

GEOLOGICAL REPORT

On

STAR MINERAL CLAIMS

MACMILLAN PASS AREA

Watson Lake Mining Division  
Yukon Territory

Longitude 130° 10'W.

Latitude 63° 10'N.

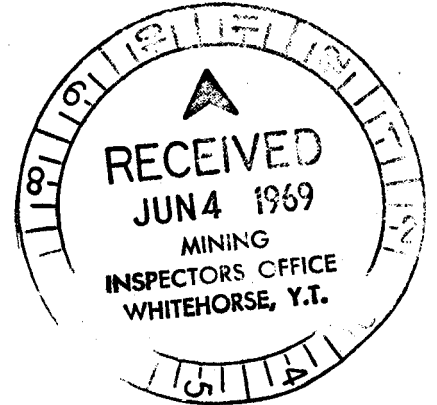
Map Sheet 105-0-1

By

Clyde L. Smith,  
Exploration Manager.

SPARTAN EXPLORATIONS LTD. (N.P.L.)

June 24th - August 1st, 1969



This report has been examined by  
the Geological Evaluation Unit.  
Approved as to technical worth by:

*A. Blair*  
RESIDENT GEOLOGIST

Approved as to cost in the amount  
of: \$3200<sup>00</sup>

*H. B. Jamieson*  
RESIDENT MINING ENGINEER

Accepted as representation work  
under Section 53(4) Yukon Quartz  
Mining Act.

*Amos Miel*  
COMMISSIONER OF YUKON

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ILLUSTRATIONS

Figure 1 -- Geologic Map of STAR Claim Group Area. . . . Pocket

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LIST OF CLAIMS

Claim Numbers

Grant Numbers

Date Recorded

STAR 1-32

Y17754-Y17785

June 1st, 1967.

## INTRODUCTION

During the preliminary evaluation of the Itsi Region in 1967, the Star Syndicate, the forerunner of Spartan Explorations Ltd., staked an area of structural favourability on the northeastern border of the Tom Group held by Hudson Bay Mining and Smelting. The group known as the STAR Group consists of 32 claims and was evaluated during the 1968 field season by geologic mapping and geochemical silt sampling.

The STAR 1-32 claims were staked in May, 1967, and were recorded on June 1st, 1967. All major streams on the group were silted at not more than one-half mile intervals. Samples were analysed for lead, zinc, copper, and molybdenum.

## LOCATION AND ACCESS

The STAR claims are centered a short distance southwest of Macmillan Pass near Yukon-Northwest Territories boundary about 100 miles northeast of Ross River. The STAR group lies along the northeast margin of the Tom Group, approximately six miles west of the Yukon-Northwest Territories border and one-half mile south of the abandoned Canol Road. Access to the claim group was made by helicopter from the base camp located on Fuller Lake. Fuller Lake is accessible by fixed-wing aircraft from Ross River, the nearest expediting base in the Yukon.

TABLE OF GEOLOGIC FORMATIONS

MIDDLE-UPPER DEVONIAN	)	4b Ferruginous slates
	)	4a Chert pebble conglomerate
ORDOVICIAN-LOWER DEVONIAN	)	3e Undivided Black Argillite, black chert, carbonaceous limestone.
	)	3d Light coloured shales and dolomite.

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GEOLOGY

The STAR group lies within a distinctive regional structural setting in the eastern Yukon which is composed of an irregular uplifted area of Proterozoic and Lower Paleozoic low grade metasediments. The Lower Paleozoic stratigraphic section is cut by numerous granitic stocks and lies within a structural area of complex cross-folding and regional faulting. In the STAR group area, predominant structural grain in openly-folded Lower Paleozoic rocks is east-west. This structural trend is locally caused by northwesterly, and in places, northeasterly trending open folds. Tight folds are scattered throughout the region but do not appear to correspond with any particular set of axial trends. The STAR claims are underlain by a recumbent syncline overturned to the west and trending to the north. This fold plunges gently to the north and has an arcuate axial trace. The core of the fold consists of Middle-Upper Devonian slates. The area is of interest because tight or overturned folding in the Macmillan Pass region is of scattered or anomalous character. Therefore, the structure was originally believed to be of some

