

DOLMAGE CAMPBELL & ASSOCIATES LTD.  
CONSULTING GEOLOGICAL & MINING ENGINEERS  
1000 GUINNESS TOWER  
VANCOUVER 1, B.C.

5162

GEOCHEMICAL REPORT

on

JO-BILL MINERAL CLAIMS

Jo 1 - 12 inclusive and  
Bill 3 - 6 inclusive, 10, 11, and  
25 - 48 inclusive

93L/11E

Claim Sheet No. 93L/11E

TELKWA, B.C.

Omineca Mining Division

54° 35' N. Lat., 127° 33' W. Long.

N.T.S. Map 93N

Owners of Claims:

Anglo Bomarc Mines Ltd.

Supervision and Report by Mines and Petroleum Resources

R. S. Adamson, P.Eng.

ASSESSMENT REPORT

NO. 5162 MAP

Work completed: Period June 8 to July 8, 1974

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
Location and Access	1
Topography	1
GEOLOGICAL SETTING	1
Regional Geology	1
Property Geology	2
GEOCHEMISTRY	2
Sampling Techniques	2
Results	3
CONCLUSIONS	3
APPENDIX - Statutory Declaration	

LIST OF ILLUSTRATIONS

	<u>Following Page</u>
#1 Figure 1      Location Map	1
#2 Figure 2      Index Map	1
#3 Figure 3      Claim Map	2
#4 Figure 4      Copper Geochemistry	Pocket
#5 Figure 5      Molybdenum Geochemistry	Pocket
#6 Figure 6      Zinc Geochemistry	Pocket

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VANCOUVER I. B.C.

INTRODUCTION

A combined magnetometer and soil geochemical survey, which was preceded by establishing a cut line grid, was carried out on the JO-BILL claims during the period June 8 to July 8, 1974. The JO-BILL property (Figure 3) comprises JO claims 1 - 12 inclusive and BILL claims 3 to 6 inclusive, 10, 11 and 25 - 48 inclusive. A total of 961 soil samples were collected and each assayed for copper, molybdenum and zinc. The combined survey was conducted by Donegal Developments Ltd. of Vancouver, B.C. under the direction of the writer.

LOCATION AND ACCESS (Figure 1)

The JO-BILL property is located in the Omineca Mining Division, 7 miles south of Telkwa, B.C. on the northern branch of the Canadian National Railway. The property is best served by helicopter from Smithers, B.C. 12 miles to the northwest; however, logging roads approach to within four miles of the property.

