

REPORT
on the
ERC and BO CLAIM GROUPS
DAWSON RANGE, YUKON TERRITORY

for
HEAD RESOURCES LTD.



This report has been examined by the Geological Evaluation Unit and is recommended to the Commission to be considered as a report of the Geological Survey of Canada.

A-787-20

D.B. Craig

Commissioner of Yukon Territory
Section 50 (4) Yukon Quartz Mining Act.

[Signature]

Commissioner of Yukon Territory

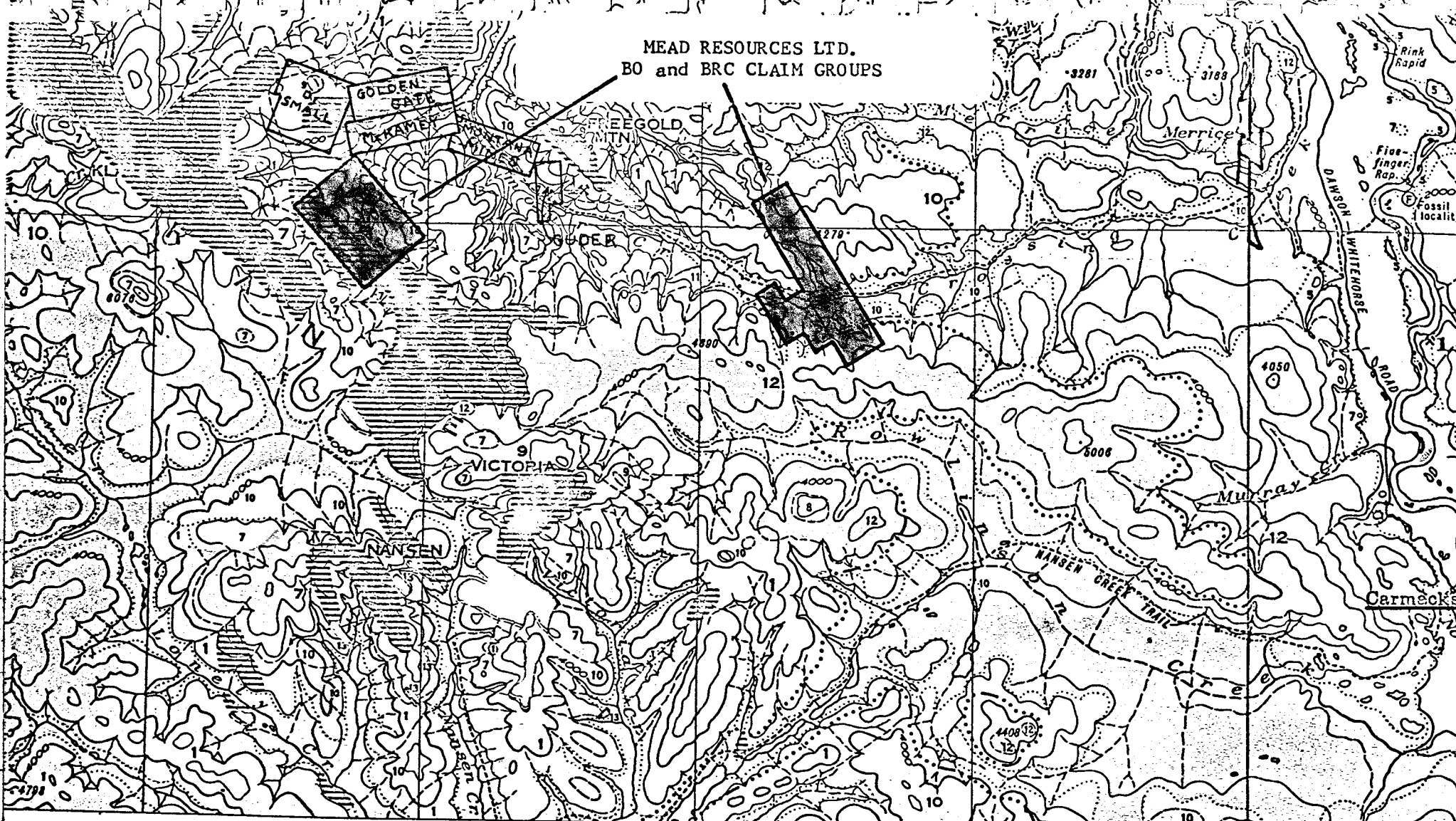
by

R.W. PHENDLER, B.Sc., P.Eng.

