

GEOCHEMICAL REPORT

ON THE

MID (1 - 6, 11 - 16) CLAIMS

MAYO MINING DISTRICT

YUKON TERRITORY

CLAIM SHEET 106-C-11

LATITUDE: $64^{\circ} 34' N$

LONGITUDE: $133^{\circ} 07' W$

FOR

R. J. HIBBARD

BY

D.H. WAUGH, GEOLOGIST

D.H. WAUGH & ASSOCIATES LTD.

WHITEHORSE, YUKON

JUNE, 1975

090023

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of \$ 1200.00

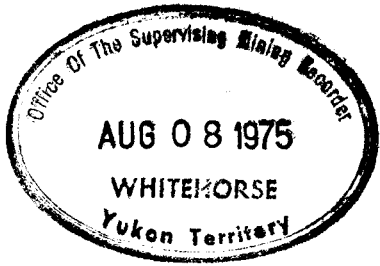
D.B. Davis

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

Supervising Mining Records

[Signature]
Commissioner of Yukon Territory



6-10-73

TABLE OF CONTENTS

1)	INTRODUCTION	Page 1
2)	LOCATION AND ACCESS	3
3)	PROFROPERTY AND OWNERSHIP	4
4)	TOPOGRAPHY	5
5)	CLIMATE AND VEGETATION	5
6)	HISTORY	6
7)	GEOLOGY	
	GENERAL	7
	PROPERTY	8
8)	GEOCHEMICAL SURVEY	
	SURVEY METHOD	9
	DISCUSSION OF RESULTS	10
9)	CONCLUSIONS AND RECOMMENDATIONS	11

APPENDICES

- I List of Personnel and Companys Employed
- II STATEMENT of EXPENDITURES
- III AFFIDAVIT
- IV Certification

ILLUSTRATIONS

1)	Location Map	1" - 120 miles	After page 3
2)	Claim Sketch	1" - $\frac{1}{2}$ mile	After page 4
3)	Regional Geology Map	1:50,000	After page 7
4)	Geochemical-Geological Map	1" - 800'	After page 8

MID (1-6,11-16) CLAIM GROUP

CLAIM SHEET 106-C-11

MAYO MINING DISTRICT, YUKON

TERRITORY

JUNE, 1975

D.H. WAUGH

INTRODUCTION

This report is based on the results of a prospecting and reconnaissance geochemical soil and silt survey program conducted on the MID Claim Group by Michael Callaghan, of Galax Ltd., and on contract with D.H. Waugh & Associates Ltd. from June 27th to July 16th, 1974. Field work on the MID claims was conducted during the period of July 3rd to July 6th, 1974 as a preliminary reconnaissance survey to determine the feasibility of conducting a detailed geological and geochemical program to locate mineralization of economic interest. The author visited the claims during a regional reconnaissance of the area in May and June of 1974.

The property is located in the Bonnet Plume River - Corn Creek area of the Wernecke Mountains, Yukon Territory. Zinc discoveries were made in the Bonnet Plume Range by Barrier Reef Resources Ltd. and by Cypress Resources Ltd. during the early summer of 1973. Drilling was conducted on the properties of Barrier Reef and Cypress Resources during the summer of 1974 and drilling is presently in progress on the Barrier Reef Goz Creek property and Great Plains' Harrison Creek option.

The property was prospected and soil sampled by Michael Callaghan and D.H. Vaugh & Associates Ltd. provided transportation, fuel, supplies, equipment, technical assistance and report preparation. The prospector M. Callaghan, equipment and supplies were flown to the property by Terr Air Ltd. Jet Ranger helicopter from the companies base camp located on the Bonnet Flume River, 15 miles southeast of the MID claims. The base camp was serviced by fixed wing float equipped aircraft from Mayo to Backla Lake and from the lake to the camp by helicopter.

