

84-#501 - 12735  
6/16/84

REPORT ON  
PROSPECTING, GEOLOGICAL MAPPING AND  
GEOCHEMICAL SURVEYING ON THE  
<sup>1 & 2</sup>  
PAR~~X~~CLAIM (20 UNITS)

Alberni Mining Division  
Parsons Creek, B.C.  
N.T.S. Ref. 92 F/2

Latitude 49° 02' North  
Longitude 124° 43' West

RECORDED OWNER - JANET SCHORN  
OPERATOR - TORO RESOURCES LIMITED

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

By **12,735**

M.P. DICKSON, P. Eng.  
ADTEC MINING CONSULTANTS INCORPORATED  
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Vancouver, B.C. V6C 1X8  
(604) 669-4545

June 13, 1984

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Figure 1: Property Location

Figure 2: Claim Location Map

Figure 3: Area Prospected

Figure 4: Geology and Geochemical Plot for Copper and Zinc

Figure 5: Geochemical Plot for Gold and Silver

Figure 6: Geochemical Plot for Lead and Arsenic

### Appendix

1: Method of Preparation and Analysis

2: Geochemical Values

3: Preliminary Assessment report.

## **INTRODUCTION**

The firm of Adtec Mining Consultants Incorporated was engaged to do a preliminary investigation of the property for the purpose of acquainting the owner with the property and to carry out enough exploration work to aid in further understanding of the ground to plan for further exploration activities.

The work was performed by the writer, M.P. Dickson, P. Eng. and assistant R.P. McGreevy, a junior mining engineer, between June 8th and June 11th, 1984 and consisted of prospecting, geological mapping and geochemical soil and stream sediment sampling. Access was by helicopter.

## **LOCATION**

The Par I claim is situated 25 kms south of Port Alberni on Vancouver Island in the Alberni Mining Division at latitude 49° 02' North, longitude 124° 43' West on N.T.S. map 92 F/2 (Figure 1).

## **PHYSIOGRAPHY**

The property lies in very steep, rugged and forested terrain. Clearings are minimal but some do occur throughout the property, but particularly at the highest elevations.

## **CLIMATE**

Rain forest conditions exist with snow, although winter temperatures are usually moderate.

## **ACCESS**

Helicopter is the only practical means at present to explore the claim although an old logging road is reported to terminate on Parsons Creek just south of the property while logging roads come to within 50 m of the northern property boundary (Figure 2).

## PROPERTY

The Par I claim consists of 20 units. The legal corner post is situated on Parsons Creek on the southwest corner of the group. Record number and date are 1785, June/83 (Figure 2).

## HISTORY

Between 1930 and 1940, the property received some work on the line of pitting, trenching, open cutting and an adit drive on the Parsons Creek copper occurrence. Very little of this work is recorded and information is scanty.

From 1963 - 1965, Gunnex Ltd. carried out silt sampling and prospecting with follow-up stripping and trenching in the vicinity of the Parsons Creek copper occurrence indicating good copper silver values on narrow veins. Silt sampling was also positive in other creeks, but no follow-up work was ever conducted.

In September of 1983, the property was visited by G. Hawkins, P. Eng. and N. Willoughby of MPH Consulting Limited. A preliminary geological investigation was carried out with the intent of providing base maps, history, geology and assessment of the properties mineral potential. This work is recorded in their report of September 22, 1983.

## ECONOMIC ASSESSMENT

Past work has located very interesting, although narrow, bands of sulphides carrying good, but spotty, silver values. Silt sampling of the property has indicated other anomalous targets.

Recent cursory mapping has indicated that the Sicker Formation, which hosts sulphide and vein type deposits on Vancouver Island, may skirt the eastern boundary of the claim group.

The former producing Thistle Mine (2,667 ozs. Au, 1,667 ozs. Ag, 626,556 lbs. Cu) located 12 kms northeast of the property is now believed to be a volcanogenic massive sulphide deposit.

The known showings on the property and favourable geology of the area point to potential for finding economic vein or massive sulphide deposits.

### PROSPECTING

An area (Figure 3), approximately 52 hectares in size, received general overall reconnaissance prospecting. Prospecting was conducted on streams and while running geochemical soil survey lines. A good portion of the program was directed toward investigating geochem anomalies in the streams, but results of the investigation were inconclusive although some shears and veins were examined.

### GEOCHEMICAL SURVEY

A total of <sup>36</sup>~~26~~ soil and sediment samples were collected for geochemical analysis over 1.2 line kms. Samples were collected with a mattock on pace and compass lines at 60 metre intervals. Where possible to obtain, a suitable stream sediment sample was taken. Soils were generally taken in the B horizon from a depth of 10 - 25 cms with an organic cover range from 5 - 10 cms. Soils were generally sandy with colors ranging from lite reddish to medium reddish-brown.

The samples were analyzed by Chemex Labs. Ltd. of North Vancouver, B.C. for Cu, Pb, Zn, Ag, As and Au. Sample preparation and analysis were done by standard, reliable methods (refer to Appendix 1 for details). Results of the analysis are plotted on Figures 4, 5 and 6.

While the results of the program need further study, it is felt that in all probability, Cu and Zn will be the best indicators and reliable enough for a preliminary soil survey until further geological mapping is carried out.

Appendix 2 shows the reported values with sample locations.

## **GEOLOGICAL MAPPING**

Minor geological mapping was carried out on the property (see Figure 4), while prospecting and conducting the geochemical soil survey. No mineralized material was encountered that was felt worthy of sampling.

A contact between the diorite on the west side of the claim and volcanics to the east was crossed somewhere on the geochemical survey line, but could only be approximated as shown on the map but coincides roughly with previous general projections.

Intermediate volcanics, in part tuffaceous, were observed on the remainder of this survey.

It is believed that the Parsons Creek Copper occurrence likely lies close to the diorite contact. Further mapping is required to better ascertain the geological picture and its significance to mineralization on the property.

ITEMIZED COSTS

Part I

**Prospecting**

Prospect streams and geochem. lines	
Prospector - 0.8 days @ \$200/day	\$ 160.00
Helper - 0.8 days @ \$100/day	80.00
30% of support costs from P. 6	<u>174.48</u>
Total	\$ 414.48

**Geochem Soil & Stream Sediment Sampling**

Geochemist - 0.5 days @ \$180/day	\$ 90.00
Helper - 0.5 days @ \$80/day	40.00
Assaying - 16 samples @ \$14.90/sample	238.40
40% of support costs from P. 6	<u>232.64</u>
Total	\$ 601.04

**Geological Mapping**

Geologist - 0.5 days @ \$350/day	\$ 175.00
Helper - 0.2 days @ \$150/day	30.00
30% of support costs from P. 6	<u>174.48</u>
Total	\$ 379.48

REPORT PREPARATION

Part I

Engineer - 0.6 days @ \$350/day	\$ 210.00
Drafting - 0.3 days @ \$100/day	30.00
Typing	24.30
Photocopying	3.75
Binding	<u>2.60</u>
Total	\$ 270.65
Grand Total	\$ 1,665.60

Support Costs Applicable to All Phases of Work Program

Vehicle Rental	\$ 39.20
Gasoline	9.30
Parking	2.50
Food	41.40
Field Supplies	24.00
Tool Rental	16.00
Field Maps	3.20
Helicopter Expense	<u>446.00</u>
Total	\$ 581.60



ITEMIZED COSTS

Par II

**Physical Work**

Blaze line on lake shore near camp and prepare camp:

Labour - 0.4 days @ \$120/day \$ 48.00

Labour - 0.4 days @ \$70/day 28.00

10% of support costs from P. 6 58.16

Total \$ 134.16

**Prospecting**

Prospect streams, lakeshore and geochem. lines:

Prospector - 0.6 days @ \$200/day \$ 120.00

Helper - 0.6 days @ \$100/day 60.00

30% of support costs from P. 6 174.48

Total \$ 354.48

**Geochem Soil & Stream Sediment Sampling**

Geochemist - 0.4 days @ \$180/day \$ 72.00

Helper - 0.4 days @ \$80/day 32.00

Assaying - 16 samples for Cu, Pb, Zn & Cu, Pb, Zn As, Au, Ag @ \$6/sample 90.00

30% of support costs from P. 6 116.32

Total \$ 310.32

**Geological Mapping, Rock Sampling**

Geologist - 0.6 days @ \$350/day \$ 210.00

Helper - 0.2 days @ \$150/day 30.00

40% of support costs from P. 6 232.64

Assaying 5 rock samples @ \$18.55/sample 92.75

Total \$ 472.64

**REPORT PREPARATION**

*Par II*

Engineer - 0.6 days @ \$350/day	\$ 210.00
Drafting - 0.3 days @ \$100/day	30.00
Typing	24.30
Photocopying	3.75
Binding	<u>2.60</u>
Total	\$ 270.65
Grand Total	\$ 1,542.25

**Support Costs Applicable to All Phases of Work Program**

Vehicle Rental	\$ 39.20
Gasoline	9.30
Parking	2.50
Food	41.40
Field Supplies	24.00
Tool Rental	16.00
Field Maps	3.20
Helicopter Expense	<u>446.00</u>
Total	\$ 581.60

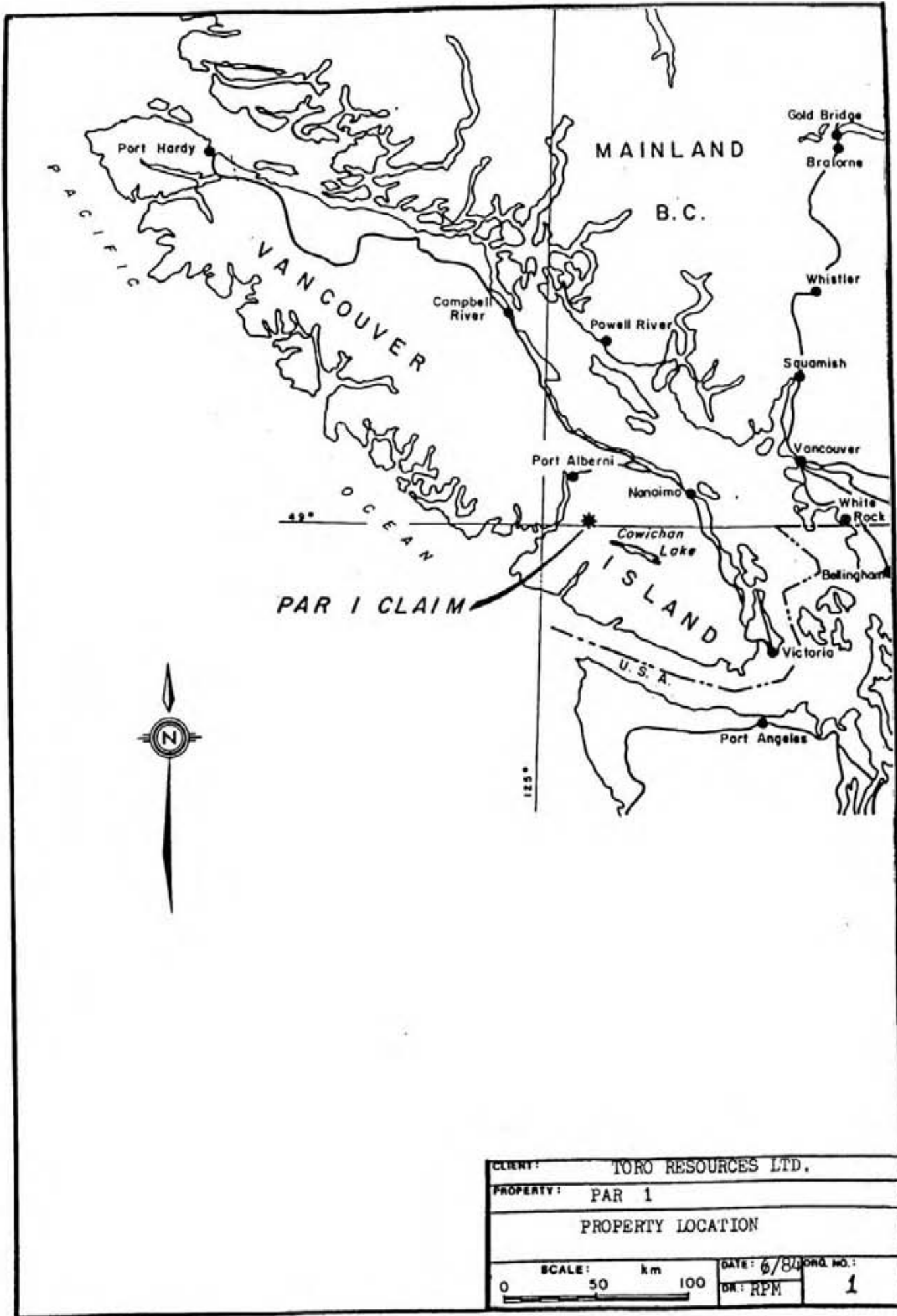
**CERTIFICATE**

I, Melvin Plenny Dickson of 2731 Mathers Avenue, in the City of Vancouver, in the Province of British Columbia, Canada hereby certify as follows:

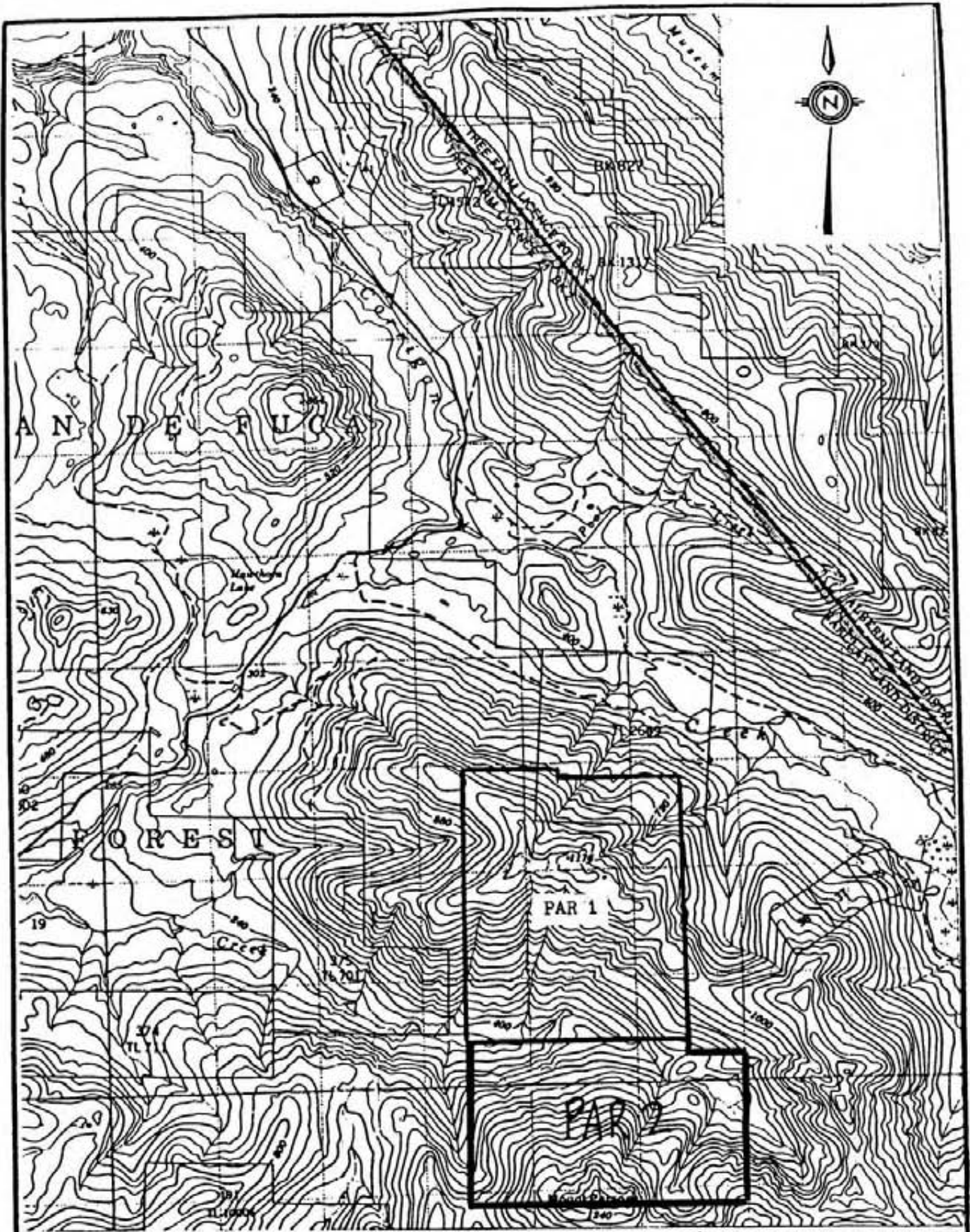
1. I am a graduate of Mount Allison University, Sackville, New Brunswick and hold a Bachelor of Science Degree in Geology.
2. I am a Registered Professional Engineer of the Province of British Columbia Registration No. 11456.
3. I have actively practised my profession on a full-time basis in mineral exploration, mine development, production, management and consulting since graduation in 1965.
4. That the information contained in this report is based on published and unpublished reports on the property, and work performed by the author on the property between June 8th and June 11th, 1984.

Dated at Vancouver, B.C., this 13th day of June, 1984

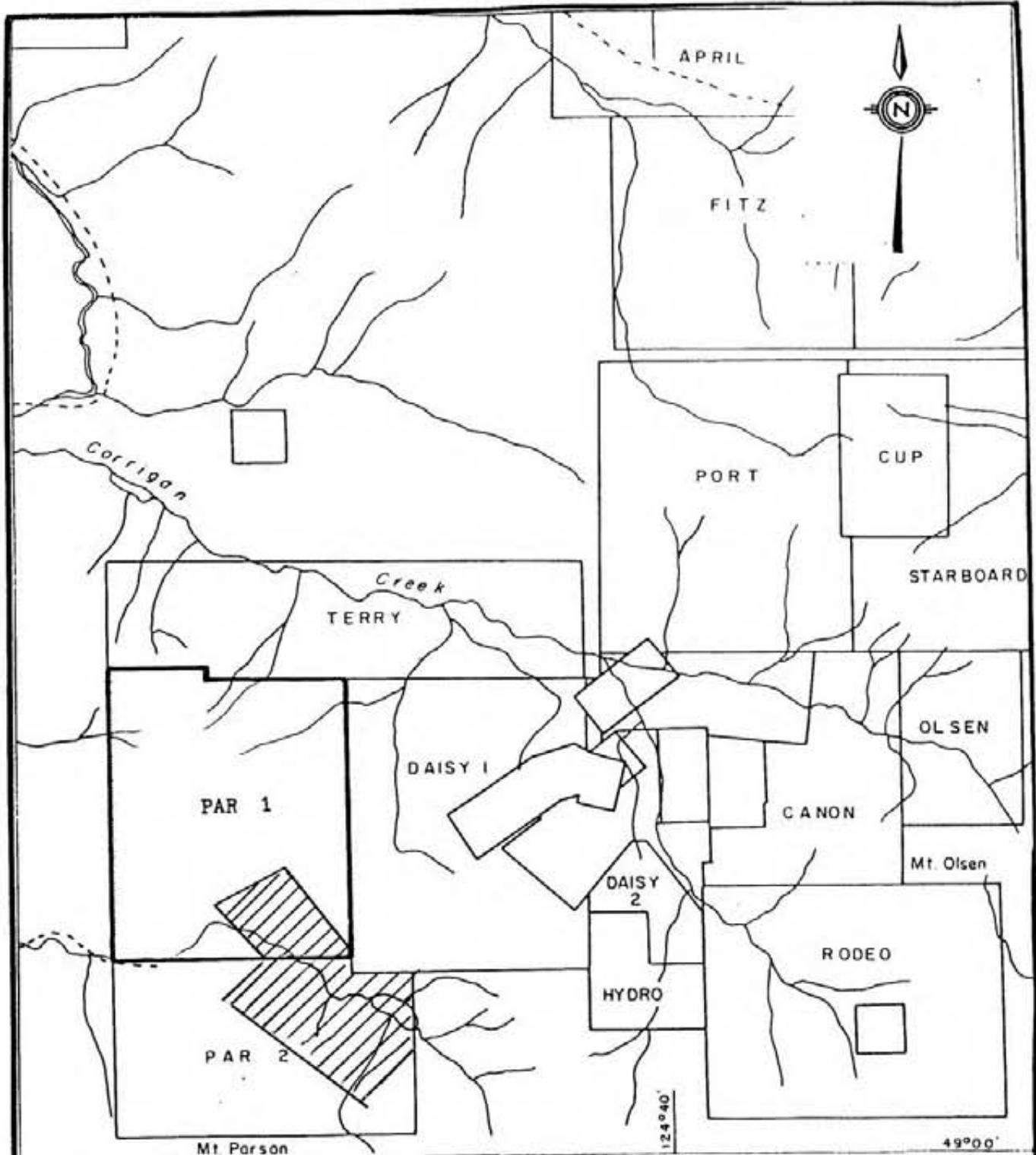
M.P. Dickson, P. Eng.



CLIENT: TORO RESOURCES LTD.	
PROPERTY: PAR 1	
PROPERTY LOCATION	
SCALE: 0 50 100 km	DATE: 6/84 DR: RPM
	DR: RPM
	1



CLIENT: TORO RESOURCES LTD,	
PROPERTY: PAR 1	
CLAIM LOCATION MAP	
SCALE: 1:1000 1000' 0 1000' C.M. IN. CM. IN. CM. IN.	DATE: 6/84 OR: RPM DND. NO.: 2



Symbols

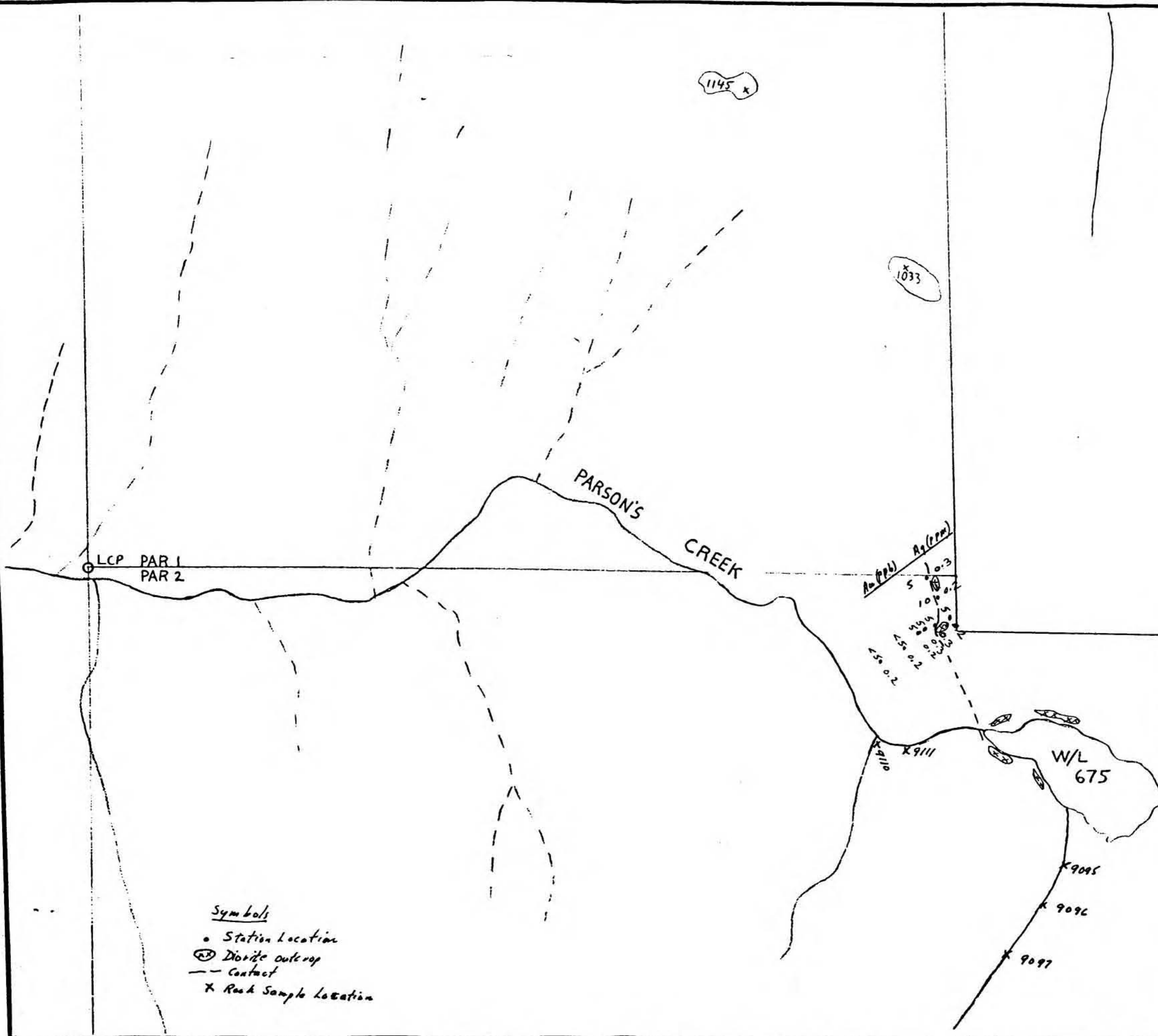


Area Prospected

CLIENT: TORO RESOURCES LTD.	
PROPERTY: PAR 1	
AREA PROSPECTED	
SCALE: 1000 Metres 1000	DATE: 6/84
DR: RPM	ORNL NO.: 3







Symbols  
• Station Location  
⊙ Diorite outcrop  
--- Contact  
x Rock Sample Location

CLIENT: TORO RESOURCES LTD.		
PROPERTY: PAR 2		
GEOLOGY AND GEOCHEMICAL PLOT FOR GOLD AND SILVER		
SCALE: metres	DATE: 6/84	DWG. NO.:
200 0 200	OR RPM	4







1145 x

1033

PARSON'S CREEK

LCP PAR 1  
PAR 2

Cu (ppm) Zn (ppm)  
10.19  
53.66  
62.38  
55.55  
82.80  
72.00  
4.25

Cu (ppm) Zn (ppm)  
12.28  
57.58  
18.29  
17.33  
23.93  
93.15  
105.23  
48.63  
88.75  
88.58

W/L  
675

Symbols  
• Station location

CLIENT:	TORO RESOURCES LTD.		
PROPERTY:	PAR 2		
GEOCHEMICAL PLOT FOR COPPER AND ZINC			
SCALE:	metres	DATE	DRG. NO.:
200	0	6/84	5
		RPM	



1145 x

1033

Pb (ppm) / As (ppm)



PARSON'S CREEK

LCP PAR 1  
PAR 2

W/L  
675

Symbol  
• Station location

CLIENT:	TORO RESOURCES LTD.		
PROPERTY:	PAR 1		
GEOCHEMICAL PLOT FOR LEAD AND ARSENIC			
SCALE:	metres	DATE	DWG. NO.
200	0 200	6/84	6
			DR. RPM



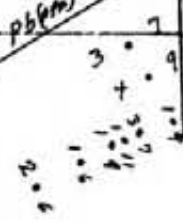
1145 \*

1033

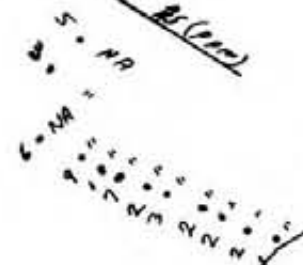
PARSON'S CREEK

LCP PAR 1  
PAR 2

Pb(ppm) As(ppm)



Pb(ppm) As(ppm)



W/L  
675

Symbols  
• Station Location

CLIENT:	TORO RESOURCES LTD.		
PROPERTY:	PAR 2		
GEOCHEMICAL PLOT FOR LEAD AND ARSENIC			
SCALE:	metres	DATE: 6/84	DWG. NO.:
200	0 200	RPM	6

GEOCHEMICAL PROCEDURES FOR GOLD AND RELATED ELEMENTS

## GOLD FA-AA COMBO METHOD:

For low grade samples and geochemical materials a 10 gram sample is fused in litharge, carbonate and siliceous flux with the addition of 10 mg of Au-free Ag metal and cupelled. The silver bead is parted with dilute  $\text{HNO}_3$  and then treated with aqua regia. The salts are dissolved in dilute HCl and analyzed for Au on an atomic absorption spectrophotometer.