Vancouver, B.C.

September 22nd, 1970.

MEAD RESOURCES LTD.
BO and BRC CLAIM GROUPS



30° 15' 137°00' 45' 30'

MAP 340A

CARMACKS SHEET
YUKON TERRITORY

Scale, 253440 or 1 Inch to 4 Miles
Miles



Contour interval 500 feet

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SUMMARY AND CONCLUSIONS

The claims of Mead Resources Ltd. in the Dawson Range of Yukon Territory comprise two groups of 96 claims each. They are about seven miles apart, approximately 120 miles northwest of Whitehorse. The BRC group is traversed by the road west from Carmacks to the Yukon Revenue property while the B0 group is accessible only by helicopter.

The BRC group is underlain by granodiorite, minor monzonite with specks of pyrite and younger Carmacks volcanics. No porphyritic rocks were observed. Geochemical soil sampling for copper indicates the presence of an anomaly of low intensity. It may be attributable to the action of glaciation and deposition of foreign materials. It is noteworthy also that these anomalous readings were found in the swampy valley of Crossing Creek, which drains the mineralized southern slope of Freegold Mountain.

The B0 claim group is underlain principally by homogeneous granodiorite of the Coast Range intrusive complex and minor quartz porphyry, monzonite and rhyolite. No sulphides were observed with the latter rock types, although geochemical work thereon showed a slight increase in copper values. Government aeromagnetic maps show the presence of a magnetic low in the same general area but the general deficiency of magnetite in the monzonites would account for this. No continuity of anomalous copper values was found in the geochemical survey.

Testing of the higher copper geochemical samples for molybdenum content showed that anomalous conditions exist on the eastern edge of the claims. Two samples have greater than 30 ppm Mo.

RECOMMENDATIONS

In view of the negative results from both the geological mapping and soil sampling, no further work on the claims is recommended.

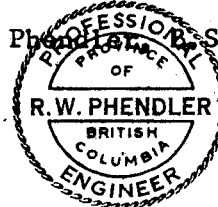
It is recommended, however, that assessment work be filed on some of the BO claims and that they be held in anticipation of possible favourable developments in the area.

Respectfully submitted,

BACON & CROWHURST LTD.

R. W. Phendler, P. Eng.

R.W. Phendler, B.Sc., P.Eng.



INTRODUCTION

At the request of Mead Resources Ltd., Bacon & Crowhurst Ltd. undertook to examine and appraise two claim groups (BRC and B0) totalling 192 claims. It was proposed to undertake geological mapping, prospecting and soil sampling. The limited budget dictated that reconnaissance work be carried out and consequently the ground was traversed by compass and chain at approximately 3000' intervals. Mapping of outcrop and float was done and soil samples were taken at 400 foot spacing. Stream sediment samples were taken where creeks were crossed. Claim location lines were followed and claim tags were affixed to posts.

All traverses were run by the writer accompanied by S. MacKay, soil sampler, and G. Harris of Whitehorse who had staked the claims. He acted as field assistant and proved invaluable in locating claim lines, etc.

The writer arrived in Whitehorse on July 22nd and the last traverse was completed on August 1st, 1970. Nine days were spent in the field on both claim groups. Because of the different locations of the claim groups they will be discussed separately.

Rock specimens were collected during the course of geological mapping. Their locations are clearly marked on the accompanying maps (Figs. 1 & 2) and are available for study in the Bacon & Crowhurst Ltd. office in Vancouver.

PART I - BRC CLAIM GROUP (Fig. 1)

LOCATION AND ACCESS

The BRC claim group is in the southwest part of Yukon Territory, in the Dawson Range at an elevation of 3100-4300 feet. It is located 115 miles northwest of Whitehorse and is accessible by a 30 mile all-weather road from Carmacks on the Klondika Highway. This road passes through the claim group and continues 30 miles northwest to the property of Yukon Revenue Mines Limited, presently under option to Kaiser Resources Ltd. A dirt road, which leads to Canex property, passes within fifteen hundred feet of the northwest end of the claim group.

The claims are within the Whitehorse Mining Division and cover an area of six miles by one mile, the long dimension bearing northwest. They are traversed by Crossing Creek, which flows to the northeast and enters the Yukon River at Yukon Crossing.