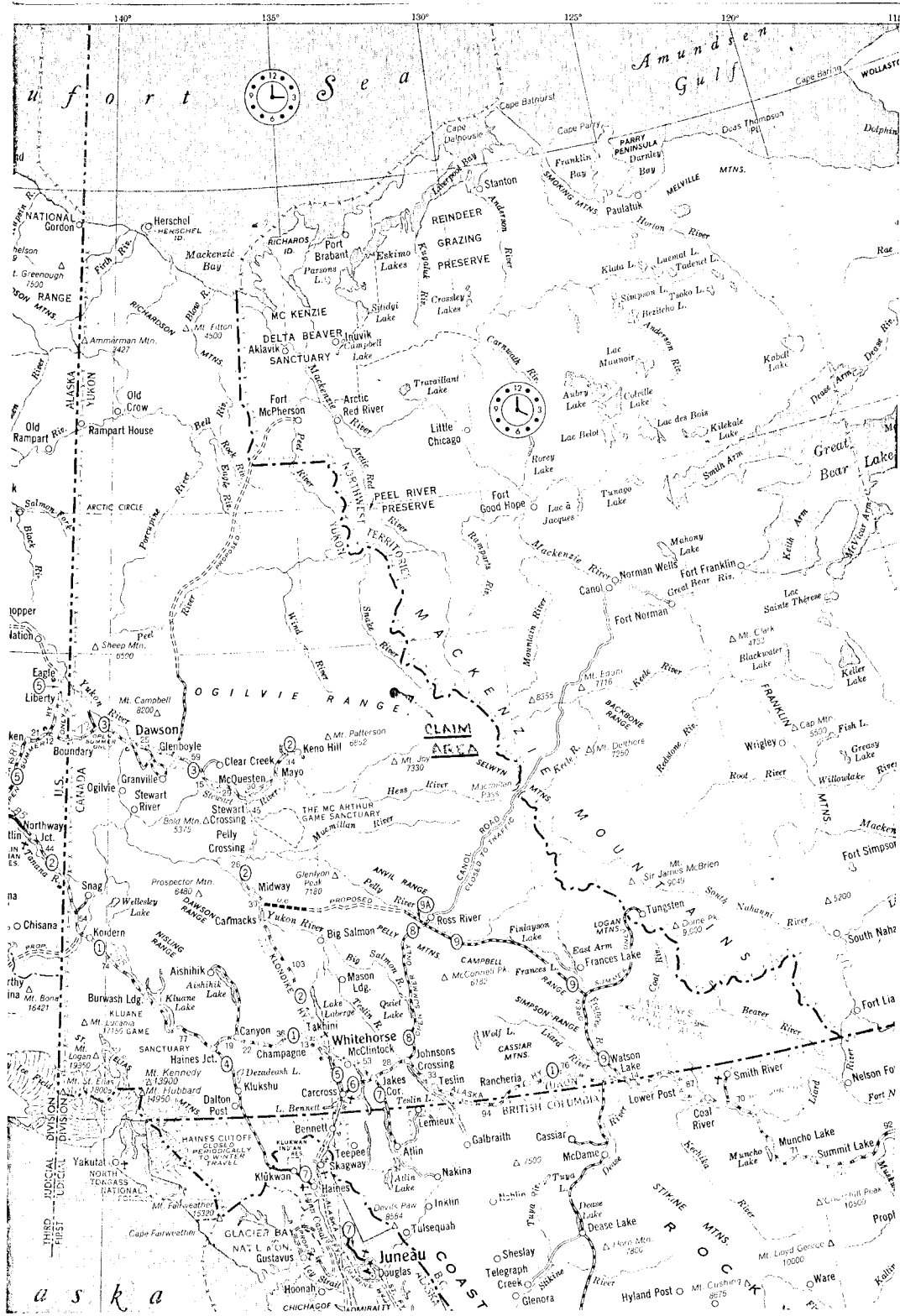
This report is a description of the work, compilation of data, discussion of results and conclusions based on the information obtained from the survey and regional reconnaissance work conducted by the author.

