

'78-# 204-# 6900

GEOLOGICAL AND GEOPHYSICAL SURVEYS

PRIME CLAIM GROUP
SIMILKAMEEN MINING DIVISION

92 H - 16 W
49° 45' N 120° 28' W

<u>Name</u>	<u>Units</u>	<u>Record No.</u>	<u>Expiry Date</u>
PRIME #1	8	46 (5)	May 20, 1979
PRIME	16	47 (5)	May 20, 1979
PRIME #2	20	85 (7)	July 20, 1978

on behalf of

PIPER PETROLEUMS LTD.

by

G. GUTRATH, P. ENG.

ATLED EXPLORATION MANAGEMENT LTD.

May, 1978

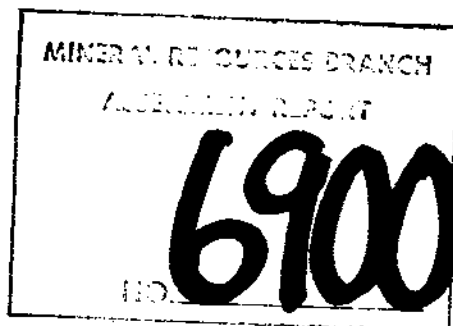
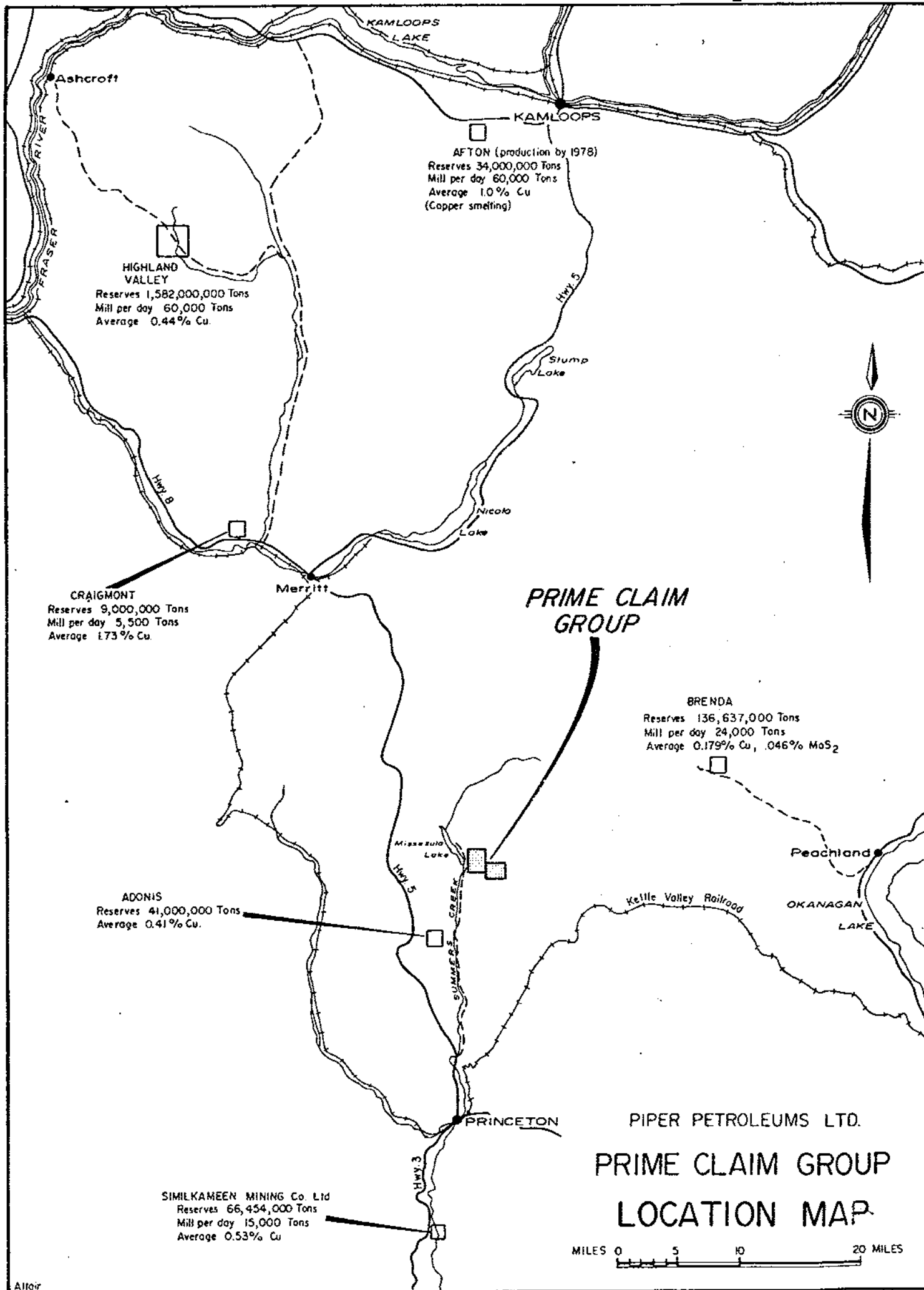