PROPERTY AND OWNERSHIP

Mead Resources Ltd. purchased the 96 BRC claims from Mr. H.C. Fromma, President of General Enterprises Ltd. of Whitehorse and numerous associates. Included in this group are Mr. H. Johannes and Mr. R.A. Granger, both principals of Yukon Revenue Mines Ltd.

The claims were staked in the fall of 1969 under the direction of Mr. G. Harris of Whitehorse. All were transferred to Mr. A.C. Bruce prior to the sale to Mead Resources Ltd.

HISTORY

Exploration parties of the Hudson's Bay Company were active in the region as early as 1843 but the first geological information was not forthcoming until G.M. Dawson's visit in 1887. With the Klondike gold rush of 1898, the whole Yukon Territory received much more attention by prospectors and government mapping crews. Many of the tributaries of the Yukon River were explored for placer gold which was found in several localities in the Dawson Range but not in important amounts.

In 1930, gold-bearing magnetite was discovered on Freegold Mountain, five miles northwest of the area under discussion. Spectacular values obtained from early samples led to a stampede in 1931. This resulted in the discovery of a number of gold and pyrite bearing quartz veins.

Mining and milling operations were carried out by Discovery Mines Ltd. from June 1965 until February 1966 on the Laforma property on Freegold Mountain. During this period, 1610 ounces of gold and 570 ounces of silver were produced. Reasons for closure were increasing operating costs, poor recovery of gold from the ores, and lower grades than originally calculated.

The property of Mount Nansen Mines, 12 miles to the southwest, has a somewhat similar history. Reserves in 1967 were 173,300 tons averaging 0.48 oz. Au and 19.5 oz. Ag per ton and 110,000 tons averaging 0.61 oz. Au and 5.4 oz. Ag per ton. A mill was constructed and mining was carried out but little of the gold was recovered, or so

it is reported. The operation continued for a few months and the property is presently inactive.

The present area of interest in the southeast part of the Dawson Range centres around the property of Yukon Revenue, under option to Kaiser Resources Ltd. The area is underlain by granitic rocks and mineralization consists of chalcopyrite veins in a breccia zone and disseminated chalcopyrite in the adjoining massive rocks. Soil sampling, plus percussion and diamond drilling are presently being carried out.

Small trenches dug by Mr. P.F. Guder, discoverer of the Freegold showings, on the claims under discussion are reported to have shown evidence of silver in the overburden but this has not been verified.

Interest in the Casino area 60 miles to the northwest and the Yukon Revenue area, which are both located within granitic rocks, led to the staking of practically all areas underlain by similar rock types in the region. All rocks of this type are not favourable unless porphyritic rocks, breccia zones and accompanying hydrothermal alteration (bleaching) also occur. This is not the case on the BRC claims.

GEOLOGY AND MINERALIZATION

The ERC claims are situated within a broad section of west central Yukon Territory that was almost completely unglaciated during the last ice age. Consequently, geological mapping is facilitated by the scattered but abundant residual bedrock fragments over most of the area.

The area in which the claims are located lies near the northeast side of the Coast Range intrusive complex which is grey, medium to coarse grained granodiorite. In this area, these rocks are not favourable for the existence of porphyry type copper deposits.

Minor amounts of quartz monzonite float were found in the southwestern part of the claims. Some specks of pyrite were seen and some recent trenching has been carried out, probably for assessment work.

No porphyritic rock types were observed. Overlying the granodiorite rocks of the region are isolated patches of Carmacks volcanics of Tertiary age. These are composed of tuffaceous basalts and underlie the southeastern and northwestern claims. They have no economic significance.

No mineralization of potentially economic importance was found on the claims. The only sulphide observed during the property examination was minor pyrite in a few isolated occurrences in quartz monzonite float. There is no apparent alteration of the intrusive rocks, which suggests that hydrothermal, mineralizing solutions were never active in the rocks underlying the property.

GEOCHEMICAL SURVEY

In conjunction with the reconnaissance geological mapping, soil samples were taken at 400 foot intervals along the claim location lines spaced approximately 3000' apart. Soil samples were obtained by digging small pits 6" to 18" deep with a mattock to expose suitable soil beneath the layer of humus and recent volcanic ash. This depth varied from a few inches to one foot.

