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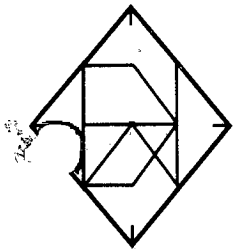
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REPORT
on the
GOLD STAR GROUP
Freegold Mountain

NTS 115-I-6
Whitehorse Mining District
Yukon Territory

by
G. S. Davidson
June 20, 1985

Graham



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PROSPECTOR MR. P.F. GUDER

SUMMARY

The GOLD STAR and RICK claims lie on the south and westerly facing slopes of Freegold Mountain, where gold-bearing rocks were first discovered by prospector P. F. Guder in 1930. Previous exploration has outlined auriferous quartz veins, skarns, shears and gouge zones in Paleozoic sedimentary and metamorphic rocks intruded by felsic porphyritic rocks of the Mount Nansen Group.

Gold values of 2-4 opt are reported over 1-4' in quartz veins, and values of 0.1-0.3 opt are recorded over 10-15' widths in shear and gouge zones exposed in bulldozer trenching.

On adjoining properties, a large tonnage gold deposit has been delineated in a quartz feldspar porphyry and breccia plug of the Mount Nansen Group. Similar brecciated rocks occurring on the GOLD STAR GROUP were not investigated during earlier explorations directed towards finding copper-molybdenum porphyry type deposits and Au-Ag bearing quartz veins.

An exploration program involving Au-Ag-As soil geochemistry, VLF-EM surveys and bulldozer trenching should be conducted over porphyritic and brecciated intrusive rocks for the purpose of outlining a large tonnage precious metal deposit.

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INTRODUCTION

The GOLD STAR group of claims cover precious metal showings discovered on the western side of Freegold Mountain over fifty years ago. This report summarizes the physical and geological settings and the exploration history of the property. Appendices to the report contain the results of two exploration programs conducted on the GOLD STAR group in the early 1970's and a summary of activities on adjacent properties.

The GOLD STAR group of 19 claims, two fractions and the RICK 1-14 claims are presently owned by Mr. G. Harris and Mr. E. Wienecke of Whitehorse, Yukon Territory, who requested this paper.

On the eastern flank of Mount Freegold, Archer Cathro and Associates are conducting a feasibility study on an auriferous orebody. The low-grade/large tonnage prospect might be amenable to the heap leaching milling method and a test operation is foreseen this year (Appendix IV). West of Mount Freegold, the Revenue Creek property (under option to Shakwak Exploration Co. Ltd.) and the Nucleus Group (under option to Chevron Resources) are in advanced stages of exploration.

Available geological data on the Big Creek-Freegold Mountain area was reviewed in conjunction with this report. The writer visited the GOLD STAR property in June 1985 and has conducted exploration programs on nearby properties.

PROPERTY LOCATION AND ACCESS

The property is located north of Seymour Creek on the southern and western flanks of Freegold Mountain in the Big Creek watershed at latitude 62°16' and longitude 137°08' on N.T.S. map sheet 115-I-6. The claims, situated 44 miles west-northwest of Carmacks, are accessible via the government-maintained Freegold-Revenue Creek Road. Several four-wheel drive roads afford access to the upper slopes of Mount Freegold and old cat tracks and cut lines traverse the area.

CLAIM COMPOSITION

The property, situated in the Whitehorse Mining District, is composed of 19 claims and two fractions known as the GOLD STAR GROUP and of an additional 14 claims staked in June 1985 (Figure 2). The GOLD STAR GROUP are surveyed claims while the RICK 1-14 are located claims. Table I summarizes the claim data.

Table I - Property Composition

<u>Claim Name</u>	<u>Record Number</u>	<u>Expiry Date</u>	<u>Registered Owners</u>
AUGUSTA	15494 -	12 Dec. 1985	Mr. E. Wienecke and Mr. G. Harris
MARGARETA	15505 -	"	"
GOLD STAR	15519 -	"	"
PEERLESS	15549 -	"	"
PROTECTION Fr.	15677 -	"	"
SHEARZONE 1-2	60420-60421 -	"	"
VINDICATOR 1-2	60422-60423 -	"	"
LIBERTY	63638 -	"	"
EXCELSIOR 1-3	63639-63641 -	"	"
PROGRESS 1-2	73464-73465 -	"	"
GREENSTONE 1-4	90465-90468 -	"	"
GREENSTONE 5	91056 -	"	"
GREENSTONE 6 Fr.	Y21094 -	"	"
RICK 1-14		11 June 1986	Mr. G. Harris
<i>CABBAGE 1-11, 13-14, 17-24</i>			

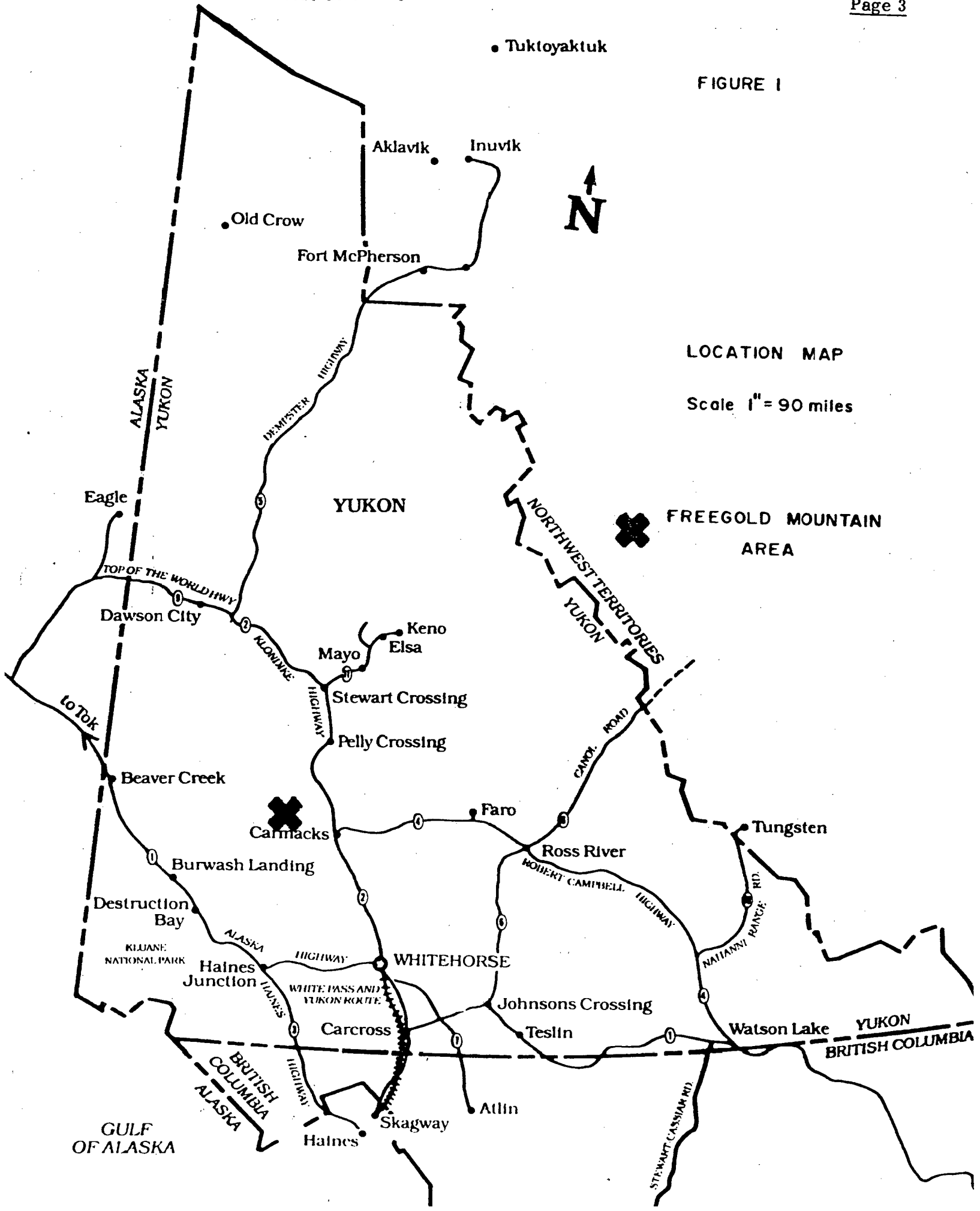
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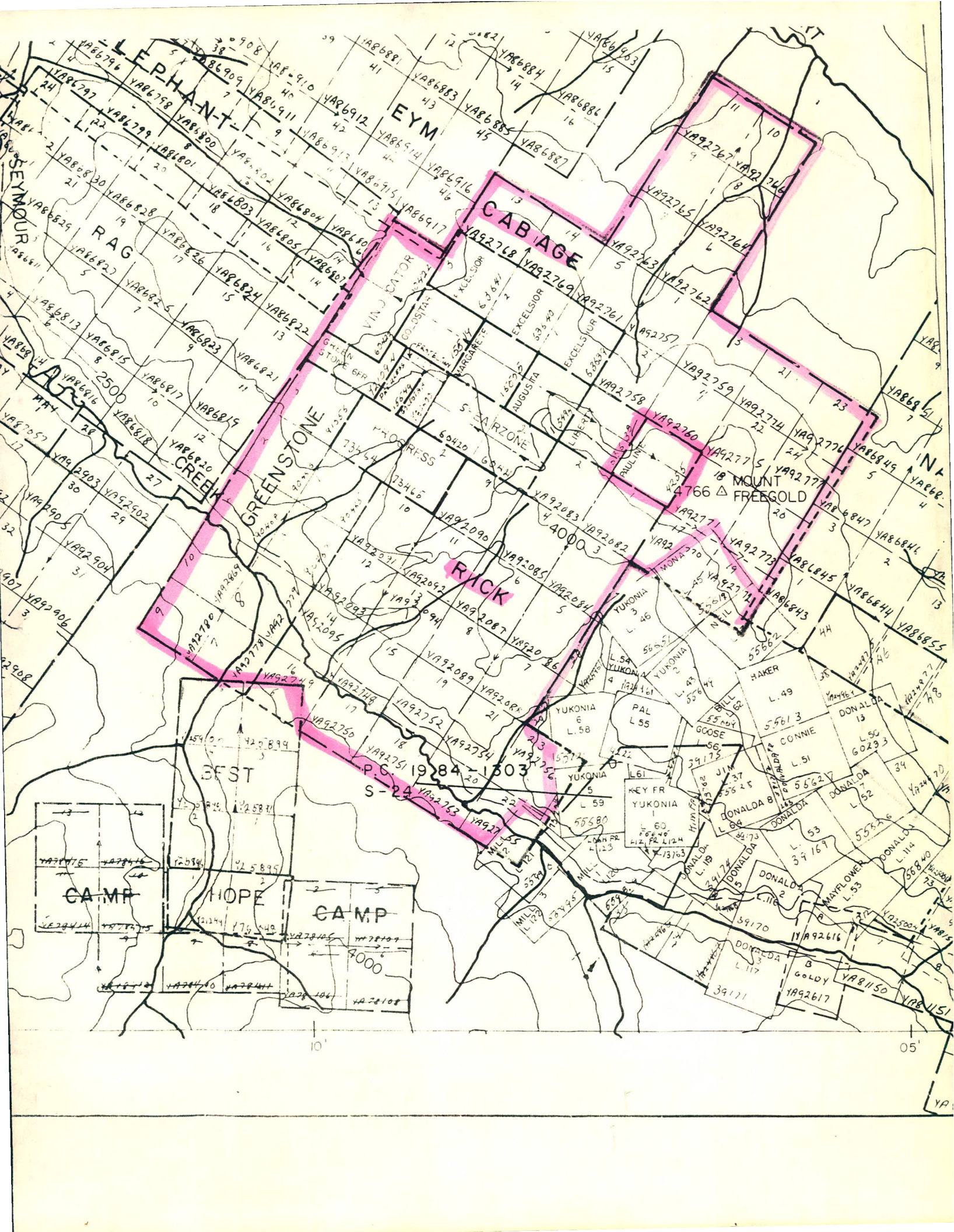
FIGURE 1



LOCATION MAP

Scale 1" = 90 miles





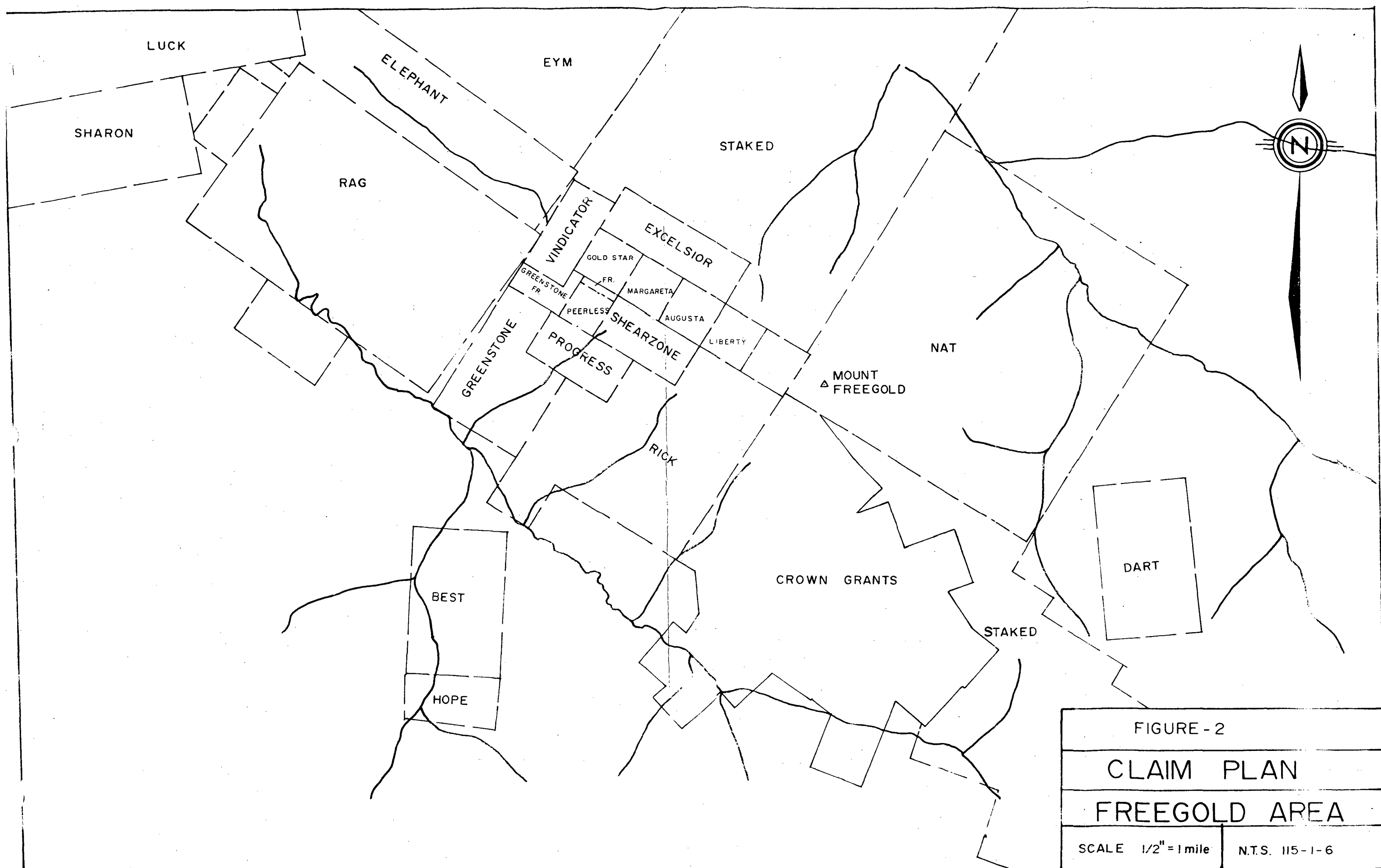


FIGURE - 2	
CLAIM PLAN	
FREEGOLD AREA	
SCALE 1/2" = 1 mile	N.T.S. 115-1-6

PHYSIOGRAPHY AND CLIMATE

The Freegold Mountain area features large, well-rounded hills and ridges of moderate relief. At 4960 feet of elevation, the top of Freegold Mountain commands a wide field of view over the region. Valley floors tend to be flat and swampy with a sharp change in slope at their margins.