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Ashcroft

KAMLOOPS LAKE

KAMLOOPS

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

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

Stump Lake

Nicola Lake

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% MoS₂

Peachlands

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

Misskula Lake

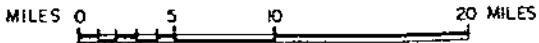
Kettle Valley Railroad

OKANAGAN LAKE

PRINCETON

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

PIPER PETROLEUMS LTD.
**PRIME CLAIM GROUP
 LOCATION MAP**



INTRODUCTION

The mapping of the outcrop geology was started in August, 1977. In May, 1978 the outcrop geology was completed as well as a magnetometer survey of the grid area.

PERSONNEL

G. Gutrath, P. Eng. geologist.

WORK COMPLETED

Grid Survey

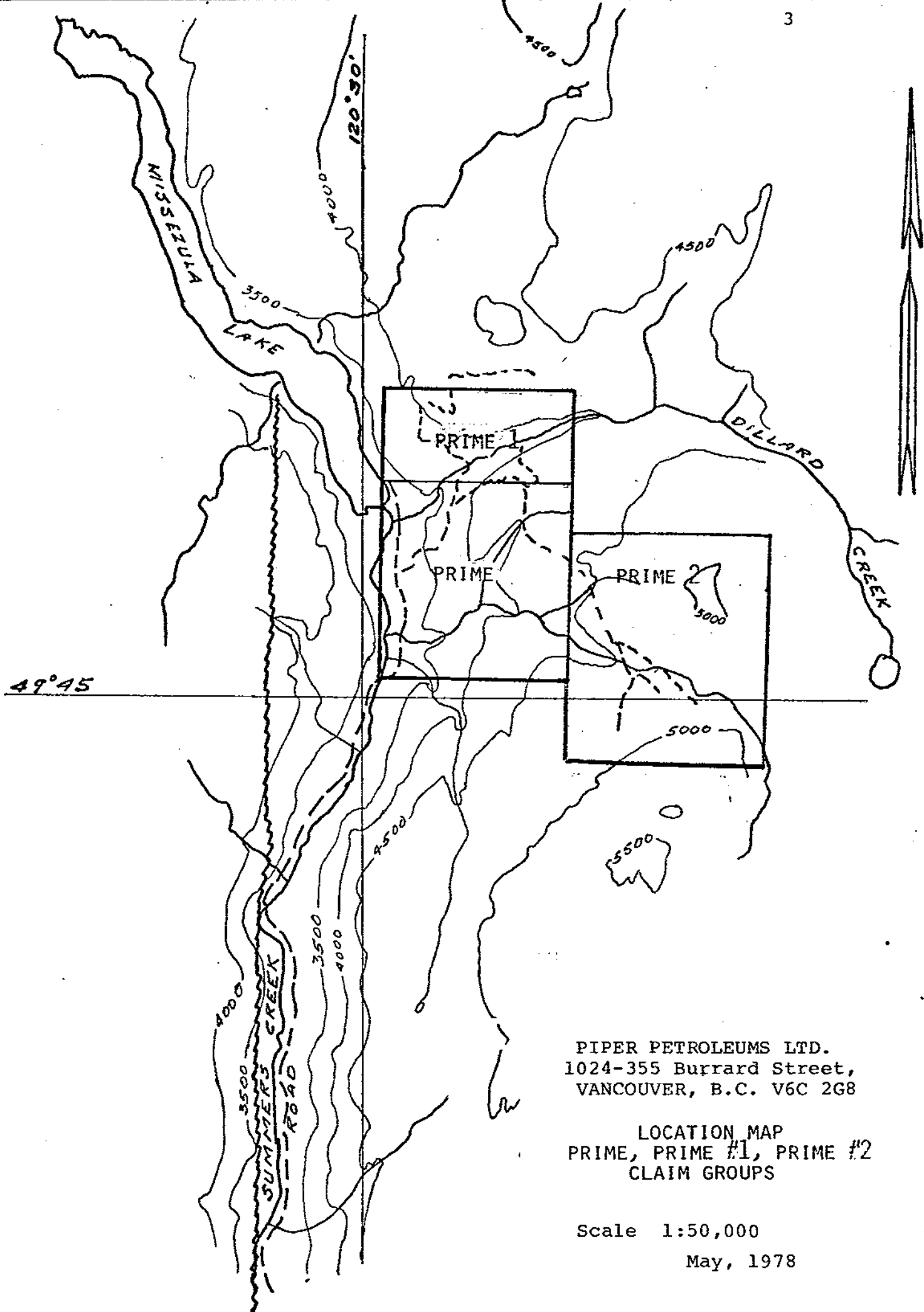
Existing grid lines (bulldozed) were resurveyed and stations placed at 20m intervals. The lines are at N75^OE and are at approximately 120m. intervals along a N15^PW baseline. There are 7 crosslines totalling 7,280m.

