEY

Methods & Procedure

As plotted on accompanying Figure 2, 167 soil samples were taken within the Charlie Group in an area centering at 4S, 40E. Samples were taken from the B horizon with a mattock and placed in kraft wet-strength paper bags, partially air-dried and forwarded to North Vancouver for further treatment at Barringer Research Ltd. Laboratories. The samples were dried to completion in an air oven at 70°C and sieved to 60 mesh on nylon screens from which two 0.2 gram samples were taken for analysis.

For copper the sample was digested in perchloric acid and diluted to 10 mls., the resultant being analysed using an atomic absorption spectrometer. In the case of molybdenum the sample was fused with sodium bisulphate using zinc dithyol as a reagent and the resultant read colourmetrically.

The analyses were performed by Miss Yvonne Hazeldine, Senior Analyst for Barringer Research Limited.

Results

Considering the relatively small number of samples statistical treatment of the results was not attempted. Except for five samples molybdenum values were uniformly low at 2 ppm., the higher values being in the 4 - 10 range do not indicate significant mineralization.

The copper values represented by proportional circles on the accompanying figure, show a patchily anomalous distribution with higher values in the 100 - 200 ppm range.

GEOPHYSICAL SURVEY

Methods & Procedure:

A. Line-Cutting: - The following lines, shown in Plate I, were cut by C & D Exploration Services led by Bob Carroll of Telkwa, B.C.

<u>Line</u>	<u>Interval</u>	<u>Footage</u>
12N	36 E to 70E	3400
4N	15E to 70E	5500
0	20E to 110E	9000
4S	17E to 70E	5300
8S	20E to 70E	5000
12S	18E to 70E	5200
20S	20E to 70E	5000
		<u>38400 feet</u>

or 7.3 miles

GEOPHYSICAL SURVEY (Cont'd)

B. Induced Polarization Surveys: In June 1970, McPhar Geophysics made frequency - domain 500 foot dipole-dipole surveys of the following lines within the Charlie group: (See the accompanying McPhar report).

<u>Line</u>	<u>Interval</u>	<u>Footage</u>
12N	36E to 40E	400
4N	15E to 40E	2500
4S	17E to 40E	2300
12S	20E to 50E	3000
		<u>8200</u>

or 2.2 miles

Later in June, 1970 McPhar continued with the following lines at 200 foot dipole-dipole electrode spacings:

<u>Line</u>	<u>Interval</u>	<u>Footage</u>
4N	20E to 78E	5800
0	20E to 118E	9800
4S	20E to 78E	5800
8S	20E to 78E	5800
		<u>27,200</u>

or 5.15 miles

On June 18th, 1970 Evergreen Explorations of Smithers, B. C. made a time-domain (pulse type) induced polarization survey on Line 0 from 32E to 100E.

C. Electromagnetic surveys: During June Blue Rock Mining Corporation carried out the following east-west traverses using a Ronka EM-16 electromagnetic device centering at 4S-40E on the grid on Plate 1.

<u>Line</u>	<u>Interval</u>	<u>Footage</u>
0	0 to 12E	1200
4S	7W to 5E	1200
6S	7W to 10E	1700
12S	14W to 12E	2600

On June 18th, 1970, Evergreen Explorations of Smithers carried out an electromagnetic survey on Line 0 from 32E to 100E using a Radem very-low-frequency instrument.

GEOPHYSICAL SURVEY (Cont'd)

D. Magnetic Surveys: During June 1970 Blue Rock Mining Corporation conducted magnetic surveys along the above mentioned Ronka EM-16 east-west traverses using a Scintrex MF-1 magnetometer. On June 18, 1970, Evergreen Explorations made a magnetic survey along Line 0 from 32E to 100E using a similar portable magnetometer.

Results

The accompanying report by McPhar Geophysics Ltd. discusses the results of their extensive induced polarization survey which covers part of the Charlie group. An anomalous zone within the group indicated by this work was further tested by induced polarization, magnetometer and radem electromagnetic techniques.

Three distinct zones were outlined. The first zone corresponds to the one outlined by McPhar. The sabre pulse unit recorded moderate chargeabilities and resistivities over the first zone. There was no radem or mag response. A second zone was indicated by the sabre about 2,000 feet further east. This zone is only weakly chargeable and has slightly higher resistivities than the first zone. However, there was an adjacent moderate radem response. This could be a silicified and mineralized area with later fracturing. A third zone, about 3,000 feet east of the second, is quite narrow, only weakly chargeable, and is accompanied by higher resistivities, weak radem and a mag high. This anomaly is possibly due to a mineralized dyke.

