

PROSPECTING REPORT ON THE PIT CLAIM  
(Record Number 2535)

SKEENA MINING DISTRICT  
Mapsheet 103 H 12 W  
Latitude  $53^{\circ} 43'$  - Longitude  $129^{\circ} 52'$

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**10,713**

By Barry D. Devlin  
Ryan Exploration Company, Ltd.

September 7, 1982

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## SUMMARY

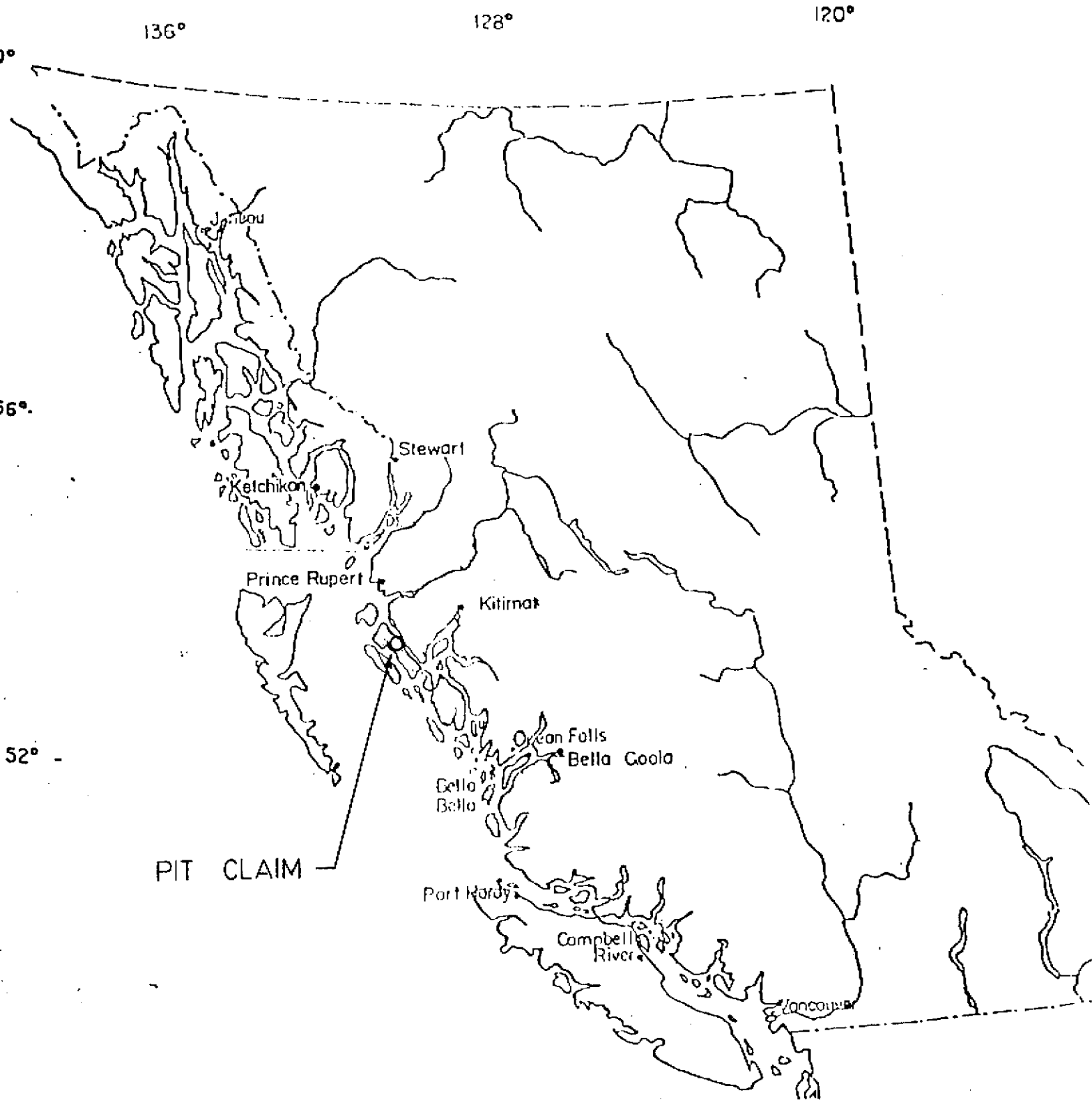
The discovery of boulders of massive sulfides in a steep canyon in the outrun of an avalanche chute resulted in the staking of the twenty unit Pit claim. These boulders were traced to a schistose source, outcropping within the walls of the steep canyon. Sphalerite, chalcopyrite, galena and pyrite were present in conglomerates, quartzites and quartz muscovite schists. This mineralization occurs as fracture fillings, discrete euhedral grains or as stringers within the laminae of the schistose units. Evaluation of the property during June, 1982 involved detailed geological mapping at a scale of 1:1,000 and rock chip sampling of mineralized outcrops. Future work will include detailed geological mapping of the entire property, grid soil sampling and a VLF-EM-16 geophysical survey.

