

ARCHER, CATHRO & ASSOCIATES LIMITED

CONSULTING GEOLOGICAL ENGINEERS

VANCOUVER, B.C. (604) 688-2568

BOX 4127, WHITEHORSE, Y.T. Y1A 3S9 (403) 667-4415

1016 - 510 WEST HASTINGS STREET
VANCOUVER, B.C. V6B 1L8

FINAL REPORT
1980 FREEGOLD PROJECT

MOUNT FREEGOLD AREA
YUKON

November 28, 1980

A.R. Archer, P.Eng.

Consulting Engineer

TABLE OF CONTENTS

	<u>Page</u>
Summary and Recommendations	1
Introduction	4
Property	4
Location and Access	7
History	7
Logistics	8
Geological Setting	9
General	9
Rock Units	9
Structure	11
Geochemical Sampling	11
Technique	11
Results	13
Discussion	15
Diamond Drilling	17
General	17
Results	17
Discussion	19

APPENDIX I - Northern Cordillera Mineral Inventory Mineral Occurrence Descriptions

TABLES

	<u>Follows Page</u>
Table 1 - Drill Core Assay Summary	17
Table 2 - Comparison of Assay Intervals with Core Geology and Alteration	17 & Table 1

LIST OF ILLUSTRATIONS

<u>In Text</u>		<u>Following Page</u>
Figure F1	Location Plan	8
Figure F2	Geology	9
<u>In Pocket</u>		<u>Pocket Letter</u>
Figure F3	Gold Geochemistry	B
Figure F4	Arsenic Geochemistry	C
Figure F5	Silver Geochemistry	D
Figure F6	Lead Geochemistry	E
Figure F7	Zinc Geochemistry	F
Figure F8	Copper Geochemistry	G
Figure F9	Detailed Geology	H
Figure F10A	North Drill Section, Drill Holes R75-02,03,05,06 & 23	IJ
Figure F10B	North Drill Section, Drill Hole R75-04	K
Figure F11A	South Drill Section Drill Hole R75-20 & 22	L
Figure F11B	South Drill Section Drill Hole R75-21	M
Drill Logs - Geolog	Drill Logs for all Holes	NOP

SUMMARY AND RECOMMENDATIONS

In 1975, a gold-silver porphyry occurrence was located in the Mount Freegold area, Yukon, by Discovery Mines Ltd. Exploration that year included grid soil sampling and a small drill program before work was discontinued. In May, 1980, Arctic Red Resources Corp. optioned claims covering the porphyry occurrence from Discovery Mines Ltd. and 99 surrounding Gnat claims from Esperanza Explorations Ltd. The claims are accessible by 40 miles of summer road from Carmacks which is 110 road miles north of Whitehorse. Work by Arctic Red Resources Inc. during 1980 consisted of a program of grid soil sampling and geological mapping centered on the gold-silver porphyry and relogging of the 1975 Discovery drill core. This program, called the Freegold Project, was managed by Archer, Cathro & Associates Limited.

The 1980 Freegold Project has shown that the gold-silver porphyry consists of a sub-triangular, weakly altered, geochemically anomalous Tertiary quartz-feldspar porphyry breccia complex approximately 1600 feet long and 1400 feet wide. Geochemically, gold and its indicator metal arsenic, exhibit unusually high, more or less coincident, anomalous response in excess of 160 ppb gold and 250 ppm arsenic as compared to a background of 1 ppb and 5 ppm respectively. Silver and its indicator metals lead and zinc exhibit weakly anomalous response up to ten times background over portions of the Tertiary complex with the best response from a 200 ft by 400 ft area along the eastern margin where drilling has indicated the existence of a wide breccia zone.

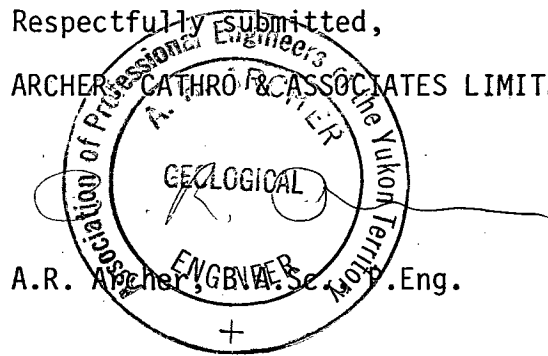
Core relogging shows that the Tertiary complex is a true porphyry exhibiting pervasive argillic alteration both within the complex and the surrounding country rocks. The best gold values are associated with zones of quartz veining and/or pyritization (up to 5%) with minor arsenopyrite and traces of chalcopyrite and sulfosalts

The Discovery drilling in the Tertiary complex consisted of six holes (2917 feet) in a section on its northeast margin (North Section) and three holes (1252 feet) some 800 feet south on the southwest margin (South Section). The most abundant mineralized zones were cut in the South Section where a total of 409.4 feet (33%) averaged 0.035 oz/ton gold and 0.08 oz/ton silver with one 74.0 foot zone grading 0.0679 oz/ton gold and 0.116 oz/ton silver. The North Section returned 258.4 feet (11% of the section) averaging 0.0447 oz/ton gold and 0.267 oz/ton silver with the best zone being 79.0 feet grading 0.0608 oz/ton gold and 0.327 oz/ton silver. The best silver mineralization was cut in the easternmost hole on the North Section which returned a total of 114 feet (32% of the hole) averaging 0.925 oz/ton silver from an oxidized breccia.

The potential of this occurrence is for a large tonnage of open-pit mineralization grading in the range of 0.04 oz/ton gold and 0.15 oz/ton silver which at current metal prices is equivalent to 1.44% copper or \$32/ton. Aggressive exploration is warranted and should consist of geophysical surveys to outline pyritic zones and structured trends within and peripheral to the Tertiary complex followed by 3200 feet of diamond drilling in 8 holes. Most of the drill holes should be directed toward exploring for gold-rich zones initially guided by the geophysical and geochemical results. At least one hole should explore the silver-lead-zinc geochemical anomaly east of the silver-rich breccia zone. Mineralized core sections should be examined petrologically to determine how the gold is occurring and preliminary mill recovery tests should be conducted. Overall costs are estimated as shown on the following page.

Diamond Drilling - 3200 feet of BQ size	\$112,000
Field, Office, Travel	42,000
Labour	39,000
Bulldozer Rental - D7E to clear drill sites and move drill.	20,000
Assaying, Mill Testing and Petrological work	20,000
Geophysical Survey - I.P., Mag and EM 16	15,000
Management	<u>12,000</u>
TOTAL ---	<u>\$260,000</u>

Respectfully submitted,
ARCHER, CATHRO & ASSOCIATES LIMITED



/mc

INTRODUCTION

In 1975, a low grade gold-silver porphyry occurrence was located in the Mount Freegold area, Yukon, by Discovery Mines Ltd. Exploration that year included a grid soil geochemical survey followed by 4,169 feet of drilling in 9 holes. The program was terminated before the full surface extent of the mineralized area was determined and before the known area had been adequately drill tested.

In 1979, Esperanza Explorations Ltd. staked 99 adjoining Gnat claims and in early 1980 signed a letter of agreement to option the claims covering the gold-silver porphyry occurrence from Discovery Mines Ltd. and contracted Archer, Cathro & Associates Limited to supervise a program of surface exploration. In May, 1980, Esperanza Explorations Ltd. optioned these interests to Arctic Red Resources Corp. which subsequently acquired the remaining claims held by Discovery Mines Ltd. in the Freegold area and an adjoining group of claims controlled by F. Guder, a local prospector.

This report describes the 1980 exploration program, called the Freegold Project, which included grid soil sampling and surface mapping to outline the extent of the gold-silver porphyry target and relogging the 1975 drill core.

PROPERTY

The Freegold property consists of 32 leased and 131 unleased mineral claims that form a rectangular block approximately 2.5 miles wide and 4.5 miles long as illustrated on Figure F-1 following page 8. Unoptioned claims within this block are the privately held Pearless claim near the summit of Mount Freegold and the Dart 1-6 claims owned by Noranda Mines Ltd. All claims are recorded in the Whitehorse Mining District as detailed on the following two pages.