LOCATION AND ACCESS

The MID claims are located 11 miles southeast of Pinguicula Lake in the Bonnet Plume Range on the Nadalcen River map sheet (U.S.G. 106 - C). The property is situated in the Mayo Mining District, Yukon Territory on claim sheet 106-C-11. The claims are located approximately 108 miles from Mayo and about 79 miles northeast of the nearest all-weather road that terminates at Keno City. The co-ordinates of the property are: latitude $64^{\circ} 34' N$ and longitude $133^{\circ} 07' W$.

The nearest fixed wing and helicopter base is located at Mayo and access to the property is by helicopter from Mayo. Float planes were used to mobilize from Mayo to Rackla Lake and a Terr Air, Bell 206 - Jet Ranger helicopter was used to transport men, supplies and equipment from Rackla Lake to the base camp located on the Bonnet Plume River below the confluence of Goz Creek and the Bonnet Plume River, approximately 4 miles.

A location map on a scale of one inch equals onehundred and twenty miles is located on the following page of this report.



LOCATION MAP

Scale: 1" = 120 miles

Fig. 1

PROPERTY AND OWNERSHIP

The MID (1 - 20) quartz claims were staked on the 14th day of March, 1974 and recorded at the Mayo Mining Recorder's office on the 2nd day of April, 1974. Ownership was transferred from J.M. Graham of Whitehorse to R.J. Hibbard of 507 - 540 Burrard Street, Vancouver, B.C.

The claims are located in the Bonnet Plume Range of the Vermecke Mountains on claim Sheet 106-C-11, Mayo Mining District, Yukon Territory and are more particularly described as follows:

<u>CLAIM NAME</u>	<u>RECORD NUMBERS</u>	<u>EXPIRY DATE</u>
MID # 1-6	Y88012 - Y88017	April 2, 1975
MID # 11-16	Y88022 - Y88027	" " "
MID # 7-10	Y88018 - Y88021	Lapsed
MID # 17-20	Y88028 - Y88031	"

A sketch map showing the location of the claims and local geographical features and adjoining claims is located on the following page of this report.

TOPOGRAPHY

The MID claims are located in rugged mountainous terrain on the southwest flank of the Bonnet Plume Range. The claims are located on the south side of a mountain ridge with property elevations ranging between 4,000 and 6,500 feet above sea level. Precipitous slopes occur in the northeast section of the property and talus covers most of the property above the 5,000 foot elevation. The claims are drained by three southerly flowing tributaries of the main drainage system, a northwesterly flowing creek and tributary of Corn Creek that flows past the property to the south. Adequate water is available for drilling purposes during the late spring and summer.

CLIMATE AND VEGETATION

The Bonnet Plume Range has a continental climate characterized by low precipitation and a wide temperature range. The winters are cold and long but the short summer is generally mild with almost continuous daylight during June and July.

The summer weather is extremely variable and sudden changes from warm and sunny to cool and overcast occur. Afternoon rain showers are common, particularly in areas of higher elevation and snow storms are common in late August and early September. Six inches of wet snow fell in the area on July 1st, 1974 followed by warm sunny weather the next day.

Lakes generally freeze by late October and breakup occurs during the first week of June with the highest runoff resulting in June. Temperatures and precipitation compare generally with the Mayo area although the summer days are not as warm and the total precipitation is greater. The annual mean temperature is approximately 23 degrees fahrenheit and total precipitation is about 20 inches. Snow cover varies with altitude and averages between 3

and 4 feet.

Heavy forest growth is restricted mainly to the valley floors with sparse growth extending up to 4500 feet above sea level. The property is mainly above tree line with a few scattered spruce and willows found on the lower slopes.

HISTORY

During the summer of 1973, Barrier Reef Resources Ltd. discovered a significant zone of zinc mineralization in Lower Cambrian dolomites in the Goz Creek area of the Bonnet Plume Range. Additional zinc-lead discoveries were made by Barrier Reef and Cypress Resources along a belt of Paleozoic carbonate rocks extending from Duo Creek in the southeast to the headwaters of Corn Creek in the north. An almost continuous belt of claims were staked from Duo Creek to the head of Corn Creek a distance of approximately 50 miles and covered an average of 5 miles in width.

