

EVALUATION REPORT ON THE BARB 1 - 34 MINERAL CLAIMS,
MONTANA MOUNTAIN, CARCROSS, WHITEHORSE MINING DISTRICT,
YUKON TERRITORY.

CLAIM SHEET NUMBER 105 D 2

60° 05' N ; 134° 40' W .

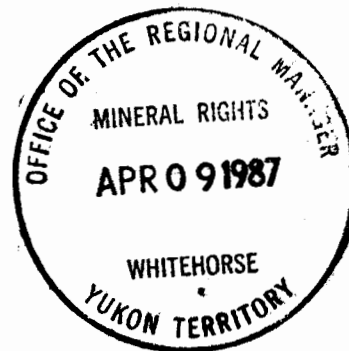
By

A.J. REED, P.Eng.

16th -23rd July, 1986

For

Mr. Larry Barrett
Box 51
Carcross, Yukon Territory
403-821-3121



This report has been examined by
the Geological Evaluation Unit
under section 53 (4) Yukon Quartz
Lease Act and is allowed as
recreation work in the amount
of \$ 6 000.00.

DA Emond

for Regional Manager, Exploration and
Geological Services for Commissioner,
of Yukon Territory.

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PRE - FEASIBILITY STUDY OF THE BARB 1-34 MINERAL
CLAIMS, MONTANA MOUNTAIN, CARCROSS, WHITEHORSE
MINING DISTRICT, YUKON TERRITORY.

BY

A.J. REED, P.Eng.

INTRODUCTION

The BARB 1-34 mineral claims cover an area of approximately 2.6 square miles (6.7 square kilometers) at an elevation of 5000 to 6000 feet (1524 to 1830 meters) on the northern slope of Montana Mountain approximately six miles (10 kilometers) south of the village of Carcross.

The BARB 1-34 mineral claims cover the old Peerless Mine and completely surround the Pride of Yukon and Caribou crown-granted mineral claims which were the nucleus of the Arctic Gold and Silver Mine operation in 1968 and 1969.

Quartz veins containing silver, gold, arsenic, iron and lead mineralization were first discovered in this area in 1901 and have been mined from 1911 to 1915 and from 1968 to 1969. Total production during these periods was approximately 11,000 ounces of gold and 300,000 ounces of silver.

Rex Silver Mines Ltd. (owners of the Pride of Yukon and the Caribou crown-granted mineral claims) are contesting the validity of the BARB 1-34 mineral claims on the basis of an allegation that Larry Barrett

did not perform sufficient representational work on these claims during the period May 1st 1985 to May 1st 1986. The Mining Recorder in Whitehorse will hold a hearing to investigate this allegation on or before August 8th, 1986.

The present state of knowledge of the BARB 1 -34 claims is not sufficient to allow any of the mineralization to be classified as " proven ore " but the property has excellent potential for the development of adequate ore reserves to support a small mining operation.

LIST OF CLAIMS

<u>CLAIM NAME</u>	<u>TAG NUMBER</u>	<u>OWNER</u>
BARB 1	YA 86607	Mr. Larry Barrett
BARB 2	YA 86608	Mr. Larry Barrett
BARB 3	YA 86609	Mr. Larry Barrett
BARB 4	YA 86610	Mr. Larry Barrett
BARB 5	YA 86611	Mr. Larry Barrett
BARB 6	YA 86612	Mr. Larry Barrett
BARB 7	YA 86613	Mr. Larry Barrett
BARB 8	YA 86614	Mr. Larry Barrett
BARB 9	YA 86615	Mr. Larry Barrett
BARB 10	YA 86616	Mr. Larry Barrett
BARB 11	YA 86617	Mr. Larry Barrett
BARB 12	YA 86618	Mr. Larry Barrett
BARB 13	YA 86619	Mr. Larry Barrett
BARB 14	YA 86620	Mr. Larry Barrett
BARB 15	YA 86621	Mr. Larry Barrett
BARB 16	YA 86622	Mr. Larry Barrett
BARB 17	YA 86623	Mr. Larry Barrett
BARB 18	YA 86624	Mr. Larry Barrett
BARB 19	YA 86625	Mr. Larry Barrett
BARB 20	YA 86626	Mr. Larry Barrett
BARB 21	YA 86627	Mr. Larry Barrett
BARB 22	YA 86628	Mr. Larry Barrett
BARB 23	YA 86629	Mr. Larry Barrett
BARB 24	YA 86630	Mr. Larry Barrett
BARB 25	YA 86631	Mr. Larry Barrett
BARB 26	YA 86632	Mr. Larry Barrett
BARB 27	YA 86633	Mr. Larry Barrett
BARB 28	YA 86634	Mr. Larry Barrett
BARB 29	YA 86635	Mr. Larry Barrett
BARB 30	YA 86636	Mr. Larry Barrett
BARB 31	YA 86637	Mr. Larry Barrett
BARB 32	YA 86638	Mr. Larry Barrett
BARB 33	YA 86639	Mr. Larry Barrett
BARB 34	YA 86640	Mr. Larry Barrett

This evaluation report was prepared for Mr. Larry Barrett of Box 51, Carcross, Yukon Territory. The cost of this evaluation report was \$ 6000.00 .

