

680885

SILVER PROPERTY

MOUNT SICKER AREA, SOUTHERN VANCOUVER ISLAND. B.C.

NTS 92 B/13W

OWNED BY: LARAMIDE RESOURCES LTD.

904-675 West Hastings St  
Vancouver, B.C. V6B 1N2

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SUMMARY AND RECOMMENDATIONS:














The Silver Property, owned by Laramide Resources, has very good potential to host polymetallic massive sulphide deposits. It is underlain by a favourable package of rhyolites and is about 2 kilometres on strike from the Mount Sicker (Lenora, Tyee) massive sulphide deposit (Figure 1 and 2). The Sicker Volcanics, which underlie the property, also host Westmin's Buttle Lake Mine, about 100 km to the north (Figure 1). The Silver Property contains a low-grade polymetallic mineral showing in volcanic rocks. This showing has the same metal ratios as the Mount Sicker Deposit, which indicates that the ore forming processes were at work in the rocks on the Silver Property.

The Silver property is located on Vancouver Island, about seventy-five kilometres north of Victoria. It is easily accessible by road and is close to fair-sized population centres. It is fifteen kilometres from tide water.

The terms of option, as proposed by Laramide, are not severe and they allow us to work at a fairly slow pace over the first three years. Hence, it is strongly recommended that Pan Ocean attempt to option the Silver Property from Laramide Resources.

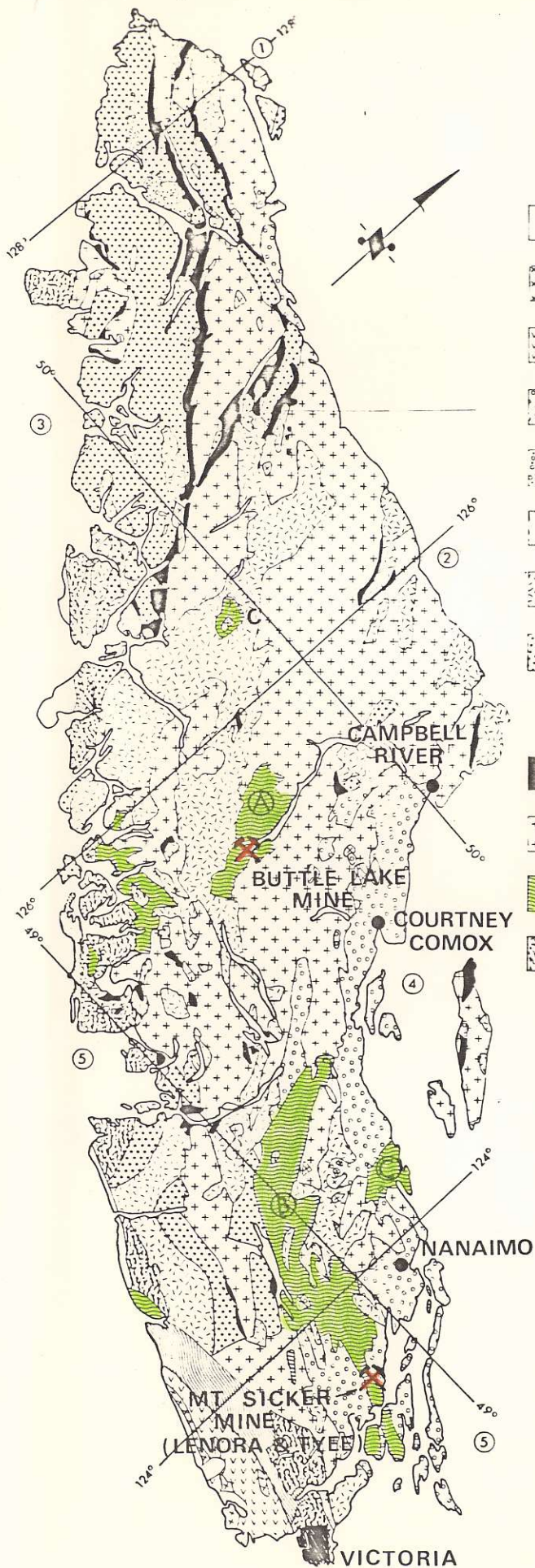
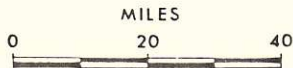
Figure 1.  
Geological sketch map of Vancouver Island.

