

REPORT ON THE
BEN, CARIBOU AND SNOWHITE
GROUPS OF MINERAL CLAIMS

SEAGULL LAKES AREA
YUKON TERRITORY.

BY

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T A B L E O F C O N T E N T S

| <u>NAME</u> | <u>PAGE</u> |
|---------------------------------------|-------------|
| INTRODUCTION | 1 |
| PROPERTY | 1 |
| LOCATION AND ACCESS | 1 |
| TIMBER AND WATER | 2 |
| HISTORY | 2 |
| GEOLOGY: 1. General Geology | 3 |
| 2. The Claim Group. | 3 |
| 3. Economic Geology | 5 |
| EXPLORATION TECHNIQUES | 6 |
| RECOMMENDATIONS | 6 |
| SUMMARY AND CONCLUSION | 7 |

Introduction

This report is an evaluation of the mineral claims Caribou 1 - 3, Snowwhite 1 - 21 and Ben 1 - 24 located in the Watson Lake Mining Division, west of Seagull Lakes, Yukon Territory.

The report is based on the study of maps and information of the Geological Survey of Canada and a personal examination of the property by the writer.

The writer visited the property and examined and sampled the showings from the 18th to the 21st of August, 1966.

Property

The claim groups are located in the Watson Lake Mining Division and are recorded at the Mining recorders office at Watson Lake as follows:

| <u>Claim Name</u> | <u>Grant Number</u> | <u>Recorded Owner</u> | <u>Recording Date</u> |
|-------------------|---------------------|-----------------------|-----------------------|
| Caribou # 1 | 89296 | P. Verslucce | August 18, 1965 |
| Caribou # 2 | 89297 | P. Verslucce | August 18, 1965 |
| Caribou # 3 | 89298 | P. Verslucce | August 18, 1965 |
| Snowwhite 1 - 8 | Y2540 - Y2547 | P. Verslucce | March 15, 1966 |
| Snowwhite 9 - 16 | Y2548 - Y2555 | P. Verslucce | March 15, 1966 |
| Snowwhite 17 - 21 | Y2556 - Y2560 | H. Verslucce | March 15, 1966 |
| Ben 1 - 8 | Y13583 - Y13590 | B. Ouellette | August 22, 1966 |
| Ben 9 - 16 | Y13591 - Y13598 | A. Arsenault | August 22, 1966 |
| Ben 17 - 24 | Y13599 - Y13606 | A. Arsenault | August 21, 1966 |

Location and Access

The distance from Ross River to the property is 26 miles by air in S28W direction, about 2 miles due west of lower Seagull Lake and approximately 8.5 miles due east of Milepost 100 on the Canol Road.

The elevation of the property is between 5000 and 6000 feet above sea level.

Access is gained from Johnson's Crossing on the Alaska Highway by the Canol Road, which, with all the activity in the Dynasty and Ross River area, will most probably be kept open all the year round. At approximately Mile 100 on the Canol Road a pack trail leads up Groundhog Creek and over a mountain pass to the property.

Fixed wing aircraft can land on the nearby Seagull Lakes. For the initial examination a Helicopter was used for transportation from Ross River to the property.

The pack trail up Groundhog Creek could be widened out to a cat road for exploration purposes and if feasible later on, be converted to a gravel road without too high cost as the timber is light and at higher

elevations gives way to light brush. Abundant gravel is to be found in the valley of Groundhog Creek and no steep grades occur even over the mountain pass. The distance by pack trail or cat respectively is approximately 11 miles from the Canol Road. See also Fig. 2 for possible route.

Timber and Water

No timber that can be used for any construction or in a mine is on the property itself. Low brush and crippled spruce are the only vegetation. The writer has not examined the surrounding valleys for timber, but since it would have to be brought to the property from elsewhere anyway it would probably be most economical to get it from somewhere along the Canol Road, because of cheaper transportation.

The property, overlaying a local divide is drained by several creeks to the North and East. Most of the creeks originate at the contact between phyllite and overlaying dolomite. Although the creeks are small within the boundaries of the claim group it should be possible to get surface water all the year round from within a distance of one mile, or two miles at the most if it is pumped from Seagull Creek. If any underground workings should develop, water can be expected at the base of the Dolomite where it comes into contact with the black Phyllite.

