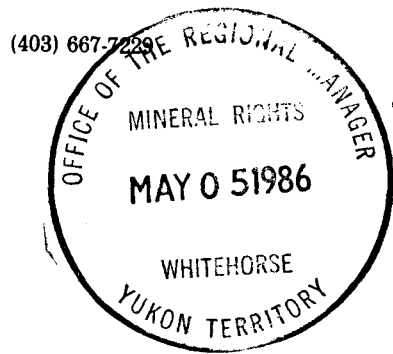


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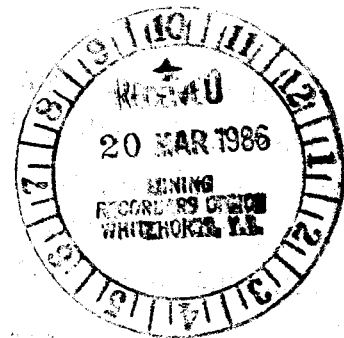


ASSESSMENT REPORT

PROSPECTING AND GEOCHEMICAL SAMPLING
RAT 1-24 MINERAL CLAIMS
YA 86457-86472, YA 92863-92868, YA 92870-92871
Montana Mountain Area
N.T.S. 105-D-2
Whitehorse Mining District

091839

Latitude: 60°04' North
Longitude: 134°39' West



by
Ronald C. R. Robertson, F.G.A.C.
January 1986

091839

This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mill Act and is allowed as
representation work in the amount
of \$ 2,400.00.

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

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INTRODUCTION

This assessment report, prepared on behalf of McCrory Holdings (Yukon) Ltd., describes prospecting and rock sampling carried out in August and October 1985 by Mike Nielsen of McCrory Holdings (both occasions) and the writer (October only).

Gold mineralization in veins of quartz with pyrite and arsenopyrite was discovered in 1920. The area has been briefly explored at several times including completion of three diamond drill holes in 1979. No significant veining or mineralization was recorded in the drill core although one interval assayed 0.062 ounces per ton gold over 12 feet.

In 1985 general prospecting of the property focussed on the RAT 18 and 23 claims, including old bulldozer trenches. Three samples gave gold values between 0.3 and 0.6 ounces per ton.

PROPERTY

The RAT 1-24 claims form a single block of 24 claims staked on various dates in 1985 and recorded in the office of the Whitehorse District Mining Recorder with the following grant numbers and record dates:

<u>Claim</u>	<u>Grant Number</u>	<u>Record Date</u>
RAT 1-16	YA 86457-86472	21st March 1985
RAT 17-22	YA 92863-92868	17th July 1985
RAT 23-24	YA 92870-92871	1st August 1985

