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6877

OUTCROP GEOLOGY

TRENCHED AREA

PRIME 2 CLAIM

92H - 16W

49°45'N 128°28'W

SIMILKAMEEN MINING DIVISION

<u>Name</u>	<u>Units</u>	<u>Record No.</u>	<u>Expiry Date</u>
Prime 2	16	85(7)	July 20, 1978

on behalf of

PIPER PETROLEUMS LTD.

by

G. GUTRATH, P. ENG.

ATLED EXPLORATION MANAGEMENT LTD.

July, 1978

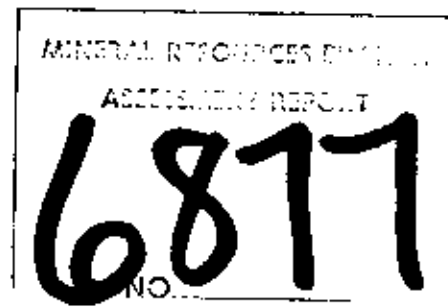


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Engineer's Certificate

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 Chemex Certificate No. 33865
 Statement of Costs

Maps in Report:

 Location Map
 Claim Map
 Geology Map

In Pocket:

 Outcrop Geology 1:500

OUTCROP GEOLOGY
TRENCHED AREA
PRIME 2 CLAIM
SIMILKAMEEN MINING DIVISION

INTRODUCTION

The outcrop geology was tape and compass surveyed on a scale of 1:500 between June 29 and July 5, 1978.

The work was carried by G. Gutrath, P. Eng., geologist, assisted by D. Gutrath.

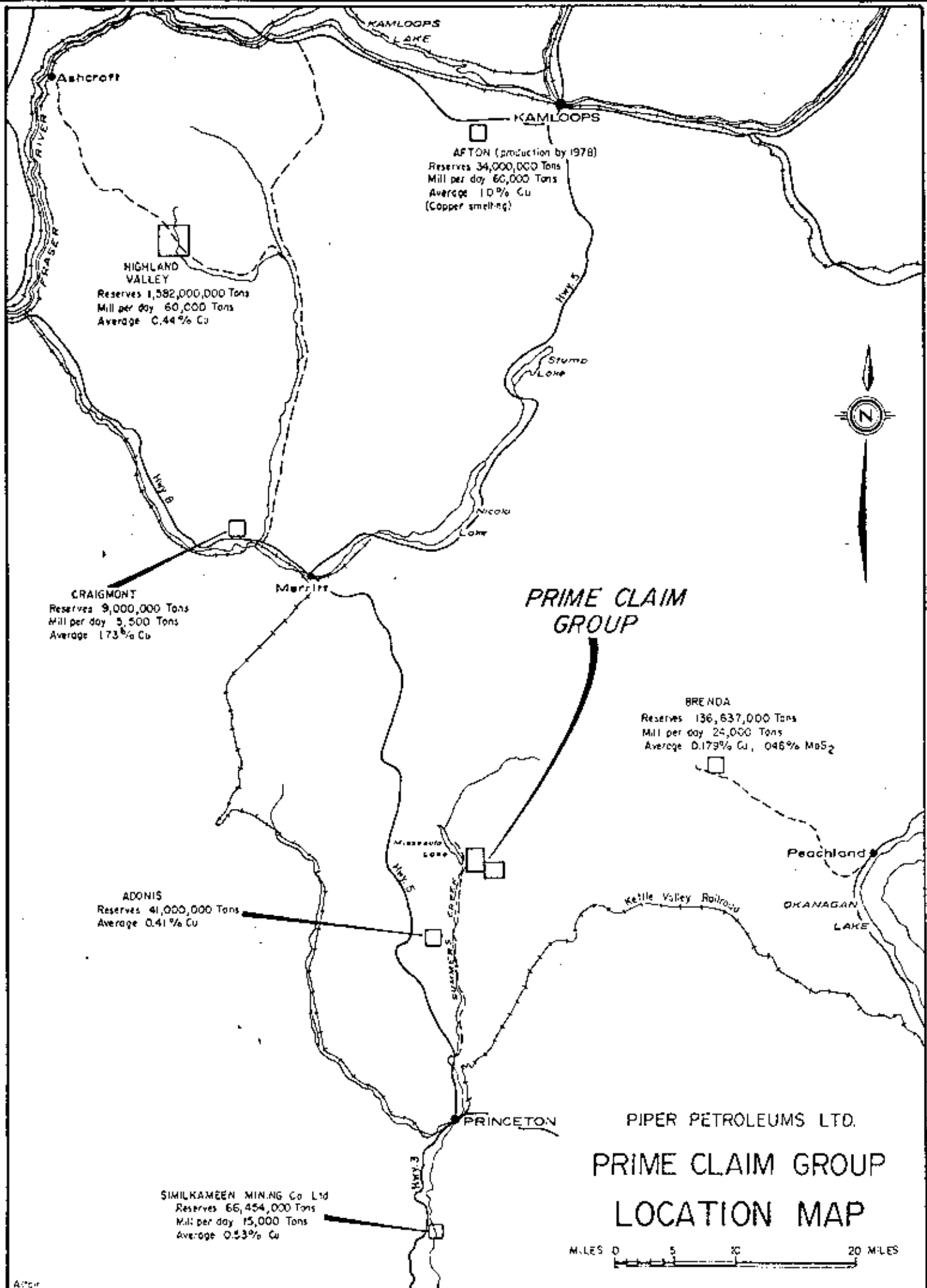
The Prime 2 claim is the most westerly of the three claims that form the Prime property.