LEGEND

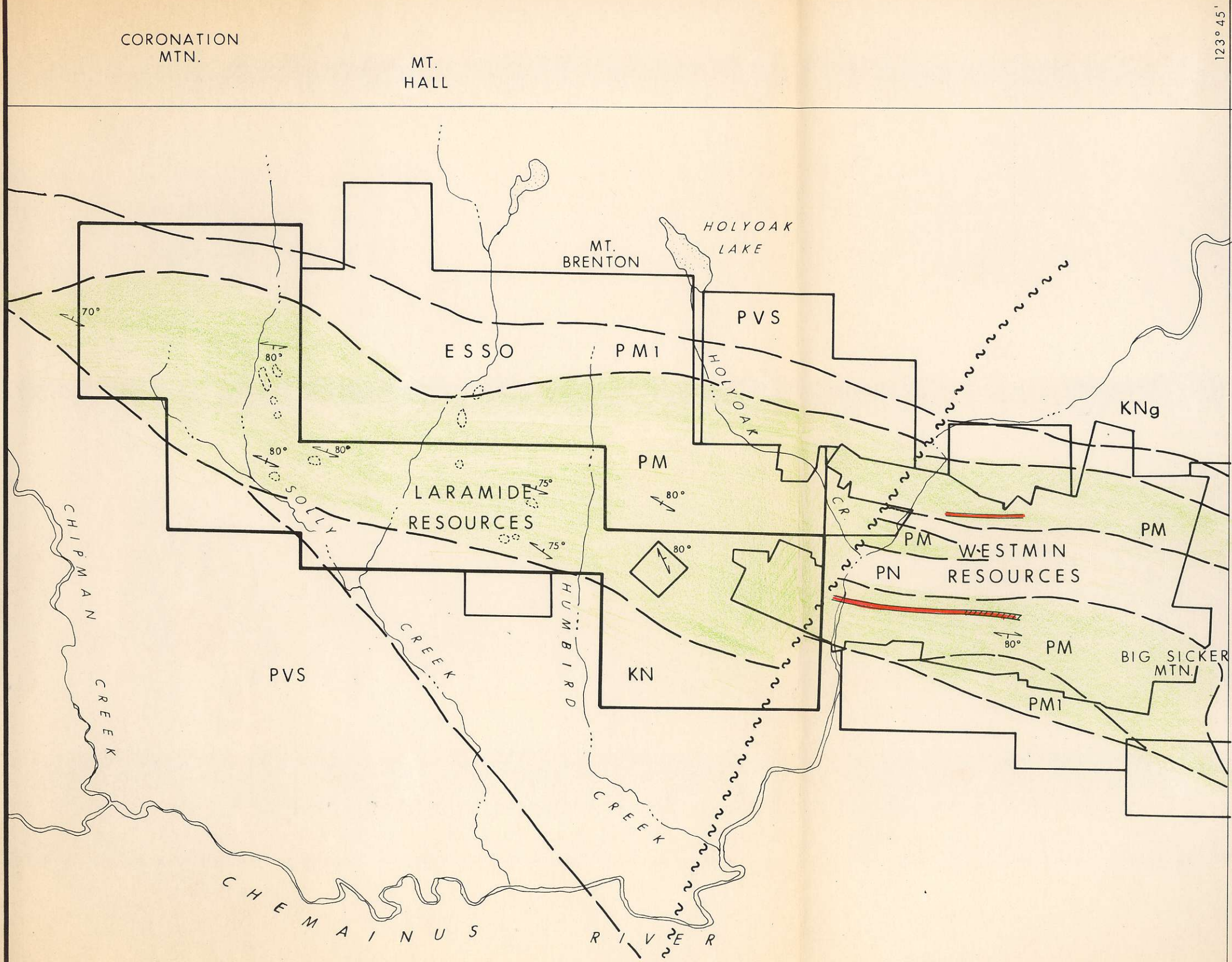
	CARMANAH GROUP	MIDDLE TERTIARY
	CATFACE INTRUSIONS	EARLY TO MIDDLE TERTIARY
	METCHOSIN VOLCANICS	EARLY TERTIARY
	NANAIMO GROUP	LATE CRETACEOUS
	QUEEN CHARLOTTE GROUP KYUQUOT GROUP	LATE JURASSIC TO EARLY CRETACEOUS
	LEECH RIVER FORMATION PACIFIC RIM COMPLEX	
	ISLAND INTRUSIONS	EARLY AND (?) MIDDLE JURASSIC
	BONANZA GROUP	EARLY JURASSIC
	VANCOUVER GROUP	LATE AND (?) MIDDLE TRIASSIC
	PARSON BAY FORMATION QUATSINO FORMATION	
	KARMUTSEN FORMATION	
	SICKER GROUP	PALEOZOIC
	METAMORPHIC COMPLEXES	JURASSIC AND OLDER

