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1981 FINAL REPORT

for

FREEGOLD PROJECT

NOVEMBER 1981

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SUMMARY AND RECOMMENDATIONS

SUMMARY AND RECOMMENDATIONS

Freegold Project was originated in May, 1980 to explore for bulk tonnage gold-silver mineralization in the Mount Freegold area, Yukon where numerous gold-silver vein occurrences have been discovered since first prospecting in the 1930's. Mount Freegold is accessible by 40 miles of summer road from Carmacks which lies 110 road miles north of Whitehorse. First discovery of low-grade disseminated precious metal mineralization in the area was made in 1975 by Discovery Mines Ltd. Discovery transferred its holdings later that year to an affiliated company, Rayrock Mines Ltd., which carried out grid soil sampling and diamond drilling on the area now known as the Gold Porphyry Zone. The Rayrock claims, 99 surrounding Gnat claims owned by Esperanza Explorations Ltd. and 22 adjoining claims owned by F. Guder, a local prospector, were acquired through option agreements by Arctic Red Resources Corp. in 1980. Management of Arctic Red's 1980 Freegold Project Program in the area was contracted to Archer, Cathro & Associates Limited (now Archer, Cathro & Associates (1981) Limited).

The 1980 work outlined a sub-triangular, geochemically anomalous Tertiary quartz-feldspar porphyry breccia complex approximately 1,600 feet long and 1,400 feet wide. Best gold values are associated with hydrothermal alteration and zones of quartz veining and/or pyritization (up to 5%) with minor arsenopyrite and traces of chalcopyrite, jamesonite and stibnite. The 4,169 feet of 1975 drilling were relogged. Best intersections were in the southern part of the complex where a total of 409.4 feet (33% of the drilling) averaged 0.035 oz/ton gold and 0.08 oz/ton silver with one 74.0 foot zone grading 0.068 oz/ton gold and 0.12 oz/ton silver.

124m of 1.2 g/t
22.5m of 2.33 g/t

The 1981 exploration for Freegold Project involved geophysical surveys and an additional 3,910 feet of diamond drilling on the Gold Porphyry Zone. A similar target on the Guder Option, the Cabin Zone, was investigated with bulldozer trenching and soil sampling. The Seymour 1-44 claims were added in 1981 by Arctic Red Resources Ltd. to the west end of the Freegold Project property to cover a known low-grade porphyry copper occurrence. This area, called the Stoddart Zone, was explored for its gold-bearing potential with bulldozer trenching and geochemical surveys. Several areas outside the Freegold Project claim block were also explored geochemically for gold.

Results of the 1981 exploration in these areas are given below:

Gold Porphyry Zone

Geochemical and geophysical surveys over the Gold Porphyry Zone have outlined a large area of potentially gold-bearing rock. Widespread diamond drilling in 1975 by Rayrock Mines Ltd. and in 1981 by Freegold Project has further defined the grade and geologic setting of the mineralization. Assay results have so far been discouraging although widespread zones grading 0.02 oz/ton gold or better have been outlined over widths of 20 feet to 90 feet. Highest frequency of assays exceeding 0.02 oz/ton gold occur in a 1,300 foot long, northeasterly-trending zone which averages 500 feet in width. This zone, primarily developed in Tertiary intrusive breccias, probably reflects a through-going trend of concentrated syn-intrusive tectonic activity.

Best assays were received from drilling at the southerly end of the zone. In addition, silver/gold ratios decrease in a systematic fashion from 6.3:1 at the north end to 0.9:1 at the south end. Trace metal analyses of soil samples from the area show a similar zonation pattern with a lead-zinc-copper association

in the silver zone and a bismuth-tellurium-tungsten association in the gold zone. Intensity of hydrothermal alteration also increases to the south. The apparent longitudinal variation in the breccia system is more likely an effect of vertical zonation as progressively deeper levels of the hydrothermal system are cut on the steep south-facing slope of Mount Freegold.

Gold soil geochemical and I.P. geophysical surveys have been most effective in outlining mineralization on the Gold Porphyry Zone. Strong, untested I.P. and gold soil anomalies continue southward beyond the area of diamond drilling for a distance of 600 feet. The anomalies are open to the southwest in unexplored ground. In view of the fact that tenor of gold mineralization increases southwesterly along this trend with increasing depth of exposure into the hydrothermal system, further geochemical and geochemical surveys in this direction, followed by diamond drilling are recommended. Also, consideration should be given to deeper drilling along the zone defined by the 1975 and 1981 drilling.

Metallurgical testing should be carried out on mineralized intervals of the 1981 diamond drilling on the Gold Porphyry Zone to determine what percentage of the low-grade gold and silver mineralization is recoverable and to provide an estimate of the economic feasibility of mining this type of mineralization. Split and crushed quarters of the 1981 diamond drill core are stored in the Laforma Mines former mill buildings on the property.

Guder Option

Fred Guder's work on Mount Freegold started in 1930. Since then, he has carried out almost continuous prospecting and development work on his claims which have also been explored under option by Conwest (1959), Yukon Revenue Mines Ltd. (1969), Prism Resources (1973), Dynasty Explorations Ltd. (1974) and finally Arctic Red Resources Corp. (1981).

Gold-silver mineralization on the Guder Option occurs in three distinct modes:

- (i) as weak disseminations in easterly-trending tabular magnetite-chlorite bodies or lenses hosted by schists and gneisses;
- (ii) in quartz-rich, easterly-trending veins and shear zones in schists and gneisses, and
- (iii) in weakly altered breccia bodies with an overall northeasterly trend and which are developed in granitic rocks.

The magnetite-rich bodies (Augusta and Skarn Zones) have good aggregate tonnage potential but overall grade is poor with only erratic high gold values. Potentially economic precious metal values are reported from veins and shear zones on the property (Margarete and Red Fox Veins) but tonnage is limited. The best potential for large tonnage deposits lies in the Cabin and Liberty breccia Zones. Results of soil and rock sampling over these areas, however, suggest that mineralization is only weakly and sporadically developed.

The Castle Zone, an area of brecciation and hydrothermal alteration located 1/2 mile north of the Guder Option on unstaked ground, was also sampled for precious metal potential. Although alteration zonation and intensity is well developed, assays received from the zone were uniformly low in copper, arsenic, gold, silver, and tungsten.

No further work is recommended for either the Guder Option or Castle Zone .

Seymour Claims:

Exploration by Prism Resources Ltd. during 1973 to 1975 in the area of the Seymour claims outlined a 1,400 foot by 3,800 foot porphyry copper-type target. Freegold Project further delineated the target, known as the Stoddart Zone, with bulldozer trenching and soil sampling.

Copper mineralization, ranging up to 0.5% Cu occurs within an elliptical, northeast-trending area of Tertiary intrusive activity consisting of a central

porphyritic stock surrounded by a halo of northerly and northeasterly-trending porphyritic dyke swarms intruded into Mesozoic granodiorite and syenite. Soil geochemical response and assays of grab samples from the trenches suggest that the porphyry system is weakly enriched in gold, molybdenum, silver and tungsten.

The occurrence exhibits characteristic hypogene alteration zoning of porphyry copper systems, decreasing outward from a potassic core to propylitic alteration in surrounding country rocks. All facies of alteration are present although they are not strongly developed.

Textures in the Tertiary intrusive rocks suggest a shallow depth of emplacement. This observation, coupled with the overall weak development of hypogene alteration and mineralization suggests that the porphyry system may only be partially unroofed by erosion. Several large, potentially economic gold-bearing porphyry copper systems occur nearby in a similar setting to the Stoddart Zone (e.g. Cash and Casino deposits). At least one 1,000 foot drill hole is recommended on the Stoddart Zone in 1982 to test the potential for similar mineralization at depth.

A 2,400 foot by 3,000 foot area (Northwest Zone) straddling the northern boundary of the Seymour claims was geochemically sampled and prospected during the 1981 field season to follow up a Dynasty 1974 arsenic soil anomaly. Seven subparallel linear gold soil anomalies were outlined on the Northwest Zone. The average orientation of the anomalies parallels direction of schistosity in the underlying metamorphic rocks, suggesting that gold-bearing quartz veins may be developed along these planes of structural weakness in a similar fashion to the Margarete, Augusta and Red Fox veins on the nearby Guder property. Gold anomalies are open to the north and west, outside of the Seymour claim boundary in presently unstaked ground.

Bulldozer trenching followed by prospecting, geologic mapping and sampling should be carried out to discover the source of the gold anomalies in this heavily vegetated area.

The following budget is recommended for 1982:

Gold Porphyry Zone

Metallurgical Testing	\$ 5,000	
Geochemical Survey and Assays	15,000	
I.P. Survey	5,000	
Bulldozer Rental (D7E to move drill)	22,000	
Diamond drilling (4000 feet of NQ size)	180,000	
Labour	46,000	
Field, Office, Travel Expenses	48,000	
Management	<u>14,000</u>	\$335,000

Stoddart Zone

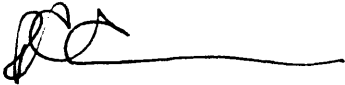
Bulldozer (D7E to move drill)	\$ 1,500	
Diamond drilling (1000 feet of NQ size)	45,000	
Assaying	5,000	
Labour	12,000	
Field, Office, Travel Expenses	13,000	
Management	<u>4,500</u>	\$ 81,000

Northwest Zone

Bulldozer trenching (D7E with ripper)	\$ 7,000	
Labour	10,000	
Assaying	5,000	
Field, Office, Travel Expenses	10,000	
Management	<u>2,000</u>	<u>\$ 34,000</u>
	TOTAL:	<u>\$450,000</u>

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED



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PART I

GENERAL

PART I - GENERAL

INTRODUCTION

In 1975, a low grade gold-silver porphyry occurrence was located in the Mount Freegold area, Yukon by Discovery Mines Ltd. The ground was optioned that year by Rayrock Mines Ltd. which explored the zone with soil sampling and diamond drilling. The program was terminated 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 Rayrock Mines Ltd. and contracted Archer, Cathro & Associates Limited to supervise a program of surface exploration under the name Freegold Project. 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. The Guder claims first received work in the 1930's. Since that time a variety of operators have outlined several gold-bearing veins, skarns and breccia zones on the property.

The Freegold Project 1980 exploration program involved geological mapping, relogging of old drill core and grid soil sampling which further outlined the gold-silver porphyry target.

Arctic Red Resources Corp. extended the Freegold Project holdings on the west side by staking 44 Seymour claims over a potential gold-bearing porphyry copper target which had been outlined by earlier exploration in the mid-1970's.

Freegold Project work during 1981 consisted of 3,910 feet of diamond drilling in ten holes on the Gold Porphyry Zone with accompanying detailed geologic mapping and geophysical surveys. The Cabin Zone, a hydrothermally altered area of brecciation on the Guder Option was examined by soil sampling and bulldozer trenching. Other known showings on the property were briefly prospected and evaluated.

The porphyry copper-gold occurrence on the Seymour claims, the Stoddart Zone, was delineated by geochemical sampling and detailed mapping of bulldozer trenches.

PROPERTY

The Freegold Project property consists of 32 leased and 175 unleased mineral claims that form a rectangular block approximately 2.5 miles wide and 6.25 miles long (Figure F1). Unoptioned claims within this block are the privately held Pauline 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 pages.

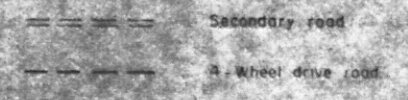
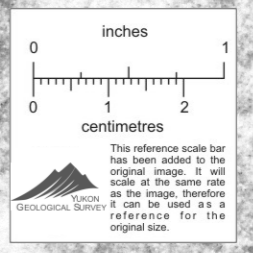
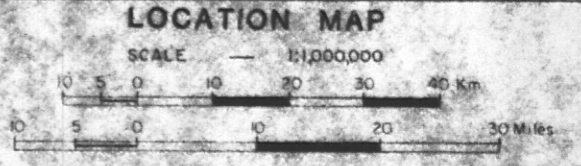
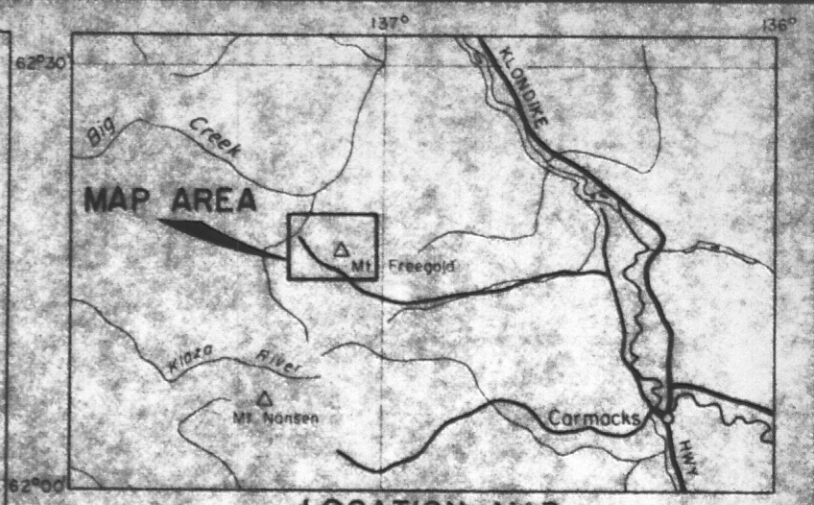
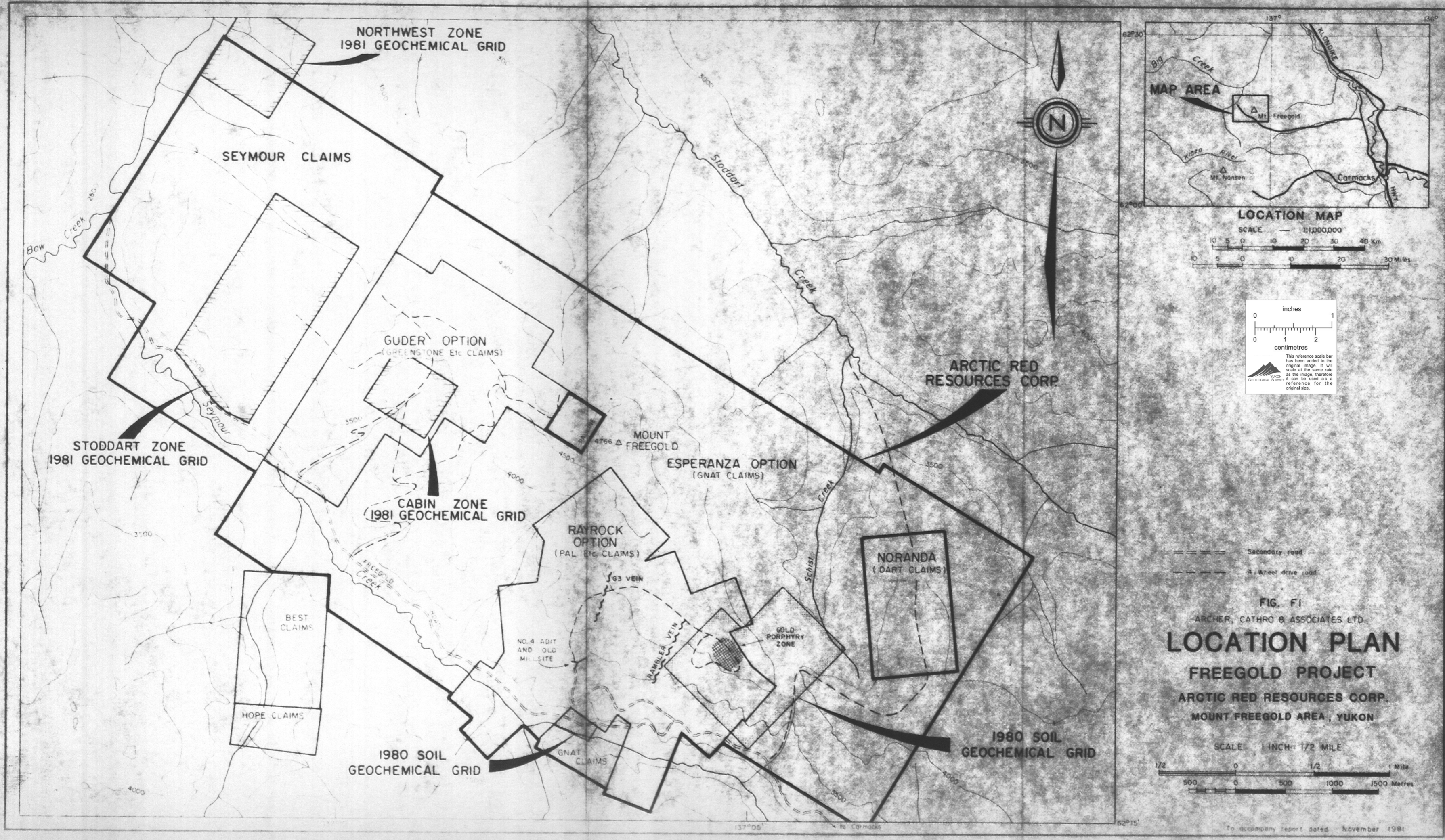
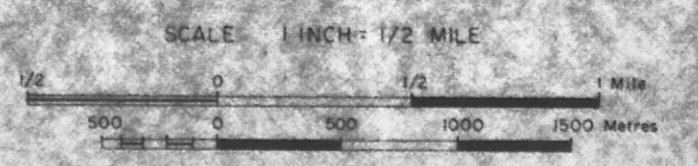


FIG. F1
ARCHER, CATHRO & ASSOCIATES LTD.
LOCATION PLAN
FREEGOLD PROJECT
ARCTIC RED RESOURCES CORP.
MOUNT FREEGOLD AREA, YUKON



CLAIM SUMMARY

Guder Option (22 claims)

<u>Claim Name</u>	<u>Grant Number</u>	<u>Expiry Date</u>
Vindicator 1	60422	December 12, 1982
Vindicator 2	60423	December 12, 1982
Excelsior 1	63639	December 12, 1982
Excelsior 2	63640	December 12, 1982
Excelsior 3	63641	December 12, 1982
Liberty	63638	December 12, 1982
Augusta	15494	December 12, 1982
Margarete	15505	December 12, 1982
Shearzone 1	60420	December 12, 1982
Shearzone 2	60421	December 12, 1982
Peerless	15549	December 12, 1982
Goldstar	15519	December 12, 1982
Goldstar Fraction	Y80600	September 6, 1983
Progress 1	73464	December 12, 1982
Progress 2	73465	December 12, 1982
Greenstone 1-4	90465-90468	December 12, 1982
Greenstone 5	91056	December 12, 1982
Greenstone 6 Fraction	Y21094	December 12, 1982
Protection 1	15677	December 12, 1982

Discovery Option (32 claims)

<u>Claim Name</u>	<u>Lease Number</u>	<u>Expiry Date</u>
Mayflower	790	March 19, 2001
Kim Fraction	791	March 19, 2001
Liz Fraction	792	March 19, 2001
Loon Fraction	793	March 19, 2001
Yukonia No. 1	794	March 19, 2001
Yukonia No. 2	795	March 19, 2001
Yukonia No. 3	796	March 19, 2001
Yukonia No. 4	797	March 19, 2001
Yukonia No. 5	798	March 19, 2001
Yukonia No. 6	799	March 19, 2001
Key Fraction	800	March 19, 2001
Pal	801	March 19, 2001
Mona	802	March 19, 2001
Neil	803	March 19, 2001
Baker	804	March 19, 2001
Connie	805	March 19, 2001
Bill Fraction	806	March 19, 2001
Jim	807	March 19, 2001
Goose	808	March 19, 2001

<u>Claim Name</u>	<u>Lease Number</u>	<u>Expiry Date</u>
Mill No. 1	809	March 19, 2001
Mill No. 2	810	March 19, 2001
Mill No. 3	811	March 19, 2001
Donalda No. 1	812	March 19, 2001
Donalda No. 2	813	March 19, 2001
Donalda No. 3	814	March 19, 2001
Donalda No. 4	815	March 19, 2001
Donalda No. 5	816	March 19, 2001
Donalda No. 6	817	March 19, 2001
Donalda No. 7	818	March 19, 2001
Donalda No. 8	819	March 19, 2001
Donalda No. 9	820	March 19, 2001
Donalda No. 13	821	March 19, 2001

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

Arctic Red Claims (44 claims)

<u>Claim Name</u>	<u>Grant Number</u>	<u>Expiry Date*</u>
Seymour 1-44	YA60053-YA60096	May 19, 1985

*Pending acceptance of an assessment report on work to be filed later this year.