A total of 185 soil and silt samples was collected in kraft paper bags and sent to a commercial laboratory (Barringer Research Ltd.) in Whitehorse where they were dried and analyzed for their copper content by atomic absorption spectrometry. Results are in parts per million copper and statistically are as follows:

<u>From</u>	<u>To</u>	<u>No. of Readings</u>	<u>%</u>
ppm Cu			
0	18	100	54%
19	29	65	35
30	41 (max.)	<u>20</u>	<u>11</u>
Total		185	100%

From this, it is evident that background in the claim area is less than 18 ppm copper, that values between 19 and 29 ppm copper can be considered to be threshold range, and that values greater than 30 ppm copper are anomalous.

An interpretation of the results indicates the presence of a copper anomaly of low intensity in the south central portion of the claims. The anomalous area is in the swampy valley of Crossing Creek where it is believed minor glaciation took place. It does not warrant additional exploration.

All soil samples which contain greater than 30 ppm Cu and all stream sediment samples were analyzed for molybdenum content. All (28) showed less than one ppm Mo.

PART II - B0 CLAIM GROUP (Fig. 2)LOCATION AND ACCESS

The B0 claim group is seventeen miles west of the BRC group and 35 air miles west-northwest of Carmacks. It is at an elevation of 3000-4500 feet. Access is by helicopter from Whitehorse (125 miles) or from the airstrip at Yukon Revenue Mines Ltd. seven miles north of the claims. The Yukon Revenue property is accessible by gravel road 60 miles northwest from Carmacks.

The B0 claims are in the valley of Bow Creek, a tributary of Big Creek, which flows into the Yukon River thirty miles to the north. The claims are a rectangular block four miles by two and a half miles, the long dimension striking northwest.

PROPERTY AND OWNERSHIP

The 96 claims that constitute the B0 group were purchased by Mead Resources Ltd. from a Whitehorse Syndicate which includes Mr. H.C. Fromme, Mr. H. Johannes and Mr. R. Granger. The claims were staked in the fall of 1969 under the direction of Mr. G. Harris of Whitehorse. During the present survey all claim posts were tagged.

HISTORY

Widespread exploration and prospecting followed the Klondike gold rush of 1898 but it is doubtful if much was done in the vicinity of the BO claims until 1930 when Mr. P.F. Guder discovered gold-bearing quartz veins eight miles to the northeast. Mr. Guder, who the writer met, lives on Seymour Creek and has prospected throughout much of the region.

Regional stream sediment sampling was carried out by Atlas Explorations Ltd. during 1967 and 1968 but little of interest was found in the upper reaches of Bow Creek (personal communication).

In 1964 Meridian Syndicate held a few claims on one of the tributaries of Bow Creek but the exact location is in doubt.

Mining operations were carried out in the past few years on gold-silver veins at Discovery Mines Ltd. and Mount Nansen Mines Ltd. but both failed to be profitable due to high dilution factors, high operating costs and poor recovery.

The presence of massive and disseminated chalcopyrite in a breccia zone within granitic intrusives at the Yukon Revenue property aided in building up interest in the Dawson Range during the past year. The possibility of finding porphyry copper deposits appeared to be good but rumoured discouraging results at the Casino property, 60 miles to the northwest, may have an adverse effect on exploration activity in the region.

Percussion and diamond drilling are presently being carried out on the Yukon Revenue property.

GEOLOGY AND MINERALIZATION

The E0 claims are located within the Dawson Range of central Yukon Territory and are near the northeast side of the Coast Range granitic intrusive complex of Jurassic age. In the vicinity of the claims the bedrock is almost entirely granodiorite in composition with dykes and irregular bodies of Tertiary quartz porphyry, monzonite and rhyolite. These rock types were found in the southern part of the claim group and are not extensive.

No sulphides were seen in the monzonite or the quartz porphyry. Pervasive limonite colouration is present in a small area underlain by medium to dark grey microdiorite with moderately high mafic content, but no sulphides were seen. Hydrothermal alteration was not observed.