## INTRODUCTION

The Pit claim is located 90 kilometers (straight-line distance) southeast of Prince Rupert, on the east side of Pitt Island, approximately 2 kilometers west of the Grenville Channel (see Figures 1 & 2). Topography is characterized by rugged slopes with a dense forest cover. Access to the property is difficult and is best carried out by helicopter or possibly by boat along the Grenville Channel.

The presence of a quartz-muscovite-chlorite-pyrite schist was noted along the east side of Pitt Island during the 1980 field season by Ryan Exploration, Ltd. Reconnaissance work concentrated on this unit and lead to the discovery of mineralized outcrops of massive sulfides in a steep canyon at the base of an avalanche chute. Mineralization occurs in a continuous metasedimentary host, probably derived from a volcanic source.

Very little work was carried out on this property during 1981. However, during the summer of 1982, attention was devoted to finding additional mineralized showings. Several rock chip samples were taken and small scale (1:1,000) geological mapping was carried out on the principal sulfide mineralized showings.



RYAN EXPLORATION  
LOCATION OF THE PIT CLAIM

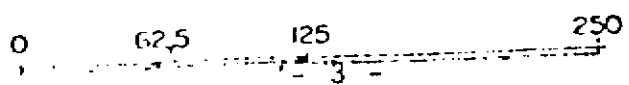
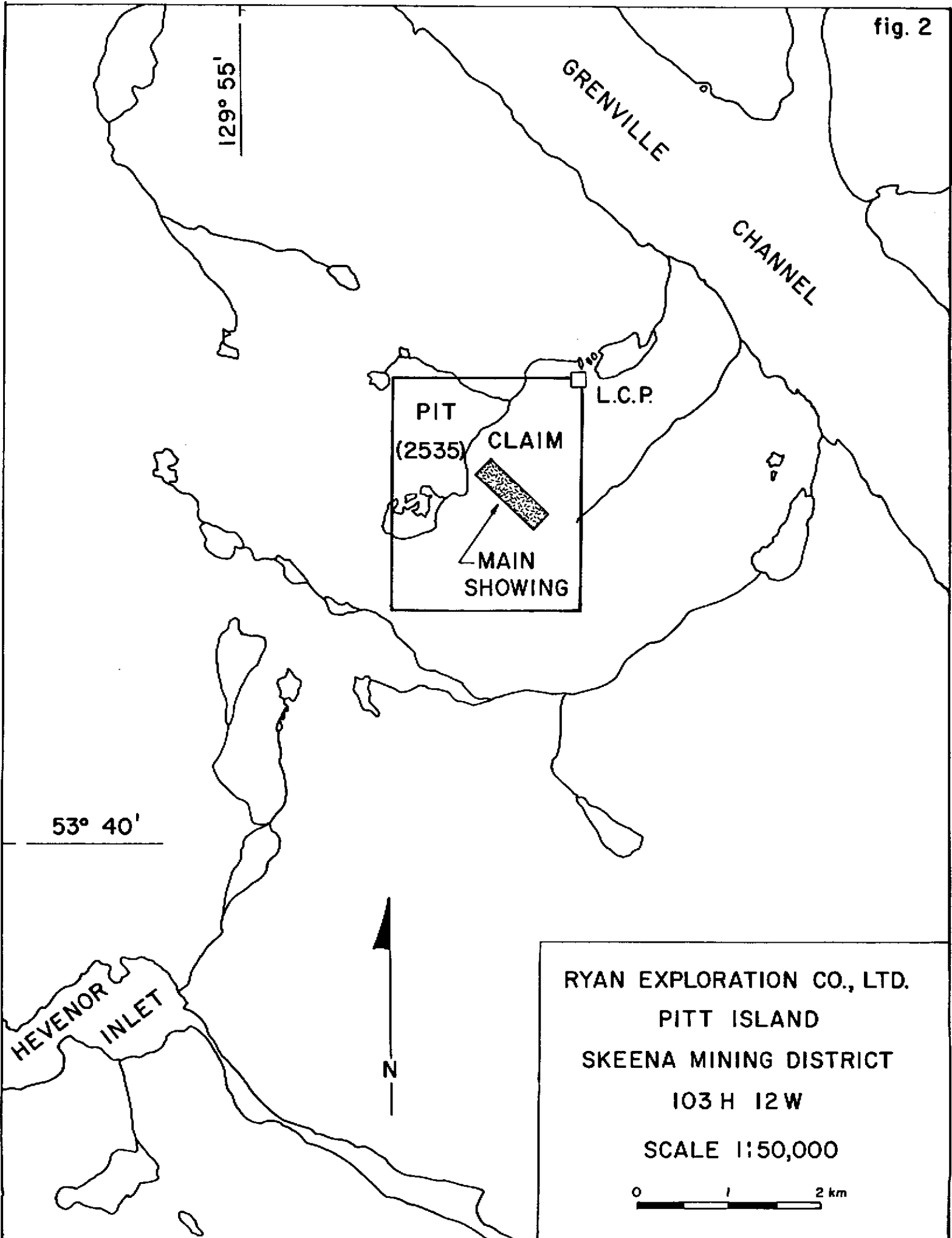
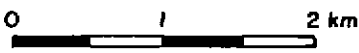