TERMS OF REFERENCE & SCOPE OF THIS REPORT

This study has been jointly funded by Mr. Larry Barrett of Carcross and the Department of Regional Industrial Expansion of the Federal Government of Canada. The terms of reference for the study are as follows:-

- 1) Review and provide a copy to both the Special ARDA Committee and the applicant of all previous technical reports, maps and literature pertinent to the Arctic Gold and Silver Mine and the area covered by Larry Barrett's claims.
- 2) Summarize the above review, and based upon it undertake an assessment of the geology, ore reserves and previously utilized mining methods in light of current and projected world metal prices.
- 3) Provide a recommendation as to whether any further investment should be made on this property and the likely feasibility of a viable mine operation on this site.
- 4) Develop a general plan for guiding the field and related work necessary for testing the feasibility of re-establishing a mine in the area.
- 5) Visit the mining recorders office and all of Larry Barrett's claims. Provide a map (in a format that would be easily understood by the Special ARDA committee) showing the various conflicting legal ownership of claims in the relevant areas containing the original mine, Larry Barrett's claims and any important adjacent properties. Provide a brief summary of the issues these conflicting claims pose to development of the property.
- 6) (a) Visit Larry Barrett's office and review all documents related to the mine and discuss with Mr. Barrett and evaluate any work he has done to date related to the study or development of this mine.

(b) Visit Carcross Indian Band Chief and/or council and discuss the band's views towards the development of this mine. Determine whether they wish to participate in this development and what form this participation might take.
- 7) Document numbers 2-6 above in a report. Three copies of this report should be provided directly to the applicant and three copies directly to Special ARDA.
- 8) All above listed reports would be completed and submitted to DRIE by September 10, 1986.

1. In accordance with item 1 of the terms of reference, I have reviewed the following list of reports pertinent to the Arctic Gold and Silver Mine and the area covered by the BARB 1-34 mineral claims :-

LIST OF REPORTS AND MAPS

- McCONNELL, R.G. 1906. Windy Arm District, Northwestern B.C. ; Geol. Surv. Can., Summ. rept. for 1905
- CAIRNES, D.D. 1907. Explorations in a portion of the Yukon, south of Whitehorse; Geol. Surv. Can., Summ. Rept. for 1906, pp 22-30
- CAIRNES, D.D. 1908 Reports on a portion of Conrad and Whitehorse Mining Districts, Yukon, Canada Dept. of Mines, Geol. Surv. Br., Publication 982.
- CAIRNES, D.D. 1917 Investigations and Mapping in Yukon Territory; Geol. Surv. Can., Summ. Rept. for 1916.
- COCKFIELD, W.E. 1930 The mining industry of Yukon, 1929; Geol. Surv. Can., Summ. Rept. for 1929.
- COCKFIELD, W.E.,
BELL, A.H. 1944 Whitehorse District , Yukon; Geol. Surv. Can., Paper 44-14.
- WHEELER, J.O. 1961 Whitehorse map-area ; Geol. Surv. Can., Memoir 312.
- GREEN, L.H.. 1966 The mineral industry of Yukon Territory and south-western District of Mackenzie, 1965; Geol. Surv. Can., Paper 66 - 31.
- FINDLAY , D.C. 1969 The mineral industry of Yukon Territory and south-western District of Mackenzie, 1967; Geol. Surv. Can., Paper 68 - 68.
- WESTERN MINER, JAN.1969 Arctic Gold and Silver Mines Limited. p. 13
- FINDLAY, D.C. 1969 The mineral industry of Yukon Territory and south-western District of Mackenzie, 1968; Geol. Surv. Can., Paper 69 - 55.
- NORTHERN MINER 10 FEB. 1966 p.11
- NORTHERN MINER 23 FEB. 1967 p.1
- NORTHERN MINER 23 JAN. 1969 p.1

ARCTIC GOLD & SILVER MINES LIMITED, 1967. Annual Report for 1967.

DOLMAGE CAMPBELL & ASSOC. LIMITED, 1967. Feasibility Report , Arctic Caribou Mine and Mill, Carcross, Yukon Territory.

ROOTS, C.F. 1981 Geological Setting of Gold-Silver Veins on Montana Mountain in Yukon Geology and Exploration. 1979-80. Dept. Indian and Northern Affairs.

CRAIG, D.B.
LAPORTE, P.J. 1972 North of 60 - Mineral Industry Report 1969 and 1970 Volume 1 - Yukon Territory and southwestern sector, District of Mackenzie; Canada Dept. of Indian Affairs and Northern Development. Report EGS 1972-1

KALNINS ,
McCARTNEY , 1975 Geol. Surv. Can., Open File Map 289.

TINDALE, D.L. 1967 Geological Report on the Peerless Claims, Carcross Area, Yukon Territory. Assessment Report.

TINDALE, D.L. 1968 Diamond drill-hole logs from the Peerless adit, Carcross Area, Yukon Territory. Assessment Report # 091113

ARCHER, CATRO
and ASSOCIATES LTD. 1972 Northern Cordillera mineral inventory, Yukon and Northwest Territories; Volumes 1 - 1V & Maps.

2. SUMMARY OF LITERATURE REVIEW

(a) GEOLOGY

The oldest rocks on Montana Mountain are the metamorphosed volcanic rocks of the Atlin Terrane which occur along the eastern flank of Montana Mountain from Sugarloaf Hill across the lower reaches of Big Thing Creek and Montana Creek to the mouth of Pooley Canyon. These Atlin Terrane volcanics are thought to be of Mississippian age (300 million years).

The Atlin Terrane volcanics are overlain by westward dipping siltstones of the Laberge group of Lower Jurassic age (150 million years old) which are interbedded with coarse conglomerates at Brute Mountain to the west.