History

The history of the property is closely related to the history of the Ross River area and the Canol Road.

Apart from early prospecting for placer gold early in the century and reconnaissance work done by the Geological Survey of Canada in the thirties (J.R. Johnston, G.S.C. memoir 200, 1936) the area was dormant until the Canol Road, built during World War II, provided better access to the district.

No significant mineralization was found in the Ross River district until 1953 when Prospector's Airways found, and in the following two years proved up, the Vangorda deposit of 9,400,000 tons of ore grading 3.16% Pb, 4.96% Zn, 0.27% Cu and 1.76 ozs. Ag/Ton. No additional tonnage or better grade mineralization was found during the next few years and further exploration was restricted due to low metal prices until a revival of interest and successful exploration in the Vangorda district by Kerr Addison and Dynasty Exploration in 1963. The following years saw a new rush of prospectors and stakers who searched the area for all types of mineralization. Part of the property which is the subject of this report was formerly held by British-Yukon Navigation Co. Ltd. (White-Pass and Yukon Route.) It was the galena vein on the present Caribou # 2 claim but the property was dropped by B.Y.N. in the years of low activity. The writer did not see any of the records of previous owners of the property. With the revived interest in the Vangorda and Dynasty areas, the vicinity of this property was prospected again and two more showings and widespread traces of mineralization were found. Peter and Harry Verslucce of Whitehorse

re-staked the original showing and staked the new finds.

Geology

1. General Geology

A belt of unmetamorphosed Paleozoic rocks with a north westerly trend stretches between the Tintina Fault and a chain of Jurassic to Cretaceous intrusions and metamorphic rocks of undefined age.

This belt reaches a maximum width of about 30 miles and - tapering off at the north western and south eastern end - stretches for about 130 miles along the Tintina fault, forming the greater part of the St. Cyr Range.

In the area of the Quiet Lake map sheet "the belt of unmetamorphosed Paleozoic rocks is divided by the Seagull fault. West of the fault extensive areas of middle and upper Cambrian phyllite are overlain by numerous bodies of Silurian and Devonian dolomite. Some of these are conformable on the phyllites, whereas others (near peak 7000) are probably parts of folded thrust sheets. (Direction of movement uncertain) East of Seagull fault, structural trends are obscure, the lower Cambrian quartzite and Silurian dolomite are in places folded to overturned and recumbent positions. The zone, furthermore, is broken into numerous blocks by both thrust and normal faults, and is characterized, east of Seagull Creek, by isolated klippen of Dolomite." (G.S.C. Map 7 - 1960)

West of Seagull Creek the Contact between Silurian and Devonian Dolomite and the Cambrian Phyllite is in many cases obscured by the talus slope and overburden. Strike and dip angles indicate an unconform contact but it is difficult to decide whether thrust faulting has occurred as it has east of the Seagull Fault.

Comparatively small bodies of Mississippian hornblende Syenites intruded along the east side of Seagull Fault. Deep sitting intrusions related to the Mississippian Syenites or the younger (Jurassic to Cretaceous) granodiorites and quartz monzonites to the west are the possible sources for the metalliferous solutions which deposited the numerous occurrences of mineralization.

2. The Claim Group

The claim group is underlain by a grey to black phyllite which is partly dolomitic and, belonging to the same formation of phyllitic quartzites and tuffs, all of middle to upper Cambrian age. Overlaying these middle and upper Cambrian rocks is a grey thick bedded dolomite which, especially in the western part of the claim group, is shot through by numerous milky quartz veins and veinlets. The dolomite shows a buff to reddish weathering in the western portion of the claim group. A number of small wells occurs at the east facing slope of the high valley running in north south direction over the property. They appear to come to surface at the Dolomite phyllite contact, draining the permeable dolomite

and flowing to surface on top of the impermeable phyllite. These springs, geochemically tested, could give valuable information about the mineralization of the dolomite, especially along the phyllite contact.