Glaciation had a very limited effect on the area, which remained ice-free during the last Ice Age. The Seymour Creek valley formed a spillway for meltwater originating in the southeast.

South and westerly facing slopes feature poplar groves and spruce forest, while stunted spruce trees and moss cover northerly facing slopes. Buck brush is common on all slopes but thins out on ridges and hilltops. Northerly facing slopes are often underlain by permafrost which hinders trenching and road building.

The Carmacks-Big Creek area has short, warm summers with moderate rainfall, and cold winters of lengthy duration. mineral exploration can be conducted between mid-May and early October.

HISTORY

Prospector P. F. Guder first discovered gold-bearing rock on the west side of Freegold Mountain. In 1930 he located the AUGUSTA claim over an auriferous magnetite showing and proceeded to dig hand pits and shafts along the structure. On hearing of the find, prospectors rushed into the region, staking over 100 claims in the autumn and winter of 1930-1931.

Individuals quickly outlined the Laforma quartz vein on the southeast side of Mt. Freegold and the N. A. Timmins Corporation began underground development between 1934 and 1935. The Yukon Consolidated Gold Corporation acquired the property in the summer of 1935 and continued drifting along the vein.

In 1959, Conwest Exploration Co. optioned Guder's GOLD STAR claim group and tested the MARGARETA quartz vein in five diamond drill holes (Table II).

Table II - Conwest Drill Results

<u>Hole No.</u>	<u>Length</u>	<u>Dip</u>	<u>Footage</u>	<u>Length</u>	<u>oz/t Au</u>	<u>Recovery</u>
F-1	180'	-45 ^Q N	112.5-121'	8.5'	0.34	10%
F-2	225'	-60 ^Q N	152-159'	7.0'	0.06	40%
F-3	202'	-45 ^Q N	159-163'	4.0'	0.12	70%
F-4	226'	-60 ^Q N	160-168'	8.0'	0.01	17%
F-5	181'	-45 ^S	181'	0.0'	—	Too short?

The Conwest drill program experienced very poor core recovery and failed to test high-grade sections of the Margareta vein assaying from 2.5 to 4.5 opt Au across 1-1½ feet. Conwest continued investigations on the property until 1964.

On the LAFORMA claims, Ornsby Mines Ltd. placed the quartz vein into production from 1965 to 1966. A 125 tpd mill was constructed and over a thousand ounces of gold were recovered.

Yukon Revenue Mines Ltd. optioned the GOLD STAR group in 1969, conducting further trenching and mapping. Their geology map (Appendix V) delineates a bleached granodiorite with a breccia core. Two grab samples from pits near Guder's cabin assayed 0.40 opt Au, 5.48 opt Ag over 12" and 0.46 opt Au, 10.6 opt Ag in a grab sample.

In 1973, Prism Resources Ltd. conducted a magnetometer geophysical survey on the MARGARETA and AUGUSTA claims, which outlined three strong anomalies (Appendix V). Prism staked an additional 100 claims around the GOLD STAR group and Mr. P. Sevensma (consultant) recommended an extensive program of exploration involving 4,000 feet of drilling, bulldozer trenching and detailed fieldwork (Appendix III).

Prism Resources transferred the property option to Dynasty Exploration Ltd. in 1974, which conducted line cutting, magnetometer surveys and geochemical sampling. The magnetometer survey traced a magnetite-bearing skarn for over 4,000'. Follow-up trenching and drilling produced sporadic gold values in shear zones and magnetite-rich rocks. Appendices I and II contain the Dynasty Exploration field results and a summary

of trench assay values. Original geological and geochemical maps drafted by Dynasty in 1974 were not contained in the public assessment reports.

In 1979, Arctic Red Resources optioned Guder's claims and adjoining groups on Freegold Mountain. A program of grid soil sampling ensued on parts of the mountain thought to have potential for a large tonnage gold deposit, centred on an intrusive breccia complex of the Mount Nansen suite. The breccia complex mapped by Mr. R. Granger in 1969 on the GOLD STAR group was not covered during Arctic Red's geochemical program.

As discussed in the introduction to this report, Archer Cathro and Associates are assessing the eastern side of Freegold Mountain. Appendix IV presents a compilation of their index data on Mt. Freegold and the Casino deposit to the north.

REGIONAL GEOLOGY

Freegold Mountain in the Dawson Range lies along a major suture dividing Yukon Cataclastic Terrane and Yukon Crystalline Terrane (Templeton-Kluit, 1984). The northwest bearing Big Creek Fault separates Mid-Cretaceous granodiorite and porphyritic rocks from Permian gneiss and Upper Triassic granodiorite (Figure 3). Upper Cretaceous Carmacks Group basalt and pyroclastic flows overlie older granodiorites and metamorphic rocks. The Jurassic Big Creek syenite occurs primarily south of the Big Creek Fault intruding Paleozoic rocks and, in turn, being cut by Mid-Cretaceous Mount Nansen Group granodiorite and felsic porphyry. The Mount Nansen Group rhyolite porphyries intrude other formations.

During the last Ice Age, the region remained unglaciated; consequently, the rock formations are weathered to depths of up to 300'. The development of leached caps and enriched zones in porphyry environments is well documented in the Dawson Range.

Figure 3: Regional Geology

LEGEND

Upper Cretaceous	Ukcb	Carmacks Group	- brown basalt flows
Mid-Cretaceous	KMN		- andesitic plagioclase porphyry and andesite breccia
	KMN _r	Mount Nansen Group	- rhyolite to dacite quartz feldspar porphyry
	Kgd		- biotite-hornblende granodiorite
Jurassic	Jy	Big Creek Syenite	
Upper Triassic	TRgdm	Granite Mountain Batholith	- biotite-hornblende granodiorite
Permian	Ppn	Selwyn Gneiss	- hornblende-biotite-chlorite gneiss
Paleozoic	Pn ₁	Pelly Gneiss?	- granodiorite gneiss
	Pm	Pelly Gneiss?	- amphibolite

Fault

Geological Boundary

Scale 1:250,000

Table III - Table of Formations

(after O.F. 1101)

Ukcb	Upper Cretaceous Carmacks Group - brown weathering, resistant, brown basalt flows
KMN	Mid-Cretaceous Mount Nansen Group - resistant, dark weathering, dark green, massive andesitic plagioclase porphyry and andesite breccia: forms plugs, pipes and dykes
KMN _r	Mid-Cretaceous Mount Nansen Group - orange weathering, rhyolite to dacite quartz feldspar porphyry: forms innumerable dykes and small plugs; includes Kgd, Jy, Pn, KMN
Kgd	Mid-Cretaceous Mount Nansen Group Casino granodiorite - resistant, massive, dark weathering, medium grained, equigranular, unfoliated, mesocratic biotite-hornblende granodiorite
Jy	Jurassic Big Creek Syenite - resistant, dark weathering, massive, coarse to very coarse grained and porphyritic, mesocratic hornblende syenite; locally sheared, commonly fractured and saussuritized
TRgdm	Upper Triassic Granite Mountain Batholith - massive, medium to coarse grained, heterogeneous, equigranular, mesocratic foliated biotite-hornblende granodiorite, contains biotite screens and gneiss schlieren
Ppn	Permian? Selwyn Gneiss - resistant, dark grey weathering, strongly foliated, medium grained, homogeneous hornblende-biotite-chlorite gneiss
Pn ₁	Paleozoic? Devonian? Pelly Gneiss? - recessive weathering, mesocratic, biotite or hornblende granodiorite gneiss
Pm	Paleozoic? Pelly Gneiss? - resistant, black weathering amphibolite

PROPERTY GEOLOGY

The property is primarily underlain by intrusive rocks of the Mid-Cretaceous Mount Nansen Group and by sedimentary and metamorphic rocks of Paleozoic age. J. R. Johnston (Memoir 214, 1939) recognized at least three periods of intrusive activity on Freegold Mountain. The Upper Triassic Granite Mountain Batholith intruded highly deformed quartzite, schist, limestone and metavolcanics of Paleozoic age. Plugs of Jurassic Big Creek Syenite outcrop along the westernmost ridge and at the summit of Freegold Mountain. Dykes and bodies of Mid-Cretaceous quartz feldspar porphyry, granite, rhyolite porphyry and felsic breccia cut the older units (Appendix V, Map D).

Paleozoic Rocks

Limestone, marble, gneiss, amphibolite and schist formally collectively called the Yukon Group are now separated into several groups. Mapping of the numerous trenches dug by Dynasty Exploration Ltd. in the northern part of the claims has outlined these rock units (Figure 4). Near younger porphyry dykes, carbonate-rich rocks have been skarnified into magnetite bearing horizons. Massive dark amphibolite and quartz-feldspar-chlorite gneiss are the more common Paleozoic rocks.

Big Creek Syenite

Hornblende syenites, both coarse equigranular and porphyritic varieties, are locally sheared and fractured containing epidote veinlets. Phenocrysts of microcline and hornblende are arranged in a foliation parallel to the major structural feature in the area, the Big Creek Fault. Magnetite and apatite occur as accessory minerals.

Mount Nansen Group Intrusives

Mid-Cretaceous Casino granodiorite underlies the middle and southern sections of the property. Generally, the granodiorite is equigranular, medium grained and unfoliated with argillic and phyllic alteration and silicification near porphyry dykes.

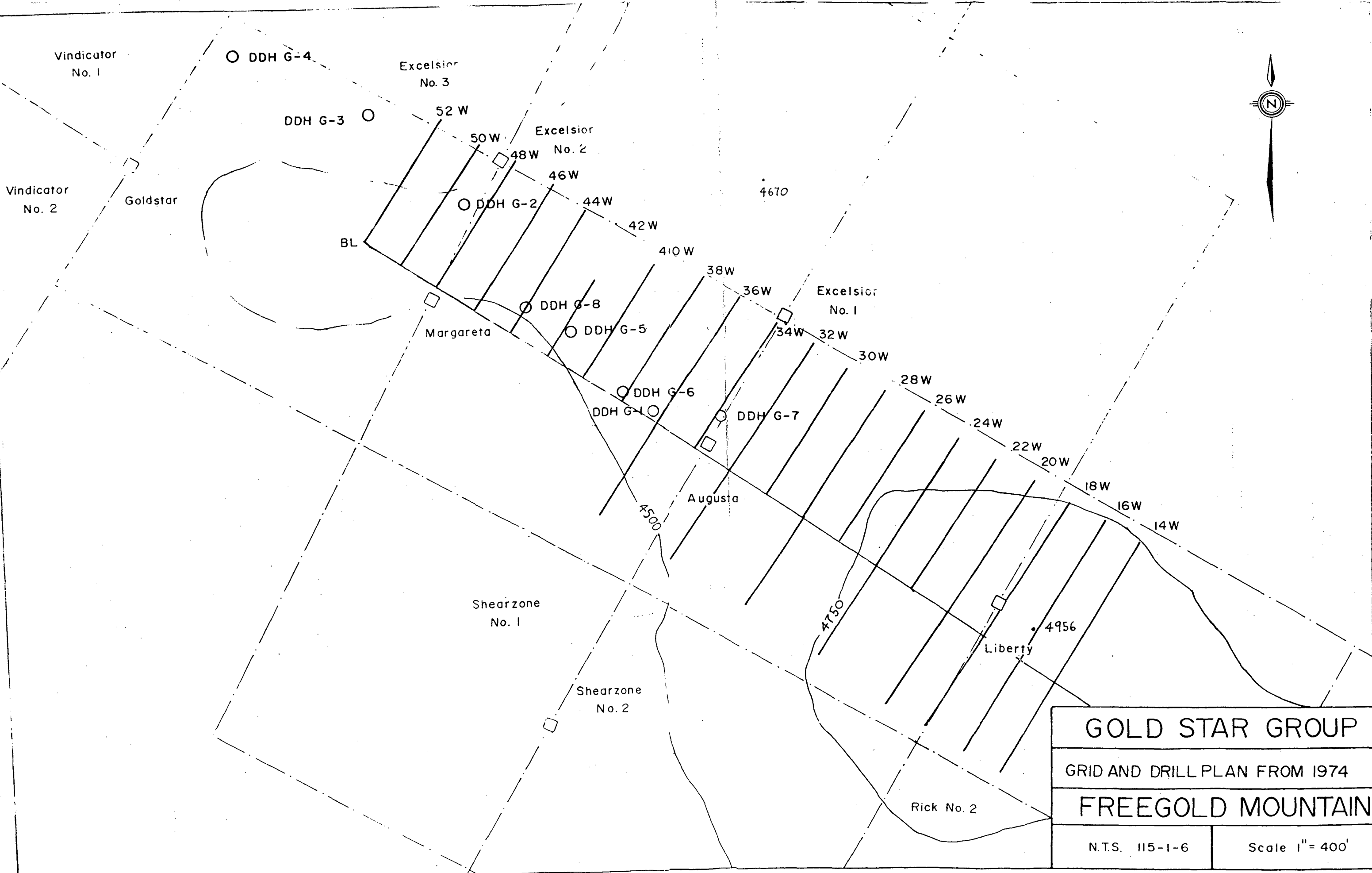
Quartz feldspar porphyry dykes and breccia bodies of variable extent contain quartz, limonite and jarosite in fractures and cavities. In the porphyries, phenocrysts of orthoclase and quartz occur in an aphanitic groundmass. Sericite and chlorite are the common alteration minerals.

MINERALIZATION

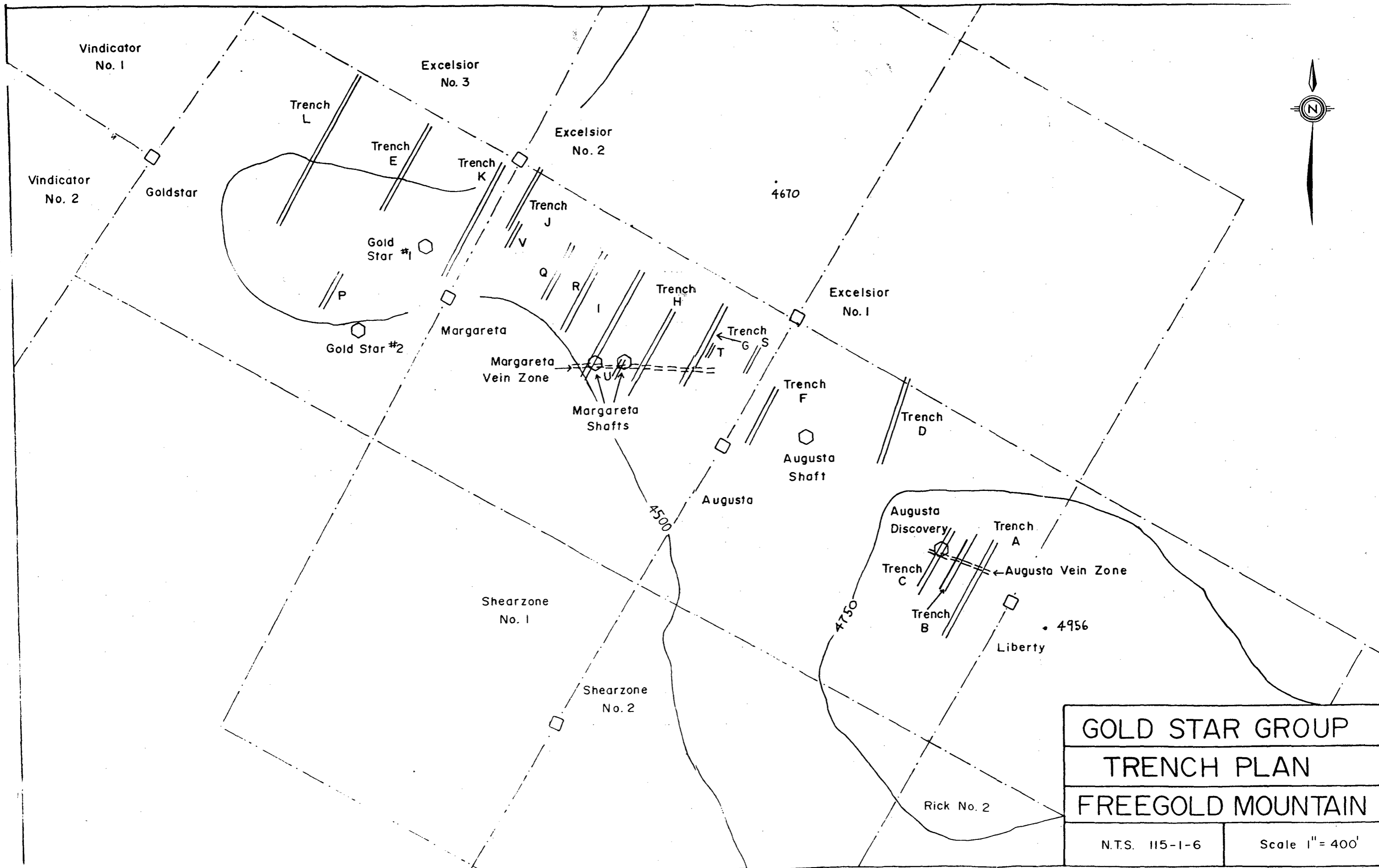
Precious metals occur in two types of environments on the GOLD STAR claims. Magnetite skarns and rusty shear zones in Paleozoic rocks are gold-bearing in isolated locations while quartz veins and quartz breccias are more uniformly mineralized. The MARGARETA and AUGUSTA gold showings are thought to be part of the same auriferous structure trending for over 2500', which is aligned with nearby quartz-feldspar porphyry dykes. These gold showings consist of quartz veins of 1-4' in width, containing drusy quartz, limonite, pyrite, chalcopyrite, arsenopyrite and minor malachite. On the MARGARETA vein, values of 2-4 opt Au are reported over 1-1½' intervals.