Exploration activity in this region was limited prior to 1973. From 1967 to 1969, Bonnet Plume River Mines Ltd. carried out extensive exploration work on their copper-cobalt property 35 miles to the north of the Goz Creek area on Delores Creek.

The geology of the Northern Selwyn Mountains was sketched mapped by Dr. J.O. Wheeler of the G.S.C. in 1952. The G.S.C. recently completed a mapping program of the Nadaleen River map sheet 106-C, in 1972 and the preliminary maps were released on open file in June, 1974.

No previous work was conducted on the Mid claims prior to the July, 1974 survey described in this report.

GEOLOGY

GENERAL

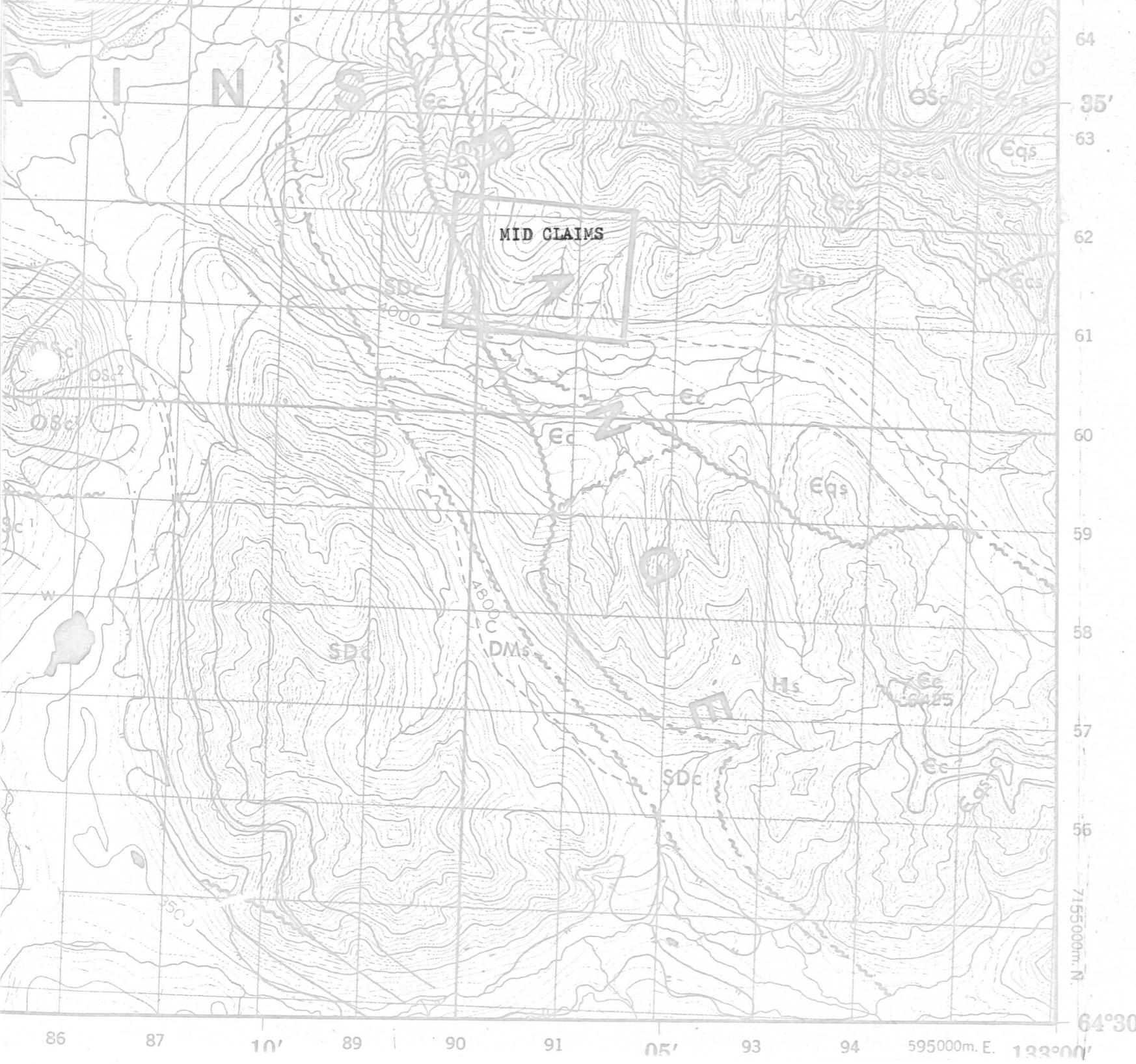
The property is situated on the Madaleen River and Corn Creek preliminary geology map sheets, 106-C and 106-C-11, mapped by the Geological Survey Of Canada in 1972 and released on open file in June, 1974. The Corn Creek map area is predominantly underlain by thick sequences of sedimentary rocks ranging from Proterozoic to Paleozoic age. The formation includes buff to reddish-brown weathering dolomites, sandy, cherty and argillaceous dolomites, massive reefoid limestone and limestone breccia, varicoloured shale, slate, quartzite, siltstone, sandstone and conglomerate. The general strike of the formation is northwesterly with dips varying from flat lying to 70° to the northeast.