Detection limit - 5 ppb.

## SILVER PPM:

A 1.0 gm portion of sample is digested in conc. perchloric-nitric acid ( $\text{HClO}_4\text{-HNO}_3$ ) for approx. 2 hours. The digested sample is cooled and made up to 25 mls with distilled water. The solution is mixed and solids are allowed to settle. Silver is determined by atomic absorption technique using background correction on analysis.

Detection limit - 0.1 ppm.

## COPPER, ZINC, NICKEL:

A 1.00 gram portion of sample is weighed into a calibrated test tube. The sample is digested using hot 70% perchloric acid and concentrated nitric acid. Digestion time = 2 hours. Sample volume is adjusted to 25 mls. using demineralized water. Sample solutions are homogenized and allowed to settle before being analyzed by atomic absorption procedures.

Detection limits using Varian atomic absorption unit are as follows:

Copper	-	1 ppm
Zinc	-	1 ppm
Nickel	-	1 ppm

GEOCHEM PROCEDURE FOR ARSENIC

A 1.0 gram sample is digested with a mixture of perchloric and nitric acid to strong fumes of perchloric acid. The digested solution is diluted to volume and mixed. An aliquot of the digest is acidified, reduced with KI and mixed. A portion of the reduced solution is converted to arsine with  $\text{NaBH}_4$  and the arsenic content determined using flameless atomic absorption.

Detection limit: 1 ppm

GEOCHEM PREPARATION FOR SOILS & SILTS

Samples are dried at 80 deg. C for a period of 12 to 24 hours. The dried sample is sieved to -80 mesh fraction through a nylon and stainless steel sieve. Rock geochemical materials are crushed, dried and pulverized to -100 mesh.

ASSAY PREPARATION & ANALYSIS FOR AG & AU OZ/T

Silver and gold analysis are done by standard fire assay techniques. In the sample preparation stage the screens are checked for metallics which, if present, are assayed separately and calculated into the results obtained from the pulp assay.

0.5 assay ton sub samples are fused in litharge, carbonate and silicious fluxes. The lead button containing the precious metals is cupelled in a muffle furnace. The combined Ag & Au is weighed on a microbalance, parted, annealed and again weighed as Au. The difference in the two weighing is Ag.

Detection limit for Ag - 0.01 oz/T

Detection limit for Au - 0.003 oz/T



# CHEMEX LABS LTD.

212 BROOKSBANK /  
NORTH VANCOUVER,  
CANADA V7J  
TELEPHONE: (604) 984-  
TELEX: 043-52

• ANALYTICAL CHEMISTS

• GEOCHEMISTS

• REGISTERED ASSAYERS

APPENDIX 3

## CERTIFICATE OF ASSAY

TO : TORO RESOURCES LTD.

811 - 543 GRANVILLE ST.  
VANCOUVER, B.C.  
V6C 1X8

\*\* CERT. # : A8412417-00  
INVOICE # : 18412417  
DATE : 18-JUN-84  
P.O. # : NONE  
ELDEN 1516

Sample description	Prep code	Zn %	Ag FA oz/T	Au FA oz/T			
9095	207	0.01	0.03	0.006	--	--	--
9096	207	0.01	--	<0.003	--	--	--
9097	207	0.01	0.01	<0.003	--	--	--
9110	207	0.01	--	<0.003	--	--	--
9111	207	0.01	0.01	<0.003	--	--	--

Rock Sample Values- Par 11 Mineral Claim  
Parsons Creek-Port Alberni

See Map # 4 For Sample Location

### Description

- 9095- Shear in creek-20cm- Minor Py.
- 9096- Shear in creek -10cm-Qtz., in Vols.
- 9097- Boulder in creek- minor sulphide
- 9110- Creek at main falls-narrow shear- lim.
- 9111- Flat Fault shear-10cm- carb., minor qtz&Py.

.....  
Registered Assayer, Province of British Columbia



MEMBER  
CANADIAN TESTING  
ASSOCIATION





# CHEMEX LABS LTD.

APPENDIX 2

212 BROOKSBANK,  
NORTH VANCOUVER,  
CANADA V7J

TELEPHONE: (604) 984-  
TELEX: 043-52

• ANALYTICAL CHEMISTS

• GEOCHEMISTS

• REGISTERED ASSAYERS

## CERTIFICATE OF ANALYSIS

TO : TORO RESOURCES LTD.

\*\*

811 - 543 GRANVILLE ST.  
VANCOUVER, B.C.  
V6C 1X8

CERT. # : A8412439-00  
INVOICE # : 18412439  
DATE : 20-JUN-84  
P.O. # : NONE  
ELDEN 1516

ATTN: PLEN DICKSON

Sample description	Prep code	Cu ppm	Pb ppm	Zn ppm	Ag ppm	AS ppm	Au ppb FA+AA
9098	201	88	1	58	--	--	--
9099	201	83	2	75	--	--	--
9100	201	68	2	64	--	--	--
9101	201	105	2	163	--	--	--
9102	201	4	3	23	--	--	--
9103	203	93	2	150	--	--	--
9104	201	23	7	37	--	--	--
9105	201	148	1	153	--	--	--
9106	203	4	9	17	--	--	--
9107	201	18	6	29	--	--	--
9108	201	52	3	58	--	--	--
9109	201	12	5	28	--	--	--
9112	201	9	2	25	0.2	6	<5
9113	201	23	1	20	0.2	6	<5
9114	201	43	1	28	0.2	9	5
9115	203	65	1	80	0.3	11	5
9116	201	56	3	55	0.3	7	5
9117	201	62	1	38	0.2	9	5
9118	201	53	4	66	0.2	9	10
9119	201	10	3	19	0.3	7	5

Geochemical Soil & Stream Analysis

Par 11 Claim - Alberni Mining Division, Parsons Creek, B.C.

For sample locations refer to Figures 4,5&6 in report

*Hart Bichler*

Certified by .....



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APPENDIX 2

212 BROOKSBANK /  
NORTH VANCOUVER,  
CANADA V7J

TELEPHONE: (604) 984-  
TELEX: 043-52

• ANALYTICAL CHEMISTS

• GEOCHEMISTS

• REGISTERED ASSAYERS

## CERTIFICATE OF ANALYSIS

TO : TORO RESOURCES LTD.

\*\*

811 - 543 GRANVILLE ST.  
VANCOUVER, B.C.  
V6C 1X8

CERT. # : A8412439-00  
INVOICE # : 18412439  
DATE : 20-JUN-84  
P.O. # : NONE  
ELDEN 1516

ATTN: PLEN DICKSON

Sample description	Prep code	Cu ppm	Pb ppm	Zn ppm	Ag ppm	AS ppm	Au ppb FA+AA
Geochemical Soil & Stream Analysis							
Par 1 Claim- Alberni Mining Division, Parsons Creek ,B.C.							
For sample locations refer to Figures 4,5&6 in report.							
9120	201	26	1	17	0.1	7	5
9121	201	50	1	67	0.2	7	10
9122	201	8	4	17	0.2	7	5
9123	201	26	2	29	0.2	6	5
9124	201	45	2	95	0.2	9	<5
9125	203	44	1	140	0.2	10	<5
9126	203	48	1	110	0.1	9	<5
9127	201	74	1	110	0.1	6	<5
9128	203	5	6	25	0.2	6	<5
9129	201	172	1	83	0.5	9	<5
9130	203	52	1	52	0.2	7	<5
9131	203	78	1	80	0.1	7	10
9132	201	47	1	42	0.2	9	5
9133	201	55	1	47	0.2	12	15
9134	201	168	3	73	0.2	11	<5
9135	201	228	1	130	0.1	14	5

*Hart Buchler*

Certified by .....



MEMBER  
CANADIAN TESTING  
ASSOCIATION

84-#501



Preliminary Assessment and

Recommended Work Programme

182  
Par / Claim

Alberni Mining Division, British Columbia

for

Jan International Resources Limited

September 22, 1983



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## SUMMARY

The Jan International Resources Limited Par 2 Claim, located 25 km south-southeast of Port Alberni, is underlain by mainly mafic volcanic rocks of the Vancouver Group.

The Alberni area has received intermittent mining and exploration attention over the past 90 years. Activity was targeted toward low tonnage-high grade quartz vein gold and base metals deposits and gold and copper in skarn-type deposits. Several deposits produced modest amounts of gold-silver and lead-zinc. The Havilah Mine produced 231 oz. Au and 1,334 oz. Ag; Vancouver Island Gold Mine produced 303 oz. Au and 52 oz. Ag; Black Panther Mine produced 308 oz. Au, 627 oz. Ag, 7,817 lbs. Pb and 4,478 lbs. Zn.

The Parsons Creek occurrence located 50 m north of the property consists of chalcopyrite-rich quartz veins which cover a strike length of 3,000 feet. Widths range from 4 to 14 inches. Channel samples of 13.57% Cu, 0.8 oz. Ag/T, 0.04 oz. Au/T over 0.5 feet and 6.58% Cu, 32.39 oz. Ag/T, 0.01 oz. Au/T over 1.5 feet were reported (1966).

The property has the potential to host high grade quartz vein precious-base metal deposits.

Exposures of sulphide bearing intermediate to felsic volcanic



rocks characteristic of the Sicker Group (Myra Formation) were uncovered by the writers 3 km south-southeast of the property.

The Sicker Group is host to the Westmin Resources Ltd. Buttle Lake massive sulphide deposits. The estimated total reserves of the Lynx, Price, Myra and H-W deposits are 16 million tons grading 2.2% Cu, 5.3% Zn, 0.3% Pb, 0.07 oz. Au/T and 1.1 oz. Ag/T (1983).

The past producing Thistle Mine (2,667 oz. Au, 1,667 oz. Ag, 626,556 lbs. Cu) which is located 12 km northeast of the property, is possibly a volcanogenic massive sulphide deposit.

Geological and economic considerations indicate good potential for the property to host economic massive sulphide mineralization.

A two phase massive sulphide/high grade quartz vein exploration programme is recommended. Phase I consists of line flagging, soil sampling, detailed geological mapping, assaying and litho-geochemical sampling to be followed by ground magnetometer and VLF electromagnetometer surveying. The estimated total cost of Phase I exploration is \$61,000 and would take approximately 30 days to complete.

Financial planning should allow a budget of approximately \$154,000 for Phase II induced polarization and diamond drilling. However this will be contingent upon results and recommendations from Phase I exploration.



- 1 -

## INTRODUCTION

In September 1983, MPH Consulting Limited was commissioned by Jan International Resources Limited to prepare a preliminary assessment report on the economic potential of their Par 1 Claim, Alberni Mining Division.

On September 4, 1983, T.E. Gregory Hawkins, (P.Geol.) Vice-President and N.O. Willoughby, Senior Geologist, both of MPH Consulting Limited, visited the property.

This report summarizes all presently known geological and mining exploration work in the area, describes the property geology and subsequently discusses the economic potential of the claim.

A recommended work programme designed to explore the economic massive sulphide and quartz vein possibilities of the property is provided.



PROPERTY LOCATION, ACCESS, TITLE

The Par 2 Claim is situated within the Alberni Mining Division on Vancouver Island at longitude 124°43' west and latitude 49°01' north. The property, which is located 25 km south-southeast of the town of Port Alberni, lies in the area covered by the NTS 1:50,000 scale map 92F/2, Alberni Inlet (Fig. 1).

The most convenient access to the property, which covers the northern slope of Mount Parsons, is by helicopter. Several natural helicopter pads comprised of cleared, flat rocky knolls are found within otherwise steeply inclined, rugged and forested terrain.

A gravel road is reported along the course of Parsons Creek into the property, running east from the Port Alberni-Bamfield Road. The road was not detected from a helicopter traverse of the area. No attempt was made by the authors to locate the road on the ground.

The Par 2 Claim, Alberni Mining Division, is comprised of 15 units, Record No. 1786, is registered in the name of Janet Schorn of Vancouver, B.C. (Fig. 2). The anniversary date is June 17, 1984 (Fig. 2).