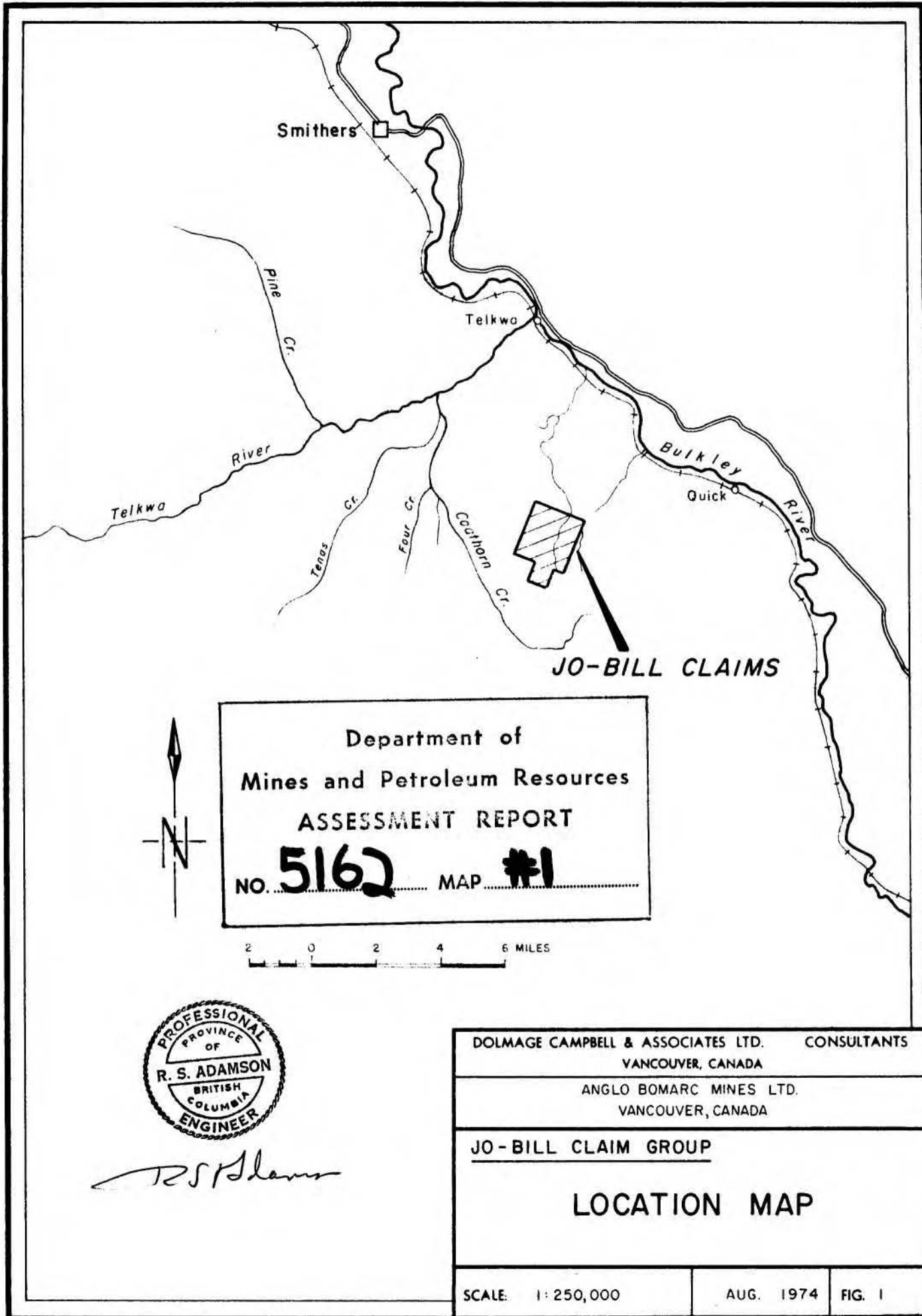
TOPOGRAPHY (Figure 2)

The property covers the western nose of a prominent hill that rises above the broad valley of the Bulkley River. The valley elevation ranges between 2000 and 2500 feet above sea level. Elevations on the property are between 3500 and 4500 feet above sea level. Relatively thick second-growth forest covers the property and outcrops are few. Locally open swampy areas occur. Hubert Creek drains the property to the north, while smaller creeks flow west and south from the property.

GEOLOGICAL SETTING

REGIONAL GEOLOGY

The oldest rocks in the general area surrounding the JO-BILL property comprise moderately to steeply-folded, predominantly volcanic rocks with minor interbedded sediments of the Jurassic Hazelton Group. They consist of red, purple, grey, and green andesitic flows interbedded with tuffs and agglomerates. Sedimentary rocks consist of greywacke, siltstone, mudstone, tuffaceous greywacke and minor amounts of conglomerate and limestone.



Department of  
 Mines and Petroleum Resources  
**ASSESSMENT REPORT**  
 NO. **5162** MAP **#1**



