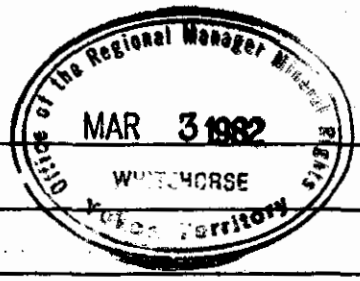
From: Mining Recorder at Whitehorse File No.

T : Supervising Mining Recorder at Whitehorse, Y.T.

FOR ACTION:



____ New Application for Lease to Prospect: Name

____ Renewal Appl'n Lease to Prospect: Name No.

____ Affidavit of Expenditure on Placer Lease: Name No.

____ Assignment of Prospecting Lease No.

From To

____ Grouping Appl'n under Sec. 52(2) Placer Mining Act: Owner

____ Diamond Drill Logs:

Owner: Claim Sheet No.

✓ Quartz Assessment Report: Arctic Red Resources Corp.

Claims: Seymour 1-4, 19-23, 31-34, 39-41 Claim Sheet No. 115 I-6

Type of Report: Trenching, Geochemical Sampling

Submitted By: Archer, Cathro & Assoc.

Claims work performed on: Seymour Goldstar

$ Req. for Renewal application: $5,400.00

Signature: H Sawatzki

Date: 5-11-81

Revised report received. Sent to S.M.R. 26/2/82

Reply Action Date Ref

090906

Signature

Date

ARCHER, CATHRO
& ASSOCIATES LIMITED
CONSULTING GEOLOGICAL ENGINEERS

VANCOUVER, B.C. (604) 688-2568 BOX 4127, WHITEHORSE, Y.T. Y1A 3S9 (403) 667-4415

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

ARCTIC RED RESOURCES CORPORATION

GEOLOGICAL AND GEOCHEMICAL REPORT

SEYMOUR 1-44 CLAIMS

YA60053-YA60096

January, 1982

Claim Sheet 115I/6

Latitude 62°17'N; Longitude 137°11'W

Report by

A.R. Archer, B.A.Sc., P.Eng.

Work done from June 4, 1981 to July 29, 1981

090906

examined by
tion Unit
Yukon Quartz
allowed as
the amount
of $ 15,400.

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

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ILLUSTRATIONS

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Appendix I: List of Personnel

Appendix II: Statement of Qualifications

INTRODUCTION

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 by the Prism/Dynasty work and the 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.

Management of the 1981 work on the Seymour 1-44 claims was contracted to Archer, Cathro & Associates (1981) Limited and supervised by A.R. Archer. Work was carried out between June 4 and July 29, 1981 from a nearby base camp at the old Laforma Mine mill site. Appendix I lists personnel who performed the work, their addresses and the dates of their employment.

PROPERTY, LOCATION AND ACCESS

The Seymour property consists of 44 contiguous mineral claims recorded in the name of Arctic Red Resources Corporation in 1981. The claims are shown on Figure F1 and are registered in the Whitehorse Mining District as follows:

Claim Name	Grant Numbers	Expiry Date
Seymour 1-44	YA60053-YA60096	May 19, 1985*

* pending acceptance of this report

The property is located at latitude 62°17'N and longitude 137°11'W on NTS claim sheet 115I/6. Access is by 40 miles of secondary road (Freegold Road) from Carmacks to the nearby base camp at the old Laforma Mine mill site and by helicopter or rough four-wheel-drive road to the property.

BULLDOZER TRENCHING

A Caterpillar D7-E bulldozer equipped with blade and ripper was contracted by Arctic Red Resources Corporation 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 upgrade road access to the property and to clean out bulldozer trenches remaining on the property from the Dynasty Exploration Ltd. 1975 work. Details of the work are given below:

	Bulldozer Hours	Material Removed
Trench A:	17	18,700 cubic feet
Trench B:	13	13,040 cubic feet
Trench C:	2	2,050 cubic feet
Trench D:	2	1,500 cubic feet
Trench E:	1	4,200 cubic feet
Upgrading Roads:	6	
	41 hours	39,490 cubic feet

NORTHWEST ZONE
1981 GEOCHEMICAL GRID

SEYMOUR CLAIMS

STODDART ZONE
1981 GEOCHEMICAL GRID

CABIN ZONE
1981 GEOCHEMICAL GRID

GUDER OPTION
(GREENSTONE Etc CLAIMS)

MOUNT FREEGOLD
4766 △

PAULINE

ESPERANZA OPTION
(GNAT CLAIMS)

ARCTIC RED
RESOURCES CORP.

RAYROCK
OPTION
(PAL Etc. CLAIMS)

G3 VEIN

RAMBLER VEIN

GOLD
PORPHYRY
ZONE

NO. 4 ADIT
AND OLD
MILLSITE

NORANDA
(DART CLAIMS)

BEST
CLAIMS

HOPE CLAIMS

GNAT
CLAIMS

1980 SOIL
GEOCHEMICAL GRID

1980 SOIL
GEOCHEMICAL GRID

Bow Creek
Seymour Creek
Stoddart Creek
FREEGOLD Creek
ROAD
Schist Creek

2500
3000
3500
4000
4500

137°10'
137°05'
to Carmacks
62°15'

N

137°
136°
62°30'
62°00'
KLONDIKE HWY
Big Creek
MAP AREA
△ Mt. Freegold
Klaza River
△ Mt. Nansen
Carmacks

LOCATION MAP

SCALE — 1:1,000,000

10 5 0 10 20 30 40 Km

10 5 0 10 20 30 Miles

Secondary road

4-Wheel drive road

FIG. F1

ARCHER, CATHRO & ASSOCIATES LTD

LOCATION PLAN

FREEGOLD PROJECT

ARCTIC RED RESOURCES CORP.

MOUNT FREEGOLD AREA, YUKON

SCALE 1 INCH = 1/2 MILE

1/2 0 1/2 1 Mile

500 0 500 1000 1500 Metres

To accompany report dated Jan./82

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 gold, copper and molybdenum. Gold analysis was done in parts per billion (ppb) by fire assay followed by neutron activation. Copper and molybdenum values in ppm were determined by atomic absorption spectrometry of a nitric-perchloric acid extraction.

GEOLOGICAL SETTING

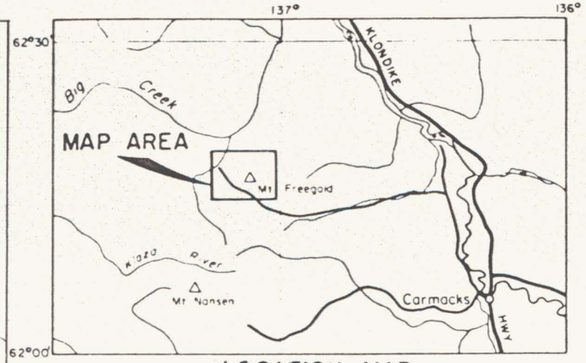
General

The Seymour property straddles the west end of 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 overlie older rocks elsewhere in the district. 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:



LOCATION MAP

SCALE — 1:1,000,000

10 5 0 10 20 30 40 Km

10 5 0 10 20 30 Miles

LEGEND

TERTIARY
EOCENE (?)

- Tmn — MOUNT NANSEN GROUP - dark green andesite in dykes and irregular bodies
- Tfp — FELDSPAR PORPHYRY - quartz porphyry and felsite in dykes and irregular bodies

MESOZOIC
LOWER AND MIDDLE JURASSIC

- Mgd — HORNBLENDE GRANODIORITE

TRIASSIC (?)

- My — SYENITE
- Trgdm — HORNBLENDE GRANODIORITE - foliated

PALEOZOIC
UPPER DEVONIAN AND MISSISSIPPIAN

- Ppsn — SCHIST-GNEISS UNIT - muscovite quartz biotite schist, quartzite

Fault

Geologic contact (defined, approximate, assumed)

Area of mineralization

FIG. F2

ARCHER, CATHRO & ASSOCIATES LTD

GEOLOGY

FREEGOLD PROJECT

ARCTIC RED RESOURCES CORP.

MOUNT FREEGOLD AREA, YUKON

SCALE 1 INCH = 1/2 MILE

1/2 0 1/2 1 Mile

500 0 500 1000 1500 Metres

To accompany report dated Jan./82

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).

PROPERTY GEOLOGY

Geology: Lithologies

Generalized geology of the Stoddart Zone area of the Seymour claims is shown on Figure F3. Results of detailed geological mapping of bulldozer trenches cut across the zone are shown on Figures F4, F5 and F6. Mapping was performed by M.P. Phillips.

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 book 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 F4, F5 and F6. 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 dominately 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 F4, F5 and F6. 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.

GEOCHEMISTRY

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 587 samples were taken; all were analyzed for gold, copper and molybdenum. Topographic contours are shown on the copper geochemistry map only (Figure F7).

Copper geochemistry of the Stoddart Zone area is shown on Figure F7. 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 F8. 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 F9. Weakly anomalous response (10 ppm to 42 ppm Mo) occurs only at the north end of the Tertiary intrusive complex.

SUMMARY AND RECOMMENDATIONS

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. 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. 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.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED,

/jm

A.R. Archer, B.A.Sc., P.Eng.

APPENDIX I

PERSONNEL

PERSONNEL

Name	Title	Address	Period of Work
A.R. Archer	Supervisor	7823 Stanley St., Burnaby, B.C.	June 4 - July 29, 1981
M.P. Phillips	Geologist	50 Alsek Road, Whitehorse, Y.T.	June 4 - July 29, 1981
J. Duke	Sr. Assistant	Box 4801, Whitehorse, Y.T.	June 4 - July 29, 1981
M. Legassicke	Jr. Assistant	71 Ortona, Whitehorse, Y.T.	June 4 - July 29, 1981

APPENDIX II

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Alan R. Archer, with business addresses in Whitehorse, Yukon Territory and Vancouver, British Columbia, and residential address in Burnaby, British Columbia, do hereby declare:

1. I am a 1957 graduate of the University of British Columbia in geological engineering.
2. I have been engaged in geological engineering for over twenty years, the past fifteen of which have been as a consultant.
3. I am a registered professional engineer in British Columbia and in Yukon Territory.
4. I have supervised the work described in this report.

Alan R. Archer, B.A.Sc., P.Eng.

ARCHER, CATHRO
AND ASSOCIATES LTD.
CONSULTING GEOLOGICAL ENGINEERS

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

STANDARD BUILDING, VANCOUVER, B.C. 688-2568

090906

Office of the Supervising Mining Recorder
NOV 6 1981
WHITEHORSE
Yukon Territory

1016 STANDARD BUILDING
810 WEST HASTINGS STREET
VANCOUVER, B.C.
V6B 1L8

RECEIVED
5 NOV 1981
MINING RECORDERS
WHITEHORSE, Y.T.

AFFIDAVIT

I, Joan Mariacher, of Vancouver, B.C. make oath and say:

That to the best of my knowledge the attached Statement of Expenditures for exploration work on the Seymour 1-44 mineral claims on Claim Sheet 115I/6 is accurate.

