

800191

REPORT ON THE

PRIME GROUP OF CLAIMS

MISSEZULA LAKE AREA, B.C.

SIMILKAMEEN MINING DIVISION

Latitude  $49^{\circ} 45'$  North

Longitude  $128^{\circ} 28'$  West

on behalf of

PIPER PETROLEUMS LTD

by

D.C. Malcolm, P.Eng.

Consulting Geologist

August 5, 1976  
Vancouver, B. C.

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## ILLUSTRATIONS

LOCATION MAP

GENERALIZED GEOCHEMICAL AND GEOPHYSICAL  
MAP (compiled from previous reports)

## FORWARD

An examination was made on July 17, 1976 for the Directors of Piper Petroleums Ltd's Prime Group near Missezula Lake at the head of Summers Creek.

The deposits were first examined by the writer in 1958 when three trenches on the North Zone reported to have been excavated in 1937 were examined. These showed extensive malachite staining in an altered andesite with some fracture fillings of pyrite and chalcopyrite.

In 1968 a visit to the property was made, and the trenching, geochemical, magnetometer surveys and diamond drilling were reviewed.

In 1969 additional trenching and diamond drilling south and west of the North Zone was examined.

At present, the workings are caved, buildings are vandalized and the core is scattered.

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PRIME GROUP

SIMILKAMEEN MINING DIVISION

BRITISH COLUMBIA

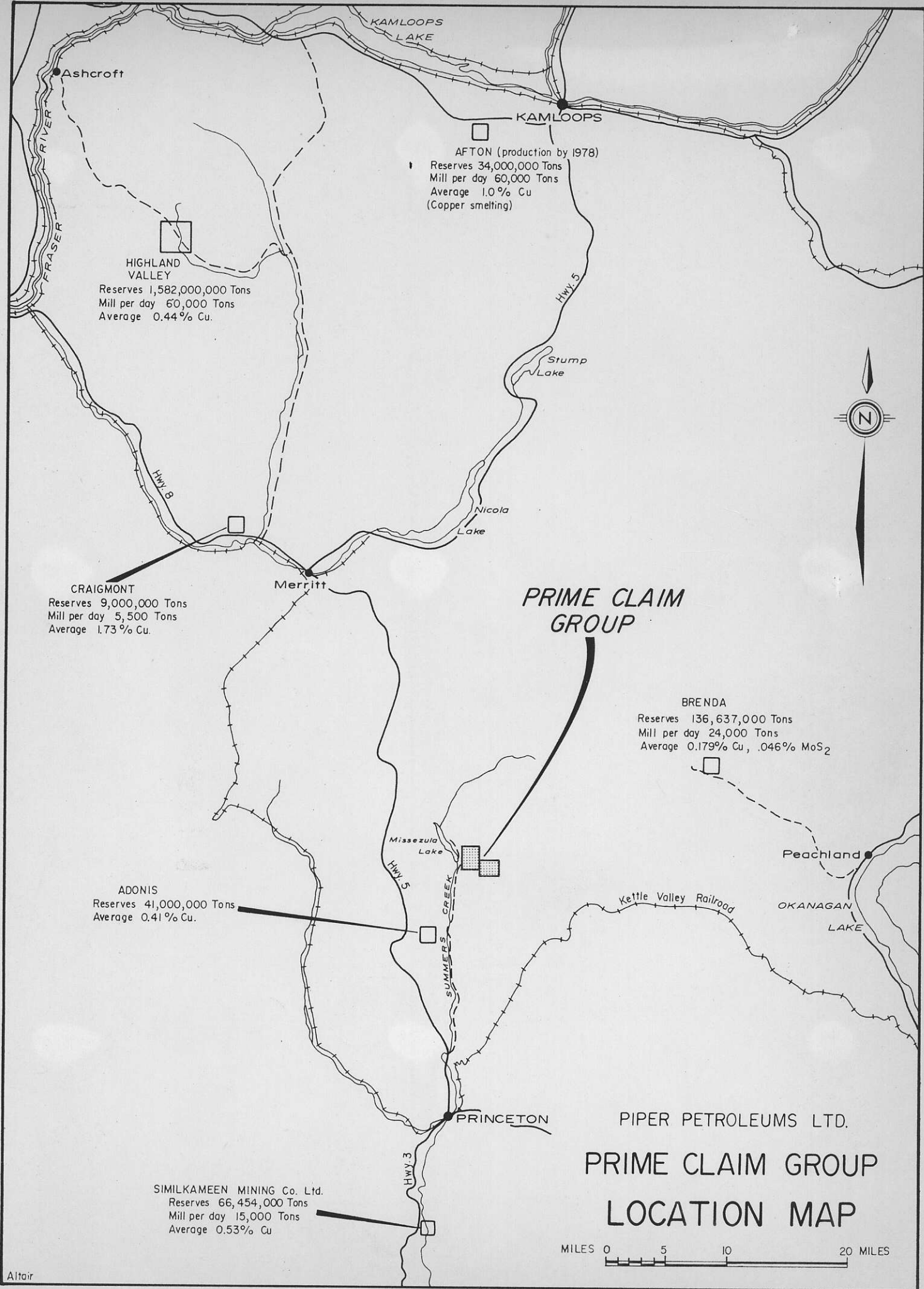
SUMMARY

The Prime Group is well located in the Princeton-Merritt copper belt in the favourable Triassic Nicola Group rocks. The claim area has been extensively explored by uncoordinated modern methods and many copper anomalous areas have been indicated. Large areas of copper mineralization have been found and partly outlined in trenches and by haphazard drilling.

I would advise an intelligent study of the work done on the claims be followed by a systematic percussion drilling programme to test anomalies and the known deposits.

CLAIMS