The magnetite skarn bodies were exposed over a wide area during the Dynasty Exploration program in 1974. Gold-bearing magnetite-rich rock also contains hematite, limonite, jarosite, pyrite, some manganese, specularite, malachite and quartz. Shear zones and gouge zones occur within and near magnetite skarns. Gold values of up to 0.3 opt were reported over 10-15' widths in several of these zones. Mineralogically, they are similar to magnetite-rich zones containing considerable limonite, jarosite, pyrite and hematite with some manganese and quartz. Figure 4 summarizes the trench assay values from the Dynasty exploration results.

Geochemical surveys conducted by Yukon Revenue Mines Ltd. and Dynasty Exploration Ltd. have outlined anomalous Cu, Pb and As values. Mr. R. Granger reports soil values of 650 ppm arsenic on a reconnaissance traverse over the breccia body occurring on the GREENSTONE claim. Arsenic soil values of 100-1000 ppm were returned from samples taken around the MARGARETA vein by Dynasty Exploration. Arsenic and gold soil geochemistry has successfully delineated the auriferous breccia zone currently being examined by Archer Cathro and Associates on the Arctic Red Resources property. There, arsenic values were consistently above 250 ppm and gold values often exceeded 160 ppb.



GOLD STAR GROUP	
GRID AND DRILL PLAN FROM 1974	
FREEGOLD MOUNTAIN	
N.T.S. 115-1-6	Scale 1" = 400'



GOLD STAR GROUP	
TRENCH PLAN	
FREEGOLD MOUNTAIN	
N.T.S. 115-1-6	Scale 1" = 400'

CONCLUSIONS AND RECOMMENDATIONS

In light of the recent discovery of large tonnage low-grade auriferous porphyries on the Discovery Mines (Tech option) and Arctic Red Resources Ltd. properties, the Freegold Mountain area presents an attractive exploration target. The GOLD STAR group and the RICK 1-14 claims are along-strike from the gold-bearing rocks on the adjacent properties. Previous exploration on the GOLD STAR group has outlined a siliceous belt containing auriferous quartz veins and isolated occurrences of gold-silver bearing magnetite, shear zones and gouge zones.

It is recommended that an intensive exploration program be performed on the GOLD STAR and RICK claims, with emphasis on fractured, brecciated and silicified intrusive rocks. A program consisting of Au-Ag-As soil geochemistry, VLF-EM and trenching would delineate any large gold-bearing structure. The auriferous magnetite pods, shears and gouge zones warrant further investigation through more trenching.

APPENDIX I

DYNASTY EXPLORATION LTD.

FIELD REPORT - 1974

LINECUTTING

A 21,000 ft. base line trending 120° was established through the central area of the optioned claims. Cross lines were turned off at right angles at 400 ft. intervals, with 200 ft. intermediate lines in the vicinity of known showings and interesting areas. All lines were hand cut and chained. Pickets were placed at 100 ft. intervals and slope corrections were made in areas of excessive relief. A total of 90 line miles were cut during the 1974 field season.

GEOPHYSICAL SURVEYS

Ground Magnetometer Survey

Two Sharpe MF-1 magnetometers were used for the survey, the instruments are hand-held and measure the vertical magnetic component by use of an oil-dampered fluxgate which automatically levels itself in the vertical direction. A Sharpe MF-2 magnetometer adjusted to zero (0) gammas was placed at a base station and read every 20 minutes to control diurnal variations. Prior to the

actual magnetometer survey, readings were taken along the base line at cross line intersections. These stations were looped and re-read every hour as a means of controlling diurnal variations. With established base stations along the base line a rapid and precise check was kept on magnetic variations. Thus, the entire survey was kept on a relative basis during day to day operation. Cross lines were run in a "loop" method with "check-ins" along the base line. In areas of extreme relief, station intervals were reduced to 25 feet.

Magnetic results were corrected for both diurnal and drift variations, then plotted on a grid plan with scales of 400 ft. to 1 inch and 100 ft. to 1 inch. The data was then contoured at -500, 0, 500 and 1000 gammas with the resulting maps included in this report

The ground magnetic survey corresponds closely to the distribution of geological units. General low relief gamma values occur over granite and quartz monzonite in the southern grid area. High magnetite content of hornblende phenocrysts in the porphyritic syenite has caused a high positive magnetic response which outlines the northwest-trending batholith in the northeastern portion of the grid. The northwesterly-trending narrow band of Yukon Group rocks roughly centred on the base line appear to reflect two magnetic responses. East of Line 72 West, the Yukon Group consists primarily of marble, biotite schist, and quartzite creating a low magnetic relief. East of Line 72 West, the Yukon Group is largely composed of amphibolite, chlorite gneiss and magnetite skarns causing high magnetic susceptibility. As may be noted on the accompanying detailed map, "Magnetometer Survey of Area A", the magnetite skarn was traced for over a 4000 ft. strike length with values ranging between 1,000 and 22,000 gammas. Limited magnetite skarn outlined in the Augusta Discovery Zone is also confirmed by the small magnetic response between Lines 22W and 18W.

The ground magnetometer survey successfully outlined and delineated all magnetite skarns as well as traced major geological units within the grid area.

GEOCHEMICAL SOIL SAMPLING SURVEY

A total of 2700 soil samples were taken on established grid lines. Samples were generally taken every 200 ft. along 400 ft. spaced lines. Sampling every 100 ft. along 200 ft. spaced lines was required in areas requiring greater detail. Orientation samples were generally panned with resulting observations on rock type, heavy metal content and magnetite content noted adjacent to sample sites.

Roughly one quarter pound of "B" or "C" horizon soil was packed in kraft sample bags and sent to the Barringer Research Laboratory in Whitehorse for analysis. Each sample was dried, sieved to -80 mesh, weighed to 5 grams, digested in $HClO_4$ and analyzed for copper, lead, molybdenum, zinc and silver by atomic absorption. Samples also analyzed for gold, tin and tungsten were sent to the Barringer Research Laboratory in Toronto.

Results for Cu, Pb, Mo and As are shown on lognormal probability plots on the following pages. From these probability plots, interpretations of population distribution are possible; resulting conclusions are summarized in the table below.

<u>Metal</u>	<u>Strongly Anomalous</u> (ppm)	<u>Moderately Anomalous</u> (ppm)	<u>Weakly Anomalous</u> (ppm)
Cu	>100	N.A.	70-99
Pb	>250	120-249	74-119
Mo	> 30	10-30	6-10
As	>270	125-269	60-124

Even numbers termed "Integrated Metal Values" for copper, lead and arsenic were plotted in Area A. Sample sites were designated the following letters (C for copper, P for lead and A for arsenic), to define abundant metal(s) or metal characteristic(s) at the particular station. The following table shows the method for calculation of integrated metal values. The purpose of this scheme is to provide a summary map ensuring non-loss of anomalies from single or additive geochemical results. Zoning of metals should become apparent from progressions in metal characteristics.

<u>Metal</u>	<u>Strongly Anomalous</u>	<u>Moderately Anomalous</u>	<u>Weakly Anomalous</u>	<u>Very Weakly Anomalous</u>
Cu	>100	N.A.	70-99	30-69
Pb	>250	120-249	74-119	35-73
As	<u>>270</u>	<u>125-269</u>	<u>60-124</u>	<u>25-39</u>
Integrated Metal Value	8	6	4	2

The soil sampling program outlined the following potentially interesting targets:

- (1) Area A - copper and arsenic anomalies outlining gold and silver mineralization.
- (2) Area B - 3000 ft. x 800 ft. copper anomaly indicating possible porphyry copper target.
- (3) Area C - Lead and arsenic anomaly in area of syenite and quartz porphyry dykes.
- (4) Add Grid - copper-lead-arsenic sample "high".
- (5) L60E, 25N to 30N - high lead area.
- (6) L144W to 152W, 35N to 45N - Arsenic and lead anomaly.

(1) Area A

Contoured copper values outline copper-rich sections of the Margarete vein and the magnetite skarn. Sub-rounded 100 ppm copper contours located on Lines 24W to 28W, 38W and 44W to 52W near the baseline appear to represent chalcopyrite concentrations in the Margarete vein. Malachite

staining on fracture surfaces of massive magnetite skarn noted in Trenches J and G is also indicated by anomalies at L46W, 7N and L36W, 8N respectively. Small anomalies on Lines 58W, 60W, 68W and 70W near the baseline appear to reflect minor copper mineralization in the northwest trending quartz-feldspar porphyry dyke.

Small isolated lead anomalies occurring within the Yukon Group appear to represent limited narrow galena veins similar to the Vindicator or Red Fox showing. They are not considered to be of economic interest.

Northwest trending arsenic anomalies with values ranging between 100 and 1000 ppm outlined the mineralized section of the Margarete structure. Disseminated arsenopyrite in the Margarete zone appears to be the source for these anomalies. The large arsenic anomaly between L46W and 70W, north of the baseline, probably is caused from minor arsenopyrite mineralization in the northwest trending quartz-feldspar porphyry dyke.

The contoured integrated metal values pattern is very similar to, and highly influenced by, the arsenic distribution. The major anomalies reflect Margarete vein mineralization and disseminated mineralization in the quartz-feldspar porphyry dyke.

The threshold for gold values was arbitrarily fixed at 10 parts per billion. Anomalous samples located at L36W, 3N and L38W, 1N, occur slightly downslope from the surface trace of the Margarete vein.

(2) Area B

A large elongate northeast-southwest trending copper anomaly straddling the sub-rounded ridge top between lines 100W and 116W, has a length of over 3000 ft. and averages 800 ft. in width. Rock geochem analysis of grab samples taken from two incomplete cat trenches has indicated two sub-parallel mineralized zones between 100 ft. and 500 ft. in width grading 1000 to 5000 ppm copper, or roughly 0.1 to 0.5 per cent copper. Specimens consist of phyllitic altered and leached granite to quartz monzonite. Visible mineralization consists of sporadic malachite and azurite coatings. It appears that surface rock represents a possible leached capping of a porphyry copper deposit.

(3) Area C

The small heart-shaped moderately strong coincident lead and arsenic anomaly on Lines 24E and 28E, straddling the baseline, occurs over sporadically altered syenite and quartz porphyry. Quartz veining and mineralization appear scarce. The anomaly probably represents a small lead vein within syenite; further work is not contemplated.

- (4) The one sample "high" at station L20N, 7E is located on the bank of a creek draining an old Ormsby Mines waste dump. No further follow-up is warranted.
- (5) Moderately anomalous lead values on the norther extremity of L60E appear to represent minor galena mineralization and thus the area was not prospected.
- (6) Coincident strongly anomalous arsenic values and weakly anomalous lead values occur between stations 40N and 45N, on L144W. The area has been prospected but no mineralization

was discovered. Since this anomaly occurs close to the projected claim boundary, claim lines and posts should be accurately located to determine if the anomaly occurs on the AU claims or the adjoining Car claims.

PHYSICAL WORK

A total of 454 cat hours were used trenching, establishing drill sites and constructing various connecting roads over and near the Margarete and Augusta Zones, as well as the elongate magnetite skarn. Calculations indicate removal of 37,800 cubic yards of frozen overburden and rock from 19 cat trenches. Trenching, using a D-8 cat with a tilt blade and ripper, was generally very slow due to excessive permafrost conditions. Trenching was kept on a rotational basis to allow limited permafrost melting which reduced amount of ripping.

Location of all trenches, drill sites and connecting roads may be noted on the accompanying 1 inch equals 100 ft. "Geology and Development Map, Area A". Individual trench plans with geological notes and assayed intervals are located in Appendix I. The north ends of Trenches E, L and D, as well as the south ends of Trenches I, K and R remain incomplete due to excessive thickness of frozen overburden. Trenches average 400 ft. in length and 6 to 10 ft. in depth.

DIAMOND DRILLING

A drilling program of 8 holes, totalling 2142 feet, was initiated in early September to outline the structure and test gold-silver content of the Margarete vein and magnetite skarn. A skid mounted Longyear 38 drill, operating with BQ diameter rods, was used to drill all holes. The cat was used for all drill moves.

Core recovery was highly irregular, generally varying between 50 and 100 per cent, but often as low as 5 per cent. Excessive diamond wear, stuck rods and loss of water circulation, caused by frequent sand-filled fractures and fault zones, was solved by reaming casing, resulting in higher than anticipated drilling costs.

Locations of all drill holes may be noted on the accompanying "Geology and Development Map, Area A" included in the pocket of this report. Individual drill hole logs and cross sections with assay results may be found in Appendix II. All core has been stored on the property. The following table summarizes the drilling program.

<u>Drill Hole</u>	<u>Location</u>	<u>Bear- ing</u>	<u>Dip</u>	<u>Depth</u>	<u>Target</u>	<u>Ore Inter- section</u>	<u>Est. True width</u>	<u>Ore Recvy.</u>	<u>Au (oz/t)</u>	<u>Ag (oz/t)</u>
DDH-G-1	L36+75E 0+45N	013 ⁰	-50 ⁰	350'	Margarete Vein	180-190'	7'	85%	.054	1.4
DDH-G-2	L49+00W 4+00N	032 ⁰	-50 ⁰	363'	Magnetite Skarn	157-162' 190-195' 245-341'	4' 4' 70'	100% 100% 90%	.01 .005 Tr.	2.30 1.26 0.3
DDH-G-3	L55+00W 5+20N	032 ⁰	-50 ⁰	256'	Magnetite Skarn	75-80' 133-138' 180-242'	4' 4' 45'	90% 85% 75%	Tr. Tr. Tr.	.20 .40 .20
DDH-G-4	L61+80W 4+40N	032 ⁰	-50 ⁰	271'	Magnetite Skarn	110-136'	18'	95%	Tr.	.15
DDH-G-5	L41+40W 1+50N	188 ⁰	-60 ⁰	184'	Margarete Vein	152-164'	8'	<5%	Tr.	.16
DDH-G-6	L38+20W L0+40N	020 ⁰	-50 ⁰	252'	Margarete Vein	148-153'	4'	97%	.13	1.16
DDH-G-7	L33+60W 1+80N	017 ⁰	-55 ⁰	232'	Margarete Vein	151-156'	3'	80%	.02	.18
DDH-G-8	L44W 1+30S	014 ⁰	-50 ⁰	234'	Margarete Vein	165-170'	3'	<5%	Tr.	.14

ECONOMIC GEOLOGY

Three distinct types of gold-silver and copper mineralization occur on the Freegold Mountain properties:

- (1) Gold mineralization, mainly in elongate magnetite skarns.
- (2) Gold-silver mineralization in diffuse quartz veins within and adjacent to porphyry dykes.
- (3) Porphyry copper situations in altered and leached syenite and granite to quartz monzonite.