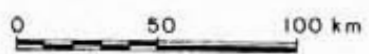
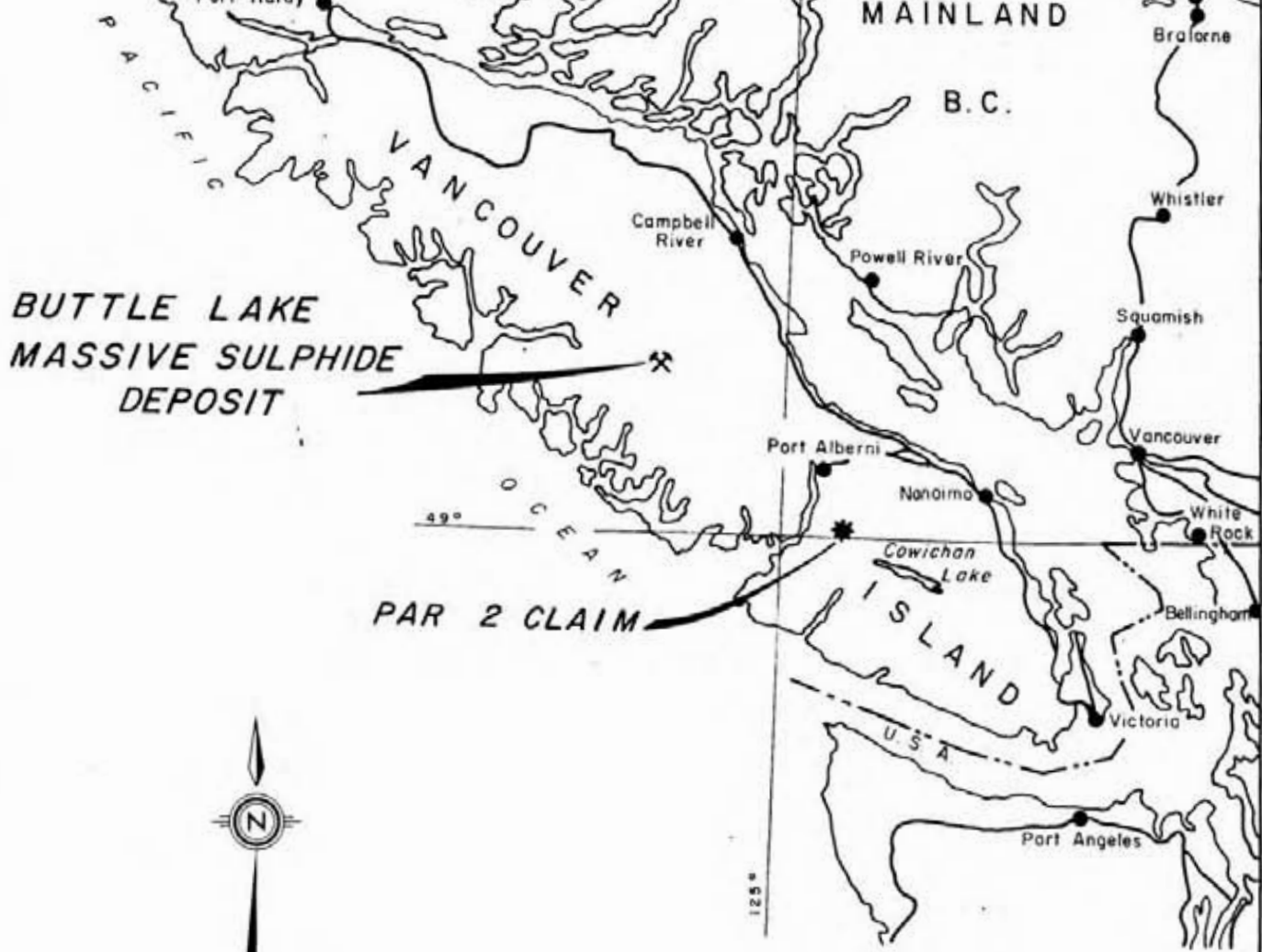



**BUTTLE LAKE  
MASSIVE SULPHIDE  
DEPOSIT**

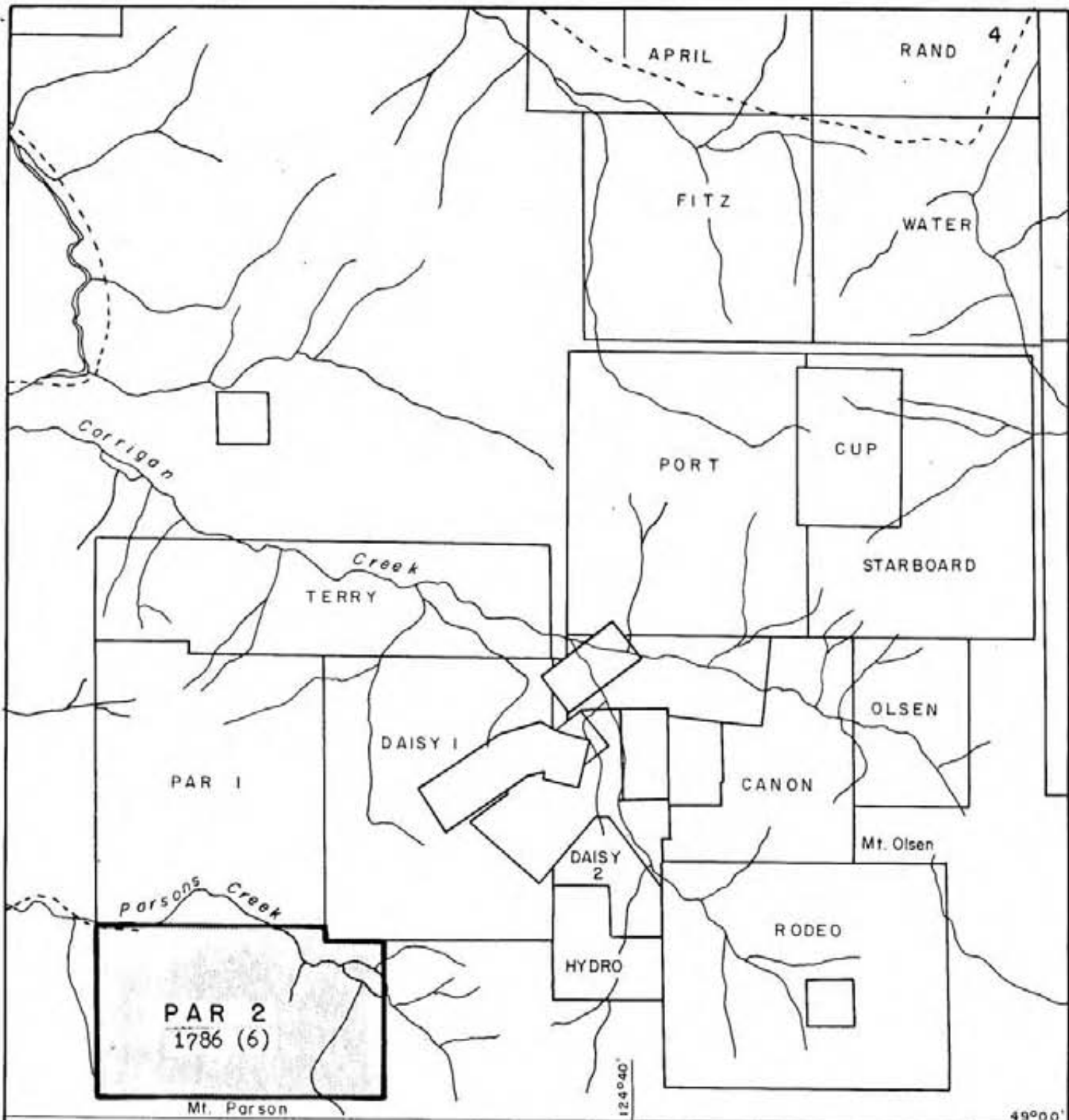
**PAR 2 CLAIM**


**MAINLAND  
B.C.**

**ISLAND**



<b>JAN INTERNATIONAL RESOURCES LIMITED</b>	
<b>LOCATION MAP PAR 2 CLAIM ALBERNI MINING DIVISION</b>	
Project No. V-125	By: N. W.
Scale: 1 cm = approx. 26 km	Drawn: J. S.
Drawing No. 1	Date: SEPT. 1983.
 <b>MPH Consulting Limited</b>	



JAN INTERNATIONAL RESOURCES LIMITED	
CLAIM MAP PAR 2 CLAIM ALBERNI MINING DIVISION	
Project No. V-125	By N.W.
Scale 1:50,000	Drawn J.S.
Drawing No. 2	Date SEPT. 1983.
 <b>MPH Consulting Limited</b>	



PREVIOUS WORK

Government Surveys

The earliest geological mapping in the area was carried out by C.H. Clapp of the Geological Survey of Canada during the period 1908 to 1917. Several papers were published but the bulk of his work was culminated in G.S.C. Memoir 13, "Southern Vancouver Island" (1912) and G.S.C. Memoir 51, "Geology of the Nanaimo Map-Area" (1914).

The first economic study conducted in the area was compiled by J.S. Stevenson of the B.C. Minister of Mines in 1945 ("Geology and Ore Deposits of the China Creek Area, Vancouver Island," Ann. Rept. 1944). The China Creek area is located approximately 15 km north of the Par 2 Claim.

Regional mapping of the Port Alberni area was carried out by J.E. Muller and D.J.T. Carson of the Geological Survey of Canada in 1968. Their work was reported in G.S.C. Paper 68-50, "Geology and Mineral Deposits of the Alberni Map Area," 1969.

Muller reported on the Sicker Group and its economic potential in G.S.C. Paper 79-30, "The Paleozoic Sicker Group of Vancouver Island," 1980.

University Studies/Theses

R.W. Yole of Carleton University, Ottawa, published two papers concerning Paleozoic fauna and stratigraphy; "An Early Permian Fauna from Vancouver Island, B.C." in the Bulletin of Canadian Petroleum Geology, V. II, No. 2, pp. 138-149, 1963, and "Upper Paleozoic Stratigraphy of Vancouver Island, B.C." in the Geological Association of Canada, Proceedings, V. 20, pp. 30-40, 1969.

George M. Leary summarized Alberni area geology in his unpublished B.Sc. thesis "Abstract of the Geology of the Alberni Area, Southeast Quarter and Nanoose Peninsula A Petrographic Study of Quartz Diorite Intrusions and Contact Aureoles" (University of British Columbia, 1967).

A rather exhaustive study of mineral deposits on Vancouver Island was compiled by D.J.T. Carson in his Ph.D. thesis entitled "Metallogenic Study of Vancouver Island with Emphasis on the Relationships of Mineral Deposits to Plutonic Rocks" (Carleton University, 1968). Much of this information was synthesized into Muller's and Carson's G.S.C. Paper 68-50.



Exploration Company Work

Unknown, 1930's-1940's: Prospecting.

Gunnex Ltd., 1963-1965: Prospecting, silt sampling. Silt samples in the creeks draining north into Parsons Creek showed anomalous copper concentrations.



REGIONAL GEOLOGY

Lithological Units

The Port Alberni area is underlain by eugeosynclinal sediments and volcanics of both Upper Paleozoic and Lower Mesozoic age.

The most conspicuous rock units are those of the Sicker Group (Lower Permian to Pennsylvanian) and the Vancouver Group (Lower Jurassic to Upper Triassic) (Fig. 3).

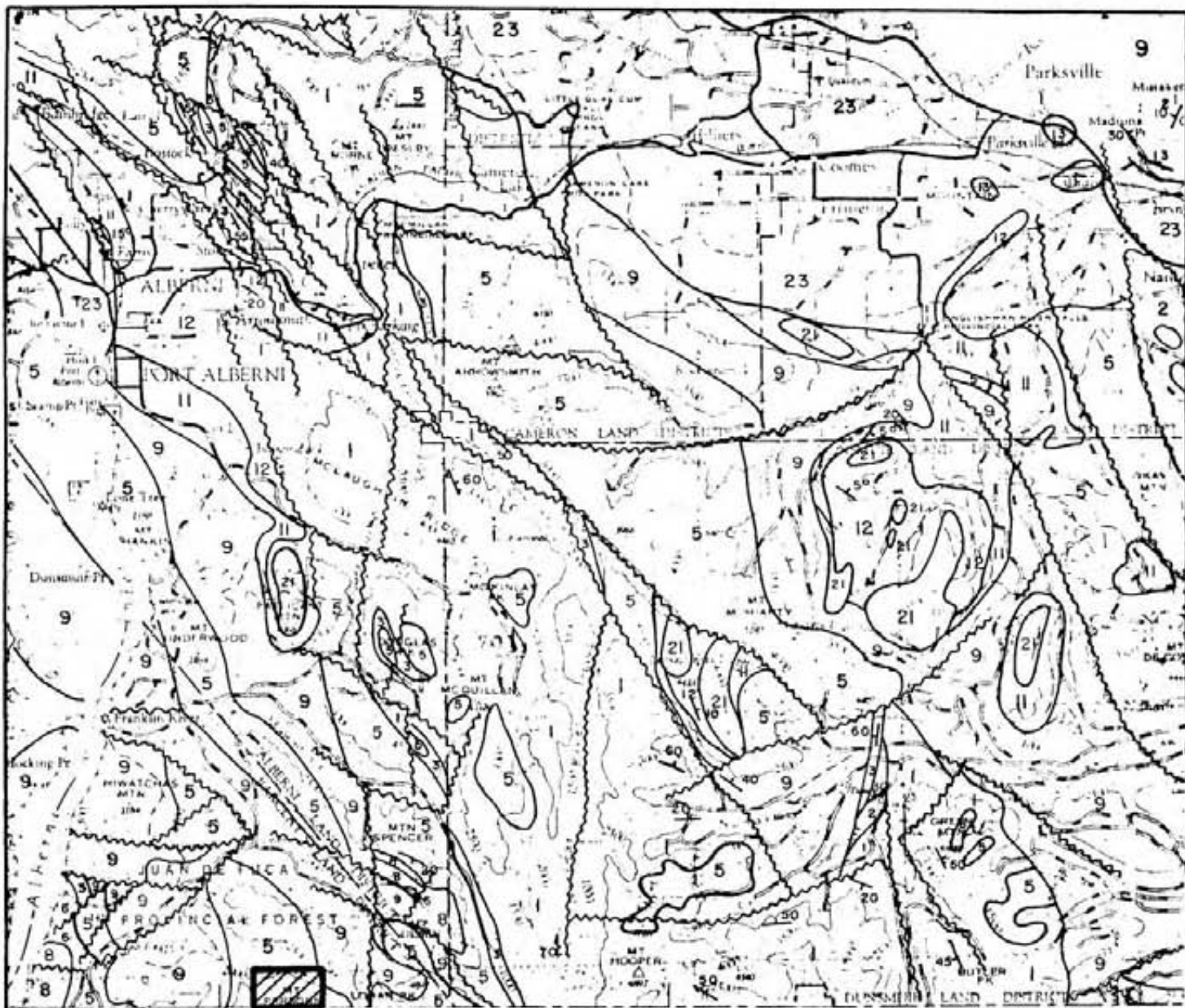
Sicker Group

The oldest rocks in the area are Pennsylvanian Sicker Group volcanic rocks (J.E. Muller, 1968, Units 1, 2) consisting of dark green to brown and maroon mafic and felsic volcanic flows, tuffs, breccia plus lesser argillite and laminated tuff. Locally massive flows are schistose and phyllitic; tuffs are occasionally cherty.