LOCATION AND ACCESS

The claims lie within NTS claim map area 1151/6 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 located near the junction of the Klondike and Robert Campbell Highways and lies 110 road miles north of Whitehorse.

The Freegold road is open to summer wheeled traffic only. Upgrading during 1981 by the Yukon Territorial Government included culverting and repair of bridge crossings of major creeks. Freegold Project's properties are accessible by a network of 4-wheel drive bulldozer roads from several points along the Freegold Road.

LOGISTICS

The Freegold Project crew consisted of party chief J. Duke and assistants M. Legassicke and R. Phillips. Geologist M.P. Phillips provided senior supervision and was responsible for core logging and geological mapping. The crew mobilized to the property from Carmacks on May 25th 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 slopes of Mount Freegold.

A 4-wheel drive pickup truck was used to transport personnel between the camp and work sites. Camp mobilization was accomplished using a five ton truck while a 3/4 ton panel truck was used for transportation between camp and Whitehorse. The D7-E bulldozer used for drill moves and trenching was walked in from Carmacks. The drill was delivered to the camp area by high-boy trailer truck and skidded to the area of drilling with the bulldozer. The drill program started on June 6th and was completed on July 3rd. The sampling and geological program was completed on July 31st and the camp was demobilized to Whitehorse over the next two days. There were no injuries on the job and no days were lost due to weather.

GEOLOGICAL SETTING

General

The Freegold Project 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 F2 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 overlies older rocks elsewhere in the district. The Gold Porphyry Zone (Tertiary Complex) as shown on Figure F2 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. A summary description of each unit follows:

Early Paleozoic or Older

Schist Gneiss Unit (Ppsn) - 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 (Trgdm) - 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 characterized by coarse (over 1 cm) pink K-feldspar and greenish hornblende phenocrysts.

Hornblende Granodiorite (Mgd) - 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 unit 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 andesite. Locally grades into feldspar porphyry (Tfp).

Structure

The dominant structural element of the district is the Big Creek Fault, of which the Camp Fault and its subparallel branches on the Freegold Property appear to be related. 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, Cash and Casino porphyry copper-gold deposits.

GEOCHEMICAL TECHNIQUES

Soil samples from the Seymour claims were taken along cut lines established for an earlier survey conducted by Dynasty Exploration in 1974. Samples were located at 100 foot intervals on the cut lines with a Hip-chain measuring device. Each sample was obtained from a B+C soil horizon by digging through surface organic matter and volcanic ash with a mattock. Proper samples were easily obtained 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 size. Samples were analyzed for various metals, different for each area. 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. Silver and molybdenum values in ppm were determined by atomic absorption spectrometry of a nitric-perchloric acid extraction. Tungsten was analyzed with a colourimetric determination after fusing with potassium disulfate,

leaching with concentrated HCl, extracting into an amyl acetate solution containing dithiotoluene, and reducing interfering elements with stannous fluoride in a hot water bath.

DIAMOND DRILLING

The Longyear 38 diamond drill used for the 1981 drilling program on the Gold Porphyry Zone was supplied by Amity Drilling Limited of Whitehorse at a contract rate of \$26.95 per foot using NQ-sized equipment. The only source of water for the program was seepage from the Laforma No. 4 portal, a distance of over 7,000 feet from the area of drilling. This necessitated use of a steel water line and several staging pumps. Average rate of drilling, including moves, was 134.8 feet per day. Interestingly, the 1975 drilling average was almost exactly identical at a rate of 134.5 feet per day.

All drill core was split and sent to Chemex Labs for gold geochemical assay in parts per billion (ppb) using a fire assay and neutron activation technique. Core was also assayed for silver in parts per million (ppm) using a standard acid extraction-atomic absorption technique. The only exception was Hole AR 81-02 where the final gold assay was obtained using an atomic absorption finish in order to get the results quicker. The first 3 holes were sampled in 5 foot intervals and the remaining holes in 10 foot intervals. Each core split was further halved on the property (prior to shipment to Chemex) using a jaw crusher and Jones splitter. These split quarter samples are stored in the mill building at the No. 4 adit site and can be retrieved as required for test metallurgical work, check assaying or petrological studies. No check assaying has been done. The boxes of halved core are stored in nearby core racks.

A summary of diamond drilling on the Gold Porphyry Zone is given on the next page.

FREEGOLD PROJECT

1981 DRILL HOLE DATA

Hole No.	Depth(Ft)		Azimuth	Dip	Date		Base Line	Co-ords.		Mine Co-ords.			Core Recovery
	Final	Cum.			Started	Ended		N/S	E/W	North	East	Elev.	
AR81-01	342	342	135°	-50°	June 6/81	June 10/81	"F" Ext.	11+00N	1+35E	4,205N	9,956E	4172	94.7
AR81-02	382	724	315°	-50°	June 10/81	June 13/81	"E"	2+00S	3+45W	4,260N	8,205E	3829	96.9
AK81-03	412	1136	135°	-50°	June 14/81	June 16/81	"E"	2+00S	3+30W	4,250N	8,220E	3829	88.3
AR81-04	357	1493	315°	-50°	June 16/81	June 19/81	"E"	2+00S	4+93E	3,690N	8,850E	3802	94.1
AR81-05	412	1905	295°	-50°	June 20/81	June 22/81	"E"	25 ft. grid N of 6N	6+45W	5,060N	8,490E	4202	96.0
AR81-06	427	2332	315°	-50°	June 22/81	June 24/81	"E"	4N	5+50E	4,090N	9,265E	3987	80.7
AR81-07	397	2729	315°	-50°	June 25/81	June 27/81	"E"	1+62N	2+82W	4,495N	8,495E	3907	91.7
AR81-08	372	3101	315°	-50°	June 27/81	June 28/81	"E"	6N	2+45W	4,760N	8,788E	4127	92.1
AR81-09	397	3498	135°	-50°	June 29/81	July 1/81	"E"	6N	2+45W	4,760N	8,788E	4127	91.1
AR81-10	412	3910	295°	-50°	July 1/81	July 3/81	"E"	4N	65 ft. Grid N. of 5 + 45W	4,870N	8,480E	4125	94.7

BULLDOZER

A Caterpillar D7-E bulldozer equipped with blade and ripper was contracted by Freegold Project from J-Nor Enterprises of Carmacks at the rate of \$75/hr (including operator). Overall fuel costs including transportation to the property amounted to an additional \$22/hr. The bulldozer was used to prepare roads for drill moves, to prepare drill sites and to skid the drill between drill sites. Access to all areas of interest on Freegold Project claims was also upgraded to "4-wheel drive" status. The bulldozer was further used to clean out old bulldozer trenches on the Guder and Seymour claims. Details of bulldozer utilization are given below:

<u>Rayrock Option</u> - roads, diamond drill moves	- 146 hours
<u>Guder Option</u> - roads, trenches	- 21 hours
<u>Seymour Claims</u> - trenches	- 52 hours
Mobilization from Carmacks including upgrading Freegold Road	- 17 hours
	<hr/>
	236 hours

PART II

RAYROCK OPTION

PART II - RAYROCK OPTION

GENERAL

In 1975, a low-grade gold-silver porphyry occurrence was located in the Mount Freegold area, Yukon, by Discovery Mines Ltd. The claims were optioned to Rayrock Mines Ltd. which explored that year with grid soil sampling 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 Rayrock Mines Ltd. and contracted Archer, Cathro & Associates Limited to supervise a program of surface exploration. In May 1980, Esperanza Exploration Ltd. optioned these interests to Arctic Red Resources Corp. which subsequently acquired the remaining claims held by Rayrock Mines Ltd. in the Freegold area. The Archer, Cathro program is being conducted under the name Freegold Project.

More than ten northeast-trending quartz veins are located on the Rayrock optioned claims. These cut strongly altered intrusive rocks (Figure F2) which range in age from early Mesozoic (My and Mgd) to Tertiary (Tfp). The best vein, the G3, is a shear zone up to 8 ft wide containing lenses of broken, brownish-stained vein quartz, occasionally grey with finely disseminated pyrite and arsenopyrite. Seams of sulphides, consisting of crushed pyrite and occasionally arsenopyrite, sphalerite and galena, are also present. The gold occurs mainly as fine disseminations of free gold in the quartz. The granitic material in the shear zone is almost completely altered to clay and sericite and the wall rocks exhibit similar alteration. The G3 zone has been explored underground for a length of more than 1400 ft and through a vertical range of about 600 ft. The 1939-40 production recovered 1437 oz gold (exclusive of 52 tons of sulphide concentrate). Discovery recovered 1604 oz gold and

570 oz silver in 1965-66. Reserves were calculated as 68,546 tons upgrading 0.44 oz/ton Au across a 4.0 ft mining width above the 4th level after mining ceased in 1966.

The present target of investigation is a precious metal-bearing breccia body located 4000 feet east of the G3 vein. 1980 exploration for Freegold Project consisted of grid soil sampling and surface mapping to outline the extent of the gold-silver porphyry target. In addition, the 1975 drill core was relogged and two of the holes were resampled. Results of this work were summarized in the 1980 Final Report for Freegold Project, dated November, 1980 and in two 1981 Addendum to the final report dealing with results of reanalyses of soil samples and drill core for trace metals.

The 1981 exploration program on the Gold Porphyry Zone consisted of 3910 feet of diamond drilling in ten holes, geophysical surveys, and detailed geologic mapping of approximately two miles of bulldozer road built in conjunction with the drill program.

GOLD PORPHYRY ZONE

Geology

Geology of the Gold Porphyry Zone is shown on Figure F4. Detailed geology of a small part of the zone is shown on Figure F4a. In general the target of investigation is a sub-triangular body with maximum north-south dimensions of 1300 feet and maximum east-west dimensions of 1600 feet. Contacts between the various Tertiary phases have an overall northeasterly trend.

Oldest rocks consist of Triassic (?) aged hornblende syenite (Mysen), a dark coloured, coarse-grained porphyritic rock with up to 30% euhedral hornblende and 70% orthoclase phenocrysts. Contact zones with younger Tertiary rocks are almost always brecciated (Mbrsy).

Jurassic (?) hornblende granodiorite (Mgrdr) underlies most of the west half of the Rayrock Option. The dark coloured, medium-grained, equigranular rock contains 10-15% hornblende, minor biotite and scattered orthoclase phenocrysts. As with the syenite, contact zones with Tertiary rocks are brecciated (Mbrgd).

Tertiary intrusive bodies range in size from thin dykes (less than one foot wide) to plugs or small stocks. Petrology of the various phases is varied but most appear to contemporaneous or nearly so. All phases occur as discrete dykes in the Freegold Mountain area while they are concentrated in the Gold Porphyry Zone as irregular dyke-like bodies with lensoid plan sections and near vertical walls. Descriptions of the Tertiary rocks range through felsite, quartz porphyry, feldspar porphyry and feldspar-quartz porphyry to quartz-feldspar-biotite-hornblende porphyry (Figure F4). Felsite dykes appear to be youngest of the suite and show most evidence of contemporaneous faulting through brecciated contact zones. The Tertiary acid intrusive activity culminated with injection of a dome-like porphyritic granite plug at the southern end of the sub-triangular intrusive complex (Figure F4). Dark green andesite dykes (Tands) of the Mount Nansen group cut most lithologies.

Geochemistry

Results of soil geochemical surveys over the Gold Porphyry Zone were reported on in the 1980 Freegold Final Report and in an Addendum to the 1980 Final Report. In general, two types of mineralization were outlined by the surveys. The northeast part of the mineralized breccia body is silver-rich, with respect to gold and the silver anomalies are associated with high values of lead and zinc. In contrast, the southeast part of the zone returned high gold and lower silver values with coincident bismuth and tellurium anomalies. Nearby, parallel zones were weakly anomalous in tungsten and molybdenum. An outline of the gold anomaly is shown on Figure F5.

Geophysics

Results of Induced Polarization, V.L.F. and magnetometer surveys conducted during the 1981 field season by Phoenix Geophysics Limited were not available at the time of writing. A preliminary summary of the I.P. survey was provided midway through the field program. These results are shown on Figure F6. Anomalous and possibly anomalous I.P. response outlines two northeasterly-trending subparallel zones which continue southwest off the area surveyed. The two geophysically anomalous zones correspond well with the area of strong gold response in soils (Figure F5).

Diamond Drill Results

The 1981 diamond drilling program on the Gold Porphyry Zone consisted of 3910 feet in ten NQ-sized holes. Drill hole locations are shown on Figure F3. Logistical details of the program are summarized in Table II and discussed in Part I of this report under the heading "Diamond Drilling". Drill logs are included as Appendix A in Pocket XYZ while detailed assay results are tabulated in Appendix B appearing at the end of this report text. Both assays and geology of the drill holes are also given in drill sections shown on Figures F7a to F7g. Results of the drill program are summarized below.

DDH AR81-01 (Figure F7a):

DDH AR81-01 was drilled to test the northeast area of the Gold Porphyry Zone near the breccia contact where soil samples returned anomalous values in lead, zinc, silver and mercury.

The hole cut dominately Tertiary felsite (Tf1st) and felsite breccia (Tbrf1) and bottomed in Mesozoic syenite breccia (Mbrsy), suggesting proximity to the edge of the Tertiary breccia complex.

Deep supergene alteration is overprinted on hypogene alteration, altering sulphide minerals to limonite. The occasional narrow fresher sections suggest the hypogene alteration is in the strong propylitic to moderate kaolinitic (argillic) facies.

Assays were generally low, with gold values ranging from trace amounts to 390 ppb (0.01 oz/t) gold and trace amounts to 1.74 oz/t silver. Highest silver/gold ratios were recorded in this hole reflecting the high silver/gold ratios of soil samples from the surrounding area.

DDH's AR81-02, AR81-03 and AR81-04 (Figure F7b):

Drill holes AR81-02, AR81-03 and AR81-04 were drilled in a fence south of the Tertiary intrusive complex to test two subparallel northeast-trending gold-bismuth-telluric anomalies with coincident anomalous I.P. response.

The three holes passed through granodiorite (Mgrdr) into a Tertiary granite dome or stock (Tgran). The border phase of the granite is a quartz-feldspar porphyry (Tppfq) with a chilled outer contact. A quartz vein stockwork is developed in the intruded granodiorite along the shallow dipping westerly margin of the stock. Significant gold mineralization was encountered from this zone in drill holes AR81-02 and AR81-03. Two types of veining are present: pyrite veinlets containing minor quartz with dark green sericitic selvages (Q1) and phyllic veining with quartz, sericite and pyrite (Q2). The Q1 type are up to 1/4 inch in width and grade with increasing quartz to 12 inch wide Q2 veins. Vein quartz is usually vuggy. Country rock around the veins exhibits hypogene alteration grading over a short distance from advanced argillic (kaolinitic) through montmorillonitic to propylitic alteration and, finally, fresh rock. Visible gold, stibnite, jamesonite and an unidentified bluish-black sulfosalt mineral occur sporadically in the quartz. Analyses of core from the zone in the granodiorite cut by holes AR81-02 and AR81-03 included broad zones with values greater than 0.02 oz/t Au (Figure F7b). No high grade values were encountered over the five foot assay widths however. Best assay was 0.09 oz/t Au with 2.6 ppm Ag.

The drill holes cut the veins at a low angle, often along the plane of the

structures for a short distance. Mapping of bedrock exposed in a road cut (Figure F4a) reveals that the veins strike between azimuths of 325° to 019° and dip steeply. A plot of the vein intensity shows that the strongest veining is arrayed as a halo around the granodiorite contact. A strong correlation exists between vein quantity-intensity and gold content. This relationship was also noted in a similar setting in hole R75-22, located some 200 feet north of hole AR81-02, where assays averaged 0.06 oz/t gold over 75 feet.

