

SPARTAN EXPLORATIONS LTD. (N.P.L.),  
303 - 1035 West Pender Street,  
Vancouver 1, B.C.

APPLICATION

FOR

NORTHERN MINERAL EXPLORATION ASSISTANCE

ON THE

FORTIN PROJECT

(PAL CLAIM GROUPS)

YUKON TERRITORY

by

Clyde L. Smith,  
Exploration Manager and Chief Geologist.

MARCH 19th, 1968.

TABLE OF CONTENTS

	<u>Page</u>
<u>I</u> INTRODUCTION . . . . .	1
<u>II</u> DESCRIPTION OF AREA OF PROPOSED EXPLORATORY WORK AND HOLDINGS TO WHICH THEY RELATE (4a) . . . . .	1
1) Introduction	
2) List of Holdings	
3) Pal Groups	
<u>III</u> DESCRIPTION OF PROPOSED PROGRAM AND ESTIMATES OF PROPOSED EXPENDITURES, BASIS OF ESTIMATES AND PURPOSE OF EXPENDITURES (4b) . . . . .	3
1) Introduction	
2) Proposed Program on Pal Claims	
3) Estimates of Proposed Expenditures on Entire Fortin Project	
Transportation	
Personnel	
Services-Purchases	
Contingencies	
<u>IV</u> PROPOSED STAGES OF WORK - EXPENDITURE TIMETABLE (4c) . . . . .	6
<u>V</u> ENCLOSED COPIES OF ALL AVAILABLE PRELIMINARY REPORTS AND MAPS (4d) . . . . .	7
EXCERPT FROM PROPERTY REPORT ON PAL GROUPS . . . . .	Attached
ACCOMPANYING MAPS . . . . .	Pocket

FORTIN PROJECTPARTICULARS OF PROPOSED PROGRAM  
OF EXPLORATORY WORK TO BE UNDERTAKEN  
BY SPARTAN EXPLORATIONS LTD. (N.P.L.)I INTRODUCTION

In accordance with requirements of Application for Northern Mineral Exploration Assistance, as noted in Section 4, Subsections (a), (b), (c) and (d) of the Regulations, Spartan Explorations Ltd. is herein submitting information required for formal application. Particulars of this application are described below in the order raised in Section 4 of the Regulations.

II DESCRIPTION OF AREA OF PROPOSED EXPLORATORY WORK  
AND HOLDINGS TO WHICH THEY RELATE (4a)1) Introduction

During August and September, 1967, Spartan Explorations staked two groups of claims called the Pal claims, to the northwest and southeast of the Pay group of claims held by Atlas Explorations. The Pay group of Atlas Explorations lies along the east side of Fortin Lake, about 60 miles east of Ross River. The group covers an extensive zone of zinc mineralization in brecciated and silicified dolomite of probable Silurian age. The strike of the favourable host dolomite unit is northwest-southeast, and it was for this reason that Spartan staked groups to the northwest and southeast of the Pay group in order to cover any extensions of the favourable unit off of the Pay group itself.

The Fortin Lake area is underlain by a sequence of northwesterly-striking metasediments, ranging in age from Middle-Upper Cambrian to

Middle-Upper Devonian. To the east of the Pay-Pal groups, an elongate granitic stock of probable Cretaceous age intrudes the metasediments.

## 2) List of Holdings

<u>Claims</u>	<u>Recording Date</u>	<u>Tag Numbers</u>	<u>Total</u>
<u>PAL GROUP (NORTH) - 48 claims - Watson Lake Mining District - Map Sheet 105-J-1 &amp; 2</u>			
PAL 1-32 incl.	Sept. 18th, 1967	Y19483-Y19514	32
PAL 157-172 incl.	Jan. 3rd, 1968	Y22512-Y22527	16
<u>PAL GROUP (SOUTH) - 123 claims - Watson Lake Mining District - Map Sheet 105-G-16</u>			
PAL 33-120 incl.	Oct. 6th, 1967	Y22065-Y22152	88
PAL 121	Oct. 6th, 1967	Y22228	1
PAL 123-156	Oct. 6th, 1967	Y22153-Y22186	34
<u>GRAND TOTAL CLAIMS</u> .....			<u>171 claims</u>

## 3 Pal Groups

Because the Pal groups cover an extensive area of overburden cover, very little is known about the geology of these claim groups themselves. However, as mentioned previously, they are on strike with an area of showings and geochemical anomalies on the Pay group.

Spartan has conducted only very preliminary prospecting on the Pal claims. The claims were staked by Spartan on the geologic premise that:

- 1) Zinc mineralization on the Pay group is stratabound in a meta-dolomite horizon which appears to be the preferential host rock for better grade deposits in the area.
- 2) This host bed, as exposed on a bulldozer trench on the Pay group, is a silicified dolomite which is laced with quartz stringers filling tension fractures. Although most stringers are random in orientation, there appears to be a preferential north-south strike to some of the larger veins, and this, in

turn, appears to be parallel to a district set of north-south-striking wrench faults.

