

WHITEWATER GROUP: SOIL GEOCHEMISTRY

SLOCAN MINING DIVISION

WHITEWATER 1, 2 and 3 (31 units)

82K/3E

50° 05' N, 117° 08' W

Owner/Operator

Amoco Canada Petroleum Company Ltd.
Mining Division
656 - 409 Granville Street
Vancouver, B.C.
V6C 1T2

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

7835
NO. _____

Report written by :

Paul Brown
October 30, 1979

TABLE OF CONTENTS

INTRODUCTION	1
GEOLOGY	4
SOIL GEOCHEMISTRY	6
EVALUATION OF WORK	8

LIST OF FIGURES

1. Location Map WHITEWATER 1, 2 and 3 Claims and Grid Page 3

LIST OF APPENDICES

1. Fee Schedule
2. Procedure for Geochemical Analysis
3. Name and Addresses of People Conducting Work
4. Unit Cost per Hour for Helicopter
5. Qualifications of Paul Brown

LIST OF MAPS

1. Au, Ag and Cu Soil Geochemistry - WHITEWATER 1, 2 and 3 Claims (in folder)
2. Soil Sample Location Map (in folder)

INTRODUCTION

The WHITEWATER 1, 2 and 3 claims consist of 31 contiguous units which are situated in the Whitewater Creek area, approximately 4 km. north of the old mining town of Retallack, B.C.. The southern portion of the WHITEWATER claim group is accessible by a logging road up the Whitewater Creek Valley, while the central portions of the claim group is accessible by a hiking trail extending off this logging road. Relief on the claim group is 1300 m., requiring helicopter support for setting up and servicing a field camp located in the western portion of the claim group.

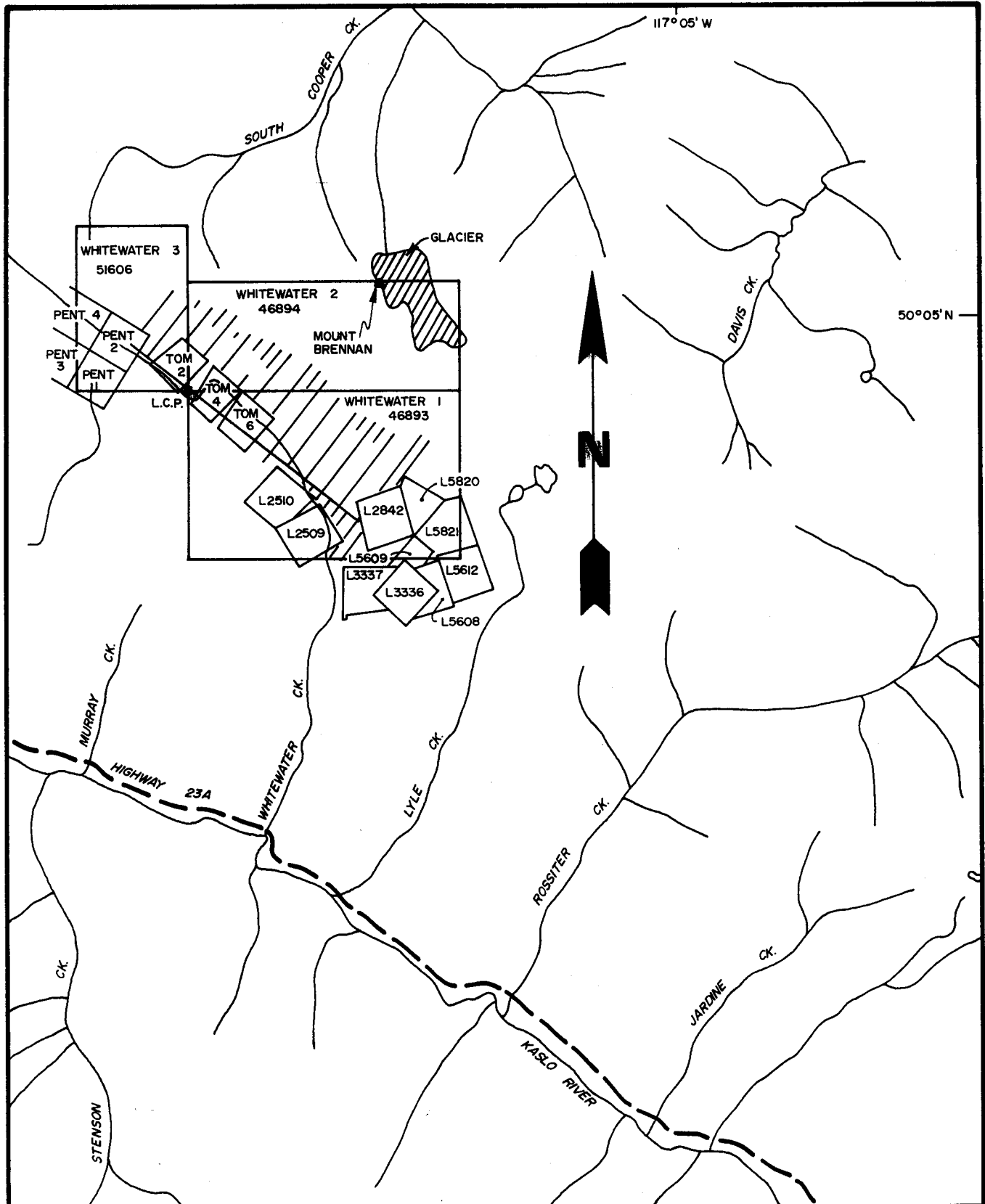
Amoco Canada Petroleum Company Ltd., Mining Division, is the owner and operator of the WHITEWATER 1, 2 and 3 claims.