The outcrop of the Laberge group is interrupted by a complex of volcanic rocks which form the peaks of Montana Mountain, Mount Matheson and Dail Peak and extend eastwards to the shore of Windy Arm from Pooley Canyon to the British Columbia Boundary. The Montana Mountain volcanic complex is correlated with the Mount Nansen Group and thought to be 60 - 70 million years old.

North of Montana Mountain the older rocks have been intruded by a quartz-monzonite (granite) belonging to the Coast intrusions and estimated to be approximately 65 million years old.

Figure 2 from Roots (1980) shows the distribution of the different rock units.

(b) ECONOMIC MINERALIZATION

Figure 1 from Roots (1980) shows the main mineral showings

Figure 1
Mineral claims and main workings on Montana Mountain.

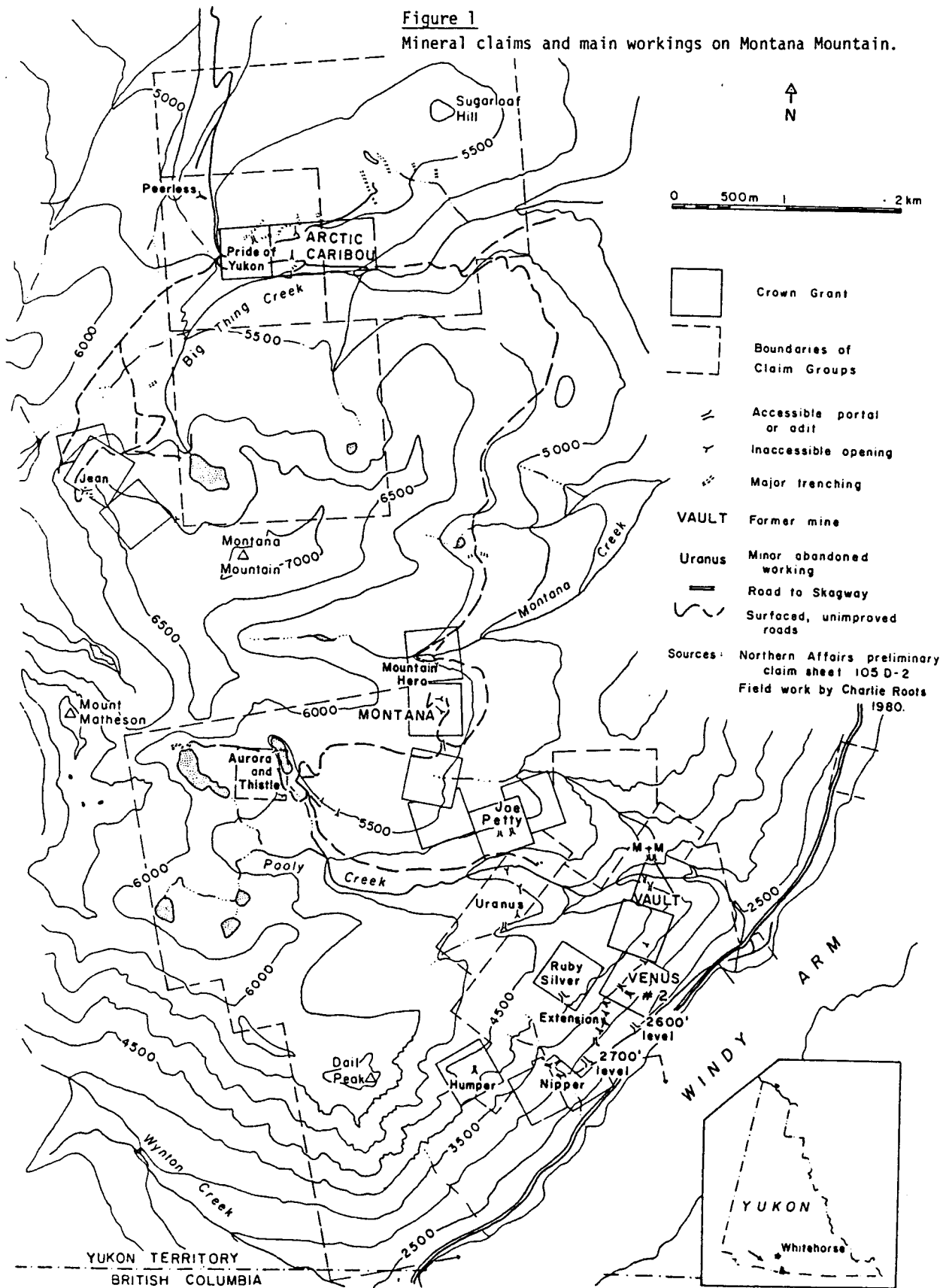
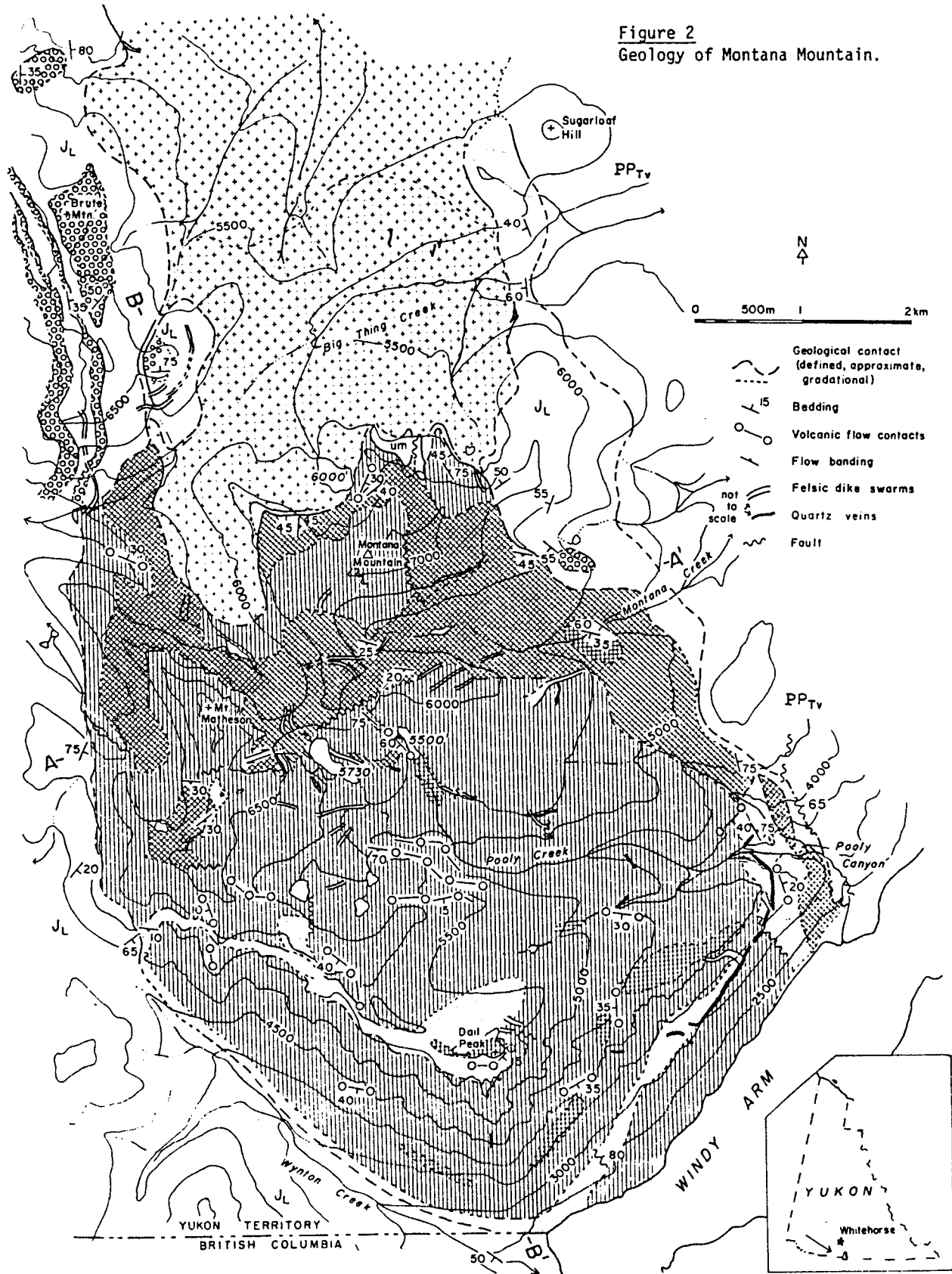
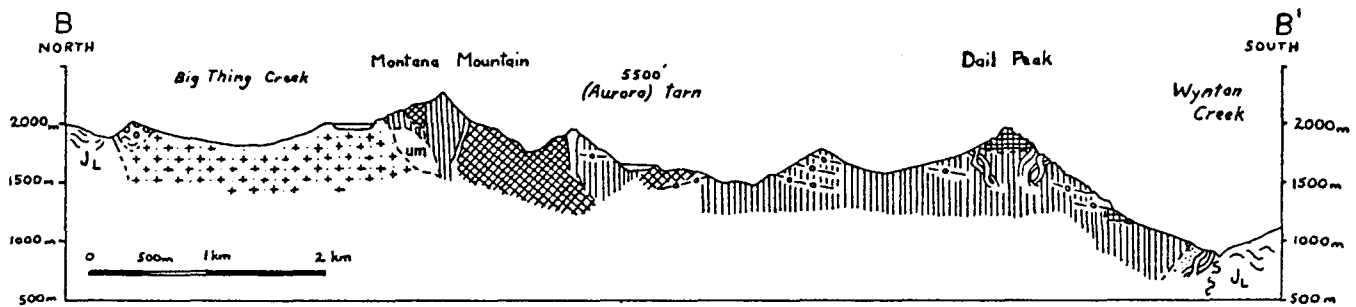
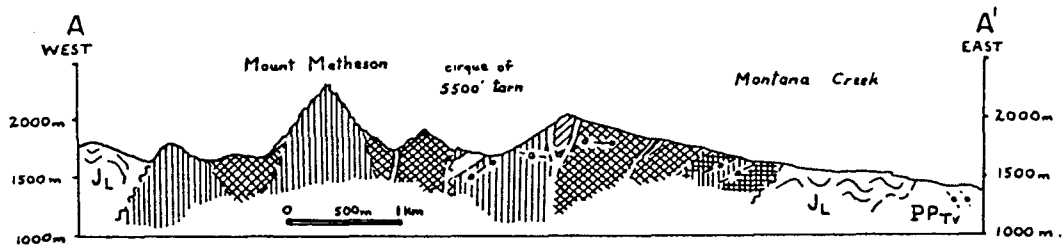


Figure 2
Geology of Montana Mountain.