(1a) Augusta Discovery Zone

The first discovery of lode gold on Freegold Mountain was made by Fred Guder in a rubble pile of oxidized massive magnetite in the Augusta Discovery Zone. The magnetite body, outlined by hand dug pits and trenches, was found to have a strike length of over 300 ft. varying in width from 5 to 15 feet. Visible gold is common in this rock, and assays were rumoured to range from .2 to .4 oz/ton Au. Incomplete magnetic results also indicated a possible 3000 ft. northwest extension of the magnetite zone.

The objective of the 1974 program was to outline possible tonnage and grade of the gold-bearing magnetite. The 3000 ft. long zone was precisely located with the detailed magnetometer survey. Near surface widths and grades were outlined by cat trenching and three diamond drill holes tested depth continuity and grade.

The irregular lenticular conformable magnetite skarns appear to have replaced original northwest striking, near vertical bands of marble in quartz-chlorite gneiss and amphibolite. The principal mineral is magnetite, comprising approximately 40-70% of the unit, with lesser amounts of chlorite, epidote, quartz, limonite, actinolite, garnet

and minor specular hematite, pyrite, chalcopyrite and gold. There appears to be at least two periods of mineralization. An initial stage of magnetite and silicates, followed by quartz, pyrite, chalcopyrite and gold. All visible gold has been noted only in surface samples consisting of highly oxidized, vuggy and limonite coated magnetite, possibly indicating surface concentrations of residual gold.

Surface widths and grades of the Augusta Discovery Zone were outlined in Trenches A, B, and C. Trench A, delineating the southeastern end of the zone, contains a grade of 0.5 oz/ton Au and 5.2 oz/ton Ag over 9 feet in vuggy oxidized limonite coated magnetite with drusy quartz. A small opening in a fault zone just north of the magnetite skarn contains values as high as 0.24 oz/ton Au and 4.82 oz/ton Ag over 5 feet but has a very limited tonnage potential. The small pods of magnetite in the southern portion of Trench A contain only trace amounts of gold and silver.

Trench B intersected 15 ft. of magnetite but only the central 5 ft. had interesting values of 0.18 oz/ton Au and 10.12 oz/ton Ag. Highly oxidized grab samples of magnetite skarn from hand dug pits from above and below the cat trench graded 0.97 oz/ton Au, 13.90 oz/ton Ag and 0.50 oz/ton Au, 0.40 oz/ton Ag respectively. Lower grade gold values at depth, i.e. lower values in trenches compared to near surface pits, confirm probable surface concentrations of gold. A large pod of massive magnetite surrounded by an epidote-chlorite-actinolite skarn in the southern portion of the trench had only trace amounts of gold and very minor silver values.

A 6 ft. thickness of magnetite grading 0.05 oz/ton Au and 3.51 oz/ton Ag was discovered in Trench . Limonite and jarosite gouge surrounding the magnetite assayed only very minor gold and silver.

Assuming that a continuous zone exists between Trenches A and C, preliminary tonnage and grade estimates indicate the mineralized magnetite skarn lens contains roughly 120 tons per vertical foot grading 0.27 oz/ton Au and 6.2 oz/ton Ag for a gross value of \$65 per ton in the ground using metal prices of \$150/oz. and \$4.00/oz for gold and silver respectively. Considering a depth of 100 ft., the tabular body represents approximately 12,000 tons with a gross value of \$780,000.

(1b) Skarn Zone

The thickness and grade of the 3000 ft. long magnetite skarn zone, outlined by the magnetometer survey, was tested by nine cat trenches and three diamond drill holes. The results indicate excellent strike and depth continuity of the near vertical dipping magnetite mineralization but poor gold and silver values.

A portion of the main magnetite zone and adjacent hematite-jarosite zone, intersected in Trench G, assayed trace gold and 4.4 oz/ton silver over 33 feet. No silver bearing minerals were identified in the massive magnetite. High silver values in the hematite-jarosite zone is likely due to argentojarosite.

Trenches H, I, R, Q, V, J and K intersected 20 to 80 ft. widths of massive magnetite skarn but gold and silver grades averaged trace gold and 0.1 to 0.2 oz/ton of silver. The rusty zone within the massive magnetite band in Trench K

assayed 0.34 oz/ton Au and 0.60 oz/ton Ag which is possibly caused by surface enrichments of gold.

Good depth continuity of the magnetite band is shown by the three drill holes between Lines 48W and 62W. Gold and silver grades of magnetite intersections still averaged trace gold and 0.1 to 0.2 oz/ton silver.

Grab samples of various modes of mineralization were taken from Trenches K. J. Q. R. and I to determine where gold and silver values are concentrated. The following table summarizes the results.

<u>Description</u>	<u>Assays</u>		
	<u>Au (oz/T)</u>	<u>Ag (oz/T)</u>	<u>Cu (%)</u>
Massive magnetite with estimated 50% pyrite	.005	.80	-
Massive magnetite, no other visible oxides or sulphides	.005	.52	-
Malachite stained massive magnetite	.005	1.10	.42

Gold values are extremely low, silver assays appear to accompany copper mineralization.

The main magnetite skarn zone has excellent tonnage potential but lacks economic grades of gold and silver.

(2) Margarete Vein

Previous high gold values obtained from hand pits and trenches on the Margarete Vein have encouraged further exploration of the zone. Values as high as 60 ounces per ton gold were obtained from grab samples on old dumps from the Margarete shafts. Two hand trenches 150 ft. and 100 ft. east of the shafts had the following respective assays: 2.6 oz/T Au, 10.6 oz/T Ag over 18 inches and 4.46 oz/T Au and 19.4 oz/T Ag over 12 inches.

The Margerete vein, traced over 2000 ft. between the Augusta shaft and Gold Star shaft number 2, consists of a near vertical dipping 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 1 foot and 5 feet thick. Quartz vein mineralization has predominantly disseminated subdhral pyrite with minor chalcopyrite and arsenopyrite. Near surface all sulphides have been leached, leaving boxwork and drusy vein quartz with limonite coatings and minor malachite stains. Visible gold was not observed in hand specimen. The Margarete vein appears to have followed a structural weakness sub-parallel to earlier openings injected with quartz-feldspar porphyry. East-west trending porphyry dykes also are occasionally mineralized by small quartz veinlets containing gold and silver values as noted in Trench K.

Both copper and arsenic geochem response outline the Margarete vein between Lines 26W and 52W as well as the disseminated arsenopyrite in east-west trending porphyry dyke between Lines 44W and 70W. The porphyry dyke appears to average trace gold and 0.1 oz/T silver but locally may contain up to .02 oz/T Au and 8.8 oz/T Ag over a 10 ft. width. Gold and silver values are presumed to be in arsenopyrite and argentojarosite which is noted on fracture surfaces of the porphyry.

The following table summarized results obtained from drill holes and trenches on the Margarete vein.

<u>Trench-Drill Hole</u>	<u>Au</u> <u>(oz/T)</u>	<u>Ag</u> <u>(oz/T)</u>	<u>Interval</u>
DDH-G-8	Poor Recovery		(?)
DDH-G-5	Poor Recovery		12'
Margarete Shaft	2.6	10.6	1.5'
Trench U	1.22	25.82	3.7'
Shaft (Prism high grade)	0.28	8.48	Grab
DDH-G-6	.13	1.16	5.0'
Trench H	.22	2.04	2.0'
DDH-G-1	.05	1.4	5.0'
Trench G	.33	4.55	5.0'
Trench T	.18	8.16	7.0'
Trench S	.01	.17	10.0'
DDH-G-7	.62	.18	5.0'
Trench D	.13	1.21	5.0'

The following preliminary tonnages and grades were calculated on the central 600 ft. long zone of the Margarete Vein. Tonnage potential is very limited and grades appear sub-economic at present metal prices.

Central Margarete Vein

<u>Trench</u>	<u>Block</u>	<u>Tons/ Vertical Ft.</u>	<u>Grade</u>	
			<u>Au</u>	<u>Ag</u>
D	1	125	.13	1.21
S	2	200	.01	.17
T	3	70	.18	8.16
G	4	60	.33	4.55
H	5	75	.08	.82
U	6	55	.90	19.1
Margarete Shaft	7	50	.78	3.18

(All assays taken to minimum of 5' width)

Total tonnage of 600 ft. zone = 300 tons/vertical ft.
grading .42 oz/T Au; 7.05 oz/T Ag

Gross value at prices of \$150 Au and \$4 Ag = \$ 90/Ton

Average grade at 100' depth)drill holes G-1 and G-2)
.09 oz/T Au; 1.28 oz/T Ag.

Gross value at prices of \$150 Au and \$4 Ag = \$ 19/Ton

Inferred tonnage potential = 30,000 T.

Estimated grade (after weighing core
samples 2:1 over surface samples)
.2 oz/T Au; 3.2 oz/T Ag.

Gross value at \$150 Au and \$4 Ag = \$ 43/Ton

APPENDIX II

SUMMARY OF TRENCHING AND ASSAYS

APPENDIX II - SUMMARY OF TRENCH DATA

Gold above 0.01
Silver above 0.5

<u>Sample #</u>	<u>Au</u>	<u>Ag</u>	<u>Length</u>	<u>Description</u>
4451	0.005	1.4	3.0'	- magnetite zone, veins of quartz, limonite
4455	0.01	0.74	4.0'	- jarosite gouge, some quartz
4457	0.24	4.81	5.0'	- jarosite and hematite gouge - altered Yukon Group
4458	0.15	1.82	9.0'	- same as 4457
4462	0.01	0.66	5.0'	- magnetite zone, some quartz and limonite
5274	0.89	9.51	4.5'	- magnetite-limonite zone, vuggy quartz veins
5275	0.11	0.96	4.5'	- magnetite zone, some quartz and limonite

Geology - Trench A

Yukon Group rocks are exposed along most of the trench. Several quartz, feldspar and quartz feldspar porphyry dykes cut Yukon Group amphibolite and skarn. Shear zones containing hematite and jarosite are irregularly distributed throughout the trench.

The strongest gold values are associated with a pod of magnetite and a jarosite-hematite gouge zone at the contact of two Yukon Group rock types.

Trench B

<u>Sample #</u>	<u>Au</u>	<u>Ag</u>	<u>Length</u>	<u>Description</u>
4474	0.005	2.18	4.7'	Jarosite-limonite zone in Yukon Group amphibolite
4077	.01	1.46	3.5'	Jarosite in Yukon Group amphibolite
4078	0.005	1.36	3.0'	Manganese in Yukon Group
4079	.005	.56	3.4'	Some manganese in Yukon Group
4080	tr.	.52	5.0'	Magnetite, some limonite, quartz and hematite
4081	.18	10.12	5.0'	Magnetite, moderate limonite and quartz, some hematite
4082	.02	.54	5.0'	Magnetite, moderate limonite and quartz
5251	.50	.40	Grab	Dump sample from old trench 30' west of Trench B at 100 S
5252	.97	13.90	Grab	Dump sample from old pit 30' east of Trench B at 100 S

Both grab samples taken in magnetite-rich rock containing some quartz and limonite

Geology - Trench B.

Yukon Group amphibolite, gneiss, skarn and undifferentiated rock underlie the northern 2/3 of Trench B. Quartz-feldspar porphyry and minor Yukon Group skarn occur in the southern 1/3 of the trench. Quartz-feldspar porphyry is sheared and rusty.

Au-Ag values occur in magnetite-rich rock containing limonite, quartz and hematite. Also some values are found in manganiferous Yukon Group amphibolite in contact with magnetite-rich rock.

Trench C

<u>Sample #</u>	<u>Au</u>	<u>Ag</u>	<u>Length</u>	<u>Description</u>
4069	.05	3.51	6.0'	Yukon Group containing moderate magnetite, epidote and some manganese
4074	.08	.04	6.0'	

Geology - Trench C

Amphibolite, skarn, schist and undifferentiated Yukon Group rock occur through most of the trench. Several quartz-feldspar porphyry dykes intrude the sequences. Also hematite-jarosite zones and magnetite pods occur.

Au-Ag values were returned from two magnetite-rich zones and pods.

<u>Trench D</u>				
<u>Sample #</u>	<u>Au</u>	<u>Ag</u>	<u>Length</u>	<u>Description</u>
4092	.03	.33	7.5'	Jarosite gouge zone in Yukon Group containing manganese and hematite
4093	.13	1.21	5.0'	Yukon Group with fair manganese, moderate limonite, some hematite and boxwork
4098	.005	.92	3.0'	Jarosite gouge in Yukon Group with some hematite
4099	.02	3.62	7.0'	Yukon Group with moderate limonite, fair manganese and hematite, some malachite
819	.03	1.07	5.0'	Magnetite, quartz, hematite, limonite, goethite, vuggy quartz veins with limonite and magnetite
820	.005	.86	6.0'	Yukon Group, moderate chlorite, some limonite and manganese

Geology - Trench D

Yukon Group amphibolite and hematite-jarosite rock are the most common rocks in Trench D. Isolated bands of marble and quartz-feldspar porphyry lie in Au-Ag values obtained in manganiferous jarosite gouge in Yukon Group. Also some values in magnetiferous and manganiferous Yukon Group.

<u>Trench E</u>				
<u>Sample #</u>	<u>Au</u>	<u>Ag</u>	<u>Length</u>	<u>Description</u>
359	.20	1.74	2.0'	Quartz vein in marble, quartz contains some magnetite, hematite, limonite, chlorite, goethite and boxwork

Geology - Trench E

Yukon Group schist, amphibolite, skarn, marble and undifferentiated rocks are cut by several quartz-feldspar porphyry dykes. Limonite and manganese rich sections of Yukon Group returned trace values of precious metals. A 2' wide mineralized quartz vein returned moderate Au-Ag values.

<u>Sample #</u>	<u>Trench F</u>			<u>Description</u>
	<u>Au</u>	<u>Ag</u>	<u>Length</u>	
4052	0.04	0.44	7.0'	Magnetite-limonite rock, some quartz, boxwork, hematite and manganese
4053	0.07	0.59	4.0'	Same as 4052 with less quartz
4054	0.11	0.37	6.0'	Limonite-jarosite, some magnetite and manganese

Geology - Trench F

Rusty Yukon Group rocks and quartz-feldspar porphyry occur in the trench. Au-Ag assays were recorded for one magnetite, limonite and manganese rich section.

<u>Sample #</u>	<u>Trench G</u>			<u>Description</u>
	<u>Au</u>	<u>Ag</u>	<u>Length</u>	
4055	0.005	5.26	5.0'	Magnetite-rich rock, some specularite, quartz and limonite
4056	0.01	11.94	5.0'	Same as 4055
4057	tr.	0.56	5.0'	Same as 4055
4059	tr.	0.53	5.8'	Magnetite rock, high pyrite, some epidote, malachite, specularite and manganese
4060	0.02	3.72	5.0'	Yukon Group, high pyrite, some quartz, manganese and hematite
4061	0.04	2.36	8.8'	Hematite-jarosite zone, some magnetite, fragments of Yukon Group
4062	0.01	2.64	9.0'	Same as 4061
4105	0.02	0.32	2.0'	Jarosite-hematite zone in Yukon Group
4075	0.21	4.91	5.0'	Jarosite-hematite zone in Yukon Group, some pyrite and malachite
4101	0.13	2.60	5.0'	Same as above with manganese

(Trench G - continued)

<u>Sample #</u>	<u>Au</u>	<u>Ag</u>	<u>Cu %</u>	<u>Length</u>	<u>Description</u>
405	0.08	4.12	.45%	5.0')) Repeat samples of 4075 and 4101
406	0.33	4.55	1.43%	5.0')
408	0.36	4.54	0.94%	Grab	Grab sample from 4075, 4101 jarosite hematite zone

Geology - Trench G

Yukon Group amphibolites, undifferentiated rock, some skarn and schist occur in Trench G. Two jarosite-hematite zones enriched in pyrite, malachite, quartz and manganese contain good to moderate precious metal values. One magnetite zone occurring beside jarosite-hematite was enriched in silver with values of up to 11.94 opt.