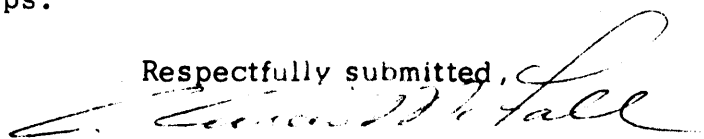
DRILLING

On July 13th and 14th, 1970, a 102 foot BC diamond drill hole was drilled $-45^{\circ}S\ 30^{\circ}E$ from 4S 39E on the grid shown on the accompanying Plate 1. The drilling contractor was D. W. Coates Enterprises of Smithers and Vancouver.

CONCLUSIONS AND RECOMMENDATIONS

The area of the Charlie group of claims has not been fully tested. However, the one shallow hole drilled to date together with the geological, geochemical and geophysical work done suggests that most of the area is underlain by argillites and quartzites with disseminated very fine grains of pyrite, with locally abundant pyrite along northeast-trending faults. The observed rock types and mineralization would explain the geochemical and geophysical responses obtained, although shallow borehole tests on the subsidiary I.P. anomalies are warranted, in view of the presence of mineralized intrusive on adjacent claim groups.

Respectfully submitted,



C. C. McFall, Ph.D. -and-
J. G. Simpson, Ph.D., P.Eng.



APPENDIX (i)

TIME AND COST DISTRIBUTION

TIME AND COST DISTRIBUTION
 BLUE ROCK MINING CORPORATION
 CHARLIE GROUP OF CLAIMS
 BIG ONION PROJECT

A. Blue Rock Mining Corporation

<u>Personnel</u>	<u>Occupation</u>	<u>Dates</u>	<u>Days</u>	<u>Rate</u>	<u>Total</u>
J. G. Simpson, P. Eng.	Project Supervisor	July 10-11	2	\$150	\$300
C. C. McFall	Field Supervisor	June 4-23	12	\$125	\$1500
C. Hoffman, Jr.	Soil Sampler	June 15-19	5	\$ 50	\$250
Dan Olsen	Ronka EM-16 Surveyor	June 19-25	4	\$ 30	\$120
Joe Truscott	Magnetic Surveyor	June 19-25	4	\$ 30	\$120
Neil MacDonald	Core Splitter	July 14	1/2	\$ 26	<u>\$ 13</u>
					<u>\$2303</u>

B. Contractors for Blue Rock Mining Corporation

Coates Enterprises, 102' @ \$12/' BC core hole	\$1224.00
C & D Exploration Services (Bob Carroll of Telkwa, B. C., line-cutting) 7.3 miles @ \$100/mi	\$ 730.00
McPhar Geophysics Ltd. 7.35 miles @ \$425/mi	\$3123.75
Evergreen Explorations (IP Crew EM Survey & Mag. Survey) 1 day at \$300/day	\$ 300.00
Drafting	<u>\$ 150.00</u>
	<u>\$5527.75</u>

APPENDIX (ii)

CERTIFICATE

TIME AND COST DISTRIBUTION (Cont'd)

C. Assays

Barringer Research (Vancouver) geochem samples
167 @ \$1.20 + \$5.50 express charges \$ 205.90

TSL Smithers 5 @ \$8.50 (Cu + Mo) \$ 42.50

\$ 248.40

D. Vehicle Rental (Blue Rock only)

1 4 x 4 Toyota Landcruiser 12 days @ \$350/month \$ 140.00

E. Living Expenses (Blue Rock Only)

Hotel Bills and meals 20 man days @ \$15/day \$ 300.00

\$8519.15

CERTIFICATE

I, John Glenn Simpson, of 720 Anderson Crescent, West Vancouver, British Columbia, do certify that

- 1) I graduated from King's College, London University with a B.Sc. (Hons) Geology in 1958, and was awarded a Ph.D. (External) from London University in 1969.
- 2) I am a Fellow of the Geological Association of Canada and a registered Professional Engineer in the Province of British Columbia and have practiced my profession in Africa, Europe and Canada for the past 12 years.
- 3) As a salaried employee of Cyprus Exploration Corporation, Ltd., I have no direct or indirect interest in the property or securities of Blue Rock Mining Corporation.
- 4) The field work and preparation of reports was carried out by Dr. C. C. McFall under my overall supervision and direction.