Geological Mapping

The outcrop geology was mapped on a scale of 1:2500. Samples were collected for petrographic study.

Magnetometer Survey

The crosslines were surveyed using a Sharpe MF.1 magnetometer. Readings were taken at 10m intervals on the majority of the lines.



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 VANCOUVER, B.C. V6C 2G8

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

Scale 1:50,000
 May, 1978

LOCATION AND ACCESS

The property is located in south-central British Columbia 22 airmiles north of the community of Princeton. The approximate co-ordinates of the property are $49^{\circ} 45'$ north latitude and $128^{\circ} 28'$ west 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 the Missezula Lake road.

PHYSIOGRAPHY

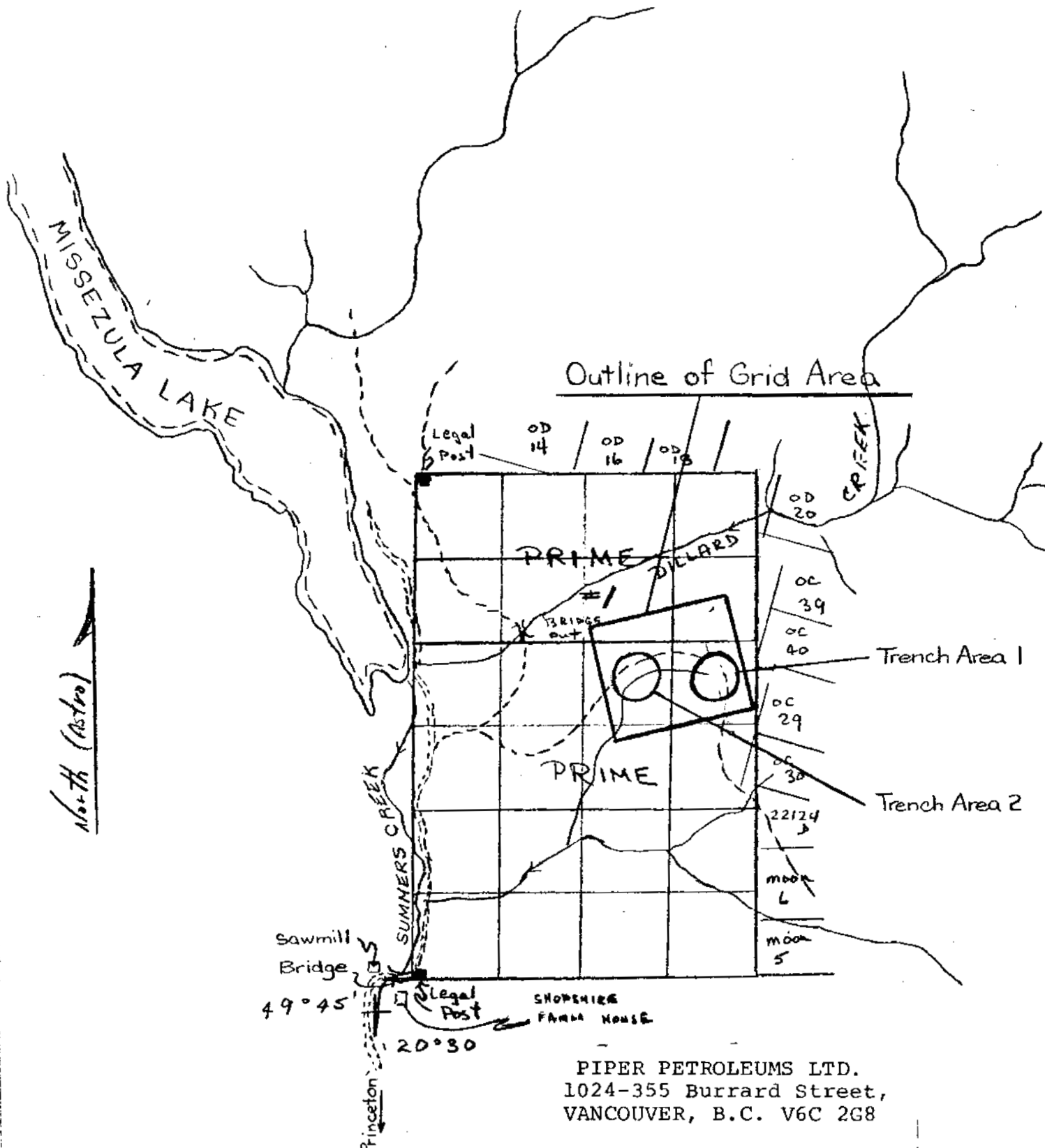
The Prime Group covers the eastern slope of the Summers Creek Valley from Summers Creek at an elevation of 3200 feet to a rolling plateau area at an elevation of 4,400 feet.