Diamond drill hole AR81-04 was drilled at the opposite side of the Tertiary granite body. Granodiorite was encountered at the top of the hole which passed into porphyritic granite across a sheared contact. Q2 veining here occurs in both the granodiorite and Tertiary granite although with a low overall density and intensity. Corresponding gold assays were low with only a twenty foot interval recording 0.02 oz/t Au.

DDH's AR81-05 and AR81-10 (Figures F7c and F7g):

Hole AR81-05 was drilled to test a gold geochemical anomaly coincident with strong I.P. response in an area located approximately halfway between the Rambler Vein and the Tertiary intrusive complex.

The hole was collared in granodiorite (Mgdr) and passed through two narrow, brecciated felsite dykes near the top. A 100 foot wide zone of brecciated felsite was also encountered near the bottom of the hole. Abundant loosely packed granodiorite fragments occur near the outer contacts of the breccia zone, giving way to felsite fragments in the interior. Matrix consists of aphanitic to very fine-grained felsite. This zone has the strongest overall alteration yet seen. Quartz veining is absent. Pyrite contents range up to 5% as fine disseminations and narrow veinlets near the top of the intersection. A finely disseminated acicular mineral, possibly jamesonite occurs in amounts of less than one half percent. Minor arsenopyrite is also present. A twenty foot interval at the base or west side of the breccia zone contains the

only significant values, assaying 0.02 oz/t gold with 2.9 ppm silver.

Hole AR81-10 was drilled to test the south extension of the breccia zone encountered in hole AR81-05 before the generally negative assays were received for the former hole. A wide zone of brecciated felsite was cut in the bottom half of the hole. Alteration ranges from propylitic to moderate argillic in the granodiorite country rock and from moderate argillic to advanced argillic in the brecciated Tertiary felsite and border phases of the granodiorite. Pyrite reaches quantities of 3% as disseminations in the breccia zone. Sulfosalt minerals occur in trace amounts only. A twenty foot interval in the breccia produced the only significant assay, 0.02 oz/t gold with 0.1 ppm silver.

DDH AR81-06 (Figure F7d):

Hole AR81-06 was drilled to test coincident gold geochemical and I.P. anomalies immediately east of the Tertiary intrusive complex. A 40 foot wide felsite breccia zone (Tbrf1) was encountered near the bottom of the hole. Moderate kaolinitic (argillic) alteration is presented in the breccia zone while the sheared and brecciated granodiorite country rock (Mgrdr) exhibits incipient montmorillonitic (argillic) alteration at best. The breccia zone contains up to 3% pyrite as disseminations and veinlets. Disseminated arsenopyrite is present in amounts less than one half percent. Trace amounts of stibnite were also encountered. The axis of the I.P. conductor coincides with the pyritized breccia zone which assayed 0.055 oz/t gold with 2.7 ppm silver over 50 feet.

DDH AR81-07 (Figure F7e):

Hole AR81-07 was located to test anomalous gold and bismuth soil values near the southwest limit of the Tertiary intrusive complex. The hole encountered mostly felsite (Tflst) with lesser narrow zones of felsite breccia (Tbrf1), bottoming in granodiorite (Mgrdr). Alteration at the top of the hole ranged as high as advanced argillic (kaolinitic) decreasing in tenor to weak argillic (montmorillonitic) at the

bottom. A few weakly developed zones of phyllic veining (Q2) were encountered midway down the hole. Pyrite content averages about 3% throughout increasing to 5% in the felsite breccia zone. Disseminated arsenopyrite occurs in trace amounts throughout. Best assays were received from border phases of the felsite breccia body. The eastern margin ran 0.036 oz/t gold and 1.1 ppm silver over 50 feet while the western margin assayed 0.026 oz/t gold and 1.1 ppm silver over 20 feet.

DDH AR81-08 and AR81-09 (Figure F7f):

Holes AR81-08 and AR81-09 were drilled to test the western margin of the Tertiary intrusive complex where anomalous gold and bismuth soil geochemistry coincided with a broad I.P. conductor. Hole AR81-08 cut alternating zones of Tertiary quartz feldspar porphyry (Tppfq) and brecciated felsite intruded into older granodiorite (Mgrdr). Brecciated Tertiary rocks show best alteration which ranges up to weak to moderate kaolinitic (argillic) facies. Finely disseminated pyrite throughout the intersection ranges from 1-3% in quantity. Other sulphide or sulfosalt minerals were not seen. Quartz vein development is weak over scattered intervals. No significant gold or silver assays were recorded.

Hole AR81-09, collared at the same location as AR81-08, tested the eastern half of the broad geochemical and geophysical anomaly. Drilling encountered almost continuous Tertiary felsite breccia (Tbrfl) with a few narrow zones of unbrecciated rock. Hypogene alteration ranges from weak to moderate strength kaolinitic (argillic) at the top, decreasing to strong montmorillonitic (argillic) at the bottom of the hole. No quartz veining was seen. Sulphide mineralization, as disseminations, consists of approximately equal amounts of pyrite and arsenopyrite, ranging up to 3 or 5%. Zones of greater than 0.02 oz/t gold were encountered throughout the hole with the best portion averaging 0.031 oz/t gold and 2.5 ppm silver over 90 feet.

SUMMARY

Soil geochemical and geophysical surveys over the Gold Porphyry Zone have outlined a large area of potentially gold-bearing rock. Widespread drilling over the best targets by Rayrock Mines Ltd. in 1975 and Freegold Project in 1981 have further defined the grade and geologic setting of mineralization. Assay results have so far been discouraging although widespread zones grading 0.02 oz/t gold or better have been outlined over widths as great as 90 feet. Distribution of these intersections are shown on Figure F5. The highest frequency of assays exceeding 0.02 oz/t gold occur in a 1300 foot long, northeasterly-trending zone which averages 500 feet in width. Textures in drill core suggest that brecciation in Mesozoic and younger Tertiary intrusive rocks accompanied the Tertiary igneous activity, perhaps as part of a much larger caldera collapse system. Gold mineralization is broadly associated with centres of Tertiary igneous activity and further concentrated by ground preparation provided by the syn-intrusive faulting. Throughout the Freegold district, best mineralization is developed in northeasterly-trending vein faults. Continuous quartz veins such as the G3 and Rambler veins are developed in brittle Mesozoic granitic rocks while the near surface syn-intrusive tectonic environment of the Gold Porphyry Zone has resulted in widespread areas of permeability.

Hydrothermal alteration and accompanying gold mineralization in the Gold Porphyry Zone are best developed in concentrated areas of fracturing such as the margins of the Tertiary granitic stock which borders the south end of the Tertiary intrusive complex. Concentration of fracturing should increase with deeper levels of emplacement of Tertiary igneous rocks. To this end, best mineralization was recorded from the southernmost and lowest intersections topographically.

Silver-gold ratios show rough zonation across the area explored. For example,

Ag/Au ratios for hole R75-02, located at the north end of the zone, consistently average 6.3:1; Ag/Au ratios for hole AR81-09 (located about 400 feet southwest of DDH R75-02) average 1.9:1; Ag/Au ratios for holes AR81-07/R75-21 (a further 400 feet to the southwest) average 2.3:1; and Ag/Au ratios for holes AR81-02 and AR81-03, located at the southwest end of the area investigated, average 0.9:1. The 1980 multi-element analysis of soil samples from the Gold Porphyry Zone further suggests that high background values of base metals are associated with the northernmost relatively silver-rich zones. This apparent zonation is accomplished over a vertical difference of roughly 400 feet. Silver and base metal-enriched zones are commonly developed near the tops of epithermal gold systems, giving way to more highly enriched gold-bearing zones at depth.

Best gold values are associated with phyllic alteration and accompanying pyritization of host rocks. I.P. accordingly remains a good geophysical tool for outlining mineralization. Gold, bismuth and, to a lesser degree , tellurium soil geochemical surveys also appear effective in outlining gold mineralization discovered to date.

Strong untested I.P. and soil geochemical anomalies continue southwesterly for a distance of 600 feet along the northeasterly trend of gold mineralization discovered on the Gold Porphyry Zone. The anomalies are open to the southwest in unsurveyed ground. In view of the fact that tenor of gold mineralization increases southwesterly along this trend with increasing depth of exposure into the hydrothermal system, further geochemical and geophysical surveys in this direction followed by diamond drilling are recommended. Also, consideration should be given to deeper drilling along the zone defined by the 1975 and 1981 drilling.

PART III

GUDER OPTION

PART III - GUDER OPTION

GENERAL

Gold was first discovered in 1930 on Mount Freegold by Fred Guder. His holdings, optioned by Arctic Red in 1980, consist of 20 claims and 2 fractions (collectively referred to as the Gold Star Group) located on the west side of Freegold Mountain. Guder's work on the property has essentially consisted of prospecting with follow-up hand pits and small shafts on two high-grade surface showings known as the Augusta and Margarete Zones. In 1959 Conwest, under option, drilled ten holes on the Margarete Zone with disappointing results due primarily to poor core recovery (less than 10%) of mineralized intersections. The Gold Star Group was optioned in 1969 by Yukon Revenue Mines Ltd. which conducted bulldozer trenching and mapping and in 1973 to Prism Resources which carried out a magnetometer survey to outline possible extensions of the magnetite-rich Augusta Zone. Prism's option was transferred in 1974 to Dynasty Explorations Ltd. which followed up the magnetometer anomalies with grid soil sampling for copper, lead and arsenic. The magnetic anomaly and the two previously known zones were further delineated with bulldozer trenching and diamond drilling. Trenches were sampled by assaying 5 foot panel samples for gold and silver. Dynasty dropped its option on the property after concluding that high-grade surface values from the Augusta and Margarete Zones were due to surface enrichment of relatively low-grade gold and silver mineralization in the unglaciated terrain. The most thorough description of geology and showings in the area is that of Johnston in 1937 (GSC Mem 214).

Freegold Project work on the Guder Option during 1981 consisted of soil sampling, bulldozer trenching and prospecting over the Cabin Zone (Figure F1). The Margarete Zone, Skarn Zone, Augusta Zone and Red Fox Vein were briefly examined by either M.P. Phillips or R.C. Carne. Prospecting was carried out over the Castle Zone, an area of

intense hydrothermal alteration located about 1/2 mile north of the Guder Option on unstacked ground (Figure F1). Much of the earlier work on the Guder Option was summarized in an April 1981 Addendum to the 1980 Freegold Final Report. That information is included in the following sections.

After suffering a stroke, Fred Guder passed away in Whitehorse this summer. His remains were cremated and his ashes sprinkled over Mount Freegold by helicopter.

CABIN ZONE

Little data is available on previous work conducted on the Cabin Zone which is located on a south-facing slope in the south-central part of the Guder Option. Pyrite, tourmaline and molybdenite occurrences accompanied by intense hydrothermal alteration were reported by Dynasty. Grab samples collected from a narrow quartz vein by Yukon Revenue in 1969 assayed 0.40 oz/ton Au, 5.48 oz/ton Ag and 0.46 oz/ton Au with 0.6 oz/ton Ag.

Freegold Project's 1981 work on the Cabin Zone consisted of 161 soil samples collected over a 2000 foot by 2400 foot area on cross lines spaced at 400 foot intervals with samples taken every 100 feet. Dynasty's 1974 bulldozer trenches across the zone were cleaned out and deepened.

Gold geochemistry of the Cabin Zone is shown on Figure F8. Scattered, single sample anomalies greater than the 30 ppb threshold value are located throughout the area sampled and are probably due to erratic surface enrichment in the deeply weathered soil profile. A 300 foot by 650 foot area of anomalous values is located in the central part of the grid, over the area of mineralization and alteration reported by earlier workers. Tenor of the anomaly is weak with a maximum value of 189 ppb gold.

Inspection of the trench material revealed that much of the earlier reported hypogene alteration is, in fact, overprinted kaolinitic supergene alteration as a result of intense weathering of the host Mesozoic granodiorite (Mgd). No mineralization was seen with the exception of weakly developed limonitic stains indicating the presence of disseminated pyrite. Silicification is restricted to narrow selvages around weakly developed quartz-feldspar stockworks. Potential for bulk tonnage gold mineralization appears negligible .

MARGARETE ZONE

Fred Guder's intermittent exploration activity on the Margarete Zone since the 1930's has involved hand trenching and the sinking of two shafts. Conwest drilled five short holes totalling 1013 ft. on the structure in 1959. During 1974, Dynasty conducted bulldozer trenching and diamond drilling on the zone.

A vein or shear zone has been traced over 1800 ft. along strike and to a depth of about 120 ft. by three diamond drill holes. The structure consists of a near-vertical, east-west striking, wandering, irregular zone of quartz veins within and adjacent to an altered quartz-feldspar porphyry dyke. The zone lacks sharp boundaries and generally varies between one foot and five feet thick. The bluish grey quartz-veins and silicified wall rock contains abundant disseminated subhedral pyrite with minor chalcopyrite and arsenopyrite. Nearly all sulphide minerals have been leached near surface, leaving boxworks and drusy vein quartz with limonite coatings and malachite stains. Visible gold has not been observed from the Margarete Zone. The veins appear to have followed structural weaknesses developed along schistosity in the host rocks which were injected with Tertiary quartz-feldspar porphyry. Assays obtained from the Margarete Zone are tabulated on the next page.

Sample Location	Au (oz/ton)	Ag (oz/ton)	Interval (ft)
Margarete shaft #1 (Johnston)	60.20	N/A	Grab
Margarete shaft #1 (Dynasty)	2.60	10.60	1.6
Margarete shaft #2 (Prism)	0.28	8.48	Grab
Drill hole (Conwest)	0.34 (poor recovery)	N/A	8.5
Trench D (Dynasty)	0.13	1.21	5.0
Trench G (Dynasty)	0.33	4.55	5.0
Trench H (Dynasty)	0.22	2.04	2.0
Trench S (Dynasty)	0.01	0.17	9.8
Trench T (Dynasty)	0.18	8.16	7.0
Trench U (Dynasty)	1.22	25.82	3.6
DDH G-1 (Dynasty)	0.05	1.40	5.0
DDH G-5 (Dynasty)	poor	recovery	---
DDH G-6 (Dynasty)	0.13	1.26	5.0
DDH G-7 (Dynasty)	0.02	0.18	5.0
DDH G-8 (Dynasty)	poor	recovery	---

Dynasty estimated that the central high grade part of the Margarete Zone contains 30,000 tons of material grading 0.42 oz/ton Au and 7.05 oz/ton Ag using a 5 foot minimum width. The higher surface values in precious metals over drill core were attributed to surface enrichment. Recalculation after weighting core samples 2:1 over surface samples yields an average grade of 0.20 oz/ton Au and 3.2 oz/ton Ag for the 30,000 tons. The Margarete Zone appears to be too discontinuous and small to receive further work.

SKARN ZONE

The Skarn Zone consists of a 3000 foot long magnetite-rich body which trends approximately east-west, occupying a position about 300 feet north of and parallel to the Margarete Zone. Magnetite mineralization was outlined by a ground magnetic survey conducted during 1973 by Prism Resources Ltd. Dynasty further tested the area in 1974 with nine cat trenches and three diamond drill holes. The zone varies up to 400 feet in width. Mineralization consists of magnetite, specular hematite, chlorite, epidote and quartz in a limonitic highly altered rock which grades laterally and along strike into magnetite-bearing, relatively unaltered amphibolite. The elongate zone is often accompanied by subparallel, altered and weakly mineralized

Tertiary quartz-feldspar porphyry dykes. Subparallel, narrower magnetite-rich zones occur over a total width of about 250 feet although none reach the size or grade of the main Skarn Zone. A summary of assays resulting from Dynasty's sampling is given below:

Sample Location	Au (oz/ton)	Ag (oz/ton)	Interval (ft)
Trench H (Dynasty)	tr	0.35	16
Trench J (Dynasty)	tr	tr	40
Trench K (Dynasty)	0.02	0.76	13
Trench Q (Dynasty)	tr	0.10	75
Trench R (Dynasty)	tr	0.25	56
Trench V (Dynasty)	tr	0.15	33
DDH G-2 (Dynasty)	0.01	2.30	5
DDH G-2 (Dynasty)	0.03	2.24	8
DDH G-3 (Dynasty)	tr	0.16	46
DDH G-4 (Dynasty)	tr	0.20	33

The Skarn Zone mineralization was interpreted by Dynasty as occurring within magnetite-chlorite epidote skarns developed within marble bodies in the country rock schists and gneisses. However, since the mineralized bodies grade laterally into unaltered magnetite-bearing amphibolite beds in every case, it is likely that the "skarns" are the result of propylitic hydrothermal alteration of Fe-rich amphibolites resulting in a magnetite-chlorite rock which superficially resembles magnetite skarn-type mineralization. The Skarn Zone, despite its low grade, has potential economic significance in terms of the widespread Tertiary hydrothermal activity it represents. However, no further work under the present option agreement is recommended.

RED FOX VEIN

An easterly-trending quartz vein has been traced for 100 feet in weakly altered schist and gneiss near the west boundary of Guder's claims. It contains lenses and lumps of sheared galena with minor sphalerite and chalcopryrite that vary in width from a few inches to several feet. A sample of massive galena from the zone assayed 130 oz/ton Ag, 62% Pb and 0.03% Zn. Prism reported that a band of galena 6 inches to 8 inches wide assayed 171 oz/ton Ag and 70% Pb. A 4 foot wide chip sample taken by Dynasty across a quartz breccia located at the west end of the Red Fox Zone assayed 0.11 oz/ton Au, 18.05 oz/ton Ag and 7.5% Pb. The vein follows a quartz porphyry dyke and may be an extension of the Margarete vein located to the southwest.