The central portion of the claim group is underlain by serpentinitised ultramafics of Triassic or Permian age. These ultramafics form a narrow belt trending NW-SE, and is flanked on both sides by chloritized meta-volcanics, of the Kaslo Group. The majority of the claim group is underlain by these Kaslo Group metavolcanics except the southwest corner where the rocks are Slocan Group black argillites of Triassic age.

Geochemical soil sampling has indicated the presence of anomalous concentrations of gold on all three WHITEWATER Claims.

WHITEWATER CLAIM GROUP

<u>Claim</u>	<u>Units</u>	<u>Tag No.</u>	<u>Date Staked</u>	<u>Anniversary Date</u>	<u>Record No.</u>
WHITEWATER 1	15	46893	Aug. 14, 1979	Aug. 28, 1980	1403
WHITEWATER 2	10	46894	Aug. 14, 1979	Aug. 28, 1980	1404
WHITEWATER 3	6	51606	Aug. 16, 1979	Aug. 28, 1980	1405



NTS 82K 3E

AMOCO CANADA PETROLEUM CO. LTD.
 MINING DIVISION

**SLOCAN PROJECT
 WHITTEWATER CLAIM GROUP
 LOCATION MAP**

Drawn By	R. IVANY	Scale	1:50,000
Date	OCT. 1979	Project No.	78-C-003

GEOLOGY

The majority of the WHITEWATER 1, 2 and 3 claims are underlain by Kaslo Group metavolcanics of Permian and or Triassic age. These metavolcanics consist mainly of fine grained, dark green flows and/or tuffs of andesitic composition. Interbedded with these volcanics are lenses of clastic sediments, which appear to be of a composition similar to that of the volcanics. These sediments tend to strike east-west and dip very steeply to the south. The principal alteration, chlorite, is found throughout the andesites and metasediments and is strongest adjacent to contacts.

Near the stratigraphic middle of the meta-andesite sequence is a NW-SE trending belt of strongly serpentized ultramafics. These ultramafic flows, which are occasionally pillowed, vary in width from 300 m to 600 m and has a strike length of approximately 14 km.

Within the sediments and volcanics on the northeast side of the ultramafics are a number of narrow easterly trending and steeply dipping dikes. These light grey to brown quartz and feldspar rich dikes are of alaskite to quartz monzonite composition.

