

MAP No.

115-I-6, 11

ASSESSMENT REPORT  
N. M. E. A. P.  
CONFIDENTIAL  
OPEN FILE

X
X

TYPE OF  
WORK: Geol.

REPORT FILED UNDER	Norwich Resources Ltd.	DOCUMENT NO.	061045
DATE PERFORMED	pre 1974	DATE FILED:	July 11, 1974
LOCATION - LAT. LONG.	62°16'N	AREA:	Emmons Hill, Yukon
	137°03'W		
CLAIM NO.	GM-GOLD Gps (see report)		
VALUE \$			
WORK DONE BY	P.H. Sevensma (P.H. Sevensma Consultants L.)		
WORK DONE FOR	Norwich Resources L.		
REMARKS	The property contains a 4 foot wide quartz-carbonate-barite-stibnite vein containing gold and silver values.		

NORWICH RESOURCES LTD. (N. P. L.)

GM - GOLD GROUP

115 - I - 6 Whitehorse M. D. , Yukon

061045

Report

by

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

Peter H. Sevensma Consultants Ltd.

May 9, 1974

Received NMEAP.  
July 11/74

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Fig. 1 Nansen-Freegold Property Location 1" = 4 mi.

Fig. 2 Claim Map . 1" = 1/2 mi.

Norwich Resources Ltd. (N. P. L.)

GM - Gold Group

115 - I - 6 Whitehorse M. D. , Yukon

1. SUMMARY AND CONCLUSIONS

This group of claims covers the Emmons Hills discovery, where a 92' shaft sunk in the early 1930's is said to have followed a 4' wide quartz-carbonate-barite-stibnite vein assaying from \$26. 00 to \$60. 00 per ton (at \$35. 00 gold), the vein lying in pyritized quartzite.

A sample of dump material taken in 1970 by Dr. D. C. Findlay assayed 0. 70 oz/t gold and 0. 16 oz/t silver.

Another showing along a porphyry dyke is said to have given low gold assays on the old Whale claim.

The claim group adjoins the Laforma gold mine of Discovery Mines Ltd. on the east, and is easily accessible by 38. 5 miles of truck road from Carmacks. A 2-mile jeep road leads to the showings.

The geological situation and the reported values justify a \$49, 300 oil sampling and drilling program.

The area of the Emmons shaft has a good potential for a vein-type deposit of the order of 0. 30 - 0. 60 oz/t gold.

The Whale claim occurrence could reflect the presence of a much larger low-grade deposit of the order of 0. 1 oz/t gold and warrants careful investigation.

## II. INTRODUCTION

The 40 GM - Gold claims cover two gold showings and adjoin the Laforma gold mine of Discovery Mines on the East. The latter property was operated from about August 1965 to early 1966, but in view of the then prevailing low gold price of U. S. \$35. 00 an ounce and low recoveries both in mining and milling during a very cold winter, production was discontinued. The reserves of this property have been reported as 80,000 tons of 0.70 oz/t gold, but recent information released by Discovery Mines is that, taking their previous mining and milling experience into account, the reserves are now considered to consist of 70,000 tons @ 0.44 oz/t gold.

Discovery Mines are planning additional surface work during 1974 and are considering resuming production in 1975.

## III. PROPERTY, LOCATION, ACCESS

The property consists of the following claims:

<u>Claims</u>	<u>Record Nos.</u>	<u>Expiry Date</u>
GM 1-4	Y77230-233	Sept. 21, 1974
Gold 1-14	Y78108-121	Mar. 7, 1975
Gold 15-22	Y78198-205	Mar. 22, 1975
Gold 23-36	Y78122-135	Mar. 7, 1975

They are located on claim sheet 115-I-6, at about Latitude 62° 16' N and Longitude 137° 03' W, between elevations of 2800' and 4300'.

Access is via the Laforma truck road from Carmacks along Crossing Creek and Seymour Creek, a distance of 38.5 road miles. The showings are reached via a jeep trail of about two miles up the west side of Grizzly Gulch. There is timber with up to 12" butts on the lower slopes. The higher elevations are open upland. A good water supply is available in Seymour Creek.