Two and one-half years assessment credit was applied to the Gnat claims in August 1980 but Form C's will not be issued by the Mining Recorder until an assessment report is submitted.

CLAIM SUMMARY

Guder Option (22 claims)

<u>Claim Name</u>	<u>Grant Number</u>	<u>Expiry Date</u>
Vindicator 1	60422	December 12, 1981
Vindicator 2	60423	December 12, 1981
Excelsior 1	63639	December 12, 1981
Excelsior 2	63640	December 12, 1981
Excelsior 3	63641	December 12, 1981
Liberty	63638	December 12, 1981
Augusta	15494	December 12, 1981
Margarete	15505	December 12, 1981
Shearzone 1	60420	December 12, 1981
Shearzone 2	60421	December 12, 1981
Peerless	15549	December 12, 1981
Goldstar	15519	December 12, 1981
Goldstar Fraction	Y80600	September 6, 1982
Progress 1	73464	December 12, 1981
Progress 2	73465	December 12, 1981
Greenstone 1-4	90465-90468	December 12, 1981
Greenstone 5	91056	December 12, 1981
Greenstone 6 Fraction	Y21094	December 12, 1981
Protection 1	15677	December 12, 1981

Discovery Option (32 claims)

<u>Claim Name</u>	<u>Lease Number</u>	<u>Expiry Date</u>
Mayflower	790	March 19, 1981
Kim Fraction	791	March 19, 1981
Liz Fraction	792	March 19, 1981
Loon Fraction	793	March 19, 1981
Yukonia No.1	794	March 19, 1981
Yukonia No.2	795	March 19, 1981
Yukonia No.3	796	March 19, 1981
Yukonia No.4	797	March 19, 1981
Yukonia No.5	798	March 19, 1981
Yukonia No.6	799	March 19, 1981
Key Fraction	800	March 19, 1981
Pal	801	March 19, 1981
Mona	802	March 19, 1981
Neil	803	March 19, 1981
Baker	804	March 19, 1981
Connie	805	March 19, 1981
Bill Fraction	806	March 19, 1981
Jim	807	March 19, 1981
Goose	808	March 19, 1981

<u>Claim Name</u>	<u>Lease Number</u>	<u>Expiry Date</u>
Mill No.1	809	March 19, 1981
Mill No.2	810	March 19, 1981
Mill No.3	811	March 19, 1981
Donalda No.1	812	March 19, 1981
Donalda No.2	813	March 19, 1981
Donalda No.3	814	March 19, 1981
Donalda No.4	815	March 19, 1981
Donalda No.5	816	March 19, 1981
Donalda No.6	817	March 19, 1981
Donalda No.7	818	March 19, 1981
Donalda No.8	819	March 19, 1981
Donalda No.9	820	March 19, 1981
Donalda No.13	821	March 19, 1981

Esperanza Option (99 claims)

<u>Claim Name</u>	<u>Grant Number</u>	<u>Expiry Date</u>
Gnat 1-31	YA24934-YA24964	February 6, 1983
Gnat 32F-35F	YA24965-YA24968	February 6, 1983
Gnat 38F-39F	YA24969-YA24970	February 6, 1983
Gnat 40-94	YA24971-YA25025	February 6, 1983
Gnat 96-102	YA25026-YA25032	February 6, 1983

LOCATION AND ACCESS

The claims lie within NTS Claim Map Area 115I/6 and are centered at approximately longitude 137°07' west and latitude 62°16' north. Access is by 40 miles of secondary road (Freegold Road) from Carmacks. Carmacks is a small community near the junction of the Klondike and Faro Highways and lies 110 road miles north of Whitehorse.

The Freegold Road is a summer road that is maintained in sporadic fashion by local placer and mining operators. It is presently in poor condition and requires new bridge crossings at Mile 16 and Mile 32. Arctic Red Resources Corp. organized repair of a bridge crossing at Mile 5 in July, 1980. The claims are accessible by a network of 4-wheel drive bulldozer roads extending from an old mine site on the Discovery Mines' claims and from several points along the Freegold Road itself.

The Territorial Government has budgeted \$250,000 toward improvement of the road and bridges in 1981.

HISTORY

Gold-bearing quartz veins were first located at Mount Freegold in 1930 and were being mined in a small way in 1936. The property passed through several hands until it was acquired by Ormsby Mines Ltd. (later reorganized into Discovery Mines Ltd.) in 1960. Discovery Mines Ltd. explored the best vein in the camp (G3 vein) with a low level adit (No. 4 adit) in 1963, constructed a 125 ton mill in 1963 and milled 9,538 tons in 1965-66. Operations were forced to close when recoverable mill grades only reached 25% of the ore reserve grade. No further work was done until 1974 when Discovery conducted a copper-arsenic-zinc grid soil geochemical survey over most of its property. This work located several areas with anomalous arsenic response

and reanalysis of samples for gold, mercury and silver from these areas located several coincident gold anomalies. All anomalies were related to known vein zones, except for a strong gold-arsenic anomaly over a sub-triangular quartz-feldspar porphyry breccia complex some 1400 feet long and 1200 feet wide on the eastern side of the claims. A 23 hole (7,848 feet) drill program was directed toward geochemical anomalies in 1975 and of these, 9 holes (4,169 feet) were drilled on the Tertiary complex.

There are several known gold vein occurrences on the Guder option which have been periodically explored since 1930 and several other occurrences are known peripheral to the optioned claims. The locations of these are shown in Figure F1 on the following page and a short discussion of each, taken from the Archer, Cathro Northern Cordillera Mineral Inventory is included as Appendix I.

LOGISTICS

The Freegold Project crew consisted of crew chief J. Dennett and assistants D. Oneschuk and B. Halleran. Geologist M.P. Phillips provided senior supervision and was responsible for geological mapping and core relogging. The crew mobilized to the field on June 20 via the Freegold Road and set up a tent camp near the No. 4 adit portal which is the only source of water on the upper slope of Mount Freegold.

A 4-wheel drive pickup truck was used to transport personnel between the camp and the grid area and a 3/4 ton panel truck was used for transportation between camp and Carmacks or Whitehorse. Travel along the Freegold Road was slow because of poor repair and a collapsed bridge at MP 16 which forced a difficult creek crossing. This crossing was particularly difficult after heavy rains and could not be used by vehicles larger than a pickup even under the best conditions.

The grid geochemical surveys were completed by July 27, at which time the crew demobilized to Whitehorse. Data compilation was started in the Whitehorse office in mid-August. There were no injuries on the job and no days were lost due to weather.

GEOLOGICAL SETTING

General

The Freegold property straddles Mount Freegold which has a northwest-trend and approximately 2,000 feet of relief. It is bounded to the southwest and northeast respectively by the northwest-flowing Seymour and Stoddart Creeks. Mount Freegold lies near the western margin of continental Pleistocene glaciation and has received only minor valley glaciation. Topography is subdued and outcrop is scarce. Surface leaching can be expected to reach depths in excess of 500 feet in strongly fractured areas. South-facing slopes are usually unfrozen and vegetated by poplar and aspen with a poorly developed organic soil cover. North-facing slopes are generally vegetated with spruce, have a well developed moss-covered organic soil, and are permanently frozen to within 12 inches of surface. A layer of fine volcanic ash up to 6 inches thick was deposited approximately 1200 years ago from an explosive event 150 miles to the southwest. Portions of this ash still remain in the soil profile, particularly on the northern slopes. In some cases, solifluction has resulted in the ash layer being repeated between intervening layers of soil.

Rock Units

The oldest rocks in the Mount Freegold area are Paleozoic or older metasediments of the Yukon Metamorphic Complex which occur as roof pendants in a complex series of intrusive units as illustrated on Figure F-2 on the following page. The oldest intrusive is a foliated Triassic hornblende granodiorite which is cut by a coarse-grained syenite which in turn is intruded by unfoliated hornblende granodiorite of Jurassic age. These units are all intruded by small stocks and dykes of feldspar porphyry and andesite of Eocene age that were the feeders for extensive basalt and

andesite volcanic flows which unconformably overlie older rocks elsewhere in the district. The gold-silver porphyry zone (Tertiary complex) as shown on Figure F-2 is an area where the Mesozoic granodiorite and syenites are cut by numerous dykes and/or small bodies of quartz-feldspar porphyry and andesite. This Tertiary activity has been accompanied by weak hydrothermal alteration, brecciation, quartz veining and pyritization in both the quartz-feldspar porphyry and the country rocks. Detailed mapping of this zone using rock chips from soil sample pits and surface float is illustrated on Figure F-9 in pocket. A summary description of each unit follows.