The unit recently has been subdivided into the Nitinat Formation (lower unit) and the Myra Formation (J.E. Muller, 1980).

The Nitinat Formation consists of basaltic uralite porphyry, agglomerate, pillow lava, massive to banded tuff plus actinolite-chlorite-albite schist. Amygdaloidal flows are





**LEGEND**

**QUATERNARY**

23 Glacial and alluvial deposits

**TERTIARY**

21 Hornblende quartz diorite, leucoquartz monzonite, porphyritic dacite, breccia

**UPPER CRETACEOUS**

**NANAIMO GROUP**

13 EXTENSION-PROTECTION FM: sandstone, conglomerate, shale, coal

12 HASLAM FM shale, siltstone, fine sandstone

11 COMOX FM sandstone, conglomerate, shale, coal

**MIDDLE TO UPPER JURASSIC**

9 ISLAND INTRUSIONS: biotite-hornblende granodiorite, quartz diorite

**LOWER JURASSIC TO UPPER TRIASSIC**

**VANCOUVER GROUP**

8 BONANZA SUBGROUP, VOLCANIC DIVISION: andesitic to latitic breccia, tuff and lava, minor greywacke, argillite and siltstone

6 QUATSINO FM: massive to thick bedded limestone, minor thin bedded limestone

5 KARMUTSEN FM: pillow-basalt and pillow breccia, massive basalt flows, minor tuff, volcanic breccia, Jasperoid tuff, breccia and conglomerate at base

**TRIASSIC OR PERMIAN**

4 Gabbro, periodite, diabase

**LOWER PERMIAN TO PENNSYLVANIAN**  
SICKEK GROUP

3 BITTLE LAKE FM limestone, chert

2 MYKA FM lower unit, argillite, greywacke, conglomerate, tuff, minor limestone  
Upper unit, rhyodacite to rhyolite tuff, lapilli tuff, breccia lesser siliceous siltstone, argillite, quartz porphyry and mafic flows

1 NITINAT FM basaltic uraltite porphyry, agglomerate, pillow lava, greenschist

0 5 10 km



JAN INTERNATIONAL RESOURCES LIMITED

**REGIONAL GEOLOGY MAP  
PAR 2 CLAIM  
ALBERNI MINING DIVISION**

Project No. V-125	By N. W.
Scale: 1:250,000	Drawn: J. S.
Drawing No: 3	Date: SEPT. 1983



**MPH Consulting Limited**



common. Diopside phenocrysts are reported in thin section (J.E. Muller, 1980). Gabbroic rocks underlie and intrude the formation.

In the Nitinat-Cameroon River area 20 km northeast of the property, Myra Formation rocks (Unit 2) consisting of maroon and green bedded volcanoclastic sediments, tuffs and breccias overlie the Nitinat lithologies with some unconformity (J.E. Muller, 1980). The Lower Myra Formation is comprised of light and dark banded, thinly bedded feldspathic tuff and argillite subsequently covered by thick bedded felsic pyroclastic rocks and argillite plus lesser siliceous siltstone and minor conglomerate.

The type locality of the Myra Formation is Myra Creek, 70 miles northwest of the property and south of Buttle Lake. Here volcanoclastic rocks consisting dominantly of rhyodacitic or rhyolitic tuff, lapilli tuff, breccia plus some quartz porphyry and minor mafic flows, argillite (Upper Myra Formation) are host to the Westmin Resources Myra, Lynx, Price and H-W massive sulphide (Cu-Zn-Pb-Au-Ag) deposits.

Recent age dating indicates the Nitinat and Myra Formations to be of Devonian age or older (J.E. Muller, G.S.C. Paper 79-30, 1980, pp. 18-19).



Exposures of Buttle Lake Formation (Unit 3) occur in the Douglas Peak area, east of Mount Spencer and at Buttle Lake. The formation forms the top of the Sicker Group. Primarily the formation consists of bedded to massive calcarenite, crinoidal limestone plus lesser interbedded chert and calcareous siltstone. Green and maroon tuff occur at the base of the unit. Fossil dating has indicated an age of middle Pennsylvanian to early Permian (Muller, 1980).

#### Vancouver Group

The Karmutsen Formation volcanic rocks (Unit 5) form the base of the Vancouver Group and are dated Upper Triassic and older. The formation which is well exposed southeast of Port Alberni, consists mainly of dark grey to black pillowed basalt, massive basalt and pillow breccia. Flows are commonly aphanitic and amygdaloidal. Pillowed volcanics generally occur toward the base of the section.

Conglomerate containing clasts of Sicker Group rocks and jasperoid tuff form basal sections in the Nitinat-Horne Lake area.

Karmutsen Formation rocks are generally relatively undeformed compared to Sicker Group rocks.



Massive to thick bedded limestone of the Quatsino Formation (Unit 6) occur south of Mount Spencer and west of Mount Parsons. The limestone is black to dark grey, fine grained to microcrystalline. In the vicinity of intrusive rocks coarse grained marble is recognized. Thin bedded limestone also occurs in the formation. Fossils indicate an age of Upper Triassic (Muller, 1968).

The Bonanza Subgroup of the Vancouver Group consists of a lower sedimentary unit and an upper volcanic unit. The sedimentary unit is not exposed in the Port Alberni area. The volcanic unit (Unit 8) is exposed 10 km west of Mount Parsons and consists of light coloured andesite to latite breccia, tuff and flows with minor greywacke, argillite and siltstone. The formation is considered to be possibly of Lower Jurassic age.

#### Nanaimo Group

Upper Cretaceous Nanaimo Group sedimentary rocks are scattered throughout the area. Extensive exposures occur near Port Alberni, Patlicant Mountain and south and northeast of Mount Moriarty. The representative formations comprise the basal portions of the Nanaimo Group.

The Comox Formation (Unit 11) consists mainly of quartzofeldspathic, crossbedded beach facies sandstone and lesser



conglomerate. Numerous intercalations of carbonaceous and fossiliferous shale and coal are characteristic.

The Haslam Formation (Unit 12) is a near shore littoral depositional facies unit characterized by massive bedded fossiliferous sandy shale, siltstone and shaly sandstone.

Interbedded coarse clastic conglomerate, pebbly sandstone and arkosic sandstone of the Extension-Protection Formation (Unit 13) are beach and deltaic sands. Minor shale and coal are reported.

#### Intrusive Rocks

Gabbro, Peridotite, Diabase (Unit 4). Mafic and ultramafic rocks of Triassic or Permian age are scattered throughout the area. A large band is exposed approximately 8 km north of Port Alberni.

Although mapped as intrusive some of these rocks may be basal flow units of the Karmutsen Formation.

Island Intrusions (Unit 9). Exposures of mainly quartz diorite and lesser biotite-hornblende granodiorite occur throughout the area and are assigned an age of Middle to Upper Jurassic.

Intrusive contacts with Sicker and Vancouver Group volcanic



rocks are characterized by transitional zones of gneissic rocks and migmatite. Contacts with Karmutsen Formation volcanic/sedimentary rocks are sharp and well defined. Skarn zones are reported at the contact of island intrusion rocks with Quatsino Formation limestone and less frequently with Buttle Lake Formation limestone.

Tertiary Intrusions (Unit 21). Sills and stocks of mainly hornblende-quartz diorite and dacitic hornblende-feldspar porphyry plus lesser leucocratic quartz monzonite intrude Nanaimo Group sedimentary rocks in the area.

### Structure

The Buttle Lake Arch, Cowichan-Horne Lake Arch and Nanoose Uplift are north trending axial uplifts and are believed to be the oldest structural element in south central Vancouver Island. (Paleozoic, J.E. Muller, 1968). Sicker Group volcanic and sedimentary rocks occur at the core of these uplifts.

Asymmetric southwest trending anticlinal structures characterized by sub-vertical southwest limbs and moderately dipping northeast limbs are reported at Buttle Lake and in the Cameroon-Nitinat River area. Overlying Buttle Lake Formation limestones are relatively undeformed. Considerable shearing of the Myra and Nitinat Formations are reported.



Vancouver Group units are not as intensely folded as gentle monoclinial and domal structures have been mapped. However Karmutsen Formation volcanic rocks frequently conform to the attitude of underlying Myra and Buttle Lake Formations (J.E. Muller, 1980).

Some early Mesozoic faulting occurred in the area prior to emplacement of Island Intrusions. Middle to Upper Jurassic intrusive activity (Island Intrusions) occurred along north-westerly trends.

Muller (1968) suggests that the Paleozoic archs were active during the late Cretaceous as Sicker Group rocks are frequently exposed through the younger overlying Vancouver Group rocks in those areas.

Numerous west-northwest trending faulting occurred during the Tertiary and is best illustrated by large displacements of Nanaimo Group sediments. The north trending Alberni Valley fault is traced over 45 miles and displaces a section of Karmutsen Formation approximately 5,000 feet (Muller, 1968).

#### Economic Setting

The Sicker Group and to a lesser extent the Vancouver Group of volcanic rocks have been explored intermittently since the 1890's for gold and base metal mineralization.



Until recently deposits of copper and gold-silver in quartz veins and shear zones hosted by mafic to intermediate volcanic rocks and base metal plus gold-silver skarn deposits were the most widely recognized economic and subeconomic metal concentrations in the Port Alberni area. Placer mining for gold was carried out during the 1940's in various localities especially in the China, Mineral and Corrigan Creek area.

The volcanogenic massive sulphide deposits of Westmin Resources Ltd., first discovered in the late 1960's, occur at Buttle Lake, approximately 70 km northwest of the Port Alberni area. Four zones of mineralization consisting of the ore minerals sphalerite, chalcopyrite, galena, tetrahedrite-tennantite plus minor bornite and covellite, are hosted by pyritic rhyolitic to rhyodacitic volcanic and pyroclastic rocks of the Myra Formation.

Proven reserves of the Lynx (open pit), Price and Myra deposits are 1,021,400 T grading 1% Cu, 0.9% Pb, 7.4% Zn, 0.06 oz. Au/T, 2.6 oz. Ag/T (1983). Estimated reserves of the H-W zone are 15,232,000 T averaging 2.2% Cu, 5.3% Zn, 0.3% Pb, 0.07 oz. Au/T and 1.1 oz. Ag/T (1983). Over the last three years (1980-1982) 895,048 T of ore were milled and produced 16,109,000 lbs. Cu, 96,356,000 lbs. Zn, 14,231,000 lbs. Pb, 56,000 oz. Au, 2,528,000 oz. Ag, 129,000 lbs. Cd.



The only other presently producing mine on Vancouver Island is the Island Copper deposit of Utah Mines Ltd., a porphyry copper deposit in which disseminated chalcopyrite, molybdenite and pyrrhotite mineralization is hosted by brecciated basaltic to andesitic pyroclastic rocks of the Bonanza Subgroup. The deposit, which occurs near Port Hardy in the northern part of Vancouver Island, is intruded by quartz and quartz-feldspar porphyry. Total estimated reserves in 1970 were 280 million tons grading 0.52% Cu, 0.029% Mo.

Six past producing mines occur in the Port Alberni area. The Thistle Mine produced 2,667 oz. Au, 1,667 oz. Ag and 626,556 lbs. Cu from 6,867 T of ore. Originally considered to be a skarn deposit (J.S. Stevenson, 1944, D.J.T. Carson, 1968), disseminated and massive sulphide mineralization occurs as lenses and bands within pyritic quartz-sericite schist and at the contact of quartz-sericite schist with chloritized mafic volcanic rocks. Disseminated sulphide mineralization occurs throughout the host rocks (visit by the writers, September 1983). The deposit may be of syngenetic-volcanogenic origin.

Other past producers in the area include the 3-W Mine (limited production of Au-Ag) and the Corrigan Creek Mine (116 T of ore grading 4.0 oz. Au/T, 4.3 oz. Ag/T, 0.23% Cu, 1.1% Pb), quartz vein deposits hosted by diorite and granodiorite.





The Havilah Mine (1,064 T produced 231 oz. Au, 1,334 oz. Ag) and the Vancouver Island Gold Mine (430 T produced 303 oz. Au, 52 oz. Ag) are quartz vein deposits hosted by andesite and andesite tuff.

The Black Panther Mine is a quartz vein deposit hosted by a shear zone in andesite and diorite. A total of 39 T of concentrate produced 308 oz. Au, 627 oz. Ag, 7,817 lbs. Pb and 4,478 lbs. Zn.

Significant base metal and gold deposits and occurrences in the Port Alberni area are summarized below.

#### Base Metal Deposits and Occurrences

##### Parsons Creek Occurrence (Cu, Ag, Minor Au)

Location: 1.5 km north of the property.

Geology: Numerous narrow quartz veins (4 to 14 inches) mineralized with considerable chalcopryrite occur in sheared andesite and volcanic breccia (Vancouver Group volcanics).





Economic Features: Seven mineralized veins cover a strike length of 3,000 feet. The best channel samples were 13.57% Cu, 0.8 oz. Ag/T, 0.04 oz. Au/T over 0.5 feet, 6.58% Cu, 32.39 oz. Ag/T, 0.01 oz. Au/T over 1.5 feet. A grab sample of massive chalcopyrite assayed 13.08% Cu, 1.15 oz. Ag/T, 0.01 oz. Au/T (1966).

History: 1930's-1940's: Unknown; prospecting, pitting, adits.

1965-1966: Gunnex Ltd.; stripping, trenching, channel sampling, silt sampling, prospecting.

Mount Olsen Copper Showing (Cu, Ag, Au)

Location: 5 km east of the property.

Geology: Chalcopyrite and pyrrhotite mineralization occur in a 2 foot wide quartz vein within dioritic rocks close to a contact with Vancouver Group volcanic rocks.



Economic Features: A grab sample assayed 1.52% Cu, 0.5 oz. Ag/T, 0.02 oz. Au/T.

History: Undated: Unknown; old workings reported in the area.