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

There is ample water on the property for drill requirements.

CLAIMS

<u>Name</u>	<u>Units</u>	<u>Record No.</u>	<u>Expiry Date</u>
PRIME #1	8	46 (5)	May 20, 1979
PRIME	16	47 (5)	May 20, 1979
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Outline of Grid Area

North (Astro)

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CLAIM MAP
PRIME, PRIME #1

Map Sheet 92H/16W
Scale 1 inch = 1/2 mile

GEOLOGY

General

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

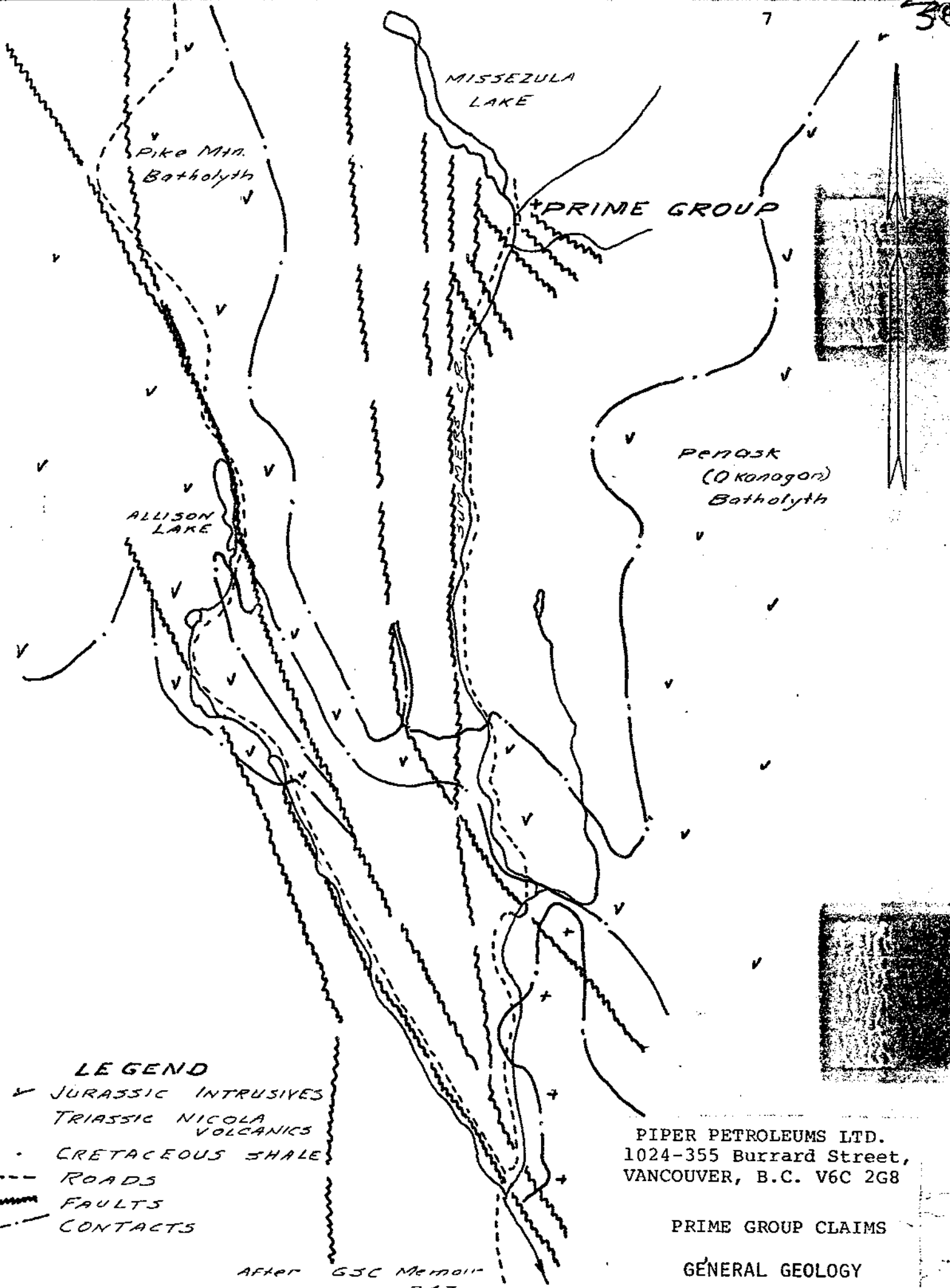
This group is within a downfaulted block bounded by major north to northwest striking faults and bordered by Coast Range intrusive rocks of Jurassic age. This fault block has been cut by numerous smaller faults and by a wide range of dikes.