Early Paleozoic or Older

Schist Gneiss Unit (EPsn) - this is a sub-unit of the Yukon Metamorphic Complex and consists largely of monotonous muscovite quartz biotite schists and quartzites with occasional thin amphibolite and limy horizons.

Mesozoic

Hornblende Granodiorite (Trqdm) - this is a foliated, light coloured, coarse-grained, equigranular rock ranging in composition from quartz monzonite to quartz diorite. It is often referred to as the Klotassin Batholith and is the most abundant intrusive rock in the Dawson Range. Its most distinguishing feature is its pervasive foliation.

Syenite (My) - grey, coarse grained, melanocratic, porphyritic syenite. It is characterized by coarse (over 1 cm) pink K-feldspar and greenish hornblende phenocrysts.

Hornblende Granodiorite (Mqd) - is a medium grained, equigranular rock with hornblende, occasionally veined by epidote.

Tertiary

Feldspar Porphyry (Tfp) - medium to fine grained quartz porphyry, usually felsic when in dykes and narrow bodies. This has been divided into nine phases for core logging and detailed surface mapping.

Mount Nansen Group (Tmn) - dark grey or black weathering, uniformly greenish grey aphanitic and andesite. Locally grades into feldspar porphyry (Tfp).

Structure

The dominant structural element of this district is the Big Creek Fault, of which the Camp Fault and its sub-parallel branches on the Freegold Property form the southeasternmost end. This is a major tectonic feature that can be traced 40 miles northwest to the headwaters of Hayes Creek and projects through to the Mt. Cockfield and Casino porphyry deposits.

GEOCHEMICAL SAMPLING

Technique

The Discovery Mines Ltd. 1974 soil sampling grid over the porphyry gold-silver target was done by uncorrected pace and compass, and located coincident gold, arsenic and silver anomalies open to the northeast and southeast. Samples were taken at 50 foot intervals on lines 400 feet apart.

The 1980 Freegold Project extended the 1974 grid 2,000 feet northeast and 2,000 feet southeast. A transit survey basemap prepared by Discovery Mines Ltd. in 1975 was used as a basemap for the 1980 geochemical work. The 1974 baselines and sample lines were relocated and plotted in their correct location. The two easternmost 1974 baselines (Baseline E and F) were extended 2,000 feet northeast and two new baselines (Baselines G and H) were established by chain and compass to the southeast. All baselines are 1,000 feet apart, strike N45°E, and are marked at 200 foot intervals with 18 inch lath pickets numbered with the north coordinate system used by Discovery Mines Ltd. Soil samples were taken at 100 foot intervals on lines 200 feet apart established by pace and compass between the baselines. New sample lines were

established between the 1974 Discovery grid lines which were spaced 400 feet apart. An 18 inch lath picket, marked with the north coordinate and the distance east or west of the baseline from which the line originated was placed at each soil sample location.

Two other areas were sampled. Soil samples were taken at 400 foot intervals along two sub-parallel 1.5 mile long reconnaissance lines on the Gnat claims north of the main grid area and a 1200 foot wide by 1500 foot long area on the Gnat 34-36 claims, about 3/4 of a mile southwest of the main grid, was soil sampled at a 100 foot by 200 foot spacing.

A total of 810 samples were taken, 731 from the main grid, 47 from the smaller grid to the southwest and 32 from the reconnaissance lines to the north. Each sample was obtained from a B + C soil horizon by digging through surface organics and volcanic ash with a mattock. Samples were fairly easy to obtain on unfrozen south-facing slopes but required pits up to 3 feet deep on frozen north-facing slopes where organic soils are better developed and where volcanic ash layers are often duplicated by solifluction.

Samples were air expressed to Chemex Labs Ltd., North Vancouver, B.C. where they were dried and a -35 mesh fraction screened off and pulverized to a -80 mesh. Each sample was analyzed for gold, arsenic, silver, lead, zinc and copper. Gold analysis was done in parts-per-billion (ppb) by fire assay followed by neutron activation. Arsenic was analyzed in parts-per-million (ppm) using an arsenic-hydride vapour technique while the silver, lead, zinc and copper values in ppm were determined by atomic absorption spectrometry of a nitric-perchloric extraction.

Results

Geochemical results for each element are illustrated on Figures F-3 to F-8 in the pocket. Values obtained from the reconnaissance soil sampling to the north and the smaller grid on the Gnat 34-36 claims are illustrated as inserts on each map. Results are discussed as follows.

Gold - background for gold in the Dawson Range is less than 1 ppb, threshold is around 5 ppb, and values over 20 ppb are considered anomalous. Gold is unusually anomalous on the Freegold grid with nearly all samples exceeding the Dawson Range threshold. Most samples over the Tertiary complex exceed 160 ppb and an area approximately 700 feet by 800 feet in size along the southwestern portion returned values in excess of 320 ppb. There are 47 samples enclosed by the 320 ppb contour and these have an arithmetic average of 1406 ppb or 0.041 oz/ton Au. A cluster of five unconnected single point anomalies in excess of 350 ppb is found in the northern end of the grid.

Only low gold values (9 ppb or less) were obtained from the Gnat 34-36 grid to the southwest while almost half of the samples from the reconnaissance lines to the north returned above threshold values, including one strongly anomalous value of 110 ppb.

Arsenic - background for arsenic in the Dawson Range is around 5 ppm, threshold is approximately 15 ppm and values over 40 ppm are considered anomalous. Arsenic, like gold, is unusually anomalous on the Freegold grid with nearly all samples exceeding the 15 ppm threshold. Most samples over the Tertiary complex exceed 250 ppm arsenic and this highly anomalous response extends beyond to the west and southeast to form an overall area some 2,500 feet long and 1,200 feet wide. Scattered single point anomalies of a similar magnitude are found toward the southeast side of the grid and in the northernmost corner.

All but two samples from the Gnat 34-36 claim grid were below threshold and only one (of 51 ppm) was anomalous. Most samples from the reconnaissance lines to the north exceed threshold and eleven samples (34%) returned anomalous values to a maximum of 120 ppm.

Silver - background for silver in the Dawson Range is less than 0.1 ppm, threshold is about 0.6 ppm and values over 2 ppm are considered anomalous. A silver anomaly exceeding 2 ppm over an area some 1,000 feet long and 700 feet wide is located along the northeast margin of the Tertiary complex. A second anomalous area, some 200 feet wide, is outlined on the southwest edge of the grid and is open in that direction.

All samples from the Gnat 34-36 claim grid returned below threshold values. One sample from the reconnaissance sampling returned a slightly above threshold value of 1.0 ppm.

Lead - background for lead in the Dawson Range is 25 ppm, threshold is about 50 ppm and values over 100 ppm are considered anomalous. Lead is immobile in unglaciated Yukon environments and is usually the best indicator metal for silver occurrences because the anomalies are closer to source. Four areas with lead values in excess of 100 ppm are outlined - two at the eastern edge of the Tertiary complex, one at the southern end and another that is open on the southwestern edge of the grid area.

All samples from the Gnat 34-36 claim grid are below threshold. However, the northernmost reconnaissance sample line returned eight samples above threshold including two consecutive anomalous values of 110 and 275 ppm from samples just outside of the staked area.

Zinc - background for zinc in igneous rocks in the Dawson Range is 50 ppm, threshold is around 100 ppm and values over 200 ppm are considered anomalous. Zinc, like lead, is a good silver indicator but is usually more dispersed due to its greater chemical mobility in unglaciated Yukon terrain. There are four areas with zinc values in excess of 200 ppm and these are approximately coincident with the areas of anomalous lead response. The strongest zinc anomaly is coincident with the strongest lead anomaly but has almost twice the surface area.

Only three samples from the Gnat 34-36 claim grid exceed threshold and none are anomalous. Twelve samples from the northernmost reconnaissance line are above threshold. Three of these are anomalous with the best value being 475 ppm in silt from a small drainage immediately north of the Gnat claim boundary.