Occurring within the chloritized meta-andesites adjacent to the contacts with the ultramafics are a number of quartz veins, which are generally small and of limited extent, with a few exceptions. These veins have a NW-SE trend and usually steeply dipping. Veins are generally barren however occasionally they contain minor amounts of Py and are also believed to be the source of gold found in a soil geochem survey over portions of WHITEWATER 1 and 2 claims. An old gold showing located in the south central portion of WHITEWATER 2 is associated with two 30 cm Cp and Py bearing quartz veins. These veins trend 150° and dip 85° NE, and appear to be restricted in potential size.

Significant amounts of Ni have been reported within the ultramafics themselves however not within the confines of the WHITEWATER Claims.

SOIL GEOCHEMISTRY

During the period August 15th and August 17th to August 20th, 1979, 20 man days were spent collecting soil samples on a grid covering portions of WHITEWATER 1, 2 and 3 claims (see location map page 3). An area of approximately 150 hectares was covered. Grid lines are at 200 m separation and samples were collected every 30 m. A number of lines on a pre-existing grid were extended and soil samples were taken on these lines every 50 m when possible.

Soil samples were collected from depths of 10 cm to 20 cm with a mattock and stored in Kraft paper bags. The B horizon was sampled when present otherwise the C horizon was sampled.

The minum 80 mesh fraction of all samples was analyzed for Au, Ag and Cu by Min-En Laboratories of North Vancouver.

The results indicate the presence of several anomalous concentrations of gold, the largest of which occurs between lines 13+00E and 19+00E. All gold values within the anomalous

zone are greater than 75 ppb with the highest being 1850 ppb on L15+00E at 2+40N. Several smaller anomalous zones are located directly downslope of the most prominent zone and are probably downslope migration of gold in soils.

The strongest soil anomaly is underlain by chloritized meta-andesites which are host to infrequent "visible" quartz veins, and adjacent to the contact with ultramafic rocks.

Several other weaker but significant concentrations of gold in soils are found within the claim group and are probably related to quartz veins in chloritized mafic volcanics

EVALUATION OF WORK

Soil Sampling: A total of 368 soil samples were collected.
 233 samples on WHITEWATER 1.
 135 samples on WHITEWATER 2 and 3.

Claim: WHITEWATER 1, 2 and 3

Work Conducted: Grid soil Sampling.

Dates Conducted: August 15th, 17th, 18th, 19th and 20th.

Salaries:	Paul Brown 5 man-days @ \$52.90	=	\$264.50
	David Stevenson 5 man-days @ \$39.62	=	\$198.10
	Keith Thompson 5 man-days @ \$37.96	=	\$189.80
	Lauchlan Currie 5 man-days @ \$31.48	=	<u>\$157.40</u>
	Sub-Total		\$809.80

Meals:	20 man-days at \$12.00/man-day	\$240.00
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Transportation:	Helicopter 4.9 hrs. at \$380.90/hr.	\$1866.41
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TOTAL	\$2916.21
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Assay Charges: Soil samples taken on WHITEWATER 1, 2 and 3.
 368 samples analyzed for Au, Ag and Cu at
 \$6.65/sample \$2472.20

Credit to WHITEWATER 1, 2 and 3 Claims:

Work done	\$2916.21
Assay charges	2472.20
Cost of report preparation	<u>300.00</u>
TOTAL	\$5688.41

APPORTIONMENT OF EXPENSES

WHITEWATER 1, WHITEWATER 2 and WHITEWATER 3 Claims:

Total number of samples WHITEWATER 1, 2 and 3 = 368

Total number of samples WHITEWATER 1 = 233

Total number of samples WHITEWATER 2 and 3 = 135

WHITEWATER 1: $233/368 \times \$5,688.41 = \$3,601.63$

WHITEWATER 2 and 3: $135/368 \times \$5,688.41 = \$2,086.78$

APPENDIX 1

FEE SCHEDULE

Geochemical analyses were done by:

Min-En Laboratories Ltd.
705 West 15th Street
North Vancouver, B.C.