Three showings of mineralization were found on the property to date.

a) A vein of galena, exposed in 6 hand dug trenches on Caribou # 2 at an elevation of approximately 5700' on the west facing slope of the valley. Although most of the trenches were sloughed in when the writer examined the showing, the vein seems to strike North-South, dipping steeply to the East into the hills. Chunks of massive galena were found in all trenches over a total strike length of 300'. In trench # 2 the chunks of massive galena were up to 2½ feet in diameter with broken surfaces all around, indicating a width of the vein of some 3 feet at this point.

The vein occurs in massive grey dolomite; small stringers of galena are to be found in the wallrock. The block of dolomite underlying the eastern part of the claim group and overlaying the phyllite has a northeasterly strike and dips at 40-50° to the north.

The showing is several hundred feet above the inferred phyllite-dolomite contact.

Samples taken by the writer had the following assay values:

| Location | Ag | Pb | Au | Ag/Pb Ratio |
|------------|--------------|-------|---------------|-------------|
| Trench II | 51.4 ozs/ton | 75.4% | 0.005 ozs/ton | .77:1 |
| Trench III | 40.9 " " | 69.0% | 0.005 " " | .59:1 |
| Trench IV | 44.0 " " | 68.9% | Tr | .63:1 |

The trenches were numbered from South to North.

b) Float of massive fine grained galena was found on Caribou # 3 in the overburden covering phyllitic and dolomitic quartzite and weathered tuffs. The float was found on the surface originally and more was exposed by a few small hand dug pits and trenches.

Thick bedded dolomite is exposed on the steep mountainside to the West and the phyllite-dolomite contact projects to a few hundred feet to the West and slightly above the showing.

Samples taken of the float by the writer had the following assay values:

| | Ag ozs./ton | Pb % | Au ozs./ton | Ag/Pb Ratio |
|-----|-------------|------|-------------|-------------|
| # 1 | 42.4 | 79.5 | 0.005 | .53:1 |
| # 2 | 32.7 | 69.8 | 0.01 | .47:1 |

The rough nature of the galena float indicates a short travel from the mineralization in situ.

c) A quartzvein, well mineralized with galena and tetrahedrite in a gangue of ankerite and dolomite is exposed for some 40' in a hand dug trench on Ben # 12 at an elevation of 6040', high up on the edge of a small plateau. The vein is in dolomite and is situated close to the contact with some black weathering silicious shale which outcrops only a few hundred feet to the north. The vein has a north westerly strike, dips moderately to the North and is about 4 feet wide.

Although this is the only showing where any tetrahedrite is macroscopically visible, the silver-lead ratio is slightly lower than at the other showings.

Two samples were taken by the writer:

| | Ag ozs./ton | Pb % | Au ozs./ton | Cu % | Ag/Pb Ratio |
|-----|-------------|------|-------------|------|-------------|
| # 1 | 25.6 | 57.1 | Tr | .30 | .45:1 |
| # 2 | 26.3 | 59.3 | | .18 | .44:1 |

Small stringers of galena were found in pieces of Dolomite sliderock at several locations on the west side of the north-south running valley, indicating that the mineralization is fairly widespread.

3. Economic Geology

Several occurrences of Pb-Ag and Cu mineralization have been located to date in the belt of unmetamorphosed rocks between the Tintina fault and the Jurassic intrusions to the West, namely in and around the lower Cambrian Limestones between the Seagull Fault and the St. Cyr Fault at the headwaters of the Ketzka River. None of them have turned out to be of economical interest so far although they were alternatively worked on by different companies.

In several cases the lead mineralization was found at the base of the thick bedded dolomite close to the contact with the middle and upper Cambrian phyllite. Since this contact was found to be tectonic in many places (thrust-faulting) and in conjunction with North-West trending normal faulting, many travelways seem to have been open for mineral solutions which would deposit the sulphides preferably in the wider openings in the dolomite, rather than in the phyllite. The contact is in conjunction with faulting therefore the most favourable geological configuration for ore deposition.

In several locations along the Seagull Fault and its' subsidiaries intrusive rocks of Mississippian and also younger Jurassic and Cretaceous age stick through the unmetamorphosed belt, forming small haloes of contact metamorphism around the local stock intrusions. The occurrences of mineralization follow the same north-westerly trend as this chain of intrusions, indicating the source of mineralization.