- ① ALERT BAY — CAPE SCOTT, 92 L — 102 I (G.S.C. PAPER 74-8)
- ② BUTE INLET, 92 K (IN PREPARATION), O.P. MAP 345
- ③ NOOTKA SOUND, 92 E (IN PREPARATION)
- ④ ALBERNI 92 F (G.S.C. PAPER 68-50)
- ⑤ VICTORIA, 92 B, C (FIELD WORK IN PROGRESS: SEE G.S.C. PAPERS 75-1A, p. 21-26; 76-1A, p. 107-111, 77-1A, p. 287-294.)

- A — BUTTLE LAKE UPLIFT
- B — COWICHAN-HORNE LAKE UPLIFT
- C — NANOOSE UPLIFT







123° 45'

CORONATION  
MTN.

MT.  
HALL

48° 55'



### LEGEND

#### UPPER CRETACEOUS

- KNG Basal Conglomerate
- KN Shale, Siltstone, Sandstone.

#### PALEOZOIC

- PVS Undifferentiated volcanics & Sedimentary units.
- PM MYRA FM - Andisitic to Rhyolitic Volcanic & Sedimentary sequence.
- PN NITNAT FM - Basic volcanic & sedimentary sequence.

- Outcrop
- Foliation
- Fault
- Geological Contact
- Pyritic horizon, Massive Sulphides



TO ACCOMPANY REPORT NO. \_\_\_\_\_ BY \_\_\_\_\_

**PAN OCEAN OIL LTD.**  
CALGARY ALBERTA

### LAND STATUS & GEOLOGY FIG 2

MOUNT SICKER AREA - VANCOUVER ISLAND

DATE MAR, 1982	SCALE 1: 50,000	NTS 92 B/13	DRAWING NO. B-1687
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## INTRODUCTION:

### Owner and Size

The Silver Property is owned by Laramide Resources of Vancouver, British Columbia. The property consists of 5 claims totalling 70 units, underlays 1,750 hectares (4,324 acres) and is about 10km by 2km in extent.

### Location and Access

The property is located on Vancouver Island, British Columbia, in the Victoria Mining District. It is seventy-five kilometres north of the city of Victoria and fifteen kilometres west of the town of Duncan, which is on tide water (Figure 1).

Access is via an all-weather logging road from the town of Duncan. The property is criss-crossed by numerous logging roads and thus, all work can be carried out from four-wheel-drive vehicles.

### History of Exploration

The Silver Property is located 2km to the west of the Mount Sicker (Lenora Tyee) massive sulphide deposit along the trend of a favourable felsic volcanic horizon. To date, Laramide Resources has outlined an area of favourable geology comprising a sequence of pyritic felsic tuff and fragmental rocks which appear to correlate to the ore horizon at Mount Sicker. In addition, they have located a low-grade mineral showing consisting of sphalerite and chalcopyrite hosted by schistose baritic felsic volcanics.

Presently, the area to the immediate east of the Silver Property, the Mt. Sickler deposit, is being worked by Westmin Resources and the area immediately north of the property is being worked on by Imperial Resources (Figure 2). These two companies are acknowledged experts on volcanogenic massive sulphides in the Canadian Cordillera; Westmin owns the Buttle Lake deposits on Vancouver Island and Imperial owns the Kutcho Creek deposit in Northern British Columbia.

## TARGET & POTENTIAL:

### Geological Model

The target mineralization on the Silver Property is polymetallic volcanogenic massive sulphides, rich in zinc, copper, lead, silver and gold. The famed Kuroko deposits in Japan and the Kidd Creek Mine in Eastern Canada are just two examples of this class of deposit.