Trench H

<u>Sample #</u>	<u>Au</u>	<u>Ag</u>	<u>Length</u>	<u>Description</u>
4191	0.06	0.56	10.0'	Yukon Group, limonite, manganese, quartz, carbonate veins, malachite, pyrite, azurite
4054	0.22	2.04	2.0' chip	Quartz vein, fair limonite and chlorite leached sulphides; sample taken within # 4191

Geology - Trench H

Yukon Group rocks, more marble than other trenches, shear zones. One section of quartz-feldspar porphyry with minor pyrite returned trace precious metal values.

Geology - Trench I

Rusty undifferentiated Yukon Group rocks make up the southern half of the trench. The northern half contains skarns, schist gneiss and marble of the Yukon Group with several magnetite-rich sections. Several felsic porphyry dykes cut the Yukon Group. Very low precious metal values were returned from the samples collected in Trench I.

Geology - Trench J

Yukon Group skarn, amphibolite and undifferentiated rocks contain magnetiferous zones and some felsic porphyry. Trace or minor Au-Ag values were recorded from all samples taken in Trench J.

Trench K

<u>Sample #</u>	<u>Au</u>	<u>Ag</u>	<u>Length</u>	<u>Description</u>
4431	0.005	0.80	1.5' grab	Skarn with magnetite, specularite, quartz veins and epidote
4118	0.09	0.51	7.0'	Magnetite rock containing some quartz and limonite
4119	0.34	0.60	6.0'	Rusty zone, hematite-jarosite in Yukon Group
4122	0.06	0.16	10.0'	Yukon Group with magnetite, malachite, some quartz porphyry
4485	0.005	0.54	10.0'	Rusty Yukon Group containing moderate limonite and manganese
4123	0.02	8.84	10.0'	Quartz porphyry with mineralized veins, limonite and scorodite
4244	0.05	3.77	10.0'	Rusty zone in Yukon Group, moderate limonite, some manganese and vuggy quartz veins
4247	0.52	1.16	0.5' grab	Rusty zone in Yukon Group

Geology - Trench K

Yukon Group skarn, amphibolite, magnetiferous rock, undifferentiated rocks and marble are exposed in trench K. Quartz porphyry and felsic porphyry intrude the section. Good gold values were returned from a rusty zone occurring in magnetiferous Yukon Group. Values over 13.0' average 0.20 opt gold and 0.55 opt Ag.

Geology - Trench L

Yukon Group rocks and quartz feldspar porphyry bodies returned trace to minor precious metal values in Trench L.

Geology - Trench P

Yukon Group schists and marbles are intruded by felsic porphyry. Rusty zones returned minor and trace Au-Ag assays.

Geology - Trench Q

Magnetiferous rock and amphibolite Yukon Group with some skarn and felsic porphyry feature minor to trace Au-Ag values.

Geology - Trench R

Amphibolite, undifferentiated rock and magnetite-bearing Yukon Group rocks returned very low precious metal values.

Trench S

<u>Sample #</u>	<u>Au</u>	<u>Ag</u>	<u>Length</u>	<u>Description</u>
844	0.01	0.52	10.0'	Magnetite-limonite rock contains some quartz, manganese, specularite, hematite, CO ₃
849	0.02	5.24	10.0'	Skarn with narrow zones of limonite-carbonate rock, some magnetite, chlorite, hematite and pyrite, some Yukon Group

Geology - Trench S

Yukon Group rocks are cut by a rusty felsic porphyry dyke. Moderate to low precious metal values were recorded at the contact with felsic porphyritic rock and in magnetite-limonite rock containing jarosite, manganese, quartz and carbonate veins.

Trench T

<u>Sample #</u>	<u>Au</u>	<u>Ag</u>	<u>Length</u>	<u>Description</u>
840	0.18	8.16	7.0'	Magnetite-jarosite-hematite zone in Yukon Group, leached quartz, moderate to low limonite, actinolite and manganese

Geology - Trench T

Undifferentiated Yukon Group rock contains a magnetite-jarosite-hematite rich zone which contains Au-Ag.

Trench U

<u>Sample #</u>	<u>Au</u>	<u>Ag</u>	<u>Length</u>	<u>Description</u>
835	1.22	25.82	3.7' chip	Quartz-limonite vein with moderate limonite, goethite, quartz, manganese which is vuggy and leached

Geology - Trench U

Undifferentiated Yukon Group is cut by a quartz-limonite vein striking 60° and dipping 70° North. High Au-Ag values were recorded for a 3.7' interval.

Geology - Trench V

Yukon Group schist, gneiss, magnetiferous rock and limonite-jarosite zones outcrop in Trench V. Trace to minor precious metal values occur in samples.

APPENDIX III

PRISM RESOURCES LTD.

GEOLOGICAL REPORT - 1973 - GOLD STAR GROUP

APPENDIX III

PRISM RESOURCES LTD.

Report on the

GOLD STAR GROUP

115-I-6, Whitehorse Mining District

Yukon Territory

by

P.H. Sevensma, Ph.D., P.Eng.

Vancouver, June 5, 1973.

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ILLUSTRATIONS

- Fig. 1 - Claim map 1" = 1/2 mile
- Fig. 2 - Preliminary Geology by
R.A. Granger 1" = 400'
- Fig. 3 - Location map 1" = 100 miles

Prism Resources Ltd.

Gold Star Group

115-I-6, Whitehorse M.D., Y.T.

I. Summary and Recommendations

The Gold Star Group of 19 claims and two fractions covers an altered, weathered and leached syenitic intrusive centered on a breccia zone carrying molybdenite; 24 additional claims have been staked.

Several quartz-gold showings occur near and in the intrusive and there is a 6"-8" wide vein of galena assaying 70% Pb and 171 ^{oz}/t Ag.

Near-massive magnetite replacing a limy bed assays about 0.36 ^{oz}/t Au and this zone is known for a length of some 300', the largest width being 27'; its full size has never been investigated.

Two tranches 30' apart on a 1'-1½' wide gold-quartz vein show values between 2.6 and 4.6 ^{oz}/t Au with up to about 20 ^{oz}/t Ag. The full structure is at least 2,500' long.

The porphyry type mineralization of the altered intrusive and especially of the breccia is of considerable interest and the auriferous magnetite and the main gold-quartz vein are themselves promising showings. Other showings of about 0.45 ^{oz}/t ^{Au} and some 10 ^{oz}/t Ag are also present. Geochemical sampling and bulldozer trenching for a total of \$15,000.00 and a follow-up drill program of \$30,000.00 are recommended to explore this group, for a total field budget of \$45,000.00.

Two miles to the SSE, former producer Ormsby Mines Ltd. reports about 80,000 tons reserves of 0.70 ^{oz}/t Au.

II. Introduction

The Gold Star Group of 19 claims and two fractions covers a number of gold showings, a silver showing and an altered syenitic intrusive with a breccia centre containing molybdenite. Some chalcopyrite is associated with these various showings. The property lies about two miles NNW of former producer Ormsby Mines Ltd., which may well be revived at present gold prices.

The writer has examined the property, as well as nearby properties, on a number of occasions starting in 1959, his last visit being in July, 1972.

III. Property, Location, & Access

The Gold Star Group consists of the following claims and fractions:

<u>Claim Name</u>	<u>Record Number</u>	<u>Expiry Date</u>
Augusta	15494	October 1, 1974
Margareta	15505	"
Gold Star	15519	"
Peerless	15549	"
Protection Fr.	15677	"
Shearzone 1 - 2	60420 - 60421	"
Vindicator 1 - 2	60422 - 60423	"
Liberty	63638	"
Excelsior 1 - 3	63639 - 63641	"
Progress 1 - 2	73464 - 73465	"
Greenstone 1 - 4	90455 - 90468	"
Greenstone 5	91056	"
Greenstone 6 Fr.	Y21094	"

The Group is located on, and West of, Freegold Mountain, at about Lat. N 62° 17' and Long. 137° 9', on the South slope between Freegold Mountain (4,772') and Seymour Creek (at elevation about 2,500'), and is recorded on claim-sheet 115-I-6.

Access is by the Carmacks - Ormsby Mines - Revenue Creek road, a distance of about 44 road miles, or 32 air miles WNW of Carmacks. In 1972, this road was used by ordinary cars. There is good timber with butts up to 16", mostly spruce, up to elevation 3,500'. The S to SW exposure of the slopes allows permafrost to thaw once the moss is removed, whereas the frost tends to be permanent on the flat ridges and the North slopes. Seymour Creek originates in a lake and provides a good consistent supply of water.

Twenty-four additional claims have been staked by Prism Resources to cover the area between the Gold Star and Ormsby Mines Ltd., but had not yet been recorded at the time of writing.

IV. Areal Geology

Freagold Mountain is part of a 40 mile long belt of syenitic rocks and granodiorite intruding Yukon schists. There are numerous remnants of mesozoic Mount Nansen andesitic volcanics. The Tertiary Carmacks volcanics form a late cover North and South of the broad "ridge" of syenitic-granodioritic intrusives and Yukon schists.

Numerous masses and dykes of granite-porphyrines and rhyolites, cut the previous formations.

The area is part of the Dawson Range, where significant values in copper, gold and silver and sometimes molybdenite, are associated with the Cretaceous and Tertiary intrusions, forming large porphyry type deposits of copper and/or molybdenum.

In 1965-1966, Ormsby Mines Ltd. operated for a short period the Laforma Group, two miles SSE of the Gold Star, with a 125 ton per day mill and 80,000 tons of positive and probable reserves containing 0.70 ^{oz}/t Au. Due to the necessity to meet certain government deadlines, production was started late in the season and the winter operation proved unprofitable at the then prevailing price of gold. Dilution contributed to a lower mining grade than anticipated and the property was closed down in early 1966.

As the area remained unglaciated during the last Ice Age, the formations, especially those that are soft, or hydrothermally altered, have been deeply weathered and leached. This condition requires drilling to depths exceeding some 300' below the surface to obtain intersections in unweathered formations.

Leaching, especially in the presence of pyrite, is pronounced throughout the district and gold may at times be enriched in near-surface limonite, whereas under the same conditions, copper may be thoroughly leached with some degree of an enriched zone at a depth of a few hundred feet capping the normal primary mineralization.

Deposits of the mineralized porphyry-type are known in the Dawson Range and some have had initial drilling with encouraging results.

The more attractive situations are those that are of easy access, and the Gold Star Group is one of these, as it lies directly along a

good bush road.

The Gold Star Group presents a classical picture of a brecciated zone within a bleached part of a syenite intrusive with satellite deposits of gold and of silver-lead. Two miles to the South-East is a stibnite-barite-quartz-carbonate showing on Emmons Hill, stibnite being another typical fringe mineral of mineralized porphyries, especially where molybdenite is present.

V. Local Geology

The area has been mapped in detail in 1935 on a scale of 1"=1,000' by T.R. Johnston of the Geological Survey of Canada (see memoir 214, 1937).

Mesozoic and Tertiary syenites and granodiorites intrude Yukon schists of sedimentary origin, and numerous masses and dykes of quartz-feldspar cut these formations, as well as the somewhat earlier feldspar-andesite porphyries.

In 1969, Yukon Revenue Copper had an option on this property and carried out some geological mapping on a scale of 1"=400', and outlined an intensely bleached zone some 1,200' by 1,600' centred on an elongated ENE-WSW trending breccia-zone about 1,200' long and up to 400' wide.

The Augusta zone and the Margarete zone, where previous work had been done on gold-showing were traced and found to be one and the same for a length of about 2,500', and to lie more or less along a system of quartz-porphyry dykes cutting Yukon schists some 400' N of the bleached syenite zone centered on the breccia zone. The Gold Star showing, now caved, lies another 500' further West on strike.

The mineralization appears to have followed partially the same fractures as the dykes, which are occasionally mineralized by small quartz veinlets, carrying sulphides and/or gold.

The gold bearing zones are usually irregular quartz veins from a few inches to about four feet wide. On the Augusta claim, there is a mass of magnetite at least 300' long and up to 27' wide, trending about East-West. The magnetite is associated with actinolite, garnet, epidote, quartz and some calcite. Metallic minerals present are hem-

atite, pyrite, chalcopryrite, limonite and gold.

Although the writer examined this showing in 1962, he did not sample it for gold, as no representative samples could be obtained. About a month previous, the showing was examined and sampled by J. Walker, who obtained 0.32 oz/t Au and 1.20 oz/t Ag in the magnetite.

The associated minerals suggest that the magnetite replaces a limy bed within the Yukon schists.

The Augusta-Margarete vein system strikes towards a galena-silver showing originally known as the Red Fox, and located on claim Vindicator no. 2.

Although poorly exposed, the vein appears to strike N-S and to lie between Yukon schists to the West and quartz feldspar porphyry on the East, as shown by the exposure in the E-W trench.

The vein was mostly covered and its width could not be observed. According to H.S. Bostock, (1931), the vein strikes East-West and is 6"-8" wide.

The writer's sample of galena on the dump assayed 171.0 oz/t Ag and 70.0% Pb, and only traces of zinc and gold.

The writer examined the Margarete vein in two trenches, one 150' East of an old collapsed 20' deep shaft, and one 30' further to the East. Assays were as follows:

	Width	oz/t Au	oz/t Ag
Trench, 150' East of shaft	12"	4.5	19.4
Trench, 180' East of shaft	18"	2.6	10.6

In both cases, the sample consisted of a mixture of very limonitic schist with drusy vein quartz.

These assays are of about the same value as those taken by others. Conwest, for instance, reported three samples of respectively 3.6 oz/t, 4.6 oz/t, and 3.2 oz/t Au in 1959.

Metallics present in disseminated form are pyrite, chalcopryrite, arsenopyrite, some malachite and much limonite.

The vein dips some 60° to the South, and near the ridge, the few observed attitudes of the schists show a dip of some 45° NE with a NW strike.

Within the large bleached zone, the writer did not observe any minerals other than some tourmaline and pyrite, and some specks of molybdenite, which at that time (1962) did not seem to be of interest. A small quartz showing within this zone, since opened up by Mr. Gudar, provided an assay of 0.48 ^{oz}/t Au and 10.1 ^{oz}/t Ag to Yukon Revenue in 1969.

Johnston, on the basis of his observations on the Laforma Group (now Ormsby Mines Ltd.), postulates that the NE fractures and veins are more promising than the NW ones.

The ENE strike of the bleached zone and of the breccia zone may be significant in this respect.

VI. History

Prospect shafts and trenches were driven in the early 1930's.

In 1959, Conwest optioned the property and drilled five core holes, two each near the shaft and 100' West of it with a Northerly dip, and one 100' East of the shaft with a South dip of 45°.

A summary of the results is as follows:

<u>Hole No.</u>	<u>Length</u>	<u>Dip</u>	<u>Footage</u>	<u>Length</u>	<u>oz/t Au</u>	<u>Recovery</u>
F-1	180'	-45° N	112.5-121'	8.5'	0.34	10%
F-2	225'	-60° N	152 -159'	7'	.06	40%
F-3	202'	-45° N	159 -163'	4'	.12	70%
F-4	226'	-60° N	160 -168'	8'	.01	17%
F-5	181'	-45° S	>181'?	0'	---	Too Short?
<u>Total</u>	<u>1,014'</u>					

Recoveries are very poor and the trenched area, 50' East of Hole F-5, with assays of about 2.5 to 4.5 ^{oz}/t Au across 1'-1½', remained untested.