The Bonnet Plume Range is characterized by irregular, jagged ridges of resistive carbonate rocks and generally smoother ridges and valleys of less resistive shales.

Mineralization found in the Bonnet Plume Range is a light coloured sphalerite with minor galena. Mineralized zones are both strataform mineral occurrences and massive quartz breccia mineralization. The sphalerite content varies considerably within mineralized zones and control of the mineralization is not fully understood but appears to be related to increases in open space cavities in the dolomites.

A regional geology map, Figure # 3, is located on the following page of this report.

Fig. 3



REGIONAL GEOLOGY MAP

G.S.C. MAP 106-C-11
CORN CREEK

- SDc Light grey, well bedded dolomite, minor limestone near top
- DMs Besa River Formation: black shale and silstone, commonly pyritic
- OSc Mount Kindle Formation: light and minor dark grey regularly bedded dolomite
- Ecs Sekwi Formation: brown & orange weathering thin-bedded dolomite, grey & buff mottled limestone, brown shale & sandstone
- Eqs Backbone Ranges Formation: varicoloured quartzite, silstone and shale, minor silty & sandy dolomite
- Hsq Brown shale, silstone and conglomerate minor orange weathering platy dolomite

SCALE : 1:50,000

PROPERTY

The MID claims are underlain by a sedimentary sequence composed of three distinct units of relatively uniform attitude and continuity. The average strike of the beds is N 40° W and dips shallowly to the northeast.