The geological mapping completed in July is a continuation of an ongoing geophysical and geological program that will eventually cover the majority of the Prime property.

LOCATION AND ACCESS

The Prime property is located in south-central British Columbia 22 airmiles north of the community of Princeton. The approximate co-ordinates of the property are 49°49' north latitude and 128°28' longitude.

The property can be reached from Princeton by taking the Merritt Highway north for 8 miles and then turning north on the Missezula Lake gravel road for 18 miles. A number of gravel roads in fair condition gives good access to the majority of the property from Missezula Lake Road.



Ashcroft

KAMLOOPS LAKE

KAMLOOPS

AFTON (production by 1978)
 Reserves 34,000,000 Tons
 Mill per day 60,000 Tons
 Average 10% Cu
 (Copper smelting)

HIGHLAND VALLEY

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

Hwy 6

Hwy 5

Stump Lake

Nicola Lake

Merritt

CRAIGMONT

Reserves 9,000,000 Tons
 Mill per day 3,500 Tons
 Average 1.73% Cu

PRIME CLAIM GROUP

BRENDA

Reserves 136,637,000 Tons
 Mill per day 25,000 Tons
 Average 0.173% Cu, 0.46% MoS₂

Massena Lake

Peachland

ADONIS

Reserves 41,000,000 Tons
 Average 0.41% Cu

Hwy 5

Kettle Valley Railroad

OKANAGAN LAKE

PRINCETON

PIPER PETROLEUMS LTD.

**PRIME CLAIM GROUP
 LOCATION MAP**

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

MILES 0 5 10 20 MILES

PHYSIOGRAPHY

The Prime group covers the eastern slope of the Summers Creek Valley from Summers Creek at an elevation of 3200 feet to a rolling plateau area at an elevation of 4400 feet.

The claims are covered by a thick stand of fir and jack pine.

There is ample water on the property for drill requirements.