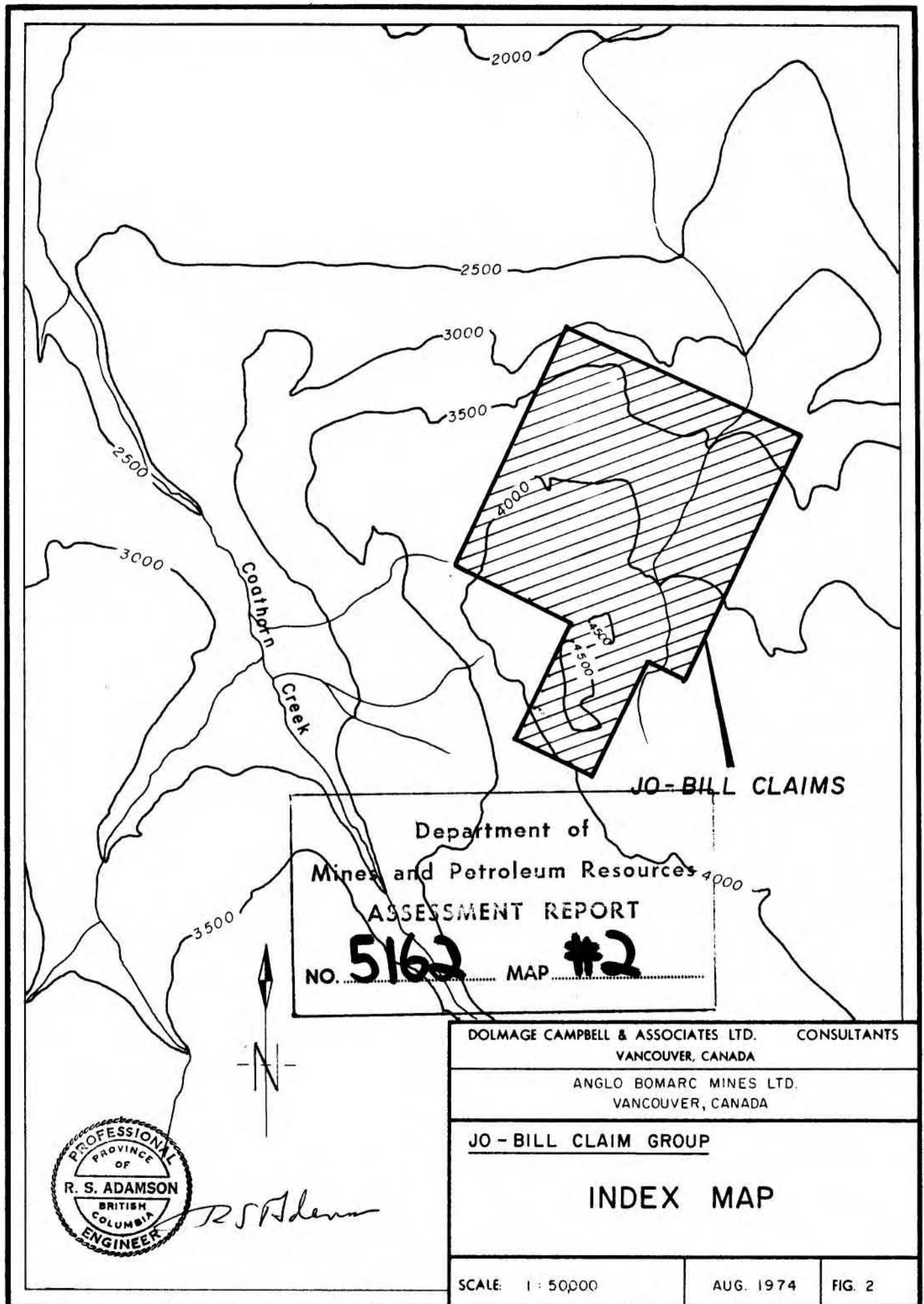
2 0 2 4 6 MILES



*R. S. Adamson*

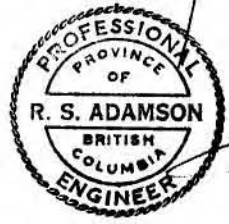
DOLMAGE CAMPBELL & ASSOCIATES LTD. CONSULTANTS VANCOUVER, CANADA
ANGLO BOMARC MINES LTD. VANCOUVER, CANADA
<u>JO-BILL CLAIM GROUP</u>
<b>LOCATION MAP</b>

SCALE: 1:250,000	AUG. 1974	FIG. 1
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Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. **5162** MAP **#2**

DOLMAGE CAMPBELL & ASSOCIATES LTD. CONSULTANTS VANCOUVER, CANADA	
ANGLO BOMARC MINES LTD. VANCOUVER, CANADA	
JO - BILL CLAIM GROUP	
<b>INDEX MAP</b>	



SCALE: 1 : 50,000	AUG. 1974	FIG. 2
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Upper Jurassic to lower Cretaceous sedimentary rocks of the Bowser Group overlie the Hazelton rocks. They comprise greywacke, siltstone, mudstone, conglomerate and minor coal.

Granitic rocks, consisting of quartz monzonite, granodiorite, quartz diorite, and feldspar porphyries intrude the older rocks, usually as dyke swarms and isolated stocks. These intrusives, ranging in age from Upper Cretaceous through to early Tertiary, generally are aligned along a northwesterly-trending belt which extends from Hazelton southeast beyond Houston toward Francois Lake, a distance of 110 miles. The belt appears to be defined by a major system of steep faults, which averages 10 miles in width. Associated with this belt of faults and intrusions are numerous copper and molybdenum occurrences, several of which are known to be of porphyry-type deposition.