LIBERTY ZONE

Johnston (GSC Mem 214,1937) reported quartz veins containing sulphides and gold from an area located in the headwaters of Liberty Creek, about 1500 feet north of the Augusta Zone along the claim boundary between the Guder Option and Esperanza's Gnat claims. The veins, which seldom reach thicknesses of greater than two feet, lie within or adjacent to Tertiary quartz-feldspar porphyry dykes. They generally contain pyrite, chalcopryrite, galena, sphalerite, arsenopyrite and gold in a gangue of quartz with siderite and calcite. Minor tourmaline is present. In most veins the quartz is finely crystalline and dark blue-grey in colour, reportedly similar in nature to the productive gold-quartz veins on the nearby Laforma property. No assays were given in Johnston's report and the area was not investigated by Prism, Conwest or Dynasty. M.P. Phillips visited the area in 1981 for Freegold Project and reported that the limited and irregular nature of the veins accompanied with poorly developed alteration in the host rocks make the Liberty Zone a poor bulk tonnage

precious metal target.

AUGUSTA ZONE

The first discovery of lode gold on Freegold Mountain was made in 1930 by Fred Guder in a rubble pile of oxidized magnetite. The magnetite-rich body, known as the Augusta Zone, has been outlined by hand dug pits and trenches. It has an easterly-trending strike length of over 300 feet, varying in width from 5 feet to 15 feet. Visible gold is common and assays were rumoured to range from 0.2 oz/ton Au to 0.4 oz/ton Au. According to Dynasty mapping and sampling of bulldozer trenches, the principal mineral in the zone is magnetite, comprising about 40-70%, with lesser amounts of chlorite, epidote and quartz with accessory specular hematite, pyrite, chalcopyrite and metallic gold. Two stages of mineralization are evident. An initial stage of magnetite and silicate deposition followed by a second stage of quartz, sulphide and gold mineralization. Surface sampling of trenches revealed erratic distribution of gold with assays ranging up to 0.5 oz/ton Au and 5.2 oz/ton Ag over 9 feet. A list of assays received from the Augusta Zone is given below:

<u>Sample Location</u>	<u>Au (oz/ton)</u>	<u>Ag (oz/ton)</u>	<u>Interval (ft)</u>
Trench A (Dynasty)	0.50	5.20	9.0
Trench A (Dynasty)	0.24	4.82	5.0
Trench B (Dynasty)	0.18	10.12	5.0
Trench B (Dynasty)	0.97	13.90	Grab
Trench B (Dynasty)	0.50	0.40	Grab
Trench C (Dynasty)	0.05	3.51	6.0

Assuming continuity between the trenches, Dynasty geologist W.J. Roberts estimated that if the zone extended to a depth of 120 ft the tabular body contains approximately 12,000 tons grading 0.27 oz/ton Au and 6.20 oz/ton Ag.

CASTLE ZONE

The Castle Zone is located about one-half mile north of the Guder Option claim boundary. The area was originally staked in 1969 by Montana Mines Limited and explored with geochemical surveys in 1970. The ground was restaked in 1974 by the Carmacks Syndicate (Castlemaine Exploration Ltd., Welcome North Mines Ltd., W.M. Bath Investments Ltd. and Ventures West Capital Ltd.) and optioned to a joint venture between Western Mines Limited, Cream Silver Mines Ltd. and Belmoral Mines Ltd. which conducted soil geochemical and magnetic surveys later in the year. An elongate zone of hydrothermal alteration was outlined along a northeasterly-striking fault zone which separates Tertiary porphyritic intrusive rocks (Tfp) from Paleozoic metamorphic rocks (Ppsn), Triassic granodiorite (Trgdm) and Jurassic syenite (My). The alteration zone, best developed in the granodiorite contains a central core of advanced argillic and phyllic alteration which grades outward to weak propylitic alteration. Quartz veining with pyrite and minor amounts of chalcopyrite are seen peripheral to the central zone. Geochemical sampling revealed weakly anomalous copper and antimony values over the alteration zone. Gold and arsenic values were uniformly low.

The area was visited by M.P. Phillips in 1980 for Freegold Project. Details of samples taken from the alteration zone in 1980 are given on the next page.

Sample No.	Description	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)	Ag (ppm)
H41001	Altered Tfp	40	10	48	11	0.1
H41002	Soil at H41001	36	10	88	25	1.0
H41003	Soil sample	28	6	64	10	0.1
H41004	Soil sample	16	6	36	15	0.2
H41005	Soil sample	18	4	54	16	0.1
H41006	Soil sample	14	4	32	7	0.1
H41007	Soil sample	38	6	56	21	0.1
H41008	Soil at H41009	44	14	54	48	0.1
H41009	Altered Tfp	36	20	92	460	0.1
H41010	Altered Ppsn	12	8	46	16	0.1
H41011	Soil at H41011	26	38	46	12	0.2
H41012	Soil sample	32	10	72	15	0.1
H41013	Altered Tfp	6	4	26	22	0.1
H41014	Soil at H41013	32	2	90	6	0.2

The area was revisited and prospected by Freegold Project in 1981. Details of rock sampling are given below:

Sample No.	Description	Cu (ppm)	Mo (ppm)	Ag (ppm)	As (ppm)	W (ppm)	Au (ppb)
K23901	Altered Ppsn	42	1	0.2	63	2	<1
K23902	Unaltered Tfp	7	1	0.1	45	1	<1
K23903	Altered My	12	1	1.1	17	7	7
K23904	Sheared My	42	1	0.2	12	1	2
K23905	Altered Tfp	2	1	0.1	6	1	2
K23906	Altered My	124	1	0.2	9	1	33
K23907	Quartz vein	20	1	1.2	11	15	3
K23908	Altered My	12	94	0.1	9	6	2
K23909	Unaltered My	6	2	0.1	7	1	<1
K23910	Rusty My	950	12	6.5	135	5	149
K23911	Altered My	21	1	0.1	17	2	3

Results of soil and rock geochemistry for gold and its indicator metals are only mildly encouraging. Although a strongly developed porphyry copper-type alteration pattern is present, copper values in soils and rock samples from the zone are low.

SUMMARY

Gold-silver mineralization on the Guder Option occurs in three distinct modes:

- (i) as disseminations in easterly-trending tabular magnetite-chlorite bodies or lenses;
- (ii) in quartz-rich easterly-trending veins and shear zones, and
- (iii) in weakly altered breccia bodies which have an overall northeasterly trend, paralleling productive zones on the nearby Rayrock Option.

The magnetite-rich bodies (Augusta and Skarn Zones) have good aggregate tonnage potential but overall grade is poor with only erratic high gold values. Potentially economic precious metal grades are reported from veins and shear zones on the property (Margarete and Red Fox Veins) but tonnage is limited. The best potential for large sized gold-silver mineralization lies in the Cabin, Liberty and Castle breccia zones. Results of soil and rock sampling over these areas, however, suggests that mineralization is weakly and sporadically developed.

PART IV - SEYMOUR CLAIMS

GENERAL

The area of the Seymour claims was explored for gold veins by individual prospectors during the 1930's. First staking was recorded by R. Mckamey in 1969 as the Low claims which were optioned to a syndicate composed of Samson Mines Ltd. and Monarch Metal Mines Ltd. who conducted reconnaissance soil sampling before allowing the claims to expire. The ground was restaked in 1973 as the Ag and Au claims by E.D. Campbell and G.E. Smith who later optioned them to Prism Resources Ltd. and Dynasty Exploration Ltd. Grid soil sampling, a magnetometer survey and bulldozer trenching were carried out in 1974, followed by an I.P. survey in 1975. Minor porphyry copper mineralization accompanied with hydrothermal alteration were found to be associated with a Tertiary quartz porphyry stock. The results were not considered to be encouraging and the claims were allowed to lapse in 1980.

The ground was restaked as the Seymour 1-44 claims (Figure F1) by Arctic Red Resources in May, 1981 and explored during the 1981 field season as part of Freegold Project. Additional bulldozer trenching was carried out over the copper soil geochemical anomaly (Stoddart Zone) outlined by the Prism/Dynasty work and the central part of the old grid on the property was resampled to explore the possibility of gold mineralization in the porphyry system.

Geochemical sampling for gold was also carried out over a small area which straddles the northwest boundary of the Seymour claims. This area, known as the Northwest Zone (Figure F1), returned anomalous arsenic values during the 1974 Prism/Dynasty sampling program.

Limited prospecting was carried out over a small area near the southwest corner of the Seymour claims known as the Southwest Zone (Figure F2). The target of the investigation was a strong airphoto linear that has a trend similar to known mineralized structures in the area.

STODDART ZONE

Geology: Lithologies

Generalized geology of the Stoddart Zone area is shown on Figure F9. Results of detailed geological mapping of bulldozer trenches cut across the zone are shown on Figures F10a, F10b and F10c.

The oldest rock unit exposed in the area is a Triassic (?) biotite quartz monzonite (map unit My). This pinkish, medium-grained rock contains up to 5%, 10 mm diameter orthoclase phenocrysts, anhedral biotite up to 10% and less than 10% of a distinctive fine-to medium-grained quartz. This unit grades regionally into syenite with decreasing quartz content.

The biotite quartz monzonite is contained as an inlier within Jurassic (?) biotite-hornblende granodiorite (map unit Mgd). This fine-to medium-grained rock is distinguished by a 10% to 15% mafic mineral content with biotite normally occurring in lesser amounts than hornblende.

The Triassic and Jurassic plutonic rocks are intruded by a Tertiary porphyritic stock with an attendant cogenetic halo of northerly to northeasterly-trending porphyritic dyke swarms. The roughly elliptical stock has dimensions of 650 feet by 1600 feet. The larger area of dyke swarms measures 1400 feet by 3800 feet. Both stock and dyke swarms are elongated in a northeasterly direction.

The stock (Tfp) ranges in composition from biotite-feldspar porphyry at the outer margins to hornblende-biotite-feldspar porphyry in the core. The strongly porphyritic nature in peripheral area gives way to an equigranular appearance in central zones. Contact zones show quench textures and flow-banding.

The Tertiary feldspar porphyry dyke suite (Tfp) is subdivided on Figures F10a, F10b and F10c on the basis of phenocryst type. Generally, all phases consist of quartz-feldspar porphyry with varying amounts of biotite. Chilled contact zones and flow-

banding are common, indicating a relatively shallow depth of emplacement.

Both the stock and peripheral dyke swarms are cut by northerly to northeasterly-trending, narrow light-coloured, aphanitic to microcrystalline felsite dykes. Greatest concentration of felsite bodies occurs at or near margins of the stock.

Dark green to light green andesite dykes of the Tertiary Mount Nansen Group (Tmn) cut most lithologies while appearing to be cogenetic with the younger felsite dykes. The andesite consists of 1% to 3% finely crystalline quartz and feldspar phenocrysts in a dense microcrystalline groundmass.

Bedrock is mantled by up to three feet of weathered rock and volcanic ash.

Geology: Alteration

Hypogene alteration facies and intensities are described in table format on Figure F10a, F10b and F10c. Hypogene alteration has generally been modified by overprinted supergene alteration, elevating facies and intensity except for phyllic alteration zones which revert to argillic phases with development of kaolinite.

In general, best overall alteration is developed in Mesozoic rocks (My and Mgd) in the area of Tertiary dyke swarms. Alteration here is relatively low in intensity with widespread propylitic alteration overprinted by localized argillic zones which increase to intermediate and advanced phyllic alteration near the contact with the porphyry stock. Anomalous I.P. response from the 1975 survey indicates partial development of a pyritic halo in unit Mgd about the Tertiary intrusive complex. This effect probably results from propylitic alteration of the rock. Presumably the quartz monzonite (My) which lacks positive I.P. response did not carry sufficient iron-bearing minerals (e.g. hornblende) to develop pyrite in the propylitic zone.

The porphyry stock is generally fresh in appearance although the observed gradation of mafic minerals outward from dominantly hornblende near the core to biotite may be due to incipient potassic alteration in the border zones.

Highest facies and intensity of hydrothermal alteration is developed within and adjacent to felsite dykes both in Mesozoic granitic rocks and in the younger stock where intermediate to advanced argillic or phyllic alteration is common. The phyllic zones typically consist of a quartz-sericite assemblage with accessory tourmaline. Potassic alteration as pegmatitic quartz-orthoclase veining is occasionally seen.

Geology: Mineralization

Mineralization discovered in the course of bulldozer trench mapping and prospecting is shown on Figures F10a, F10b and F10c. The most common sulphide is pyrite or oxidized equivalents identified simply as limonite. Pyrite content of the rocks varies from trace amounts to 5%, averaging about 1%.

Trace amounts of chalcopyrite were observed. Malachite and azurite are also occasionally present. Copper-bearing limonites (e.g. tenorite) were noted in quantities generally less than 1%. Because these copper hydroxides cannot be easily distinguished from common limonite, the original copper sulphide content of the rocks is difficult to estimate.

Trace amounts of molybdenite, magnetite, specularite, pyrrhotite and arsenopyrite are present, generally in close association with iron and copper minerals. Sulphide mineralization is best developed within or adjacent to phyllic alteration zones.

Results of Dynasty 1975 sampling of bulldozer trenches over the Stoddart Zone are shown on Figure F16. Rock geochemical analyses of the grab samples indicated the presence of two subparallel mineralized zones, between 100 feet and 500 feet in width, grading 1000 to 5000 ppm copper or roughly 0.1 to 0.5% copper. The samples were also analyzed geochemically for lead, molybdenum, silver, tin, tungsten and zinc. All these elements returned scattered anomalously high values across the Stoddart Zone Tertiary intrusive complex.

Geochemistry

The central part (Figure F1) of the Seymour claims was soil sampled at 100 foot intervals along northeasterly trending lines spaced 400 feet apart using surveyed cut lines established in 1974 by Dynasty. A total of 579 samples were taken; all were analyzed for gold, copper and molybdenum. Eighty-four samples from a small area located near the northeast corner of the grid were additionally analyzed for silver, arsenic and tungsten. Topographic contours are shown on the copper geochemistry map only (Figure F11).

Copper geochemistry of the Stoddart Zone area is shown on Figure F11. Anomalous values, greater than the 100 ppm threshold, outline an area almost exactly coincident with the area of Tertiary intrusive activity. Highest response (up to 2100 ppm Cu) occurs near the northerly end of the intrusive complex.

Results of analyses for gold are shown on Figure F12. Scattered anomalous values, ranging from the 30 ppb threshold value to 107 ppb, occur within and along the trend of Tertiary dyke swarms. Isolated areas of high gold response (2928 ppb, 1448 ppb and 1575 ppb) are probably due to erratic surface enrichment of gold in the unglaciated area of the survey.

Molybdenum values are shown on Figure F13. Weakly anomalous response (10 ppm to 42 ppm Mo) occurs only at the north end of the Tertiary intrusive complex.

Silver, arsenic and tungsten geochemistry are shown on Figures F14, F15 and F16, respectively. Only part of the larger area sampled was analyzed for these metals. Low to moderately strong response for silver, arsenic and tungsten occurs within and adjacent to the area of Tertiary dyke swarms.

SUMMARY

Geological mapping of bulldozer trenches in conjunction with results of geochemical soil surveys and an I.P. survey outline a 1400 foot by 3800 foot area of porphyry copper mineralization on the Seymour claims. This target is known as the Stoddart Zone. Copper mineralization occurs within an area of Tertiary intrusive activity consisting of a central porphyritic stock surrounded by a halo of northerly to northeasterly-trending porphyritic dyke swarms. Country rocks are Mesozoic syenite and granodiorite. Soil geochemical response and assays of grab samples from the trenches suggest that the porphyry system is also enriched in gold, molybdenum, silver and tungsten.

Hypogene alteration zoning ranges from weakly developed potassic alteration in the stock, through concentric intermediate to advanced phyllic and argillic alteration zones within the surrounding dyke swarm to widespread but weakly developed propylitic alteration in surrounding granitic country rocks. A partially developed pyritic halo occurs within the inner part of the propylitic alteration zone.

Copper values in trench sampling carried out by Dynasty range up to 0.5% Cu. Textures in the Tertiary intrusive rocks suggest a shallow depth of emplacement. This observation, coupled with the overall weak development of hypogene alteration suites and mineralization, suggests that the porphyry system may only be partially unroofed by erosion.

NORTHWEST ZONE

A 2400 foot by 3000 foot area straddling the northern boundary of the Seymour claims was geochemically sampled and prospected during the 1981 field season (Figure F1). The 225 soil samples were analyzed for gold to follow up a 13 sample Dynasty 1974 arsenic geochemical anomaly which returned values ranging from 100 ppm to over 1000 ppm arsenic. The area sampled is a moderate to steep westerly-facing slope. Vegetation cover consists of stunted black spruce with a thick understory of alder, willow and mosses.

Small bedrock exposures and old hand pits are located immediately east of the area sampled along the northern claim boundary of the Seymour claims. Here, Tertiary feldspar porphyry (Tfp) dykes cut Yukon Metamorphic Complex (Ppsn) quartzites and minor biotite-quartz schist. The metamorphic rocks are limonitic and contain up to one foot widths of white and lesser grey quartz veins and lenses. Porphyritic intrusive rocks consist of a glassy to aphanitic groundmass with feldspar phenocrysts and up to 0.5% disseminated tourmaline. Vuggy quartz veins are locally present. Limonite after pyrite is weakly developed along fractures in all rock types. No bedrock or float occurrences were noted within the adjacent area of geochemical sampling.

Gold geochemistry of the Northwest Zone is shown on Figure F17. Anomalous values ranging up to 280 ppb gold were returned from a majority of the 225 soil samples taken. Inspection of contoured values shows that seven linear zones are outlined by axes of the elongate gold anomalies. Orientation of these zones varies from 103° to 124° , averaging 116° . This direction is similar to attitudes of schistosity in the underlying metamorphic rocks suggesting that gold-bearing quartz veins may be developed along these planes of structural weakness in a similar fashion to the Margarete, Augusta and Red Fox veins on the nearby Guder property. Gold anomalies continue outside the Seymour 1-44 claims in a presently unstaked area (Figure F17).

BORDER ZONE

The area known as the Border Zone occurs along a ridge crest at the boundary between the Seymour 1-44 claims and the Guder Option (Figure F2). This target was visited briefly by M.P. Phillips during the 1981 field season to determine the source of a Dynasty 1974 four sample copper soil anomaly with values between 110 and 190 ppm. A twenty foot long bulldozer trench over the best copper response exposed hornblende syenite country rock (My) crosscut by later feldspar-hornblende-biotite porphyry dykes (Tfp). Both rock types show brecciated textures and up to 2% disseminated pyrite with very minor chalcopyrite. The anomalous values in soil samples appear to coincide with a northeasterly-trending linear. This linear, probably a fault zone, is pyritized and weakly mineralized with chalcopyrite.