Copper - background for copper in the Dawson Range is around 20 ppm, threshold about 50 ppm and values over 150 ppm are considered anomalous. No anomalous values were returned from the main Freegold grid, the Gnat 34-36 claim grid or the reconnaissance lines to the north. Only a few isolated samples from the main grid exceeded threshold.

Discussion

The gold and arsenic soil geochemical response over the Tertiary complex is unusually intense. The arsenic anomaly is more widespread than the more or less coincident gold anomaly and is almost certainly caused by arsenopyrite in veinlets and/or disseminations within and peripheral to the Tertiary complex. As arsenic is geochemically immobile, it probably outlines the limits of this mineralization fairly accurately. The anomalous gold response is more difficult to interpret.

For example, Hole R75-04 was drilled under an area where soil samples averaged 3113 ppb (.09 oz/ton Au) but the hole only returned 325 ppb (.0095 oz/ton Au) in core. On the other hand, Hole R75-05 returned 2085 ppb (0.0608 oz/ton Au) in core for its upper 79 feet but overlying soil response averages only 390 ppb (0.011 oz/ton Au). Although there is little information on gold geochemistry in Yukon, an unpublished survey from a nearby property suggests that gold may accumulate in surface soils in unglaciated areas. If further drilling shows a direct relationship exists between arsenopyrite content and gold values, the arsenic geochemistry may prove the best guide for gold exploration.

Both silver and zinc exhibit broad, more or less coincident anomalous response centered on the northeastern and southeastern edges of the Tertiary complex and in a third area extending off the southeast margin of the grid. Lead also exhibits anomalous response in these areas but has a better defined, tighter configuration because of its lower geochemical mobility. The most anomalous lead and silver response is from a 200 foot by 400 foot area immediately east of the most silver-rich hole (R75-23) drilled by Discovery Mines. Further drill exploration of silver-rich portions of the Tertiary complex should be guided by the lead geochemistry.

The low copper geochemical response is surprising as limited assaying of the drill core indicates that bedrock grade is in the 200 to 300 ppm copper range. Such total surface leaching of copper is unusual in the Dawson Range and cannot be easily explained.

DIAMOND DRILLING

General

The 1975 drilling by Discovery Mines on the Tertiary complex consisted of nine BQ size holes (4,169 feet). Of these, 6 holes (2,917 feet) were drilled in a section along the northeastern margin (North Section) of the complex and 3 holes (1,252 feet) were drilled some 800 feet south along the southwest margin (South Section). Core from two of the holes (Holes R75-02 and R75-06) is stored at the H.S. Bostock Core Library in Whitehorse while the remainder is stored near the No. 4 adit on the property.

The core was relogged by M.P. Phillips using a Geolog format to allow future computerization if required. Copies of the drill logs are enclosed in the pockets while geology, alteration and assay data are illustrated in section on Figures F-10A to F-11B, also in the pocket.

Results

Assay results are summarized in Table 1 on the following page and comparisons of the higher grade portions of these assay intervals with core geology and alteration are given in Table 2 immediately following. Core assaying was done at Whitehorse Assay Labs Ltd., Whitehorse and is considered reliable. Check assaying of selected sections by Swastika Laboratories, Ontario and Loring Laboratories, Calgary, returned similar or higher assays. All assaying was done by standard fire assay techniques.

No metallurgical tests or petrological examinations have been done on the core and although native gold is reported from the better grade sections, it is not known if all of the gold occurs in native form. The best gold values are associated with veinlets of vuggy quartz and/or quartz cemented breccia in rocks containing up to 5%

TABLE 1

DRILL CORE ASSAYS
1975 DISCOVERY MINES DRILL PROGRAM
TERTIARY PORPHYRY COMPLEX

A - NORTH SECTION

Hole No.	Core Interval (ft.)	Length (ft.)	Gold oz/ton	Silver oz/ton
R75-02	0-11	11.0	N/A	N/A
	11-101	90.0	.0094	.063
	101-131.9	30.9	.0272	.045
	131.9-147.9	16.0	.0375	.0475
	147.9-230.0	82.1	.0118	.067
	230.0-236.0	6.0	.0597	.095
	236.0-279.5	43.5	.0137	.093
	279.5-292	12.5	.0755	.112
	292.0-398.0	106.0	.0117	.097
	398.0-407.0	9.0	.1133	.100
	407.0-537.0	130.0	.0169	.094
	537.0-578.0	41.0	.0062	.072
	578.0-580.0	2.0	N/A	N/A
R75-03	0-93.9	93.9	N/A	N/A
	93.9-99.4	5.5	.222	.193
	99.4-442.5	343.1	.01	.08
	442.5-456.2	13.7	.0061	.054
	456.2-500.0	43.8	N/A	N/A
R75-04	0-38	38.0	N/A	N/A
	38-252	214.0	.0095	.059
R75-05	0-26	26	N/A	N/A
	26-40	14	.0136	.106
	40-119	79	.0608	.327
	119-172.3	53.3	.0171	.131
	172.3-372.0	199.7	N/A	N/A
	372.0-384.1	12.1	.0117	.093
	384.1-446.7	62.6	N/A	N/A
	446.7-459.9	13.2	.0128	.253
	459.9-476.5	16.7	N/A	N/A
	476.5-526.0	49.5	.0115	.078
	526.0-553.0	27.0	.0268	.114
	553.0-589.6	36.6	.0094	.393
	R75-06	0-61	61	N/A
61-97.9		36.9	.0091	.155
97.9-135.0		37.1	N/A	N/A
135.0-162.5		27.5	.0072	.453
162.5-332.0		169.5	N/A	N/A
332.0-351.2		19.2	.0068	.158
351.2-391.0		39.8	N/A	N/A
391.0-409.0		18.0	.01	.04
409.0-437.0		28.0	N/A	N/A
437.0-468.0		31.0	.01	.156
468.0-550.0		82.0	N/A	N/A
550.0-608.0		58.0	.0218	.129

A - NORTH SECTION (Cont.)

<u>Hole No.</u>	<u>Core Interval (ft.)</u>	<u>Length (ft.)</u>	<u>Gold oz/ton</u>	<u>Silver oz/ton</u>
R75-23	0-16	16	N/A	N/A
	16-113	97	.0078	.428
	113-133	20	.050	1.388
	133-158	25	.0070	.392
	158-198	40	.0062	1.105
	198-243	45	.0027	.238
	243-258	15	.010	1.26
	258-333	75	.0053	.187
	333-372	39	.0070	.86

Summary:

Total feet in section, excluding Hole R75-03 = 2,417

Total feet exceeding 0.02 oz/ton gold (excluding Hole R75-03) = 258.4 (11%)

Average grade of 258.4 feet = 0.0447 oz/ton gold and 0.267 oz/ton silver

B - SOUTH SECTION

R75-20	0-48	48	N/A	N/A
	48-70	22	.0100	.062
	70-126	56	.0174	.080
	126-178	52	.020	.056
	178-224.8	46.8	.002	.032
	224.8-375.0	150.2	N/A	N/A
	375.0-422.0	47.0	.0250	.057
	422.0-476.4	54.4	.0358	.111
	476.4-500	23.6	.0048	.045
R75-21	0-22	22	N/A	N/A
	22-95	73	.0112	.045
	95-165	70	.0247	.059
	165-300	135	.0111	.0374
	300-412	112	.0342	.0897
	412-550	138	.0168	.0899
R75-22	0-118.8	118.8	N/A	N/A
	118.8-128	9.2	.0073	.071
	128.0-202	74.0	.0679	.116

Summary:

Total feet in section = 1,252

Total feet exceeding 0.02 oz/ton gold = 409.50 (33%)