### PROPERTY GEOLOGY

Outcrops on the property are relatively sparse so that for the most part an initial understanding of the geology must be derived from the mineralized area examined and the regional geology. The copper mineralized outcrop lies in the southern part of the property. Outcrop also occurs in Hubert Creek on the northern part of the property where it descends to the valley level.

Volcanic rocks, considered to be Jurassic Hazelton rocks, consisting of reddish-purple and dark green andesites with minor limey bands and lenses underlie the property. The volcanic formations appear to be gently folded along north-west axes with moderate southwesterly dips occurring on the property.

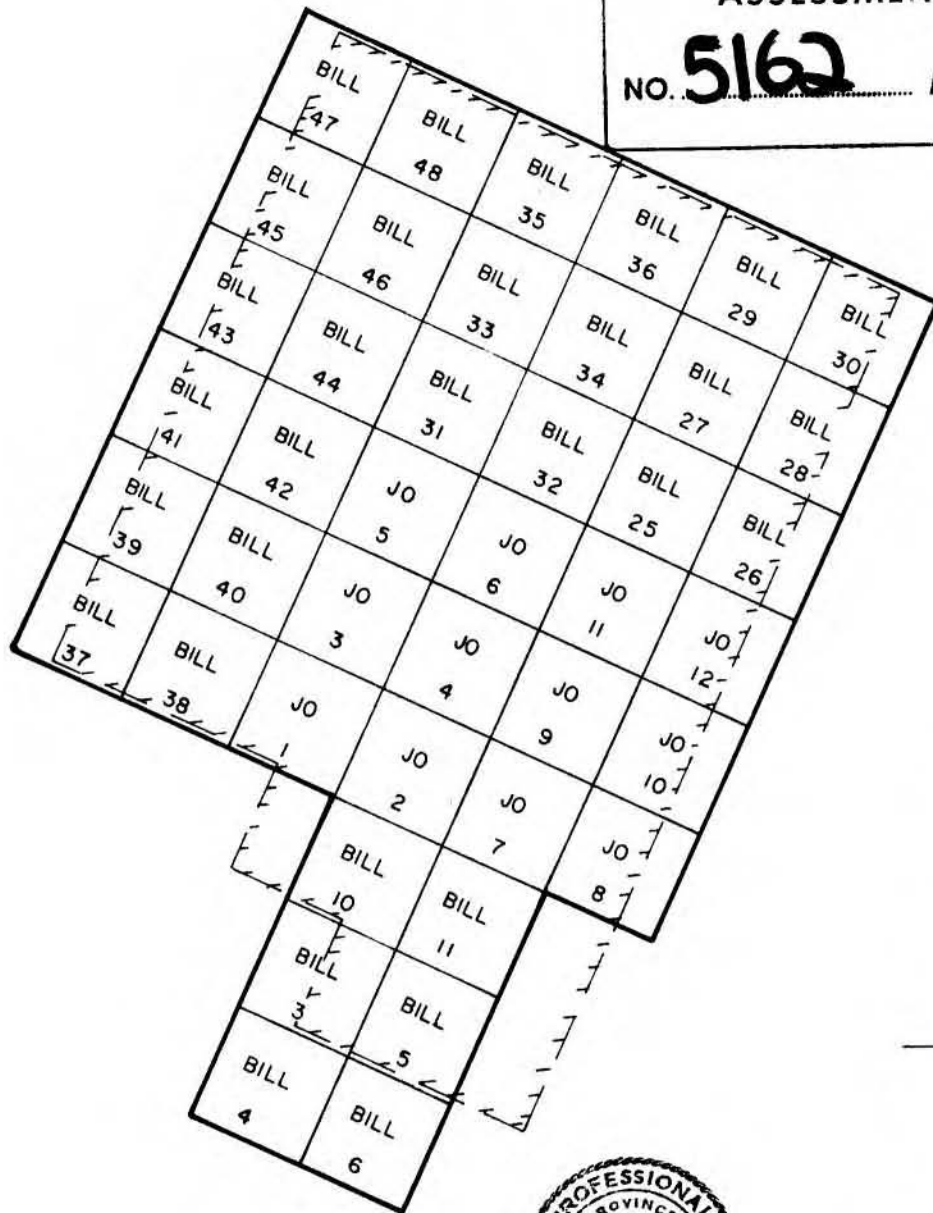
An assumed fault of regional magnitude which traverses the northern part of the property has been mapped by Department of Mines' geologists. Secondary faulting and fracturing as expressed by Hubert Creek drainage and visual examination of one mineralized area are north 20° east and steeply-dipping.