SOUTHWEST ZONE

The Camp Fault, cut in the portal of the Laforma No. 4 adit, forms a strong surface lineament which continues northwesterly for a distance of over four miles, cutting across the south part of the Seymour 1-44 claims (Figure F2). A wide pyritic shear zone is exposed where it crossed Seymour Creek. Immediately north of this area, a strong north to northeasterly-trending airphoto linear separates Tertiary intrusive rocks (Tfp) from older granitic rocks (Mgd). The latter lineament has the same trend as the G3 and Rambler veins on the Rayrock Option and occupies the same position relative to a major fault zone (Figure F2). This area was not included in nearby soil sampling over the Stoddart Zone.

APPENDIX I
DIAMOND DRILL ASSAYS
GOLD PORPHYRY ZONE

HOLE NUMBER	SAMPLE NUMBER	INTERVAL IN FEET	LENGTH IN FEET	Au Ppb	Au oz/ton	Ag ppm	Ag oz/ton	SUMMARY
	101	0.0 - 9.0	9.0	100			0.48	
	102	9.0 - 15.0	6.0	140			0.29	
	103	15.0 - 23.0	8.0	30			0.09	
	104	23.0 - 27.0	4.0	35			0.09	
	105	27.0 - 33.0	6.0	20			0.06	
	106	33.0 - 37.5	4.5	10			0.06	
	107	37.5 - 41.8	4.3	10			0.03	
	108	41.8 - 46.5	4.7	20			0.02	
	109	46.5 - 51.0	4.5	20			0.05	
	110	51.0 - 55.0	4.0	70			0.19	
	111	55.0 - 60.5	5.5	100			0.42	
	112	60.5 - 65.5	5.0	80			0.24	
	113	65.5 - 70.0	4.5	70			0.32	
	114	70.0 - 74.2	4.2	40			0.10	
	115	74.2 - 79.0	4.8	105			0.36	
	116	79.0 - 85.5	6.5	50			0.13	
	117	85.5 - 92.0	6.5	80			0.55	
	118	92.0 - 96.4	4.4	85			0.62	
	119	96.4 - 102.0	5.6	70			0.22	
	120	102.0 - 106.6	4.6	120			0.61	
	121	106.6 - 111.0	4.4	30			0.22	
	122	111.0 - 115.5	4.5	75			0.38	
	123	115.5 - 119.4	3.9	415	0.012		0.79	
	124	119.4 - 124.0	4.6	245	0.007		1.74	
	125	124.0 - 126.0	2.0	115	0.003		0.66	
	126	126.0 - 130.0	4.0	145	0.004		0.90	
	127	130.0 - 134.5	4.5	45			0.35	
	128	134.5 - 139.0	4.5	70			0.76	
	129	139.0 - 144.0	5.0	75			0.73	
	130	144.0 - 148.4	4.4	200			0.11	
	131	148.4 - 152.8	4.4	60			0.07	

NOTE: 34.28 ppm (34,280 ppb) = 1 TROY OZ/TON

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HOLE NUMBER	SAMPLE NUMBER	INTERVAL IN FEET	LENGTH IN FEET	Au ppb	Au oz/ton	Ag ppm	Ag oz/ton	SUMMARY
	132	152.8 - 157.0	4.2	40			0.07	
	133	157.0 - 161.8	4.8	40			0.13	
	134	161.8 - 166.0	4.2	90			0.23	
	135	166.0 - 172.0	6.0	370			0.34	
	136	172.0 - 176.0	4.0	300			0.48	
	137	176.0 - 180.5	4.5	275			0.55	
	138	180.5 - 185.0	4.5	390			0.36	
	139	185.0 - 189.0	4.0	150			0.16	
	140	189.0 - 193.4	4.4	105			0.07	
	141	193.4 - 196.5	3.1	265			0.25	
	142	196.5 - 201.0	4.5	165			0.24	
	143	201.0 - 204.5	3.5	115			0.18	
	144	204.5 - 209.0	4.5	140			0.06	
	145	209.0 - 213.0	4.0	130			0.16	
	146	213.0 - 217.0	4.0	165			0.09	
	147	217.0 - 221.5	4.5	180			0.18	
	148	221.5 - 224.0	2.5	125			0.06	
	149	224.0 - 228.5	4.5	70			0.04	
	150	228.5 - 232.2	3.7	50			TR	
	151	232.2 - 234.5	2.3	140			0.07	
	152	234.5 - 238.0	3.5	70			0.17	
	153	238.0 - 242.0	4.0	65			0.09	
	154	242.0 - 246.0	4.0	100			0.16	
	155	246.0 - 250.0	4.0	45			0.13	
	156	250.0 - 254.0	4.0	195			0.07	
	157	254.0 - 257.8	3.8	50			TR	
	158	257.8 - 261.0	3.2	120			0.02	
	159	261.0 - 265.0	4.0	135			0.09	
	160	265.0 - 270.0	5.0	170			0.04	
	161	270.0 - 274.5	4.5	160			0.63	
	162	274.5 - 279.0	4.5	105			0.32	

NOTE: 34.28 ppm (34,280 ppb) = 1 TROY OZ/TON

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HOLE NUMBER	SAMPLE NUMBER	INTERVAL IN FEET	LENGTH IN FEET	Au ppb	Au oz/ton	Ag ppm	Ag oz/ton	SUMMARY
	779	0.0 - 7.1	7.1	120		0.4		
	780	7.1 - 12.9	5.8	145		0.4		
	781	12.9 - 17.7	4.8	625		0.2		
	782	17.7 - 22.4	4.7	85		0.4		
	783	22.4 - 25.0	2.6	850		0.3		
	784	25.0 - 30.0	5.0	<5		0.1		
	785	30.0 - 35.0	5.0	55		0.1		
	786	35.0 - 40.0	5.0	135		0.3		
	787	40.0 - 45.0	5.0	875	0.0255	0.4		} 10' of 0.020 oz/lt Au 0.3 ppm Ag Ag/Au = 0.44
	788	45.0 - 50.0	5.0	500	0.0146	0.1		
	789	50.0 - 55.0	5.0	135		0.3		
	790	55.0 - 60.0	5.0	130		0.1		
	791	60.0 - 65.0	5.0	85		0.1		
	792	65.0 - 70.0	5.0	145		0.2		
	793	70.0 - 75.0	5.0	90		0.1		
	794	75.0 - 80.0	5.0	175		0.3		
	795	80.0 - 85.0	5.0	200		0.5		
	796	85.0 - 90.0	5.0	240		0.1		
	797	90.0 - 95.0	5.0	200		0.1		
	798	95.0 - 100.0	5.0	235		0.8		
	799	100.0 - 105.0	5.0	495	0.014	0.5		} 30' of 0.029 oz/lt Au 0.8 ppm Ag Ag/Au = 0.8
	726	105.0 - 110.0	5.0	3150	0.092	2.6		
	727	110.0 - 115.0	5.0	165	0.005	0.6		
	728	115.0 - 120.0	5.0	1100	0.032	0.4		
	729	120.0 - 125.0	5.0	275	0.008	0.2		
	730	125.0 - 130.0	5.0	700	0.020	0.7		
	731	130.0 - 135.0	5.0	230		0.7		
	732	135.0 - 140.0	5.0	140		0.4		
	733	140.0 - 145.0	5.0	345		2.0		
	734	145.0 - 150.0	5.0	260		0.5		
	735	150.0 - 155.0	5.0	305		0.3		

1981 FREEGOLD PROJECT DDH AR201-02, P. 253 ARCTIC RED RESOURCES CORP.

HOLE NUMBER	SAMPLE NUMBER	INTERVAL IN FEET	LENGTH IN FEET	Au PPB	Au oz/ton	Ag ppm	Ag oz/ton
	736	155.0 - 160.0	5.0	875	0.024	0.6	
	737	160.0 - 165.0	5.0	1250	0.036	1.2	
	738	165.0 - 170.0	5.0	850	0.025	1.4	
	739	170.0 - 175.0	5.0	1300	0.038	3.0	
	740	175.0 - 180.0	5.0	925	0.027	1.4	
	741	180.0 - 185.0	5.0	1050	0.031	1.5	
	742	185.0 - 190.0	5.0	750	0.022	1.0	
	743	190.0 - 195.0	5.0	800	0.023	2.0	
	744	195.0 - 200.0	5.0	495	0.014	1.5	
	745	200.0 - 205.0	5.0	525	0.015	1.5	
	746	205.0 - 210.0	5.0	900	0.026	1.0	
	747	210.0 - 215.0	5.0	230	0.007	0.3	
	748	215.0 - 220.0	5.0	1475	0.043	0.5	
	749	220.0 - 225.0	5.0	2200	0.064	1.7	
	750	225.0 - 230.0	5.0	1600	0.047	0.5	
	176	230.0 - 235.0	5.0	340	0.010	0.2	
	177	235.0 - 240.0	5.0	1025	0.030	2.6	
	178	240.0 - 245.0	5.0	285	0.008	1.7	
	179	245.0 - 250.0	5.0	875	0.026	1.1	
	180	250.0 - 255.0	5.0	130		0.6	
	181	255.0 - 260.0	5.0	45		0.6	
	182	260.0 - 265.0	5.0	145		1.0	
	183	265.0 - 270.0	5.0	190		1.2	
	184	270.0 - 275.0	5.0	250		1.4	
	185	275.0 - 280.0	5.0	350		0.9	
	186	280.0 - 285.0	5.0	295		0.5	
	187	285.0 - 290.0	5.0	925	0.027	1.2	
	188	290.0 - 295.0	5.0	1100	0.032	0.7	
	189	295.0 - 300.0	5.0	360	0.010	1.0	
	190	300.0 - 305.0	5.0	1025	0.030	1.3	
	191	305.0 - 310.0	5.0	215		1.4	

95' of
0.027 oz/t Au
1.3 ppm Ag
Ag/Au = 1.4:1

20' of
0.025 oz/t Au
1.0 ppm Ag
Ag/Au = 1.2:1

NOTE: 34.28 ppm (34,280 ppb) = 1 TROY OZ/TON

1981 FREEGOLD PROJECT DWH AR 81-03, P. 14 3 ARCTIC RED RESOURCES CORP.

HOLE NUMBER	SAMPLE NUMBER	INTERVAL IN FEET	LENGTH IN FEET	Au ppb	Au oz/ton	Ag ppm	Ag oz/ton	SUMMARY
	207	5.0 - 10.0	5.0	59		6.2		
	208	10.0 - 15.0	5.0	118		0.7		
	209	15.0 - 20.0	5.0	59		0.3		
	210	20.0 - 25.0	5.0	177		0.1		
	211	25.0 - 30.0	5.0	407		0.5		
	212	30.0 - 35.0	5.0	142		0.1		
	213	35.0 - 40.0	5.0	705	0.022	0.1		} 10' of 0.031 oz/t Au 0.3 ppm Ag Ag/Au = 0.3:1
	214	40.0 - 45.0	5.0	1449	0.042	0.5		
	215	45.0 - 50.0	5.0	431		0.5		
	216	50.0 - 55.0	5.0	142		0.1		
	217	55.0 - 60.0	5.0	627		0.3		
	218	60.0 - 65.0	5.0	393		0.8		
	219	65.0 - 70.0	5.0	806	0.024	0.8		
	220	70.0 - 75.0	5.0	213	0.006	0.3		
	221	75.0 - 80.0	5.0	862	0.025	1.5		
	222	80.0 - 85.0	5.0	656		1.3		
	223	85.0 - 90.0	5.0	217		1.6		
	224	90.0 - 95.0	5.0	108		0.4		
	225	95.0 - 100.0	5.0	320		0.4		
	226	100.0 - 105.0	5.0	106		1.0		
	227	105.0 - 110.0	5.0	384		0.6		
	228	110.0 - 115.0	5.0	217		1.4		
	229	115.0 - 120.0	5.0	480		1.1		
	230	120.0 - 125.0	5.0	512		3.4		
	231	125.0 - 130.0	5.0	314		1.1		
	232	130.0 - 135.0	5.0	213		0.6		
	233	135.0 - 140.0	5.0	73		0.5		
	234	140.0 - 145.0	5.0	73		0.1		
	235	145.0 - 150.0	5.0	77		0.3		
	236	150.0 - 155.0	5.0	59		0.3		
	237	155.0 - 160.0	5.0	170		1.0		

} 10' of
0.031 oz/t Au
0.3 ppm Ag
Ag/Au = 0.3:1

} 15' of
0.018 oz/t Au
0.9 ppm Ag
Ag/Au = 1.4:1

NOTE: 34.28 ppm (34,280 ppb) = 1 TROY OZ/TON

1981 FREEGOLD PROJECT UDM 81-03, P. 2 of 3 ARCTIC RED RESOURCES CORP.

HOLE NUMBER	SAMPLE NUMBER	INTERVAL IN FEET	LENGTH IN FEET	Au ppb	Au oz/ton	Ag ppm	Ag oz/ton	SUMMARY
	238	160.0 - 165.0	5.0	157		0.6		
	239	165.0 - 170.0	5.0	216		0.5		
	240	170.0 - 175.0	5.0	340		1.1		
	241	175.0 - 180.0	5.0	131		0.3		
	242	180.0 - 185.0	5.0	255		2.2		
	243	185.0 - 190.0	5.0	115		0.4		
	244	190.0 - 195.0	5.0	80		0.5		
	245	195.0 - 200.0	5.0	14		0.4		
	246	200.0 - 205.0	5.0	14		0.3		
	247	205.0 - 210.0	5.0	76		0.9		
	248	210.0 - 215.0	5.0	61		1.0		
	249	215.0 - 220.0	5.0	118		1.0		
	250	220.0 - 225.0	5.0	135		0.5		
	251	225.0 - 230.0	5.0	31		0.2		
	252	230.0 - 235.0	5.0	123		0.3		
	253	235.0 - 240.0	5.0	90		0.5		
	254	240.0 - 245.0	5.0	73		0.1		
	255	245.0 - 250.0	5.0	119		0.5		
	256	250.0 - 255.0	5.0	78		0.4		
	257	255.0 - 260.0	5.0	172		0.6		
	258	260.0 - 265.0	5.0	138		0.5		
	259	265.0 - 270.0	5.0	278		0.1		
	260	270.0 - 275.0	5.0	147		0.1		
	261	275.0 - 280.0	5.0	206		0.1		
	262	280.0 - 285.0	5.0	128		0.2		
	263	285.0 - 290.0	5.0	261		1.0		
	264	290.0 - 295.0	5.0	787		0.3		
	265	295.0 - 300.0	5.0	278		0.7		
	266	300.0 - 305.0	5.0	112		0.2		
	267	305.0 - 310.0	5.0	94		0.5		
	268	310.0 - 315.0	5.0	100		0.8		

NOTE: 34.28 ppm (34,280 ppb) = 1 TROY OZ/TON

HOLE NUMBER	SAMPLE NUMBER	INTERVAL IN FEET	LENGTH IN FEET	Au ppb	Au oz/ton	Ag ppm	Ag oz/ton	SUMMARY
	342	0.0 - 10.0	10.0	17		0.3		
	343	10.0 - 20.0	10.0	18		0.4		
	344	20.0 - 30.0	10.0	85		0.3		
	345	30.0 - 40.0	10.0	32		0.4		
	346	40.0 - 50.0	10.0	157		0.5		
	347	50.0 - 60.0	10.0	69		0.4		
	348	60.0 - 70.0	10.0	41		0.5		
	349	70.0 - 80.0	10.0	112		0.8		
	350	80.0 - 90.0	10.0	341		1.0		
	3176	90.0 - 100.0	10.0	23		0.8		
	3177	100.0 - 110.0	10.0	19		0.7		
	3178	110.0 - 120.0	10.0	28		0.3		
	3179	120.0 - 130.0	10.0	69		0.3		
	3180	130.0 - 140.0	10.0	29		0.1		
	3181	140.0 - 150.0	10.0	68		0.1		
	3182	150.0 - 160.0	10.0	141		0.1		
	3183	160.0 - 170.0	10.0	47		0.3		
	3184	170.0 - 180.0	10.0	130		0.1		
	3185	180.0 - 190.0	10.0	941	0.027	0.1		} 20' of 0.020 g ₃ /t Au 0.5 ppm Ag
	3186	190.0 - 200.0	10.0	460	0.013	1.0		
	3187	200.0 - 210.0	10.0	97		0.3		
	3188	210.0 - 220.0	10.0	35		0.1		
	3189	220.0 - 230.0	10.0	40		0.1		
	3190	230.0 - 240.0	10.0	15		0.1		
	3191	240.0 - 250.0	10.0	13		0.1		
	3192	250.0 - 260.0	10.0	18		0.1		
	3193	260.0 - 270.0	10.0	140		0.5		
	3194	270.0 - 280.0	10.0	274		0.4		
	3195	280.0 - 290.0	10.0	35		0.3		
	3196	290.0 - 300.0	10.0	19		0.5		
	3197	300.0 - 310.0	10.0	18		0.2		