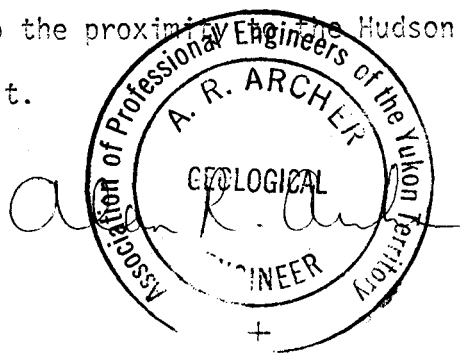
Geology (Continued)....

significance. In addition, this anomalous structure occurs immediately east of the Hudson Bay Mining and Smelting Company's lead-zinc-silver deposit on the Tom claims. Ore zones on the Tom claims lie within the upper portion of what have been termed the "black argillites" of Ordovician-Lower Devonian age. This stratigraphic level cuts through the southern corner of the STAR claims.

Geochemical silt sampling of claims indicated widespread anomalous copper, which is probably derived from a high trace metal content in bedrock formations, and scattered anomalous lead values. Careful prospecting of the claim group indicated that small amounts of galena and sphalerite occur in a quartz-feldspar porphyry dyke trending east-west along the southern margin of the claim group. The minor amount of mineralization corresponds with anomalous geochemical values and is believed to be the source of these values. Careful prospecting of the entire group disclosed no further mineralization and is not believed to be an area of economic potential.

RECOMMENDATIONS

Careful prospecting of the STAR claims has shown that anomalous geochemical locations may be adequately explained by the minor occurrence of sphalerite and galena in quartz feldspar porphyry dykes. No further economic significance is attributed to the claim group at this time. However, the claims should be maintained in good standing for a short while due to the proximity of the Hudson Bay Mining and Smelting lead-zinc-silver deposit.



Respectfully submitted,

*Clyde L. Smith*  
 Clyde L. Smith,  
 The Yukon Territory

APPENDIX ISUMMARY OF COSTS

	<u>Costs - \$</u>	<u>Sub Total</u>
<u>1. Property Examinations</u>		
Consultants Fees	63.59	
Supplies & Miscellaneous Equipment	27.00	
Helicopter Support	138.59	
Ross River Base	38.46	
Camp Support	<u>54.98</u>	
		322.62
<u>2. Prospecting</u>		
Wages and Salaries	154.26	
Helicopter Support	114.69	
Ross River Base	127.41	
Super Cub Support	379.87	
Camp Support	<u>179.32</u>	
		955.55
<u>3. Geological Surveys and Mapping</u>		
Wages and Salaries	508.18	
Supplies & Miscellaneous Equipment	86.36	
Travel & Accomodation	81.42	
Helicopter Support	222.82	
Ross River Base	350.79	
Super Cub Support	68.53	
Camp Support	<u>674.22</u>	
		1,992.32
<u>4. Exploration Planning</u>		
Wages and Salaries	558.75	
Consultants Fees	443.47	
Travel & Accomodation	71.06	
Ross River Base	<u>400.00</u>	
		1,473.28
	<u>GRAND TOTAL</u>	<u>\$4,743.77</u>

APPENDIX II


AFFIDAVIT

Supporting Summary of Costs

I, Allan Patrick, Accountant, Spartan Explorations Limited, of Vancouver, B. C., do hereby state that to the best of my knowledge and belief the summary of costs as presented in Appendix I of this report "Geological Report on Star Mineral Claim Group" is both true and correct.

DATED AT Vancouver, British Columbia, this thirtieth day of May, A.D., 1969.