### GEOCHEMISTRY

#### SAMPLING TECHNIQUES

Sampling control was established from a grid, surveyed in by transit, with cut, chained and picketed lines. Sample lines at 400' spacing (see figures 4, 5, 6) were set perpendicular to surveyed base and tie-in lines, and samples were taken at 200' intervals. Where sample lines were not cut and picketed, fill in sample lines were compassed, chained and flagged as sampling progressed.

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. **5162** MAP **#3**



To accompany report by  
R.S. Adamson, P. Eng.  
dated August 31, 1974.

JO 1-12 Claims

BILL 3-6, 10, 11 & 25-48

--- GEOCHEMICAL & MAGNETOMETER  
SURVEY AREA



*R.S. Adamson*

DOLMAGE CAMPBELL & ASSOCIATES LTD. CONSULTANTS  
VANCOUVER, CANADA

ANGLO BOMARC MINES LTD.  
VANCOUVER, CANADA

JO-BILL CLAIM GROUP

**CLAIM MAP**

SCALE: 1" = 2500'

AUG. 1974

FIG. 3



A total of 961 samples was collected, mostly from the "B" horizon at an average depth of 6 inches.

The samples were packaged in standard high wet strength brown kraft paper sample bags and sent to CHEMEX LABS LTD. of N. Vancouver, B.C. They were dried in a fireproof, thermostatically controlled, electrically heated oven for 24 hours at a temperature of 150° F in the original sample bags. The dried samples were then screened through a 6 inch diameter No. 80 screen, consisting of a stainless steel mesh in a nylon frame (manufactured by Miners and Prospectors Supply Inc. of California.) The minus 80 fraction was then analysed for copper, molybdenum and zinc using standard atomic absorption techniques.

### RESULTS

The results of the geochemical soil survey are shown on Figures 4 (copper), 5 (molybdenum), and 6 (zinc). The copper values were contoured at 50 and 100 ppm intervals. Insufficient results were achieved from the molybdenum assays so no contouring was done. The zinc values were contoured at 500 and 1000 ppm intervals.

### CONCLUSIONS

The distribution of copper values in soil on the JO-BILL property does not exhibit any pattern of potentially-economic significance. Values are low and erratically distributed.

Molybdenum values are in trace quantities throughout the surveyed area, hence the molybdenum contact is regarded to be wholly insignificant.

Zinc values in excess of 500 ppm are grouped in erratic fashion north of the main property base line and between lines 92 east and 120 east. (figure 6).

The geochemical survey carried out on the JO-BILL property revealed no results of anomalous significance. Therefore it is the writer's opinion that the likelihood of a copper or zinc deposit of economic significance underlying the JO-BILL property is remote. The writer therefore, on the basis of the geochemical results, recommends that no further work be done on the property.



Respectfully submitted by



A handwritten signature in cursive script, appearing to read "R. S. Adamson".

R. S. Adamson, P.Eng.

DOMINION OF CANADA:  
PROVINCE OF BRITISH COLUMBIA.

In the Matter of  
The Jo-Bill Claim Group

To WIT:

I, R. S. Adamson

of 1000 - 1055 W. Hastings Street, Vancouver 1, B.C.

in the Province of British Columbia, do solemnly declare that

Expenditures for combined Geochemical and Geophysical work performed on the JO-BILL Claim Group between JUNE 8 and JULY 8, 1974 are as follows:

GEOCHEMICAL and GEOPHYSICAL SURVEY COSTS (INCLUDING LINE CUTTING) AS PER DONEGAL DEVELOPMENTS LTD. INVOICE JULY 15, 1974 (SEE ATTACHED)	\$ 7,037.00
HELICOPTER	994.38
TRANSPORTATION COSTS	265.00
ASSAYING (CHEMEX LABS)	1,946.03
TYPING, SECRETARIAL and DRAUGHTING	200.00
ENGINEERING, (SUPERVISION, REPORTS)	<u>2,400.00</u>
	\$12,842.41

NOTE - Total cost is for geochemical and geophysical work carried out simultaneously, as described in this geochemical report and accompanying geophysical report. Field costs on a line mile basis for the geochemical survey are shown on the attached contractor's statement.