1963-1965: Gunnex Ltd.; mapping, prospecting.

Mary Group Occurrences (Cu, Zn, Pb, Ag, Au)

Location: 6 km northeast of the property, south of Mount Spencer.

Geology: Chalcopyrite, bornite, malachite, pyrrhotite plus sphalerite mineralization occurs in quartz veins, sheared andesite (Vancouver Group) and feldspar porphyry plus skarn in Vancouver Group limestone (Quatsino Formation).

Economic Features: Five main zones of mineralization. Showing 1 is 200 feet long by 50 feet wide; best channel sample assayed 0.33% Cu over 3 feet.



Showing 2 is 1 foot wide; a grab sample assayed 1.2% Cu, 0.58 oz. Ag/T.

Showing 3, mineralized skarn, is approximately 10 feet wide; the best grab sample assayed 0.45% Cu, 3.3% Zn, 0.34 oz. Ag/T. The best channel samples assayed 2.61% Zn, 0.29% Cu over 5 feet, 2.23% Zn, 0.33 oz. Au/T over 2 feet, and 6.03% Zn, 0.59% Cu over 2.5 feet.

Showing 4 is 16 feet long by 15 feet vertical; Cu, Zn assays were low.

Showing 5, massive pyrrhotite, minor chalcopyrite is 60 feet long by 4 to 6 feet wide; a grab sample from a 1 foot wide quartz vein assayed 2.72% Cu, 6.22% Pb, 0.65% Zn, 28.9 oz. Ag/T; a grab sample of massive pyrite in quartz assayed 0.20 oz. Au/T, 25.3 oz. Ag/T.

History:

1964: Gunnex Ltd.; prospecting, detailed mapping, trenching and pitting.



Upper Franklin River Occurrences (Cu)

Location: 10 km north-northeast of the property.

Geology: Chalcopyrite and malachite occur within quartz stringers and epidotized shears in andesite (Vancouver Group).

Economic Features: One zone measures a few feet long by 2 feet wide; a grab sample assayed 1.74% Cu. Another zone is 5 to 6 feet wide. Grab samples assayed 2.75% Cu and 1.42% Cu.

History: 1963-1965: Gunnex Ltd.; ground magnetometer survey, soil sampling, prospecting.

Arland's Showing (Cu, Mo, Pb, Zn)

Location: 5 km east-southeast of the property, near Logan Peak.

Geology: Copper and molybdenum mineralization occur in altered sheared sulphide-rich diorite and within quartz veins hosted by diorite. Feldspar porphyry and aplite dykes are also



mineralized. Cu-Pb-Zn mineralization is reported in a quartz vein south of the Cu-Mo showing.

Economic Features: Assays not reported.

History: Undated: Unknown; an adit was driven to intersect the Cu-Pb-Zn occurrence.

1964-1965: Noranda Exploration Co. Ltd.; prospecting, silt sampling.

Fourth Lake Occurrence (Cu)

Location: 22 km east-northeast of the property at Fourth Lake.

Geology: Disseminated chalcopyrite mineralization occurs in diorite which intrudes bedded andesitic tuff and chert of the Sicker Group.

Economic Features: A grab sample assayed 0.3% Cu.

History: 1964-1965: Gunnex Ltd.; mapping, prospecting, soil sampling, ground



magnetometer, self-potential and EM surveys.

Gold Deposits and Occurrences

Grizzly Arsenic Showing (As, Ag, Minor Au)

Location: 15 km north of the property and north of Patlicant Mountain.

Geology: Stringers of arsenopyrite and pyrite plus native arsenic nodules occur in sheared Nanaimo Group argillite. Disseminated pyrite and carbonate stringers occur in the host rock.

Economic Features: The mineralized zone measures 30 feet long by 2 feet wide and to a depth of 15 feet. A grab sample of mineralized carbonate vein assayed 4.7% As (1927). The best channel samples assayed 5.97% As, 0.01 oz. Au/T over 2 feet and 22.72% As, 0.5 oz. Ag/T over 9 inches (1964). Estimated reserves are 150 T of ore grading 90% As (1942).



History: 1927: Unknown; 40 foot shaft sunk, 50 feet of drifting.

1942: Cominco Ltd.; prospectus report noted that a previous worker exposed the zone for 150 feet by trench, adit and shaft. An ore reserve estimate was made.

1963-1964: Gunnex Ltd.; channel sampling.

Thistle Mine (Au, Ag, Cu)

Location: 12 km northeast of the property, south of Father and Son Lake.

Geology: The deposit consists of disseminated to massive pyrite, chalcopyrite and minor magnetite mineralization hosted by two quartz-carbonate filled shear zones in Sicker Group volcanic rocks close to a limestone (Buttle Lake Formation?) contact.

Economic Features: The ore zones measure approximately 6 to 60 feet long by 3 to 25 feet wide.



Production 1938-1942: 6,867 T of ore milled produced 2,667 oz. Au, 1,667 oz. Ag, 626,556 lbs. Cu.

History:

1896-1901: Unknown; 300 foot adit driven 90 feet, 500 foot adit driven 65 feet.

1901: A San Francisco Syndicate; considerable development.

1938-1942: United Prospectors Limited; mining operations.

1964-1965: Gunnex Ltd.; mapping, silt sampling.

1965-1966; Vananda Exploration Ltd.; soil sampling, ground magnetometer and S.P. surveys, diamond drilling (4 holes totalling 1,744 feet).

Comments:

The deposit as mapped by J.S. Stevenson (B.C. Minister of Mines, Ann. Rept. 1944) is a replacement ore body in a 200 foot wide band of altered limestone and intruded by diorite. D.J.T. Carson (1968) classifies the deposit as copper skarn.





The mine site was visited by the writers in September 1983. Massive sulphide mineralization consisting of pyrite, chalcopyrite and minor pyrrhotite plus sulphide rich quartz-carbonate bands occur in sheared pyritic quartz-sericite schist and at the contact of quartz-sericite schist with chloritized mafic volcanic flows and tuffs. Malachite occurs in places. Disseminated and stringer sulphide mineralization occurs in the host rocks. The deposit may be of syngentic volcanogenic origin.

3-W Mine (Au, Ag)

- Location: 2 km east of the property, near Corrigan Creek.
- Geology: Three quartz veins mineralized with pyrite, sphalerite and galena occur in granodiorite and diorite.
- Economic Features: No. 1 vein measures 300 feet long by 4 to 10 inches wide and is exposed in one adit, four open cuts. A channel sample near the



adit assayed 6 oz. Au/T, 4 oz. Ag/T over 4 inches (1935).

No. 2 vein measures 160 feet long by 8 inches wide. A channel sample assayed 7.3 oz. Au/T, 5.3 oz. Ag/T over 10 inches (1935).

No. 3 vein measures 308 feet long by 2 to 14 inches wide. A channel sample assayed 1.3 oz. Au/T, 0.9 oz. Ag/T over 14 inches (1935). Grab samples assayed 7.25 oz. Au/T, 5.3 oz. Ag/T, 1.86 oz. Au/T, 2.0 oz. Ag/T and 0.18 oz. Au/T, 0.2 oz. Ag/T (1964).

Production to 1935: Small shipments of ore were made.

History:

1898-1899: Various owners; staking, prospecting, one adit driven.

1930-1935: Franklin River Gold Mines Ltd.; development, some mining.

1940's: Various; prospecting, sampling.



1963-1964: Gunnex Ltd.; prospecting,  
sampling.

Havilah Mine (Au, Ag, Pb, Zn)

Location: 18 km northeast of the property, Mount  
McQuillan area.

Geology: Quartz veins containing pyrite, galena,  
sphalerite and arsenopyrite occur in  
sheared and fractured andesite, andesitic  
tuff, quartz-feldspar porphyry which have  
been intruded by diorite.

Economic Features: The Gillespie vein (lower workings)  
measures approximately 200 to 300 feet long  
by 4 to 38 inches wide. The vein is  
exposed in trenches and three adits.  
Samples from adits ranged 0.02 to 0.4 oz.  
Au/T over 6 to 33 inches (1944). The best  
channel samples in trenches were 0.20 oz.  
Au/T, 2.2 oz. Ag/T, 0.4% Pb, 0.23% Zn over  
19 inches, 0.06 oz. Au/T, 0.4 oz. Ag/T,  
0.28% Zn over 63 inches, 7.0 oz. Au/T, 3.0  
oz. Ag/T over 12 inches and 1.68 oz. Au/T,  
2.8 oz. Ag/T over 12 inches.



Two veins occur in the upper workings. The Alberni vein measures 15 feet long by 2 feet wide and is exposed in open cuts. The best channel assays were 3.66 oz. Au/T, 5.2 oz. Ag/T over 4 inches and 1.8 oz. Au/T, 2.3 oz. Ag/T over 20 inches (1936). The McQuillan vein is approximately 100 feet long by 4 to 30 inches wide and was explored by adit. The best channel samples were 1.0 oz. Au/T, 0.4 oz. Ag/T over 8 inches, 0.7 oz. Au/T, 0.2 oz. Ag/T over 20 inches (1936).

Production 1936-1939: 1,046 T of ore milled produced 231 oz. Au, 1,334 oz. Ag.

History:

1890-1895: Unknown; staking, prospecting, an open cut.

1934-1936: Walter Harris; upper workings excavated.

1938-1939: Havilah Gold Mines Ltd.; lower workings (adits, trenches), mining.

1963-1964: Gunnex Ltd.; prospecting, rock sampling, silt sampling.



Vancouver Island Gold Mine (Au, Ag, Cu)

Location: 16 km north of property, just west of Mineral Creek.

Geology: Three mineralized quartz veins occur in andesite and andesitic tuff.

Economic Features: The veins are 1 to 4 feet wide. The best channel sample assayed 0.02 oz. Au/T, 0.03% Cu, trace Ag over 5 feet.

Production 1933-1936: 403 T of ore milled produced 303 oz. Au, 52 oz. Ag.

History: Late 1890's: Consolidated Alberni Gold Mining Co.; some mining by 5 adits and drifting.

1933-1936: Vancouver Island Gold Mines Ltd.; development and mining.

1964: Gunnex Ltd.; prospecting, sampling.



Regina Group Showings (Cu, Zn, Pb, Au, Ag)

Location: 13 km north of the property, north of Lizard Lake.

Geology: Quartz-sulphide lenses and veins occur within silicified, pyritized and in places, carbonatized andesite.

Economic Features: Veins measure 15 to 144 feet long by up to 2 feet wide. A grab sample from a shaft assayed 0.66 oz. Au/T, 14 oz. Ag/T (1944). Two grab samples from high grade dump material near the shaft assayed 2.57% Cu, 1.98% Zn, 0.02 oz. Au/T, 1.8 oz. Ag/T and 0.63% Cu, 0.75% Zn (1964).

History: 1898-1899: Alberni Gold Development Syndicate; adits driven.

1930's: Unknown; limited development (reported by Stevenson, B.C. Minister of Mines, Ann. Rept. 1944).

1963-1964: Gunnex Ltd.; prospecting, sampling.

Corrigan Creek Mine (Au, Ag, Cu, Pb)

Location: 3 km east of the property.

Geology: Sulphide bearing quartz veins occur in granodiorite and diorite.

Economic Features: The vein measures 1,000 feet long by 2 inches to 2 feet wide. The best grab sample assayed 1.7 oz. Au/T, 3.99 oz. Ag/T (1970).

Production 1899-1935: 116 T of ore grading 4 oz. Au/T, 4.3 oz. Ag/T, 0.23% Cu, 1.1% Pb (reported by W.G. Stevens and Associates Ltd.; 1970 part of 3-W Mine?).

History: 1899-1935: Various; some development, mining (part of 3-W Mine?).

1970: John Cotowick; limited mining operations.

Comments: The writers visited the property in September, 1983. An adit was found approximately 500 m west of Corrigan Creek,



northeast of Mount Olsen. A sample of mineralized dump material (Sample 7267) assayed 18,000 ppb Au, 30,601 ppm Pb, 12,000 ppm Zn, 11.2 ppm Ag.

Golden Eagle Group (Au, Ag, Pb, Zn)

Location: 13 km northeast of the property, near Mount McQuillan.

Geology: Numerous sulphide-rich quartz veins and veinlets occur in andesite.

Economic Features: Quartz veins and vein zones measure up to 5 feet in width. Assays of up to \$103/T Au were reported in 1894. The best channel samples assayed 0.10 oz. Au/T, 0.3 oz. Ag/T, 0.37% Zn over 2 feet and 0.16 oz. Au/T, 1.1 oz. Ag/T, 1.33% Pb, 3.06% Zn over 14 inches (1964).

History: 1892-1869: Unknown; considerable development, four drifts, a long cross-cut tunnel.

1963-1964: Gunnex Ltd.; prospecting, rock sampling, silt sampling.





B and K Showing (Au, Ag, Cu)

Location: 12 km northeast of the property, east of Mount McQuillan.

Geology: Scattered narrow quartz veins containing pyrite and minor chalcopyrite occur within basalt/andesite flows and tuffs.

Economic Features: Three main mineralized quartz vein zones occur. The "high grade vein" measures 130 feet long by 5 feet wide. A channel sample assayed 3.84 oz. Au/T, 3.2 oz. Ag/T, 0.06% Cu over 5 feet. The "south Summit Lake veins" are 100 feet long by 8 inches to 6 feet wide. Two samples assayed 2.56 and 2.26 oz. Au/T. The "Summit Lake vein zone" measures 15 feet long by 18 inches wide. A channel sample over this width returned 0.82 oz. Au/T, 0.70 oz. Ag/T (1964).

History: 1938-1940: Angus Beaton, Ed Keisig; prospecting, trenching.

1963-1964: Gunnex Ltd.; prospecting, sampling.



Black Panther Mine (Au, Ag, Pb, Zn)

Location: 11 km northeast of the property, south of Mount McQuillan.

Geology: Mineralized quartz lenses and veins occur in a shear zone in andesite and diorite. Carbonate zones also occur in the host rocks.