Average grade of 409.50 feet = 0.035 oz/ton gold and 0.08 oz/ton silver

N/A - not assayed

COMPARISON OF ASSAY INTERVALS WITH CORE GEOLOGY AND ALTERATION

TABLE 2 - Page 1

Hole No.	Footage		Length	Assay Average oz/ton		Rock Type	Alteration Facies	Intensity	Mineralization	Comments
	From	To		Au	Ag					
<u>South Section</u>										
R75-20	70.0	94.0	24.0	0.022	0.11	Granodiorite	Argillic	Extremely high	½% disseminated and veinlet pyrite traces arsenopyrite	Veinlets of quartz, quartz-pyrite and quartz-pyrite with phyllic envelopes present and well developed between 84.0-100 ft. Veinlets parallel core axis
	116.2	126.0	9.8	0.029	0.06	Porphyritic granite-possible breccia	Argillic	Moderate	1% disseminated and veinlet pyrite	Veining as above but not as well developed
	167.0	187.0	15.0	0.056	0.76	Porphyritic granite	Argillic	Low	1% veinlet and disseminated pyrite traces arsenopyrite and chalcopyrite	Most sulphides on dry strong fractures crossing core
	384.0	394.2	10.2	0.089	0.10	Porphyritic granite	Argillic	High	2½% veinlet and disseminated pyrite trace black hard mineral with purple hue, minor arsenopyrite	Sulphide content higher in this section in micro veinlets, along fractures and replacing chlorite
	422.0	441.0	19.0	0.027	0.16	Porphyritic granite	Argillic	Moderate	2½% veinlet and disseminated pyrite minor chalcopyrite, traces arsenopyrite	Strongly fractured, sulphide content higher
	459.0	476.0	17.0	0.056	0.15	Porphyritic granite	Argillic	Moderate	2½% veinlet and disseminated pyrite minor chalcopyrite, trace arsenopyrite trace jamesonite and stibnite in quartz veinlets	Zone with moderate veinlets of dark quartz, quartz-pyrite and quartz with quartz-sericite-pyrite developed. Traces of jamesonite associated with veining
R75-21	36.0	56.3	20.3	0.018	0.02	Felsite	Kaolinitic	Low	½% disseminated pyrite, minor bornite(?), trace arsenopyrite	
	76.0	80.0	4.0	0.03	0.03	Felsite	Kaolinitic	Low	as above	
	95.0	110.0	15.0	0.03	0.03	Felsite	Kaolinitic	Low	as above	
	120.0	150.0	30.0	0.037	0.10	Granodiorite-brecciated granodiorite contact	Propylitic Kaolinitic	High High	2½% veinlet and disseminated pyrite	Best assays where above average pyrite veining present
	160.0	165.0	5.0	0.035	0.02	Granodiorite-below brecciated granodiorite contact	Montmorillonitic	Moderate	2½% disseminate and veinlet pyrite	Sulphides above average in this section
	215.0	220.0	5.0	0.02	0.02	Brecciated granodiorite cut by 1 ft. felsite dykes	Montmorillonitic	High	2½% disseminated and veinlet pyrite dykes contain traces chalcopyrite, arsenopyrite and stibnite(?)	
	235.0	245.0	10.0	0.02	0.05	Brecciated granodiorite	Montmorillonite	High	2½% crack and disseminated pyrite	Veinlets of pyrite above average in this section
	255.0	260.0	5.0	0.03	0.07	Brecciated granodiorite	Montmorillonitic	High	2½% disseminated pyrite	

Hole No.	Footage		Length	Assay Average oz/ton		Rock Type	Alteration Facies	Intensity	Mineralization	Comments
	From	To		Au	Ag					
<u>South Section (cont'd)</u>										
R75-21 (cont'd)	300.0	332.0	32.0	0.046	0.08	Brecciated granodiorite and felsite at contact	Montmorillonite	High	2½% crack and disseminated pyrite minor chalcopyrite	Best assays in section where highly oxidized small quartz veinlets are present
	342.0	367.0	25.0	0.02	0.09	Granodiorite- brecciated granodiorite contact	Propylitic	Moderate	2½% veinlet pyrite	At granodiorite breccia contact slightly stronger alteration with pyrite veinlets above average
	377.0	412.0	35.0	0.03	0.10	Brecciated granodiorite	Montmorillonitic	High	2½% veinlet pyrite	
	487.0	497.0	10.0	0.025	0.08	Granodiorite- felsite	Kaolinitic	High	1-2½% disseminated and veinlet pyrite	
	512.0	517.0	5.0	0.02	0.06	Brecciated granodiorite	Kaolinitic	High	2½% disseminated and veinlet pyrite	
	542.0	547.0	5.0	0.07	0.04	Brecciated granodiorite	Kaolinitic	High	2-4% disseminated and veinlet pyrite	Pyrite content above average
R75-22	128.0	151.0	23.0	0.119	0.08	Granodiorite	Phyllic and Montmorillonitic	Low Low	2½% veinlet and disseminated pyrite minor chalcopyrite, trace arsenopyrite	Vuggy comb quartz with quartz-sericite pyrite veinlets, pyrite veinlets with dark green clay envelopes, and dark grey quartz veinlets. Veinlet stockwork density 3-4/ft. Visible gold noted by Rayrock in 128.0-131 ft. section
	166.0	171.0	5.0	0.025	0.12	Granodiorite	Montmorillonitic	Low	as above	Above average pyrite
	177.0	202.0	25.0	0.113	0.014	Granodiorite	Montmorillonitic	Low	1% veinlet and disseminated pyrite	Strong limonitic fractures, not as strong veining as 128.0-151.0 ft.
<u>North Section</u>										
R75-02	51.5	57.0	5.5	0.03	0.12	Granodiorite	Montmorillonitic	Moderate	½% veinlet pyrite, trace arsenopyrite	
	101.0	105.0	4.0	0.02	0.02	Felsite	Argillic	High	2½% pervasive and disseminated pyrite minor arsenopyrite	Section contains weak pyrite veinlets with up to 1 cm clay envelope
	131.9	147.9	16.0	0.038	0.056	Felsite	Argillic	High	1% disseminated pyrite, trace arsenopyrite	
	159.0	171.0	12.0	0.08	0.04	Felsite and brecciated felsite	Argillic	Moderate- High	½% disseminated and crack pyrite	Minor quartz-pyrite veinlets and pyrite veinlet with clay envelopes
	207.0	211.0	4.0	0.025	0.12	Brecciated felsite	Argillic	Moderate	½% disseminated and crack pyrite	Most pyrite replacing relic chlorite in granodiorite fragments
	230.0	236.0	6.0	0.06	0.10	Brecciated felsite	Argillic	Moderate	5% veinlet pyrite, minor arsenopyrite	Rock shows strong shatter fracturing
	252.0	256.0	4.0	0.05	0.06	Brecciated felsite	Montmorillonitic	Extremely low	½% disseminated and veinlet pyrite	