In British Columbia, Westmin Resources Ltd. operates the Buttle Lake Mine located near the centre of Vancouver Island. This mine is also a volcanogenic massive sulphide deposit.

Mineralization at Buttle Lake consists of massive, banded, pyrite-pyrrholite-chalcopyrite ore and banded barite-sphalerite-galena-chalcopyrite ore, which generally occurs as conformable lenses within a sequence of felsic tuffs and flows. The barite ores contain significant precious metal values and, locally, are underlain by siliceous stockwork ore (tetrahedrite - chalcopyrite - precious metals). Coarse felsic fragmental volcanics are located in close proximity to some of the ore lenses.

A similar massive sulphide deposit occurs at Mount Sicker, where several massive sulphide bodies, including the Lenora and Tyee, were discovered in the late 1800's. The Mount Sicker Deposits are located about 2 kilometres east of the Silver Property boundary and produced 253,000 tons of copper-gold ore between 1898 and 1909. The grade of the tonnage produced was 0.14 oz/ton gold, 2.92 oz/ton silver and 3.77% copper; zinc and lead were present, but not recovered due to lack of demand. Westmin Resources Ltd. is currently working on the Mount Sicker deposit in hopes of outlining more tonnage.

### Size and Grade Potential

Volcanogenic massive sulphide deposits tend to be highly variable in size and grade. Deposits in excess of 100,000,000 tons are rare, but do exist, ie. Kidd Creek.

The Buttle Lake Deposit, which occurs 100 kilometres north of the Silver Property and is hosted by the same group of rocks, contains about 15,000,000 tons of mined, proven and inferred reserves which grade about .06 oz/ton gold, 3.0 oz/ton silver, 1.6% copper, 7.5% zinc and 1% lead. This tonnage and grade would be a realistic target for exploration on the Silver Property.

### Economic Considerations

A massive sulphide deposit, similar to the Buttle Lake Deposit, has many attractive features as summarized below:

1. The target deposit has a high unit value. Based on today's metal prices, the Buttle Lake Deposit has a value of \$152. per short ton.

<u>Grade</u>	<u>Metal Price</u>	<u>Metal Value Per Ton</u>
.06 oz/ton Au	\$400.00/oz	\$ 24.00
3.00 oz/ton Ag	10.00/oz	30.00
1.6% Cu	0.75/lb	24.00
7.5% Zn	0.45/lb	68.00
1.0% Pb	0.30/lb	<u>6.00</u>
		\$152.00

2. The polymetallic character of the deposits gives the product more price stability than a single product deposit. None of the metals listed above contributes more than 50% to total product value.
3. The property is less than 20km from tide water.
4. The property has good road access and is close to fair-sized population centres to draw employees from.
5. The area has a proven mining history and would look upon a new mine favourable.



## GEOLOGY:

Geology on the property consists of a diversified sequence of volcanic and sedimentary rocks of probable Paleozoic age which correlates to the Sicker Series. The Sicker Series is host to several volcanogenic massive sulphide deposits including Westmin's Buttle Lake Deposits and the Mount Sicker Deposit, two kilometres east of the property. These deposits are intimately associated with felsic volcanic rocks and show a close spacial relationship to centres of venting within the volcanic pile.

Westmin's Buttle Lake Mine has been operating since 1976 at a rate of about 300,000 tons per year. The total ore mined to date exceeds 4,000,000 tons at an average grade of 0.06 oz/ton gold, 3.0 oz/ton silver, 1.6% copper, 1.0% lead and 7.5% zinc. The ore is valued at about \$150.00 per ton with mining costs averaging approximately \$60.00 per ton. Current reserves, including the newly discovered Price Zone, probably exceed 15,000,000 tons of similar grade material.

At Mount Sicker, the ore occurs in two parallel, steeply dipping lenses about 50 metres apart which are conformably enclosed within a narrow band (150 metres  $\pm$ ) of cherty tuff and graphitic schist, which occurs within rhyolitic tuffs and flows. Although not directly in contact with the ore, an extensive area of felsic fragmentals underlie the deposits.