Economic Features: Mineralized zones measure up to 40 feet long by 3 feet thick. The best grab sample from the north adit assayed 2.88 oz. Au/T. A sample of dump material assayed 1.16 oz. Au/T, 2.1 oz. Ag/T, 0.14% Cu, 1.73% Pb (1964).

Production 1948: 39 tons of ore concentrate produced 308 oz. Au, 627 oz. Ag, 7,817 lbs. Pb, 4,478 lbs. Zn.

History: 1947-1948: Nitinat Gold Mines Ltd.; development, mining.

1963-1964: Gunntex Ltd.; prospecting, sampling.



Black Lion Group (Au)

- Location: 11 km northeast of the property, south of Mount McQuillan.
- Geology: Mineralized (pyrite, galena) quartz veins occur in carbonatized andesitic rocks.
- Economic Features: Quartz-sulphide stringers 1 to 1.5 feet wide occur in altered andesite. The best grab sample assayed 1.2 oz. Au/T. Grab sample assays ranged 0.27 to 0.43 oz. Au/T (1941).
- History: 1941-1944: Bralorne Mines Limited; prospecting, pitting, an adit driven.



PROPERTY GEOLOGY

The property is underlain by north-northwest trending Vancouver Group, Karmutsen Formation dark green basalt, andesite volcanics, pillowed volcanics, breccia and tuff. In the northeast corner of the property and in the vicinity of Parsons Lake, dioritic intrusive rocks are mapped (Fig. 4).

Amygdaloidal, in places epidotized and carbonatized mafic volcanic rocks were noted in the southeast corner of the property by the writers. Minor disseminated pyrite occur in these rocks.

Just southeast of the property an intermediate to felsic flow unit contains disseminated pyrite and chalcopryrite. This type lithology is more in character with Sicker Group volcanic rocks.

Numerous north-northeast and north-northwest trending narrow creeks may be fault or shear zones. The Parsons Creek copper occurrence is located approximately 80 m north of the claim and consists of chalcopryrite rich quartz veins hosted by a north-northwest trending shear zone in andesite. A channel sample of 13.57% Cu, 0.8 oz. Ag/T, 0.04 oz. Ag/T over 0.5 feet was reported by Gunnex Ltd. (1966). A 1.5 foot channel sample returned 6.58% Cu, 32.39 oz. Ag/T and 0.01 oz. Au/T (1966). The occurrence is further discussed under the section entitled "Economic Setting."



EXPLORATION POTENTIAL OF THE PROPERTY

The property potentially hosts high grade precious-base metal bearing quartz veins within mafic to intermediate volcanic rocks. The Parsons Creek occurrence, located just north of the claim, is possibly an example of this type of mineralization.

Quartz vein type deposits include Corrigan Creek Mine (116 T of ore grading 4.0 oz. Au/T, 4.3 oz. Ag/T, 0.23% Cu, 1.1% Pb), Havilah Mine (231 oz. Au, 1,334 oz. Ag from 1,064 T of ore), Vancouver Island Gold Mine (303 oz. Au, 52 oz. Ag from 430 T of ore) and Black Panther Mine (308 oz. Au, 627 oz. Ag, 7,817 lbs. Pb, 4,478 lbs. Zn from 39 T of concentrate).

Pyritic and chalcopyritic bearing intermediate to felsic volcanics occur just southeast of the property in an area previously mapped as Vancouver Group volcanics. The possibility that the underlying volcanic rocks on the claim are actually Sicker Group lithologies is encouraging in terms of massive sulphide potential.

The Westmin Resources Buttle Lake massive sulphide deposits (reserves of some 16 million tons of 2.2% Cu, 5.3% Zn, 0.3% Pb, 0.07 oz. Au/T and 1.1 oz. Ag/T as of 1983) are hosted by Sicker Group felsic pyroclastic/flow rocks of the Myra Formation.



- 40 -

Additionally, recent observations suggest that the former producing Thistle Mine (2,667 oz. Au, 1,667 oz. Ag, 626,556 lbs. Cu produced from 6,867 T of milled ore in 1938-1942), which is located 12 km northeast of the property is a volcanogenic massive sulphide deposit.



## RECOMMENDED WORK PROGRAMME

### Description

A two phase exploration programme is recommended to evaluate firstly the massive sulphide potential of the property and secondly precious and base metal quartz vein type deposits.

Phase I consists of a detailed geological and economic appraisal of the high priority areas of the property. Approximately 13.5 km of grid lines with a line spacing of 200 m will conveniently blanket the eastern 90% of the property and provide survey control.

Detailed geological mapping and prospecting will establish the lithostratigraphy of the property plus zones of surface mineralization from which economically favourable stratigraphic horizons and/or structures will be delineated.

During the course of geological mapping it is recommended that approximately 100 rock samples be selected for lithogeochemical analyses. Whole rock geochemistry should also be considered to (1) name and classify geochemically the rock type and (2) "read" rock alteration and alteration patterns held to be diagnostic and characteristic of massive sulphide mineralization ( $\text{Na}_2\text{O}$ ,  $\text{CaO}$  depletion,  $\text{K}_2\text{O}$ ,  $\text{MgO}$ ,  $\text{FeO}$  enrichment).



Micro-computer processing of lithogeochemical data, which is a fast and comprehensive method of data evaluation, is necessary for rock classification and alteration diagnosis.

Petrographic studies of the various rock units will aid in the identification and differentiation of volcanic from volcanoclastic and/or sedimentary rocks, distinctions which are frequently difficult in hand specimen.

Significantly mineralized rock exposures are to be sampled and assayed geochemically for copper, lead, zinc, silver and gold.

Soil geochemical sampling is recommended at 25 metre spacing on the grid lines. This entails the collection of 540 samples. The samples will be analyzed geochemically for copper, lead, zinc, silver and gold.

Ground magnetometer and VLF-electromagnetometer readings will be taken every 25 m on grid lines.

The geophysical surveys will hopefully aid in the geological interpretation of the property and define zones of conductivity and particularly anomalous magnetic activity indicating iron formation, massive sulphide concentrations or mineralized structural features (faults, shear zones, quartz veining).





The estimated total cost and time for completion of Phase I is \$61,000 over a period of 30 days.

A geological/geophysical report will be written at the conclusion of the Phase I program.

Based on conclusions and recommendations of Phase I, Phase II target definition and diamond drilling are recommended.

Phase IIA induced polarization surveys are recommended for spotting final drill targets within coincident geological, geochemical and VLF-EM and magnetometer anomalies. A seven-day program would cost an estimated \$24,000.

Immediately following the confirmation of sites and attitudes of drill holes, a total of 1000 m of BQ coring is recommended at an estimated cost of \$130,000 as Phase IIB.



Budget Estimate

**Phase I - Preliminary Geology, Geochemistry and Geophysics**

Mobilization/demobilization:		
Travel	\$ 400	
Accommodation	<u>600</u>	\$ 1,000
Personnel:		
Geologist 20 days @ \$325/day	6,500	
Technicians (2) 25 days @ \$350/day	<u>8,750</u>	15,250
Field Supplies:		
Camp 30 days @ \$50	1,500	
Consumables 110 man days @ \$30	<u>3,300</u>	4,800
Transportation:		
4x4 Truck rental 30 days @ \$75	2,250	
Helicopter 15 hrs @ \$500	<u>7,500</u>	9,750
Geophysics Equipment Rental:		
VLF-EM 14 days @ \$30	420	
Base Station & Magnetometer 14 days @ \$130	1,820	
Radio Rental @ \$400/month	<u>400</u>	2,640
Analyses: Geochemistry		
640 soil samples (including detailed) Cu Pb Zn Au Ag @ \$8.50	5,440	
100 rock samples Cu Au Ag	900	
: Assay		
50 rock samples Cu, (Zn), (Pb), Au, Ag @ \$15.50	775	
Thin sections 10 @ \$50	<u>500</u>	7,615
Report Preparation:		
Geologist/Geophysicist 12 days @ \$325	3,900	
Expenses	<u>2,000</u>	5,900



Consulting/Supervision:		
7 days @ \$450	3,150	
Expenses	<u>500</u>	<u>3,650</u>
Sub Total	say	51,000
Administration @ 15% on \$28,305		<u>4,300</u>
		55,300
Contingency @ 10%		<u>5,500</u>
	say	<u>\$61,000</u>

**Phase II A) Detailed Geophysics (Optional) and Diamond Drilling**

A. Mobilization/Demobilization:		\$ 1,500
Induced Polarization Survey:		
7 days @ \$1500/day		10,500
Helicopter 5 hrs @ \$500/hr		2,500
Report Preparation:		
5 days @ \$450	2,250	
Expenses	<u>1,500</u>	3,750
Consulting and Supervision:		
4 days @ \$450	1,800	
Expenses	<u>500</u>	<u>2,300</u>
Administration @ 15% (on \$9,500)		20,550
		1,425
Contingency @ 10%		2,200
Sub Total Phase II A	say	<u>\$24,000</u>



Phase II B) Diamond Drilling (1000 m BQ)

Personnel:		
Geologist 20 days @ \$325/day		\$ 6,500
Support Costs:		
Vehicle 20 days @ \$75/day	\$ 1,500	
Communications	500	
Miscellaneous	<u>200</u>	2,200
Drilling Costs:		
Mob/Demob	4,000	
Site Preparation - 5 sites @ \$700 ea.	3,500	
Coring/Casing 1000 m @ \$60/m	60,000	
Drill moves 5 @ \$500 each	2,500	
Helicopter 30 hrs @ \$500/hr	15,000	
Camp costs 20 days @ \$300/day	<u>6,000</u>	91,000
Analyses:		
50 assays (Au, Ag, Cu, Pb, Zn) @ \$27.50 each		1,375
Report:		
Geologist 5 days @ \$325/day	1,625	
Expenses	<u>770</u>	2,395
		<u>103,470</u>
Administration 15% of \$95,345		14,300
Contingency 10% of \$117,770		<u>11,780</u>
Sub Total Phase II B	say	<u>\$130,000</u>
Total Phase II		<u>154,000</u>
Total Phases I, II		<u>\$215,000</u>



CONCLUSIONS

1. The Par 2 Claim has the potential to host high-grade precious - base metal quartz vein - type deposits. The Parsons Creek copper occurrence is possibly an example of this type of mineralization. Past work has indicated seven mineralized quartz veins covering a strike length of 3,000 feet with reported widths of 4 to 14 inches. Channel samples of up to 6.58% Cu, 32.39 oz. Ag/T, 0.01 oz. Au/T over 1.5 feet and 13.57% Cu, 0.80 oz. Ag/T, 0.04 oz. Au/T over 0.5 feet were reported (Gunnex Ltd., 1966).

Numerous other quartz-vein type deposits occur in the area and are documented in this report ("Economic Setting").

2. The property has the potential to host economic volcanogenic massive sulphide concentrations.

Volcanogenic massive sulphide deposits are known to occur within the felsic phases of the Sicker Group of volcanic rocks.

The massive sulphide deposits of Westmin Resources at Buttle Lake, 70 km to the northwest of the property contains reserves of some 16 million tons of 2.2% Cu, 5.3% Zn, 0.3% Pb, 0.07 oz. Au/T and 1.1 oz. Ag/T (1983) are hosted by Sicker Group felsic volcanic and pyroclastic flows (Myra Formation).



Mineralized (pyrite, chalcopryrite) possibly Sicker Group intermediate to felsic volcanic rocks occur southeast of the property in an area previously mapped as Vancouver Group volcanic rocks and suggest that the claim is underlain by Sicker Group volcanics.

Additionally the Thistle Mine, which is located 12 km northeast of the property, is possibly a massive sulphide deposit in the immediate area of the Par 1 claim. The mine produced 2,667 oz. Au, 1,667 oz. Ag and 626,556 lbs. Cu in 1938 to 1942.

3. Further exploration involving surface geochemistry, geological mapping/sampling and ground geophysics plus follow-up drilling are required to assess the economic potential of the property.

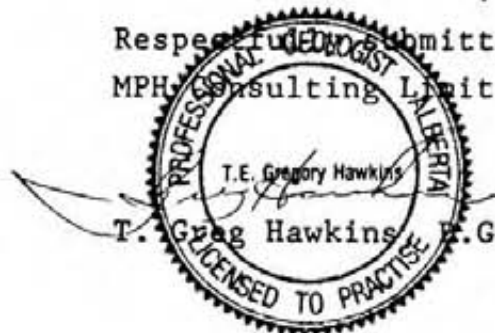


RECOMMENDATIONS

1. It is recommended that exploration targets be considered as both volcanogenic massive sulphide deposits and precious-base metal vein-type deposits.
2. A first phase exploration programme includes line cutting, geochemical soil sampling, detailed geological mapping, prospecting and lithogeochemical sampling.
3. Ground magnetometer and VLF-electromagnetometer surveys are to be carried out shortly after or simultaneously with the above. Test induced polarization and horizontal loop EM surveys may be required to further define conductive and magnetically anomalous zones and are included as the initial step of Phase II.
4. All of the Phase I work is recommended at an estimated cost of \$61,000, to be spent over a period of 30 days.
5. Financial planning is recommended to include allowances for 7 days of induced polarization surveying and a 1000 m preliminary Phase II drilling programme estimated to cost \$154,000 and to be contingent on favourable results from Phase I.

Respectfully submitted,  
MPH Consulting Limited

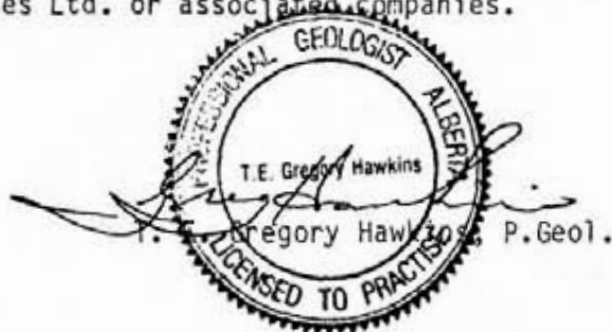
T.E. Gregory Hawkins  
T. Greg Hawkins P. Geol.