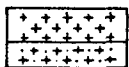




LEGEND

EARLY TERTIARY

COAST RANGE INTRUSIONS



biotite - hornblende granodiorite

chlorite granite (with mauve quartz)

Intrusive contact

MIDDLE OR LATE CRETACEOUS

MOUNT NANSEN GROUP



rhyolite and silicified volcanic rocks



heterolithic breccia; locally interpreted as debris flows and pyroclastic deposits



intermediate volcanic flows and plugs



flow-banded intrusion breccia

Intrusive, and locally unconformable contact

LOWER JURASSIC

LABERGE GROUP

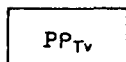


siltstone, greywacke

conglomerate lenses

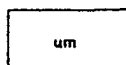
Unconformity

PENNSYLVANIAN or PERMIAN



ATLIN TERRANE, probably NAKINA FORMATION

mafic volcanic flows and breccia



BASAL UNIT (?) of Atlin Terrane
serpentinized gabbro

around Montana Mountain. Most of these showings occur in the Montana Mountain Volcanic Complex with just the Arctic and Peerless occurring in the quartz-monzonite. It is significant that the only showings with a history of mining production (Venus, Vault, Montana and Arctic) occur along a line, parallel to the western boundary of the Atlin Terrane metavolcanics at a distance of about 1 km west of this boundary.

The economic mineralization consists of gold and silver occurring in quartz veins containing arsenopyrite, pyrite, galena, sphalerite, tetrahedrite, chalcopyrite and molybdenite.

(c) THE ARCTIC GOLD AND SILVER MINE

The Arctic Gold and Silver Mine consists of two crown-granted mineral claims called Pride of Yukon (L 62) and Caribou (L 61) which are currently owned by Rex Silver Mines of Calgary.

The Arctic Gold and Silver Mine was originally called "The Big Thing " and its early history was described by Tindale (1966) as follows:-

The "Big Thing Property" as it was first known, was contained on a 6 crown grant claims namely Caribou, Pride of the Yukon, Nipper Fraction, Eureka, Eureka No. 2, Pride of the Yukon No. 2 and Vanguard, Total area was 284.1 acres. The Caribou and Pride of the Yukon grants still remain and contain the shaft and workings currently being re-opened and explored by Arctic Mining & Exploration. The lapsed grants are covered in the main by the Peerless claims.

Work was first done on the property in 1905 and 1906 by one of the Colonel Conrad interests and worked intermittently until the year 1912. A major fault was struck in 1911 on the fourth level of the mine

which appeared to cut off the main "Big Thing Vein". An adit was driven at a lower elevation, (the Adit present on Peerless #5 claim) in an attempt to locate the extension of the "Big Thing Vein" at depth. Two veins were crossed both carrying values, but no clear cut extension was found.

A raise was subsequently driven near the end of the adit breaking through to the fourth level of the Big Thing Mine. Some stoping was done above the fault in the mine and ore was dumped down the raise to the lower adit and hand cobbled for shipping. Lack of funds to pursue the faulted portion of the vein and failure of the adit to locate high grade ore ultimately caused abandonment of the property in late 1912.

In June of 1916, Colonel W. L. Stevens re-opened the property on behalf of the Alaska Corporation. Some 245 tons were mined and shipped to the Ladysmith Smelter. No development work was done, and in 1917 the Alaska Corporation was liquidated. Since then no work has been expended on the property until recent times.

Total tonnage shipped prior to closing in 1912 amounted to approximately 2600 tons of hand selected ore which averaged \$34 per ton at the old price of gold (\$20.66) which is equivalent to approximately \$49.00 per ton at current prices. In 1916 to 1917, 245 tons were shipped to Ladysmith which averaged \$26.65/T. or \$41.65/T. at present prices.

Over the years most of the crown grant claims of the old property reverted to the crown except for the above mentioned two. In 1962, L. K. Lytle, in the employ of International Mine Services, staked the subject Peerless Group of claims and rehabilitated the lower adit portal. Lytle found the adit choked with ice approximately sixty feet inside the adit, and further work was left in abeyance.

Arctic Mining & Exploration acquired the Caribou and Pride of the Yukon claims with the contained underground mine workings and surface dumps in early 1965. Surface trenching and the driving of a new adit accompanied by drifting on a new vein and the location of the faulted portion of the main Big Thing Vein followed.

The new adit mentioned by Tindale was called the 840 level and in addition to finding a new vein it connected into the old workings on the 4th level. The following year another new adit was driven at an elevation 150 feet below the 840 level - this was called the 700 level and it found a third vein.

The Arctic Gold and Silver Mines Ltd. brought the property back into production in 1968 at a capital cost of 1.5 million dollars and with an estimated ore reserve of 250,000 tons at an average grade of 0.668 oz/ton of gold and 19.7 oz/ton of silver. The mine was closed down in October 1969 after milling 56,000 tons at an average grade of 0.26 oz/ton gold and 9.0 oz/ton silver from which 7634 ounces of gold and 207225 ounces of silver were recovered. These results represent metallurgical recoveries of 52% of the gold and 41% of the silver contained in the Millfeed. Since 1969 little work has been reported on the property.

Rex Silver Mines Limited estimates the current mineral reserve on the Pride of Yukon and Caribou claims to be 82150 tons with an average grade of 0.39 oz/ton gold and 10.2 oz/ton silver.