fig. 2



RYAN EXPLORATION CO., LTD.  
PITT ISLAND  
SKEENA MINING DISTRICT  
103 H 12 W  
SCALE 1:50,000



## REGIONAL GEOLOGY

Pitt Island is underlain mainly by granitic rocks with relatively thin belts of metasediments and metavolcanics regionally trending at a north-south direction. The intrusives are informally subdivided into five or six units and are primarily acidic in composition. However, rock types on the western side of the island and extending onto the neighbouring Banks Island are more basic in composition. Gabbros are not common on Pitt Island. Diorite and quartz diorite are predominant, but monzonites and quartz monzonites are present on the south central portion of the island. Granodiorite is present on the northern and southern ends of the island. Contacts between intrusive bodies are gradational and are usually marked by the presence of gneissic rocks and/or extensive foliation within the intrusives' mafic constituents. The area is transected by large scale faulting, which mimics the regional trends of the western Cordillera. The Grenville Channel is an example of such faulting. Movement along these faults is primarily right-lateral with a possible dip-slip component.

The metasediment-metavolcanic belts are situated mainly on the eastern half of the island and are of medium to high metamorphic grade. The belts are made up of greenstone schists, amphibolites, quartzites, chlorite-biotite-muscovite



schists, phyllites, slates, conglomerates, gneiss and crystalline to massive carbonates. Contacts with the intrusives are of a cross-cutting nature with the meta-sedimentary beds usually distorted with local brecciation. Very few fossils have been recovered from the metasedimentary units, but best estimates place the original sediments as post-Permian in age.

For a comprehensive description of the coastal geology, refer to GSC Paper 70-41 by J. A. Roddick.

## PROPERTY GEOLOGY

### LITHOLOGY

Preliminary mapping of the main mineralized zone on the Pit claim indicates the area is underlain by high-grade metamorphic rocks (see Figure 3 in pocket).

The units are mainly schistose rocks ranging from a foliated amphibolite to a quartz-muscovite schist. The only non-foliated unit is a massive quartzite which may be finely laminated locally. Jointing within the quartzite parallels the regional foliation.

The quartz-hornblende schist (amphibolite) unit is the most siliceous of the schistose units. Well developed, acicular hornblende crystals give the rock its foliation. The quartz-hornblende schist occurs as continuous lenses within the quartz-chlorite schist and may contain feldspar phenocrysts in varying abundance.

The quartz-chlorite schist is the most pelitic appearing unit. The main mineralized unit is the conglomerate unit which is probably related to the quartz-chlorite schist unit. The quartz-chlorite schist grades into a quartz-muscovite schist which is white, medium to coarse grained and is the most schistose unit in the area. This unit varies in its

degree of silicification and grades into the quartzite. A chloritized and foliated diorite flanks the map area and locally occurs as small dykes within the metasedimentary rocks.