The Mount Sicker ore consists of two types which includes barite ore and siliceous ore. Barite ore, indistinguishable from Myra Zone ore at Buttle Lake, consists of pyrite, chalcopyrite, sphalerite and galena in a gangue of barite, calcite and quartz. A finely laminated or banded appearance, produced by layers of chalcopyrite and pyrite alternating with layers of sphalerite, is characteristic of much of the ore. The siliceous ore consists of massive quartz uniformly mineralized with chalcopyrite (10%) and minor galena. Sphalerite siliceous ore occurs as lenticular masses within barite ore.

From information published on the dimensions of the ore zones at Mount Sicker and from indications that much "low-grade" ore occurs below and within the levels of mining, one can infer that the geological reserves remaining in the ground may greatly exceed those already mined.

The Silver Property is located 2 kilometres to the west of the Mount Sicker Deposit along the trend of a favourable felsic volcanic horizon. To date, Laramide Resources has outlined an area of favourable geology comprising of a sequence of quartz porphyry rhyolite, pyritic felsic tuff and fragmental rocks which appear to correlate to the ore horizon at Mount Sicker. In addition, they have located a mineral showing consisting of sphalerite and chalcopyrite hosted by pyritic and baritic schistose felsic volcanics. This showing is low-grade, but the metal ratios are almost identical to those obtained from Mount Sicker and it is a good indication that the mineralizing processes were at work in rocks which presently underlie the Silver Property.

TERMS OF OPTION:

The Silver Property consists of 5 Claims totalling 70 Units:

Fang Claim	5 x 4	=	20 units
Silver #1 Claim	3 x 4	=	12 units
Silver #2 Claim	3 x 3	=	9 units
Sally Claim	3 x 3	=	9 units
T. L. Claim	5 x 4	=	20 units

The terms of the option, as discussed in a meeting between R. J. Bailes and Bert Reeve, President of Laramide, are summarized below. These terms are negotiable.

Pan Ocean can earn a 75% interest in the claims by spending C\$1.25 million in work and option payments by December 31st, 1990 according to the following schedule:

	<u>Option Payments</u>	<u>Work Commitment</u>
1982	\$ 25,000.	\$ 50,000.
1983	-----	-----
1984	-----	200,000.
1985	25,000.	100,000.
1986	25,000.	100,000.
1987	25,000.	100,000.
1988	25,000.	150,000.
1989	25,000.	175,000.
1990	<u>25,000.</u>	<u>200,000.</u>
TOTAL	\$175,000. <i>157P</i>	\$1,075,000.

When Pan Ocean has earned its 75% interest, it will carry Laramide until a production decision is made. At that point, Lamarmide has an option to elect to participate in a 25% working interest or take a 10% N.P.I. If Laramide opts to take a 25% working interest, it will pay all costs until it has equalled the amount of money spent by POOL in carrying Laramide from the point at which Pan Ocean earned 75% to a production decision.

WORK PLAN:

Committments

Pan Ocean, as Operator, is committed to spend a total of \$275,000 in the first three years of the option, should it wish to keep the property. This low committment will allow POOL to explore the property at a leisurely pace in the early stages.

Planned Exploration Approach

The property is easily accessible, but is relatively poorly exposed. The polymetallic nature of the target deposits make them particularly amenable to discovery by geochemical sampling of soils, rocks and stream sediments.

Massive sulphide deposits are commonly conductive, magnetic, anomalously dense and easily polarized. Thus, they are usually detectable by such geophysical techniques as E.M., magnetics, gravity and I.P.

The geological characteristics of this group of deposits is well studied and well understood. Thus, geological mapping and prospecting, even in areas of poor exposure, can be very helpful in leading to the discovery of a volcanogenic massive sulphide deposit.

#### 1982 Program

Phase I - Literature study: Compilation of geological and assessment report data.

- Air photo study with structural interpretation.

Phase II - Initial property field evaluation by geological mapping and prospecting, and geochemical sampling.

Phase III - Follow-up on areas of interest as defined in Phase II by: 1) establishing simple grids over these areas; 2) carrying out detailed geological mapping and prospecting on the grids; 3) taking geochemical samples on the grids; and 4) carrying out E.M., magnetics, I.P. and possibly gravity surveys over the grid areas.

#### 1983 - 1984 Programs

These programs will include further evaluation of priority areas by the same procedures mentioned in the 1982 Program. More importantly, however, the 1983 and 1984 Programs will involve backhoe trenching, percussion drilling and diamond drilling of defined targets.