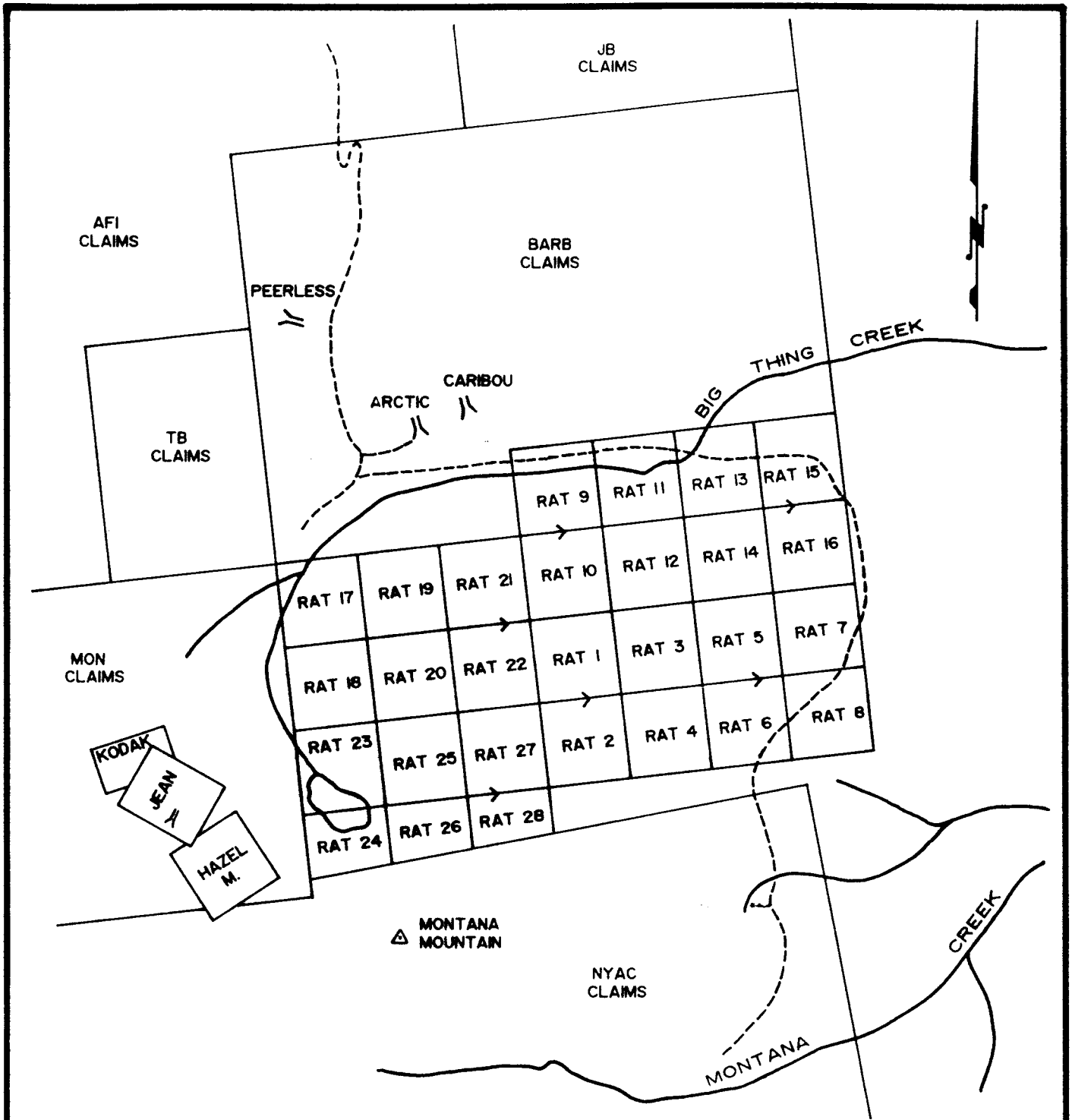
The locations of the RAT claims with respect to local topography and adjacent mineral claims is shown in Figure 1.

LOCATION AND ACCESS

The claims are located on the north side of Montana Mountain, 10 km south of Carcross on N.T.S. map sheet 105-D-2. Approximate geographical co-ordinates are 60°04' north latitude and 134°39' west longitude.

Access to the property from Whitehorse is by paved highway following the Alaska Highway and then the Klondike Highway to Carcross, a distance of 75 km. From Carcross, a four-wheel-drive road extends through the north and east sides of the property - a further distance of 12 km.

At the time of the October property examination, the upper section of this road was impassable and a helicopter was used for access to the property.

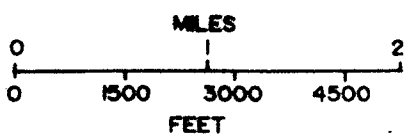


LEGEND

4-WHEEL DRIVE TRAIL - - - - -

ADIT 

SCALE



G. MACDONALD AND ASSOCIATES LTD.

**RAT PROPERTY
McCRORY HOLDINGS (YUKON) LTD.
CLAIM DISTRIBUTION**

PROJECT 305

YUKON

NTS. 105-D-2	TECHNICAL: RR	DATE: MARCH, 1966
SCALE: 1:31,680	DRAFTING: METROPHICS	FIGURE: 1

PHYSIOGRAPHY, CLIMATE, VEGETATION

The property is located on the north side of Montana Mountain, immediately south of the ARCTIC (BIG THING) property and east of the JEAN property. The Venus mine of United Keno Hill Mines is located a few kilometers to the south.

The claims extend from near Big Thing Creek on the north at an elevation of 5,000 feet (1,525 meters) to over 6,500 feet (1,980 meters) on the upper slopes of Montana Mountain. Upper slopes are steep and rocky; lower slopes are gentler and talus-covered. There is very little vegetation except on the lower eastern side of the property.

Climatic conditions are characterized by a northern interior climate modified by a warmer, moist influence from the nearby Pacific Ocean. Average annual precipitation is approximately 40 cm. Winters in the area are long, with temperature extremes to -40°C but commonly in the -10° to -20°C range. Summers are pleasant, with temperatures up to 25°C and long hours of daylight during May, June and July. The area is generally snow-free from late May to late September. Water for diamond drilling can be obtained from Big Thing Creek or from nearby cirque lakes.