The property is composed of three claim blocks totalling 40 contiguous units.



Ashcroft

KAMLOOPS

KAMLOOPS LAKE

FRASER RIVER

HIGHLAND VALLEY  
Reserves 1,582,000,000 Tons  
Mill per day 60,000 Tons  
Average 0.44% Cu.

AFTON (production by 1978)  
Reserves 34,000,000 Tons  
Mill per day 60,000 Tons  
Average 1.0% Cu  
(Copper smelting)

Hwy. 5

Stump Lake

Nicola Lake

Hwy. 8

Merritt

CRAIGMONT  
Reserves 9,000,000 Tons  
Mill per day 5,500 Tons  
Average 1.73% Cu.

**PRIME CLAIM GROUP**

BRENDA  
Reserves 136,637,000 Tons  
Mill per day 24,000 Tons  
Average 0.179% Cu, .046% MoS<sub>2</sub>

Missequia Lake

Hwy. 5

SUMMERS CREEK

ADONIS  
Reserves 41,000,000 Tons  
Average 0.41% Cu.

Peachland

OKANAGAN LAKE

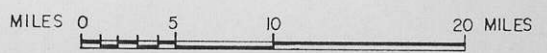
Kettle Valley Railroad

PRINCETON

SIMILKAMEEN MINING Co. Ltd.  
Reserves 66,454,000 Tons  
Mill per day 15,000 Tons  
Average 0.53% Cu

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**PRIME CLAIM GROUP  
LOCATION MAP**



<u>Claim Name</u>	<u>Expiry Date</u>	<u>Record No.</u>
Prime	May 20, 1977	47
Prime 1	May 20, 1977	46
Prime 2	July 20, 1977	85

#### LOCATION

Latitude: 49° 45' North  
Longitude: 128° 28' West  
Elevation: 3,200 to 4,400 Feet

The property is reached from Princeton, B.C. via the Merritt Highway north for eight miles, then by the Missezula Lake road for eighteen miles along Summers Creek. The southwest corner of Prime Group 1 is on this road. Numerous dirt and gravel bulldozer roads extend up Dillard Creek from Missezula Lake. They reach most sections of the claims.

#### TOPOGRAPHY

The claims cover the eastern valley slope of Summers Creek, the shallow valley of Dillard Creek and unnamed creeks and rolling hills between these westerly flowing streams.

The ground is covered by jack pine and some fir.

### GENERAL GEOLOGY

The Princeton area is underlain by Triassic Nicola Group sediments, andesitic volcanic flows, tuffs and agglomerates.