Property

The Prime, Prime #1, and Prime #2 are underlain by Nicola Group andesitic flows, tuffs, agglomerates and limestone.

These rocks are located within an embayment of the Okanagan granodiorite batholith that lies to the east of the property. Dikes, sills and small stocks of varying composition cut the Nicola Group rocks in the property area.

The rocks have been moderately to highly altered and fractured as a result of the extensive northwest and northeast striking shear zones that are widely distributed throughout the claim group. The claims are bordered on the west by the major north trending Summers Creek fault.



Numerous copper-pyrite occurrences have been located on the property related primarily to areas of fractured andesite and diorite rock types.

The claim area is largely covered by this glacial overburden resulting in bulldozer trenching being an effective way to expose bedrock.

Grid Area

The grid area has less than 5% outcrop exposure and a large portion of this is in bulldozer trenches and road cuts.

The majority of the grid is underlain by volcanic rocks of andesite composition and related hybrid types. Hornblende porphyry fragmentals can be recognized to the east of the base line. To the west of the base line and particularly in the areas of fracturing and shearing of original volcanic structure, textures and composition have been altered and masked by secondary alteration. The majority of the volcanics are dark grey to a grey-green, with occasional hornblende or feldspar porphyritic phases.

A diorite has been mapped along the west portion of lines 3N and 2N. The rock is dark grey-green, fine grained and may be related to the andesites. To the west of the base line between 1S and 2S, there is an area of fine to medium grained, grey diorite.

There is a distinct intrusive dike on line O - 500m west. This dike rock is fresh, a light buff colour and has been tentatively identified as a feldspar porphyritic monzonite. This rock type has been seen in other areas of the claim group but this is the only dike noted in the grid area.

The volcanics are cut by numerous fault-shear zones in the grid area. The most prominent are the north-south and northwesterly trending faults. The most prominent fault is that which parallels the base line. It extends to the north but appears to terminate or be offset by the northwesterly trending fault at L 3S-0. There is another strong northeasterly fault in the trench area on L1S - 60m.west and at L2N-70m.east. Northeasterly faults are not as common but they are noted at L1S-100m. west and the creek gully from L3S-800m west to L1N-400m west may represent a strong northeasterly trending fault. Shearing and fracturing is associated with the faults. At fault intersections such as in the trench area at L1S-60m.west and at LO-500m.west the shearing and fracturing can extend over large areas.

Mineralization

Chalcopyrite and secondary malachite occur in the trench area at L1S-60m. west, L2S-200m. west and LO-60m. west. The chalcopyrite content varies from a trace to over 1% in these areas and is associated with chlorite and epidote alteration and to a minor extent with carbonate-quartz veining.

Pyrite content ranges from 3 to 20% in the chalcopyrite mineralized areas and from 2 to 5% peripheral to the chalcopyrite mineralized areas.

MAGNETIC SURVEY

Instrumentation

The Sharpe MF-1 magnetometer measures the vertical force variations of the earth's natural magnetic field and displays them in gammas on a meter having 5 ranges for a total of \pm 100,000 gammas.

The unit is light in weight, is fully portable, has excellent temperature stability, has negligible drift or orientation error and is of rugged construction.

Method

The survey was executed using a Sharpe MF-1 magnetometer which is hand held and leveled using a bubble-level on the face of the instrument.

Readings were taken at a constant height above ground facing one direction using the most sensitive scale possible.

The new lines to the northwest of the old grid were tied into this grid by means of an extended Baseline as noted on the contour map. The line extensions at the southwest corner of the grid were tied into the end station readings with sufficient overlap.

A nearby base-station was read at the beginning and end of each day for the day-to-day correlation and to monitor any possible magnetic storms.

Results

There is a general increase in magnetic response from the vicinity of the base line east. There is a large low amplitude (1,000 gammas) anomaly on line 1 N extending from 80m. west to 80m. east and generally centered in the area of the copper-pyrite mineralized trench area. The anomaly thins to the north and south. There are similar anomalies to the east and it is believed that this general increase in magnetic response is a result of a north-south trending band of more basic volcanic rocks in the area. The magnetic anomaly on line 0-60m. west may be related to an increase in magnetic content associated with the chalcopyrite mineralization.