Topographically, Emmons Hill forms a prominent hundred feet high but shallow knob on an equally prominent northern spur of the main ten miles long northwest trending Mount Freegold ridge. The saddle between Grizzly Gulch and Schist Creek is the low point of this main ridge. The Emmons shaft lies about 1000 feet southwest of the main granodiorite.

Permafrost is general on north slopes and often patchy on southerly exposures.

#### IV. HISTORY

The first discoveries in the area were of placer gold on Seymour Creek in 1917, but these proved of minor value. Subsequent prospecting led to the discovery of gold in magnetite on Freegold Mountain by P. F. Guder, who staked the Augusta claim in June of 1930. This induced a stampede, the staking of well over one hundred claims and considerable prospecting. This led to the discovery of a number of gold showings and underground work on the Laforma Group totalling some 2000 feet, all during the period 1931-1936.

On Emmons Hill, now covered by the GM - Gold claims, a vein of stibnite, barite, quartz and carbonate was discovered within a quartzite. A 92 feet deep shaft was sunk with a 27' and a 50' crosscut at depths of respectively 40' and 92'. Assays obtained from this work are reported to have varied from \$26 to \$60 a ton. The wallrock is pyritized quartzite. The vein is said to have been 4' wide at 25' depth.

About 1600 feet east of Grizzly Gulch, on the Whale claim, a 30 to 40 feet wide, east-west striking dyke of white quartz-feldspar porphyry was discovered, in places fractured and recemented by quartz of various types, from which low assays in gold have been reported. Actual values are unknown.

During the 1960's, intermittent prospecting continued in the general area, which led to the discovery of copper-molybdenum occurrences associated with some of the porphyry and other syenitic and granitic intrusives in the district. Attention was also paid to some of the silver and gold occurrences in the area, which led to further development, and ultimately some production, from the Laforma deposit, with a consequent upgrading of the roads and airstrips within the area.

In 1970, some work was carried out by Dr. D. C. Findlay, previously of the Geological Survey of Canada, on the lands now covered by the GM and Gold claims, on behalf of Tanzilla Explorations Ltd. This work provided a reliable assay of the quartz on the Emmons Hill dump near the old 92' shaft, of 0.70 oz/t gold and 0.16 oz/t silver. In old trenches nearby, vuggy quartz-carbonate vein material provided an assay of .01 oz/t gold, .10 oz/t Ag and 3.60% antimony due to the presence of patches of stibnite.

Only traces of gold were encountered in the area of the old Whale claim.

All trenches on all showings had, however, badly slumped and the old Emmons shaft was blocked by ice.

A reconnaissance soil and silt sampling survey with a station spacing of about 500' along two lines provided a total of 72 soil and 15 silt samples, assayed for copper, molybdenum and antimony.

Dr. Findlay's survey also confirmed earlier mapping showing that Emmons Hill and the Schist Creek valley draining it to the north on its west side, lie in a large tongue about one mile wide of Yukon schists abutting granodiorite on the east, close to the east boundary of the present Gold claims, and he reports a number of quartz-feldspar porphyry occurrences within the area of Yukon schists. The schists are gneissic in this area.

In general, the copper-molybdenum survey showed low values, whereas several anomalous values of antimony were encountered, suggesting a better potential for further gold discoveries than for copper or molybdenum. The estimate was that anomalous threshold values are as follows: copper, 24 ppm; antimony, 6 ppm and molybdenum, 3 ppm.

Additional geochemical work, especially for gold and arsenic, was recommended but never carried out, and the then existing claims were allowed to lapse and no other work has been carried out since that time on these lands.

Main references to the area are as follows:

- Carmacks District, Yukon, G. S. C. Mem. 189, H. S. Bostock.  
Mining Industry of Yukon, 1935. G. S. C. Mem. 193, H. S. Bostock.  
Mining Industry of Yukon, 1936. G. S. C. Mem. 209, H. S. Bostock.  
Geology and Mineral Deposits of Freegold Mountain, Carmacks  
District, Yukon, G. S. C. Mem. 214, J. R. Johnston.  
D. C. Findlay, Report on the Free claims, 1970.