V7M 1T2

Geochemical analyses:

Au, Ag and Cu \$6.15

Sample preparation \$0.50

Total \$6.65

MIN-EN Laboratories Ltd.

Specialists in Mineral Environments

Corner 15th Street and Bewicke
705 WEST 15th STREET
NORTH VANCOUVER, B.C.
CANADA

ANALYTICAL PROCEDURE REPORTS FOR ASSESSMENT WORK

PROCEDURE FOR GOLD GEOCHEMICAL ANALYSIS.

Geochemical samples for Gold processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver Laboratory employing the following procedures.

After drying the samples at 95^oC soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized by ceramic plated pulverizer.

A suitable sample weight 5.0 or 10.0 grams are pre-treated with HNO₃ and HClO₄ mixture.

After pretreatments the samples are digested with Aqua Regia solution, and after digestion the samples are taken up with 25% HCl to suitable volume.

At this stage of the procedure copper, silver and zinc can be analysed from suitable aliquote by Atomic Absorption Spectrophotometric procedure.

Further oxidation and treatment of at least 75% of the original sample solutions are made suitable for extraction of gold with Methyl Iso-Butyl Ketone.

With a set of suitable standard solution gold is analysed by Atomic Absorption instruments. The obtained detection limit is 5 ppb.

MIN-EN Laboratories Ltd.

Specialists in Mineral Environments

Corner 15th Street and Bewicke
705 WEST 15th STREET
NORTH VANCOUVER, B.C.
CANADA

ANALYTICAL PROCEDURE REPORTS FOR ASSESSMENT WORK

PROCEDURES FOR: Cu, Mo, Cd, Pb, Mn, Ni, Ag, Zn

Samples are processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver Laboratory employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by jaw crusher and pulverized by ceramic plated pulverizer.

1.0 gram of the samples are digested for 6 hours with HNO_3 and HClO_4 mixture.

After cooling the samples are diluted to standard volume. The solutions are analysed by Atomic Absorption Spectrophotometers.

Copper, Lead, Zinc, Silver, Cadmium, Cobalt, Nickel and Manganese are analysed using the CH_2H_2 -Air Flame combination but the Molybdenum determination is carried out by C_2H_2 - N_2O gas mixture directly or indirectly (depending on the sensitivity and detection limit required) on these sample solutions.

Background corrections for Pb, Ag, Cd upon request are completed.

APPENDIX III

NAMES AND ADDRESSES OF PERSONS CONDUCTING WORK

Paul Brown 1504-2170 Sherobee Road
 Mississauga, Ontario
 L5A 3P8

David Stevenson 74 Warren Avenue
 Riverview, New Brunswick
 E1B 3M3

Keith Thompson 36 New Street S.E.
 Calgary, Alberta
 T2G 3X9

Lauchlan Currie 1114 Talon Avenue S.W.
 Calgary, Alberta
 T2T 1G1

APPENDIX IV

COST PER HOUR FOR HELICOPTER, 1979

Bell 206B, casual basis, Okanagan Helicopters, Nelson, B.C.

Casual rate	\$350.00/hour
Fuel and oil cost	<u>\$ 30.90/hour</u>
Total	\$380.90/hour

APPENDIX V

QUALIFICATIONS OF PAUL BROWN

B.Sc. Geology, Memorial University of Newfoundland, 1974

Continuously employed in the mineral exploration industry since graduation and with Amoco Canada Petroleum Company Ltd. since April 1975.