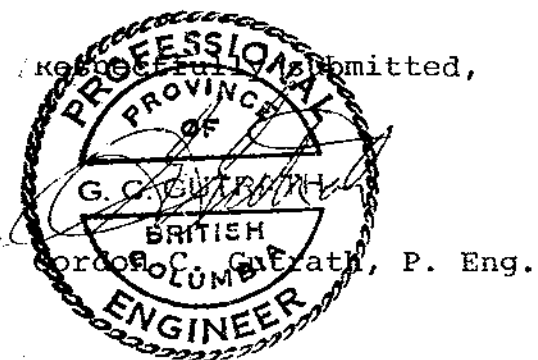
On line 0 from 56m. west to 74m. west there are three small anomalies ranging from 1,500 to 4,100 gammas. These anomalies appear to be directly related to a highly pyritized, moderately feldspathized andesite volcanics with associated chalcopyrite mineralization.

CONCLUSIONS & RECOMMENDATIONS

The chalcopyrite mineralization is associated with areas of more intensive fracturing and shearing related to fault intersections.

The magnetic survey indicates an increase in magnetite content within the better copper mineralized areas.

It is recommended that the programme be extended to cover the copper mineralized zone to the south of the present grid area.

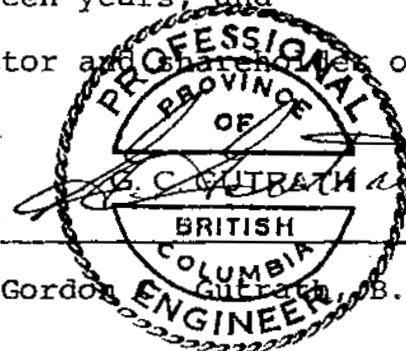


GCG:jl

ENGINEER'S CERTIFICATE

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

1. THAT I am a consulting geologist with a business address of 1024-355 Burrard Street, 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 practised my profession as a geologist for the past sixteen years, and
5. THAT I am a director and shareholder of Piper Petroleums Ltd.



 GORDON C. GUTRATH
 BRITISH COLUMBIA
 ENGINEER, B.Sc., P. Eng.

DATED at the City of Vancouver, Province of British Columbia, this 10th day of July, 1978.

APPENDIX

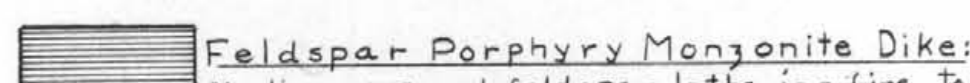
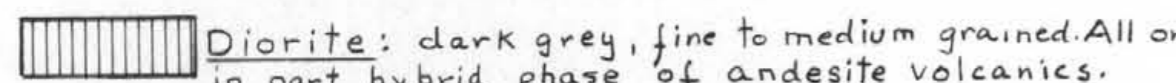
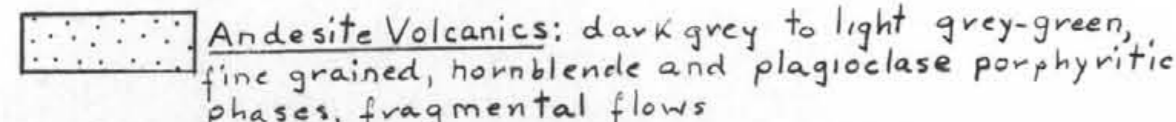
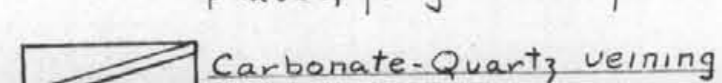
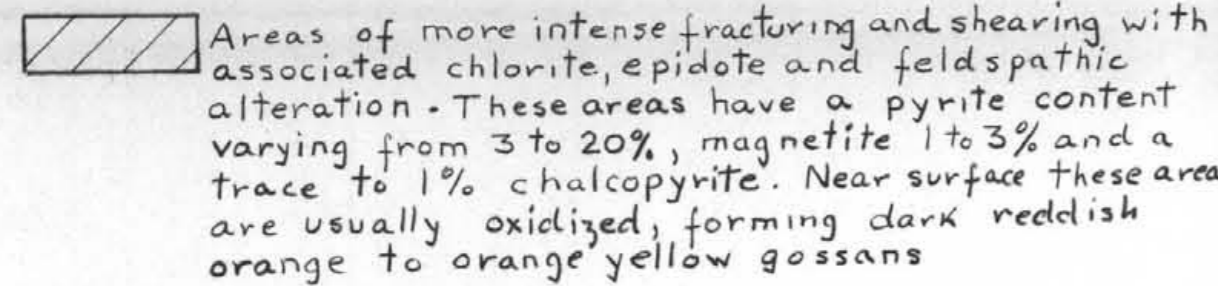
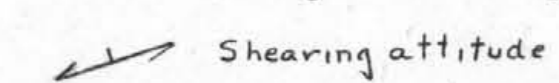
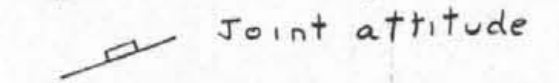
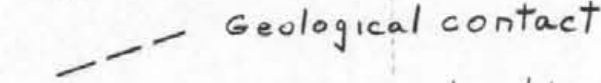
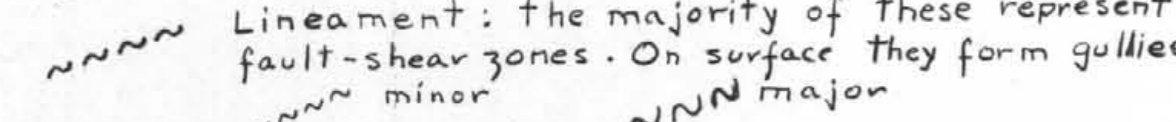
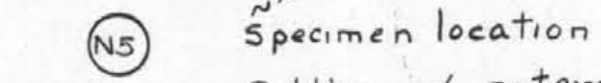
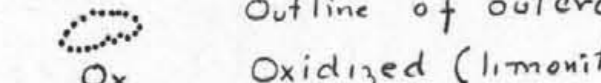
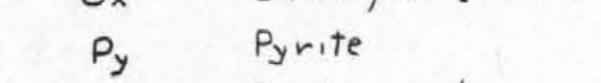
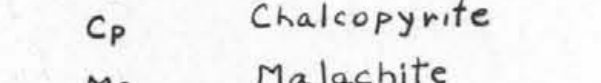
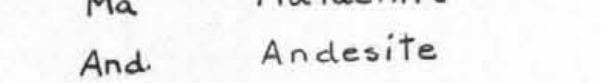
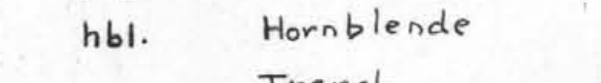
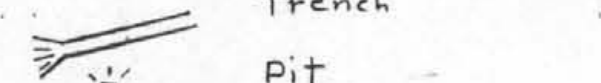
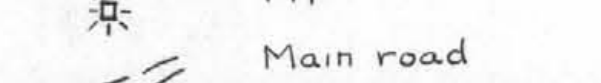