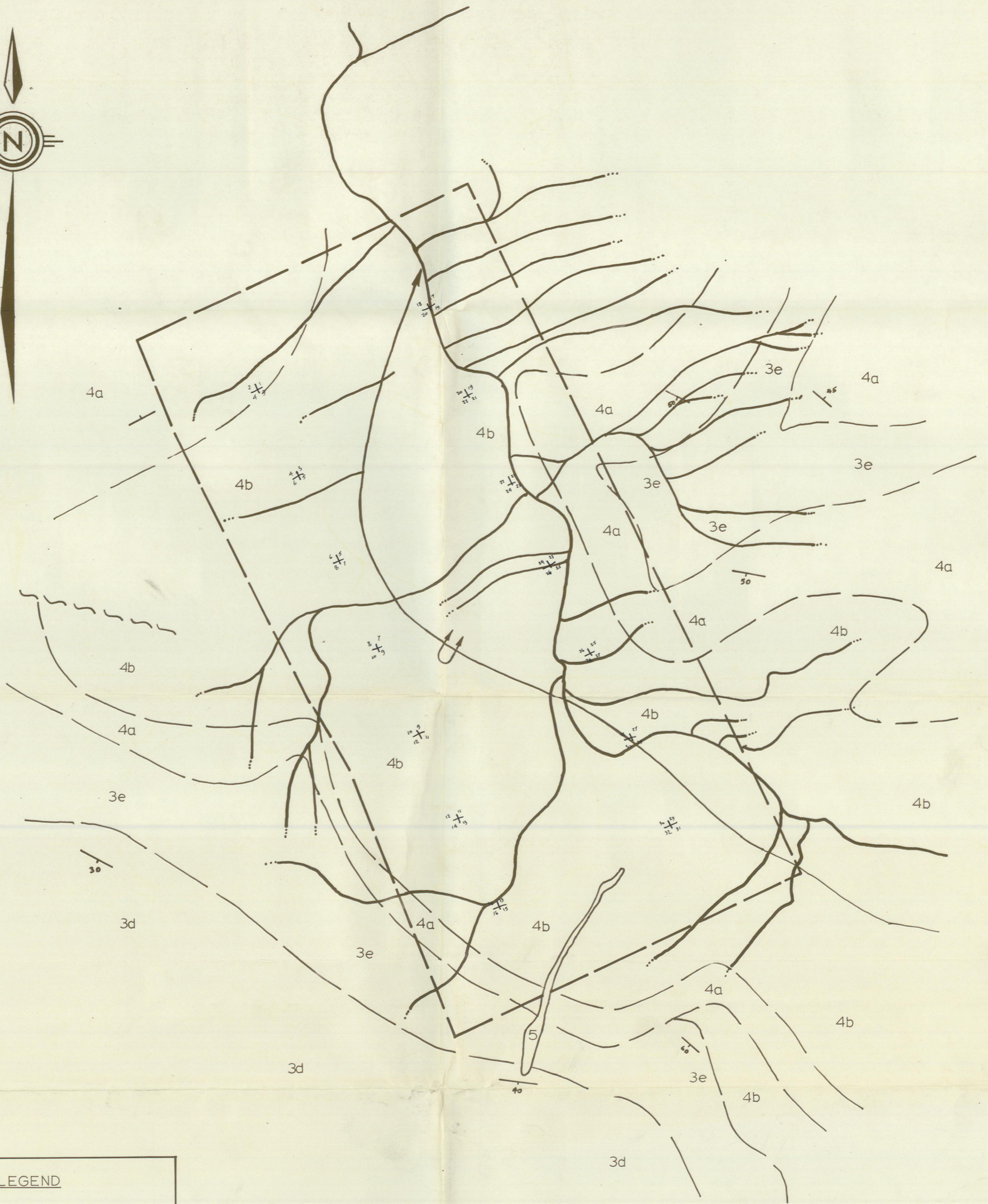
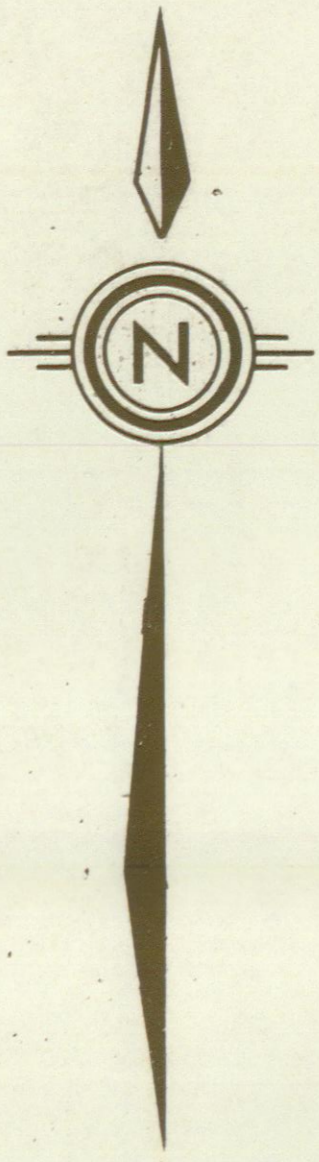
SWORN BEFORE ME at  
Vancouver, British  
Columbia, this 2nd  
day of June, A.D.,  
1969.