## V. GEOLOGY

The area as a whole consists of a regional high of Yukon schists, a metamorphic assemblage of possible Precambrian age. These schists have been invaded by granodiorite of an assumed Jurassic to Cretaceous age.

The main characteristic of the regional belt is however the presence of large syenite intrusives followed by extensive dykes and masses of quartz-feldspar porphyries, rhyolites and felsites, as well as late andesite dykes, all of Cretaceous or Tertiary age.

This particular belt, extending for several tens of miles from the headwaters of Crossing Creek to the northwest, has many of the characteristics of a gold belt and, in fact, all the most significant lode-gold deposits found so far in the Yukon extend from Nansen Creek to Mount Freegold in a north-south belt some 20 miles long by 5 miles wide, crossing the main porphyry trend, which swings to the south and southwest.

Gold-bearing quartz is usually associated spatially with more or less NW trending dykes of quartz-feldspar porphyry or occurs in NE trending shear-zones. The best values have been found associated with dark blue quartz, but light coloured quartz-stockworks in porphyry carrying significant gold have also been found.

In this environment, both gold-arsenic and gold-antimony are classical associations and the reported association of gold and pyrite on Emmons Hill is also a typical association of potential economic value.

To the west of the Laforma deposit, the original gold-magnetite of Freegold Mountain has recently been examined in greater detail. This formation has been traced for over 3000' in a NW direction, more or less parallel to significant outcrops of quartz-feldspar porphyry dykes and its over-all gold content is to be assessed by drilling in the near future.

It is expected that the increased exploration in the Nansen Creek-Mount Freegold area will lead to new and significant discoveries in this classical potential gold district.

VI. ECONOMICS

The price of gold, although subject to wide variations, is in a strong long-term uptrend reflecting its relative shortage in relation to the ever expanding paper money supply.

Around \$150-an ounce, economic grades are about as follows:

Open-pit, 0.05 - 0.12 oz/t, depending upon size.

Underground, old mines, 0.12 oz/t.

Underground, new mines, 0.15-0.30 oz/t, depending upon size.

Grades in the Nansen Creek-Mount Freegold area are generally above these values and the dump material assay of 0.70 oz/t gold at the old Emmons Hill shaft is distinctly encouraging.

• VII. RECOMMENDED PROGRAM

Referring to the description of the property under the heading "History", it is obvious that the prime target on the property is the area of the old Emmons Hill shaft. As the strike of the vein is at present uncertain, close spaced (50'-100') geochemical work is recommended and re-opening by bulldozer of the old nearby trenches is essential. Often it is found that permafrost has receded in previously trenched areas.

The highest soil sample showed only 5 ppm antimony in the vicinity of the original stibnite vein. Eleven other values of from 5-30 ppm occur elsewhere along the old survey lines, most if not all of which occur on the present property. Detailed soil sampling should be carried out in these areas, as well as near the Whale showing, not previously tested.

Streamsilt sampling and detailed soil sampling on lines 400' apart and at 100' sample spacing should cover about one quarter of the property, excepting the areas where overburden is unsuitable, as may be the case in much of the Schist Creek basin.

All soils and silts should be assayed for copper, gold and antimony, the total cost of which per sample is of the order of \$6.50.

This survey should be undertaken after a geological survey of the picket lines and prospecting of the soil conditions. North-south lines and an east-west base line is believed to be the most efficient grid orientation.

Arsenic is not believed to be as good a pathfinder as antimony on this property, but may be tried in the initial samples near the old shaft.

After completion of this program, bulldozer trenching should be undertaken on any new areas of interest discovered.

Core-hole drilling is indispensable to sample the Emmons Hill vein in place. This is estimated to require at least three two-hundred foot core-holes. A further three holes are allocated for either further follow-up, or for testing other targets that may be found of value, especially the Whale claim if significant values are located by bulldozer trenching along the main dyke.