## STRUCTURE

Although the map area has been metamorphosed, the foliation continues to parallel the original stratification. The beds have a southeast-northwest strike, trending  $130^{\circ}$  with a dip direction approximately  $70^{\circ}$  to the southwest.

The map area is comprised of an avalanche chute formed along a major fault zone. Regional foliation orientation subparallels the fault zone. Fault gouges and slickensides are visible within the avalanche chute. Abundant secondary minor shear and fault zones with left lateral or anticlockwise displacements are seen cross-cutting the foliation. Minor folds in the area have two major orientations. One group plunges moderately in the direction of local strike while the other group plunges steeply to the southwest.

Stratigraphic relationships are recognized between the units present in the map area. The quartz-chlorite schist is the oldest, laid down either before or contemporaneously with the hornblende schist which in turn is overlain by the

quartzite. The diorite dykes appear to be the last unit emplaced.

#### MINERALIZATION

The most pronounced zone of mineralization in the area occurs in the conglomerate unit which hosts primarily sphalerite, chalcopyrite and pyrite. However, the quartzite and quartz muscovite schist adjacent to the conglomerate unit also contain abundant sphalerite, chalcopyrite, pyrite with minor galena and bornite. Mineralization is most intense in the cross-cutting shear zones and on the south-westerly side of the map area. It occurs in a variety of modes; as fracture fillings, discrete euhedral grains, or as stringers within the laminae of the schistose units. The location of rock chip samples and corresponding assay values are shown in Figure 4 (in pocket).

## DISCUSSION AND CONCLUSIONS

Sulfide mineralization on the Pit claim appears to be massive and has a probable syngenetic origin. However, intense metamorphism has distorted most of the original sedimentary features, which hinders accurate interpretations of the sulfide genesis. The host rocks are meta-sediments probably derived from the re-working of volcanic and volcanoclastic rocks. Amphibolites, which represent metamorphosed volcanic flow units, support this premise. The predominant northwest trending foliation, which parallels the Grenville Channel Fault, more than likely has an important role in the sulfide mineralization. Remobilization of the sulfides might have occurred along the fault planes which parallel the original bedding. A similar mineral occurrence of this type can be found east of the Grenville Channel on the Ecstall River. Hosted within the same schist unit as that on Pitt Island are lenses of massive pyrite with local high grade zones containing Cu, Pb and Zn. The mineralization on the Pit claim is a typical massive sulfide containing rich zones, but overall, these zones may be small. Preliminary rock chip sampling resulted in values as high as 1.6% lead, 7.8% copper, 8.7% zinc, 3.7 oz/ton silver, and 0.26 oz/ton gold.

## RECOMMENDATIONS

Assessment work on the 20 unit Pit claim will involve detailed geological mapping of the entire property, along with prospecting for additional mineralized showings. Soil sampling will be useful because of an extensive soil cover, and VLF EM-16 should be used to delineate the major structures and the corresponding sulfide mineralization. A considerable amount of attention should be devoted to the schist unit which extends across the property and hosts the most favourable mineralization.

## ITEMIZED COST STATEMENT

### Wages

<u>Name</u>	<u>Nature of Work</u>	<u>Days Worked</u>	<u>Total Days</u>	<u>Rate Per Day</u>	<u>Total</u>
Barry Devlin	Field Work	June 2-7	6 days	\$84.00	\$ 504.00
	Report Writing	Sept. 7	1 day	\$84.00	\$ 84.00
Bruce McDonald	Field Work	June 2-7	6 days	\$74.00	\$ <u>444.00</u>
Total Wages ...					\$1032.00

### Food & Supplies

June 2-7      6 days      12 Man-day @ \$15.00/day ..... \$ 180.00

### Transportation

Helicopter \$425.00/hour    2 hours ..... \$ 850.00  
 Fuel    45 gallons    \$2.25/gallon ..... \$ 101.25