(d) KNOWN MINERALIZATION ON THE BARB 1-34 CLAIMS

Gold and silver mineralization is currently known on the BARB 1-34 claims in the underground workings of the Peerless adit and on the surface dump of the Peerless adit.

The Peerless adit encountered two mineralized quartz veins at distances of 1270 feet and 1705 feet from the portal. The vein intersection at 1705 feet is almost exactly on the boundary between the BARB claims and the Pride of Yukon claim, so that following the vein south-westerly will lead into the Pride of Yukon claim while following the vein northeasterly will lead into the BARB claims. The following description of

the veins is taken from Tindale (1966)

The main #1 vein is located 1,270 feet from the portal. This vein strikes 67° and dips to the northwest at about 30° and was opened up by 170 feet of drifting by the old miners. The vein varies in width from 6 inches to 2 feet and is composed of white quartz mineralized with pyrite and arsenopyrite.

Channel samples at approximately ten foot intervals by the author in July and a resampling program by M.D. Kierans, P. Eng. in October, indicates the vein to be carrying erratic values in the range of 0.02 to 0.08 oz/T gold and trace to 11.5 oz/T silver. The vein continues strong in both faces.

The No. 2 vein is located 1,705 feet from the portal, strikes at 40° and dips northwest at approximately 40° . The vein is badly broken up and difficult to follow due to fractures in this area. Mineralization consists of pyrite and arsenopyrite from 10-50% in a 12-18" white quartz vein. A channel sample taken by the author from the vein where it crosses the adit ran 1.20 oz/T gold and 3.3 oz/T silver across 4.0'. A five foot sample in the same locality by Kierans, however, ran only trace gold and 5.2 silver. The vein has been drifted on for 100 feet to the south west and a crosscut branches off the vein in a southerly direction for a further 100 feet. The northeasterly section of the vein has not been followed.

Numerous tensional veins with apparently little continuity branch off the two main veins, or are exposed in the adit in close proximity to the main veins. These vary in width from one-half inch to twelve inches and are erratically mineralized with pyrite and arsenopyrite.

Tindale recommended that a drift 750 feet long be driven northeastward along #1 vein. This was done in 1968 and a program of underground diamond-drilling was completed.

The dump at the mouth of the Peerless adit contains approximately 14,000 tons of mine waste of which about 2000 tons appears to be quartz vein material which is well mineralized with arsenopyrite and pyrite. This mineralized quartz vein material should be sampled and measured to determine its gold and silver content.

(e) REVIEW OF PAST MINING PRACTICE

It has been suggested that, because the grade of ore delivered by the mine to the mill was only half of the grade predicted by the feasibility study, the mining method was inappropriate to the orebodies. There is nothing in the literature to support this suggestion and it appears that the ore-reserve estimation procedure used in the feasibility study may have been over-optimistic in not cutting back some of the high values encountered in the sampling program.

(f) REVIEW OF METAL PRICES

The prices obtained for gold and silver during the periods in which mining took place on Montana Mountain are as follows :-

<u>Year</u>	<u>Gold Price Can. \$/oz</u>	<u>Silver Price Can. \$/oz</u>
1911	\$ 20 - 67	\$ 0.50
1912	"	\$ 0.58
1913	"	\$ 0.57
1914	"	\$ 0.52
1915	"	\$ 0.47
1967	\$37.76	\$1.67
1968	\$37.71	\$2.31
1969	\$37.69	\$1.93
1985	\$ 440.00	\$ 8.40
1986	\$ 600.00	\$ 7.50
predicted to 1990	\$ 600.00	\$ 7.50

3. RECOMMENDATION WITH REGARD TO FURTHER INVESTMENT

I consider that the BARB 1-3⁴ mineral claims have excellent potential to develop a small mining operation and I recommend that further investment be made in exploring the mineralization on these claims. I base this recommendation on consideration of the following factors:-

- (a) Two quartz veins carrying gold and silver values are known in the Peerless adit.
- (b) The Peerless dump contains roughly 2000 tons of mineralized quartz vein material.
- (c) The BARB claims completely surround the Caribou and Pride of Yukon claims which were mined by Artic Gold and Silver Mines and which are considered by their present owners , Rex Silver Mines Ltd. to contain 82150 tons at a grade of 0.39 oz/ton gold and 10.2 oz/ton silver.
- (d) The failure of Artic Gold and Silver Mines to operate profitably in 1968-69 was largely due to the inability of the mine to produce the gold and silver grades predicted by the feasibility study. The 300 ton per day Artic mill was too large to be supported by the workings on the Caribou and Pride of Yukon claims. This problem could be avoided on the BARB claims by considering milling capacities in the range of 5 to 50 tons per day.
- (e) Geochemical soil surveys performed in 1966 over the area of the BARB claims showed several areas of high values. In 1966 soil geochemistry for silver was in its infancy - it is now possible to make soil geochemical surveys for both gold and silver with much greater reliability. A soil survey in 1986 on the BARB claims should be much more effective than that made in 1966.

- (g) Successful re-opening of mining on the Caribou and Pride of Yukon might not be possible without the support of new ore from the BARB claims.

4. GUIDE TO TESTING THE FEASIBILITY OF MINING THE BARB CLAIMS

The first requirement for mining on the BARB claims is to establish an ore body. The claims have excellent potential but no proven reserves at the present time.

I recommend that this problem be tackled on three fronts:-

- (1) geochemical soil survey of the complete claim group
- (2) metallurgical testing of the Peerless dump
- (3) rehabilitation of the Peerless adit.