GEOCHEMICAL SURVEY

Soil samples were taken on the property at 400' intervals along the claim location lines which are spaced approximately 3000' apart. The samples were analyzed for copper and results are plotted on the accompanying geological-geochemical map at a scale of 1" = 800' (Fig. 2). Results are in parts per million and statistically are as follows:

<u>From</u>	<u>To</u>	<u>No. of Readings</u>	<u>%</u>
<u>ppm Cu</u>			
0	18	107	60.9
19	29	60	32.4
30	86	<u>12</u>	<u>6.7</u>
		179	100.0%

It is evident that background on the B0 group is 18 ppm copper or less, that threshold values are between 19 and 29, and that values of 30 ppm or greater are anomalous.

In only one instance are anomalous values adjacent. This occurs on the northeast side of the claims. Broad areas of threshold values are present along the south side of the claims near the areas underlain by monzonite, rhyolite and quartz porphyry and along the south side of Bow Creek on permafrost covered areas. It appears that slightly higher values are present on muskeg-covered frozen ground.

All soil samples which contain more than 30 ppm Cu and all stream sediment samples were analyzed for molybdenum content. Results are as follows:

	<u>No. of Samples</u>	<u>ppm Mo</u>
	1	39
	1	30
	1	7
	1	6
	1	5
	1	4
	5	1
	<u>23</u>	less than 1
Total	34	


Threshold values are considered to be 5-10 ppm Mo and values above 10 are considered to be anomalous.

The eastern edge of the B0 group of claims shows anomalous values in molybdenum. It is recommended that claims in this area be retained and that assessment work be filed.

CERTIFICATION

I, Roy William Phendler, of the City of Vancouver
in the Province of British Columbia, HEREBY CERTIFY AS FOLLOWS:

1. That I am a registered Professional Engineer in the Province of British Columbia, No. 4421.
2. That I am a graduate of McGill University, Montreal, Quebec, with a Bachelor of Science degree in geology.
3. That I have practiced my profession as geologist continuously for the past seventeen years in Quebec, Ontario, Saskatchewan and British Columbia in Canada; in some of the western U.S.A.; Mexico; and Peru and Colombia in South America.
4. That I have no interest directly or indirectly in the mineral claims of Mead Resources Ltd., nor do I expect to receive any.
5. That the information contained herein was compiled during examination of the ground between July 22nd and August 1st, 1970.

R. W. Phendler, P. Eng
 R.W. Phendler, B.Sc., P.Eng.


Vancouver, Canada.

September 22nd, 1970.

APPENDIX A

TABLE OF GEOLOGICAL FORMATIONS

Tertiary (?) - Monzonite, quartz porphyry, rhyolite.

Jurassic or later - Granodiorite, medium to coarse grained.