NOTE: 34.28 ppm (34,280 ppb) = 1 TROY OZ/TON

HOLE NUMBER	SAMPLE NUMBER	INTERVAL IN FEET	LENGTH IN FEET	Au ppb	Au oz/ton	Ag ppm	Ag oz/ton	SUMMARY
	3276	0.0 - 10.0	10.0	43		0.1		
	3277	10.0 - 20.0	10.0	68		0.3		
	3278	20.0 - 30.0	10.0	62		0.2		
	3279	30.0 - 40.0	10.0	16		0.1		
	3280	40.0 - 50.0	10.0	122		0.9		
	3281	50.0 - 60.0	10.0	199		1.2		
	3282	60.0 - 70.0	10.0	214		1.0		
	3283	70.0 - 80.0	10.0	23		0.2		
	3284	80.0 - 90.0	10.0	17		0.1		
	3285	90.0 - 100.0	10.0	35		0.4		
	3286	100.0 - 110.0	10.0	104		0.4		
	3287	110.0 - 120.0	10.0	42		0.3		
	3288	120.0 - 130.0	10.0	44		0.1		
	3289	130.0 - 140.0	10.0	10		0.1		
	3290	140.0 - 150.0	10.0	11		0.1		
	3291	150.0 - 160.0	10.0	20		0.1		
	3292	160.0 - 170.0	10.0	75		0.3		
	3293	170.0 - 180.0	10.0	17		0.1		
	3294	180.0 - 190.0	10.0	63		0.3		
	3295	190.0 - 200.0	10.0	19		0.2		
	3296	200.0 - 210.0	10.0	54		0.2		
	3297	210.0 - 220.0	10.0	131		0.1		
	3298	220.0 - 230.0	10.0	87		0.1		
	3299	230.0 - 240.0	10.0	14		0.1		
	3300	240.0 - 250.0	10.0	85		0.1		
	3301	250.0 - 260.0	10.0	127		0.3		
	3302	260.0 - 270.0	10.0	615		3.8		
	3303	270.0 - 280.0	10.0	290		0.7		
	3304	280.0 - 290.0	10.0	226		1.7		
	3305	290.0 - 300.0	10.0	158		1.1		
	3306	300.0 - 310.0	10.0	336		0.2		

NOTE: 34.28 ppm (34,280 ppb) = 1 TROY OZ/TON

1981 FREEGOLD PROJECT DDH AR 81-06 p. 12 ARCTIC RED RESOURCES CORP.

HOLE NUMBER	SAMPLE NUMBER	INTERVAL IN FEET	LENGTH IN FEET	Au ppb	Au oz/ton	Ag ppm	Ag oz/ton	SUMMARY
	3317	0.0 - 16.0	16.0	13		0.3		
	3318	16.0 - 32.0	16.0	8		0.1		
	3319	32.0 - 48.0	16.0	26		0.6		
	3320	48.0 - 52.0	4.0	180		2.9		
	3321	52.0 - 60.0	8.0	108		1.2		
	3322	60.0 - 70.0	10.0	3		0.4		
	3323	70.0 - 80.0	10.0	3		0.3		
	3324	80.0 - 90.0	10.0	9		0.2		
	3325	90.0 - 100.0	10.0	5		0.3		
	3326	100.0 - 110.0	10.0	377		8.9		
	3327	110.0 - 120.0	10.0	33		2.7		
	3328	120.0 - 130.0	10.0	15		0.9		
	3329	130.0 - 140.0	10.0	1		0.5		
	3330	140.0 - 150.0	10.0	<1		0.3		
	3331	150.0 - 160.0	10.0	<1		0.1		
	3332	160.0 - 170.0	10.0	2		0.3		
	3333	170.0 - 180.0	10.0	11		0.2		
	3334	180.0 - 190.0	10.0	15		0.3		
	3335	190.0 - 200.0	10.0	<1		0.5		
	3336	200.0 - 210.0	10.0	10		0.2		
	3337	210.0 - 220.0	10.0	13		0.1		
	3338	220.0 - 230.0	10.0	30		0.3		
	3339	230.0 - 240.0	10.0	17		0.5		
	3340	240.0 - 250.0	10.0	16		0.1		
	3341	250.0 - 260.0	10.0	83		0.5		
	3342	260.0 - 270.0	10.0	3		0.2		
	3343	270.0 - 280.0	10.0	8		0.5		
	3344	280.0 - 290.0	10.0	7		0.3		
	3345	290.0 - 300.0	10.0	11		0.4		
	3346	300.0 - 310.0	10.0	43		0.2		
	3347	310.0 - 320.0	10.0	4060	0.118	1.9		

NOTE: 34.28 ppm (34,280 ppb) = 1 TROY OZ/TON

HOLE NUMBER	SAMPLE NUMBER	INTERVAL IN FEET	LENGTH IN FEET	Au ppb	Au oz/ton	Ag ppm	Ag oz/ton	SUMMARY
	3359	21.0 - 27.0	6.0	292		0.6		
	3360	27.0 - 35.0	8.0	574		1.6		
	3361	35.0 - 40.0	5.0	485		0.2		
	3362	40.0 - 50.0	10.0	154		0.1		
	3363	50.0 - 60.0	10.0	558	0.016	0.3		50' of 0.036 oz/t Au 1.1 ppm Ag Ag/Au = 0.9:1
	3364	60.0 - 70.0	10.0	3460	0.101	1.6		
	3365	70.0 - 80.0	10.0	1060	0.031	1.6		
	3366	80.0 - 90.0	10.0	643	0.019	1.1		
	3367	90.0 - 100.0	10.0	422	0.012	0.9		
	3368	100.0 - 110.0	10.0	314		1.3		
	3369	110.0 - 120.0	10.0	316		1.3		
	3370	120.0 - 130.0	10.0	447		0.2		
	3371	130.0 - 140.0	10.0	425		0.1		
	3372	140.0 - 150.0	10.0	318		0.3		
	3373	150.0 - 160.0	10.0	263		0.2		20' of 0.026 oz/t Au 1.2 ppm Ag Ag/Au = 1.3:1
	3374	160.0 - 170.0	10.0	785		1.8		
	3375	170.0 - 180.0	10.0	1010		0.5		
	3376	180.0 - 190.0	10.0	262		0.9		
	3377	190.0 - 200.0	10.0	337		1.4		
	3378	200.0 - 210.0	10.0	566		1.9		
	3379	210.0 - 220.0	10.0	535		1.7		
	3380	220.0 - 230.0	10.0	403		0.3		
	3381	230.0 - 240.0	10.0	175		0.2		
	3382	240.0 - 250.0	10.0	284		0.1		
	3383	250.0 - 260.0	10.0	561		0.1		
	3384	260.0 - 270.0	10.0	793		1.0		
	3385	270.0 - 280.0	10.0	394		0.8		
	3386	280.0 - 290.0	10.0	417		0.5		
	3387	290.0 - 300.0	10.0	237		0.4		
	3388	300.0 - 310.0	10.0	309		0.3		
	3389	310.0 - 320.0	10.0	339		0.6		

NOTE: 34.28 ppm (34,280 ppb) = 1 TROY OZ/TON

HOLE NUMBER	SAMPLE NUMBER	INTERVAL IN FEET	LENGTH IN FEET	Au ppb	Au oz/ton	Ag ppm	Ag oz/ton	SUMMARY
	3398	0.0 - 20.0	20.0	144		0.4		
	3399	20.0 - 30.0	10.0	165		0.4		
	3400	30.0 - 40.0	10.0	417		1.1		
	2776	40.0 - 50.0	10.0	240		0.7		
	2777	50.0 - 60.0	10.0	287		1.3		
	2778	60.0 - 70.0	10.0	74		0.3		
	2779	70.0 - 80.0	10.0	67		0.5		
	2780	80.0 - 90.0	10.0	214		0.3		
	2781	90.0 - 100.0	10.0	123		0.3		
	2782	100.0 - 110.0	10.0	105		0.2		
	2783	110.0 - 120.0	10.0	54		0.3		
	2784	120.0 - 130.0	10.0	145		0.5		
	2785	130.0 - 140.0	10.0	392		0.2		
	2786	140.0 - 150.0	10.0	227		0.4		
	2787	150.0 - 160.0	10.0	52		0.2		
	2788	160.0 - 170.0	10.0	70		0.6		
	2789	170.0 - 180.0	10.0	99		0.3		
	2790	180.0 - 190.0	10.0	155		0.5		
	2791	190.0 - 200.0	10.0	63		0.1		
	2792	200.0 - 210.0	10.0	49		0.2		
	2793	210.0 - 220.0	10.0	328		0.2		
	2794	220.0 - 230.0	10.0	199		0.2		
	2795	230.0 - 240.0	10.0	369		3.4		
	2796	240.0 - 250.0	10.0	348		0.6		
	2797	250.0 - 260.0	10.0	225		0.4		
	2798	260.0 - 270.0	10.0	42		0.3		
	2799	270.0 - 280.0	10.0	53		0.2		
	2800	280.0 - 290.0	10.0	73		0.4		
	2801	290.0 - 300.0	10.0	175		0.8		
	2802	300.0 - 310.0	10.0	182		0.4		
	2803	310.0 - 320.0	10.0	31		0.1		

NOTE: 34.28 ppm (34,280 ppb) = 1 TROY OZ/TON

1981 FREEGOLD PROJECT DDH AREA-09, p. 14 ARCTIC RED RESOURCES CORP.

HOLE NUMBER	SAMPLE NUMBER	INTERVAL IN FEET	LENGTH IN FEET	Au ppb	Au oz/ton	Ag ppm	Ag oz/ton	SUMMARY
	2809	0.0 - 20.0	20.0	106		0.5		40' of 0.024 oz/ton Au 1.4 ppm Ag Ag/Au = 1.7:1
	2810	20.0 - 30.0	10.0	340	0.010	0.8		
	2811	30.0 - 40.0	10.0	990	0.029	1.6		
	2812	40.0 - 50.0	10.0	1430	0.042	2.2		
	2813	50.0 - 60.0	10.0	478	0.014	1.2		
	2814	60.0 - 70.0	10.0	224		1.2		
	2815	70.0 - 80.0	10.0	252		1.4		
	2816	80.0 - 90.0	10.0	50		0.1		
	2817	90.0 - 100.0	10.0	159		0.8		
	2818	100.0 - 110.0	10.0	894	0.026	0.3		
	2819	110.0 - 120.0	10.0	376	0.011	1.6		
	2820	120.0 - 130.0	10.0	188	0.005	0.7		
	2821	130.0 - 140.0	10.0	947	0.028	2.1		
	2822	140.0 - 150.0	10.0	1420	0.041	3.1		
	2823	150.0 - 160.0	10.0	2540	0.074	4.9		
	2824	160.0 - 170.0	10.0	488	0.014	3.3		
	2825	170.0 - 180.0	10.0	894	0.026	3.9		
	2826	180.0 - 190.0	10.0	1100		3.3		
	2827	190.0 - 200.0	10.0	352		1.7		
	2828	200.0 - 210.0	10.0	221		1.3		
	2829	210.0 - 220.0	10.0	679		1.9		
	2830	220.0 - 230.0	10.0	305		1.4		
	2831	230.0 - 240.0	10.0	249		1.7		
	2832	240.0 - 250.0	10.0	355		2.2		
	2833	250.0 - 260.0	10.0	568		1.8		
	2834	260.0 - 270.0	10.0	561		2.2		
	2835	270.0 - 280.0	10.0	234		1.5		
	2836	280.0 - 290.0	10.0	312		1.0		
	2837	290.0 - 300.0	10.0	210		1.0		
	2838	300.0 - 310.0	10.0	1130	0.033	0.9		20' of 0.022 oz/ton Au 1.0 ppm Ag Ag/Au = 1.3:1
	2839	310.0 - 320.0	10.0	346	0.010	1.1		

NOTE: 34.28 ppm (34,280 ppb) = 1 TROY OZ/TON

1981 FREEGOLD PROJECT DDH AR81-10, p.1 of 2 ARCTIC RED RESOURCES CORP.

HOLE NUMBER	SAMPLE NUMBER	INTERVAL IN FEET	LENGTH IN FEET	Au PPB	Au oz/ton	Ag ppm	Ag oz/ton	SUMMARY
	2848	0.0 - 20.0	20.0	56		0.1		
	2849	20.0 - 30.0	10.0	48		0.1		
	2850	30.0 - 40.0	10.0	44		0.2		
	2851	40.0 - 50.0	10.0	374		0.1		
	2852	50.0 - 60.0	10.0	67		0.1		
	2853	60.0 - 70.0	10.0	69		0.2		
	2854	70.0 - 80.0	10.0	63		0.1		
	2855	80.0 - 90.0	10.0	77		0.1		
	2856	90.0 - 100.0	10.0	59		0.1		
	2857	100.0 - 110.0	10.0	70		0.2		
	2858	110.0 - 120.0	10.0	60		0.1		
	2859	120.0 - 130.0	10.0	65		0.1		
	2860	130.0 - 140.0	10.0	76		0.1		
	2861	140.0 - 150.0	10.0	104		0.1		
	2862	150.0 - 160.0	10.0	88		0.1		
	2863	160.0 - 170.0	10.0	174		0.1		
	2864	170.0 - 180.0	10.0	112		0.1		
	2865	180.0 - 190.0	10.0	236		0.1		
	2866	190.0 - 200.0	10.0	677		0.1		
	2867	200.0 - 210.0	10.0	144		0.1		
	2868	210.0 - 220.0	10.0	219		0.3		
	2869	220.0 - 230.0	10.0	289		0.6		
	2870	230.0 - 240.0	10.0	1140	0.033	0.1		} 20' of 0.021 oz/ton Au 0.1 ppm Ag
	2871	240.0 - 250.0	10.0	332	0.010	0.2		
	2872	250.0 - 260.0	10.0	180		0.1		
	2873	260.0 - 270.0	10.0	444		0.1		
	2874	270.0 - 280.0	10.0	194		0.1		
	2875	280.0 - 290.0	10.0	291		0.4		
	2876	290.0 - 300.0	10.0	235		0.6		
	2877	300.0 - 310.0	10.0	192		0.3		
	2878	310.0 - 320.0	10.0	53		0.1		

NOTE: 34.28 ppm (34,280 ppb) = 1 TROY OZ/TON

LEGEND

LITHOLOGIES

TERTIARY

- MOUNT HANSEN GROUP (Tm)**
- ANOS** Andesite - dark green, aphanitic, up to 5% fine-grained feldspar phenocrysts.
 - GRAN** Porphyritic Granite - pale green with fine-grained quartz, chlorite and coarse-grained orthoclase phenocrysts in a fine-grained groundmass.
 - FLSI** Felsite - light coloured, very fine grained, embayted chilled margins.
 - BRFL** Brecciated Felsite - best developed near contacts, often contains fragments of Ag or M.
 - PPQZ** Quartz Porphyry - 1-5% fine-grained quartz phenocrysts in an aphanitic to microcrystalline groundmass; quartz phenocrysts euhedral to broken and embayed.
 - PPFL** Feldspar Porphyry - characterized by fine-grained euhedral feldspar phenocrysts whose content ranges from low to crowded.
 - PPFQ** Feldspar-Quartz Porphyry - dark green colour with crowded fine-grained feldspar and minor quartz phenocrysts in an aphanitic groundmass; often seen as breccia matrix.
 - QFBN** Quartz-Feldspar-Biotite-Hornblende Porphyry - contains fine-grained quartz, feldspar, biotite and hornblende phenocrysts in an aphanitic groundmass.

- BRECCIA FRAGMENTS**
- △ Felsite
 - △ Quartz Porphyry
 - △ Feldspar Porphyry
 - △ Syenite
 - △ Granodiorite

JURASSIC(?)

- HORNBLende GRANODIORITE (Hgd)**
- GRDN** Granodiorite - dark coloured, medium grained, equigranular granitic texture with 10-15% hornblende, minor biotite and scattered pink porphyritic orthoclase phenocrysts to 20mm.
 - BRGD** Brecciated Granodiorite

TRIASSIC(?)

- SYENITE (Sy)**
- SYEN** Hornblende Syenite - dark coloured, coarse-grained porphyritic texture with up to 30% euhedral hornblende and 70% orthoclase phenocrysts.
 - BRSY** Brecciated Syenite

ALTERATION FACIES

FACIES	CODE	INTENSITY	BIOTITE-HORNBLende	MICROCLASE	ORTHOCCLASE	CALCITE	PYRITE
Fresh	0		Stable trace chlorite	Stable	Stable	None	None
Propylitic	1	1	Weak chlorite	Stable-rim of clay	Stable	Trace	
		2	Abundant chlorite				
Argillic	2	1	Abundant chlorite	Abundant montmorillonite	Low kaolinite	Stable	Weak
		2	Low chlorite-yellow green montmorillonite with scattered pyrite	Low montmorillonite	Moderate kaolinite	Altered to clay	Moderate
Kaolinitic	3	1	Montmorillonite with pyrite rim	Low montmorillonite	Moderate kaolinite	None	None
		2	Kaolinite with pyrite rim	No montmorillonite	Strong kaolinite		Minor
Phyllic	5	1	Quartz-pyrite-sericite veins and envelopes				Increasing
		2					Higher

* Calcite may be minor constituent where albite developed

- INTENSITY** - 1 - extremely low
 2 - low
 3 - intermediate
 4 - high
 5 - extremely high

GENERAL

- 1/5 Alteration facies/intensity
- Zone - C Cap (oxidized)
- T Transition
- H Hypogene
- Fault: defined, approximate
- - - Contact: defined, approximate, assumed
- ▨ Section averaging 0.02 oz/ton gold or better