The structural setting of the area appears to be dominated by a gently northwesterly-plunging anticline, which to the southeast is cored by the previously mentioned Cretaceous granitic intrusive. In addition to the north-south set of wrench faults which appear to parallel the Fortin Creek trend, there is a set of northwesterly arcuate faults which displace the units in the Pal group area.

### III DESCRIPTION OF PROPOSED PROGRAM AND ESTIMATES OF PROPOSED EXPENDITURES, BASIS OF ESTIMATES AND PURPOSE OF EXPENDITURES (4b)

#### 1) Introduction

Because the known mineralization in the Pay group area appears to have regional significance, and because much of the Fortin Lake area consists of very low-lying topography, it is believed by Spartan Explorations that a considerable amount of regional exploration is still warranted in this region. During the 1968 exploration season, Spartan therefore proposes to conduct detailed work on its Pal group of claims, as well as to conduct a regional exploration program. This program basically will consist of three phases:

- 1) Detailed geologic mapping in the known small areas of outcrop exposure.
- 2) Regional geochemical soil sampling surveys.
- 3) Geophysical surveys, probably either E.M. or I.P. in areas responding favourably to either geologic or geochemical surveys.

The total crew required for the project will consist of three men, as follows:

1 - Geologist-project manager (two weeks)  
2 - Geochemical soil samplers (two months)

—  
3 men total  
=

It is proposed that one geologist, working with a helicopter in the region early in the season, conduct detailed outcrop examinations in an attempt to trace regional stratigraphy and structure, mainly to the west and northwest of Fortin Lake. Results of this early season geological survey will be used in laying out regional geochemical soil sample lines to be sampled by the two samplers during probably a three-month period.

The program will be under the direction of an experienced geologist, Dr. C.L. Smith, Exploration Manager and Chief Geologist, who will conduct the early season geological survey, as well as laying out future work on the project.

A base camp will probably be established either on the west shore of Fortin Lake, or on smaller lakes to the west of Fortin Lake itself. A helicopter will be used to set out and move fly camps. This machine will be based at Tillei Lake, on the Logan Project of Spartan Explorations.

## 2) Proposed Program on Pal Claims

Should it develop that Atlas Exploration is successful in early season drilling in defining a potentially economic zone of zinc mineralization, Spartan at that time will consider the detailed follow-up work required on its Pal claims. However, at this stage, it appears that the most logical exploration methods to be used are geochemical soil sampling on closely spaced lines, as well as possible induced polarization surveys.

Excerpt from property report by R.E. Chaplin, P.Eng., dated October 11th, 1967, filed with British Columbia Securities Commission.

PAL CLAIM GROUPS  
(North) 32 Claims  
Lat. 62° 02'N., Long. 130° 32'W.  
(South) 123 Claims  
Lat. 61° 58'N., Long. 130° 28'W.  
Watson Lake Mining District, Y.T.

The Pal claims are located east of Fortin Lake, on a broad, undulating plateau of sparse outcrop at an elevation of 3,000 to 4,000 feet above sea level.

Access is by aircraft to Fortin Lake from the town of Ross River, 60 miles to the east, or by Bombadier trail extending 25 miles north from the Watson Lake-Ross River road at a point near the west end of Finlayson Lake, approximately 60 miles east of Ross River.

Spartan Explorations has staked the Pal claims adjoining the claims on which evidence of interesting zinc mineralization has reportedly been discovered. There are no known zinc occurrences on the Pal claims.

#### GEOLOGY

The local rocks comprise steeply to moderately dipping phyllites (chloritic and slaty) with minor grey silicified dolomite and chert. The foliation planes in the rock trend westerly to west northwest. Three known dolomitic rock units occur in sub-parallel zones over a width of approximately 3 miles. The dolomite horizons may represent repetitious outcrops of a single unit in a folded strata which has been truncated by erosion.

Zinc mineralization on adjoining claims is reportedly localized in the altered dolomitic horizons which appear to be part of the succession

Pal Claim Groups - Geology (continued)....

of metamorphosed sediments extending onto the Pal claims.

A thin graphitic phyllite zone borders the dolomite in one locality. It is reported that finely disseminated pyrite is closely associated with zinc mineralization in the dolomite horizon on the adjoining claims.

CONCLUSIONS

Interesting zinc mineralization has been reported on adjacent claims in a metamorphosed succession of dolomite-phyllite formations. The strike projection of these formations would extend westward onto the Pal claims 1-32 and eastward onto the Pal claims 33-123.

Geophysical exploration would appear practicable on the Pal claims to supplement data obtained by geological mapping and geochemical soil sampling. The graphitic phyllite zone is conductive and may be outlined by an electromagnetic survey. Close electrode array reconnaissance induced polarization traverses may be useful in testing for the presence of disseminated pyrite in the dolomite horizon; and threshold anomalies may be important.