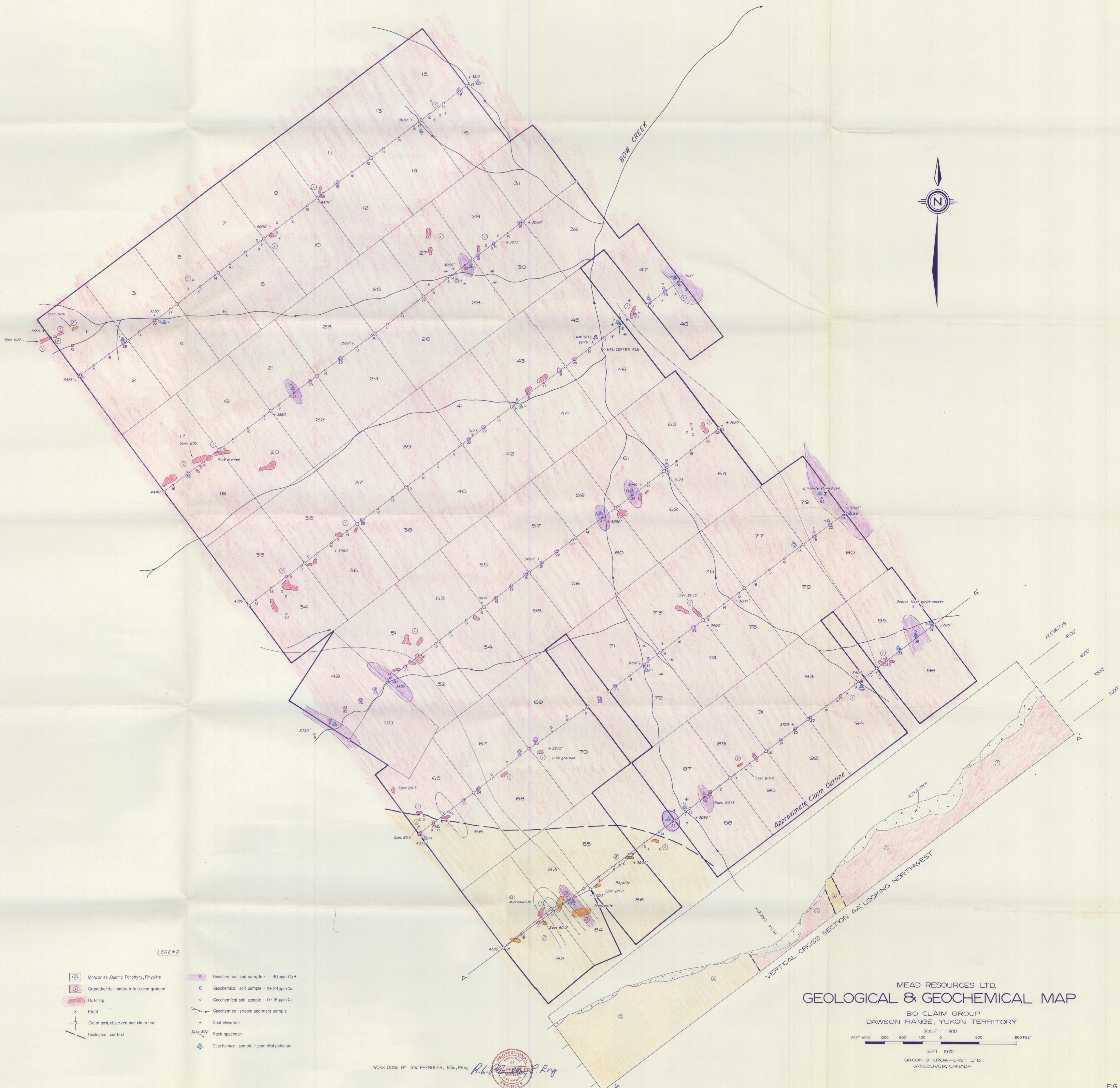
APPENDIX B

NAMES AND ADDRESSES OF ALL PERSONS EMPLOYED
IN PERFORMING THE WORK

1. R.W. Phendler, B.Sc., P.Eng.,
1720 - 1055 W. Hastings St.,
Vancouver, 1, B.C.

2. S.I. MacKay,
2676 Oliver Crescent,
Vancouver, 8, B.C.

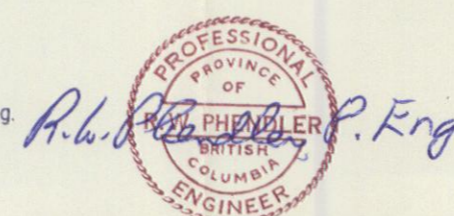
3. G. Harris,
Box 3131,
Whitehorse, Yukon Territory.



LEGEND

- | | | | |
|--|--|--|--|
| | Monzonite, Quartz Porphyry, Rhyolite | | Geochemical soil sample - 30 ppm Cu + |
| | Granodiorite, medium to coarse grained | | Geochemical soil sample - 19-29 ppm Cu |
| | Outcrop | | Geochemical soil sample - 0-18 ppm Cu |
| | Float | | Geochemical stream sediment sample |
| | Claim post, observed and claim line | | Spot elevation |
| | Geological contact | | Rock specimen |
| | | | Geochemical sample - ppm Molybdenum |