Hole No.	Footage		Length	Assay Average oz/ton		Rock Type	Alteration Facies	Intensity	Mineralization	Comments
	From	To		Au	Ag					
<u>North Section (cont'd)</u>										
R75-02 (cont'd)	279.5	292.0	12.5	0.075	0.11	Brecciated felsite	Argillic	Extremely low	2½% disseminated and veinlet pyrite ½% arsenopyrite	Fault zone - 283.0-288.0 ft.
	308.0	313.6	5.6	0.023	0.15	Quartz syenite at felsite contact	Montmorillonitic	Moderate	2½% disseminated pyrite. ½% disseminated arsenopyrite	
	458.0	484.7	26.7	0.01	0.09	Felsite	Montmorillonitic	Extremely low	½% crack filling pyrite trace arsenopyrite	Alteration at bottom contact extremely low kaolinitic
	492.0	496.0	4.0	0.075	0.12	Brecciated granodiorite and syenite	Kaolinitic	Moderate	2½% crack filling pyrite, minor arsenopyrite	
	506.7	510.0	3.3	0.025	0.08	Felsite-at syenite contact	Propylitic	Extremely high	1% crack and disseminated pyrite minor arsenopyrite and chalcopyrite	
	521.0	525.2	4.2	0.05	0.04	Syenite	Propylitic	Moderate	1% crack filling pyrite and minor arsenopyrite	
	533.0	537.0	4.0	0.05	0.10	Brecciated felsite	Kaolinitic	Extremely low	as above	
R75-03	93.9	99.4	5.5	0.194	0.27	Brecciated felsite	Argillic	Extremely high	1% disseminated and crack pyrite and 1% disseminated arsenopyrite	
R75-04	71.5	76.5	5.0	0.03	0.10	Brecciated felsite	Kaolinitic	Extremely low with 0.5 ft band extremely high	1% disseminated pyrite, minor arsenopyrite, most sulphides in granodiorite fragments	Shows kaolinitic alteration with pyrite replacing relic clay altered hornblende
	147.3	157.3	10.0	0.02	0.16	Brecciated syenite near felsite contact	Kaolinitic	Extremely high	2½% crack and disseminated pyrite trace arsenopyrite	
R75-05	40.0	118.2	78.2	0.048	0.23	Brecciated granodiorite brecciated syenite and brecciated andesite	Kaolinitic	Extremely high	2½%-5% fracture and disseminated limonite, 1% disseminated fracture pyrite and minor arsenopyrite starts at 52 ft., brecciated andesite 3-5% crack filling arsenopyrite and pyrite and traces stibnite	High gold assays coincide with strong pyrite- arsenopyrite and possible silicification
	140.3	151.5	11.2	0.102	0.05	Felsite	Kaolinitic	Extremely low- high	1-2½% flow banded and crack filling pyrite	
	453.6	457.4	3.8	0.02	0.46	Brecciated felsite	Montmorillonitic	Moderate	2½% disseminated and veinlet pyrite, fair limonitic fractures	
	491.0	501.0	10.0	0.023	0.05	Felsite	Propylitic	Moderate	½% crack filling pyrite	
	531.0	553.0	22.0	0.032	0.11	Feldspar porphyry and brecciated felsite	Kaolinitic	Moderate	2½% crack filling pyrite, strong manganese staining	
	577.0	585.0	8.0	0.013	1.38	Brecciated felsite	Montmorillonitic	Moderate	as above	Note high silver assay

Hole No.	Footage		Length	Assay Average oz/ton		Rock Type	Alteration Facies	Intensity	Mineralization	Comments
	From	To		Au	Ag					
North Section (cont'd)										
R75-06	158.2	163.0	4.8	0.02	--	Quartz syenite and brecciated felsite	Montmorillonitic Low		Minor disseminated pyrite and arsenopyrite	
	553.9	608.0	54.1	0.022	0.12	Brecciated felsite	Kaolinitic	Extremely high	2½% crack and disseminated pyrite, minor chalcopyrite	Fine granodiorite and syenite fragments highly pyritic
R75-23	16.0	37.5	21.5	0.02	0.46	Felsite	Kaolinitic	Moderate	5% fracture and disseminated limonite	
	54.0	78.0	24.0	0.005	0.62	Brecciated felsite	Kaolinitic	Moderate	2½% fracture and disseminated limonite	
	98.0	198.0	100.0	0.015	0.87	Brecciated felsite and brecciated syenite	Kaolinitic	Intermediate- Extremely high	1-2½% fracture and disseminated limonite, minor - ½% disseminated pyrite	
	243.0	273.0	30.0	0.007	0.88	Felsite and brecciated felsite	Kaolinitic	Extremely high	1% fracture limonite and ½% disseminated pyrite, in places strong manganese stain	
	333.0	368.0	35.0	0.007	0.94	Brecciated felsite	Kaolinitic	Extremely high	2½% disseminated and fracture limonite	290.5-299.5 ft. - very fine purple-blue mineral (tetrahedrite?)

pyrite and arsenopyrite as disseminations and fracture fillings. Zones exceeding 0.02 oz/ton gold occur both within the breccia complex and immediately peripheral to it. Mineralization is best developed in the South Section where 409.5 feet out of 1,252 feet drilled (or 33%) contain zones up to 100 feet wide (in core) averaging better than 0.02 oz/ton gold. The entire 409.5 feet averages 0.035 oz/ton gold and 0.08 oz/ton silver with the best portion being the last 74.0 feet in Hole R75-22 which averages 0.0679 oz/ton gold and 0.116 oz/ton silver. The North Section is less continuously mineralized with only 258.4 feet out of 2,417 feet drilled (or 11%) forming zones in excess of 0.02 oz/ton gold. This 258.4 feet averages 0.0447 oz/ton gold and 0.267 oz/ton silver with the best portion being 79 feet from Hole R79-05 which averages 0.0608 oz/ton gold and 0.327 oz/ton silver. Sections exceeding 0.02 oz/ton gold are assumed to have a vertical orientation, as illustrated on Figures F-10A - F-10B although there is no actual evidence for this.

Silver values exceeding 1 oz/ton were only obtained from the bottom of Hole R75-05 and throughout Hole R75-23 which intersected a zone of strong brecciation (breccia pipe?) on the east margin of the Tertiary complex. The breccia is oxidized below the final depth of Hole R75-23 (250 feet vertically below surface) and the silver appears to be occurring in limonite wad formed after pyrite containing minor tetrahedrite or some other sulfosalt. Hole R75-23 averaged 0.56 oz/ton silver for its cored length of 356 feet. Of this, some 114 feet (32%) graded 0.925 oz/ton silver. As can be seen in Table 1, this silver-rich breccia contains very little associated gold.

Although no copper assays are shown on the drill sections or listed in Table 1, limited assaying by Discovery Mines returned values in the 200 ppm range.

Geologically, the drilling shows that the Tertiary complex is made up of a swarm of quartz-feldspar porphyry (Tfp) dykes intruding older hornblende granodiorite (Trgdm) and syenite (My) country rock. Nine separate phases of quartz-feldspar porphyry based on phenocryst content and degree of brecciation have been separated in logging. In addition, two phases of the age related Mount Nansen volcanics (Tmn) have been identified along with breccia phases of the granodiorite and syenite. The entire Tertiary complex and surrounding country rocks are altered up to a strong argillic facies with moderate pyritization (up to 5%) and associated arsenopyrite and traces of chalcopyrite and sulfosalts. Some of the breccias are quartz flooded and quartz veinlets are occasionally developed in the porphyry and surrounding country rocks.

Discussion

All significant porphyry deposits in the Dawson Range, except the Mount Nansen camp, lie within a few miles of the Big Creek fault or along its projected surface trace northwest of Hayes Creek. The best of these porphyry deposits are the Revenue, Cash and Casino occurrences where copper-molybdenum mineralization is hosted within or peripheral to Tertiary feldspar porphyry stocks, dykes and associated breccias. All three have peripheral silver-lead and gold-bearing veins and all have gold and silver values in the porphyry itself.

The Mount Freegold Tertiary complex appears to be a similar but less strongly altered porphyry system with a higher dollar value in gold and silver than in copper and molybdenum. Initial drilling suggests that the best gold values are occurring in zones of argillic alteration associated with the Tertiary complex, particularly where the alteration is accompanied by pyritization (to 5%) and quartz veining. The potential here is for a large tonnage of open-pit mineralization grading in the range of 0.04 oz/ton gold and 0.15 oz/ton silver. At current metal prices (gold \$730/oz; silver \$21/oz; and copper \$1.12/lb) this is equivalent to 1.44% copper or \$32/ton.

APPENDIX 1

NORTHERN CORDILLERA MINERAL INVENTORY
MINERAL OCCURRENCE DESCRIPTION

Property Name: Common CARIBOU CREEK Other
Location: Lat. 62°15' Long. 137°11' NTS 1151/6
Metals: Major Gold Minor Silver

Type of Mineral Deposit: Vein

History and Previous Work:

Staked as Dark Moth cl (39046) in April/37 by W. Teare and optioned in 1938 to T.C. Richards and E. Keobke, who built a 350 ft aerial tramway and a 2 ton mill. The mill produced briefly on 14 tons of ore from an opencut and shipped one brick containing 84 oz gold and 20% silver. Restaked by P.F. Guder in Oct/54 as Hope cl (69842) which were explored with hand trenching and optioned in Sept/64 to Peso Carmacks Gold ML, which added the Teare cl(91122).

* Restaked by Guder in Nov/67 as Hope cl (Y21249), which were optioned to
 * R. Granger in 1969-70. Guder performed hand trenching annually until 1974, added Best cl (Y25895) in Sept/68 and Hope cl (Y76048) in July/73 and bulldozer trenched in 1978.