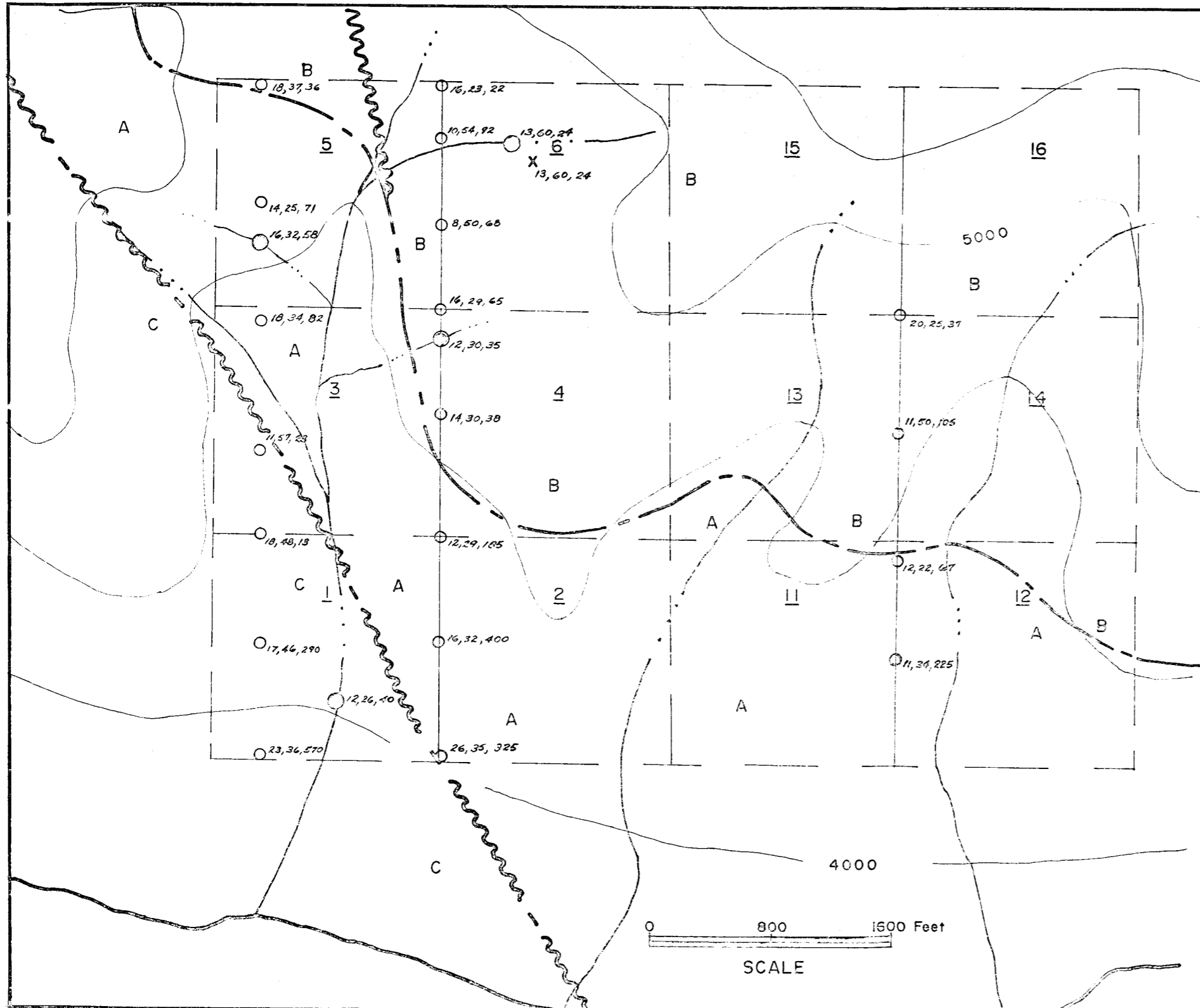
The oldest formation "A", Lower Cambrian age, is located in the south and southwest section of the property, situated on the northeast side of a thrust fault. Formation "A" includes mainly brown and orange weathering thin bedded dolomite and massive grey weathering limestone, some quartzite and shale.

The central and northern section of the property is underlain by formation "B", composed of quartzite, brownish shale, limestone and minor sandstone of Lower Cambrian age. Formation "B" lies conformably on the underlying dolomite and limestone.

The youngest formation "C", is a light grey, well bedded buff weathering dolomite and minor limestone and conglomerate near the top. The formation is located in the southwest corner of the property on the southwest side of the thrust fault. The dolomite is Silurian-Devonian in age and lies unconformably below the older formations "A" and "B" in topographic sequence. The northeast sedimentary sequences have been thrust ~~ed~~ upwards while the southwest side of the fault is down thrown.

No mineralization of economic interest was noted during the survey. Fine grained pyrite was common in the quartzite and some shale units as finely disseminated specs and grains. Hematite staining was noted on fractures of the shale unit.

Plan map Figure # 4, showing the geology, geochemical soil and silt sample locations and values and topographic features is located on the following page of this report.