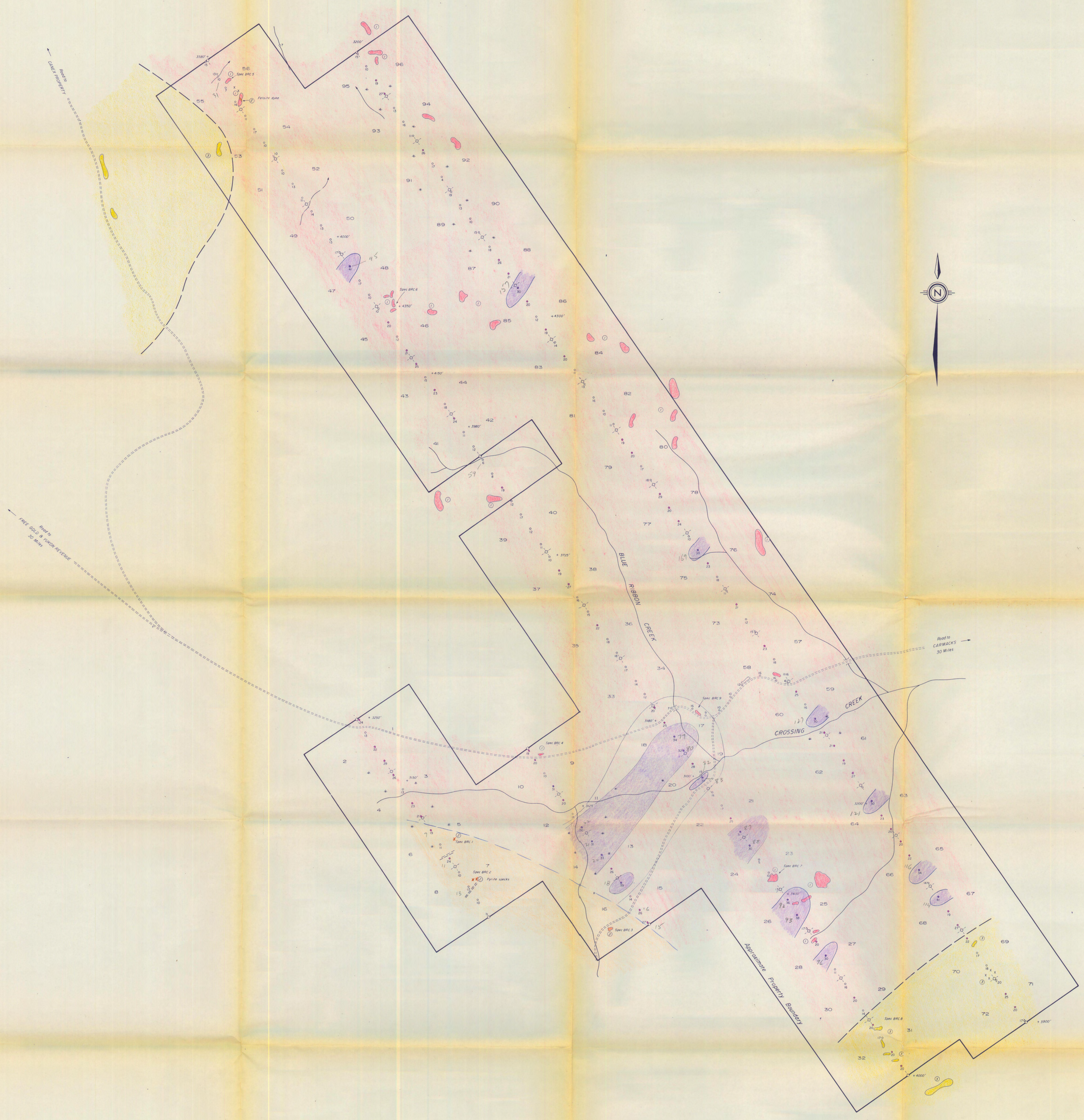
WORK DONE BY: RW PHENDLER, BSc, PEng



MEAD RESOURCES LTD.
GEOLOGICAL & GEOCHEMICAL MAP

B0 CLAIM GROUP
DAWSON RANGE, YUKON TERRITORY
SCALE 1" = 800'
FEET 1600 1200 800 400 0 400 800 1600

SEPT 1970
BACON & CROWHURST LTD.
VANCOUVER, CANADA



LEGEND

- Cormacks Volcanics
- Monzonite, Felsite
- Granodiorite
- Outcrop
- Floot
- Claim post observed
- Geological contact, assumed
- Geochemical soil sample - 30 ppm Cu+
- Geochemical soil sample - 15-29 ppm Cu
- Geochemical soil sample - 0-18 ppm Cu
- Geochemical stream sediment sample
- Spot elevation
- Rock specimen

MEAD RESOURCES LTD
GEOLOGICAL & GEOCHEMICAL MAP
 BRC CLAIM GROUP
 DAWSON RANGE, YUKON TERRITORY
 SCALE 1" = 800'
 FEET 0 200 400 600 800 1000
 SEPT 1970
 BACON & CROWHURST LTD
 VANCOUVER, CANADA