The MJK cl (Y78916) were added to the west in May/74 by the Carmacks Synd (Castlemaine EL, Welcome North ML, W.M. Bath Inv L, and Ventures West Capital L) and optioned to a joint venture between Western ML, Cream Silver ML and Belmoral ML, which conducted mapping, soil sampling and a magnetic survey later in the year.

Description:

The property is underlain mainly by hornblende syenite and quartz monzonite intruded by Tertiary quartz-feldspar porphyry and overlain by Jurassic Laberge Group sediments. The only mineralization found in the area is the old showing, which consists of rare free gold in a brecciated quartz stockwork zone that strikes northwest and has a width of 10 to 15 ft. The 1938 production was apparently from a small pocket of higher grade. A grab sample of the stockwork zone assayed in 1968 returned trace gold and 0.02 oz/ton Ag. Soil sampling on the MJK claims gave background assays in Au, Sb and Cu.

References:

M220, pp.15-16

P69-55, p.23

MIR, 1974, pp.119-120

ER, Oct/74 by J.R. Deighton for Western ML et al - FFAC

Property Name: Common STODDART Other

Location: Lat. 62°18' Long. 137°10' NTS 115I/6

* Metals: Major Copper Minor Molybdenum

* Type of Mineral Deposit: Porphyry

History and Previous Work:

This area was explored intensively by individual prospectors for gold veins in the 1930's. Staked as Low cl (Y40611) in Nov/69 by R. McKamey and optioned in Dec/69 to Samson ML and Monarch Metal ML, which conducted reconnaissance soil sampling. Restaked as the Ag cl (Y75866) and Au cl (Y75938) in July/73 by E.D. Campbell and G.E. Smith and optioned to Prism Res L and Dynasty EL, which conducted grid soil sampling, a mag survey and bulldozer trenching in 1974. Dynasty changed its name to Cyprus Anvil Mg Corp and conducted an IP survey in 1975 before dropping its interest.

Description:

** Minor chalcopyrite, pyrite and a trace of molybdenite occur in two subparallel zones 100 and 500 ft wide within a geochem anomaly 3000 ft by 800 ft that returned values of greater than 100 ppm Cu and 5 to 25 ppm Mo. The mineralization is associated with brecciation and phyllic alteration in a quartz porphyry plug within a quartz monzonite stock. Both zones are leached on surface but average less than 0.1% Cu.

References:

GCNL, 21 Mar, 8 July/74
MIR, 1975, pp.137-138

Property Name: Common CASTLE OtherLocation: Lat. 62°19' Long. 137°08' NTS 115I/6Metals: Major Copper Minor* Type of Mineral Deposit: UncertainHistory and Previous Work:

Staked as Sun cl (Y41183) in Dec/69 by Montana ML, which performed geochem sampling in 1970. Restaked as Car cl (Y78678) in May/74 by the Carmacks Synd (Castlemaine EL, Welcome North ML, W.M. Bath Inv L, and Ventures West Capital L) and optioned to a joint venture between Western ML, Cream Silver ML and Belmoral ML, which conducted soil geochem and magnetic surveys later in the year.

Description:

The claims lie on the northern flank of a large 300 gamma aeromag anomaly that is associated with a contact between metasediments of the Yukon Metamorphic Complex and syenite and granodiorite intrusions. Montana reported anomalous geochem results but no further work was done. The 1974 program outlined a zone of kaolinization and silicification in granodiorite, surrounded by a halo of quartz veining containing pyrite and minor chalcopyrite.

References:

- GCNL, 22 Oct/70
 MIR, 1974, pp.117-118
 * ER, Oct/74 by J.R. Deighton for Western ML et al - FFAC

REVISED 1977

Property Name: Common RED FOX OtherLocation: Lat. 62°18' Long. 137°09' NTS 115I/6Metals: Major Silver, Lead, Gold Minor Zinc, CopperType of Mineral Deposit: VeinHistory and Previous Work:

Staked as the Red Fox cl in 1931 and later as the Vindicator cl (60422) in July/51 by P.F. Guder who performed hand trenching, pitting, and bulldozer trenching at intervals through to 1968. The showing was optioned in 1969 by Yukon Revenue ML, which conducted more mapping and sampling and in 1973 by Prism Res L, which did limited surface work before transferring the option to Dynasty EL. Dynasty completed grid soil sampling, mag surveys, bulldozer trenching and 4 drill holes (1042 feet) in 1974.

Description:

An east trending quartz vein cuts Yukon Group metamorphic rocks and has been traced about 100 feet. It contains lenses of galena with minor sphalerite and chalcopryrite that vary in width from a few inches to 1.5 ft. A sample of massive galena assayed 130.0 oz/ton Ag, 62.0% Pb and 0.03% Zn. According to the G.S.C. P.H. Sevensma reported that a band of galena 6 to 8 inches wide assays 171 oz/ton Ag and 70% Pb. The vein follows a porphyry dike and may be an extension of the Guder vein system to the southeast. The Dynasty work was directed toward an extension of gold-magnetite skarns traced west from the Guder occurrence. No significant mineralization was obtained in the drill holes.

References:

M 214, p.17

P69-55, p.23

ER, June/73 by P.H. Sevensma for Prism Res L, reported in GCNL, 6 July/73

MIR, 1974, pp.115-116

*

* Property Name: Common GUDER Other Gold Star

Location: Lat. 62°17' Long. 137°08' NTS 115I/6

Metals: Major Gold, Silver Minor Copper, Lead, Zinc, Molybdenum

Type of Mineral Deposit: Skarn , Vein

History and Previous Work:

The original discovery in the Mt. Freegold area was made by P.F. Guder in 1930 on the Augusta cl (15494) , followed by discoveries on the adjoining Peerless , Gold Star and Margarete cls. Guder explored by hand pits and shallow shafts until 1959, when Conwest , under option, drilled 10 holes (1014 ft) in the Main vein and performed bulldozer trenching in 1964 on the Old cl (86086). Guders claims (Gold Star Group) were optioned in 1969 to Yukon Revenue ML , which conducted bulldozer trenching and mapping, and in 1973 to Prism Res. L, which did a magnetometer survey & staked an additional 100 claims-PFG,AG, etc. (Y75468) in June-Sept. Prism transferred the option early in 1974 to Dynasty EL, which explored by grid soil sampling, magnetic survey, bulldozing and four drill holes (1100 ft) later in the year.

Description:

The main vein system follows a series of porphyry dikes which cut chlorite schist and gneiss of the Yukon Group. It dips 80° south and has been traced in an easterly direction for 2500 feet. The mineralized zones are irregular quartz veins from a few inches to 4 feet wide containing disseminated pyrite, chalcopyrite and arsenopyrite. Surface samples collected from trenches east of the Margarete shaft assay 3.2 to 4.6 oz/ton Au and 10.6 to 19.4 oz/ton Ag across widths of 12 to 18 inches. The drill intersections in this vicinity ranged from 0.34 to 0.01 oz/ton Au across 4.0 to 8.5 ft with core recovery between 10 and 70%.

On the Augusta claims at the east end of the vein, 1800 ft. from the Margarete shaft, a lens of magnetite with minor hematite, pyrite, chalcopyrite, and gold occurs in actinolite-garnet-epidote skarn. The lens is 300 ft long and reaches a width of 27 ft. A grab sample is reported to have assayed 0.32 oz/ton Au and 1.2 oz/ton Ag. Gold occurs as fine disseminations in surface limonite but quickly diminishes at depth. About 1800 ft. southwest of the Margarete shaft in Cabin Gulch, the Cabin Vein has been exposed in a couple of pits. Yukon Revenue obtained grab samples of quartz which assayed 0.4 oz/ton Au and 5.48 oz/ton Ag, and 0.46 oz/ton Au and 0.6 oz/ton Ag.

According to Sevensma, a breccia zone and a bleached syenitic intrusion lies between these three showings at the head of Cabin Gulch. A trace of tourmaline, pyrite and molybdenite is reported to be present.

The Dynasty bulldozing and drilling was directed toward the gold-magnetite skarn and obtained disappointing results. The good surface grades appear to result from residual surface enrichment.