In 1969, Yukon Revenue Copper cut a few catlines, took six soil-samples and mapped part of the area geologically, outlining the bleached zone and its brecciated centre, and discovered a frost-heaved block assaying 0.40 ^{oz}/t Au and 5.48 ^{oz}/t Ag near a well tourmalinized area. This block, about 12" across, consisted of a typical boxwork suggesting leached sulphides.

The one soil sample over the breccia was significantly anomalous in Molybdenum and Arsenic, as follows:

Mo 20 ppm (background \pm 2 ppm).

As 165 ppm (background \pm 10 ppm).

Molybdenum is a valuable indicator to locate the most likely centre of mineralization. Arsenic is expected to be the best pathfinder for gold. In the presence of oxidizing pyrite, molybdenite tends to remain in the limonitic area and copper would be completely leached.

VII. Exploration Targets

The following targets are present:

1. Augusta Magnetite

May be traced by magnetometer. Surface trenching and assaying should lead to a decision as to whether this occurrence should be tested by drilling. Soil-sampling for Cu, As and Au may assist in pinpointing a zone of higher potential interest.

2. Margarete Vein

Drilling under the trenches and East of them is justified as the gold-bearing material may form Easterly raking shoots.

The assay of 0.34 ^{oz}/t Au across 8.5' with only 10% core recovered is encouraging (Hole F-1). Soil-sampling for As and Au below the vein-zone at 50' intervals is expected to be of value.

3. Red Fox

Although of 6"-8" reported width, this vein is narrow, an assay of 171.0 ^{oz}/t Ag still represents about 15 ^{oz}/t Ag across 6'. Bulldozer trenching is recommended to expose this occurrence properly.

4. Cabin Showings

At 0.40 and 0.46 ^{oz}/t Au and good silver values, these showings warrant bulldozer trenching. A good vein in place would justify drilling. If a NE striking vein is located, it may be a target of more interest than the main Margarete vein.

5. Breccia Zone

After detailed outlining by soil-sampling for Mo and As, this zone justifies one or more drill-holes, preferably drilled to the North from its Southerly contact, to sample this occurrence at a depth of 400'-500' below the surface.

VIII. Recommended Program

Each one of the five described targets is of interest and warrants further evaluation. This evaluation should be based on a program of close-spaced soil-sampling, each local grid being adjusted to the nature and size of the specific situation.

The soil-sampling results combined with the position of the showings should be used to lay out bulldozer trenches, the purpose of which is to obtain attitudes, sizes and grades of near-surface occurrences, even if the exposures are expected to be both weathered and leached.

On the Augusta, a magnetometer survey is essential to obtain subsurface information on the size and attitude of the gold-bearing magnetite deposit, even if scattered blocks of magnetite within the talus may render some local readings doubtful.

As the skarn-type magnetite formations have not suffered much from weathering and leaching, relatively shallow core-drilling should be employed to obtain the grade of the mineralized material.

In the breccia-zone, either two 500' holes or one 800' hole is contemplated, depending upon both surface conditions and drilling conditions. As we expect to encounter some 200' or perhaps 300' of weathered ground, an 800' hole may provide 500' of good core versus 300' of poor core, whereas two 500' holes may provide 400' of good core versus 600' of poor core. As the S contact of the breccia lies about 1,300' in elevation above the level of Seymour Creek, a relatively deep hole is fully justified if the breccia-zone is near-vertical.

The following budget is estimated for this program:

1. Camp construction		\$ 1,500.00
2. Linecutting, picketing, 6 miles @ \$150.00		1,000.00
3. Geological mapping		1,000.00
4. Soil sampling, 300 samples @ \$10.00 (including labor and assaying)		3,000.00
5. Bulldozer trenching, 125 hours @ \$32.00		4,000.00
6. Camp operation, 80 man-days @ \$12.50		1,000.00
7. Magnetometer survey, 6 line-miles @ \$160.00		1,000.00
8. Truck use, freight, CP Air		<u>2,500.00</u>
		\$15,000.00
9. Core-hole drilling, 8 size core,		
3 holes of 200' = 600'		
2 holes of 500' = <u>1,000'</u>		
Total	<u>1,600'</u> @ \$15.00	<u>24,000.00</u>
		\$39,000.00
Supervision, Engineering, 10%		4,000.00
Contingencies, 5%		<u>2,000.00</u>
Total Field Budget		<u>\$45,000.00</u>

Drilling cost of \$15.00 per foot all-inclusive should be obtainable by drilling one shift only and using a plug bit in weathered bedrock. One 800' hole in the breccia may be used instead of two 500' ones.

Respectfully submitted,
PETER H. SEVENSMA CONSULTANTS LTD.

P.H. Sevensma, Ph.D., P.Eng.

CERTIFICATE

I, Pieter H. Sevensma, of 7052 Sierra Drive, Burnaby, B.C., DO
HEREBY CERTIFY:

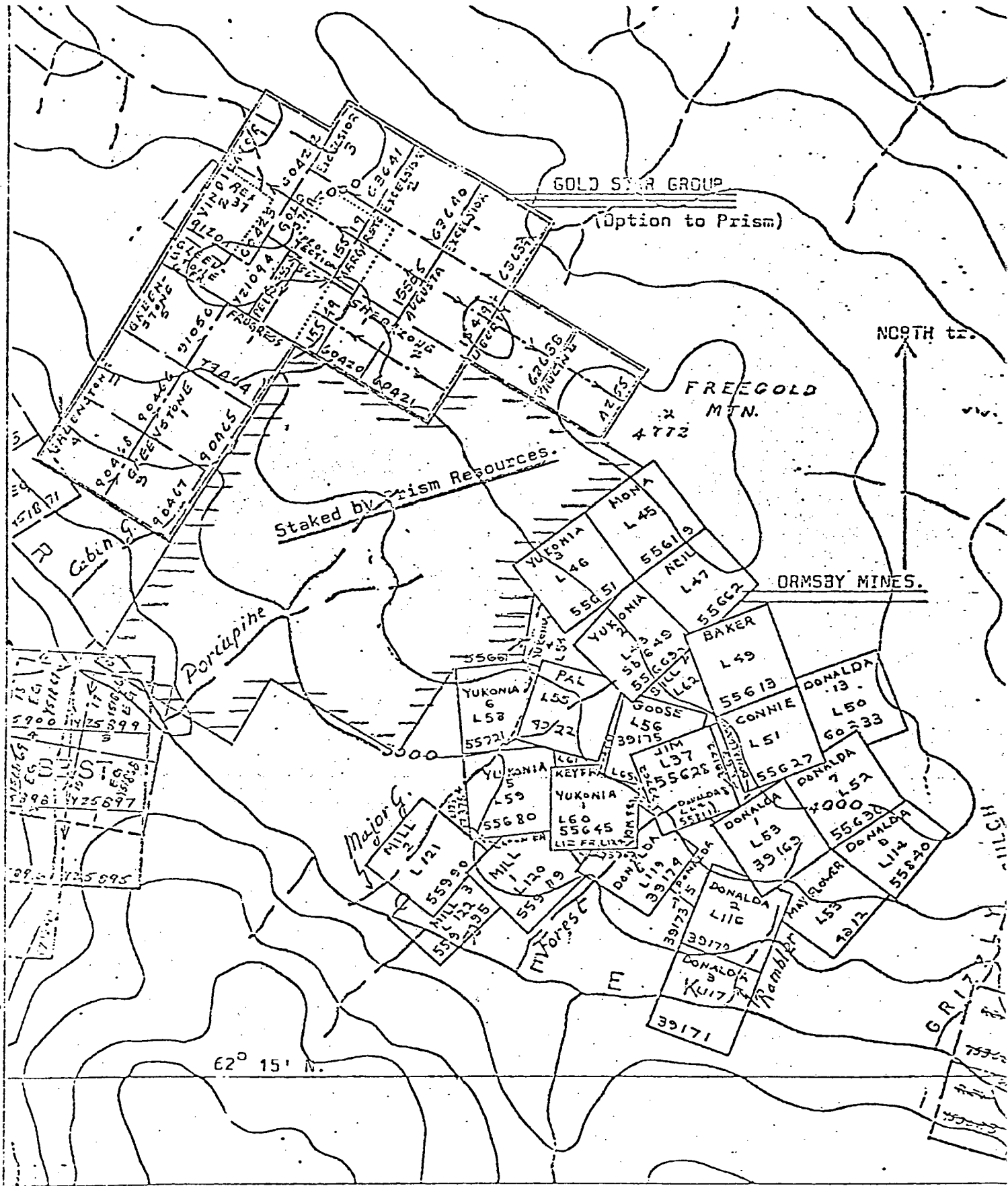
1. THAT I am a Consulting Geologist with a business address at 715, 850 West Hastings Street, in the City of Vancouver in the Province of British Columbia.
2. THAT I am a graduate of the University of Geneva, Switzerland, where I graduated in 1937 and obtained my Ph.D. in Geological and Mineralogical Sciences in 1941.
3. THAT I am a Registered Professional Engineer in the Geological Section of the Association of Professional Engineers of British Columbia and of the Association of Professional Engineers of Yukon Territory.
4. THAT I have practiced my profession for the past 35 years.
5. THAT I have examined the property which is the object of this report several times since 1959, my last visit being in July, 1972.
6. THAT the map attached to this report as figure no. 2 was prepared and supplied by Mr. R.A. Granger, who has authorized its use in this report.
7. THAT I have no interest, either directly or indirectly in any of the properties or securities of Prism Resources Ltd. and do not expect to receive or acquire any.

Signed:

P.H. Sevensma, Ph.D., P.Eng.

Vancouver, B.C.

June 5, 1973.



PRISM RESOURCES LTD.

GOLD STAR GROUP WHITEHORSE M.D., YUKON.
115-I-6. Claim-location.

Peter H. Sevensma Consultants Ltd., Vancouver, B.C.

June 1975, Scale: 0 $\frac{1}{2}$ in. Fig: 1.

APPENDIX IV

ARCHER CATHRO INDEX

INFORMATION ON MT. FREEGOLD PROPERTY,
CASINO PROPERTY AND GOLD STAR GROUP

APPENDIX IV

MT. FREEGOLD PROPERTY

LOCATION NTS: 1151/6 LAT: 62°16' LONG: 137°06'

ACCESS: 40 miles by all-weather road from Carmacks, which is 110 miles by highway from Whitehorse, Yukon

TYPE OF TARGET: Bulk-tonnage heap leach gold deposit

OWNERSHIP: Discovery Mines Ltd. (controlled by Rayrock Resources Ltd.)

CLAIMS: Mayflower, Donalds 1-3,7,9,13 (7 total) EXPIRY: 21 year leases

PREVIOUS WORK: Geochemical sampling and mapping, trenching and 19 core drill holes (8,083 feet) in 1974-81.

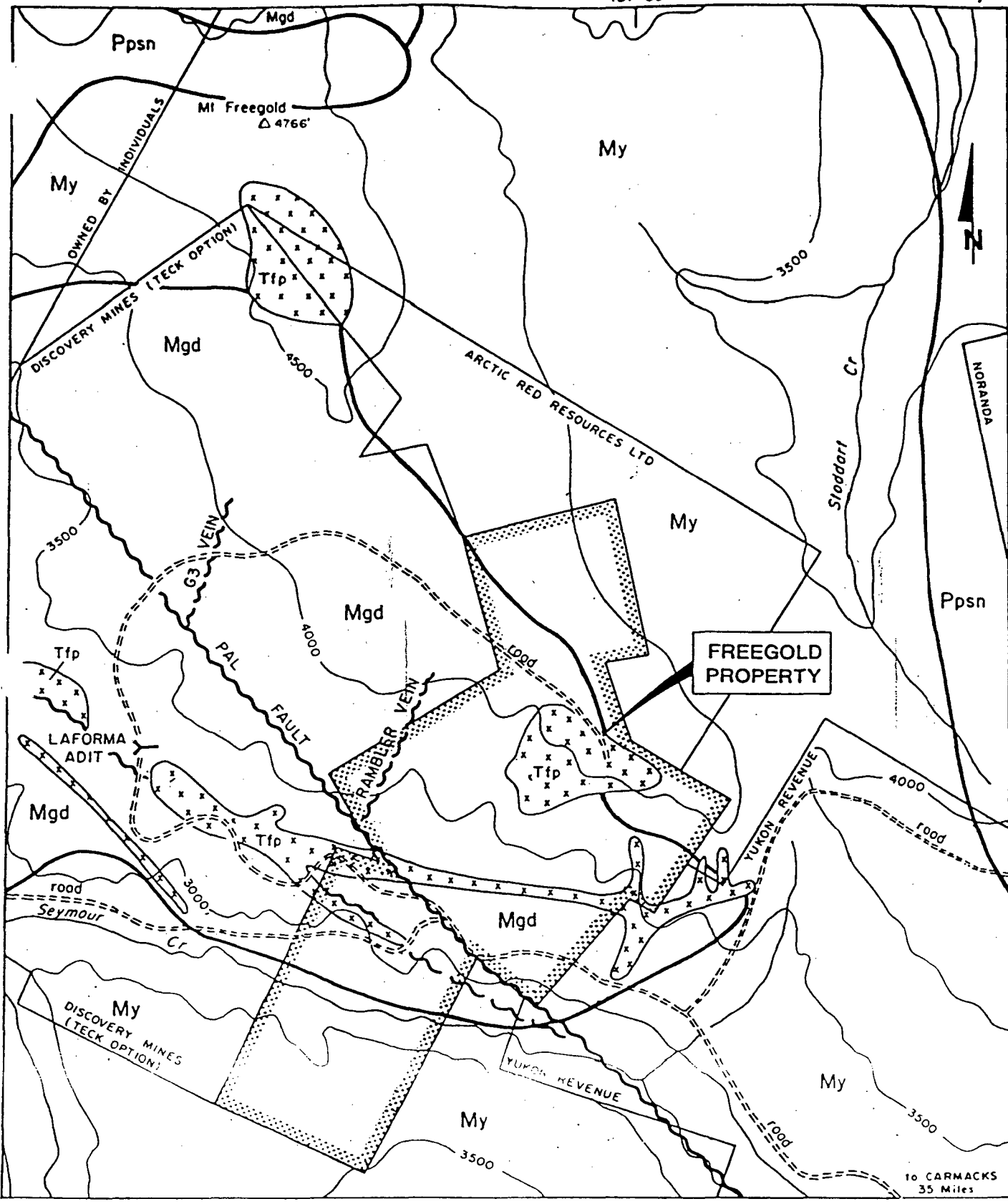
DESCRIPTION:

The Mt. Freegold property is defined by a gold-arsenic soil geochemical anomaly associated with a weakly altered, arsenopyrite-rich, brecciated porphyry complex. The property is unglaciated and the sulphide minerals are variably oxidized and leached to depths of up to 200 feet. Previous exploration was directed toward conventional milling gold ore and did not investigate the potential for heap leachable mineralization.

Wide-spaced drilling results outline a 1500 by 1000 foot area that averages 0.015 OPT Au, within which higher grade zones grade between 0.03 and 0.10 OPT Au. These zones are probably related to wide faults and exhibit moderate to strong clay alteration. The best drill intersections are 0.068 OPT Au with 0.012 OPT Ag and 0.061 OPT Au with 0.033 OPT Ag over true widths of about 60 feet. Assuming an average mining depth of 200 feet, there is potential for over one million tons grading in excess of 0.055 OPT Au that could be mined by selective open pit methods. Three million tons grading in excess of 0.030 OPT Au and many tens of million tons of lower grade mineralization are also possible.

Tests should be conducted in the initial stage to determine how the degree of oxidation affects the efficiency of cyanide leaching.