No. 2 is of special interest, as the nature of the float indicates a short travelway and the mineralization in place should therefore be close to the phyllite-dolomite contact.

Showing # 1 shows a strong massive mineralization and there is a good possibility of enrichment at the base of the dolomite, closer to the phyllite contact.

Exploration Techniques

The moderate amount of overburden, the nature of the mineralization and the topography make Geochemistry a very usefull tool of exploration. The emphasis should not only be put on soilsampling but also on stream silt sampling and the geochemical testing of the water itself. Water samples should be taken from all springs and wells on the west side of the North-South running valley where they appear to come to surface along the dolomite-phyllite contact.

Airborne geophysics is not applicable because of the rough topography.

Ground geophysical methods, especially E M horizontal loop surveys with a Ronka type instrument would give good results but it is recommended to use it only if an area has already responded geochemically.

Trenching by Bulldozer and diamond drilling are recommended for follow-up work on either discovered showings of mineralization or geochemical and geophysical anomalies.

Recommendations

1. Soilsample in the North-South running valley on lines in East-West direction, 400 feet apart and at 200 foot intervals initially, extending the lines to where they either cut bare outcrop or talus. The vegetation allows a minimum of line cutting, using pickets to mark the locations. Take stream silt and water samples of all seepage.

| | |
|--|-------------|
| Estimated cost - 3 men picketing, soilsampling, 2 weeks including transportation, camp and food, equipment and helicopter and Assaying - | \$ 6,000.00 |
|--|-------------|

2. Start trenching on showing # 1 and 2 under close geological supervision -

| | |
|------------------|-----------|
| Estimated cost - | 10,000.00 |
|------------------|-----------|

| | |
|--|----------|
| Engineering and Geology, including compilation of all results - | 3,000.00 |
|--|----------|

| | |
|-----------------|-----------------|
| Contingencies - | <u>2,000.00</u> |
|-----------------|-----------------|

| | |
|---|--------------------|
| Total estimated cost for initial program: | <u>\$21,000.00</u> |
|---|--------------------|

For a program of follow-up work on the results of #1 and #2, if warranted by further trenching and possible diamond drilling, additional funds should be provided for as follows:

| | |
|-------------------------------------|--------------------|
| Trenching - 200 hours @ \$35./hr. = | \$ 7,000.00 |
| Camp, Board, etc. = | 3,000.00 |
| Diamond drilling - 1500' = | 22,500.00 |
| Camp, Board and transportation = | <u>7,500.00</u> |
| | <u>\$40,000.00</u> |

| | |
|--------------------------------|---------------------------|
| Total for recommended program: | <u><u>\$61,000.00</u></u> |
|--------------------------------|---------------------------|

Summary and Conclusion

The property is situated in the belt of unmetamorphosed rocks between the Tintina Fault and a belt of Jurassic and Cretaceous Granodiorite intrusions, south of Ross River, Yukon Territory.

The mineralization of galena with silver values shown on the property definitely warrants an exploration program.

The silver-lead ratio of approximately 0.5:1 is such that substantial tonnage and expected low mining costs are necessary conditions for a favourable economical future of the property. An increase in the price of silver could reduce the importance of the first conditions.