References:

ML89 , pp 53-54

P214, pp 17-18

P68-68, p.35

ER, June/73 by P.H. Sevensma for Prism Res L, reported in GCNL, 6 July/73

* MIR, 1974, pp.115-116

Property Name: Common EMMON Other

Location: Lat. 62°17' Long. 137°03' NTS 115I/6

Metals: Major Antimony, Gold Minor Silver

Type of Mineral Deposit: Vein

History and Previous Work:

Discovered by T. Bee and W. Renworth prior to 1935 and explored by hand trenching. In Sept/36, American Yukon Mg : CL sank a 92 ft shaft, from which two cross-cuts (27 ft and 50 ft) were driven. Restaked as Bill, Joe and Tie cl(86804) : Oct/64 by Peso Carmacks Gold ML; and as Free cl(Y44182) in Dec/69 by Tanzilla EL, which conducted mapping, geochem sampling and trenching in 1970.

Restaked as GM cl(Y77230) in Sept/73 by M. Cloutier and sold to a private company Mount Free Gold ML. After a proposed merger with Frontier EL fell through, the property was optioned to Norwich Res L, which added the Gold cl (Y78108) in March/74 and conducted line cutting and a small grid soil sampling program later in the year.

** Restaked as Dart cl (YA23829) in Oct/78 by Noranda, which explored with EM and geochem surveys in 1979.

Description:

The American Yukon showing is a quartz vein, containing stibnite and pyrite, found in a northwest trending zone, more or less parallel to the schistosity in Cambrian or older Yukon Group gneisses. Gold assays from underground workings were apparently erratic. A second vein, called the Whale showing, occurs in an easterly trending quartz-feldspar porphyry dike that has been brecciated and cemented with calcedonic quartz.

The 1970 geochemical program outlined three copper-antimony anomalies and one copper-molybdenum anomaly. Grab samples from trenches on the American Yukon vein assayed up to 0.7 oz/ton Au, 0.16 oz/ton Ag and 3.6% Sb. A grab sample from the Whale vein assayed 0.005 oz/ton Au and 0.04 oz/ton Ag. One of the copper-antimony anomalies was associated with brecciated and limonitic rhyolite or porphyry about 1.5 miles south of the Whale showing.

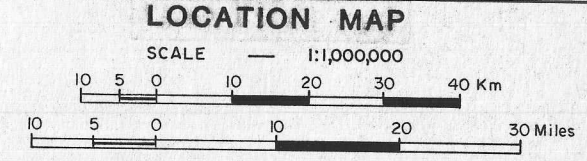
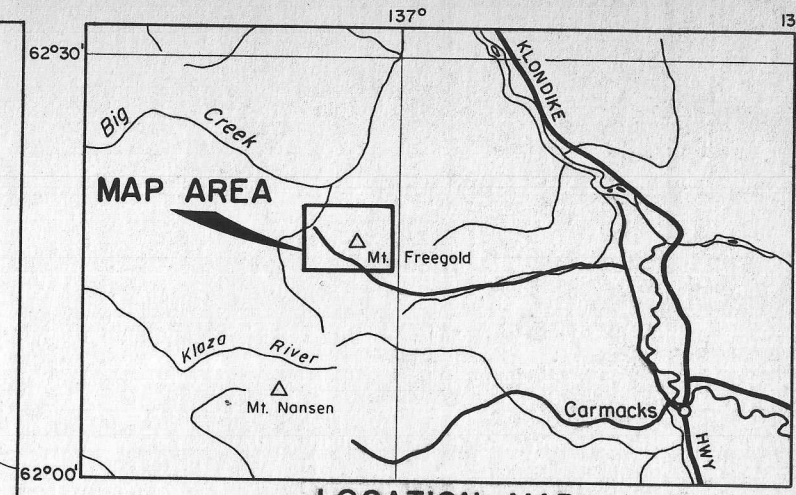
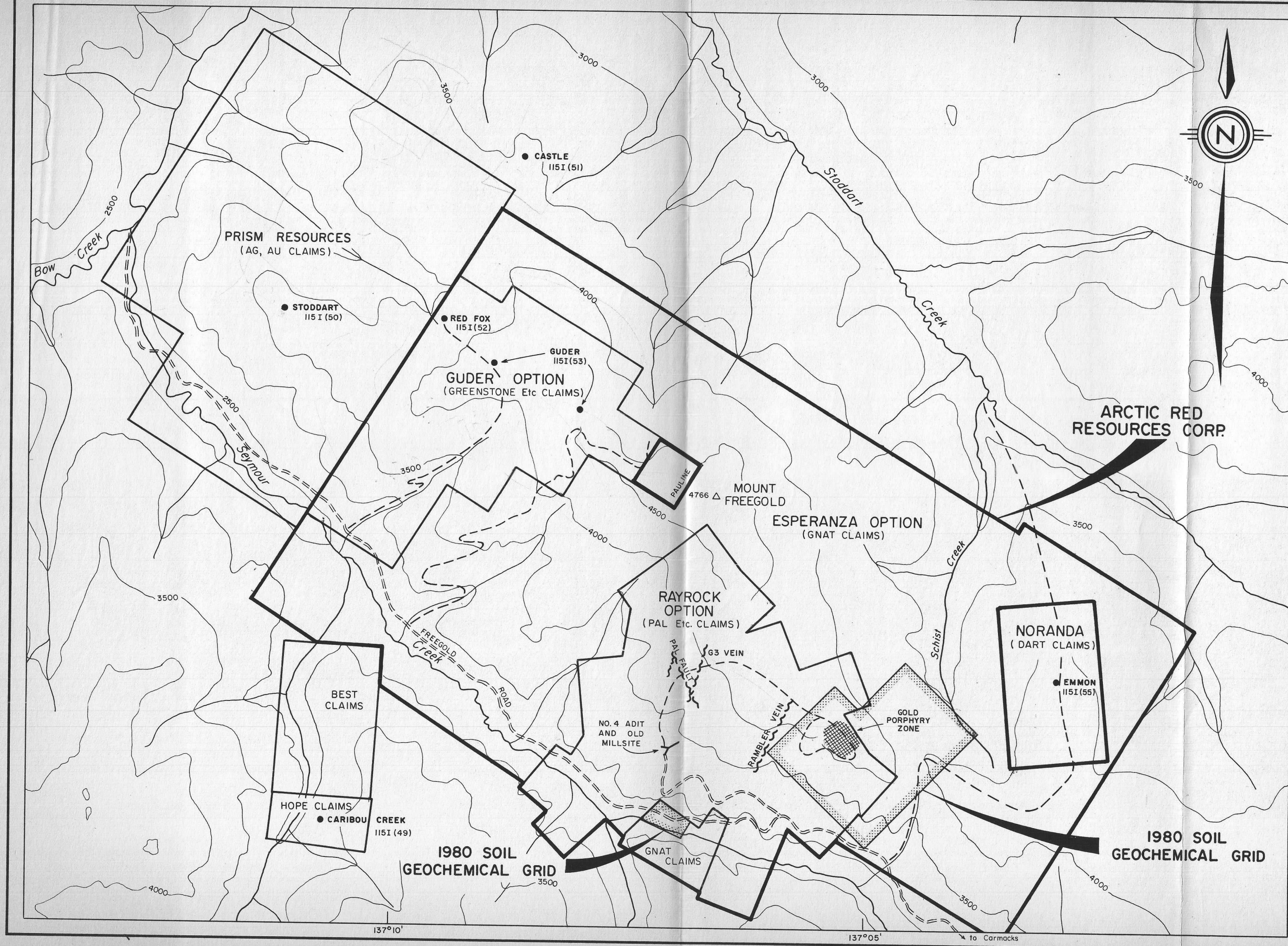
References:

M 209, pp 10-11

M 214, pp 19-20

MIR, 1969-70, pp 78-79

ER, Nov/70 by D.C. Findlay for Tanzilla EL - FFAC



- RED FOX 1151 (52) Mineral occurrence name with ARCHER, CATHRO MINERAL INVENTORY reference number
- ==== Secondary road
- 4-Wheel drive road

FIG. F1
 ARCHER, CATHRO & ASSOCIATES LTD
LOCATION PLAN
FREEGOLD PROJECT
 ARCTIC RED RESOURCES CORP.
 MOUNT FREEGOLD AREA, YUKON