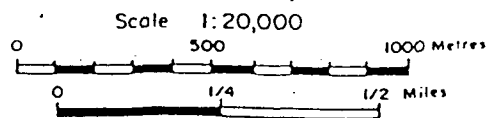
137°05'

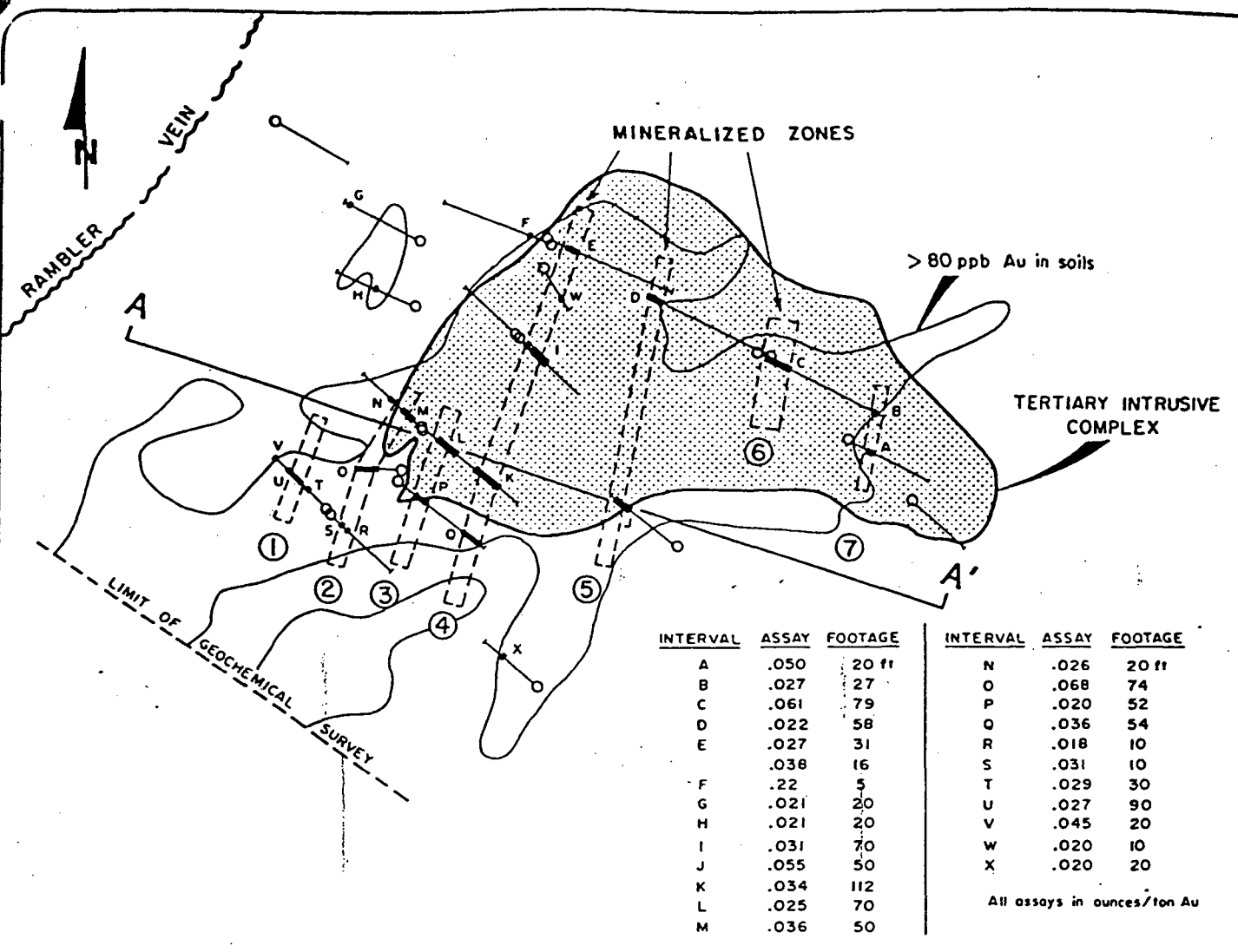


LEGEND

- Tfp TERTIARY
Feldspar porphyry, quartz porphyry and felsite
- Mgd MESOZOIC
Hornblende granodiorite
- My Syenite
- Ppsn PALEOZOIC
Schist-gneiss unit (muscovite quartz biotite schist, quartzite)

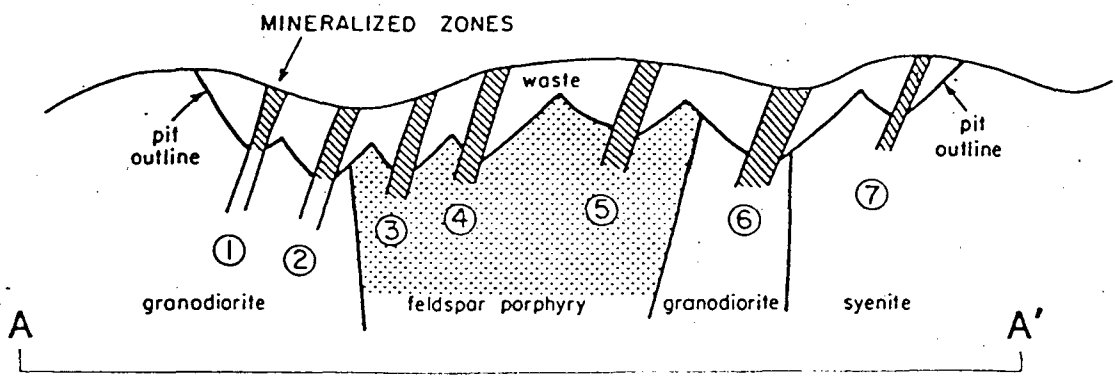
Figure 1
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
LOCATION MAP
FREEGOLD PROPERTY
 MT. FREEGOLD, Y.T.





INTERVAL	ASSAY	FOOTAGE	INTERVAL	ASSAY	FOOTAGE
A	.050	20 ft	N	.026	20 ft
B	.027	27	O	.068	74
C	.061	79	P	.020	52
D	.022	58	Q	.036	54
E	.027	31	R	.018	10
F	.038	16	S	.031	10
G	.22	5	T	.029	30
H	.021	20	U	.027	90
I	.031	70	V	.045	20
J	.055	50	W	.020	10
K	.034	112	X	.020	20
L	.025	70			
M	.036	50			

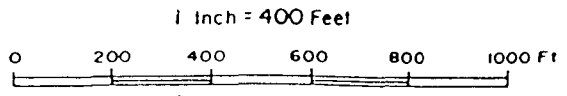
All assays in ounces/ton Au



ZONE	LENGTH (ft)	WIDTH (ft)	TONNAGE	GRADE
1	300	50	.3	.027
2	500	50	.5	.043
3	500	50	.5	.022
4	1300	60	1.6	.031
5	1000	50	1.0	.039
6	300	70	.4	.061
7	300	20	.1	.039

4.4 mT .038 oz/ton

Figure 2
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
MINERALIZED ZONES
 FREEGOLD PROPERTY
 MT. FREEGOLD, Y.T.



(all to depth of 200 feet)

CASINO PROPERTY

LOCATION NTS: 115J/10 LAT: 62°44' LONG: 138°50'

ACCESS: Casino is not accessible by road. It is serviced by fixed-wing aircraft up to DC-3 size landing on the property and is 187 airmiles from Whitehorse and 65 airmiles from Minto. Heavy equipment can be moved there by barge on the Yukon River (60 miles) and a 12 mile road.

TYPE OF
TARGET: Bulk-tonnage heap leach gold deposit

OWNERSHIP: Casino Silver Mines Ltd. (affiliated with Teck Corporation)

CLAIMS: Cat claims etc. (123 total) EXPIRY: After 1989

PREVIOUS WORK: Geochemical sampling and mapping, 95 core and percussion holes (59,065 feet) between 1969 and 1973.

DESCRIPTION:

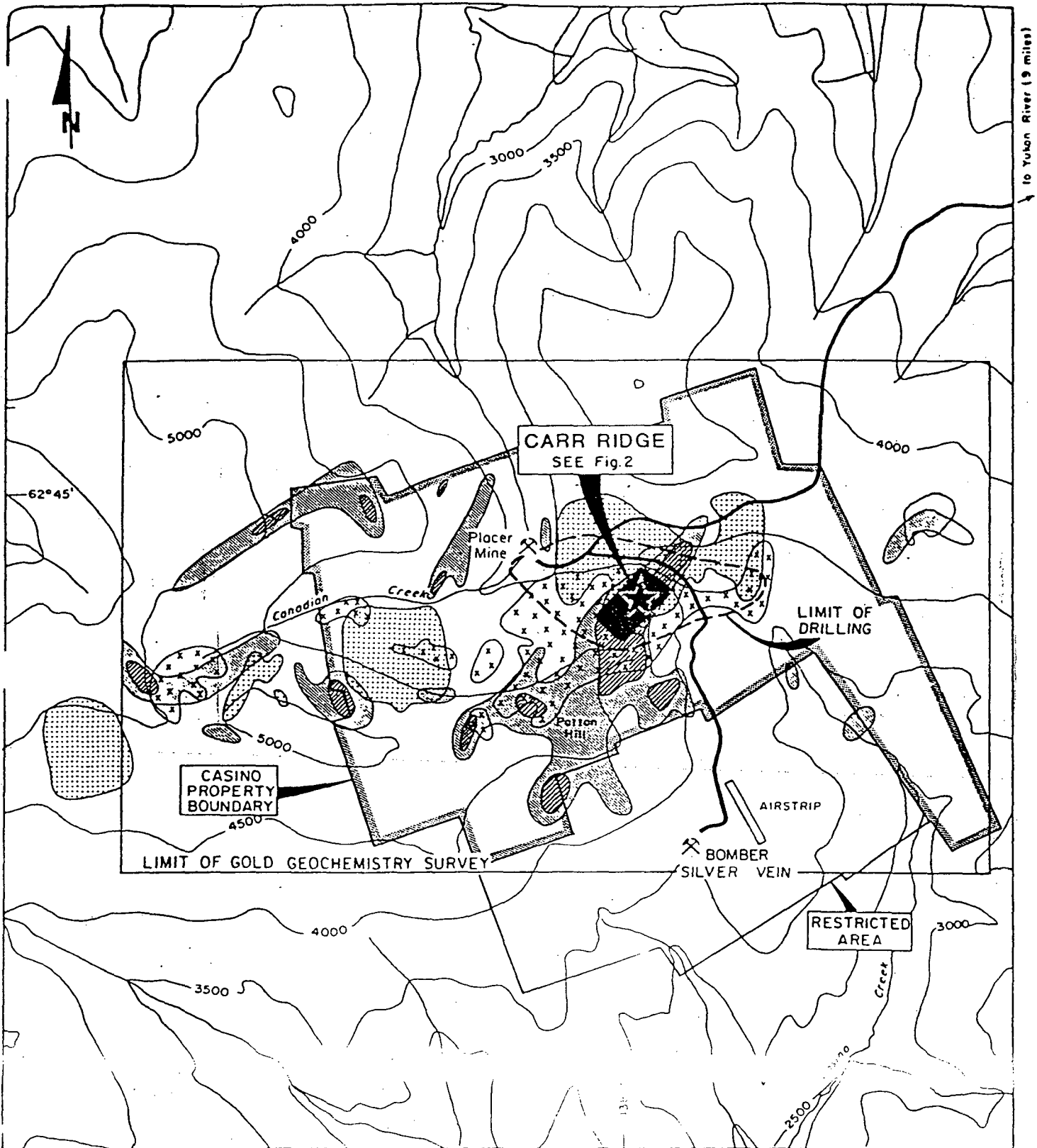
The Casino deposit is a deeply weathered, copper-molybdenum porphyry with reserves of 179 million tons averaging 0.37% Cu and 0.039% MoS₂ (including a supergene zone of 25 million tons grading 0.63% Cu and 0.06% MoS₂). The deposit is located in the unglaciated portion of Yukon and weathering has leached most sulphide minerals from surface, forming a cap that appears to have good permeability and chemistry for heap leach gold mining. Based on the limited gold assays available from wide-spaced vertical holes drilled to test the base metal mineralization, the average gold content of the hypogene ore is about 0.015 OPT. The gold content of the cap appears to be comparable but because the cap had low base metal potential and diamond drilling gave poor core recovery, sections of the holes through the cap were often not analyzed.

The leached cap extends over much of the property but the only portion which has been drill-tested is a 2000 by 900 foot area on Carr Ridge, a gentle northeast-facing slope that should have excellent mineability (Figures 1 and 2). The thickness of the cap on Carr Ridge is variable, ranging from 110 to 525 feet. The grade is unknown but previous assays were commonly 0.02 OPT Au and ranged to 0.04 OPT Au. Assuming an average thickness of 300 feet, there is a minimum of 50 million tons of oxidized ore grading about 0.015 OPT Au (Figure 3) in this area alone.

Soil geochemistry in the Carr Ridge area outlined a zone of strongly anomalous gold response (greater than 150 ppb Au) that generally coincides with the edge of the main copper soil anomaly (Figure 1). Wider-spaced sampling peripheral to this zone has identified nine additional areas where values exceed 150 ppb Au, most of which lack copper response. None of these areas has been tested by bulldozer trenching or drilling and it is possible that the most favourable gold targets have not yet been identified.

The geology and geochemistry suggest that steeply-dipping structures cross the area of interest in a northeasterly and/or easterly direction. The vertical drilling would not have assessed the potential for higher grade zones related to these structures and the next stage of exploration should include bulldozer trenching and sampling on surface followed by angle drilling.

At Casino, a minimum economic target is probably eight million tons grading over 0.035 OPT Au or perhaps three million tons grading over 0.05 OPT Au at a gold price of \$400 Can. This tonnage would be sufficient to repay capital costs at which point much larger tonnages averaging over 0.02 OPT Au may become economic.