These are in a downfaulted block with major north to northwest striking faults and bordered by Jurassic Coast Range intrusives.

This block is extensively faulted internally and contains granodiorite, diorite and basic dikes.

Pyrite-chalcopyrite mineralization is widespread as fracture fillings and there are several large, profitable, producing mines along this copper belt.

### CLAIM GEOLOGY

The Prime claims are underlain by limestone, tuff, agglomerates and andesitic flow rocks of the Triassic Nicola Group.

The rocks are west of the Pennask or Okanagan granodiorite batholith in an embayment in these intrusives. Diorite intrusions or granitized volcanics are found with the sediments or volcanics. (Outcropping in the overburden and tillite covered claims are scarce). There are few outcrops as the majority of the claim group is covered by overburden.

All the rocks are extensively faulted and altered with the major north striking Summers Creek fault to the west and a large number of northwest and northeast striking shear zones and faults throughout the claim area.

Copper-pyrite mineralization is widespread as fracture fillings and disseminations in volcanics and sediments or as primary sulphides and chalcocite in limy tuffs.

Some lead-zinc-copper replacements occur in limestone and in limy andesite breccias with calcite fracture fillings and hematite.

These extensive copper zones are beneath gravel, tillite, and overburden which cover large portions of the area of interest. The majority of the overburden cover is shallow, from 1 to 20 feet but in a few areas it is up to 100 feet deep.

#### DEPOSITS

The North or King George deposit, has been trenched and explored by both percussion and diamond drill holes over an area 1,500 feet long and several hundred feet wide. The work was not co-ordinated but was rather a series of wildcat holes with variable results. The original North Zone showed about 1% copper.

The South Zone was found by a wildcat drill hole about 1/2 mile southeast of the original showing. No systematic work





**LEGEND**



Induced Polarization Anomaly



Pyrite Halo (Centre Cu & Fe mineralization)



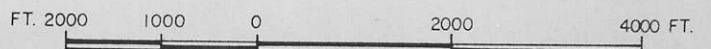
Generalized Outline of +200 ppm.  
Copper geochemical anomalous area

Cu Copper mineralization

Py Pyrite mineralization

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**PRIME CLAIM GROUP  
GENERALIZED GEOCHEMICAL  
& GEOPHYSICAL MAP**



has been done on the general overburden covered area but extensive drilling based on 'generalized geological theory and uncoordinated geophysical and geochemical surveys was carried out over an area 1,500 feet by 500 feet and indicates widespread, low grade copper mineralization.

A deposit was found by geochemical work on the lower Dillard Creek and it has been trenched and drilled.

Lead-zinc-copper-hematite replacements were found south west of the North Zone in bulldozer trenches.

#### HISTORY

The deposit, called the King George, was discovered in 1937 and trenched. It was relocated in 1957 and worked periodically until 1972. It has been idle until it was acquired by Piper Petroleum Ltd in 1976.

#### WORK DONE

Several grids of cut lines or bulldozer lines in a number of directions criss-cross the area. Geochemical surveys have been made at various times.

Airborne and ground magnetometer surveys have been made. Parts of the property have been tested by induced polarization surveys.

A photogeologic and fracture density study has been made and 33 diamond drill holes totalling 12,283 feet have been drilled. Percussion drilling has been done, but the results are not at present available.

#### CONCLUSIONS

The Prime Group is a well located property in the Princeton-Merritt copper belt in favourable rocks. Good copper mineralization is extensive in areas in a general overburden covered claim group.

Extensive uncoordinated exploration work, including many bulldozer trenching, has been done. The trenches are now partly caved.

#### RECOMMENDATIONS

I would recommend that a two-stage programme be undertaken as follows:

1. The trenches should be cleaned out and mapped in detail. Roads and lines should be surveyed and the drill and percussion holes should be located and plotted on accurate maps.

Intelligent geological studies and plans should be made.

2. A programme of systematic percussion drilling would then be recommended to determine the extent and grade of the large mineralized areas.