*Donegal Developments Ltd.*

227-806.  
1130 Fraser Str  
Vancouver 10, B.C.

**DO NOT FILM  
THIS PAGE**

July 1974

Dolmage Campbell & Associates Ltd.,  
1055 West Hastings Street,  
Vancouver, B.C.

Attn: Mr. Robert S. Adamson

Subject: Jo/Bill Project, Smithers, B.C.

1. Line Cutting-		
12.9 miles at \$180.00 per mile	\$ 2,232.00	
2. Mag Survey-		
38.5 miles at \$50.00 per mile	1,925.00	
3. Soil Sampling-		
36.0 miles at \$80.00 per mile	<u>2,880.00</u>	
Total	7,037.00	
Less advance	<u>2,289.00</u>	
Total owing	\$ 4,748.00	

*paid*

Yours truly,

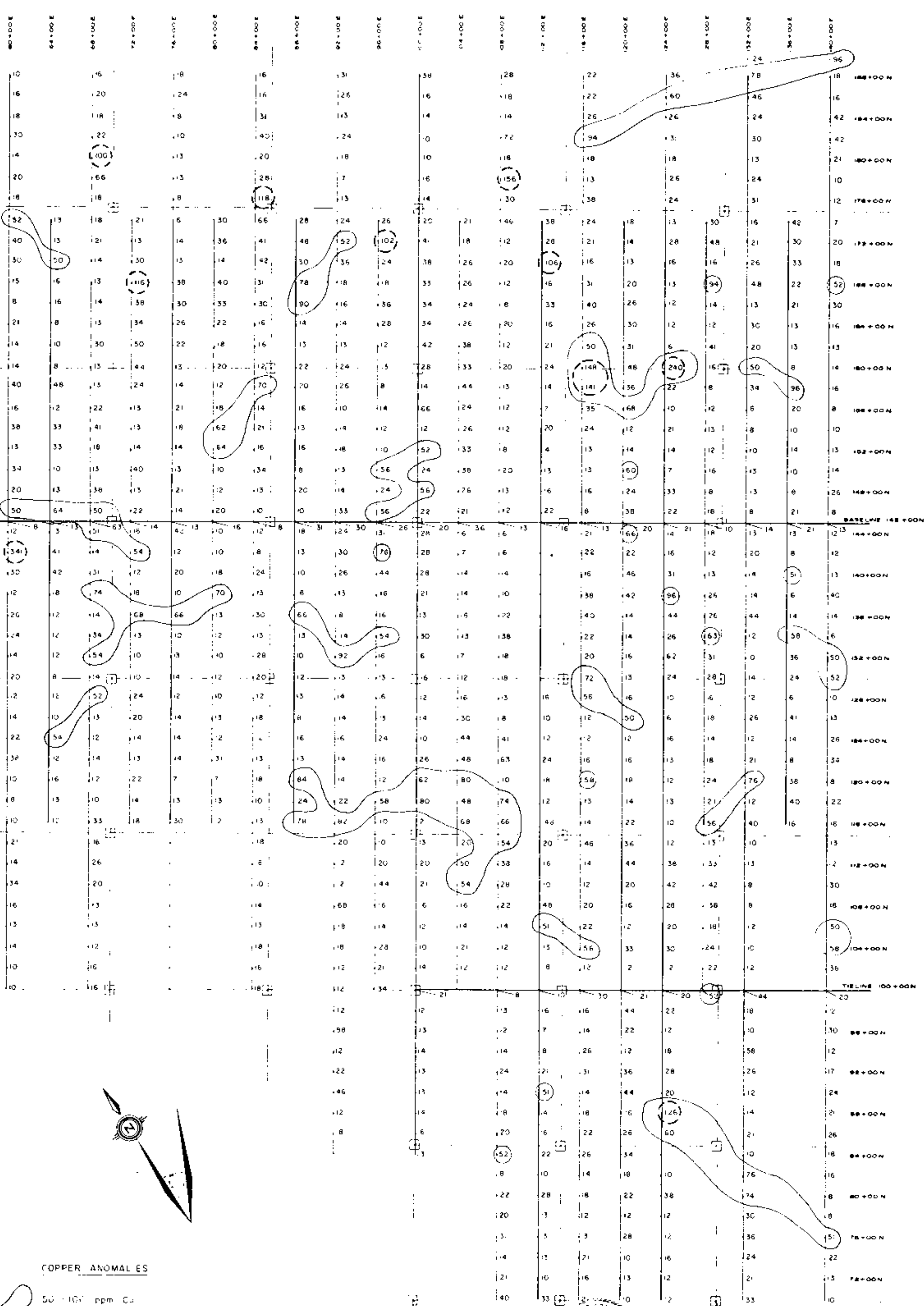
.....  
Dolmage Campbell & Associates Ltd.  
.....