GEOLOGY

General

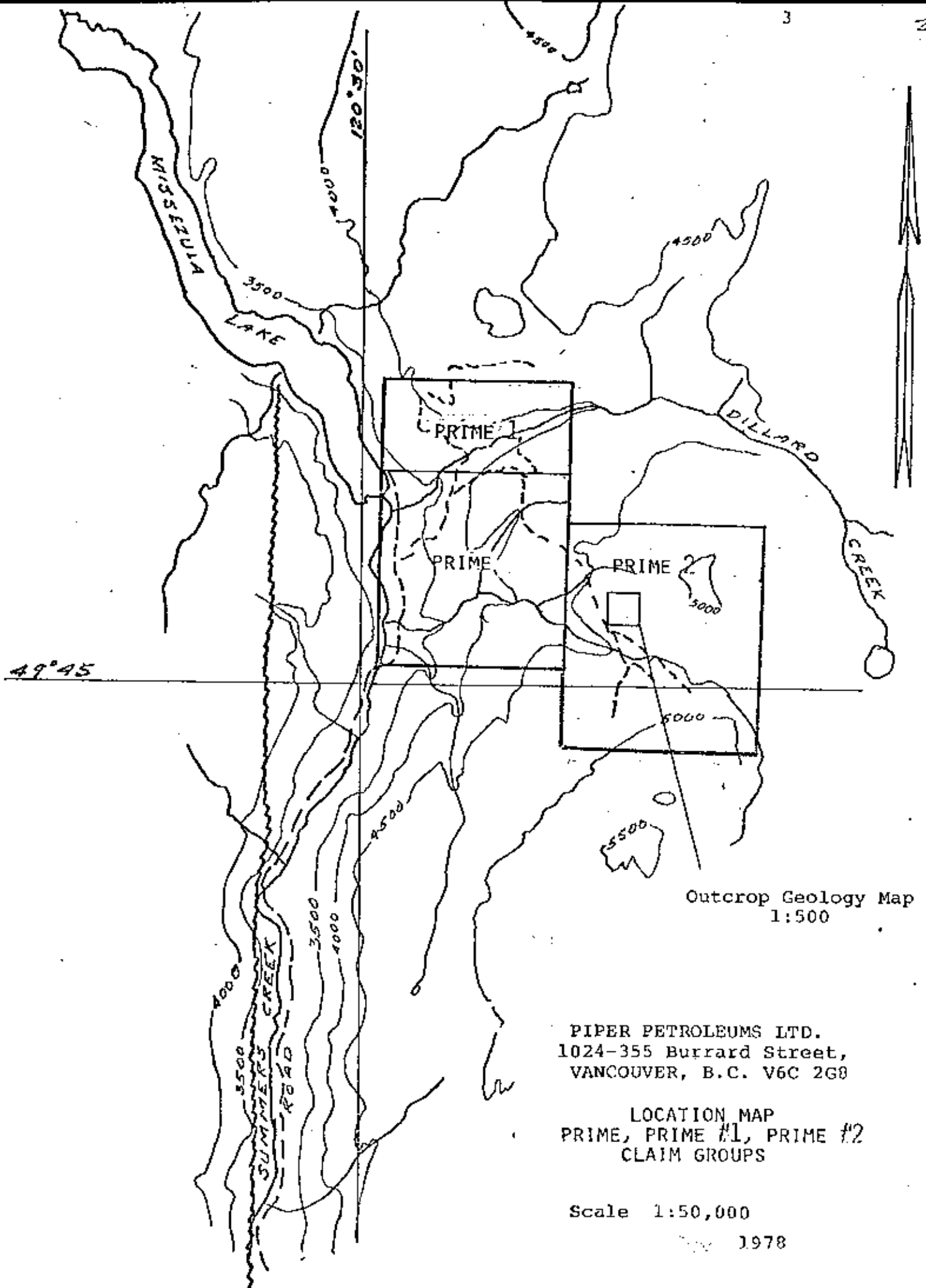
The Princeton-Missezula Lake area is underlain by Nicola Group sediments, andesite flows, and related volcanics of Triassic age.

This group is within a downfaulted block bounded by major north to northwest striking faults and bordered by Coast Range intrusive rocks of Jurassic age. This fault block has been cut by numerous smaller faults and by a wide range of dikes.

Property

Trenched Area

Dark grey to black andesite is the predominant rock type in the trench area. The andesite outcrops in TR3, TR5, TR8, TR9, and TR10. In TR5 and on the southeast side of TR3 the andesite is only slightly altered, sheared and fractured. In outcrop it weathers to a very dark grey to black. On a fresh surface it is usually massive, dark grey, aphanitic and commonly displays medium grained, subhedral hornblende phenocrysts. No fragmentals or breccias were noted.