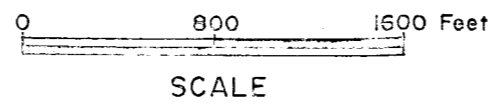
GEOCHEMICAL - GEOLOGICAL PLAN MAP

MID (1-6, 11-16) CLAIMS

MAYO MINING DISTRICT YUKON TERRITORY

LEGEND

- SIL.-DEV. C Dolomite, minor limestone
- LOW. CAM. B Quartzite, shale, minor sandstone & limestone
- A Dolomite, massive limestone, shale, quartzite
- Geological contact (approx.)
- Thrust fault
- 500 foot contour interval
- Soil sample location, values Cu, Pb, Zn in ppm
- Silt sample location
- Rock sample, values in ppm



GEOCHEMICAL SURVEY

A total of 19 soil samples, four silt samples and one rock geochem sample were collected from the traverses on the claims and from the drainage system in the west section of the property. The samples were shipped to Bondar-Clegg & Company Ltd. of Vancouver, B.C. to be analyzed for copper, lead and zinc by the hot acid extraction and atomic absorption method.

SURVEY METHOD

Three compass and chain traverses were run on the property bearing N 7° E and S 7° W, approximately parallel to the claim lines and along the claim lines. Traverse L1 is located near the western boundary of the property and extends from the north end of the property to the southern boundary of the claim group. Traverse L2 is located along the western claim line and extends from the southern boundary to the north end of claims Mid 5 and Mid 6. Traverse L3 extends along the eastern claim line from the southern boundary north approximately 3,000 feet to the base of a long, steep talus slope.

The extensive talus, lack of soil and precipitous rocky slopes prevented soil sampling the top 8 claims of the original MID (1-20) claim group.

Samples were collected at 300 foot intervals along the traverse lines where soil conditions permitted. The soil is generally of the immature or skeletal soil variety with a poorly developed or absent "B" horizon. The "C" horizon is a sandy-clay material, light in colour and contains abundant rock fragments. Samples were collected from depths of 6" to 12 " by a soil mattock and placed in water resistant Kraft bags and labeled by traverse line number and distance.

The samples were shipped to Bondar-Clegg & Company Ltd. in Vancouver for analysis. The samples were dried and sieved to a minus 80 mesh and a one gram sample of the 80 mesh fraction was digested in hot nitric acid and potassium perchloric acid bath. The digested sample was bulked to 20 c.c. and analysis made for copper, lead, and zinc by the atomic absorption method with the results reported in parts per million.

DISCUSSION OF RESULTS

The copper, lead and zinc values reported in parts per million are plotted on the plan map Figure # 4, of this report.

Copper and lead values are generally low and compare with the median value for these elements in other areas of the Bonnet Plume Range that have similar bedrock geology and soil conditions.

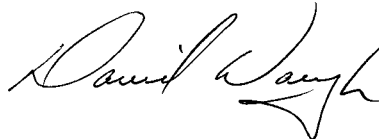
Zinc values range from a low of 13 ppm to a high reading of 570 ppm located in the southwest corner of the property. The zinc values in the southern section of the property are considered to be moderately anomalous and this zone is underlain by carbonate rocks of units "A" and "C". Too few samples are available to calculate a meaningful background and threshold value for zinc however the geology and soil conditions compare with other areas sampled in the Bonnet Plume Range by this company and a background value of 200 ppm and threshold value of 500 ppm could be applied in evaluating the relative intensity of the Mid claims zinc anomaly.

CONCLUSIONS & RECOMMENDATIONS

The preliminary prospecting and geochemical survey on the MID (1-6, 11-16) claims failed to locate mineralization of economic interest. A moderately anomalous zone of zinc values occurs in the southern section of the property but too few samples are available to determine the trend, extent and intensity of this anomaly in a meaningful manner. The source of the moderately anomalous zinc zone is presently unknown.

Additional soil sampling on closer grid and sample interval spacings is required to determine the extent and intensity of the zinc anomaly. A program of geological mapping, prospecting and soil sampling on 400 foot line spacings and 100 foot sample intervals is recommended for the southern section of the property. Estimated cost of this program would be about \$ 4,000.00.