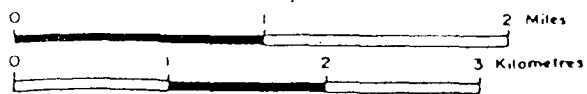
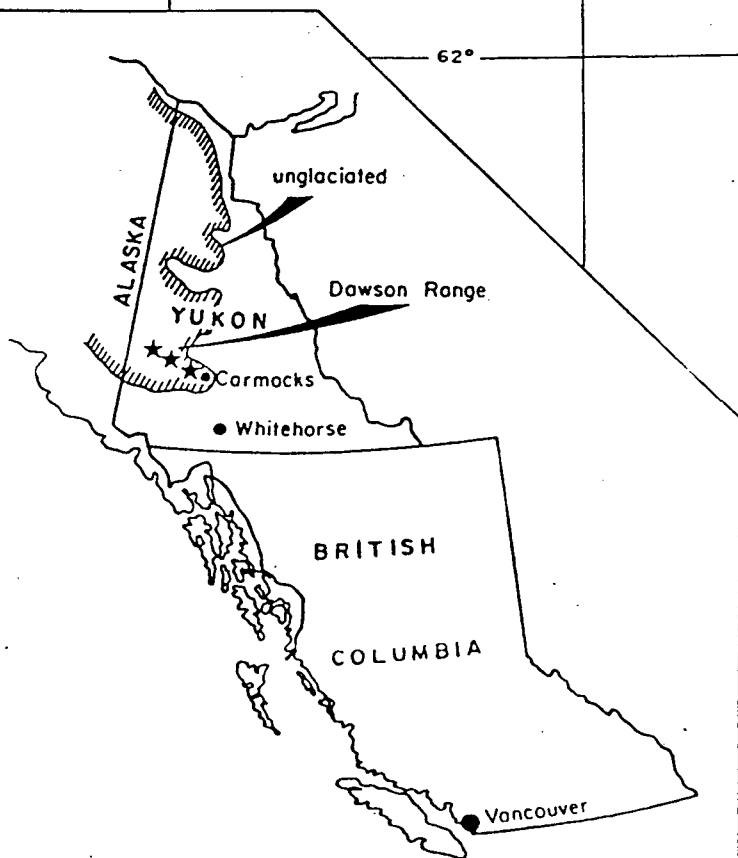
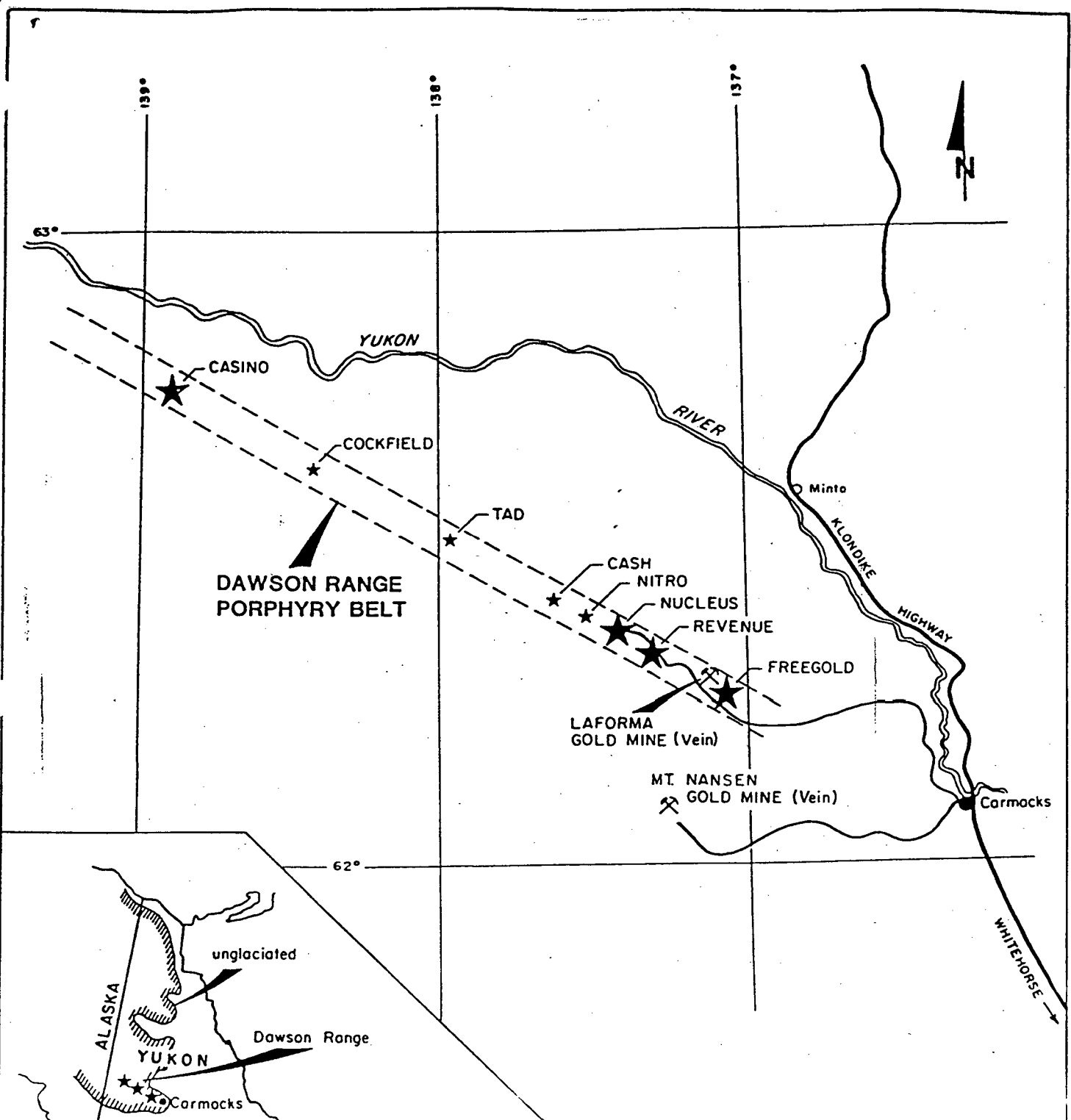
-  > 50 ppb Au
-  > 150 ppb Au
-  > 100 ppm Cu
-  Casino Complex
Tertiary felsic breccia/porphyry

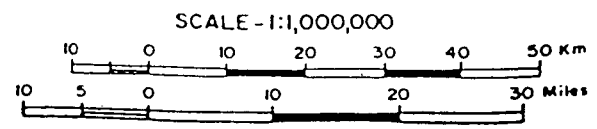
Figure 1
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
 GEOLOGY AND GEOCHEMISTRY
 CASINO PROPERTY

Scale 1:50,000





ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
LOCATION MAP
GOLD PORPHYRY TARGETS
DAWSON RANGE
YUKON TERRITORY



APPENDIX V

- MAP A ✓ - Mt. Freegold Properties - 1973
- MAP B - Prism Resources Ltd. - Magnetometer Values - 1973
- MAP C - Isomagnetic Plan - Prism Resources - 1973
- MAP D - Geology Map - Mt. Freegold - 1939 - J. Johnston
- MAP E ✓ - Provisional Geology, Mt. Freegold - by R. Granger, Revenue Mines Ltd. - 1973

* Property Name: Common GUDFR Other Gold Star
Location: Lat. 62°17' Long. 137°08' NTS 115I/6
Metals: Major Gold, Silver Minor Copper, Lead, Zinc, Molybdenum
Type of Mineral Deposit: Skarn, Vein

History and Previous Work:

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

Description:

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

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

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

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

References:

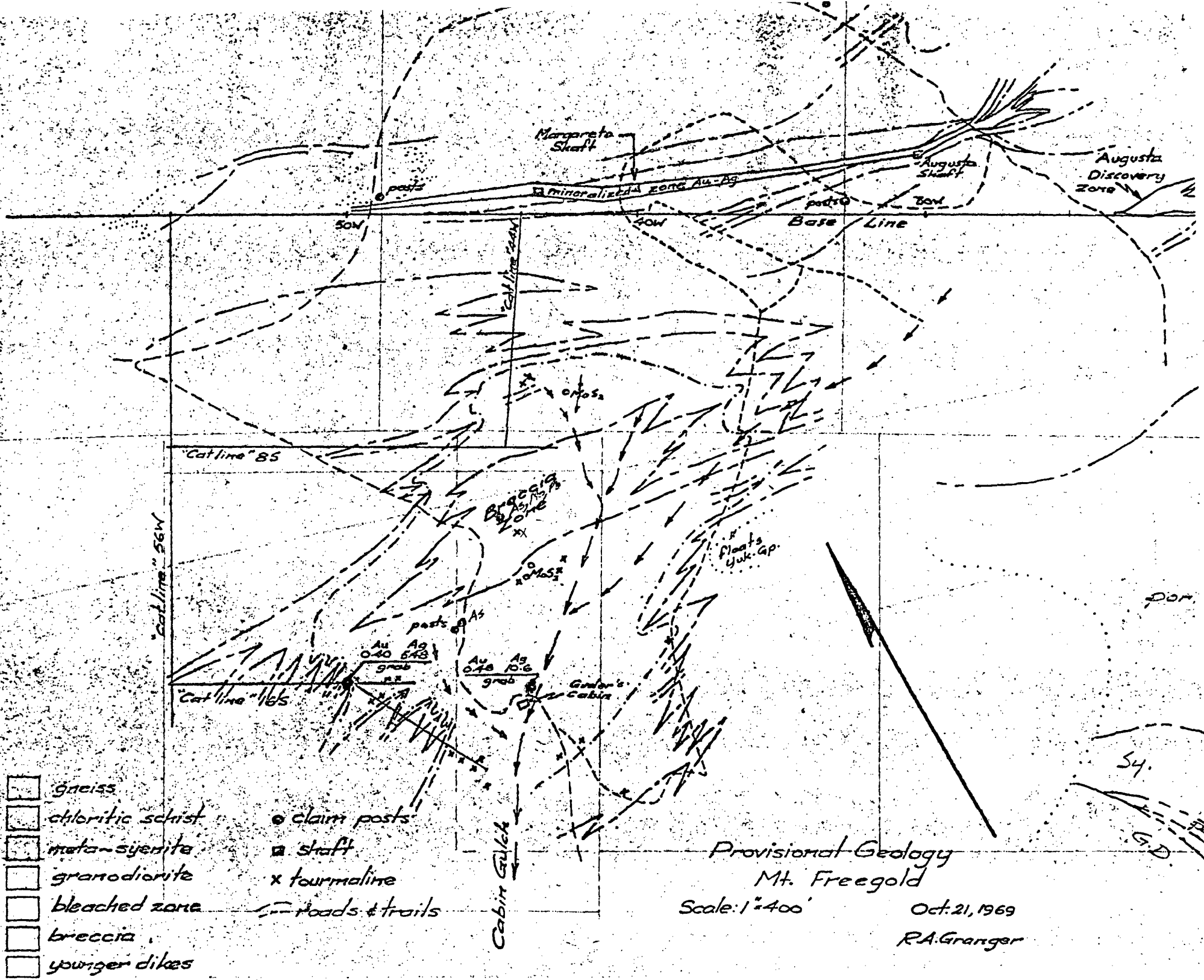
M189, pp 53-54

P214, pp 17-18

P68-68, p.35

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

* MIR, 1974, pp.115-116



- gneiss
- chloritic schist
- meta-syenite
- granodiorite
- bleached zone
- breccia
- younger dikes

- claim posts
- shaft
- x tourmaline
- roads & trails

Provisional Geology
Mt. Freegold

Scale: 1" = 400'

Oct. 21, 1969
R.A. Granger

Gold Star Property - Hudson Bay Samples
1985

Lot 45-283

REPORT: 125-2459

PROJECT: 7309

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SAMPLE NUMBER	ELEMENT UNITS	AG PPM	AS PPM	HG PPB	AU PPB	SB PPM	
S1 115106 001		0.4	82		25		} AREA C
S1 115106 002		<0.2	75		5		
S1 115106 003		0.6	330		120 ←		
S1 115106 004		0.5	125		<5		
S1 115106 005		0.9	30		10		
S1 115106 006		0.2	40		10		} Area C
S1 115106 007		<0.2	16		5		
S1 115106 008		<0.2	20		25		
S1 115106 009		0.8	30		480 ←		
S1 115106 010		0.9	200		1100 ←		
S1 115106 011		0.4	73		65		} Breccia Granite Zone
S1 115106 012		0.3	180		35		
S1 115106 013		0.4	65		35		
S1 115106 014		0.3	75		45		
S1 115106 015		0.4	57		20		
S1 115106 016		1.4	125		50		} Talus lines from trenches
S1 115106 017		0.7	100		65 ←		
S1 115106 018		<0.2	60		5		
S1 115106 019		12.0	700		600		
S1 115106 020		3.9	>1000		140		
S1 115106 021		5.6	>1000		110		} Breccia zone
S1 115106 022		<0.2	40		140		
S1 115106 023		<0.2	35		<5		
S1 115106 101		<0.2	52		<5		
S1 115106 102		<0.2	40		5		
S1 115106 103		0.2	48		10		} Area C
S1 115106 104		0.8	75		25		
S1 115106 105		0.2	3		<5		
S1 115106 106		<0.2	3		<5		
S1 115106 107		<0.2	3		<5		
S1 115106 108		0.2	5		5		} Area C
S1 115106 109		<0.2	3		<5		
R2 40565		6.1	>1000		860		
R2 40566		0.5	60		60		
R2 40567		49.0	850		960		
R2 40568		1.4	53		55		} Breccia zone trench
R2 40569		3.3	750		5600		
R2 40570		0.9	50		20		
R2 40571		3.0	90		120		
R2 40572		0.3	65		40		

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SAMPLE NUMBER	ELEMENT UNITS	AG PPM	AS PPM	HG PPB	AU PPB	SB PPM	
R2 40573		1.9	90		140		} west of brecciated porphyry.
R2 40574		33.0	>1000		660		
R2 40575		3.5	>1000		380		

FREEGOLD MOUNTAIN



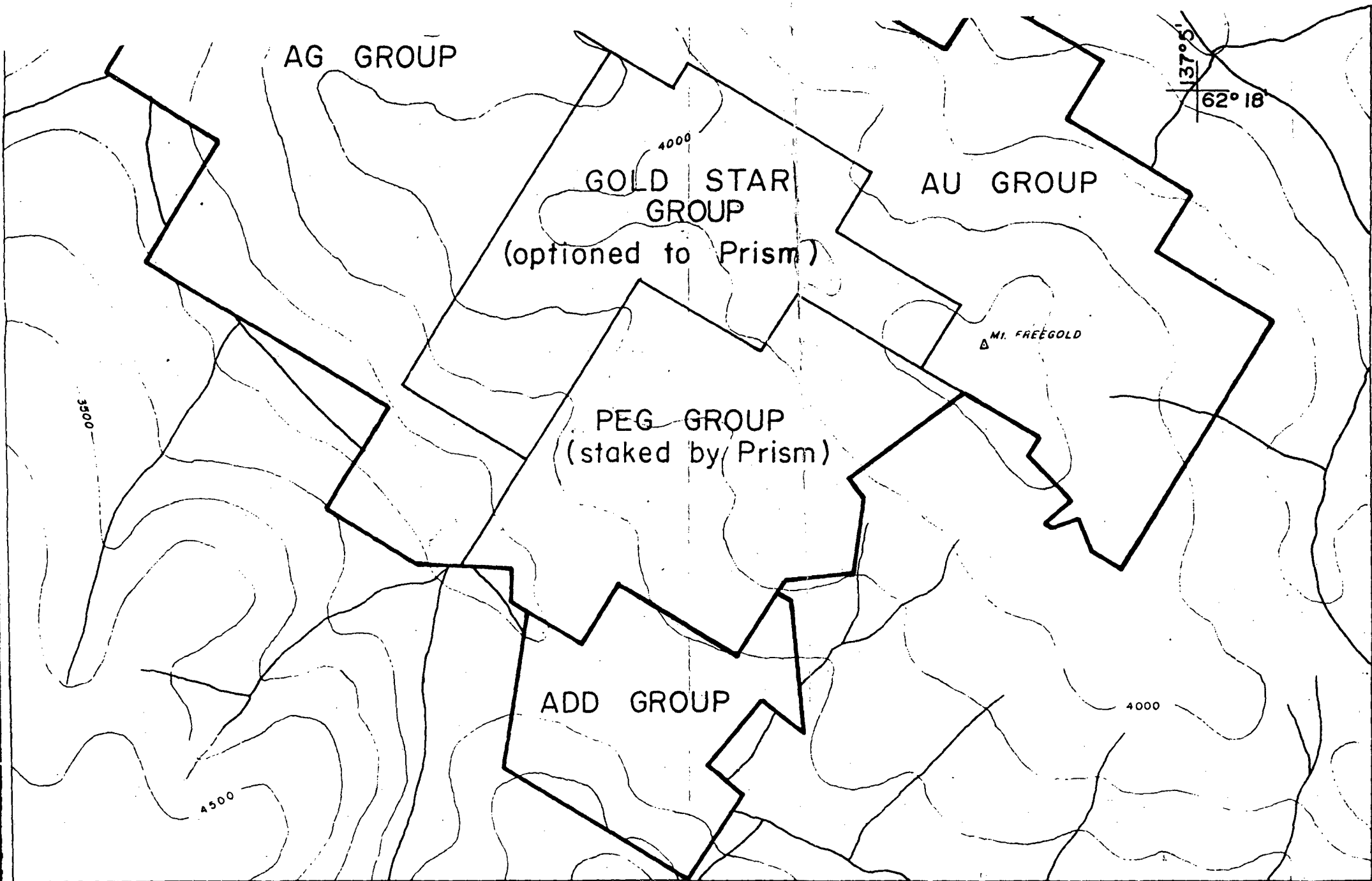
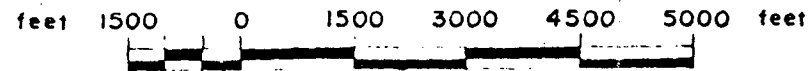


FIGURE 1

Mt. FREEGOLD PROPERTIES

N.T.S.: 115 1-6

SCALE: 1 inch = 1/2 mile



CONTOUR INTERVAL 500 FT.