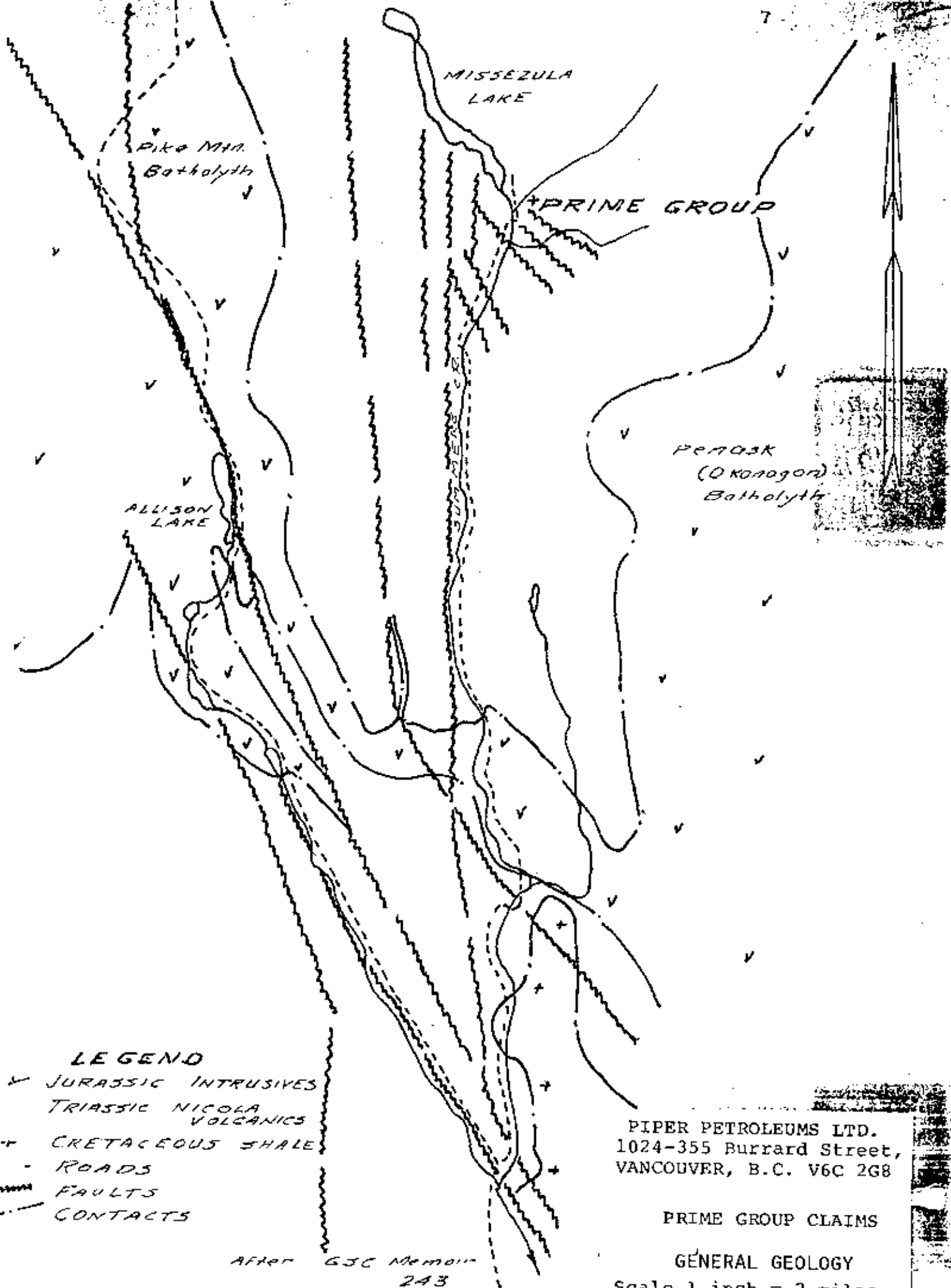
Outcrop Geology Map
1:500

PIPER PETROLEUMS LTD.
1024-355 Burrard Street,
VANCOUVER, B.C. V6C 2G8

LOCATION MAP
PRIME, PRIME #1, PRIME #2
CLAIM GROUPS

Scale 1:50,000

1978



Pike Mtn.
Batholith

MISSEZULA
LAKE

PRIME GROUP

ALLISON
LAKE

PENASK
(Okonagon)
Batholith

SUNNYSIDE CREEK

LEGEND

- V JURASSIC INTRUSIVES
- Wavy TRIASSIC NICOLA VOLCANICS
- + CRETACEOUS SHALE
- - ROADS
- FAULTS
- CONTACTS

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VANCOUVER, B.C. V6C 2G8

PRIME GROUP CLAIMS

GENERAL GEOLOGY

Scale 1 inch = 2 miles

At the north end of TR5 the black massive andesite is in contact with what appears to be a poorly bedded, tuffaceous siltstone. The bedding(?) strikes in a northwesterly direction and dips steeply. The rock is fresh, very fine grained to aphanitic, light flesh coloured and is layered by sub-parallel fine streaks of black manganese. The zone is 5 m. wide and is bordered on the north by a light grey dacite.