REGIONAL GEOLOGY

Montana Mountain occupies a position close to the junction of three tectonic terranes: the Atlin Terrane, the Whitehorse Trough and the Coast Plutonic Complex. Stratified rocks of the first two terranes form a local basement flanking a major volcanic complex of late Cretaceous or early Tertiary age. The youngest phase of this complex is a large body of granitic rock and associated rhyolite porphyry dykes and sills. Quartz veining and associated precious metal mineralization at Montana Mountain show a close spatial relationship to this volcanic and intrusive complex; similar mineralization is related to equivalent volcanic rocks of the Skukum Group and Mount Nansen Group elsewhere in southern Yukon.

An older metavolcanic assemblage of the Atlin Terrane outcrops along the lower eastern slope of Montana Mountain. This unit probably forms part of the Mississippian Nakina formation. Similar basaltic and andesitic metavolcanic rocks, referred to the Upper Triassic Lewes River Group of the Whitehorse Trough, occupy a large area on the west flank of Montana Mountain along the east shore of Bennett Lake. Outcrops of Lower to Middle Jurassic Laberge Group siltstones, argillites, greywackes and conglomerates of the Whitehorse Trough Terrane extend along the east and west boundaries of the Montana Mountain Volcanic Complex.

The volcanic complex consists of flows, tuffs and breccias of intermediate composition (predominantly andesite and dacite) intruded locally by porphyritic andesite plugs and breccia bodies. Pale to orange weathering felsic dykes are present throughout, most prominently as ring dykes around the southern margins of the complex. The north end of the complex is occupied by the large Carcross pluton which intrudes the slightly older volcanic units. The pluton is predominantly quartz monzonite in composition but

becomes much more felsic (alaskite and quartz syenite) towards the contact with volcanic rocks of the Montana Mountain Complex. Locally, this contact is occupied by a narrow unit of aplite.

Quartz veins with pyrite, arsenopyrite, galena, sphalerite and chalcopyrite carry economic amounts of gold and silver mineralization at several places within the volcanic and intrusive rocks of the complex (VENUS, ARCTIC (BIG THING), PEERLESS, JEAN, etc.)

Table I
Table of Formations

QUATERNARY	Glacial till, glacial and fluvioglacial sands and gravels
LATE CRETACEOUS TO EARLY TERTIARY	Granite and quartz syenite intrusion; rhyolite dykes; andesite, basalt, dacite flows, tuffs, breccias and minor intrusions
LOWER-MIDDLE JURASSIC LABERGE GROUP	Conglomerate, siltstone, argillite, greywacke
UPPER TRIASSIC LEWES RIVER GROUP	Andesite, basalt, volcanic breccia, limestone
MISSISSIPPIAN-PERMIAN (CACHE CREEK OR TAKU GROUPS)	Amphibolite; minor limestone, chert and serpentized ultramafic rocks

HISTORY AND PREVIOUS EXPLORATION

The Montana Mountain district has had a sporadic history of exploration, followed by periods of relative inactivity. The region was first explored for gold and silver prior to the discovery of rich placer gold deposits in the Klondike in 1896. This early phase of development, by prospectors from Alaska, located precious metal deposits in the Wheaton River area. Exploration slowed following 1896 when the Klondike Gold Rush lured most miners away, until around 1906-1909 when numerous gold and silver occurrences were located on Montana Mountain and in the Gold Hill/Tally Ho Mountain areas. Between 1909 and 1921 development in the region was active and limited production was obtained from a number of early discoveries including Venus, Montana, Arctic-Big Thing, Tally Ho and others. A 100 tpd concentrator operated from 1907 until 1910 at Venus Mine, treating ore brought by aerial trams from several nearby operations.

A period of dormancy ensued from the early 1920's (when gold discoveries in Alaska again drew many prospectors away) until the 1960's when development was renewed at several previously explored deposits. Concentrating plants were operated briefly during the late 1960's/early 1970's at the Arctic Gold and Silver (Big Thing) and Venus Mines.

However, high operating costs coupled with low precious metal prices led to termination of these projects. Additional exploration and development at the Venus Mine was conducted by United Keno Hill Mines Ltd. between 1980 and 1984. A new 100 tpd mill was erected, but not used, by United Keno Hill Mines Ltd. for Venus during 1981.