Joan Mariacher

Sworn before me at Vancouver, B.C.
this 30th day of
October, 1981

Notary, Yukon Territory

Statement of Expenditures
Bulldozer Trenching & Geochemical Sampling
Seymour 1 - 44 Claims

Labour		
M.P. Phillips - June 4 & 6; 2 days at $250/day	$ 500.00	
J. Duke - June 6-10, 12; July 8,9,12,14,24-26, 29 - total 14 days at $95/day	1,330.00	
M. Legassicke - July 9,10,12-16,23-27; total 12 days at $74/day	888.00	$ 2,718.00
Expenses		
Bulldozer trenching, D7E from J-Nor Enterprises (10 hr June 6; 9 hr June 7; 10 hr June 8; 10 hr June 9; 2 hr June 10) total 41 hr at $75/hr	3,075.00	
Bulldozer fuel, 41 hr at 6 gal/hr at $3.70/gal delivered to Freegold camp	910.00	
Helicopter, casual use of Trans North Turbo Air Hughes 500C sublet from Nat Joint Venture to move bulldozer fuel & personnel to and from Freegold camp (0.3 hr June 3; 1.1 hr June 6; 0.4 hr June 7; 0.4 hr June 8; 0.7 hr June 9; 0.4 hr June 10; 0.4 hr June 12; 0.4 hr June 16) total 4.1 hr at $350/hr	1,435.00	
Helicopter fuel, 4.1 hr at 22 gal/hr at $3.50/gal	315.00	
Soil analyses for Cu, Mo and Au at Chemex Labs, North Vancouver, B.C.; total 587 samples at $7.08	4,156.00	
Room and board, field supplies, 28 mandays at $40/day	1,120.00	11,011.00
Total		$13,729.00

In Account With

Project– FREEGOLD PROJECT

Date –– 30 JUNE, 1981

		Total
MANAGEMENT		
JUNE	A	1000.00
LABOUR		
Supervisory M.P. PHILLIPS - JUNE 3-30 - 27½ DAYS AT	B	6875.00
Field J. DUKE - JUNE 1-30 + MAY CB 84	1584.00	
J. WILLIAMS - JUNE 1-25 AT 1450 + MAY CB 140	1349.00	
D. CHARTERS - JUNE 1-7; 14-30 AT 1350 + MAY CB 116	1196.00	
M. TRUDZIK - JUNE 1-4 AT 1350 + MAY CB 140	320.00	
F. SCHUERHECK - JUNE 5-7 AT 1350	135.00	
M. LEGASSICKE - JUNE 20-30 AT 1150	422.00	
R. PHILLIPS - JUNE 22-30 AT 850	255.00	
C. CHALMERS - MAY CB	12.00	B
H. MACISAAC - MAY CB	36.00	5309.00
plus 50 %	B	2654.50
Casual J. MARIACHER - ½ DAY EXTRA ACCOUNTING @ $235/d.	B	117.50
EXPENSES		
Accounting JUNE	250.00	C3
Expediting JUNE	900.00	D3
Room & Board in Whse WILLIAMS - 2; CHARTERS - 6		
total 8 days at $ 35 / day	280.00	D2
Field equipment from AC stock	55.40	D1
Xerox copies, 189 copies at .25/copy	47.25	C1
Radio rental SBX 11 AT 250/mo JUNE 1-30	250.00	D1
Rental AC RED truck JUNE 1-30 at $ 900 / mo.		
plus (39302 to 40431) 1129 mi. at .30 / mi	1238.70	D4
Petty cash 2.00 C2; 25.30 D1	27.30	C2 - 2; D1 - 25.30
Telephone 4.00	4.00	C2
Blueprinting, 90 sq. ft. Ozalid at 30 c/ft plus — sq. ft. Dilar at $ — /ft.	27.00	C1
Drafting, 7 hrs. at $ 18 /hr.	126.00	C1
Rental AC crew cutter - JUNE 1-30 AT 60/mo	60.00	D1
Rental AC Hoo truck JUNE 1-30 AT 900/mo	900.00	D4
Northern Safety	14.45	D1
Imperial Reproductions	1.96	C1
Mac's	11.09 C2	4193.15
Total		20149.15

In Account With

Project – FREEGOLD PROJECT
Date – – JULY 31, 1981

		Total
MANAGEMENT		
July	A	1,010.
LABOUR		
Supervisory		
M.D. Phillips – property & drill program supervision July 1-5, 11, 12-18, 25-26 -- total 14 1/2 DAYS @ 250	B	3,625.
Field J. DUKE – JULY 1-15, 23-31 AT 1500/MO + CB 70.00 JUNE	1231.00	
M LEGASSICKE – JULY 1-5, 23-31 AT 1150/MO	1039.00	
R. PHILLIPS – JULY 1-5, 11-16, 23-31 AT 850/MO	548.00	
D CHARTERS – JULY 1-5 AT 1350/MO + CB 58 – JUNE	276.00	
R. CARNE – JULY 7-10 AT 3000/MO	387.00	
M. JOVANOVIC – JULY 24 AT 1450/MO	47.00	
H. MacISAAC – JULY 24-25 AT 1250/MO	81.00	
F. SCHUERHECK – JULY 18 AT 1350/MO + CB 32.00 JUNE	76.00	
J. WILLIAMS – CB JUNE 70.00	70.00	B 3793.00
M. TRNOZIC – CB JUNE 38.00	38.00	
plus 50 %	B	1896.50
Casual J. MILNER – 1.5 HRS FORKING PLANT AT 16/HR		B 24.00
EXPENSES		
Accounting July	250.00	C3
Expediting July 1-31	900.00	D3
Room & Board in Whse Carne 3; JOVANOVIC 1; SCHUERHECK 1; R. PHILLIPS 1; McISAAC 2; total 8 days at $ 35 /day	280.00	D2
Field equipment from AC stock	52.00	D1
Xerox copies, 431 copies at 25¢/copy	107.75	C1
Radio rental SBX 11 unit July 1 – Aug 3 @ $250/mo	274.19	D1
Rental AC Red truck July 1-27 at $ 30 /day plus (40,431 to 41,267) 836 mi at 30¢/mi	1060.80	D4
Petty cash 2.20 D1 + 1.50 D1	3.70	D1
Telephone		–
Blueprinting, 217 sq. ft. Ozalid at 30 c/ft plus 32 sq.ft. Dilar at $ 2.50 /ft.	145.10	C1
Drafting, 23 1/2 hrs. at $ 18 /hr.	423.00	C1
Rental AC core splitter, July 1-15	30.00	D1
Rental HWD truck, July 1-31	900.00	D4
Auto Marine Electric – truck repair 26.75 + 18.73 + 11.30	56.78	D4
ICG Canadian Propane	61.75	D1
Receiver General 750 [illegible]	9.50	C2
[illegible]	14.02	D1
[illegible]	21.85	C2 5146.0[illegible]
		15424.5[illegible]
Credit		
purchased 20 empty drums from [illegible] @ $30 and sold 8 1/2 drums diesel @ 3.25 gal + drum charge	603.13	G3
[illegible] – [illegible] rebate	31.00	D1 634.[illegible]
Total		[illegible]

J - MCR ENTERPRISES LTD
CARMACKS, YUKON

INVOICE

OUR NUMBER 030418
DATE June 6/81
CUSTOMER'S ORDER
SALESMAN
TERMS
F.O.B.

SOLD TO Archer Cathro & Associates Ltd
Whitehorse, Yukon
SHIPPED TO Freegold project La Ferme
ADDRESS VIA

	Walk cat from Camp 1 to Stoddart area, rip & doze trench #8.	10	75	750	00
				750	.00

REDIFORM - 7M32

J-NOR ENTERPRISES LTD
CARMACKS, YUKON

INVOICE

OUR NUMBER 030419
DATE June 7/81
CUSTOMER'S ORDER
SALESMAN
TERMS
F.O.B.

SOLD TO Arctic Cable & Construction Ltd
Whitehorse Yukon
SHIPPED TO Freegold project Via Juneau
ADDRESS VIA

	Move & dig trench #B, expose bed rock	17	75	525	00
	Move & open trench #A	2	75	150	00
				675	00
				675	00

REDIFORM - 7M32

J - NOR ENTERPRISES LTD
CARMACKS, YUKON

OUR NUMBER	030420
DATE	June 8/81
CUSTOMER'S ORDER	
SALESMAN	
TERMS	
F.O.B.	

SOLD TO Archer Cathro & Associates Ltd.
Whitehorse Yukon

SHIPPED TO Freegold project [illegible]

ADDRESS __________ VIA __________

INVOICE

	[illegible]				
	[illegible] truck # 4				
	Stoddart [illegible]	10	75	750	00
				750	00

REDIFORM - 7M32

NOR ENTERPRISES LTD
CARMACKS, YUKON

INVOICE

OUR NUMBER 030421
DATE June 9/81
CUSTOMER'S ORDER
SALESMAN
TERMS
F.O.B.

SOLD TO Archer Cathro & Associates Ltd
Whitehorse, Yukon
SHIPPED TO Isaegold project Lot Forma
ADDRESS
VIA

	Doze pipe, expose bedrock Trench # A	5	75	375	00
	Doze pipe expose bedrock Trench # C	2		150	00
	Doze pipe frozen ground trench # D	2		150	00
	Clear brush & expose trench # E	1		75	00
	Stoddart zone trenching				
				750	00

REDIFORM - 7M32

J - NOR ENTERPRISES LTD
CARMACKS, YUKON

INVOICE

OUR NUMBER	030422
DATE	June 10/81
CUSTOMER'S ORDER	
SALESMAN	
TERMS	
F.O.B.	

SOLD TO Archer Cathro & Associates Ltd
Whitehorse, Yukon

SHIPPED TO Freegold project La Forma

ADDRESS _____ VIA _____

Move cat from Haddut zone to drillsite #1 then move drill to camp to drillsite #2 & Level drill	2		150	00
	5	75	375	00
Travel to Carmacks, cook to doctor the return to La Forma				
1 day 4x4 rental			45	00
135 Km		21¢	27	00
			597	00

Amount due

REDIFORM - 7M32

TNT **TRANS NORTH TURBO AIR LTD.**
BOX 4339, WHITEHORSE, YUKON Y1A 3T6
TELEPHONE (403)668 2177 • TELEX 036 8-290

ACCOUNT NUMBER: 117
52535

CHARTERER: PARKER CATTICO

BILLING ADDRESS:

INVOICE DATE: 10 / 06 / 81
AREA: B.C. ☐ YUKON ☑ N.W.T. ☐ ALTA. ☐

A/C TYPE: H 500C
AIRCRAFT REGISTRATION C: -XVW

FLIGHT DATE: DAY 03 MONTH 06 YEAR 81

PURCHASE ORDER NO.: NAT

FUEL & OIL-E TNTA	FUEL & OIL-E CUST.	TNTA FUEL USED	HRS.-GALS.	FROM
	X		5.4 HRS	BOW RIVER

FROM	TO	MILES	HOURS	ZONE	REMARKS - NO. OF PASS - FREIGHT LBS.
BOW RIVER	BOW RIVER		5.4		SET OUT 5' P.U. CREW
					P.U. A&M @ CARCAJOU
					CHECK TARGETS ON
					LILY PAD & OBSERVATIONS
					AREA.
					(1.8 hrs LILYPAD
					ASSESSMENT)

SUB	G.L.	AMOUNT			
9 2 2 5 0 2 0		1890 00	5.4	@ 350.00	1890 00
				@	
				@	
				@	

WAITING TIME	@	/HR.	
FUEL:	@	/GAL.	
FUEL:	@	/GAL.	
MEALS & LODGING			
OTHER			
OTHER			

TOTAL $ 1890 00

TERMS: NET 30 DAYS
1.75% INTEREST PER MONTH (21% PER ANNUM) WILL BE CHARGED ON ALL OUTSTANDING AMOUNTS OVER 30 DAYS.