The dacite is a much lighter grey than the dark andesite to the south. It is a light greyish colour, aphanitic and is only slightly altered and moderately fractured.

In TR8, TR9 and TR10 the andesite is highly altered, fractured and oxidized, making it difficult to recognize original textures.

In TR1, TR2, TR6, TR7 and TR10 the volcanics have been cut by a very irregular hornblende diorite intrusive. The diorite is a light to dark grey, fine to medium grained ground mass with medium grained, randomly orientated, subhedral hornblende phenocrysts. The diorite is sometimes a dark grey and uniformly fine grained but this is believed to be a contact phase or possibly an xenolith of dioritized andesite.

In TR11 there is massive, medium grained, greenish grey hornblende diorite porphyry.

Cutting both the diorite and volcanics is a younger feldspar porphyry intrusive dike. These dikes occur in TR10, TR4 and possibly TR1. They are fresh, massive, only moderately fractured, fine to medium grained and are often a light orange-grey colour.

Structure

There is no obvious trend to the volcanics except for the bedding(?) noted in TR5.

The hornblende diorite appears to have a westerly to north westerly trend in the trench area but the contacts can be very irregular as noted in TR10.

The most dominant structural fracture is the strong north-westerly trending lineaments that cut through the trench area. The lineament on the west side of TR4 forms a gully 10 m. deep and 20 to 40 m. across. The lineaments represent major fault-shear zones that can be traced for hundreds of meters on the Prime property. In TR4 the andesite has been intensely sheared and fractured and is highly oxidized to an orange friable, gossanous mass cut by numerous irregular or thin shears.

Alteration

Weak chloritic and minor epidote alteration is prevalent in the andesite near the contact of diorite.

In TR2 the andesite-diorite contact zone has been weakly feldspathized and silicified. This zone is cut by numerous close spaced selenite and quartz veinlets.

In TR8 and TR9 the andesites have been so highly fractured and oxidized that the original alteration features have been masked by secondary limonitic oxide products.

In TR10 in the most southerly 'fork' of the trench the diorite or dioritized andesite contact zone is weakly bleached and the mafics chloritized.

Carbonate alteration and veining was noted along the most southerly diorite-andesite contact in TR10.

Mineralization

Pyrite mineralization occurs in all the rock types including the young feldspar porphyry dikes. In the massive black andesites in TR3 and TR5 the pyrite forms a thin coating on widespaced fracture planes. In TR4, adjacent to the fault-shear zone the pyrite is commonly found in small veinlets up to 1 cm. thick and disseminated throughout the zone. The pyrite varies from 2 to 4% in the unaltered zones to 5 to 15% in the sheared and altered zones.

Chalcopyrite mineralization is not directly related to the pyrite although pyrite is always in close association. The highest chalcopyrite content is found in TR1, 2, 6, 8, 9 and in the 'south' fork of TR10 in the weakly altered and moderately to highly fractured diorite-andesite contact zone. The chalcopyrite is finally disseminated on the fracture planes and is rarely disseminated throughout the ground mass. Secondary malachite mineralization occurs as a fine coating and random 'spots' on the fracture planes. In the highly fractured gossanous zone in TR6, TR8 and TR9 the majority of the chalcopyrite has been converted to malachite.

From 1% to 3% fine to medium grained magnetite is found disseminated throughout the andesite and diorite. An increase in magnetite content is noted with an increase in chalcopyrite mineralization.

<u>No.</u>	<u>Description</u>	<u>Copper %</u>	<u>Silver oz/T</u>	<u>Gold oz/T</u>
S-1	Chalcopyrite and malachite on fractures in altered contact zone. Some quartz veining (TR2).	0.20	0.10	0.003
S-2	Malachite on fractures in fine grained diorite (TR6).	0.35	0.12	0.005
S-3	Malachite on fractures in highly oxidized volcanics (TR8).	0.37	0.05	0.003
S-4	Malachite on fractures, highly oxidized (TR9).	0.46	0.06	0.003
S-5	Malachite, pyrite and high % magnetite (TR9).	0.71	0.12	0.005

EXPLORATION POTENTIAL

The mapping has outlined areas of low grade copper mineralization associated with magnetite and pyrite in fractured and moderately altered diorite-andesite contact zones. The copper mineralization is not directly related to the major lineaments but they are responsible for producing the wide spread fracturing that is an important control of the mineralization. Wide spread, low grade copper mineralization will continue to be outlined in these zones but it is doubtful if an economic deposit will be developed considering present copper prices.