Underground development work during 1984 by United Keno Hill Mines at Venus Mine expanded the known mineralized zones and indicated considerable additional ore potential in the main structure.

Underground exploration and development at the Arctic/Caribou (Big Thing) Mine, which adjoins the RAT claims on the north, consists of several thousand feet of drifting, raising and shaft sinking completed from 1905 to 1909 and from 1966 to 1969. During 1968-69, development ore totalling 55,943 tons was milled at the Arctic Gold and Silver Mines Ltd. mill located near Carcross. Previous high grade shipments prior to World War I probably totalled approximately 10,000 tons of ore grading one ounce of gold per ton and 20-30 ounces of silver per ton. This material was probably shipped to the Alaska Juneau Mill located in Juneau, Alaska.

Proven ore remaining in the main Arctic Mine is indicated to be approximately 10,000 tons grading 0.26 oz gold per ton and 9.0 oz silver per ton. Additional inferred ore potential exists in the various ore structures on the Arctic Mine property.

During 1984-85, exploration was carried out at both the JEAN and ARCTIC/CARIBOU properties.

A 1980 assessment report by J. R. Poloni, P.Eng., refers to earlier work in the area of the present RAT claims but gives few details. Five subparallel veins trending 080° - 085° are shown on a sketch map. Veins are reported to be strongly mineralized with pyrite and arsenopyrite. The main vein is said to extend for over 3,000 feet with a width of 40 feet; however, the width is apparently estimated from old trenches and may be exaggerated. At least some prospecting, trenching and sampling were carried out prior to 1936. Some of the veins were also sampled in 1965; values are said to be "encouraging".

The Poloni report describes three BQ size diamond drill holes completed by TRV Minerals Corporation in 1979 on the west side of the ART claim group, apparently in the present RAT 18 claim. These holes were drilled from two sites just north of the west end of the principal vein described above:

<u>Hole</u>	<u>Azimuth</u>	<u>Dip</u>	<u>Depth</u>	<u>Notes</u>
79-1	S 20° W	-45°	206 feet	---
79-2	South	-75°	192 feet	Same location as 79-1
79-3	South	-75°	110 feet	Perhaps 100 feet east of 79-1

None of these holes intersected significant quartz veins or sulphide mineralization other than occasional disseminations or thin seams of pyrite and pyrrhotite. The drill logs show that only granitic rocks were encountered. Only a few short intervals were split and assayed. An iron-stained section with thin quartz stringers in hole 79-1 assayed 0.062 ounces per ton gold with trace silver over 12 feet from 114.5 to 126.5 feet. No other significant values are reported. These results may indicate that the veins dip to the south and were not intersected.

PROPERTY GEOLOGY

The RAT claims on the north side of Montana Mountain are underlain by a Tertiary granitic pluton which intrudes a complex series of sedimentary and volcanic units.

The oldest rocks present are Lower Paleozoic (Mississippian?) metamorphosed andesitic flow and pyroclastic rocks on the extreme east side of the property. These rocks probably belong to the Cache Creek Group, a volcano-sedimentary complex restricted to the southeast portion of the Whitehorse map area. A red-weathering body of pyroxenite and gabbro, with sheared and serpentized margins, occurs at the contact between volcanic rocks of the Montana Mountain Complex and the Tertiary Carcross pluton within the RAT claims. This body is believed to be part of the Cache Creek Group.

Jurassic greywackes of the Laberge Group unconformably overlie the Cache Creek Group on the east side of the property. These sedimentary rocks are well indurated, greyish to rusty weathering, and contain abundant volcanic rock fragments.

Late Cretaceous-early Tertiary flows, pyroclastics and intrusion breccias of intermediate composition are present on the upper slopes of Montana Mountain in the southern part of the claim group. These units form part of the Montana Mountain Complex, one of the volcanic centers of the Sloko-Skukum-Mount Nansen series extending from northern British Columbia into central Yukon.

Much of the RAT claim group is underlain by the Tertiary Carcross granitic pluton. This is generally a medium grained, fresh, biotite quartz monzonite but large areas of pale purple to white quartz syenite to alaskite predominate in the RAT claims (and in other parts of the pluton which are close to the volcanic complex). This pale phase is the "mauve alteration phase" of Roots (1982); quartz grains are dark purple in colour and mafic minerals are replaced by chlorite.

Conspicuous rhyolite and rhyolite porphyry dykes are the last phase of magmatism related to the volcanic complex.