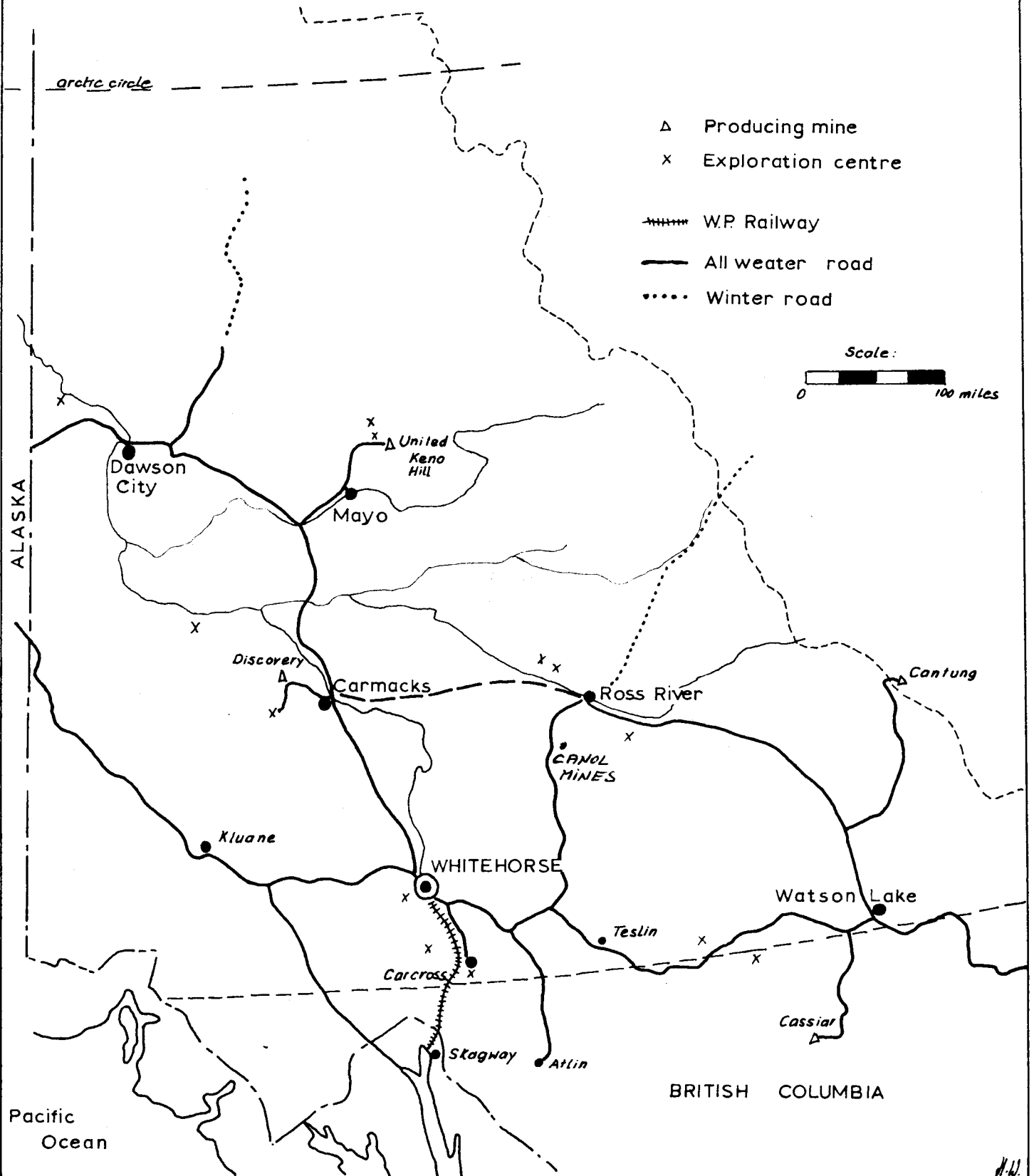
Respectfully submitted,

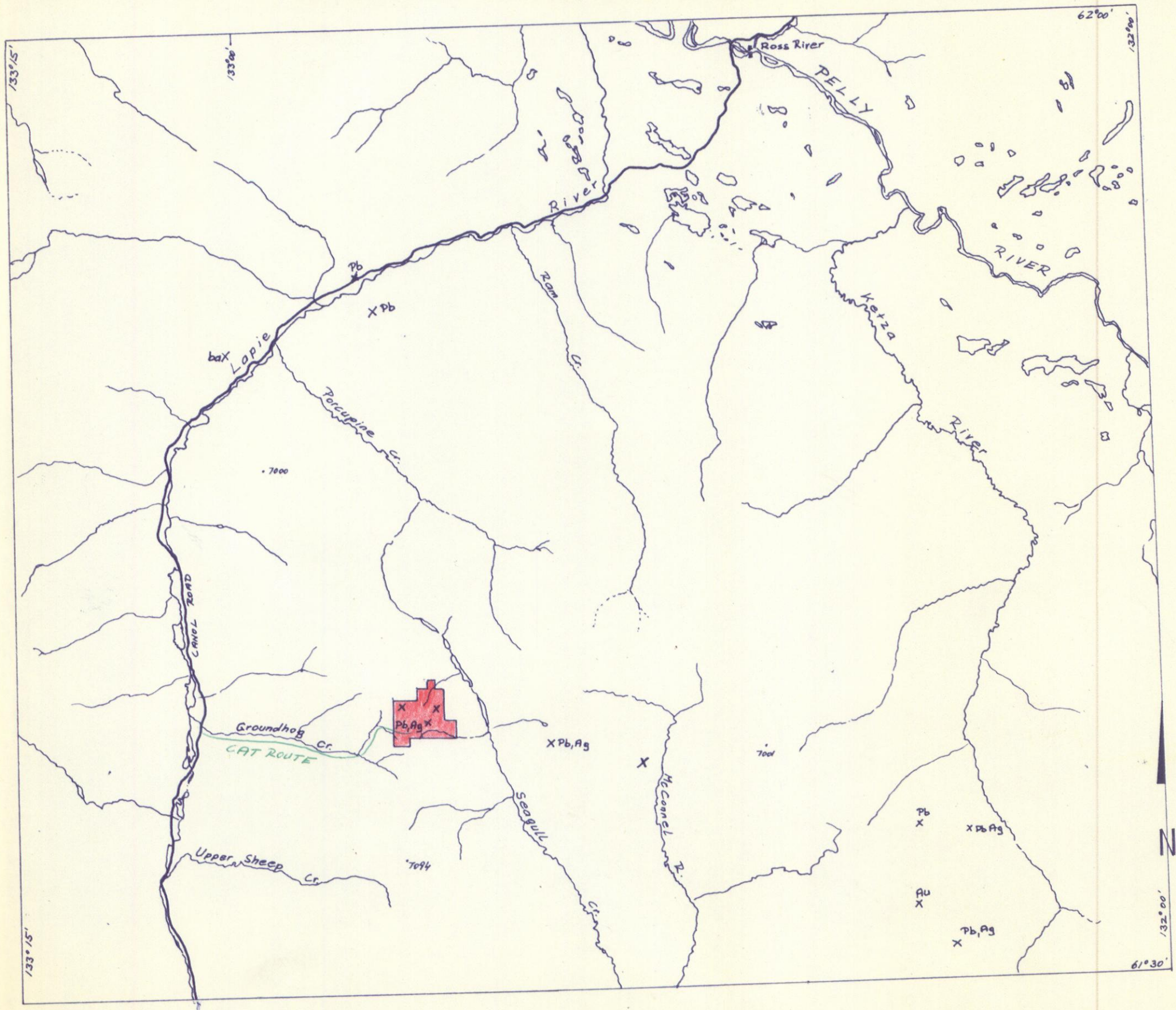
MACDONALD CONSULTANTS LTD.

H. Wober P. Eng.

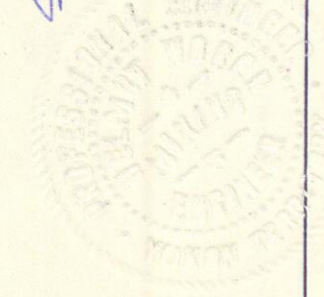
H. Wober, P. Eng.