CERTIFICATE

I, T. E. Gregory Hawkins, do hereby certify:

- 1) That I am a Consulting Geologist with business offices at 2002 - 1055 W. Georgia Street, Vancouver, British Columbia, V6E 3P3.
- 2) That I am a graduate in geology of The University of Alberta Edmonton (B.Sc.1973), and of McGill University, Montreal, (M.Sc.1979).
- 3) That I have practised within the geological profession for the past twelve years.
- 4) That I am a Fellow of the Geological Association of Canada and a Professional Geologist registered in the Province of Alberta.
- 5) That the opinions, conclusions and recommendations contained herein are based on field examinations carried out in September of 1983, and on research work carried out and supervised by me during the same period.
- 6) That I own no direct, indirect, or contingent interests in the area, the subject property, or shares or securities of Jan International Resources Ltd. or associated companies.



Dated at Vancouver, British Columbia, this 22nd day of September, 1983



CERTIFICATE

I, N. O. Willoughby of 651 Cosburn Avenue, Toronto Ontario  
certify that:

- 1) I hold a Bachelor of Science degree (Honours) in Applied  
Geology from Carleton University, Ottawa, Ontario.
  
- 2) I have based my conclusions and recommendations  
contained in this report on my experience and knowledge  
of the geology of the area and on observations made  
while on the property during the month of  
September, 1983.
  
- 3) I hold no interest, directly or indirectly in this  
property other than professional fees, nor do I expect to  
receive any interest in the property or in  
JAN INTERNATIONAL RESOURCES LTD. or any of its  
subsidiary companies.

Vancouver, B.C., Canada  
September 22, 1983

*N.O. Willoughby*

N.O. Willoughby, B.Sc. (Hon.)



REFERENCES

- British Columbia Department of Mines and Petroleum Resources,  
1970: Geology, Exploration and Mining in British  
Columbia, pp 267-269, 284-285.
- Canadian Mines Handbook, 1983.
- Carson, J.T.D. 1968: Metallogenic study of Vancouver Island  
with Emphasis on the Relationships of Mineral Deposits to  
Plutonic Rocks; Carleton University unpubl. Ph.D. thesis.
- \_\_\_\_\_. 1973: The Plutonic Rocks of Vancouver Island;  
G.S.C. Paper 72-44.
- Gunnex Ltd. 1966: Mineral Occurrences, E and N Land Grant,  
Vancouver Island, British Columbia; internal company  
report.
- Leary, G.M. 1967: Abstract on the Geology of the Alberni  
Area, Southeast Corner and Nanoose Peninsula. A  
Petrographic Study of Quartz Diorite and Contact  
Aureoles; University of British Columbia unpubl. B.Sc.  
thesis.

Muller, J.E. and Carson, J.T.D. 1969: Geology and Mineral Deposits of the Alberni Map Area, British Columbia; G.S.C. Paper 68-50.

Muller, J.E. 1980: The Paleozoic Sicker Group of Vancouver Island, British Columbia; G.S.C. Paper 79-30.

Seraphim, R.H. 1980: Western Mines - Myra, Lynx and Price Deposits in: CIM Bulletin, December, 1980; pp 71-87.

Stevenson, J.S. 1945: Geology and Ore Deposits of the China Creek Area, Vancouver Island, British Columbia. Annual Report of the Minister of Mines of the Province of British Columbia, 1944; pp A143-A161.

Stevens, W.G. 1970: Report on the Corrigan Creek Area, for John Cotowick; Assessment Report 2771, Alberni Mining Division, NTS Sheet 92F, Alberni area.

# Rossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

2225 S. SPRINGER AVE.,  
BURNABY, B. C.  
CANADA  
TELEPHONE: 299-6910

## CERTIFICATE OF ANALYSIS

MPH CONSULTING LTD.

TO: 2002 - 1055 W. GEORGIA ST.  
VANCOUVER, B.C. V6E 3P3

CERTIFICATE NO. 83415-6

INVOICE NO. 3253

DATE ANALYSED SEPT 15, 1982

PROJECT V125

No.	Sample	pH	Mo	Cu	Ag	Zn	Pb	PPB Au				No.
01	7267			580	11.2	12,000	3060	18,000				01
02	7272			1580	0.6	128	2	10				02
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VALUES IN PPM, UNLESS NOTED OTHERWISE.

Certified by

*D. Rossbacher*

## APPENDIX I

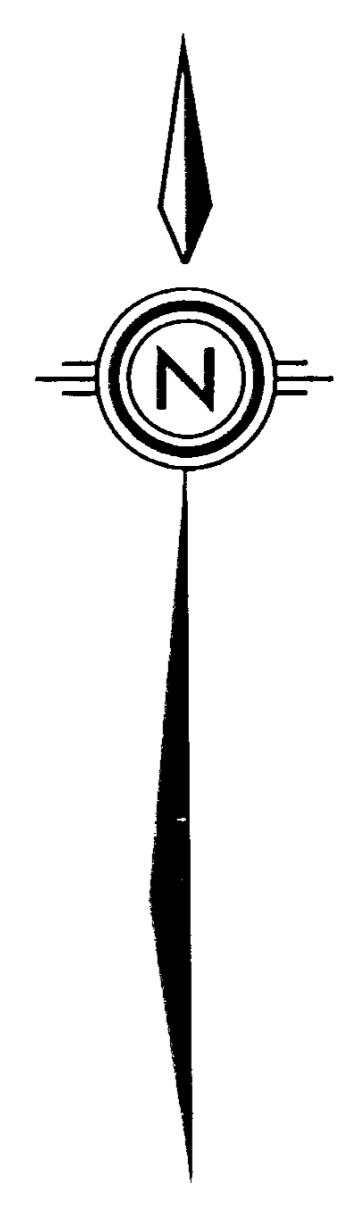
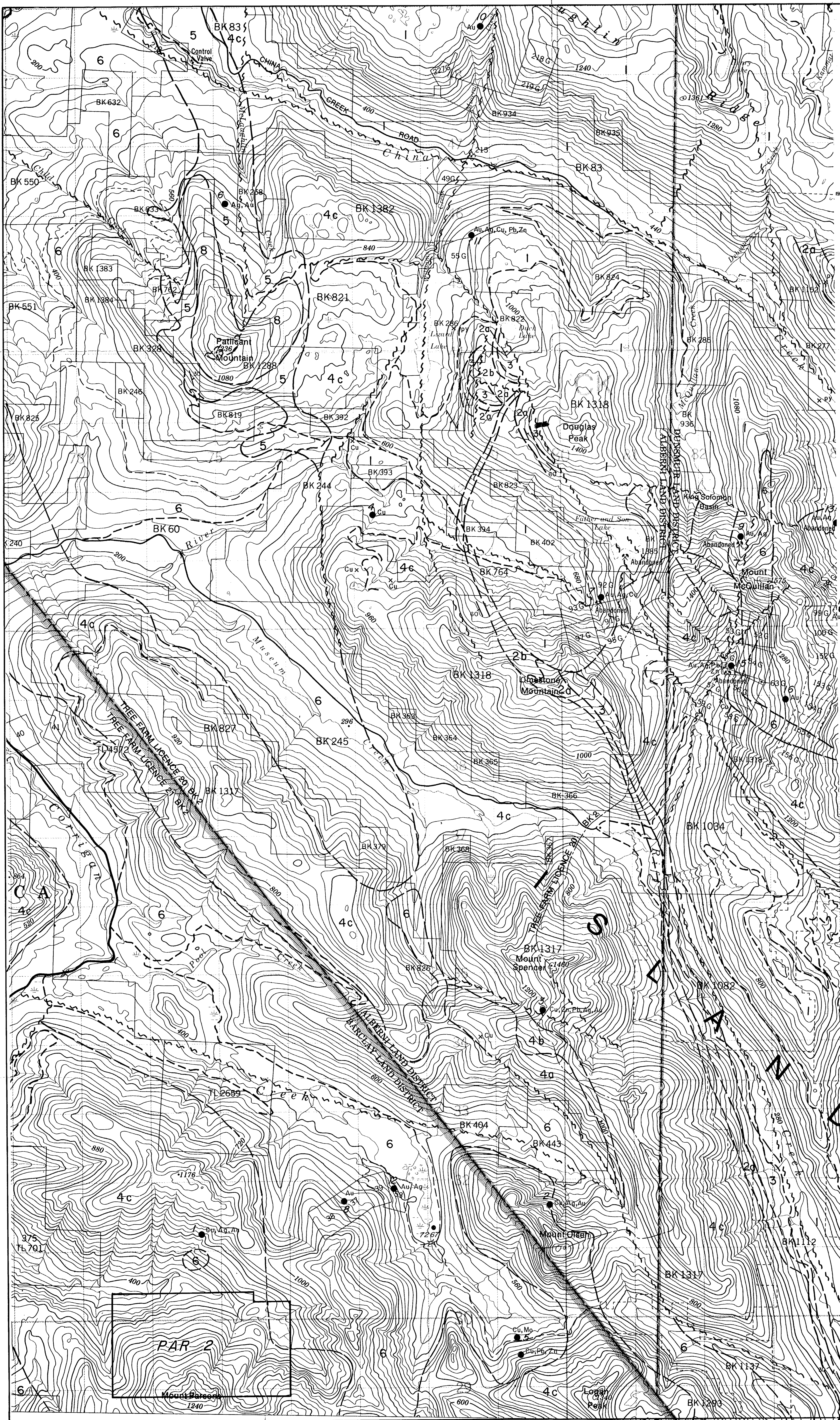
### ITEMIZED COSTS

#### Par II Claim - Alberni Mining Division

The program was carried out under contract by MPH Consultants of Vancouver from September 4th - September 22nd, 1983. Two other properties were worked on at the same time with costs being split as equitably as possible.

Meals, accommodation and gas (2 men)	\$ 132.95
Truck rental	39.66
Helicopter (Highland)	113.34
Drafting and base map preparation	414.15
Contract labour for geologist and helper, for field work, reserach and report writing	<u>1,404.81</u>
Total	\$ 2,104.91





**LEGEND**

**GEOLOGY**

- INTRUSIVE ROCKS**
- 8 DACIC FELDSPAR PORPHYRY
  - 7 FELDSPAR PORPHYRY, QUARTZ-FELDSPAR PORPHYRY
  - 6 DIORITE, QUARTZ DIORITE
- NANAIMO GROUP**
- 5 UNSUBDIVIDED: EXTENSION-PROTECTION FM. feldspathic sandstone, grit, conglomerate, coal; HASLAM FM. shale, siltstone, sandstone; COMOX FM. conglomerate, pebbly sandstone.
- VANCOUVER GROUP**
- 4 a. BONANZA SUBGROUP: andesitic to latitic tuff, breccia.  
b. QUATSINO FM: limestone, limy shale.  
c. KARMTUSEN FM: massive basalt, pillow basalt, flow breccia, minor andesite, tuff.
- SICKER GROUP**
- 3 BUTTE LAKE FM: limestone (reefal, crinoidal)
  - 2 MYRA FM:  
a. Upper unit felsic tuff, chert, cherty tuff, minor felsic flows.  
b. Lower unit argillite.
  - 1 NITINAT FM: andesitic to basaltic flows, pillow lava, minor tuff, cherty tuff.

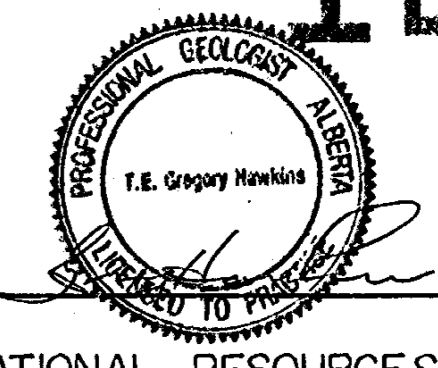
**SYMBOLS**

- GEOLOGICAL CONTACT (APPROXIMATE)
- FAULT TRACE (APPROXIMATE)
- 60' BEDDING (MEASURED, INDICATED)
- 30' SCHISTOSITY (MEASURED, INDICATED)
- 7264 ROCK SAMPLE LOCATION AND NUMBER
- CLAIM BOUNDARY
- x py PYRITE MINERALIZATION IN OUTCROP

**MINERAL OCCURRENCE**

- BASE METAL DEPOSITS AND OCCURRENCES**
- 1 PARSONS CREEK OCCURRENCE (Cu, Ag, Au)
  - 2 MOUNT OLSEN COPPER SHOWING (Cu, Ag, Au)
  - 3 MARY GROUP OCCURRENCES (Cu, Zn, Pb, Ag, Au)
  - 4 UPPER FRANKLIN MINERAL OCCURRENCES (Cu)
  - 5 ARLAND'S SHOWING (Cu, Mo, Pb, Zn)
- GOLD DEPOSITS AND OCCURRENCES**
- 6 GRIZZLY ARSENIC SHOWING (As, Ag, Au)
  - 7 THISTLE MINE (Au, Ag, Cu)
  - 8 3-W MINE (Au, Ag)
  - 9 HAVILAH MINE (Au, Ag, Pb, Zn)
  - 10 VANCOUVER ISLAND GOLD MINE (Au, Ag, Cu)
  - 11 REGINA GROUP SHOWINGS (Cu, Zn, Pb, Au, Ag)
  - 12 CORRIGAN CREEK MINE (Au, Ag, Cu, Pb)
  - 13 GOLDEN EAGLE GROUP (Au, Ag, Pb, Zn)
  - 14 B AND K SHOWING (Au, Ag, Cu)
  - 15 BLACK PANTHER MINE (Au, Ag, Pb, Zn)
  - 16 BLACK LION GROUP (Au)

12,735



SEP 20 1983

JAN INTERNATIONAL RESOURCES LIMITED

**PROPERTY GEOLOGY**  
**PAR 2 CLAIM**  
ALBERNI MINING DIVISION

Project No: Y-125	By: N. W.
Scale: 1:20,000	Drawn: J. S.
Drawing No: 4	Date: SEPTEMBER, 1983.