X _____
CHARTERER'S SIGNATURE

David Reid
PILOT'S SIGNATURE

INITIALS

CO-PILOT'S NAME

ENGINEER'S NAME: Charlie Haeller

FLIGHT ATTENDANT

FLIGHT REPORT INVOICE

TRANS NORTH TURBO AIR LTD.
BOX 4338, WHITEHORSE, YUKON Y1A 3T6
TELEPHONE (403)668-2177 • TELEX 036-8-290

ACCOUNT NUMBER: 117
52538

CHARTERER: ARCTIC CAT/RC

BILLING ADDRESS:

INVOICE DATE: 10 | 06 | 81

AREA: B.C. / YUKON / N.W.T. / ALTA.

A/C TYPE: A-50RC

AIRCRAFT REGISTRATION C: -X V W

FLIGHT DATE: DAY 06 | MONTH 06 | YEAR 81

PURCHASE ORDER NO.: NAT

FUEL & OIL-S TNTA	FUEL & OIL-S CUST.	TNTA FUEL USED	HRS.-GALS.	FROM
	X	5.1 HRS.		BOW RIVER

FROM / TO	MILES	HOURS	ZONE	REMARKS - NO. OF PASS - FREIGHT LBS.
FROM BOW RIVER TO PREEMPTION				RELIEF CAT LOAD SLING FUEL, MOVE 3 PAX
BOW RIVER		1.1		TO & FROM STEPPARD.
BOW RIVER		.8		SET OUT & P.U. ON NUGGETS
LILY PAD BOW RIVER		3.2		SLING STAKES, MOVE 3 PAX TO CLAIMS, STAKE.

SUB	G.L.	AMOUNT
9122	5020	1785 00

5.1	@	350 00	1785 00
	@		
	@		
	@		

TERMS: NET 30 DAYS
1.75% INTEREST PER MONTH (21% PER ANNUM) WILL BE CHARGED ON ALL OUTSTANDING AMOUNTS OVER 30 DAYS.

X _____ CHARTERER'S SIGNATURE

David Reid PILOT'S SIGNATURE

INITIALS: CO-PILOT'S NAME

ENGINEER'S NAME: Charlie Hoelbr.

FLIGHT ATTENDANT

WAITING TIME	@	/HR.	
FUEL:	@	/GAL.	
FUEL:	@	/GAL.	
MEALS & LODGING			
OTHER			
OTHER			

TOTAL $ 1785 00

FLIGHT REPORT INVOICE

TRANS NORTH TURBO AIR LTD.
BOX 4338, WHITEHORSE, YUKON Y1A 3T8
TELEPHONE (403)668-2177 • TELEX 036-8-290

ACCOUNT NUMBER: 117
52539

INVOICE DATE: 10 06 81
AREA: B.C. / YUKON / WHT / ATA

CHARTERER: ARCHER (CATHRO)

BILLING ADDRESS:

A/C TYPE: H500C
AIRCRAFT REGISTRATION #: CXJW

FLIGHT DATE: DAY 07 MONTH 06 YEAR 81

PURCHASE ORDER NO.: NAT

FUEL & OIL-II TNTA	FUEL & OIL-II CUST.	TNTA FUEL USED	HRS.-GALS.	FROM
	X		1.8 HR	BOW RIVER

FROM / TO	MILES	HOURS	ZONE	REMARKS - NO. OF PASS - FREIGHT LBS.
FROM BOW RIVER				
TO FREEGOLD				P.U. & SET OUT 2
BOW RIVER		.4		PAX & STOPOVER
BOW RIVER		1.4		SET OUT & P.U.
				CREW ON NEXT &
				NUCLUS CLAIMS

SUB	G.L.	AMOUNT
9	22 90 20	630 00

1.8	@ 350.00		630 00
	@		
	@		
	@		
WAITING TIME	@	/HR.	
FUEL:	@	/GAL.	
FUEL:	@	/GAL.	
MEALS & LODGING			
OTHER			
OTHER			

TOTAL $ 630 00

TERMS: NET 30 DAYS
1.75% INTEREST PER MONTH (21% PER ANNUM) WILL BE CHARGED ON ALL OUTSTANDING AMOUNTS OVER 30 DAYS.

X _____ CHARTERER'S SIGNATURE

David Reid PILOT'S SIGNATURE

INITIALS | CO-PILOT'S NAME

ENGINEER'S NAME: Charlie Hoelbr.

FLIGHT ATTENDANT

FLIGHT REPORT INVOICE

TRANS NORTH TURBO AIR LTD.
BOX 4338, WHITEHORSE, YUKON Y1A 3T8
TELEPHONE (403)668 2177 • TELEX 036-8-290

ACCOUNT NUMBER: 52540

INVOICE DATE: 16/06/81

CHARTERER: ARCHER CATHRO

BILLING ADDRESS:

A/C TYPE: H 500C

AIRCRAFT REGISTRATION: -XVW

FLIGHT DATE: DAY 08 MONTH 06 YEAR 81

PURCHASE ORDER NO.: NAT

FUEL & OIL-S TNTA	FUEL & OIL-S CUST.	TNTA FUEL USED	HRS.-GALS.	FROM
	X		2.3 HRS	BOW RIVER

FROM	TO	MILES	HOURS	ZONE	REMARKS - NO. OF PASS -	FREIGHT LBS.
BOW RIVER	FREEBOARD				SET OUT & P.U.	
FREEBOARD	BOW RIVER		0.4		2 PAX	
BOW RIVER	BOW RIVER		1.9		SET OUT & P.U.	
					CREWS ON NUCLEN & NITRO	

SUB	S.L.		AMOUNT				
92	50	20	805	00	2.3	@ 350.00	805 00

TERMS: NET 30 DAYS
1.75% INTEREST PER MONTH (21% PER ANNUM) WILL BE CHARGED ON ALL OUTSTANDING AMOUNTS OVER 30 DAYS.

X _____ CHARTERER'S SIGNATURE

David Reid PILOT'S SIGNATURE

INITIALS: _____ CO-PILOT'S NAME

ENGINEER'S NAME: Charlie Hoeller

FLIGHT ATTENDANT

WAITING TIME	@	/HR.	
FUEL:	@	/GAL.	—
FUEL:	@	/GAL.	
MEALS & LODGING			
OTHER			
OTHER			

TOTAL $ 805 00

FLIGHT REPORT INVOICE

TRANS NORTH TURBO AIR LTD.
BOX 4338, WHITEHORSE, YUKON Y1A 3T8
TELEPHONE (403)668-2177 • TELEX 036-8-290

ACCOUNT NUMBER: 117

52541

INVOICE DATE: 16/06/81

ARTA: B.C. YUKON NWT ALTA

CHARTERER: ARCHER CATHRO

BILLING ADDRESS:

A/C TYPE: HUGHES 500 — AIRCRAFT REGISTRATION C: -XVW

FLIGHT DATE: DAY 09 MONTH 06 YEAR 81

PURCHASE ORDER NO.: NAT

FUEL & OIL-T TNTA	CUST.	TNTA FUEL USED	HRS.-GALS.	FROM
	X		2.3 HRS	BOW RIVER

FROM	TO	MILES	HOURS	ZONE	REMARKS - NO. OF PASS - FREIGHT LBS.
BOW RIVER	BOW RIVER		1.6		SET OUT 5 P.U. CREWS ON NUCLEUS & NITPO
FREEGOLD	BOW RIVER		.7		SET OUT 3 P.U. 3 PAX @ SIDDARTH

SUB	G.L.		AMOUNT				
922	5c12c		805	00	2.3	@ 350.00	805 00
						@	
						@	
						@	

WAITING TIME	@	/HR.	
FUEL:	@	/GAL.	—
FUEL:	@	/GAL.	
MEALS & LODGING			
OTHER			
OTHER			
TOTAL	$		805 00

TERMS: NET 30 DAYS
1.75% INTEREST PER MONTH (21% PER ANNUM) WILL BE CHARGED ON ALL OUTSTANDING AMOUNTS OVER 30 DAYS.

X _____ CHARTERER'S SIGNATURE

David Reid PILOT'S SIGNATURE

INITIALS: CO-PILOT'S NAME

ENGINEER'S NAME: Charlie Hoelke

FLIGHT ATTENDANT

FLIGHT REPORT INVOICE

TRANS NORTH TURBO AIR LTD.
BOX 4339, WHITEHORSE, YUKON Y1A 3T6
TELEPHONE (403)668 2177 • TELEX 036-8-290

ACCOUNT NUMBER: 1/7 — 52542

CHARTERER: ARCHER CATHRO

BILLING ADDRESS:

INVOICE DATE: 16/06/81 — AREA: B.C. YUKON NWT ALTA

A/C TYPE: H-500C — AIRCRAFT REGISTRATION: -XYW

FLIGHT DATE: DAY 10 — MONTH 06 — YEAR 81

PURCHASE ORDER NO.: NAT

FUEL & OIL-X TNTA	FUEL & OIL-X CUST.	TNTA FUEL USED	HRS.-GALS.	FROM
	X	4.2 HRS		BOW RIVER

FROM	TO	MILES	HOURS	ZONE	REMARKS - NO. OF PASS - FREIGHT LBS.
BOW RIVER	BOW RIVER		3.8		SET OUT & P.U. CREW ON HELIPAD & ACCESS
	FREEBORD				
	BOW RIVER		.4		SET OUT & P.U. 1 PAX

SUB	E.L.	AMOUNT				
9 2 2	5 0 2	0	147	00	4.2 @ 350.00	147 00
					@	
					@	
					@	

TERMS: NET 30 DAYS
1.75% INTEREST PER MONTH (21% PER ANNUM) WILL BE CHARGED ON ALL OUTSTANDING AMOUNTS OVER 30 DAYS.