The most favourable exploration target in the Prime property for the development of economic copper mineralization is where the diorite intrusive is in contact with limey sediments. This type of geological environment could host a contact metamorphic deposit with grades (1 to 2% Cu) similar to the Craigmont Mine at Merritt.

CONCLUSION AND RECOMMENDATION

The geological environment in the Prime claim area is favourable for the development of an economic copper deposit. A continued program of geological mapping and detailed magnetometer surveying is recommended.

Respectfully submitted,

A circular professional seal for the Province of Columbia. The outer ring contains the text "PROFESSIONAL ENGINEER" at the top and "COLUMBIA" at the bottom. Inside the ring, the word "PROVINCE" is at the top and "OF" is in the center. A signature, "G. L. Smith", is written across the seal. Below the seal, the name "Gordon C. Smith, P. Eng." is printed, with a horizontal line extending to the right.

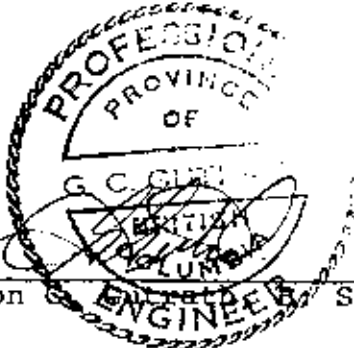
Gordon C. Smith, P. Eng.

/jd

ENGINEER'S CERTIFICATE

I, GORDON C. GUTRATH, of 3636 Lakedale Avenue in the Municipality of Burnaby, in the Province of British Columbia, DO HEREBY CERTIFY:

1. That I am a consulting geologist with a business address of 1024-355 Burrard St., Vancouver, B.C. V6C 2G8.
2. That I am a graduate of the University of British Columbia where I obtained my B.Sc., in geological science in 1960.
3. That I am a Registered Professional Engineer in the Geological Section of the Association of Professional Engineers in the Province of British Columbia.
4. That I have practiced my profession as a geologist for the past sixteen years, and
5. That I am a director and shareholder of Piper Petroleum Ltd.

A circular seal for the Association of Professional Engineers in the Province of British Columbia. The outer ring contains the text "ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF BRITISH COLUMBIA". The inner circle contains "PROFESSIONAL ENGINEER OF BRITISH COLUMBIA". The name "G. C. GUTRATH" is stamped across the center of the seal.
Gordon C. Gutrath, Sc., P. Eng.

DATED at the City of Vancouver, Province of British Columbia
this 12th day of September, 1978.

APPENDIX



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: 985-0648
 AREA CODE: 604
 TELEX: 043-52597

*ANALYTICAL CHEMISTS *GEOCHEMISTS *REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO: Atled Exploration Management Ltd.,
 1024 355 Burrard
 Vancouver, B.C.
 V6C 2J8

CERTIFICATE NO. ;33865
 INVOICE NO. 26486
 RECEIVED July 6/78
 ANALYSED July 13/78

SAMPLE NO. :	%	Oz/Ton	Oz/Ton
	Copper	Silver	Gold
Prime N 5	0.10	0.14	0.005
Prime N 6	0.12	0.04	0.003
Prime S 1	0.20	0.10	0.003
2	0.35	0.12	0.005
3	0.37	0.05	0.003
4	0.46	0.06	0.003
Prime S 5	0.71	0.12	0.005