Respectfully submitted,



DAVID H. WAUGH, GEOLOGIST

- APPENDIX 1 -

LIST OF PERSONNEL EMPLOYED AND COMPANYS ON SURVEY

The following is a list of personnel employed and service companys used on the prospecting and geochemical survey of the MID (1-6, 11-16) claims, map sheet 106-C-11, Mayo Mining District, Yukon Territory during the period of July 3rd to July 6th, 1974.

M. CALLAGHAN Gen. Del. Whitehorse, Y.T.	-----	Prospecting, soil sampling
D. H. WAUGH 118 Aisck Whitehorse, Y.T.	-----	Reconnaissance geological mapping (May, June, 1974), report preparation
D.H. WAUGH & ASSOCIATES LTD. Room 10, Airport Terminal Bldg. Whitehorse, Y.T.	-----	Equipment rental, supplies, camp maintenance, transportation, helicopter fuel, report
TERR AIR LTD. Ross River, Y.T.	-----	Fixed and rotary wing aircraft charter services
BONDARECLEGG & COMPANY LTD. Vancouver, B.C.	-----	Analytical services

STATEMENT OF EXPENDITURES

LABOUR

PROSPECTOR/SOIL SAMPLER -

5 man days @ \$ 60.00/day \$ 300.00

TRANSPORTATION

ROTARY WING - 1.4 hours @ \$ 330.00/hr. 462.00
Fuel and crew expenses included

FIXED WING - Promoted terr Air Husky & Trans North 150.00
Beaver

BASE CAMP MAINTENANCE & FIELD SUPPORT

Equipment rental -
5 days @ \$15/day 75.00

Supplies, food, fuel -
5 days @ \$15/day 75.00

DATA PREPARATION, DRAWING, REPORT

Geologist's report, photocopying, typing etc. 525.00

TOTAL EXPENDITURES \$ 1,587.00


AFFIDAVIT

I, DAVID H. WAUGH, of Whitehorse, Yukon Territory make oath and state:

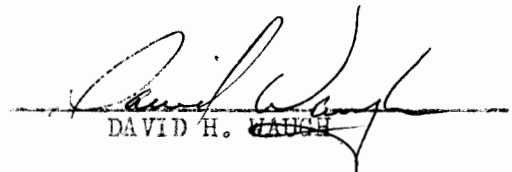
1. THAT I personally visited the Mid claims during a regional reconnaissance of the Corn Creek area during May and June, 1974 and I am familiar with the geology of the property and wrote the report based on this information and data obtained from the geochemical and prospecting survey conducted by M. Callaghan during the period of July 3rd to July 6th, 1974.

2. THAT the expenditures incurred on the said survey, as outlined on the statement of expenditures herewith attached, are, to the best of my knowledge, true and exact.

Sworn and subscribed before me
at WHITEHORSE in the YUKON
TERRITORY this 5 day
of July, 1975.



NOTARY PUBLIC



DAVID H. WAUGH

D. H. WAUGH & ASSOCIATES LTD.

PRESIDENT: D.H. WAUGH, GEOLOGIST

Rm. 10, AIRPORT TERMINAL BLDG., WHITEHORSE, YUKON, Y1A 3S4

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- APPENDIX IV -

CERTIFICATION

I, DAVID H. WAUGH, of residential address 118 Alsek Dr., Whitehorse, Yukon Territory, do hereby state:

1. I am a self employed geologist and president of D.H.WAUGH & ASSOCIATES LTD., with business address at Room 10, Airport Terminal Building, Whitehorse, Yukon Territory.
2. I was educated in the geological sciences at Michigan College of Mining and Technology.
3. I have practised my profession as a geologist in the field of mining exploration and development for the past 10 years.
4. The information in this report represents the findings of the survey conducted by M. Callaghan on the Mid claims and from geological information obtained by me during a regional reconnaissance of the area.

Dated at Whitehorse in the Yukon Territory

this 7th day of July, 1975.


DAVID H. WAUGH