X _____ CHARTERER'S SIGNATURE

David Bird — PILOT'S SIGNATURE

INITIALS — CO-PILOT'S NAME

ENGINEER'S NAME: Charlie Hoelle

FLIGHT ATTENDANT

WAITING TIME	@	/HR.	
FUEL:	@	/GAL.	—
FUEL:	@	/GAL.	
MEALS & LODGING			
OTHER			
OTHER			

TOTAL $ 147 00

FLIGHT REPORT INVOICE

TRANS NORTH TURBO AIR LTD.
BOX 4338 WHITEHORSE, YUKON Y1A 3T6
TELEPHONE (403)668-2177 • TELEX 036-8-290

ACCOUNT NUMBER: 52545

CHARTERER: ARCHER CATHRO

BILLING ADDRESS:

INVOICE DATE: 86/06/81

AREA: B.C. YUKON NWT ALTA

A/C TYPE: H-500C

AIRCRAFT REGISTRATION: -XVW

FLIGHT DATE: DAY 12 MONTH 06 YEAR 81

PURCHASE ORDER NO.: NAT

FUEL & OIL	TNTA FUEL USED	HRS.-GALS.	FROM
TNTA / CUST.			
X		7-5 HRS	BOW RIVER

FROM	TO	MILES	HOURS	ZONE	REMARKS - NO. OF PASS - FREIGHT LBS.
BOW RIVER	BOW RIVER		7-1		SET UP'S P.U. CREW, 'HOPPER HOP' - 3 LIFTS.
FREEHOLD					
BOW RIVER			.4		

SUB	S.L.	AMOUNT				
912	502	0	2625	00	7-5 @ 350.00	2625 00
					@	
					@	
					@	

WAITING TIME	@	/HR.	
FUEL:	@	/GAL.	—
FUEL:	@	/GAL.	
MEALS & LODGING			
OTHER			
OTHER			
TOTAL			$ 2625 00

TERMS: NET 30 DAYS
1.75% INTEREST PER MONTH (21% PER ANNUM) WILL BE CHARGED ON ALL OUTSTANDING AMOUNTS OVER 30 DAYS.

X _____
CHARTERER'S SIGNATURE

David Reid
PILOT'S SIGNATURE

INITIALS: CO-PILOT'S NAME

ENGINEER'S NAME: Charlie Hoelbe

FLIGHT ATTENDANT

FLIGHT REPORT INVOICE

TRANS NORTH TURBO AIR LTD.

BOX 4338 WHITEHORSE, YUKON Y1A 3T6

TELEPHONE (403)668 2177 · TELEX 036-8-290

ACCOUNT NUMBER: 117

52550

INVOICE DATE: 13 07 81

AREA: B.C. YUKON NWT ALTA.

CHARTERER: ARCHER CATHRO

BILLING ADDRESS:

A/C TYPE: H500C

AIRCRAFT REGISTRATION C: 4XUW

FLIGHT DATE: DAY 16 MONTH 06 YEAR 81

PURCHASE ORDER NO.: NAT

FUEL & OIL-X TNTA	FUEL & OIL-X CUST.	TNTA FUEL USED HRS.-GALS.	FROM
	X	3.2 HRS	

FROM / TO	MILES	HOURS	ZONE	REMARKS - NO. OF PASS - FREIGHT LBS.
FROM BOW RIVER				
TO HELIPAD				SET OUT 5' PU.
BOW RIVER		2.8		CREW
FREEHOLD				
BOW RIVER		.4		SLING 45'S BACK TO CAMP FROM STEPDOWN

SUB	G.L.	AMOUNT				
9	22	5	02	0	1120	00

3.2	@	350.00	1120	00
	@			
	@			
	@			

TERMS: NET 30 DAYS
1.75% INTEREST PER MONTH (21% PER ANNUM) WILL BE CHARGED ON ALL OUTSTANDING AMOUNTS OVER 30 DAYS.

X _____ CHARTERER'S SIGNATURE

DJR — David Reid — PILOT'S SIGNATURE / INITIALS

CO-PILOT'S NAME

ACH — Charlie Hoeller — ENGINEER'S NAME

FLIGHT ATTENDANT

WAITING TIME	@	/HR.	
FUEL:	@	/GAL.	
FUEL:	@	/GAL.	
MEALS & LODGING			
OTHER			
OTHER			

TOTAL $ 1120 00

FLIGHT REPORT
INVOICE

CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

*** INVOICE ***

To : ARCHER CATHRO & ASSOC. LTD.
BOX 4127
WHITEHORSE, Y.T.
Y1A 3S9

Invoice # : I8111513
Date : 24-JUN-81
P.O. # : NONE
Project FREEGOLD-BATH

Invoice for analytical work reported on certificate(s) A8111513-001

Quantity	Analysed for code	description	unit price	amount
11	002 - Cu	ppm		
	003 - Mo	ppm		
	006 - Ag	ppm		
	013 - AS	ppm		
	018 - W	ppm		
	101 - AU-NAA	ppb	16.00	176.00
	Sample preparation and other charges :			
11	205 - Rock geochem - RING		2.00	22.00

TOTAL $ 198.00
Discount (20 %) $ 39.60

Please pay this amount ----> $ 158.40

TERMS -- NET 30 DAYS
1.5 % per month (18 % per annum) charged on overdue accounts

$169.60
1036.56
935.40
693.60
643.40
3600.96

CTA MEMBER CANADIAN TESTING ASSOCIATION

CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER, B C
CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043 52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

*** INVOICE ***

To : ARCHER CATHRO & ASSOC. LTD.
BOX 4127
WHITEHORSE, Y.T.
Y1A 3S9

Invoice # : I8111514

Date : 25-JUN-81
P.O. # : NONE
Project FREEGOLD-STODDA

Invoice for analytical work reported on certificate(s) A8111514-001 to -002

Quantity	Analysed for code	description	unit price	amount
78	002 - Cu	ppm		
	003 - Mo	ppm		
	006 - Ag	ppm		
	013 - AS	ppm		
	018 - W	ppm		
	101 - AU-NAA	ppb	16.00	1248.00

Sample preparation and other charges :

77	201 - soil + sediment -80 mesh		0.60	46.20
1	203 - -35 mesh sieve + ring		1.50	1.50

TOTAL	$ 1295.70
Discount (20 %)	$ 259.14
Please pay this amount ---->	$ 1036.56

TERMS -- NET 30 DAYS
1.5 % per month (18 % per annum) charged on overdue accounts

CTA MEMBER CANADIAN TESTING ASSOCIATION

CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

*** INVOICE ***

To : ARCHER, CATHRO & ASSOCIATES (1981) LTD.
1016 - 510 W. HASTINGS ST.,
VANCOUVER, B.C.
V6B 1L8

Invoice # : I8113673
Date : 05-OCT-81
P.O. # : NONE
Project FREEGOLD

Invoice for analytical work reported on certificate(s) A8113673-001 to -006

Quantity	Analysed for code	description	unit price	amount
233	101 - Au NAA	ppb		
	002 - Cu	ppm		
	003 - Mo	ppm	8.25	1922.25
	Sample preparation and other charges :			
227	201 - soil + sediment -80 mesh		0.60	136.20
6	203 - -35 mesh sieve + ring		1.50	9.00

TOTAL $ 2067.45
Discount (20 %) $ 413.49

Please pay this amount ----> $ 1653.96

1681.52
860.36
1054.32
3596.56

TERMS -- NET 30 DAYS
1.0 % per month (24 % per annum) charged on overdue accounts

pd Oct 7/81
#127

CTA MEMBER CANADIAN TESTING ASSOCIATION

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

*** INVOICE ***

To : ARCHER, CATHRO & ASSOCIATES (1981) LTD.
1016 - 510 W. HASTINGS ST.,
VANCOUVER, B.C.
V6B 1L8

Invoice # : I8113672
Date : 05-OCT-81
P.O. # : NONE
Project FREEGOLD

Invoice for analytical work reported on certificate(s) A8113672-001 to -006

Quantity	Analysed for code	description	unit price	amount
231	101 - Au NAA	ppb		
	002 - Cu	ppm		
	003 - Mo	ppm	8.25	1905.75
9	101 - Au NAA	ppb	5.75	51.75
	Sample preparation and other charges :			
239	201 - soil + sediment -80 mesh		0.60	143.40
1	203 - -35 mesh sieve + ring		1.50	1.50
			TOTAL	$ 2102.40
			Discount (20 %)	$ 420.48
			Please pay this amount ---->	$ 1681.92

TERMS -- NET 30 DAYS
2.0 % per month (24 % per annum) charged on overdue accounts

8.25
.60
8.85
-1.77
7.08/sample

CTA MEMBER CANADIAN TESTING ASSOCIATION

CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER, B C
CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

*** INVOICE ***

To : ARCHER, CATHRO & ASSOCIATES (1981) LTD.
1016 - 510 W. HASTINGS ST.,
VANCOUVER, B.C.
V6B 1L8

Invoice # : I8113671

Date : 05-OCT-81
P.O. # : NONE
Project FREEGOLD-GAMBLE

Invoice for analytical work reported on certificate(s) A8113671-001 to -005

Quantity	Analysed for code	description	unit price	amount
10	101 - Au NAA	ppb		
	002 - Cu	ppm		
	003 - Mo	ppm	8.25	82.50
155	101 - Au NAA	ppb	5.75	891.25

Sample preparation and other charges :

162	201 - soil + sediment -80 mesh	0.60	97.20
3	203 - -35 mesh sieve + ring	1.50	4.50

TOTAL	$ 1075.45
Discount (20 %)	$ 215.09
Please pay this amount ---->	$ 860.36

TERMS -- NET 30 DAYS
2.0 % per month (24 % per annum) charged on overdue accounts

ARCHER, CATHRO
AND ASSOCIATES LTD.
CONSULTING GEOLOGICAL ENGINEERS

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

STANDARD BUILDING, VANCOUVER, B.C. 688-2568

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

090906

AFFIDAVIT

I, Joan Mariacher, of Vancouver, B.C. make oath and say:

That to the best of my knowledge the attached Statement of Expenditures for exploration work on the Vindicator, Excelsior etc. mineral claims on Claim Sheet 115I/6 is accurate.

Joan Mariacher

Sworn before me at Vancouver, B.C.
this 15th day of
October, 1981

Notary, Yukon Territory

Statement of Expenditures
Bulldozer Trenching
Vindicator, Excelsior etc. Claims
October 15, 1981

Expenses

Bulldozer trenching, 20 hours D7E on June 18 & 19 by J-Nor Enterprises Ltd. at $75/hr	$1,500.00	
Bulldozer fuel supplied by Archer, Cathro; 20 hours at 6 gal/hr useage at $3.70/gal delivered to Freegold camp	444.00	
Sublet Trans North Turbo Air Hughes 500C helicopter from Nat Joint Venture to move bulldozer driver and fuel from Freegold camp to bulldozer site; 0.5 hrs June 18 and 0.4 hrs June 19 at $350/hr	315.00	$2,259.00

J-NOR ENTERPRISES LTD
CARMACKS, YUKON

INVOICE

OUR NUMBER 030430
DATE June 18/81
CUSTOMER'S ORDER
SALESMAN
TERMS
F.O.B.

SOLD TO (Yukon) Cabin Crew Ltd
Whitehorse, Yukon
SHIPPED TO
ADDRESS Freegold Project VIA Via Jonas

	Move cat from Mill to camp to Cabin Zone & digging & piling trenches to expose bedrock	10	75	750	00
				750	00

REDIFORM - 7M32

J-NOR ENTERPRISES LTD
CARMACKS, YUKON

INVOICE

OUR NUMBER 030431
DATE June 19/81
CUSTOMER'S ORDER
SALESMAN
TERMS
F.O.B.