- (1) A geochemical soil survey for gold, silver, arsenic, lead, zinc copper and molybdenum should be made over the whole of the BARB claim group to search for new quartz veins and mineralized zones. The samples should be taken immediately below the organic horizon at intervals of 20 meters along north-south trending lines spaced 100 meters apart. Any anomalous zones should be tested by more closely-spaced soil samples followed by trenching and/or drilling.

Estimated costs for this geochemical soil survey are:-

sample collection	\$1.00 per sample
shipping to assay lab	.10 " "
gold assay	\$6.50 " "
silver assay	\$2.10 " "
arsenic assay	\$3.65 " "
zinc assay	.90 " "
lead assay	.90 " "
copper assay	.90 " "
molybdenum assay	.90 " "
computer processing and plotting of results	\$1.25 " "
Total cost per sample	<hr/> \$18.20

To cover the whole of the BARB 1-3⁴ claim group will require about 3500 samples for a total cost of \$63,700.00. This cost could be reduced by not assaying the samples for gold and arsenic except in the vicinity of anomalies indicated by the other metals. Not assaying for gold and arsenic would reduce the total cost to \$28,175.00 .

(2) Metallurgical testing of the Peerless dump should determine the gold and silver content and the tonnage of mineralized material on the dump followed by a determination of the amenability of this material to processing in a small-scale (say 20 tons per day) milling operation. It should be remembered that when Artic Gold and Silver Mines operated in 1968 and 1969 they only managed to recover 52% of the gold and 41 % of the silver contained in the millfeed. The metallurgical testing of the Peerless dump material should consider the possibilities of using recent developments in the use of bacterial leaching and this-urea leaching.

An unknown quantity of mineralized material of unknown grade exists on the Peerless adit dump. This was the rejected material from the hand sorting of direct shipping ore during the period prior to 1915 when the ore from the Pride of Yukon and Caribou mineral claims was extracted through the Peerless adit. I have made a rough estimate that the quantity of mineralized material is 2000 tons and that the grade of the mineralized material is in the range of 0.25 to 0.50 oz/ton of gold and 7 to 14 oz/ton of silver. These figures imply a gross value in the range of 215 to 430 dollars (Canadian) per ton. I emphasize that these figures are rough estimates and a careful sampling and testing program is required to make a more precise estimate before committing to a milling program.

Milling of the Peerless dump would probably require the following items of equipment :-

- ore bin
- jaw crusher
- ball mill
- jig
- cyclones
- flotation cells
- filter

This would produce a jig concentrate and a flotation concentrate as did the Artic Gold and Silver mill in 1968 and 1969. These concentrates would have a high content of arsenic which could be dealt with by one of the following methods :-

- (a) sell to a smelter as a source of arsenic (e.g. Boliden in Sweden)
- (b) roast the concentrate to drive off the arsenic
- (c) leach the concentrate to extract the gold and silver with cyanide or thio-urea or active bacteria.

Roasting or leaching the concentrate in a small operation on Montana Mountain is not likely to be environmentally acceptable but it may be possible to custom process the concentrate through a cyanide plant such as that at Mount Skookum in order to recover the gold and silver and dispose of the arsenic in the Mount Skookum tailings pond.

A mill with the capacity to treat 20 tons per day could process the Peerless dump material in 100 days or one working summer. If we assume the cost of setting up the mill to be \$100,000.00; operating costs to be \$35 per ton of ore, custom treatment of the concentrate to be \$45 per ton of concentrate and metallurgical recoveries to be 50% then we have costs at about \$100 per ton and revenues of about \$105 per ton if the dump grade is 0.25 oz/ton gold and 7 oz/ton silver. This is roughly a breakeven proposition. If the dump grade is 0.50 oz/ton gold and 14 oz.ton silver then there would

be an operating profit of about \$100 per ton.

I recommend that a detailed study be made of the feasibility of processing the mineralized material on the Peerless dump.

(3) Rehabilitation of the Peerless adit will allow sampling and testing of the veins by channel, panel or chip sampling of the tunnel walls and back and then by drilling or drifting or raising.

5. CONFLICTING LEGAL OWNERSHIP OF THE CLAIMS

Larry Barrett staked the BARB 1-34 mineral claims on May 2nd 1985. At this time all of the ground in the vicinity of Big Thing Creek and Sugarloaf Hill was open for staking except for the Pride of Yukon and Caribou crown-granted mineral claims which are owned by Rex Silver Mines of Calgary, Alberta.

Figure 3 is a photocopy of part of the Mineral Rights Map for sheet 105D-2 from the Mining Recorder's office in Whitehorse. This map shows how the BARB 1-34 claims completely surround the Pride of Yukon and Caribou crown-granted mineral claims. The BARB 4 and 6 mineral claims lie on top of the Pride of Yukon and Caribou claims and are therefore not valid, but should be maintained in good standing until the dispute with Rex Silver is resolved.

Rex Silver is disputing the validity of the BARB 1-34 claims on the grounds of an allegation that Larry Barrett did not perform sufficient representational work during the period May 2nd 1985 to May 2nd 1986. B. Underhill staked the STRIKE group of mineral claims over the top of the BARB 1-34 mineral claims. If Rex Silver win their case against Larry Barrett then the STRIKE claims will take over the ground presently occupied by the BARB claims and Larry Barrett will not have any rights to explore or develop this mineral property.