SOIL GEOCHEMISTRY

80 Ag - ppm arsenic
 640 Au - ppb gold
 0.231 - ppm silver
 NA - no assay

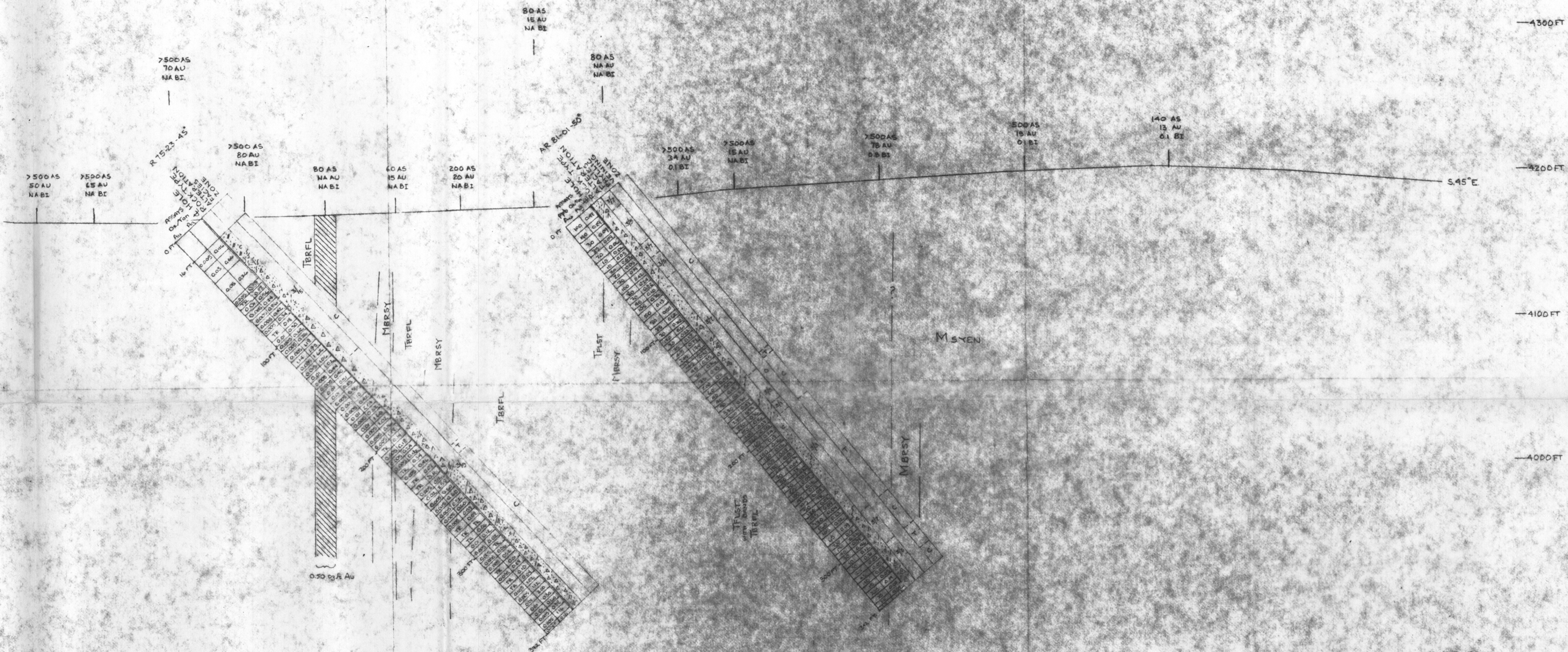
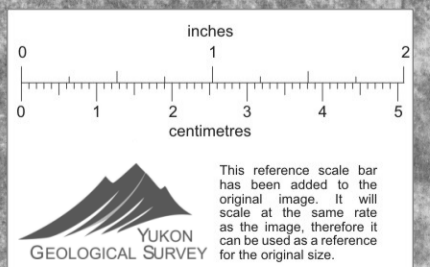


FIGURE F7a
 ARCHER, CATHRO & ASSOCIATES LTD.
SECTION: DDH 81-01

TERTIARY QUARTZ PORPHYRY COMPLEX
FREEGOLD PROJECT
 ARCTIC RED RESOURCES CORP.
 MOUNT FREEGOLD AREA, YUKON
 SCALE 1 inch = 40 Feet
 0 10 20 30 40 80 120 Feet



Geology by M. P. Phillips, 1981

* geophysics report dated November 1981

LEGEND

LITHOLOGIES

TERTIARY

- MOUNT WASSER GROUP (Tan)**
- ANOS** Andesite - dark green, aphanitic, up to 5% fine-grained feldspar phenocrysts.
 - GRAN** Porphyritic Granite - pale green with fine-grained quartz, chlorite and coarse-grained orthoclase phenocrysts in a fine-grained groundmass.
 - FLST** Felsite - light coloured, very fine grained, exhibits chilled margins.
 - BRFL** Brecciated felsite - best developed near contacts. Often consists of fragments of And or My.
 - PPQZ** Quartz Porphyry - 1-15 fine-grained quartz phenocrysts in an aphanitic to microcrystalline groundmass; quartz phenocrysts euhedral to broken and embayed.
 - PPFL** Felsite Porphyry - characterized by fine-grained euhedral felsite phenocrysts whose content ranges from low to crowded.
 - PPFQ** Felsite-Quartz Porphyry - dark green colour with crowded fine-grained felsite and minor quartz phenocrysts in an aphanitic groundmass, often seen as breccia matrix.
 - PPH** Quartz-Feldspar-Biotite-Hornblende Porphyry - contains fine-grained quartz, feldspar, biotite and hornblende phenocrysts in an aphanitic groundmass.

- BRECCIA FRAGMENTS**
- ▲ Felsite
 - ▲ Quartz Porphyry
 - ▲ Felsite Porphyry
 - ▲ Syenite
 - ▲ Grandodiorite

JURASSIC(?)

- HORNBLende GRANDODIORITE (Mgd)**
- MGD** Grandodiorite - dark coloured, medium grained, equigranular granitic texture with 10-15% hornblende, minor biotite and scattered pink poikilitic orthoclase phenocrysts to 20mm.
 - BRMGD** Brecciated Grandodiorite

TRIASSIC(?)

- SYENITE (Sy)**
- SYEN** Hornblende Syenite - dark coloured, coarse grained porphyritic texture with up to 20% euhedral hornblende and 70% orthoclase phenocrysts.
 - BRSY** Brecciated Syenite

ALTERATION FACIES

FACIES	CODE	INTENSITY	BIOTITE-HORNBLende	PLAGIOCLASE	ORTHOCLASE	CALCITE	PYRITE
Fresh	0		Stable trace chlorite	Stable	Stable	None	None
Propylitic	1	1	Weak chlorite	Stable-rim of clay	Stable	Trace	None
		5	Abundant chlorite				
Argillic	2	1	Abundant chlorite	Abundant montmorillonite	Low kaolinite	Stable	Weak
Montmorillonitic		5	Low chlorite-yellow green montmorillonite with scattered pyrite	Low montmorillonite	Moderate kaolinite	Altered to clay	Moderate to strong
Kaolinitic	3	1	Montmorillonite with pyrite rim	Low montmorillonite	Moderate kaolinite	None	None
		5	Kaolinite with pyrite rim	No montmorillonite	Strong kaolinite		Minor increasing higher
Phyllic	5		Quartz-pyrite-sericite veins and envelopes				

* Calcite may be minor constituent where albite developed

INTENSITY - 1 - extremely low
 3 - low
 5 - intermediate
 7 - high
 9 - extremely high

GENERAL

- 1/S** Alteration facies/intensity
- Zone - C Cap (oxidized)
 - T Transition
 - H Hypogene
- SOIL GEOCHEMISTRY**
- 80 As - ppm arsenic
 - 640 Au - gpp gold
 - 0.2 Si - ppm Si length
 - NA - no assay
- Fault:** defined, approximate
- Contact:** defined, approximate, assumed
- Section averaging 0.02 oz/ton gold or better**

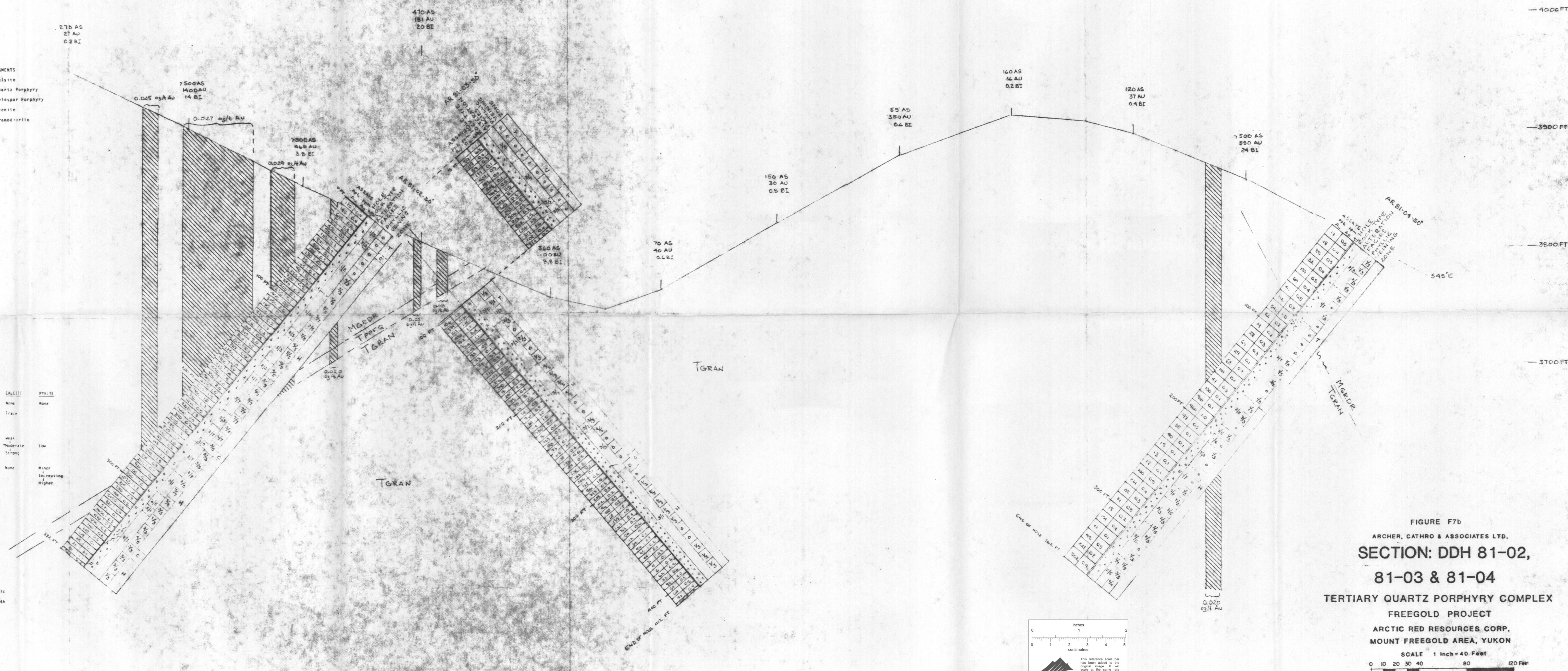


FIGURE F7b
 ARCHER, CATHRO & ASSOCIATES LTD.
SECTION: DDH 81-02,
81-03 & 81-04
 TERTIARY QUARTZ PORPHYRY COMPLEX
 FREEGOLD PROJECT
 ARCTIC RED RESOURCES CORP.
 MOUNT FREEGOLD AREA, YUKON
 SCALE 1 inch = 40 Feet
 0 10 20 30 40 80 120 Feet
 Geology by M. P. Phillips, 1981

LEGEND

LITHOLOGIES

TERTIARY

MOUNT HANSEN GROUP (Tm)

AND Andesite - dark green, aphanitic, up to 5% fine-grained feldspar phenocrysts.

FELDSPAR PORPHYRY (Tfp)

GRAN Porphyritic Granite - pale green with fine-grained quartz, chlorite and coarse-grained orthoclase phenocrysts in a fine-grained groundmass.

FLS Felsite - light coloured, very fine grained, exhibits chilled margins.

BRFP Brecciated Felsite - best developed near contacts, often contains fragments of Mgd or Ny.

PPQZ Quartz Porphyry - 1-5% fine-grained quartz phenocrysts in an aphanitic to microcrystalline groundmass; quartz phenocrysts euhedral to broken and embayed.

PPFL Feldspar Porphyry - characterized by fine-grained euhedral feldspar phenocrysts whose content ranges from low to crowded.

PPFQ Feldspar-Quartz Porphyry - dark green colour with crowded fine-grained feldspar and minor quartz phenocrysts in an aphanitic groundmass; often seen as breccia matrix.

QFBS Quartz-Feldspar-Biotite-Hornblende Porphyry - contains fine-grained quartz, feldspar, biotite and hornblende phenocrysts in an aphanitic groundmass.

JURASSIC(?)

HORNBLende GRANODIORITE (Mgd)

GRGR Granodiorite - dark coloured, medium grained, porphyritic granitic texture with 10-15% hornblende, minor biotite and scattered pink porphyritic orthoclase phenocrysts to 20mm.

BRGR Brecciated Granodiorite

TRIASSIC(?)

SYENITE (Ny)

SYEN Hornblende Syenite - dark coloured, coarse-grained porphyritic texture with up to 30% euhedral hornblende and 70% orthoclase phenocrysts.

BRSY Brecciated Syenite

ALTERATION FACIES

FACIES	CODE	INTENSITY	BIOTITE-HORNBLende	PLAGIOCLASE	ORTHOCCLASE	CALCITE	PYRITE
Fresh	0		Stable trace chlorite	Stable	Stable	None	None
Propylitic	1	1	Weak chlorite	Stable-rtw of clay	Stable	Trace	
		9	Abundant chlorite				
Argillic Montmorillonitic	2	1	Abundant chlorite	Abundant montmorillonite	Low kaolinite	Stable	Weak
		9	Low chlorite-yellow green montmorillonite with scattered pyrite	Low montmorillonite	Moderate kaolinite	Altered to clay	Moderate to Strong
Kaolinitic	3	1	Montmorillonite with pyrite rim	Low montmorillonite	Moderate kaolinite	None	None
		9	Kaolinite with pyrite rim	No montmorillonite	Strong kaolinite		Minor to Increasing
Phyllic	5		Quartz-pyrite-sericite veins and envelopes				Higher

* Calcite may be minor constituent where albite developed

INTENSITY - 1 - extremely low
3 - low
5 - intermediate
7 - high
9 - extremely high