SOLD TO (Yukon) Cabin Crew Ltd
Whitehorse, Yukon
SHIPPED TO
ADDRESS Freegold Project VIA Via Jonas

	Moving equipment from Cabin Zone to Edgar Extent	8	75	600	00
	Move cat to East side of mix from Cabin Zone	2	75	750	00
	Take cat to drill site # 4 & straighten drill	1	75	75	00
		11			
				825	00

REDIFORM - 7M32

TRANS NORTH TURBO AIR LTD.

BOX 4338, WHITEHORSE, YUKON Y1A 3T6

TELEPHONE (403)668-2177 • TELEX 036-8-290

ACCOUNT NUMBER: 1 1 7

52553

INVOICE DATE: 03/07/81

AREA: B.C. YUKON NWT ALTA.

CHARTERER: ARCHER CATHRO

BILLING ADDRESS:

A/C TYPE: H-500C

AIRCRAFT REGISTRATION C: -XVW

FLIGHT DATE: DAY 19 MONTH 06 YEAR 81

PURCHASE ORDER NO.: NAT

FUEL & OIL-X TNTA	FUEL & OIL-X CUST.	TNTA FUEL USED	HRS.-GALS.	FROM
	X	3.0 HRS		

FROM	TO	MILES	HOURS	ZONE	REMARKS - NO. OF PASS - FREIGHT LBS.
BOW RIVER	BOW RIVER		2.6		SET OUT 3 P.V. CREW ON LILYPAD
	FREEBOARD				
BOW RIVER			.4		SET OUT 1 PAX & SLING BACK 2 EMPTY FUEL DRUMS.

SUB	G.L.		AMOUNT				
922	5012	0	1050	00	3.0	@ 350.00	1050 00
						@	
						@	
						@	

TERMS: NET 30 DAYS
1.75% INTEREST PER MONTH (21% PER ANNUM) WILL BE CHARGED ON ALL OUTSTANDING AMOUNTS OVER 30 DAYS.

X _____ CHARTERER'S SIGNATURE

DJR David Reid PILOT'S SIGNATURE

INITIALS

CO-PILOT'S NAME

ACH Charlie Hoelbe ENGINEER'S NAME

FLIGHT ATTENDANT

WAITING TIME	@	/HR.	
FUEL:	@	/GAL.	
FUEL:	@	/GAL.	
MEALS & LODGING			
OTHER			
OTHER			

TOTAL $ 1050 00

FLIGHT REPORT INVOICE

TRANS NORTH TURBO AIR LTD.
BOX 4338, WHITEHORSE, YUKON Y1A 3T6
TELEPHONE (403)668-2177 • TELEX 036-8-290

ACCOUNT NUMBER · 1 1 7
52552

INVOICE DATE 03 07 81
AREA: B.C. YUKON NWT ALTA.

CHARTERER: ARCHER CATHRO

BILLING ADDRESS:

A/C TYPE: H 500C
AIRCRAFT REGISTRATION C- X V W

FLIGHT DATE: DAY 18 MONTH 06 YEAR 81

PURCHASE ORDER NO.: NAT

FUEL & OIL-X: TNTA	CUST.	TNTA FUEL USED	HRS.-GALS.	FROM
	X	6.2 HRS		BOW RIVER

FROM / TO	MILES	HOURS	ZONE	REMARKS - NO. OF PASS - FREIGHT LBS.
FROM BOW RIVER				
TO CARMACKS				P.U. 5 RETURN 3
LILYPAD				PAX TO CARMACKS, 5
CARMACKS				TOUR LILYPAD -
BOW RIVER		2.9		
LILYPAD				SET OUT 5 P.U.
BOW RIVER		3.8		CREW // 1.4 - LILYPAD 1.4 - NEWT
FREEDOM				P.U. 1 PAX & SLING
BOW RIVER		.5		DIESEL.

SUB	G.L.		AMOUNT	
912	5020		2170	00

6.2	@	350.00	2170	00
	@			
	@			
	@			
WAITING TIME	@	/HR.		
FUEL:	@	/GAL.		
FUEL:	@	/GAL.		
MEALS & LODGING				
OTHER				
OTHER				

TOTAL $2170 00

TERMS: NET 30 DAYS
1.75% INTEREST PER MONTH (21% PER ANNUM) WILL BE CHARGED ON ALL OUTSTANDING AMOUNTS OVER 30 DAYS.

X _____ CHARTERER'S SIGNATURE

DJR — David Reid — PILOT'S SIGNATURE / INITIALS

CO-PILOT'S NAME

ACH — Charlie Hoelbe — ENGINEER'S NAME

FLIGHT ATTENDANT

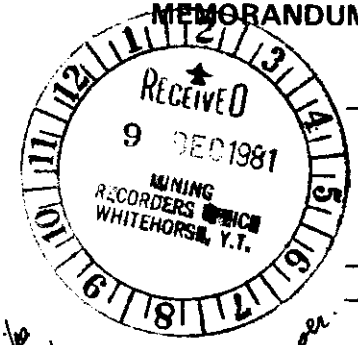
FLIGHT REPORT INVOICE

Project – FREEGOLD PROJECT
Date – – AUGUST 31, 1981

		Total
MANAGEMENT		
AUG	A	1,000.00
LABOUR		
Supervisory		
Field J. DUKE - AUG. 1-4 AT 1500/mo + JULY CB 105.00	298.00	
M. LEGASSICKE - AUG 1-3. 25-31 AT 1150/mo + JULY CB 115.00	486.00	
M. TRUDZIK - AUG. 26-29 AT 1350/mo	174.00	B 1155.00
R PHILLIPS - AUG. 4-6 AT 810/mo + JULY CB 60.00	197.00	
plus 50 %		B 5775.00
Casual C. Chalmers - 6 days unpacking and clearing camp gear @ $140/day	840.00	
K. Hackman - 1 day packing and shipping gear camden @ $120	120.00	B 960.00
EXPENSES		
Accounting AUG	250.00	C3
Expediting AUG 1-3 @ $900/mo	90.00	D3
Room & Board in Whse DUKE-4; CHALMERS 6		
total 8 days at $ 35 /day	280.00	DV
Field equipment from AC stock		
Xerox copies, 18 copies at 25¢/copy	4.50	C1
Radio rental		
Rental AC truck at $ /mo.		
plus (to) kms at /km		
Petty cash D2 - 17.61	17.61	DV
Telephone	22.90	← C1
Blueprinting, 23 sq. ft. Ozalid at 30 c/ft. plus 45 sq. ft. Dilar at $ 2.50 /ft.	119.40	C1
Drafting, 25 1/2 hrs. at $ 18 /hr.	459.00	C1
Comments Hotel, Amity meals	32.75	DV
Sub-Sist Sood helicopter from NAT J.V. drill		

Government of Canada / Gouvernement du Canada

MEMORANDUM **NOTE DE SERVICE**



TO / A: Dave Jennings,
Mining Recorder
Whitehorse

FROM / DE: Ruth Debicki
Staff Geologist
Whithorse

SECURITY - CLASSIFICATION - DE SÉCURITÉ	
OUR FILE/NOTRE RÉFÉRENCE	
YOUR FILE/VOTRE RÉFÉRENCE	
DATE	Dec. 8, 1981

gave copy to Linda 17-12-81
report in hand was only preliminary. Detailed report coming from Vancouver.

SUBJECT / OBJET: additional information required for approval of assessment reports.

re: report submitted by Archer Cathro and Assoc, on behalf of Arctic Red Resources Corp., 115 I 6, Seymour group. The map which accompanies the report does not show topographic features, or claim locations. It shows trench locations w.r.t. grid locations: we don't have a map showing grid locations w.r.t. topography etc., so we really don't know where the trenches are located. To be acceptable, this report requires a map showing the claims locations, and a map (possibly the same one) showing the trench locations w.r.t. topographic features, or claims boundaries. Also required are the dimensions of the trenches, the nature of the material removed, the locations of samples taken for chemical analysis, and the analytical results, as the analytical costs are also charged. Spoke with Mike Phillips on this one, and he said a report would be coming, but have received a second batch of information on this, and all it was was a more detailed listing of costs.

167-415

In Account With

Project – FREEGOLD PROJECT

Date – – 30 JUNE, 1981

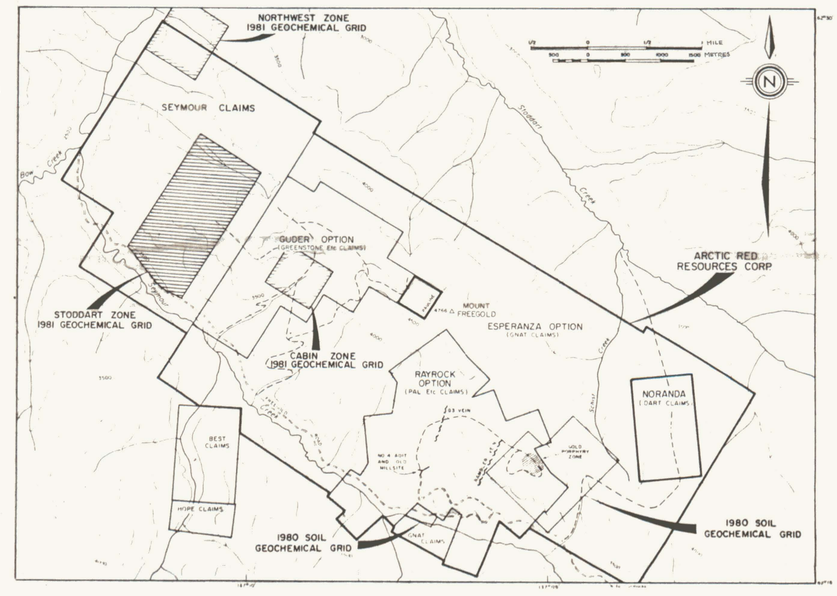
			Total
MANAGEMENT			
	JUNE	A	1000.00
LABOUR			
Supervisory	MP PHILLIPS - JUNE 3-30 - 27½ DAYS AT	B	6875.00
Field	J. DUKE - JUNE 1-30 + MAY CB 84		1584.00
	J. WILLIAMS - JUNE 1-15 AT 1450 + MAY CB 140		1349.00
	D. CHARTERS - JUNE 1-7; 14-30 AT 850 + MAY CB 116		1196.00
	M. TRUDZIK - JUNE 1-4 AT 850 + MAY CB 140		380.00
	C. SCHUERHECK - JUNE 5-7 AT 1350		135.00
	M. LEGASSICKE - JUNE 20-30 AT 1150		440.00
	R. PHILLIPS - JUNE 22-30 AT 850		255.00
	C. CHAMBERS - MAY CB		10.00
	H. MACISAAC - MAY CB		36.00	B 309.00
Casual	J. MARIACHER - ½ DAY EXTRA ACCOUNTING @ $235/d. plus 50 %	B	764.50
		B	117.50
EXPENSES			
Accounting	JUNE	250.00	C3
Expediting	JUNE	900.00	D3
Room & Board in Whse	WILLIAMS - 2; CHARTERS - 6 total 8 days at $ 35 / day	280.00	DV
Field equipment from AC stock		55.40	D1
Xerox copies,	89 copies at 15¢/copy	47.35	C1
Radio rental	SBX 11 AT 250/mo JUNE 1-30	250.00	D1
Rental AC RED truck	JUNE 1-30 at $ 900 / mo. plus (39307 to 40431) 1124 mi ~~kms~~ at .30 /~~km~~ mi	1138.70	D4
Petty cash	7.00 CV; 15.30 D1	27.30	CV-7.00 D1-15.30
Telephone	4.00	4.00	CV
Blueprinting,	90 sq. ft. Ozalid at 30 c/ft plus — sq. ft. Dilar at $ — /ft.	27.00	C1
Drafting,	7 hrs. at $ 18 /hr.	126.00	C1
Rental AC crawler	-JUNE 1-30 AT 60/mo	60.00	D1
Rental AC H00 truck	JUNE 1-30 AT 900/mo	900.00	D4
Northern Safety		14.45	D1
Imperial Refrigeration		1.96	C1
Mac's		11.09 CV	~~HIGS~~ 4
	Total		20145.15