CLIENT <i>Donegal - Campbell</i>
PROJECT <i>Jo-Bill</i>
COST GROUP
APPROVED <i>RCA</i>

*#43*

**- PAID -**

*Seamus Young*  
Seamus Young,  
Donegal Development Ltd.



COPPER ANOMALIES

- 50 - 100 ppm Cu
- 100+ ppm Cu

32 ppm Cu

LEGEND

- CUT, CHAINED AND PILE-TIED LINE
- COMPIRE, CHAINED AND PILE-TIED LINE



5162  
M4

DOLMAGE CAMPBELL & ASSOCIATES LTD  
JO-BILL PROJECT  
SUITNER, BC

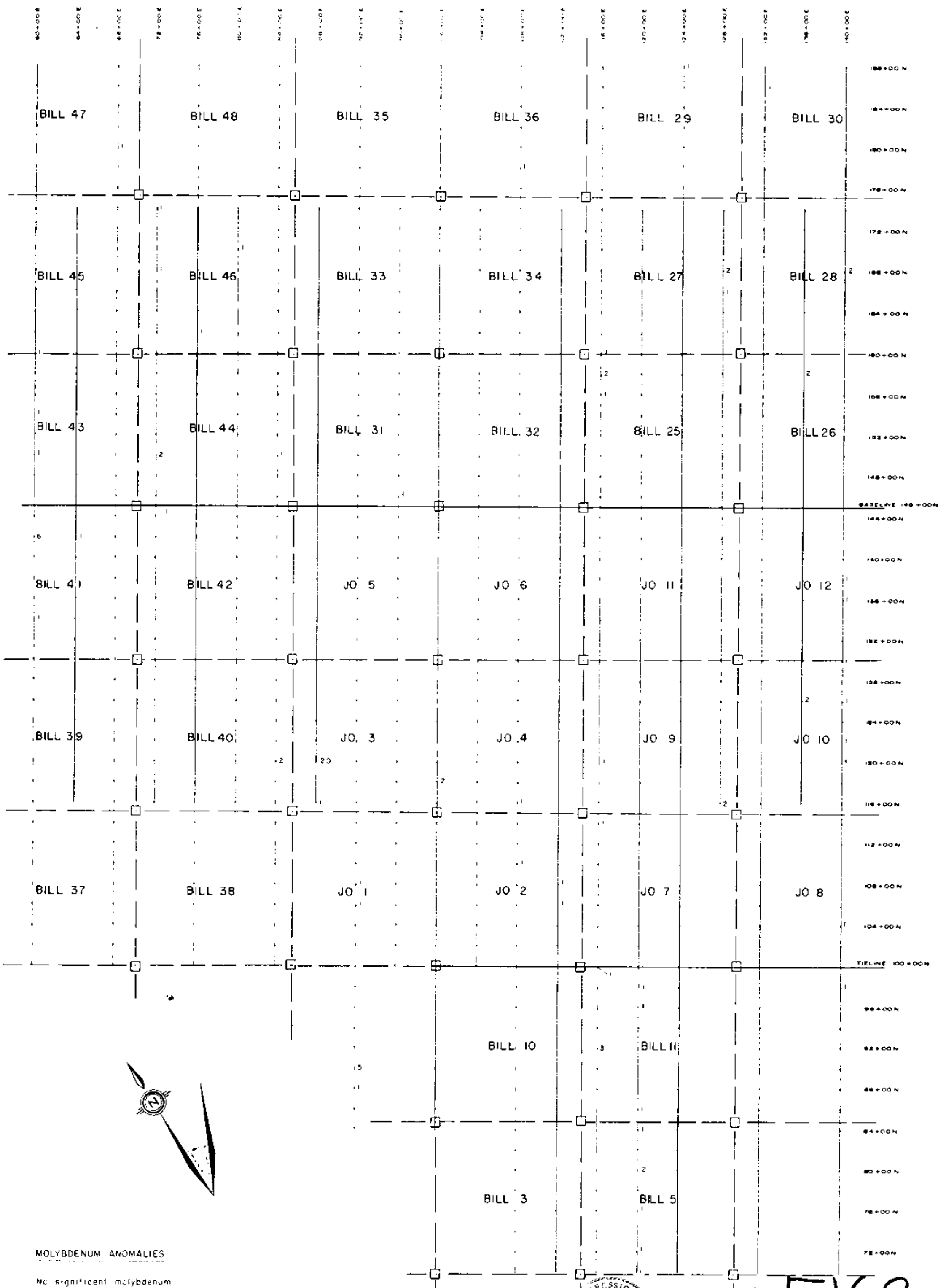
To accompany report by  
R.S. Adamson  
dated August 31, 1974