YUKON TERRITORY Mineral Areas





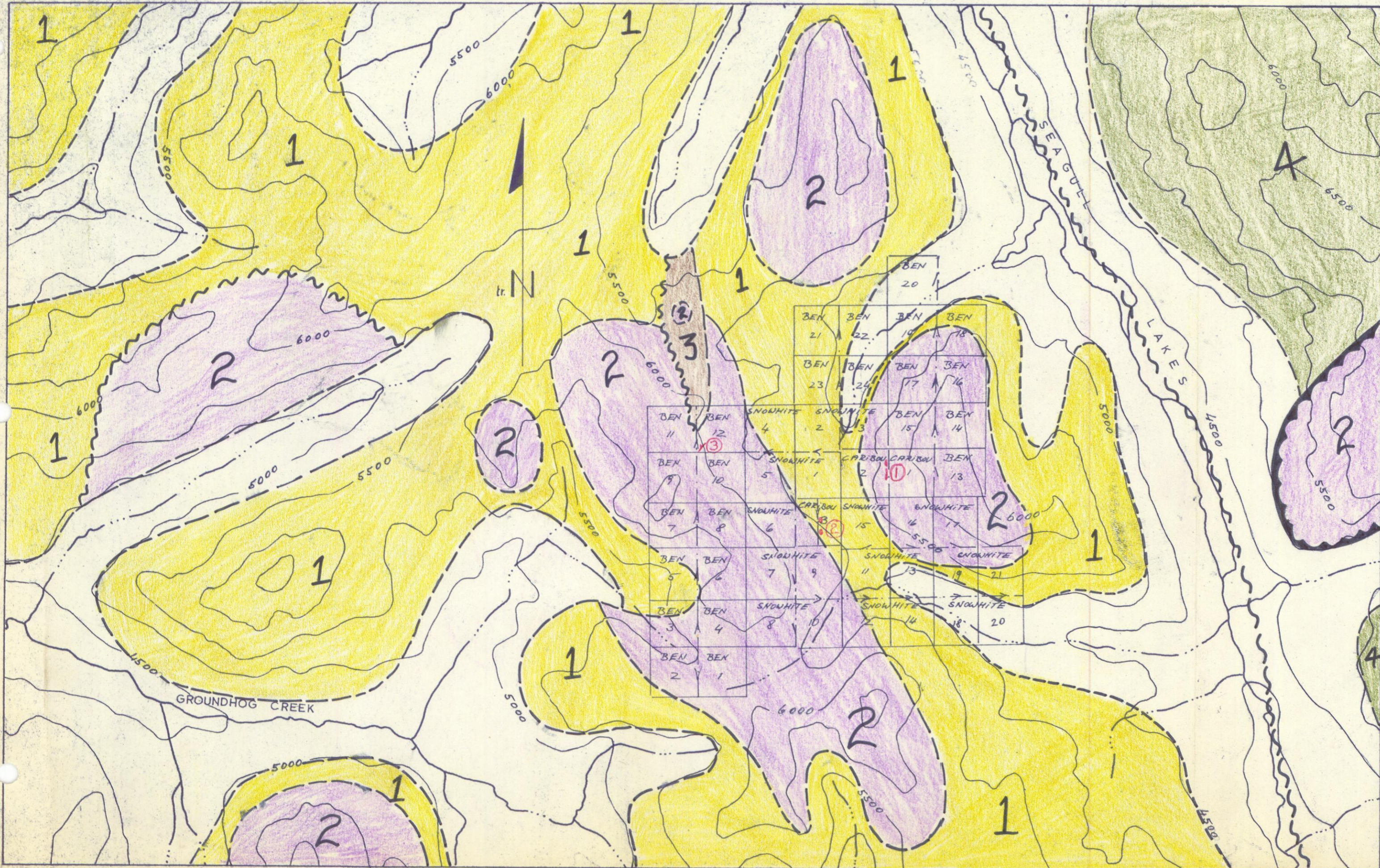
J. W. Fisher, P. Eng.



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CANOL MINING

| | | |
|-------|-------------------|---------------------------------|
| DRAWN | <i>H.W.</i> | LOCATION MINERAL OCCURRENCES |
| DATE | <i>AUG. 66.</i> | |
| SCALE | <i>1" = 4 mi.</i> | |
| JOB | <i>211</i> | |



- ② Showing
- ~ Fault
- ▬ Thrustfault
- 4 Mississippian felsic breccias, tufts, chert, limest.
- 3 brown & black, sil. slate + shale
- 2 Silurian and Devonian thickbedded dolomite
- 1 Cambrian phyllite

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CANOL MINING

| | | |
|-------|-------------|--|
| DRAWN | J.W. | CLAIM LOCATION GEOLOGY G.S.C. MAP 7-1960 CLAIMSHEET 105 F-10 |
| DATE | Aug 66 | |
| SCALE | 1" = 1/2 mi | |
| JOB | 211 | |

J. Wilson P. Eng.