In Account With

Project – FREEGOLD PROJECT

Date – – JULY 31, 1981

			Total
MANAGEMENT			
	July	A	1,000.00
LABOUR			
Supervisory			
	M.D. Phillips – property & drill program supervision July 1-5, 11, 12-18, 25-26 – total 14 1/2 DAYS @ 250	B	3,625.00
Field	J. DUKE – JULY 1-15, 23-31 AT 1500/mo + CB 70.00 JUNE	1431.00	
	M. LEGASICKÉ – JULY 1-5, 22-31 AT 1150/mo	1039.00	
	R. PHILLIPS – JULY 1-5, 11-16, 22-31 AT 850/mo	548.00	
	D. CHARTERS – JULY 1-5 AT 1350/mo + CB 58 – JUNE	276.00	
	R. CARNE – JULY 7-10 AT 3000/mo	387.00	
	M. JOVANOVIC – JULY 14 AT 1450/mo	47.00	
	H. MACISAAC – JULY 24-25 AT 1350/mo	81.00	
	F. SCHUERHECK – JULY 18 AT 1350/mo + CB 32.00 JUNE	76.00	
	J. WILLIAMS – CB JUNE 70.00	70.00	
	M. TRNOZIC – CB JUNE 38.00	38.00	B 3793.00
	plus 50 %	B	1896.50
Casual	J. MILNE – 1.5 HRS FOREMAN AT 16/HR	A	24.00
EXPENSES			
Accounting	July	250.00	C3
Expediting	July 1-31	900.00	D3
Room & Board in Whse	CARNE 3; JOVANOVIC 1; SCHUERHECK 1; R. PHILLIPS 1; MACISSAC 2; total 8 days at $ 35 / day	280.00	DV
Field equipment from AC stock		52.00	D1
Xerox copies, 431 copies at 25¢/copy		107.75	C1
Radio rental	SBX 11 units July 1 – Aug 3 @ $250/mo	274.19	D1
Rental AC Red truck	July 1-27 at $ 30 /mo. day plus (49,431 to 49,267) 836 mi ~~kms~~ at 30¢/~~km~~ mi	1060.80	D4
Petty cash	2.20 D1 + 1.10 D1	3.30	D1
Telephone			
Blueprinting, 217 sq. ft. Ozalid at 30 c/ft plus 32 sq. ft. Dilar at $ 2.50 /ft.		145.10	C1
Drafting, 23 1/4 hrs. at $ 18 /hr.		423.00	C1
Rental AC core splitter, July 1-15		30.00	D1
Rental HQ truck, July 1-31		900.00	D4
Auto Mania Chilliwack – truck repair		56.78	D4
ICG Can. Prisons	26.75 + 18.73 + 11.30	61.78	D1
Receiver General	750 CV.00	950	CV
Postmaster		14.00	D1
LK Clarke Equip Ltd	CV	2185	CV5146.00
			15434.50
Credit	purchased 20 empty drums from NAT @ $30 and sold 9 1/2 drums diesel @ 325 cpl + drum charge	603.13	63
	from Petrocan – Wagner rebate	31.00	D1 63
	Total		NIL



LOCATION MAP

SEYMOUR 21 | SEYMOUR 22
SEYMOUR 19 | SEYMOUR 20

Mgd

Mgd

My

TRENCH C

TRENCH E

TRENCH D

LIMIT OF >100 ppm Cu IN SOIL

My

TRENCH B

My

EXTENT OF TERTIARY DYKE SWARMS

Tfp

TRENCH A

Mgd

Mgd

FREEGOLD ROAD

LEGEND

TERTIARY

area of Tertiary porphyry dyke swarms

Tfp — biotite–hornblende–feldspar porphyry

JURASSIC(?)

Mgd — biotite–hornblende granodiorite

TRIASSIC(?)

My — biotite quartz monzonite

bulldozer trench

geologic contact: defined, approximate, assumed

results of 1975 induced polarization survey: anomalous zone, possibly anomalous zone

Geology by M. P. Phillips, 1981

Fig. F3

ARCHER, CATHRO & ASSOCIATES (1981) LTD.

GEOLOGY

STODDART ZONE

FREEGOLD PROJECT

ARCTIC RED RESOURCES CORP.

MOUNT FREEGOLD AREA, YUKON

SCALE - 1:2400

1 Inch 200 Feet

Association of Professional Engineers of the Yukon Territory
A. R. ARCHER
GEOLOGICAL
ENGINEER

090906

January, 1982

LITHOLOGIES

QUATERNARY

Weathered bedrock

TERTIARY

MOUNT NANSEN GROUP (Tmn)

ANDS - dark to light green andesite dykes, 1-3% fine quartz and feldspar phenocrysts in a dense microcrystalline groundmass.

FELDSPAR PORPHYRY DYKES (Tfp)

FLST - light coloured, aphanitic to microcrystalline felsite.

PPBI - biotite porphyry; up to 10% biotite phenocrysts in an aphanitic to microcrystalline quartz-feldspar groundmass.

PPBF - biotite-feldspar porphyry; up to 10% biotite and 10% feldspar phenocrysts in a very fine-grained myrmekitic groundmass.

PPQZ - quartz porphyry; 1-5% fine-grained quartz phenocrysts in an aphanitic to microcrystalline groundmass.

PPFL - feldspar porphyry; up to 10% feldspar phenocrysts in an aphanitic to microcrystalline groundmass.

PPQF - quartz-feldspar porphyry; up to 15% fine quartz and feldspar phenocrysts in an aphanitic to microcrystalline matrix.

MAFIC-FELDSPAR PORPHYRY STOCK (Tfp)

PPBF - biotite-feldspar porphyry; up to 10% biotite and 10% feldspar phenocrysts in a very fine-grained myrmekitic groundmass.

PPBH - biotite-hornblende-feldspar porphyry; up to 15% biotite (greather than hornblende) fine to medium-grained phenocrysts in a crowded, fine-grained euhedral feldspar groundmass.

PPHB - hornblende-biotite-feldspar porphyry; up to 15% hornblende (greater than biotite) fine to medium-grained phenocrysts in a crowded, fine-grained euhedral feldspar groundmass.

JURASSIC(?)

Mgd - biotite-hornblende granodiorite; fine to medium-grained; mafic minerals 10-15%, biotite normally less than hornblende.

TRIASSIC(?)

My - biotite quartz monzonite to syenite; pink medium-grained rock, up to 5% 10mm diameter orthoclase phenocrysts, anhedral book biotite up to 10%, distinctive fine to medium-grained quartz in clusters less than 10%, weathers readily to coarse sand.

ALTERATION & MINERALIZATION

ALTERATION FACIES	CODE	DESCRIPTION
Fresh	0	
Propylitic	1	biotite stable, hornblende altered to chlorite, plagioclase rimmed with clay
Argillic (clay) montmorillonitic	2	mafics altered to chlorite or to montmorillonite, plagioclase altered to montmorillonite with increasing kaolinite; strong carbonate decreasing to higher facies; othoclase altered to clay towards higher facies, mafics and plagioclase altered to kaolinite
Kaolinite	3	mafics and plagioclase altered to kaolinite
Phyllic	5	quartz-sericite-pyrite(limonite) veinlets, often accompanied by black acicular tourmaline
Potassic	7	coarse quartz-orthoclase veins

Note: all trenches have superimposed supergene alteration which would elevate facies and intensity

ALTERATION INTENSITY

3 - low
5 - intermediate
7 - high

GENERAL

1/5	alteration facies/intensity
	fault: defined, approximate
	contact: defined, approximate, assumed
MA	malachite
AZ	azurite
CULI	copper limonite (tenorite? neotocite?)
MO	molybdenite
QV	quartz veins
LI-W,M,S	limonite (may include copper limonites) - intensity weak, moderate, strong
PY	pyrite
CP	chalcopyrite
MS	specularite
MG	magnetite
QZ-KF	quartz-orthoclase vein
TQ	tourmaline
PR	pyrrhotite
AS	arsenopyrite
	outcrop
5/3 LI-W	trench: rock type, alteration facies and intensity, mineralization
Δ	survey station
	cut grid-soil sample location and co-ordinates

FIGURE F4

ARCHER, CATHRO & ASSOCIATES (1981) LTD.

GEOLOGY PLAN TRENCH A SEYMOUR CLAIMS

ARCTIC RED RESOURCES CORP.

MOUNT FREEGOLD AREA, YUKON

STODDART ZONE

SCALE 1 INCH = 40 FEET

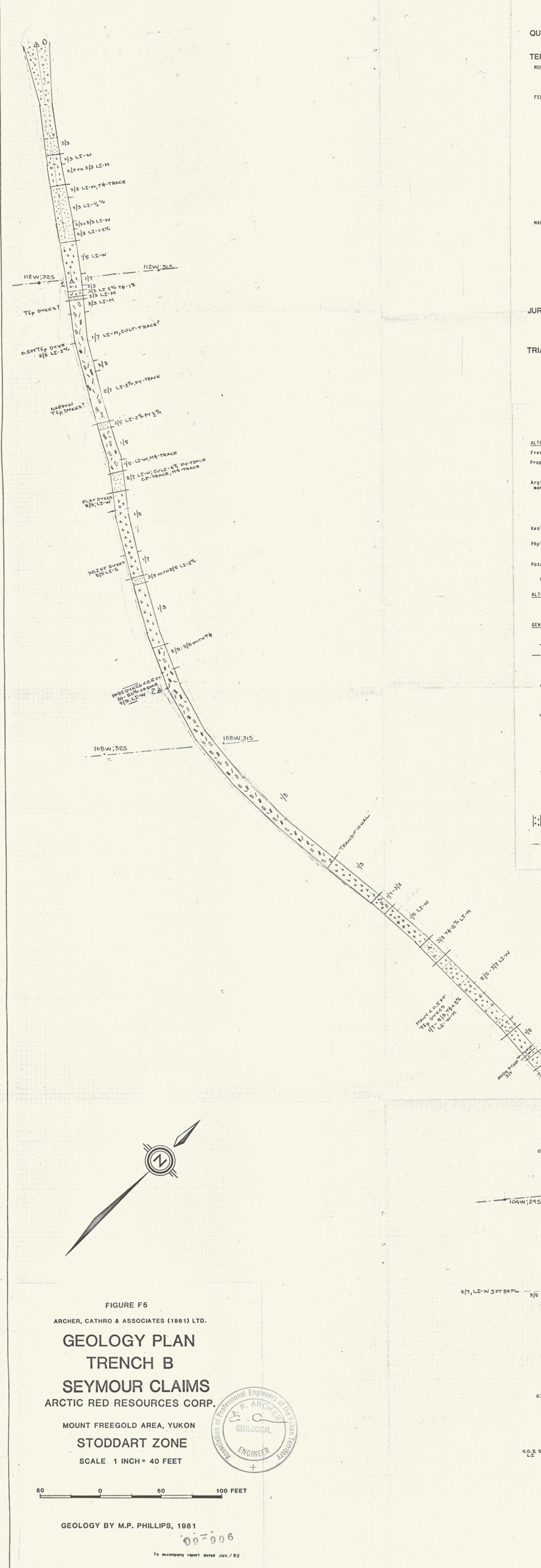
50 0 50 100 FEET

GEOLOGY BY M.P. PHILLIPS, 1981

Association of Professional Engineers of the Yukon Territory — C.R. ARCHER — GEOLOGICAL ENGINEER

090906

To accompany report dated Jan./82



LITHOLOGIES

QUATERNARY

Weathered bedrock

TERTIARY

MOUNT NANSEN GROUP (Tmn)

ANDS - dark to light green andesite dykes, 1-3% fine quartz and feldspar phenocrysts in a dense microcrystalline groundmass.