If Rex Silver are unsuccessful in their suit against Larry Barrett then Rex Silver will still own the Pride of Yukon and Caribou claims which cover the old Arctic Gold and Silver mine workings while Larry Barrett will own the surrounding mineral claims. In this situation the logical way to develop the property would be by way of a joint agreement between Rex Silver and Larry Barrett to explore and develop their properties together.

6(a) EVALUATION OF LARRY BARRETT'S WORK TO DATE

I visited Mr. Larry Barrett in Carcross from July 17 - 21st 1986 inclusive during which time he made available to me all of the documents that he has in connection with the BARB 1-34 mineral claims and also conducted me on a tour of the mineral claims.

Since staking the BARB 1-34 mineral claims Mr. Barrett has explored their economic potential by blasting trenches in bedrock, by excavating ice from the mouth of the Peerless adit, by processing stock-piled ore through a ball mill and jig to produce two batches of concentrate, and by having two engineers visit and report upon the property.

My evaluation of Mr. Barrett's work is that he made a very shrewd move in staking the BARB 1-34 claims when Rex Silver allowed the ground to become open. Since that time his exploration and development efforts have been aimed in the right direction and have been fairly successful although he needs some guidance and technical expertise to bring his property to full fruition.

6(b) POSITION OF THE CARCROSS - TAGISH INDIAN BAND

To determine the views of the Carcross- Tagish Indian Band towards re-opening of the Arctic Gold and Silver Mine I held a meeting with the Band Council on July 17th 1986 from 10.00 am to 11.30 at which the following Council members were present :-

Darryl Beattie
Lawrence Dickson
Patrick James
William James together with
Nina Bolton - Band Manager.

On July 21st, 1986 I held a meeting with Chief Stanley James from 10.00 am to 11.15 am. At these meetings the Band Council and Chief expressed the following concerns :-

(a) Environmental concerns :

1. Montana Mountain is part of the Band's traditional hunting area and they are concerned that a large mining operation would frighten away the animals .
2. The surface waters may become polluted.
3. Tailings ponds should be fenced in.
4. Patrick James is on the committee coordinating the Resource Development Impact Study and he would like to see the mining companies sharing the cost of environmental protection studies and game count studies.
5. The high arsenic content of the Arctic ore is perceived to be a health hazard.

(b) Investment Concerns

1. The Council want to know whether the mine is feasible because they have been asked to back it both financially and politically.
2. They want to see claim maps and proof of ownership - does

Larry Barrett have partners ?

3. The band does not want to get involved in a big hassle and a court case.
4. If the band were to invest money into the mine then they would want to have a controlling interest in order to protect their investment.
5. The band has no mining expertise and does not want to become a Mining Company.
6. Is it possible to use the Venus Mill to process the Arctic ore?
7. If the Arctic property is so great then why is it not in production and why did Arctic Gold and Silver Mines go broke ?
8. They would like to see a copy of this report.

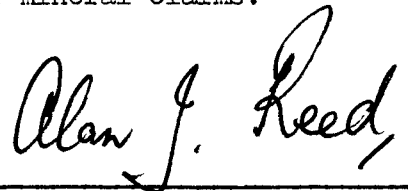
In summarizing the situation, Chief Stanley stated that he would like to see something come out of the old mine, but he must protect the interests of his people. They do not want to become mine owners but if they make a financial investment then they want to have the controlling interest. He would support the concept of a well-planned small operation which would clean up the Peerless mine-dump. The territorial land claims of the Carcross - Tagish Indian Band include Montana Mountain and so any mine development must be with the agreement of the Carcross Band and the royalties from mining on Montana Mountain should come to the Carcross Indian Band and not to the Yukon Territorial Government.

STATEMENT OF QUALIFICATIONS

I, Alan James Reed of 911 Broadview Drive, North Vancouver, British Columbia do hereby certify that :

1. I am an Assistant Professor in the Department of Mining and Mineral Process Engineering at the University of British Columbia.
2. I am a graduate of the University of Leeds (B.Sc. Hons. Geology, 1963).
3. I am a Professional Engineer registered in the provinces of British Columbia and Ontario.
4. I have practiced my profession continuously since 1963
5. This evaluation report is based upon a site-visit to the BARB 1-34 mineral claims from July 16-23, 1986 inclusive, and an examination of all the available reports and literature relevant to the BARB 1-34 mineral claims.
6. I have no intent, direct or indirect, nor do I expect to receive any interest in the BARB 1-34 mineral claims.

signed



ALAN J. REED, P.Eng.,



Dated at North Vancouver, B.C. this 30th day of March, 1987.

A.J. Reed, P.Eng.
Geological & Mining Consultant
911, Broadview Drive, North Vancouver, B.C.
Canada V7H 2E9

August 5th, 1986

In Account with
Mr. Larry Barrett
P.O. Box 51
Carcross
Yukon Territory, Y0B 1B0

Re.- Pre-Feasibility study of Barb 1-34 mineral claims, Montana Mountain, Y.T.

To Professional Fees

11 days at \$500.00 = \$5500.00

Travel Expenses in connection with visit
to Whitehorse and Carcross
16 - 23 July inclusive

Airfare	=	\$218.90
Vehicle rental	=	\$512.64
Accommodation & Meals	=	\$591.25
Maps & report photocopies	=	\$ 38.66

To preparation of report = \$270.00

subtotal \$7131.45

less adjustment to meet pre-agreed limit - \$1131.45

total billing \$6000.00

Respectfully submitted,

ALAN J. REED , P.Eng.