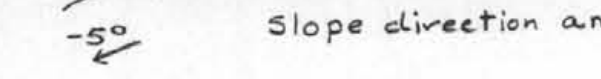


COST STATEMENT

a) Professional Services			
Field Work			
Aug 10-11 1977	2 days		
May 12-17 1978	6 days		
Data Compilation			
May 18-19 1978	<u>2 days</u>		
	10 days @ \$250.00/day		\$2,500.00
b) Transportation			
4 x 4 truck	8 days @ \$30.00/day		240.00
c) Food & Accomodation			
Field Camp	8 days @ \$20.00/day		160.00
d) Magnetometer Rental	8 days @ \$10.00/day		80.00
3) Flagging, miscellaneous field supplies			<u>20.00</u>
			<u>\$3,000.00</u>



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LEGEND

-  Feldspar Porphyry Monzonite Dike: medium grained feldspar laths in fine to medium grained light buff coloured ground mass, fresh.
-  Diorite: dark grey, fine to medium grained. All or in part hybrid phase of andesite volcanics.
-  Andesite Volcanics: dark grey to light grey-green, fine grained, hornblende and plagioclase porphyritic phases, fragmental flows.
-  Carbonate-Quartz veining
-  Areas of more intense fracturing and shearing with associated chlorite, epidote and feldspathic alteration. These areas have a pyrite content varying from 2 to 20%, magnetite 1 to 3% and a trace to 1% chalcopyrite. Near surface these areas are usually oxidized, forming dark reddish orange to orange yellow gossans.
-  Shearing attitude
-  Joint attitude
-  Geological contact
-  Lineament: the majority of these represent fault-shear zones. On surface they form gullies minor
-  Specimen location
-  Oxidized (limonite)
-  Pyrite
-  Chalcopyrite
-  Malachite
-  Andesite
-  Hornblende
-  Trench
-  Pit
-  Main road
-  Tote road
-  Slope direction and degree