1985 EXPLORATION

Prospecting was carried out by M. Nielsen of McCrory Holdings in early August 1985. A number of old trenches were located and mineralized float material was found near the lake in the RAT 23 claim. Sample 40010 is Nielsen's sample from this area.

The writer carried out a one day property examination on October 12th 1985, accompanied for part of the period by M. Nielsen. At this time, the ground was snow-covered and the old trenches were full of hard-packed snow. The sites of the 1979 drill holes could not be definitely identified, but a number of trenches were located and examined.

A prominent 200 meter long bulldozer trench trending northwest is located quite low on the slope and approximately in the center of the present RAT 19 claim. Trench wall and dump material were examined. No vein float was found here and no samples were collected. The material is mostly rather fresh granite and alaskite, occasionally rust-

stained. Lesser amounts of volcanic rocks of the Montana Mountain Complex are present as well as a few pieces of serpentized ultramafic rock and one or two fragments of narrow tourmaline-quartz breccia vein. This trench is sited too low down-slope to intersect the principal vein shown on Poloni's map.

Two trenches located close together in the center or south of the RAT 18 claim were also examined. This is probably close to the 1979 drill sites and the west end of the main vein structure. Material around the upper trench is almost all fresh alaskite.

Rock excavated from the lower trench is bleached, altered and rust-stained alaskite, particularly obvious towards the east end of the trench. Quartz veins and veinlets are common, up to 20 cm wide in a block of rock 30 cm across. Coxcomb textures are common in veins. Wallrock is quite strongly altered along narrow selvages at vein margins and as clasts within veins. Pyrite, arsenopyrite and galena are present, generally in minor amounts, both in veins and in wallrock. Nine samples (40001-40009) from this area were analyzed; all samples are grabs from material pushed out onto the flanks of the trench. The base of the trench is sloughed-in and was snow-filled.

Sample descriptions and analyses are presented in Table 2.

DISCUSSION AND RECOMMENDATIONS

Several encouraging gold values have been obtained from float material collected at two locations on the property. Available literature describing previous exploration indicates that several strong structures are present. One of these structures was sampled at some time between 1920 and 1936, with economic gold values reported in grab samples. Present bulldozer trenches probably date from the mid-1960's; presumably, these trenches were sampled at that time but results have not been located.

Significant gold values were found in three of the samples; this is somewhat surprising as similar grades at the ARCTIC, VENUS and JEAN properties are typically accompanied by much greater amounts of arsenopyrite, galena or sphalerite.

All trenches are badly sloughed-in and no reliable information regarding vein widths or distribution of mineralization can be obtained until these are re-excavated.

The 1979 drill hole information is of little use without knowing the exact collar locations and the reasons for drilling the holes.

The RAT property deserves careful exploration to define the extent and grade of gold mineralization associated with quartz veins.

Detailed prospecting, using a simple grid system for control, is recommended. Standard geochemical and geophysical prospecting techniques are unlikely to aid in exploration on this property.

Stripping of old trenches should be carried out at an early stage. Permafrost and coarse blocky talus indicate that slow progress is likely; a medium-sized backhoe should be used together with explosives and a compressor-powered drill.

During systematic sampling, careful attention should be given to the possible occurrence of economic mineralization in wallrock.

REFERENCES

Poloni, J. R., 1980 - Report on the 1979 Diamond Drill Program on the ART claim group, Montana Mountain area, for TRV Minerals Corporation.

Roots, C. F., 1982 - Geology of the Montana Mountain Area, Yukon. Unpublished M.Sc. thesis, Carleton University, Ottawa.

Table 2

ROCK SAMPLE DESCRIPTIONS AND ANALYSES

<u>Sample #</u>	<u>Au (ppb)</u>	<u>Ag (ppm)</u>	<u>As (ppm)</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>	<u>Description</u>
40001	140	20.0	G1000	32	1925	123	4 cm quartz vein, no sulphides. Altered wallrock selvage.
40002	120	4.9	G1000	26	215	17	Rusty, altered alaskite with small arsenopyrite blebs.
40003	0.309 oz/ton	8.36 oz/ton	G1000	305	4640	105	10 cm quartz vein - up to 1% sulphide (pyrite, arsenopyrite, possible galena).
40004	0.0902 oz/ton	5.3	G1000	15	102	36	Quartz stringers in altered wallrock. Pyrite as veinlets and disseminations in wallrock. Thin seams of quartz (and arsenopyrite?)
40005	200	2.4	G1000	7	65	22	Rusty altered alaskite. Thin quartz veinlets. Pyrite to 1 cm. Thin quartz - arsenopyrite seams to 0.3 cm.
40006	0.062 oz/ton	24.0	G1000	53	2470	357	Vuggy vein quartz with altered wallrock and thin arsenopyrite seams.
40007	0.313 oz/ton	39.0	G1000	22	6260	1010	10 cm quartz vein similar to 40003.
40008	460	4.9	G1000	7	355	29	5 cm quartz vein with wallrock and minor pyrite, arsenopyrite, galena.
40009	70	1.0	G1000	11	31	16	Altered alaskite with quartz veinlets, over 2% pyrite.
40010	0.616 oz/ton	3.77 oz/ton	0.45%	66	765	352	5 cm quartz vein, minor wallrock, abundant coarse pyrite.