RECOMMENDATIONS

The Pal claims require a geochemical, geophysical program to evaluate the potential of discovering zinc mineralization along a

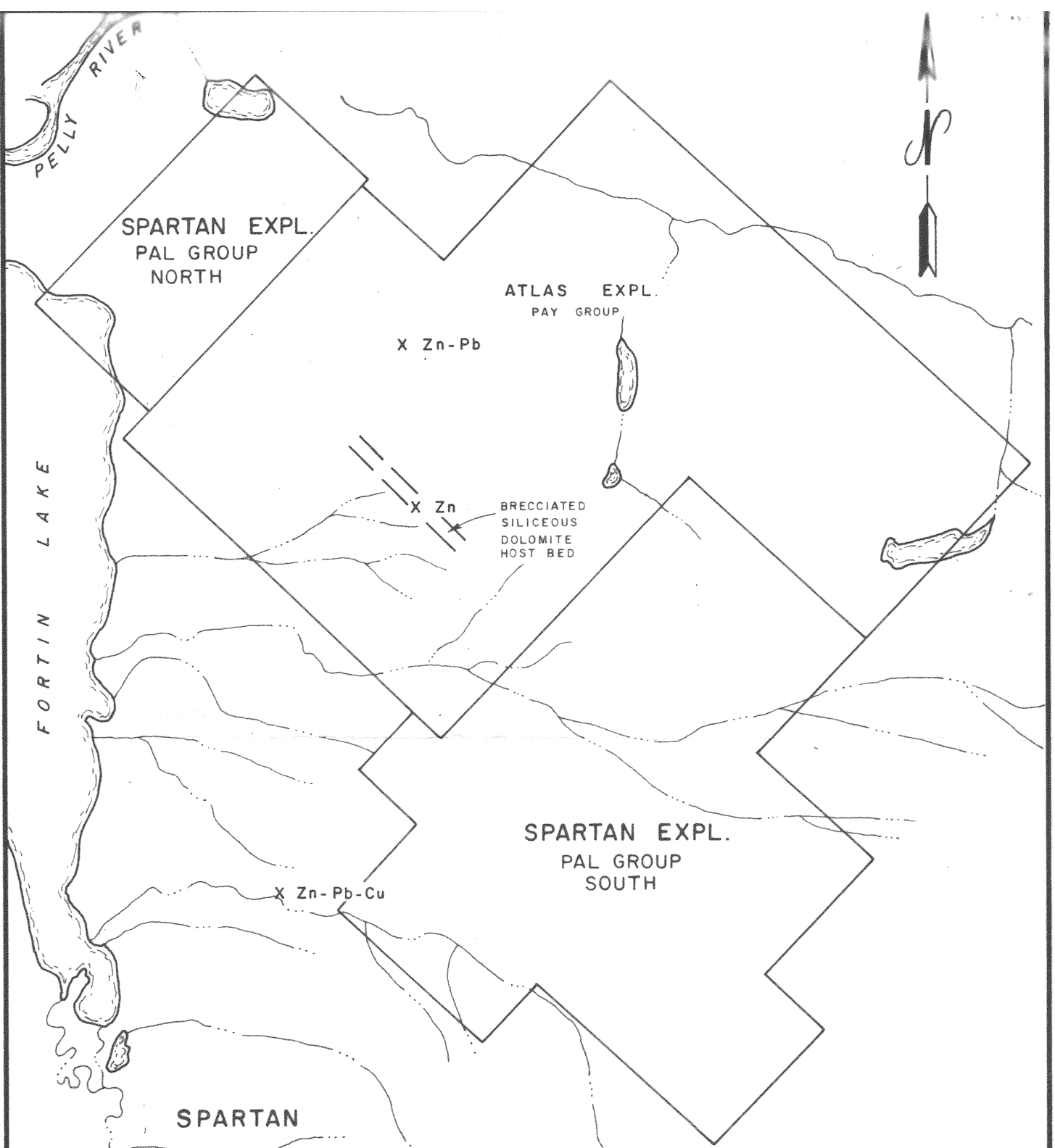


Pal Claim Groups - Recommendations (continued)....

strike extension of the dolomitic horizon exposed on the adjoining claims. Sparse outcrops will limit conventional prospecting and surface mapping. Grubhoe prospecting is recommended. A vertical loop E.M. survey of either dual-frequency or phase-type is recommended to locate conductive phyllite horizons to aid in geologic and geochemical interpretation.

FINANCIAL REQUIREMENTS FOR 1968 SEASON (PAL GROUPS)

Access and Transportation	\$5,000.00
Personnel - 6 men for 2 months	7,500.00
Camp Supplies and Support	5,000.00
Analyses and Geophysical Rental	8,000.00
Bulldozing Trenching	5,000.00
Supervision and Administration	2,500.00
Contingencies	1,000.00
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TOTAL	\$ 34,000.00
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<b>SPARTAN EXPLORATIONS LTD. (N.P.L.)</b>	
FORTIN LAKE AREA	YUKON TERRITORY
<b>CLAIM &amp; MINERAL SHOWING MAP</b>	
<b>PAL MINERAL CLAIM GROUP</b>	
DATE :	BY :