FELDSPAR PORPHYRY DYKES (Tfp)

FLST - light coloured, aphanitic to microcrystalline felsite.

PPBI - biotite porphyry; up to 10% biotite phenocrysts in an aphanitic to microcrystalline quartz-feldspar groundmass.

PPBF - biotite-feldspar porphyry; up to 10% biotite and 10% feldspar phenocrysts in a very fine-grained myrmekitic groundmass.

PPQZ - quartz porphyry; 1-5% fine-grained quartz phenocrysts in an aphanitic to microcrystalline groundmass.

PPFL - feldspar porphyry; up to 10% feldspar phenocrysts in an aphanitic to microcrystalline groundmass.

PPQF - quartz-feldspar porphyry; up to 15% fine quartz and feldspar phenocrysts in an aphanitic to microcrystalline matrix.

MAFIC-FELDSPAR PORPHYRY STOCK (Tfp)

PPBF - biotite-feldspar porphyry; up to 10% biotite and 10% feldspar phenocrysts in a very fine-grained myrmekitic groundmass.

PPBH - biotite-hornblende-feldspar porphyry; up to 15% biotite (greather than hornblende) fine to medium-grained phenocrysts in a crowded, fine-grained euhedral feldspar groundmass.

PPHB - hornblende-biotite-feldspar porphyry; up to 15% hornblende (greater than biotite) fine to medium-grained phenocrysts in a crowded, fine-grained euhedral feldspar groundmass.

JURASSIC(?)

Mgd - biotite-hornblende granodiorite; fine to medium-grained; mafic minerals 10-15%, biotite normally less than hornblende.

TRIASSIC(?)

My - biotite quartz monzonite to syenite; pink medium-grained rock, up to 5% 10mm diameter orthoclase phenocrysts, anhedral book biotite up to 10%, distinctive fine to medium-grained quartz in clusters less than 10%, weathers readily to coarse sand.

ALTERATION & MINERALIZATION

ALTERATION FACIES	CODE	DESCRIPTION
Fresh	0	
Propylitic	1	biotite stable, hornblende altered to chlorite, plagioclase rimmed with clay
Argillic (clay) montmorillonitic	2	mafics altered to chlorite or to montmorillonite, plagioclase altered to montmorillonite with increasing kaolinite; strong carbonate decreasing to higher facies; othoclase altered to clay towards higher facies, mafics and plagioclase altered to kaolinite
Kaolinite	3	mafics and plagioclase altered to kaolinite
Phyllic	5	quartz-sericite-pyrite(limonite) veinlets, often accompanied by black acicular tourmaline
Potassic	7	coarse quartz-orthoclase veins

Note: all trenches have superimposed supergene alteration which would elevate facies and intensity

ALTERATION INTENSITY

3 - low
5 - intermediate
7 - high

GENERAL

- 1/5 alteration facies/intensity
- fault: defined, approximate
- contact: defined, approximate, assumed
- MG malachite
- AZ azurite
- CULI copper limonite (tenorite? neotocite?)
- MO molybdenite
- QV quartz veins
- LI-WMS limonite (may include copper limonites) - intensity weak, moderate, strong
- PY pyrite
- CP chalcopyrite
- MS specularite
- MG magnetite
- QZ-KF quartz-orthoclase vein
- TO tourmaline
- PR pyrrhotite
- AS arsenopyrite
- outcrop
- 3/3 LI-W trench: rock type, alteration facies and intensity, mineralization
- survey station
- cut grid-soil sample location and co-ordinates

FIGURE F5

ARCHER, CATHRO & ASSOCIATES (1981) LTD.

GEOLOGY PLAN
TRENCH B
SEYMOUR CLAIMS

ARCTIC RED RESOURCES CORP.

MOUNT FREEGOLD AREA, YUKON

STODDART ZONE

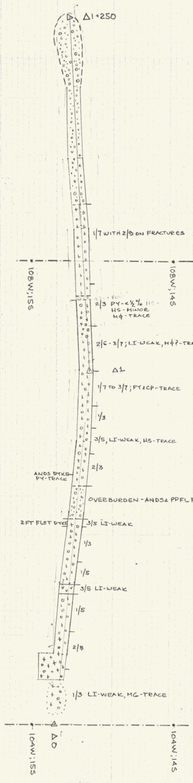
SCALE 1 INCH = 40 FEET

50 0 50 100 FEET

GEOLOGY BY M.P. PHILLIPS, 1981

To accompany report dated Jan./82

TRENCH D



LITHOLOGIES

QUATERNARY

- weathered bedrock

TERTIARY

MOUNT HANSEN GROUP (Tm)

- ANDS - dark to light green andesite dykes, 5-25% fine quartz and feldspar phenocrysts in a dense microcrystalline groundmass.

FELDSPAR PORPHYRY DYKES (Tfp)

- FLST - light coloured, aphanitic to microcrystalline felsite.
- PPBI - biotite porphyry; up to 10% biotite phenocrysts in an aphanitic to microcrystalline quartz-feldspar groundmass.
- PPBF - biotite-feldspar porphyry; up to 10% biotite and 10% feldspar phenocrysts in a very fine-grained myrmekitic groundmass.
- PPQI - quartz porphyry; 1-5% fine-grained quartz phenocrysts in an aphanitic to microcrystalline groundmass.
- PPFL - feldspar porphyry; up to 10% feldspar phenocrysts in an aphanitic to microcrystalline groundmass.
- PPQF - quartz-feldspar porphyry; up to 15% fine quartz and feldspar phenocrysts in an aphanitic to microcrystalline matrix.

MAFIC-FELDSPAR PORPHYRY STOCK (Tfp)

- PPBF - biotite-feldspar porphyry; up to 10% biotite and 10% feldspar phenocrysts in a very fine-grained myrmekitic groundmass.
- PPBH - biotite-hornblende-feldspar porphyry; up to 15% biotite (greather than hornblende) fine to medium-grained phenocrysts in a crowded, fine-grained euhedral feldspar groundmass.
- PPHB - hornblende-biotite-feldspar porphyry; up to 15% hornblende (greater than biotite) fine to medium-grained phenocrysts in a crowded, fine-grained euhedral feldspar groundmass.

JURASSIC(?)

- Mgd - biotite-hornblende granodiorite; fine to medium-grained; mafic minerals 10-15%, biotite normally less than hornblende.

TRIASSIC(?)

- My - biotite quartz monzonite to syenite; pink medium-grained rock, up to 15 10mm diameter orthoclase phenocrysts, anhedral book biotite up to 10%, distinctive fine to medium-grained quartz in clusters less than 10% weathers readily to coarse sand.

TRENCH E

ALTERATION & MINERALIZATION

ALTERATION FACIES	CODE	DESCRIPTION
Fresh	0	
Propylitic	1	biotite stable, hornblende altered to chlorite, plagioclase rimmed with clay
Argillic (clay) montmorillonitic	2	mafics altered to chlorite or to montmorillonite, plagioclase altered to montmorillonite with increasing intensity of alteration corresponding to higher facies; orthoclase altered to clay towards higher facies, mafics and plagioclase altered to kaolinite
Kaolinite	3	mafics and plagioclase altered to kaolinite
Phyllic	5	quartz-sericite-pyrite(limonite) veinlets, often accompanied by black acicular tourmaline
Potassic	7	coarse quartz-orthoclase veins

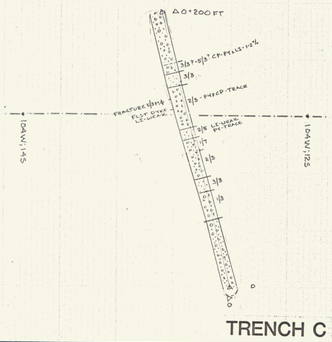
Note: all trenches have superimposed supergene alteration which would elevate facies and intensity

ALTERATION INTENSITY

3 - low
5 - intermediate
7 - high

GENERAL

- 1/5 alteration facies/intensity
- fault: defined, approximate
- contact: defined, approximate, assumed
- mal malachite
- az azurite
- cuml copper limonite (tenorite? neotocite?)
- mb molybdenite
- qv quartz veins
- li-ms3 limonite (may include copper limonites) - intensity weak, moderate, strong
- py pyrite
- cp chalcopyrite
- ms specularite
- mg magnetite
- qtz+f quartz-orthoclase vein
- tb tourmaline
- po pyrrhotite
- as arsenopyrite
- outcrop
- 1/3 LI-WEAK trench: rock type, alteration facies and intensity, mineralization
- survey station
- cut grid-soil sample location and co-ordinates



TRENCH C

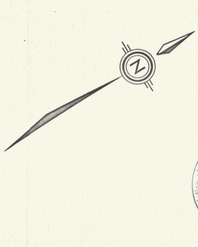


FIGURE F6

ARCHER, CATHRO & ASSOCIATES (1981) LTD.

GEOLOGY PLAN TRENCHES C,D & E SEYMOUR CLAIMS

ARCTIC RED RESOURCES CORP.