  
\_\_\_\_\_  
A Notary Public for taking  
Affidavits in the Province  
of British Columbia.

  
\_\_\_\_\_  
Allan Patrick

APPENDIX IIIPERSONNEL

<u>Name</u>	<u>Position</u>	<u>Address</u>
Clyde L. Smith	Exploration Manager	West Vancouver, B.C.
Benjamin Duna	Geologist	Vancouver, B. C.
Neil Simmons	Draftsman	Vancouver, B. C.



**LEGEND**

**CRETACEOUS**

**5.** QUARTZ PORPHYRY.

**UPPER DEVONO-MISSISSIPPIAN**

**4b.** FERUGINOUS SLATES.

**4a.** CONGLOMERATE.

**LOWER DEVONO-MISSISSIPPIAN TO OROVICIAN**

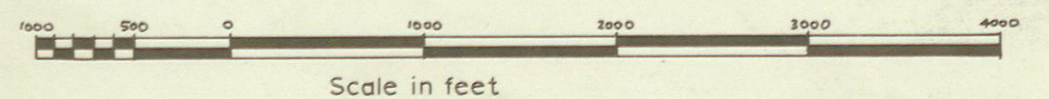
**3e.** CARBONACEOUS LIMESTONE.

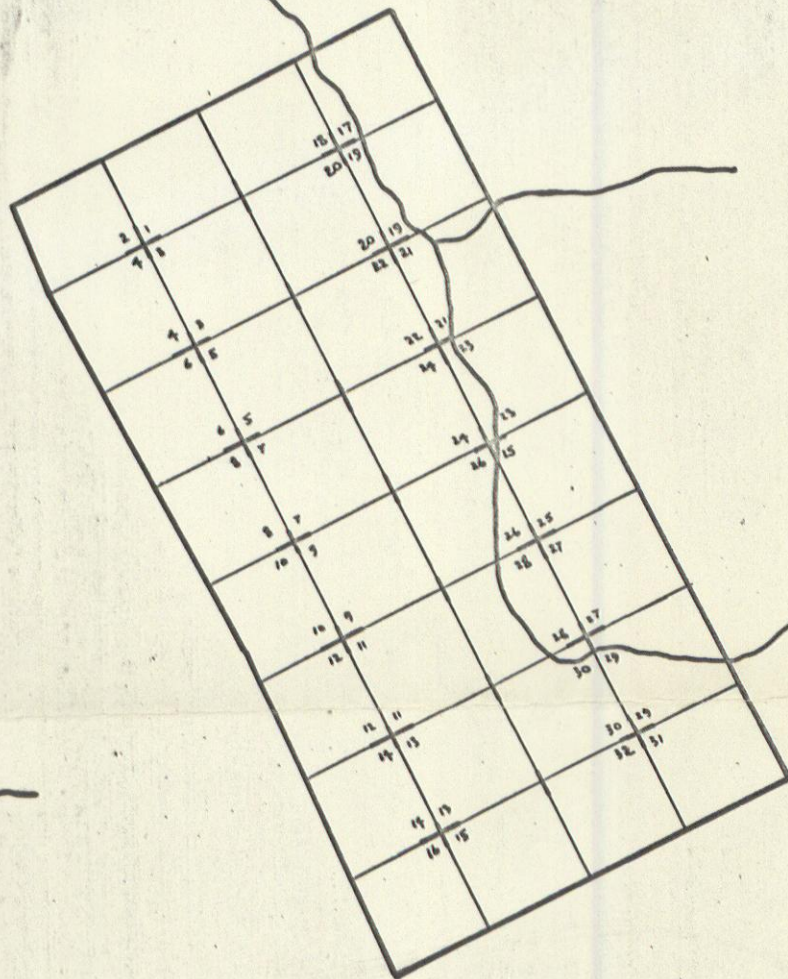
**3d.** LIGHT-COLOURED SHALES AND GEORGE DOLOMITE.

**SPARTAN EXPLORATIONS LTD.**  
VANCOUVER B.C.  
ITSI PROJECT  
STAR CLAIM GROUP  
GEOLOGY

GEOLOGY : B.DUNA.

DRAWN BY : R.OPENSHAW.  
DATE : MAY 29, 1969.





STAR GROUP  
KEY MAP