VIII. COST OF PROGRAM

Costs are estimated as follows:

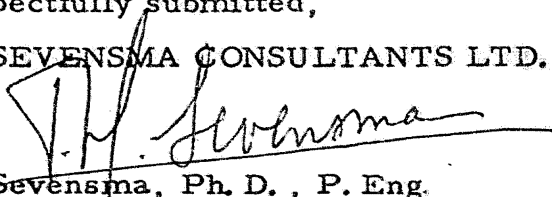
1.	Photogeological studies, map preparation	\$ 1,000
2.	Mobilization, demobilization, 4 men	\$ 2,000
3.	Camp construction, truck rental	\$ 2,500
4.	Line cutting, picketing, 20 line miles	\$ 2,000
5.	Soil sampling, 500 samples, collecting	\$ 1,000
	Assaying (maximum)	\$ 3,300
6.	Geological mapping, 1 man month	\$ 2,000
7.	Bulldozer, 100 hours @ \$45.00	\$ 4,500
8.	Camp Operation, 130 man days @ \$15.00	\$ 2,000
9.	Core-hole drilling, 1200' @ \$16.00 overall	\$ 20,000
10.	Assaying	<u>\$ 500</u>
		\$ 40,800
	Contingencies, 10%	4,000
	Supervision, overhead, 10%	<u>4,500</u>
	Total field budget	<u>\$ 49,300</u>

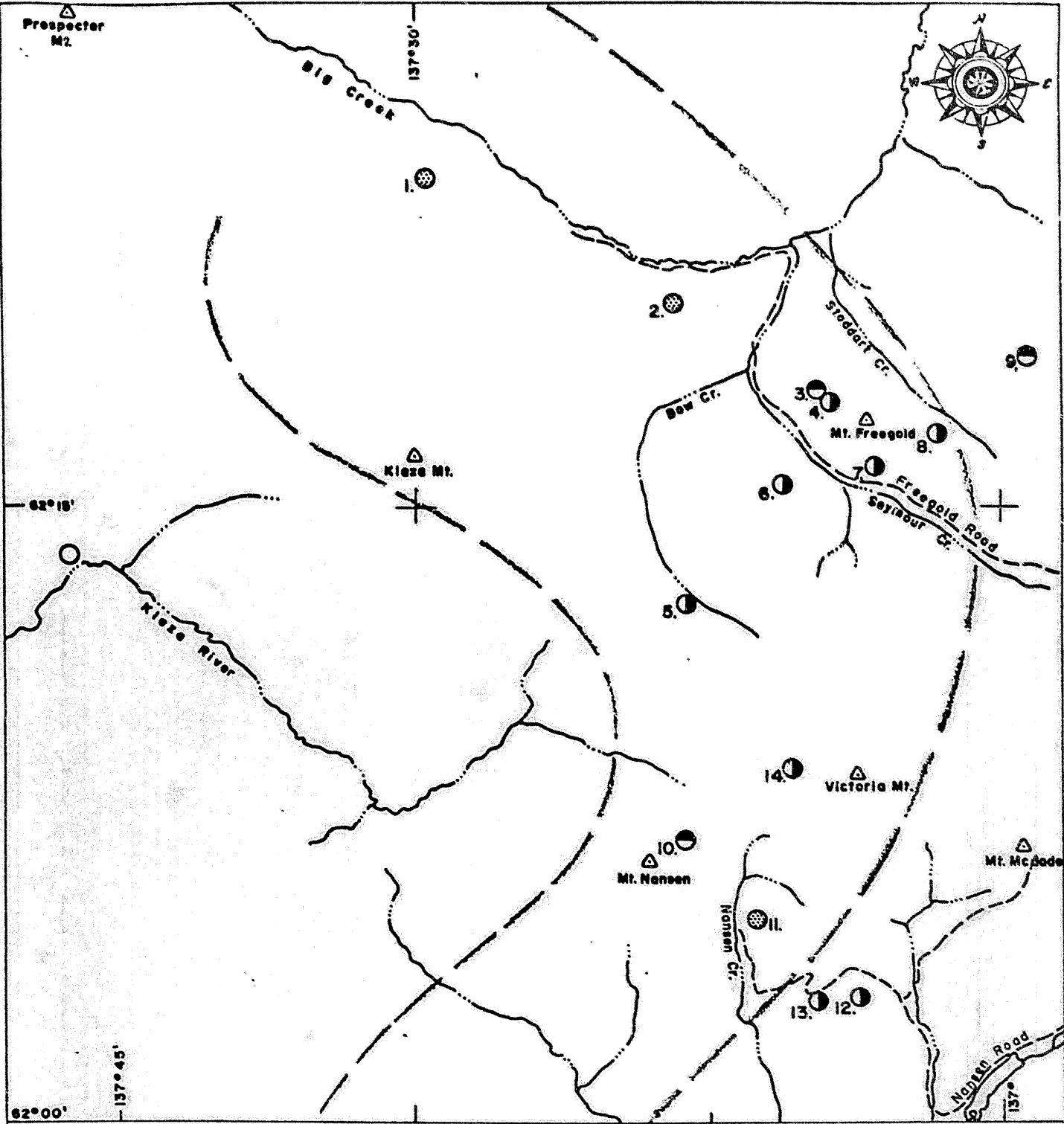
This program is firm.