Department of  
Mines and Petroleum Resources

**ASSESSMENT REPORT**

NO. 5162 MAP #4

SCALE  
1:50,000



**MOLYBDENUM ANOMALIES**

No significant molybdenum anomalies defined

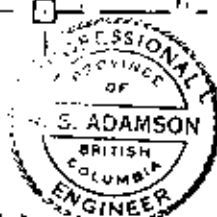
Trace amounts only

6 ppm Mo

**LEGEND**

CUT-CHANGED AND RELETED LINE

COMPLETION AND PLANNED LINE



COLMAGE CAMPBELL & ASSOCIATES LTD  
JO-BILL PROJECT  
SQUIMISH B.C.

To accompany report by  
R.S. Adamson, P.Eng.  
dated August 31, 1974  
Department of **MOLYBDENUM GEOCHEMISTRY**  
Mines and Petroleum Resources

ANNUAL REPORT

NO. **5162** MAP **#5**

FIG. 5

SCALE  
0 100 200 300 400 FEET

GENERAL DEVELOPMENTS LTD.

APR 1974

*R.S. Adamson* 5162  
M5

102	189	295	120	285	392	190	123	317	179	825
142	164	74	295	305	200	184	160	255	482	64
131	135	305	248	131	55	102	100	179	115	174
200	152	275	189	248	148	206	295	152	169	184
135	240	169	233	200	31	102	131	194	160	148
148	164	84	83	275	155	375	102	153	98	98
148	169	89	151	189	143	265	155	184	135	127
174	189	127	155	77	174	255	206	135	155	184
189	77	105	102	112	84	206	285	94	200	240
131	21	120	197	144	131	206	70	240	255	74
32	95	131	434	155	211	184	240	265	255	179
143	200	179	248	194	211	160	305	115	190	248
140	75	127	105	89	360	127	360	189	194	400
102	72	194	233	160	152	115	144	27	127	305
89	41	192	275	105	160	115	152	233	112	920
105	285	86	225	164	115	80	129	174	135	74
123	86	164	27	35	179	123	148	165	144	480
115	48	164	265	98	233	98	98	169	160	285
52	140	120	72	144	131	173	05	785	148	2295
64	72	192	200	79	70	135	98	102	200	305
174	77	200	127	184	70	189	05	105	92	317
255	200	189	140	95	140	105	115	112	240	155



ZINC ANOMALIES

- 500 ppm Zn
- 1000+ ppm Zn
- 77 ppm Zn

LEGEND  
 CUT-CHAINED AND DOTTED LINE  
 COMBINED, HATCHED AND FLAGGED LINE



R.S. Adamson 5162  
 FIG 6

To accompany report by  
 R.S. Adamson, P.Eng.  
 dated August 31, 1974  
 Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 5162 MAP #6

COLMAGE CAMPBELL & ASSOCIATES LTD  
 JO-BILL PROJECT  
 SMITHERS, B.C.  
 ZINC GEOCHEMISTRY

M6