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PRISM RESOURCES LTD.

Report on the

GOLD STAR GROUP

115-I-6, Whitehorse Mining District

Yukon Territory

by

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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 <sup>oz</sup>/t Ag.

Near-massive magnetite replacing a limey bed assays about 0.36 <sup>oz</sup>/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 trenches 30' apart on a 1'-1½' wide gold-quartz vein show values between 2.6 and 4.6 <sup>oz</sup>/t Au with up to about 20 <sup>oz</sup>/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 <sup>oz</sup>/t <sup>Au</sup> and some 10 <sup>oz</sup>/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 <sup>oz</sup>/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
Margarete	15505	"
Gold Star	15519	"
Fearless	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	"

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-porphyrries 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 1936 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, chalcopyrite, 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 limey 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:

	<u>Width</u>	<u>oz/t Au</u>	<u>oz/t Ag</u>
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, chalcopyrite, arsenopyrite, some malachite and much limonite.

The vein dips some 80° 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. Guder, 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 <sup>oz</sup>/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 <sup>oz</sup>/t Ag still represents about 15 <sup>oz</sup>/t Ag across 6'. Bulldozer trenching is recommended to expose this occurrence properly.

##### 4. Cabin Showings

At 0.40 and 0.46 <sup>oz</sup>/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,  
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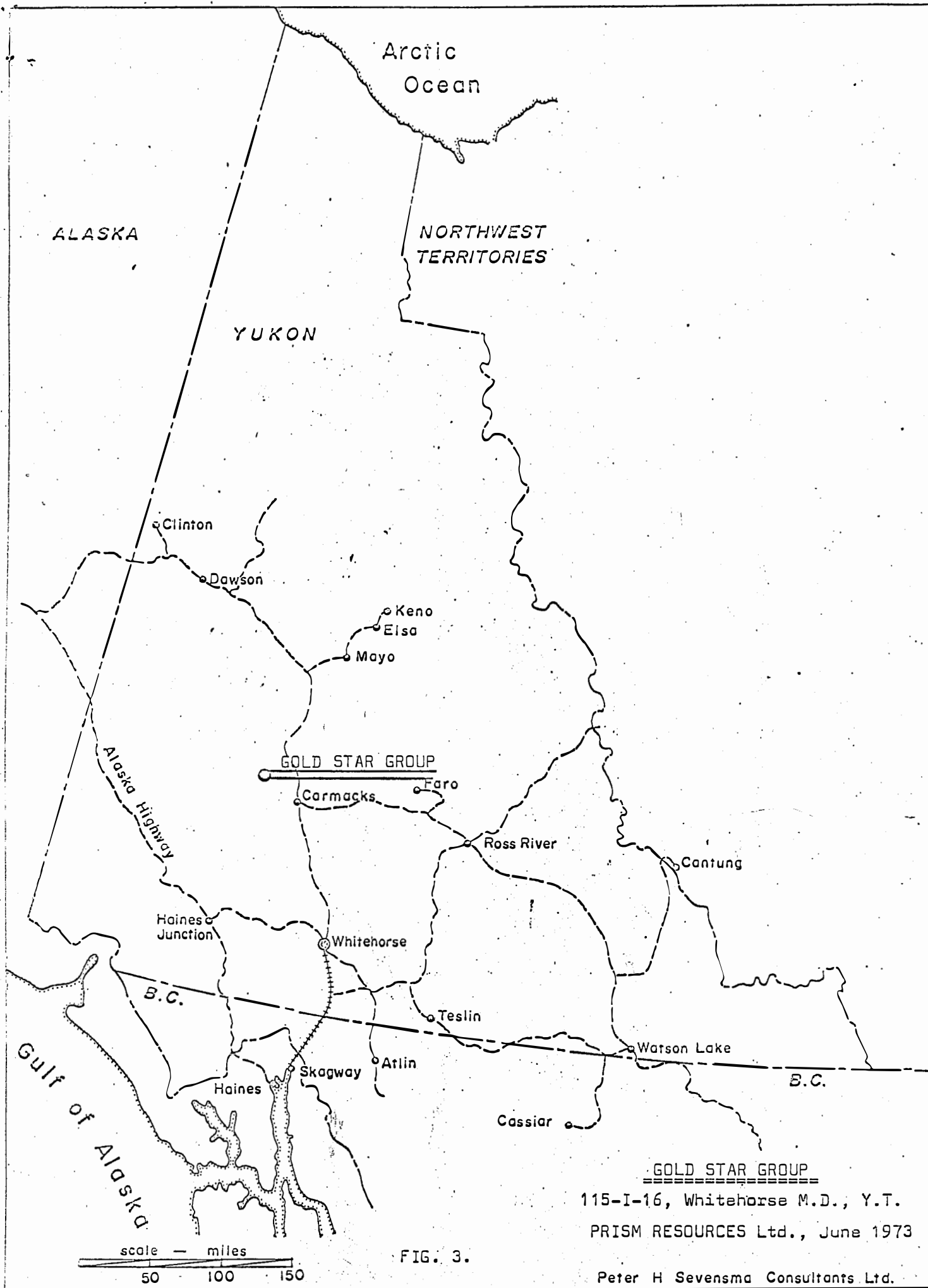


FIG. 3.