Dated at Vancouver

This 9th day of December 1970.

J. G. Simpson, Ph. D., P. Eng.

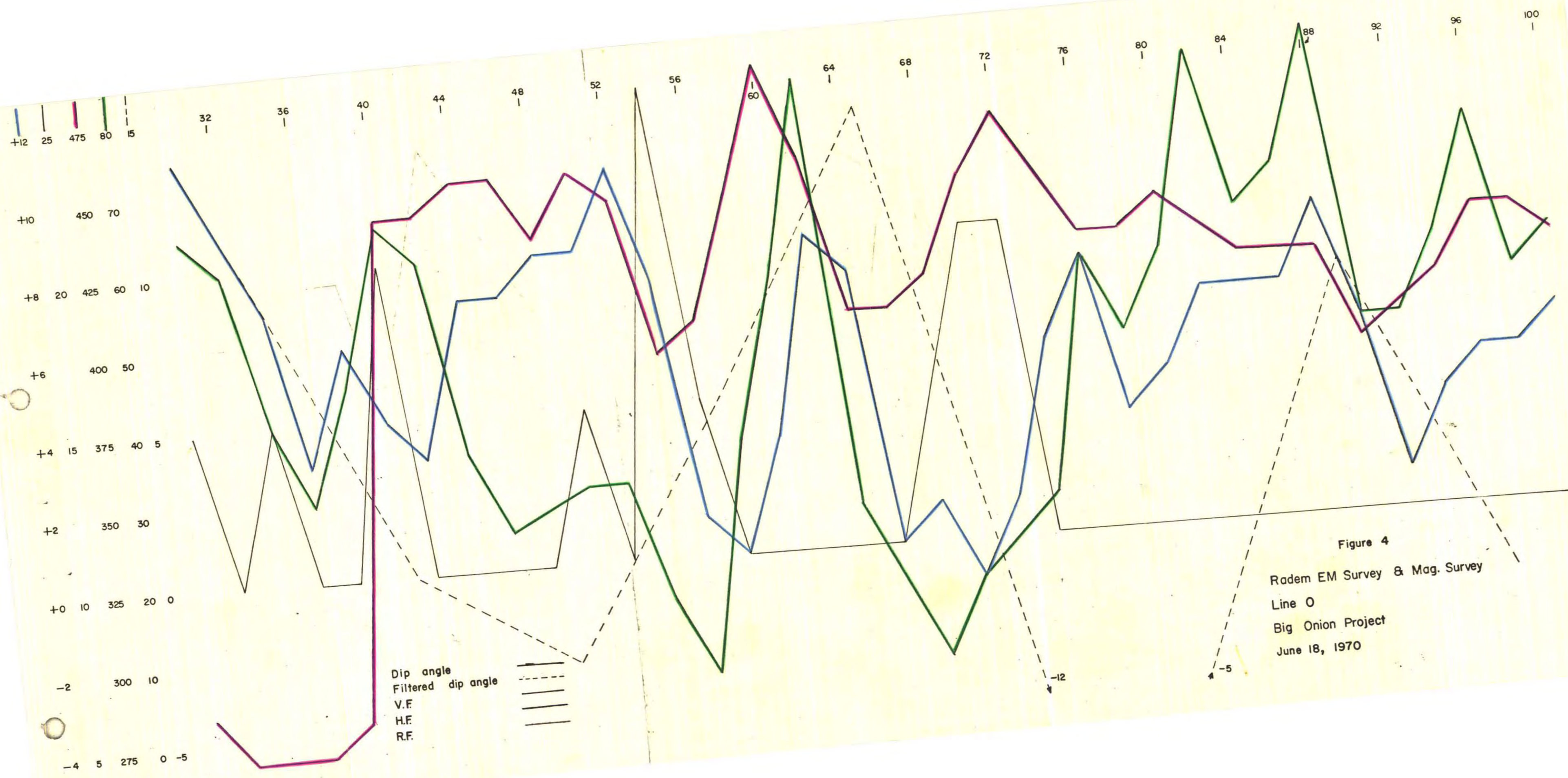
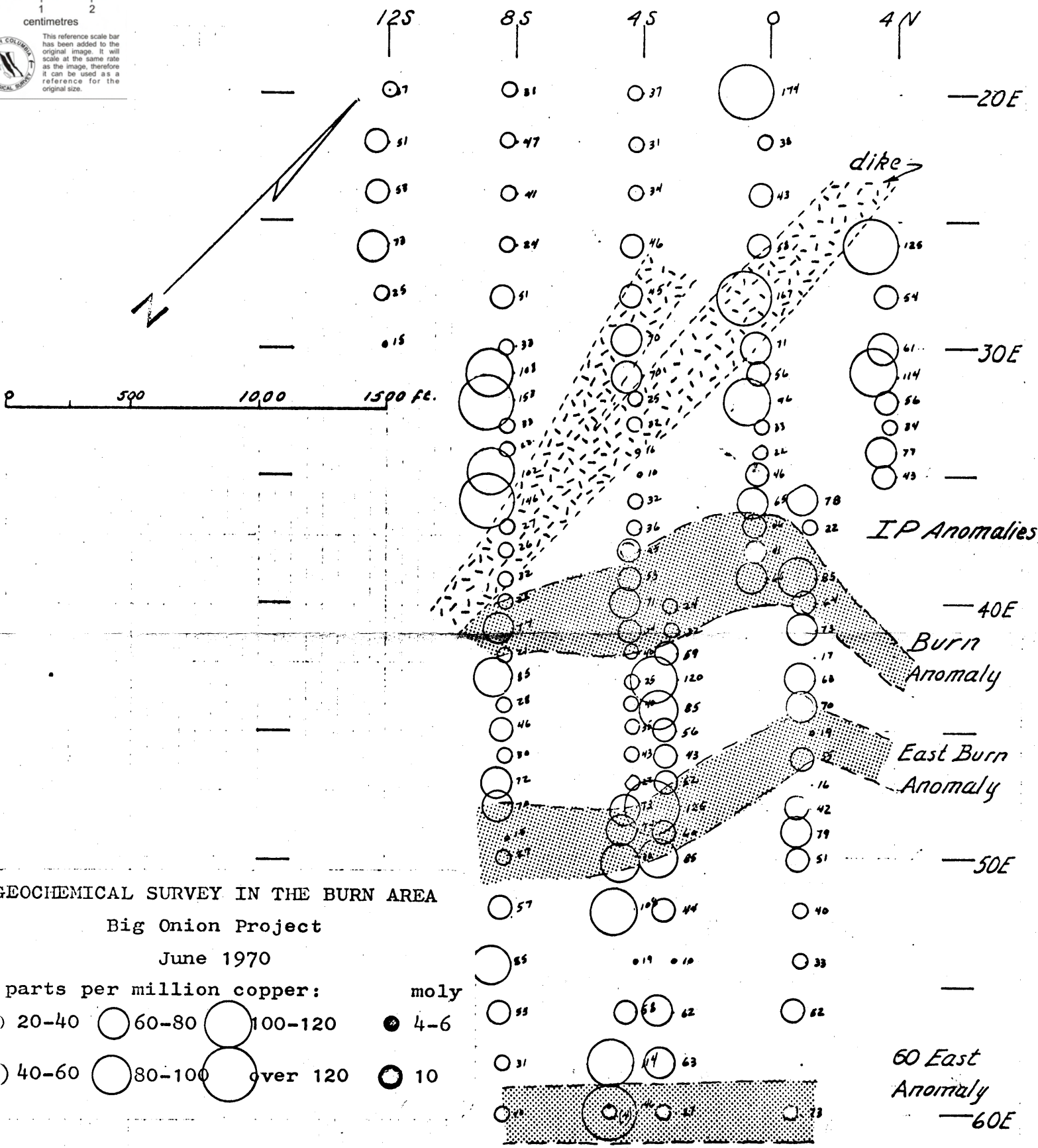
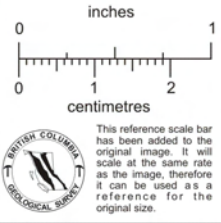


Figure 4
 Radem EM Survey & Mag. Survey
 Line 0
 Big Onion Project
 June 18, 1970



GEOCHEMICAL SURVEY IN THE BURN AREA

Big Onion Project

June 1970

parts per million copper:

- | | | | | | | | | |
|---------|---|--------|---|----------|---|------|---|-----|
|) 20-40 | ○ | 60-80 | ○ | 100-120 | ○ | moly | ● | 4-6 |
|) 40-60 | ○ | 80-100 | ○ | over 120 | ○ | | ● | 10 |

Note: only copper values are shown; moly values were all 2 ppm except for the five anomalous samples shown.