Success would require a continuing drill-program.

Respectfully submitted,

PETER H. SEVENSMA CONSULTANTS LTD.

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



**MINERAL OCCURRENCES**

- |                    |         |
|--------------------|---------|
| 1. Klazan          | 14. Vic |
| 2. Revenue         |         |
| 3. Red Fox         |         |
| 4. Guder (Augusta) |         |
| 5. LII             |         |
| 6. Caribou         |         |
| 7. Laforma         |         |
| 8. Emmons          |         |
| 9. Tinta Hill      |         |
| 10. Esensee        |         |
| 11. Cyprus         |         |
| 12. Brown McDade   |         |
| 13. Mount Nansen   |         |

**— LEGEND —**

- Disseminated Copper
- Gold Veins
- Silver - Lead Veins

*(Diagonal hatching symbol)*  
**Porphyry Belt**

*(Handwritten signature)*

**NORWICH RESOURCES LTD. (N.P.L.)**

**NANSEN - FREEGOLD AREA, Properties**

**Whitehorse M.D., Y.T.**

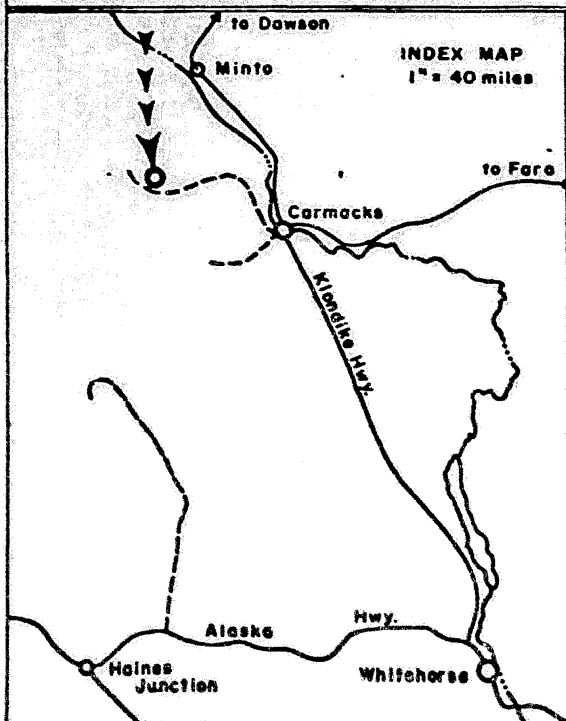
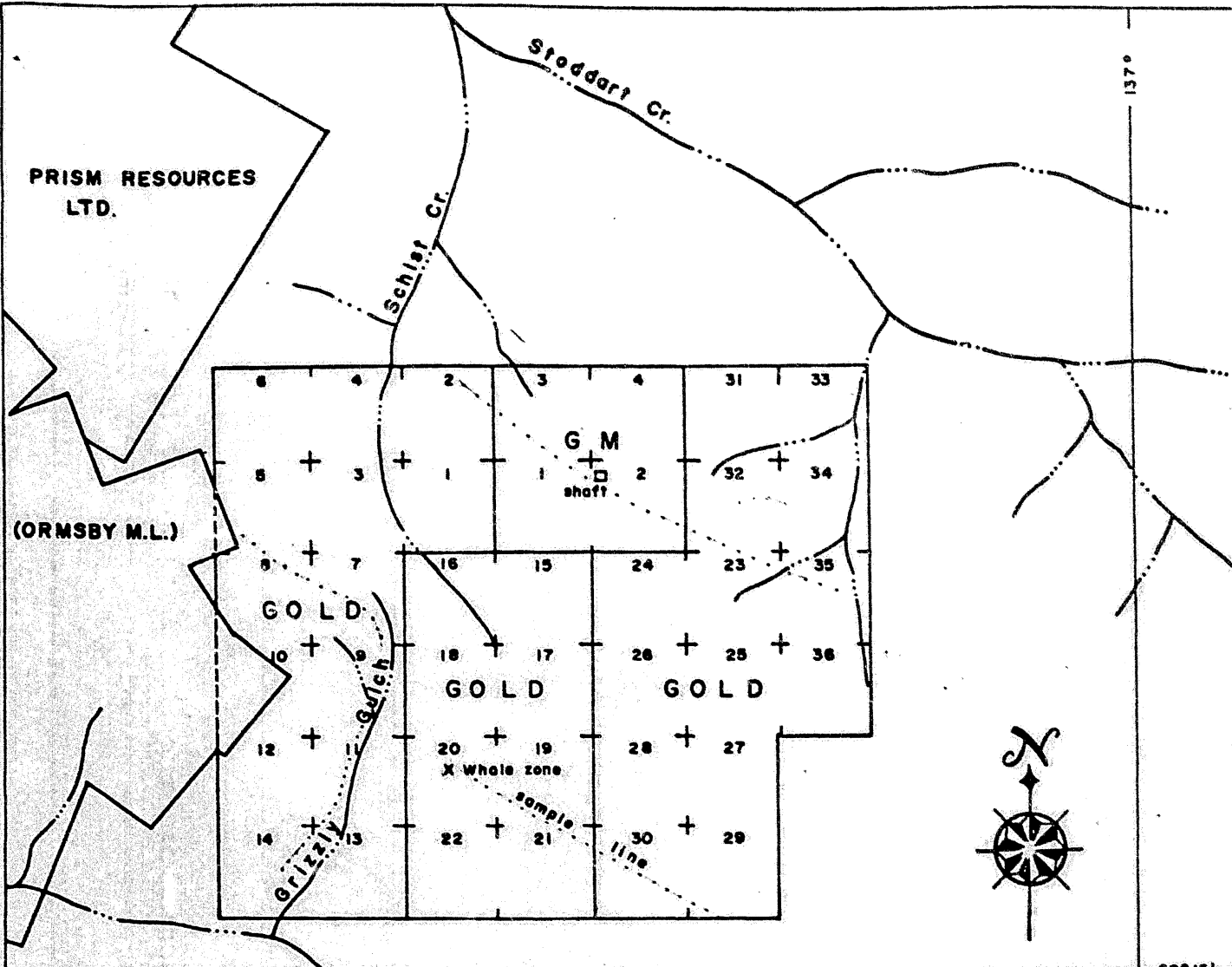
**115 1-6**

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

**MAY 1974**

**Scale:** 0 miles 4

**Fig: 1**



INDEX MAP  
1" = 40 miles

*P. H. Sevensma*

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**NORWICH RESOURCES LTD. (N.P.L.)**

**CLAIM MAP**

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

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

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MAY 1974 Scale: 0 miles 1/2 Fig: 2