### Report Preparation

Drafting, typing, reproduction ..... \$ 100.00

### Analyses

10 Rock Chip Samples Analyzed for Cu, Pb, Zn,  
 Ag, Au at \$6.50/sample ..... \$ 65.00

Total Costs                    \$2328.25

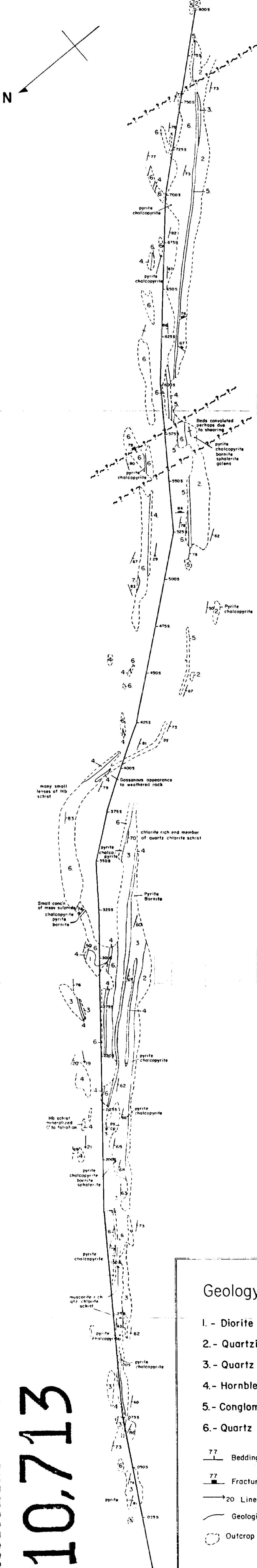
## STATEMENT OF QUALIFICATIONS

I, Barry D. Devlin of #24-3039 East 56th Avenue, Vancouver in the Province of British Columbia, hereby certify that:

1. I obtained a B.Sc. in Honours Geology from the University of British Columbia in 1981.
2. I have worked summers in mineral exploration since 1978.
3. I have been permanently employed by Ryan Exploration Company, Ltd. since May 4, 1981.
4. This report is based on personally working on the Pit claim during June, 1982.



PIT CLAIM  
 PITT ISLAND, B.C.  
 RYAN EXPLORATION  
 COMPANY, LTD



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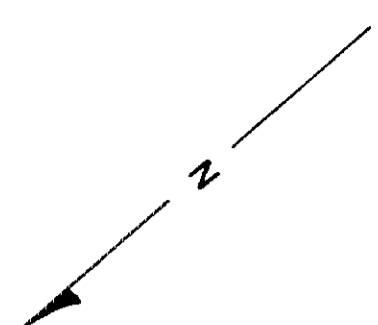
**Geology of Main Showing**

- 1. - Diorite
- 2. - Quartzite
- 3. - Quartz Muscovite Schist
- 4. - Hornblende Schist
- 5. - Conglomerate
- 6. - Quartz Chlorite Schist

- 77 Bedding
- 77 Fracture
- 20 Lineation
- Geologic Contact (observed)
- Outcrop Area

SCALE 1 : 1000  
 0 10 20 30 METERS

Date : July 1982 by : Bruce McDonald  
 supervised by Barry Devlin



△ P10 - 32,600 ; 16,100 ; 50,800 ; 69.4 ; 0.26

△ P9 - 36,300 ; 14,000 ; 87,000 ; 68.5 ; 1.02

△ P8 - 6,500 ; 5,880 ; 10,900 ; 17.9 ; 0.11

700 S

△ P7 - 8,900 ; 13,100 ; 2,810 ; 101.7 ; 0.70

△ P6 - 5,090 ; 1,310 ; 1,700 ; 12.5 ; 0.11

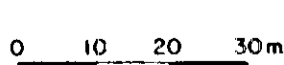
△ P5 - 77,800 ; 5,410 ; 28,700 ; 124.0 ; 3.75

350 S

P3  
55 ; 14 ; 47 ; 1.1 ; 8.85 - △

△ P4 - 5160 ; 91 ; 4380 ; 0.18 ; 6.80

△ P2 - 459 ; 38 ; 41 ; 2.4 ; 0.05

PIT CLAIM  
 PITT ISLAND, B.C.  
 RYAN EXPLORATION CO., L.T.D.  
 ROCK SAMPLE LOCATIONS  
 SCALE 1:1,000 

△ P1 - 470 ; 66 ; 1250 ; 1.7 ; 0.05

025 S

KEY

ROCK SAMPLES -- △  
Cu ; Pb ; Zn ; Ag ; Au  
(values in p.p.m.)

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