ESTIMATED COSTS

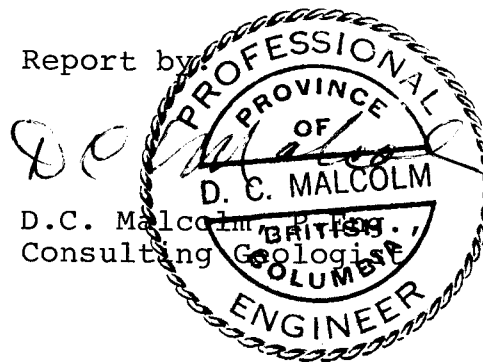
STAGE I

1.	Overall supervision, geological mapping and sampling - Geologist and assistant 20 days at \$160/day		\$ 3,200.00
2.	Stadia survey of roads, trenches, grid lines and drill holes. Surveyor and assistant 8 days at \$120/day	960.00	
	Map preparation	<u>400.00</u>	1,360.00
3.	Petrographic study - thin sections and report		400.00
4.	Geochemical survey - orientation survey and check sampling		300.00
5.	Magnetometer survey - check survey to confirm original data		500.00
6.	Analysis		
	Assaying 50 samples at \$11/sample		550.00
	Geochemical analysis 100 samples at \$7/sample for Cu and Mo		185.00
7.	Food and accommodation - approximately 130 man days at \$10/day		1,300.00
8.	Transportation 4 x 4 truck \$20/day and 20¢/mile		700.00
9.	Core Rack Construction Labour, rebar, lumber and misc supplies		1,500.00
10.	Bulldozer, trenching, cleaning out roads D-7 for 100 hours at \$40/hour		4,000.00
11.	Data preparation, interpretation consulting and reports		1,500.00
			<hr/>
			15,495.00
	Contingencies 10%		1,495.00
			<hr/>
	TOTAL STAGE I		\$16,990.00

STAGE II

Percussion Drilling 2000 feet at \$5/foot	\$10,000.00
Transportation 4 x 4 \$20/day and 20¢ mile for 800 miles at 14 days	440.00
Food and accommodation 4 men at \$10/day x 14 days	560.00
Assaying and sampling 200 samples at 10 foot sections Cu and Mo \$11/sample	2,200.00
Sample preparation 0.50 sample 200 samples	100.00
Sampler 20 days at \$60/day	1,200.00
Geology, Supervision data Compilation Reports compilation	2,000.00
	<hr/>
	\$16,500.00
Contingencies	1,650.00
	<hr/>
	\$18,150.00
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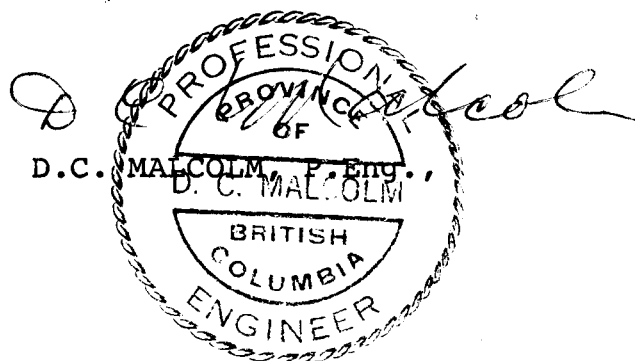
Report by

D.C. Malcolm  
Consulting Geologist

## CERTIFICATE

This is to certify that:

1. I, DOUGLAS COLE MALCOLM, am a resident of Vancouver, British Columbia, and live at 2290 West 23rd Avenue.
2. I am a graduate of the University of British Columbia, with the degree of Bachelor of Applied Science in Geological Engineering, (1935).
3. I am a member of the Association of Professional Engineers of British Columbia and Ontario, and have practised my profession continuously since graduation.
4. I have not directly, nor indirectly, received or expect to receive any interest, direct or indirect, in the property of Piper Petroleums Ltd (NPL) or of any affiliate; or beneficially own, directly or indirectly, any securities of the company or of any affiliate.
5. This report is based on personal examination made on July 17, 1976. The legal posts of the principal groups near the head of Summers Creek were examined.



August 5, 1976  
Vancouver, B.C.