GENERAL

T/S Alteration facies/intensity

Zone - C Cap (oxidized)
- T Transition
- K Hypogene

~~~~~ Fault: defined, approximate

----- Contact: defined, approximate, assumed

▨ Section averaging 0.02 oz/ton gold or better

## SOIL GEOCHEMISTRY

80 As - ppm arsenic  
640 Au - ppb gold  
0.2 Bt - ppm bismuth  
NA - no assay

- BRECCIA FRAGMENTS
- ▲ Felsite
  - ▲ Quartz Porphyry
  - ▲ Feldspar Porphyry
  - ▲ Syenite
  - ▲ Granodiorite

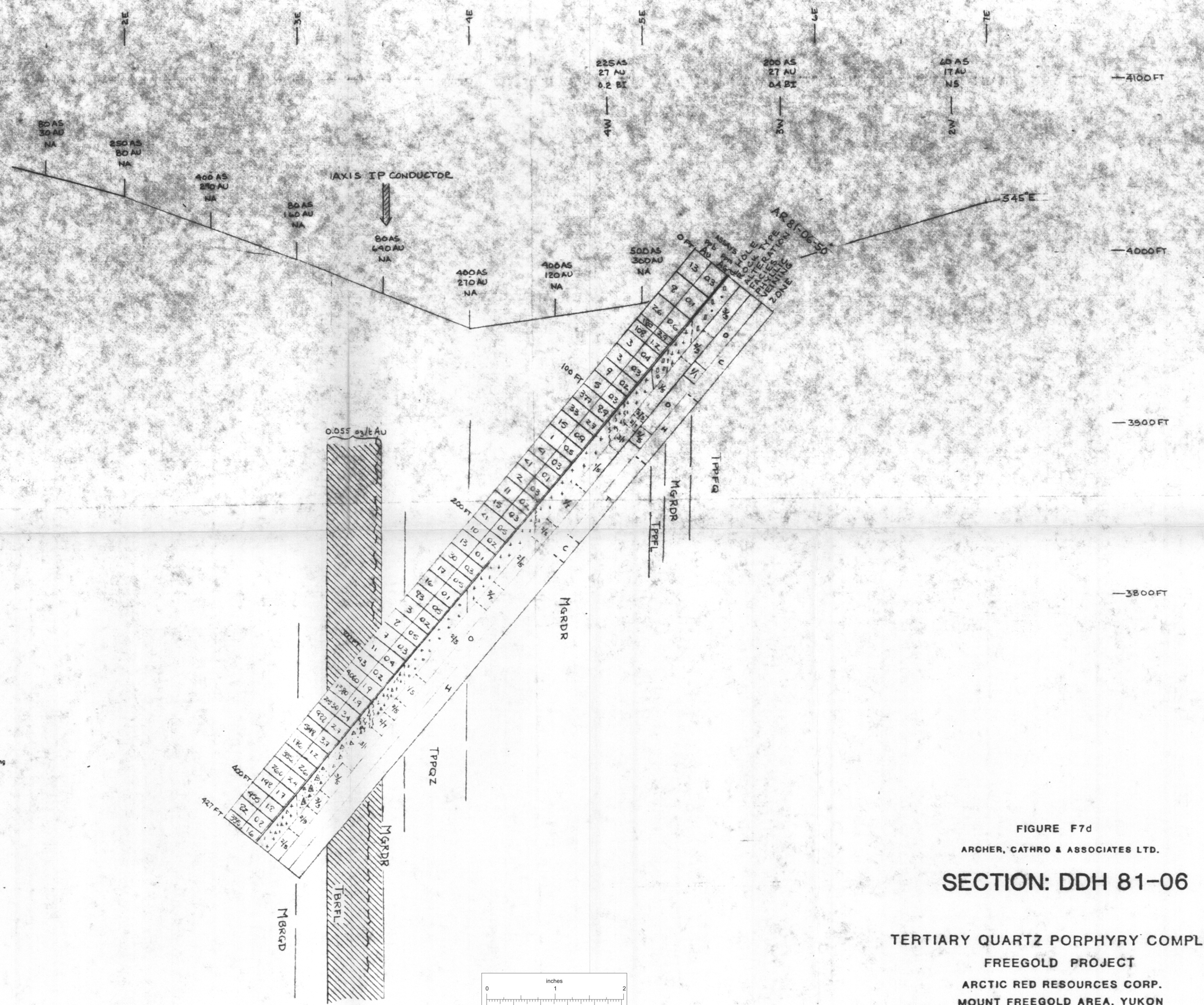


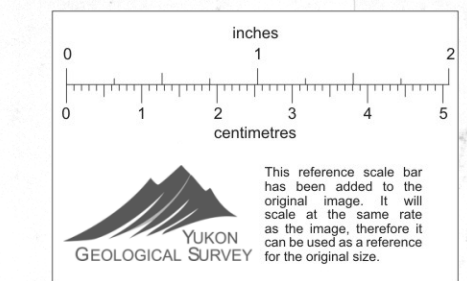
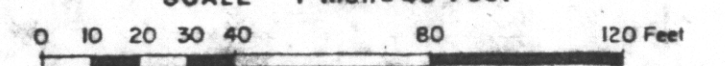
FIGURE F7d

ARCHER, CATHRO & ASSOCIATES LTD.

## SECTION: DDH 81-06

TERTIARY QUARTZ PORPHYRY COMPLEX  
FREGOLD PROJECT  
ARCTIC RED RESOURCES CORP.  
MOUNT FREGOLD AREA, YUKON

SCALE 1 inch = 40 Feet



Geology by M.P. Phillips, 1981

To accompany report dated November 1981

4100 FT —

4000 FT —

3900 FT —

3800 FT —

3700 FT —

3600 FT —

370 AS  
39 AU  
0.2 BI

390 AS  
18 AU  
0.8 BI

7500 AS  
2700 AU  
2.4 BI

500 AS  
495 AU  
4.4 BI

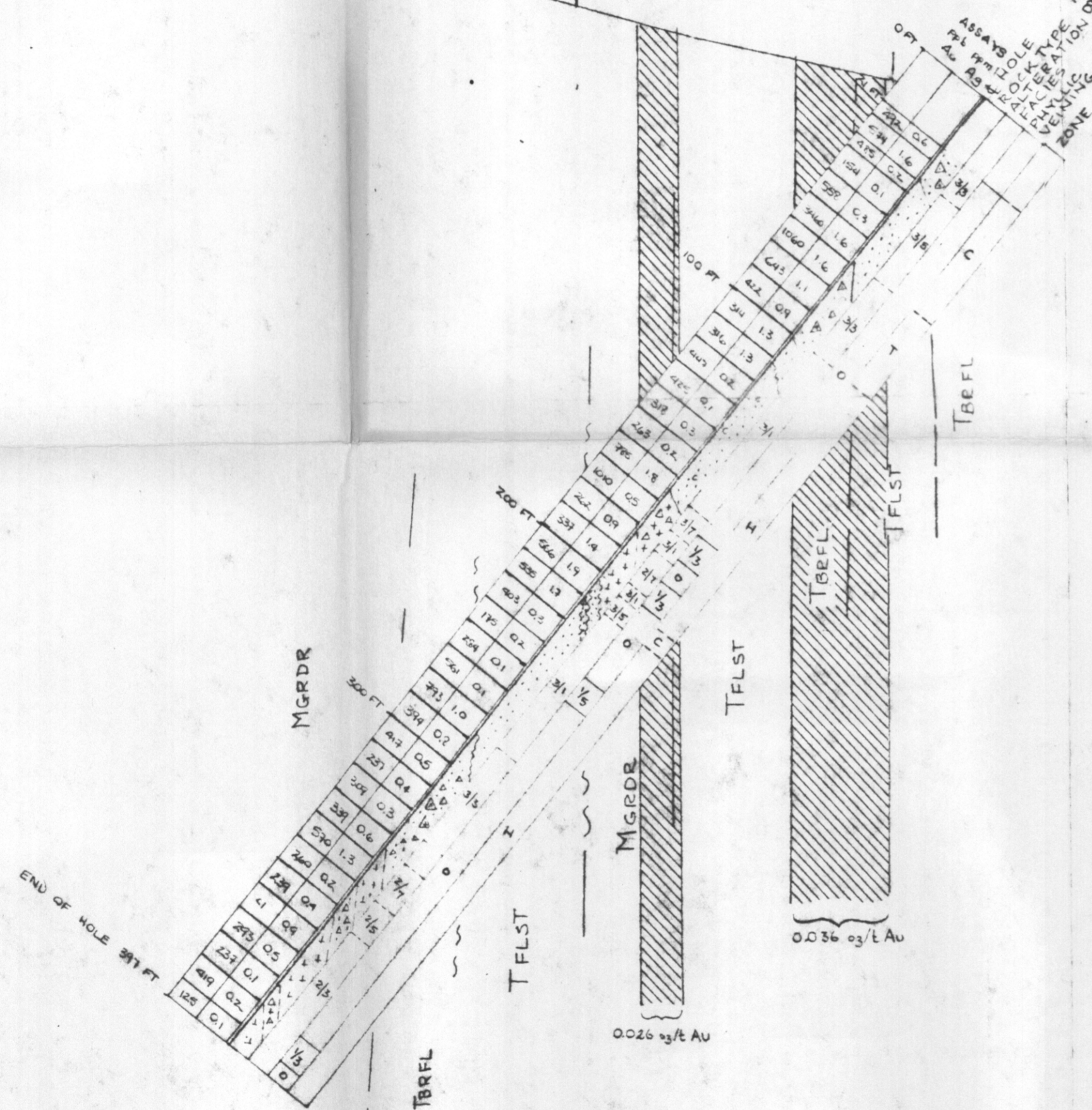
390 AS  
1900 AU  
1.6 BI

7500 AS  
2100 AU  
NA

225 AS  
840 AU  
0.8 BI

2 N. OWE

MR. 81-07-50



### LEGEND

#### LITHOLOGIES

##### TERTIARY

MOUNT HANSEN GROUP (Tan)

ANDS

Andesite - dark green, aphanitic, up to 5% fine-grained feldspar phenocrysts.

QZGR

Porphyritic Granite - pale green with fine-grained quartz, chlorite and coarse-grained orthoclase phenocrysts in a fine-grained groundmass.

FELST

Felsite - light coloured, very fine grained, exhibits chilled margins.

BRFL

Brecciated Felsite - best developed near contacts, often contains fragments of Agd or M.

QPZ

Quartz Porphyry - 1-5% fine-grained quartz phenocrysts in an aphanitic to microcrystalline groundmass; quartz phenocrysts subhedral to broken and embayed.

FQZ

Feldspar Porphyry - characterized by fine-grained subhedral feldspar phenocrysts whose content ranges from low to crowded.

FQZ

Feldspar-Quartz Porphyry - dark green colour with crowded fine-grained feldspar and minor quartz phenocrysts in an aphanitic groundmass; often seen as breccia matrix.

QZFB

Quartz-Feldspar-Biotite-Hornblende Porphyry - contains fine-grained quartz, feldspar, biotite and hornblende phenocrysts in an aphanitic groundmass.

##### BRECCIA FRAGMENTS

Feldspar

Quartz Porphyry

Feldspar Porphyry

Syenite

Granodiorite

##### JURASSIC(?)

HORNBLende GRANODIORITE (Hgd)

GRD

Granodiorite - dark coloured, medium grained, equigranular granitic texture with 10-25% hornblende, minor biotite and scattered pink porphyritic orthoclase phenocrysts to 5mm.

BRGR

Brecciated Granodiorite

##### TRIASSIC(?)

SPYRITE (Sp)

SPY

Hornblende Syenite - dark coloured, coarse-grained porphyritic texture with up to 30% subhedral hornblende and 70% orthoclase phenocrysts.

BRSP

Brecciated Syenite

#### ALTERATION FACIES

| FACIES      | CODE | INTENSITY | BIOTITE-HORNBLende                                              | PLAGIOCLASE              | ORTHOCLASE         | CALCITE         | PYRITE             |
|-------------|------|-----------|-----------------------------------------------------------------|--------------------------|--------------------|-----------------|--------------------|
| Fresh       | 0    | 1         | Stable trace chlorite                                           | Stable                   | Stable             | None            | None               |
| Propylitic  | 1    | 2         | Weak chlorite                                                   | Stable-rim of clay       | Stable             | Trace           | None               |
| Argillic    | 2    | 3         | Abundant chlorite                                               | Abundant montmorillonite | Low kaolinite      | Stable          | Weak               |
| Nonargillic | 2    | 3         | Low chlorite-yellow green montmorillonite with scattered pyrite | Low montmorillonite      | Moderate kaolinite | Altered to clay | Moderate to Strong |
| Kaolinitic  | 3    | 4         | Montmorillonite with pyrite rim                                 | Low montmorillonite      | Moderate kaolinite | None            | None               |
| Phyllic     | 3    | 4         | Kaolinite with pyrite rim                                       | No montmorillonite       | Strong kaolinite   | None            | Minor to Higher    |
| Phyllic     | 3    | 5         | Quartz-pyrite-sericite veins and envelopes                      |                          |                    |                 |                    |

\* Calcite may be minor constituent where albite developed

INTENSITY - 1 - extremely low  
 2 - low  
 3 - intermediate  
 4 - high  
 5 - extremely high

#### GENERAL

- 1/5 Alteration facies/intensity
- Zone - C Cap (oxidized)
- T Trench
- H Hypogene
- Fault: defined, approximate
- Contact: defined, approximate, assumed
- Section averaging 0.02 oz/ton gold or better

#### SOIL CHEMISTRY

- 80 AS - ppm arsenic
- 480 AU - ppm gold
- 0.2 BI - ppm bismuth
- NA - no assay

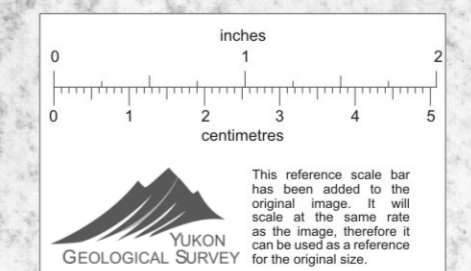


FIGURE F7c

ARCHER, CATHER & ASSOCIATES LTD.

### SECTION: DDH 81-07

TERTIARY QUARTZ PORPHYRY COMPLEX

FREGOLD PROJECT

ARCTIC RED RESOURCES CORP.

MOUNT FREGOLD AREA, YUKON

SCALE 1 Inch = 40 Feet



# LEGEND

## LITHOLOGIES

### TERTIARY

Mount Hansen Group (Tan)

- ANDS** Andesite - dark green, aphanitic, up to 5% fine-grained feldspar phenocrysts.
- GRAN** Porphyritic Granite - pale green with fine-grained quartz, chlorite and coarse-grained orthoclase phenocrysts in a fine-grained groundmass.
- FLST** Felsite - light coloured, very fine grained, exhibits chilled margins.
- BRFL** Brecciated Felsite - best developed near contacts, often contains fragments of Mgd or My.
- PPQZ** Quartz Porphyry - 1-5% fine-grained quartz phenocrysts in an aphanitic to microcrystalline groundmass; quartz phenocrysts euhedral to broken and embayed.
- PPFL** Feldspar Porphyry - characterized by fine-grained euhedral feldspar phenocrysts whose content ranges from low to crowded.
- PPFQ** Feldspar-Quartz Porphyry - dark green colour with crowded fine-grained feldspar and minor quartz phenocrysts in an aphanitic groundmass; often seen as breccia matrix.
- PPFB** Quartz-Feldspar-Biotite-Hornblende Porphyry - contains fine-grained quartz, feldspar, biotite and hornblende phenocrysts in an aphanitic groundmass.

### BRECCIA FRAGMENTS

- △ Felsite
- △ Quartz Porphyry
- △ Feldspar Porphyry
- △ Syenite
- △ Granodiorite

### JURASSIC(?)

Hornblende Granodiorite (Mgd)

- GRDR** Granodiorite - dark coloured, medium grained, equigranular granitic texture with 10-15% hornblende, minor biotite and scattered pink potassic orthoclase phenocrysts to 20mm.
- BRGD** Brecciated Granodiorite

### TRIASSIC(?)

Syenite (My)

- STEN** Hornblende Syenite - dark coloured, coarse-grained porphyritic texture with up to 30% euhedral hornblende and 70% orthoclase phenocrysts.
- BRSY** Brecciated Syenite

## ALTERATION FACIES

| FACIES                       | CODE | INTENSITY | BIOTITE-HORNBLende                                              | PLAGIOCLASE                               | ORTHOCLASE | CALCITE | PYRITE              |
|------------------------------|------|-----------|-----------------------------------------------------------------|-------------------------------------------|------------|---------|---------------------|
| Fresh                        | 0    |           | Stable trace chlorite                                           | Stable                                    | Stable     | None    | None                |
| Propylitic                   | 1    | 1         | Weak chlorite                                                   | Stable-rim of clay                        | Stable     | Trace   | None                |
|                              |      | 9         | Abundant chlorite                                               |                                           |            |         |                     |
| Argillic<br>Montmorillonitic | 2    | 1         | Abundant chlorite                                               | Abundant montmorillonite                  | Stable     | Weak    | Low                 |
|                              |      | 9         | Low chlorite-yellow green montmorillonite with scattered pyrite | Low montmorillonite<br>Moderate kaolinite |            |         |                     |
| Kaolinitic                   | 3    | 1         | Montmorillonite with pyrite rim                                 | Low montmorillonite                       | None       | None    | Minor<br>Increasing |
|                              |      | 9         | Kaolinite with pyrite rim                                       | No montmorillonite                        |            |         |                     |
| Phyllic                      | 5    |           | Quartz-pyrite-sericite veins and envelopes                      |                                           |            |         |                     |

\* Calcite may be minor constituent where albite developed

**INTENSITY** - 1 - extremely low  
3 - low  
5 - intermediate  
7 - high  
9 - extremely high

## GENERAL

- 1/5 Alteration facies/intensity
- Zone - C Cap (oxidized)
- T Transition
- H Hypogene
- ~~~~~ Fault: defined, approximate
- Contact: defined, approximate, assumed
- ▨ Section averaging 0.02 oz/ton gold or better

### SOIL GEOCHEMISTRY

80 As - ppm arsenic  
640 Au - ppb gold  
0.2 Bi - ppm bismuth  
NA - no assay

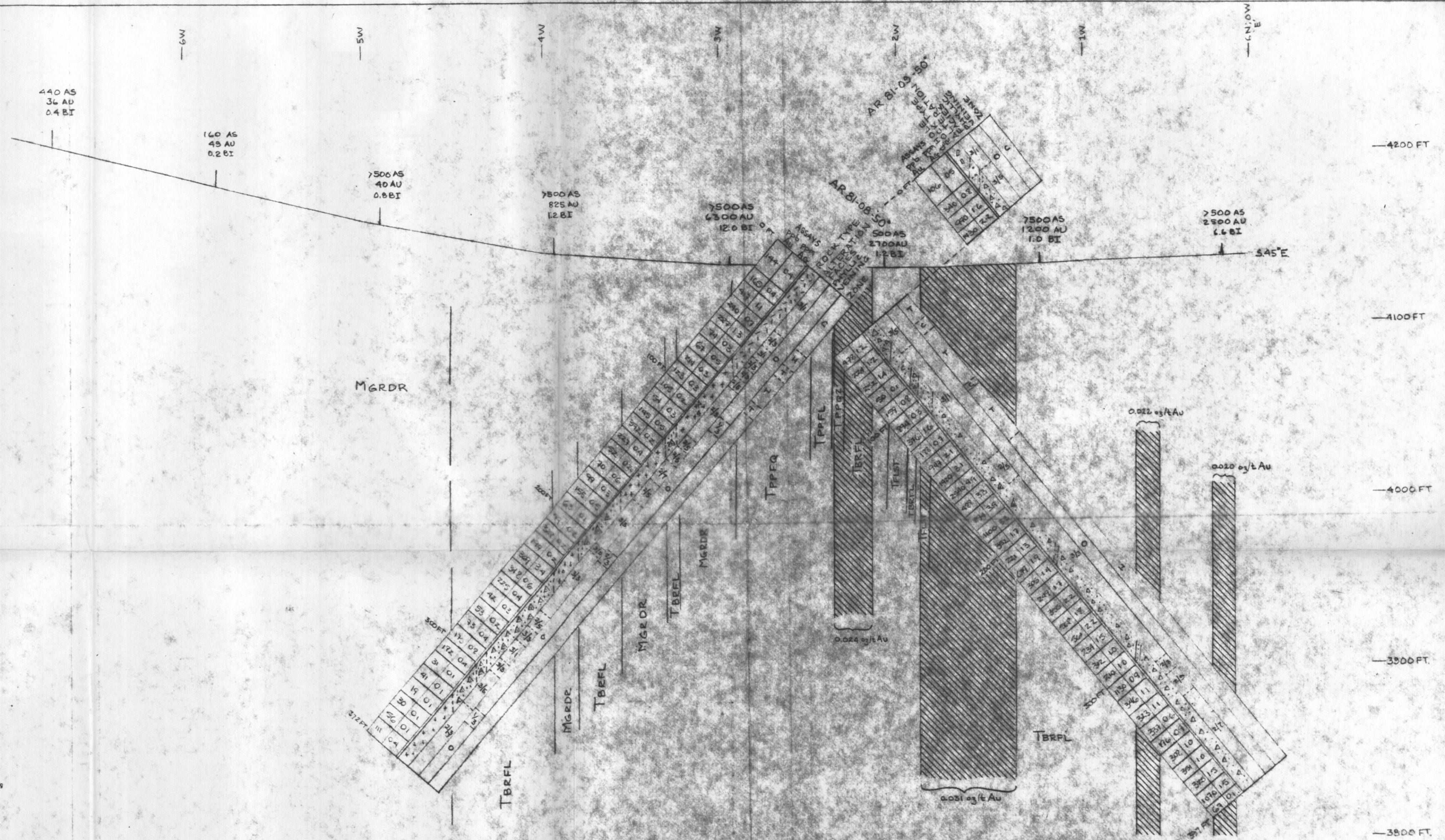


FIGURE F71

ARCHER, CATRO & ASSOCIATES LTD.

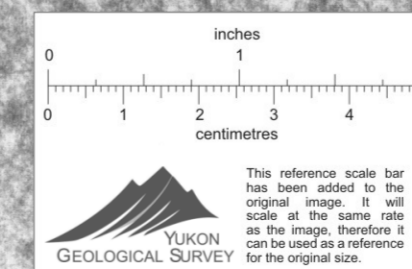
## SECTION: DDH 81-08 & 81-09

TERTIARY QUARTZ PORPHYRY COMPLEX  
FREEGOLD PROJECT

ARCTIC RED RESOURCES CORP.  
MOUNT FREEGOLD AREA, YUKON

SCALE 1 inch = 40 Feet

0 10 20 30 40 60 120 Feet



Geology by M. P. Phillips, 1981

To accompany report dated November 1981