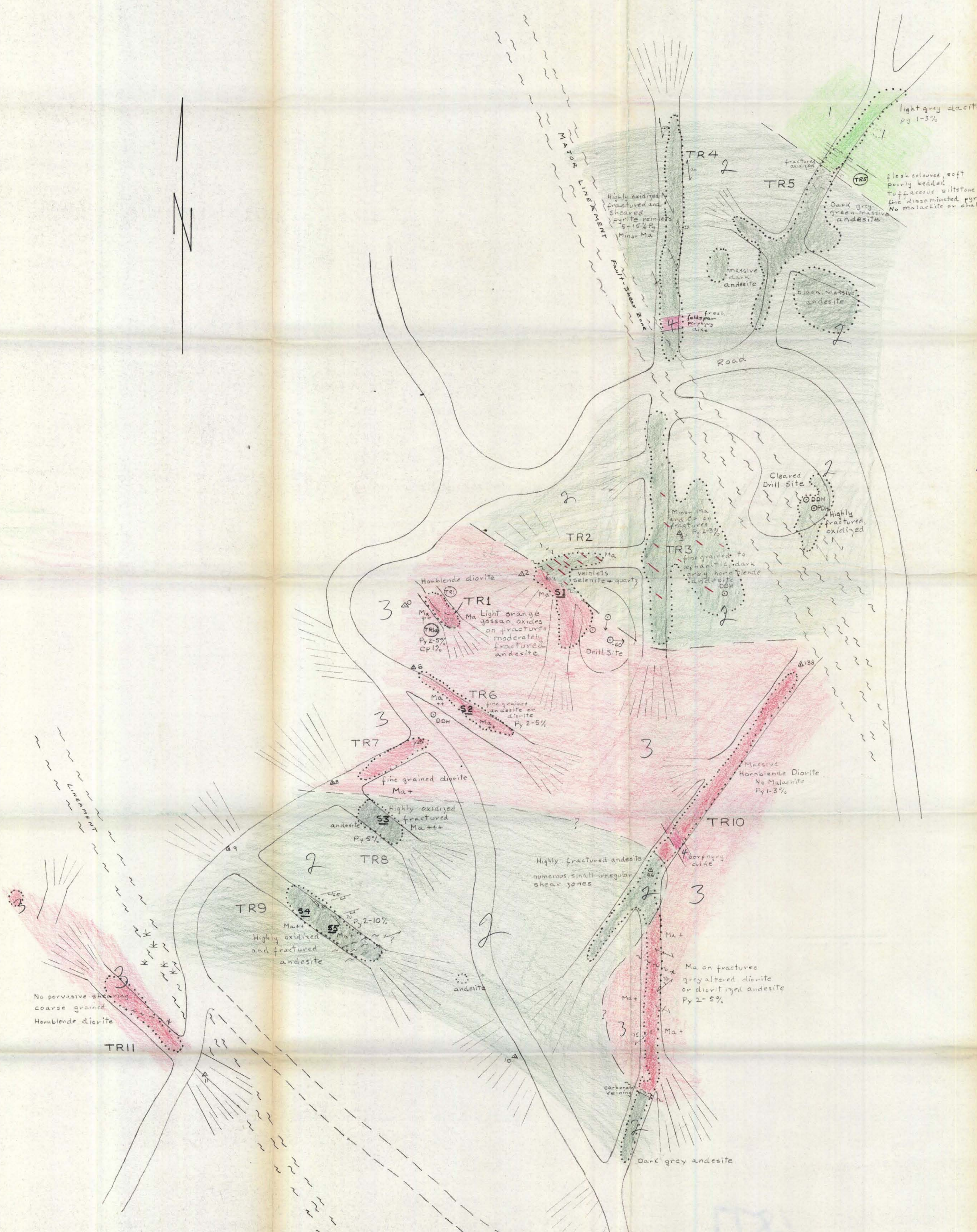


MEMBER
 CANADIAN TESTING
 ASSOCIATION

B. L. Swaiter
 REGISTERED ASSAYER, PROVINCE OF BRITISH COLUMBIA

STATEMENT OF COSTS

1.	<u>G. Gutrath, P. Eng.</u>	
	7 days field work, map preparation and draft report.	
	7 days @ \$300/day	2,100.00
2.	<u>Transportation</u>	
	700 miles @ 20¢/mile	140.00
3.	<u>Assaying</u>	
	Chemex 26486	<u>87.50</u>
		<u>\$2,327.50</u>



LEGEND

- 4 Feldspar Porphyry Dike
- 3 Diorite, hornblende diorite porphyry
- 2 Andesite
- 1 Dacite
- Quartz, selenite or carbonate veining
- Bedding attitude
- Shear attitude
- Fault-shear attitude
- Geological contact
- Py Pyrite
- Cp Chalcopyrite
- Ma Malachite
- o Drill hole
- Δ Survey station
- ⊙ specimen location
- ⊙ Outline of outcrop
- TR6 Trench No.
- S3 Specimen Assayed
- ⊕ Swamp



PIPER PETROLEUMS LTD.

PRIME 2 CLAIM
 Similkameen Mining Div.
 NTS 92H-16W
 1:500

MINERAL RIGHTS BRANCH
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