090906

MOUNT FREEGOLD AREA, YUKON

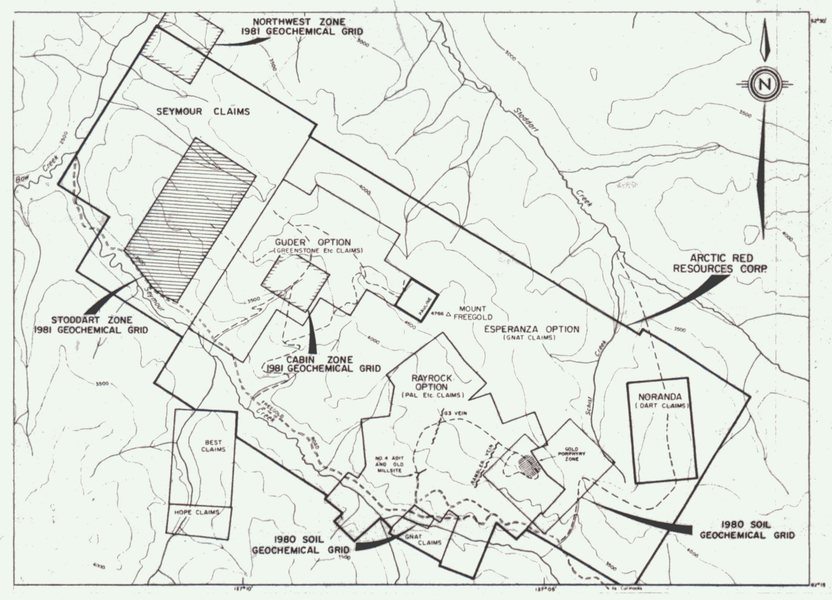
STODDART ZONE

SCALE 1 INCH = 40 FEET

50 0 50 100 FEET

GEOLOGY BY M.P. PHILLIPS, 1981

To accompany report dated Jan./82



LOCATION MAP

SEYMOUR 21 SEYMOUR 22
SEYMOUR 19 SEYMOUR 20

LIMIT OF TERTIARY DYKE SWARMS

FREEGOLD

ROAD

CONTOUR INTERVALS

100	100 - 199 ppm Cu
200	200 - 399 ppm Cu
400	400 - 799 ppm Cu
800	>800 ppm Cu

• 520 soil sample (ppm Cu)

Fig. F7

ARCHER, CATHRO & ASSOCIATES (1981) LTD

COPPER GEOCHEMISTRY

STODDART ZONE

FREEGOLD PROJECT

ARCTIC RED RESOURCES CORP.

MOUNT FREEGOLD AREA, YUKON

SCALE - 1:2400

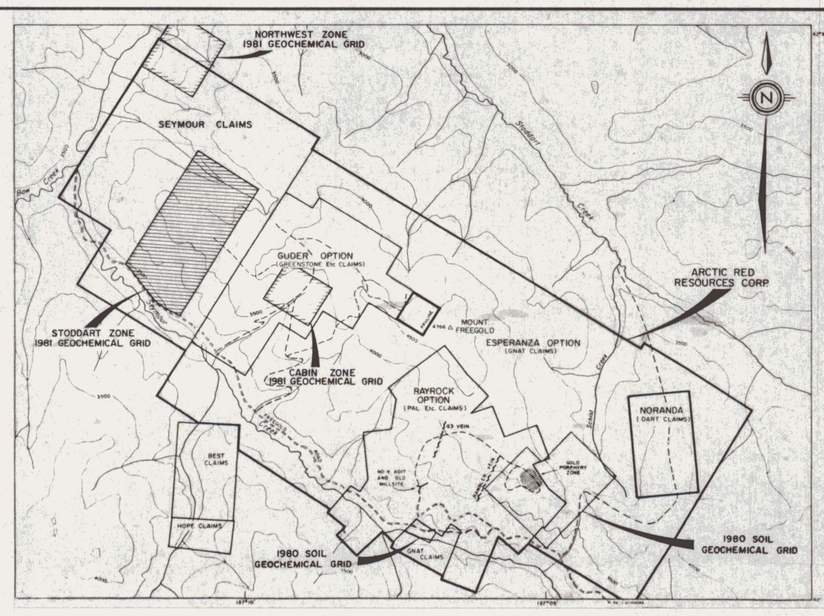
1 Inch = 200 Feet

200 0 100 200 300 400 Feet

Association of Professional Engineers of the Yukon Territory
A. R. ARCHER
GEOLOGICAL
ENGINEER

090906

To accompany report dated January, 1982



LOCATION MAP

SEYMOUR 21 | SEYMOUR 22
SEYMOUR 19 | SEYMOUR 20

LIMIT OF TERTIARY DYKE SWARMS

FREEGOLD ROAD

CONTOUR INTERVAL

30	30-59 ppb Au
60	60-119 ppb Au
120	120-239 ppb Au
240	>240 ppb Au

• 66 soil sample (ppb Au)

Fig. F8

ARCHER, CATHRO & ASSOCIATES (1981) LTD

GOLD GEOCHEMISTRY

STODDART ZONE

FREEGOLD PROJECT

ARCTIC RED RESOURCES CORP.

MOUNT FREEGOLD AREA, YUKON

SCALE - 1:2400

1 Inch = 200 Feet

200 0 100 200 300 400 Feet

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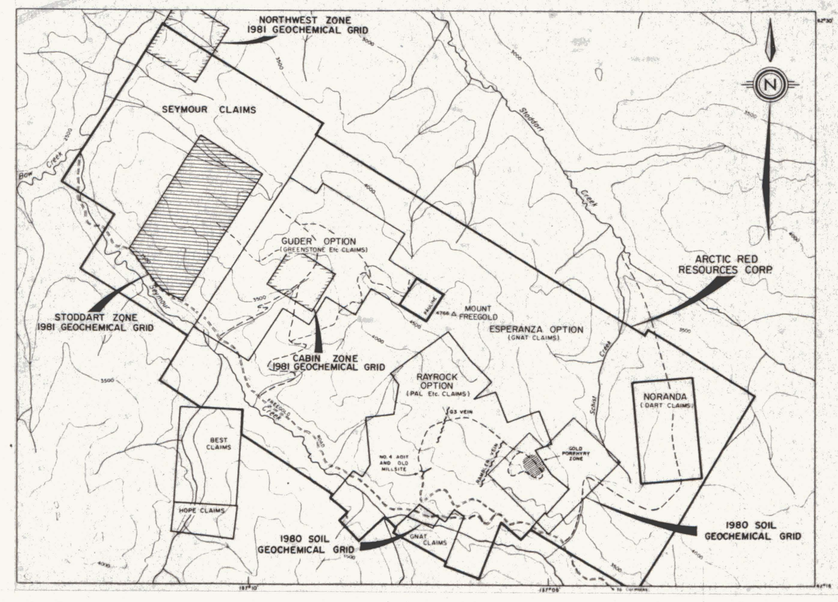

LOCATION MAP

SEYMOUR 21 | SEYMOUR 22
SEYMOUR 19 | SEYMOUR 20

LIMIT OF TERTIARY DYKE SWARMS

FREEGOLD ROAD

CONTOUR INTERVALS

—10— 10-19 ppm Mo
—20— 20-39 ppm Mo
—40— >40 ppm Mo

• 5 soil sample (ppm Mo)

Fig. F9

ARCHER, CATHRO & ASSOCIATES (1981) LTD

MOLYBDENUM GEOCHEMISTRY

STODDART ZONE

FREEGOLD PROJECT

ARCTIC RED RESOURCES CORP.

MOUNT FREEGOLD AREA, YUKON

SCALE - 1:2400

1 Inch = 200 Feet

200 0 100 200 300 400 Feet

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GEOLOGICAL
ENGINEER

09 906 60

To accompany report dated January, 1982

52

50

48

46

44

42

40

38

52W

50W

48W

46W

44W

42W

40W

38W

4S

6S

8S

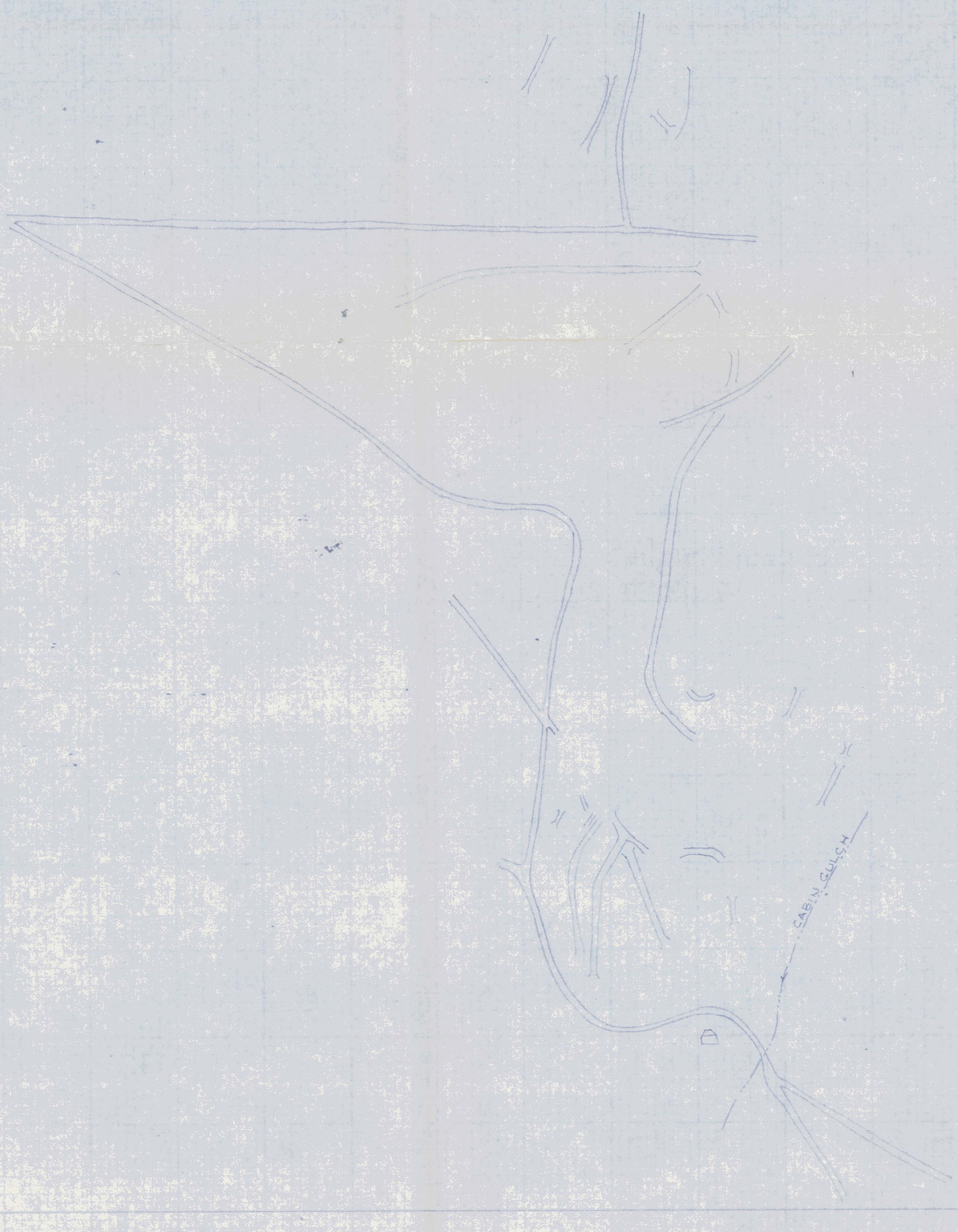
10S

12S

14S

16S

18S



ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

PLAN SHOWING TRENCHES

CABIN ZONE

MOUNT FREEGOLD

GOLDSTAR FRACTION CLAIM

SCALE 1in = 100FT

FT. 10 5 0 10 20 30 FT

906060