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PRIME CLAIM GROUP
SIMILKAMEEN MINING DIVISION

NTS 92 M - 16 W
Field Work G. Guthrie
Drafting G.G.
Date June 1978

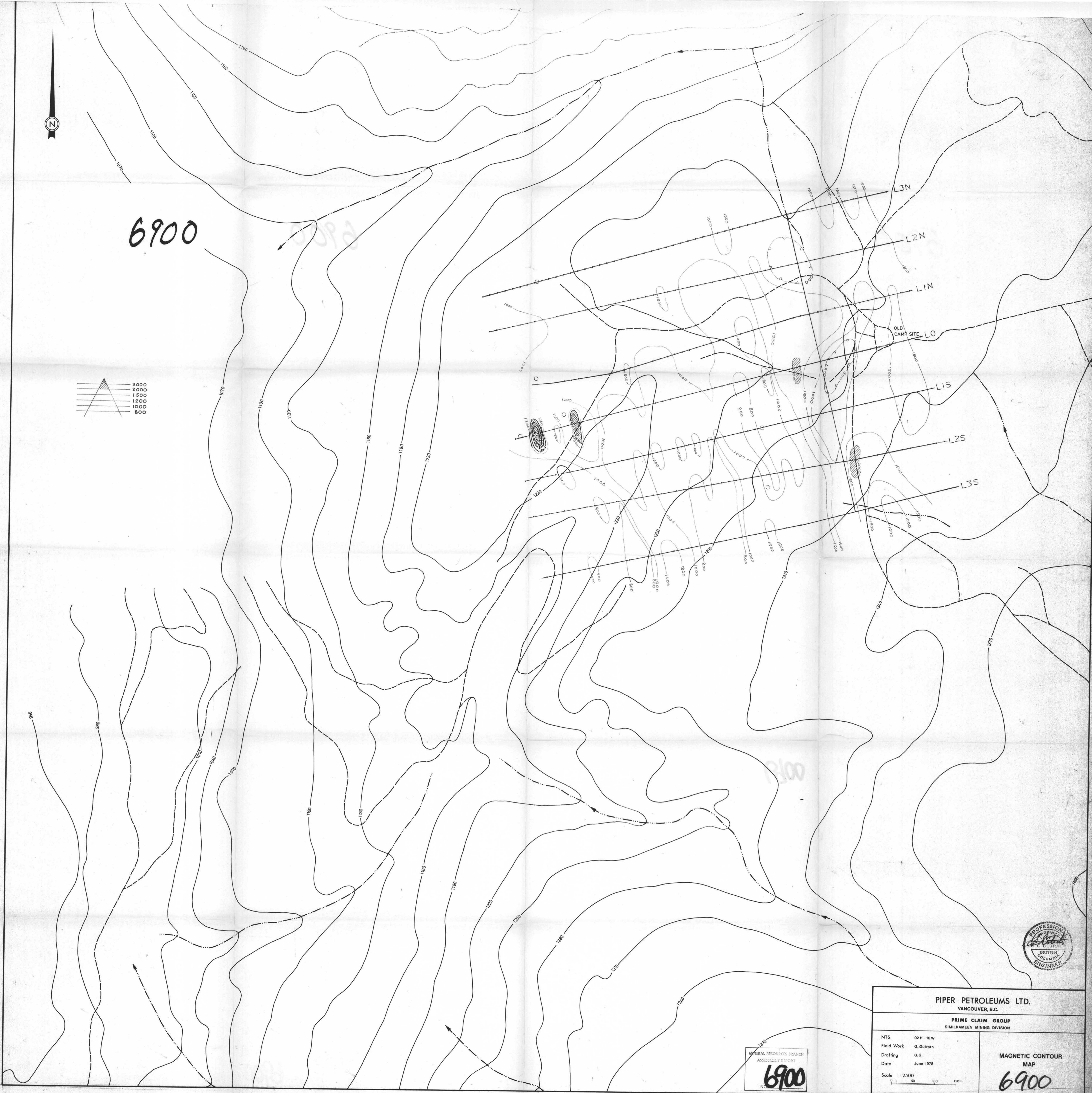
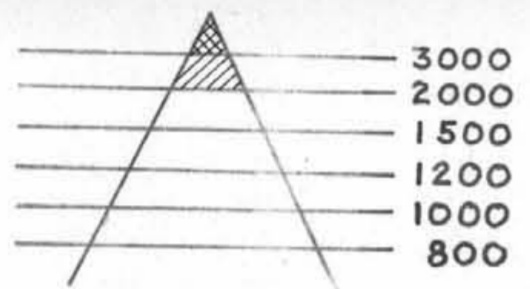
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OUTCROP GEOLOGY
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MINERAL RESOURCES BRANCH
ASSESSMENT OFFICE
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MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
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PRIME CLAIM GROUP SIMILKAMEEN MINING DIVISION	
NTS	92 H - 16 W
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MAGNETIC CONTOUR MAP 6900	



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Drafting S.S.
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0 50 100 150 m

MAGNETOMETER
READINGS
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