Note: Gold was noted by the laboratory in the plus 100 mesh fraction in samples 40007 and 40010.



LEGEND

- INFERRED DRILL HOLE LOCATION
- TRENCH
- 40010 □ ROCK SAMPLE
- CONTOUR INTERVAL 500 FEET
- GEOLOGICAL CONTACT
- 4-WHEEL DRIVE TRAIL

GEOLOGICAL LEGEND

EOCENE (SKUKUM GROUP)

- A APLITE DYKES, CONTACT AREAS
- E1 ANDESITE DOMES
- E2 INTRUSION BRECCIAS
- E3 "ALASKITE GRANITE"

LOWER - MIDDLE JURASSIC (LABERGE GROUP)

- JS SILTSTONE, GREYWACKE

PENNSYLVANIAN - PERMIAN

- PG GREENSTONE
- PS SERPENTINIZED GABBRO

SCALE



G. MACDONALD AND ASSOCIATES LIMITED

**MCCRORY HOLDINGS (YUKON) LTD.
RAT CLAIMS - MONTANA MOUNTAIN
SAMPLE LOCATIONS AND GEOLOGY**

PROJECT 305		YUKON	
NTS: 105-D-2	TECHNICAL: RR	DATE: MARCH, 1986	
SCALE: 1:10,000	DRAFTING: IN/EGRAPHICS	FIGURE: 2	

APPENDIX I

STATEMENT OF EXPENDITURES

FIELD COSTS

Trans Am Helicopters, Whitehorse \$ 778.90

Analytical

Bondar-Clegg & Co. Ltd., Whitehorse and Vancouver:

10 rock samples - geochem - Au, As, Ag, Cu, Pb, Zn @ \$20.00 200.00
 5 Au assays, 2 Ag assays, 1 As assay 63.00

Vehicle

4 wheel-drive crew-cab: 2 days @ \$50.00 100.00
 210 km @ 30¢/km 63.00

Camp

Trailer camp, supplies, food, etc: 2 days @ \$100.00 200.00

Personnel

Mike Nielsen: 2½ days @ \$250.00 625.00
 R. Robertson: 1 day @ \$400.00 400.00

\$2,429.90

OFFICE COSTS

R. Robertson: 1½ days map and report preparation \$ 600.00
 Drafting and typing 300.00

\$ 900.00

TOTAL: Field Costs + Office Costs

\$3,329.90

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APPENDIX II

STATEMENT OF QUALIFICATIONS

I, **RONALD CHARLES RAMSAY ROBERTSON**, of the City of Whitehorse in the Yukon Territory, HEREBY CERTIFY:

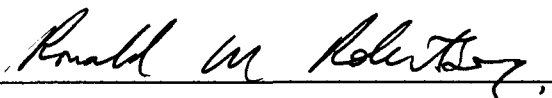
THAT I am a Geologist employed by G. Macdonald and Associates Ltd. AND THAT I caused to be performed, and supervised, the work described in this report;

THAT I obtained a Bachelor of Science degree with First Class Honours in Geology from the University of Aberdeen, Scotland, in 1970 and subsequently carried out graduate studies at McMaster University, Hamilton, Ontario, and at Queen's University, Kingston, Ontario;

THAT I have been engaged in mineral exploration on a full-time and part-time basis for sixteen years, of which eight have been on mineral exploration programs in the Yukon Territory, British Columbia and Alaska;

THAT I am a Fellow of the Geological Association of Canada (number F4858) and a member of the Canadian Institute of Mining and Metallurgy and the Prospectors and Developers Association.

DATED at Whitehorse, Yukon Territory, this 11th day of March 1986.



Ronald C. R. Robertson