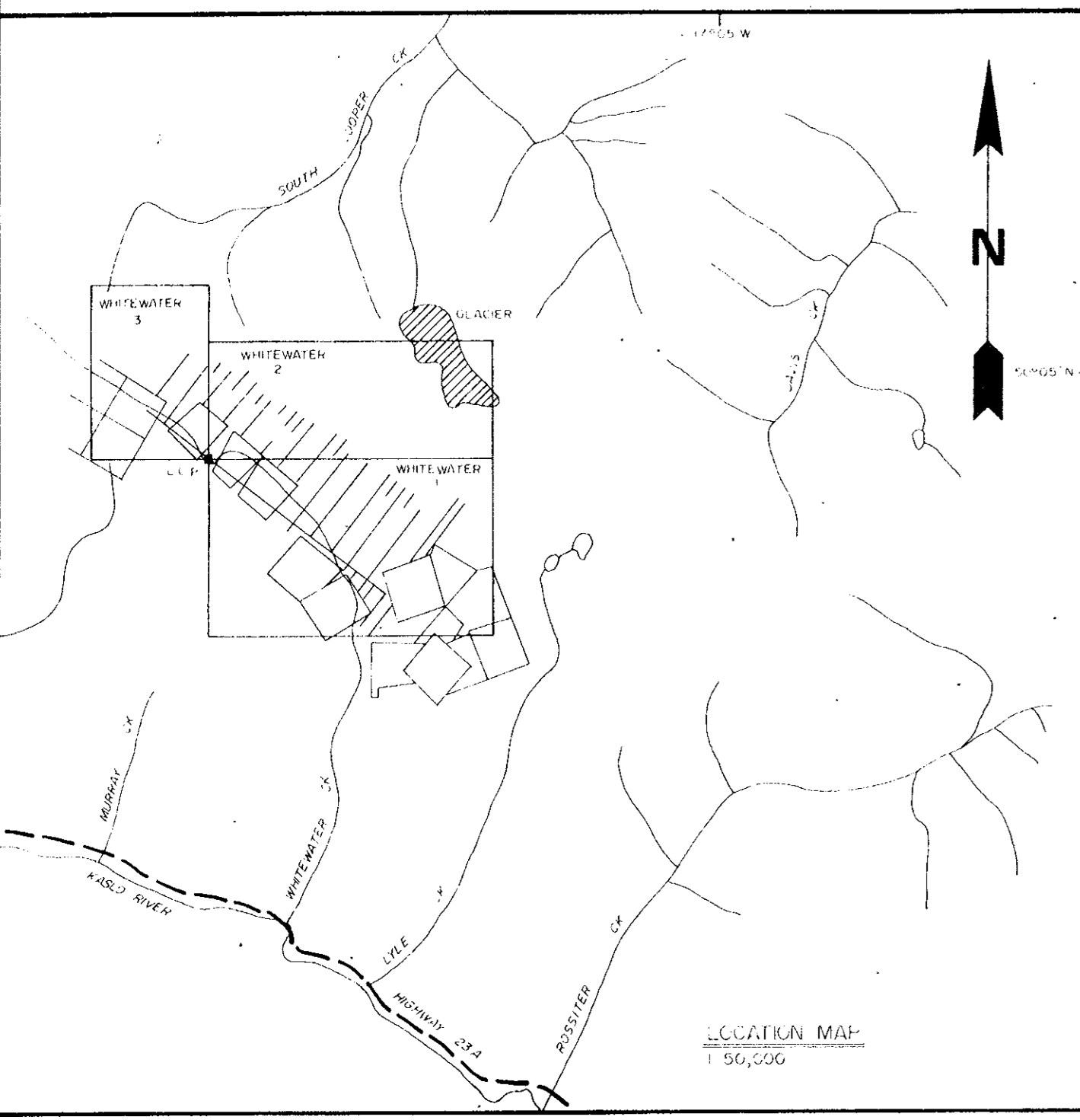
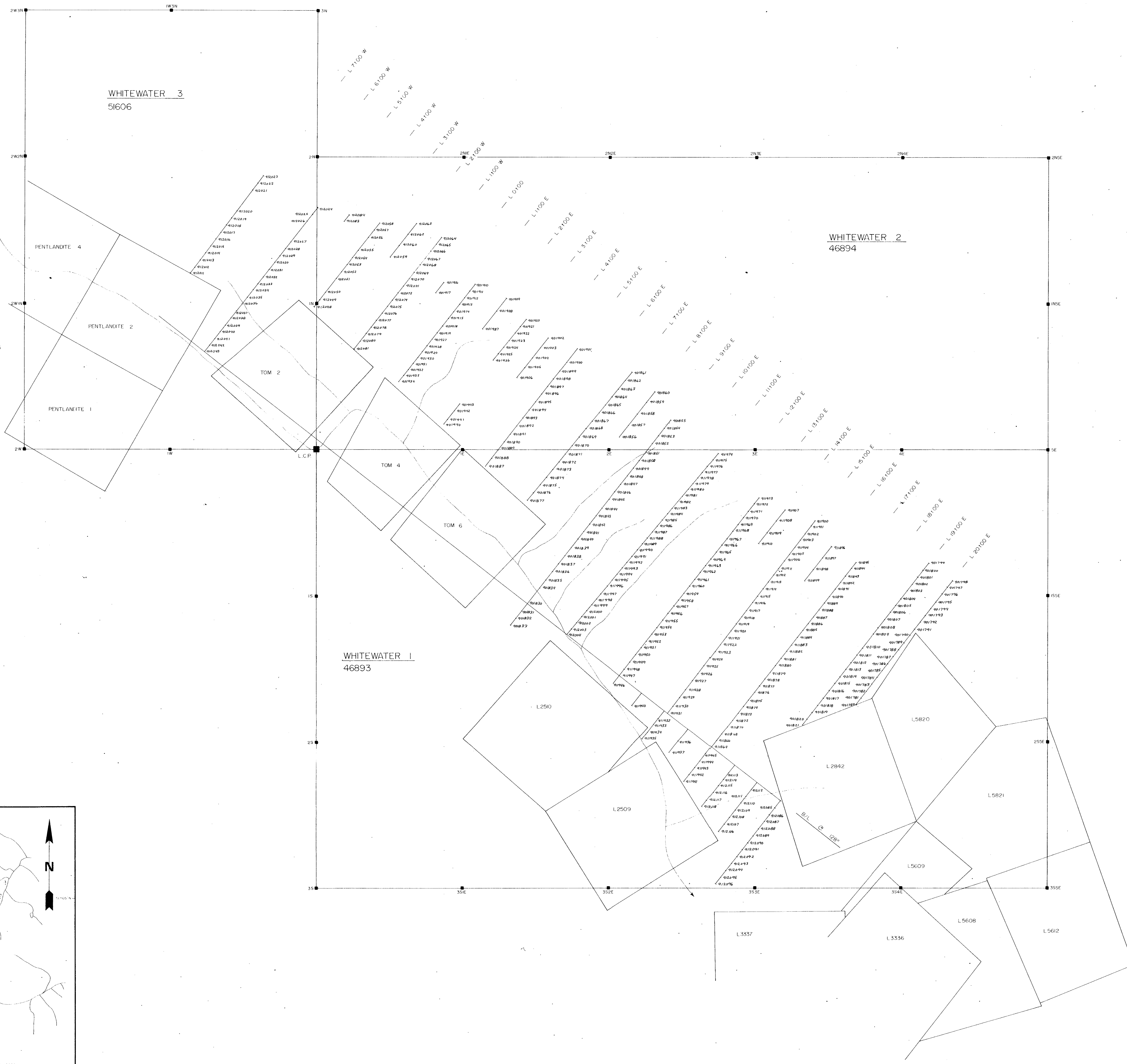
Member of the Geological Association of Canada and the Canadian Institute of Mining and Metallurgy.

Paul Brown

Paul Brown, B. Sc.

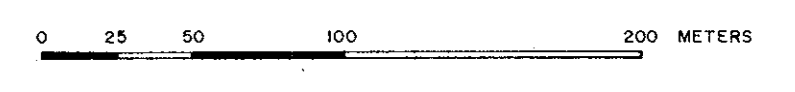
Toronto, Ontario

October 30, 1979



LEGEND:
+ SOIL SAMPLE LOCATION
■ LEGAL CLAIM POST
— CREEK

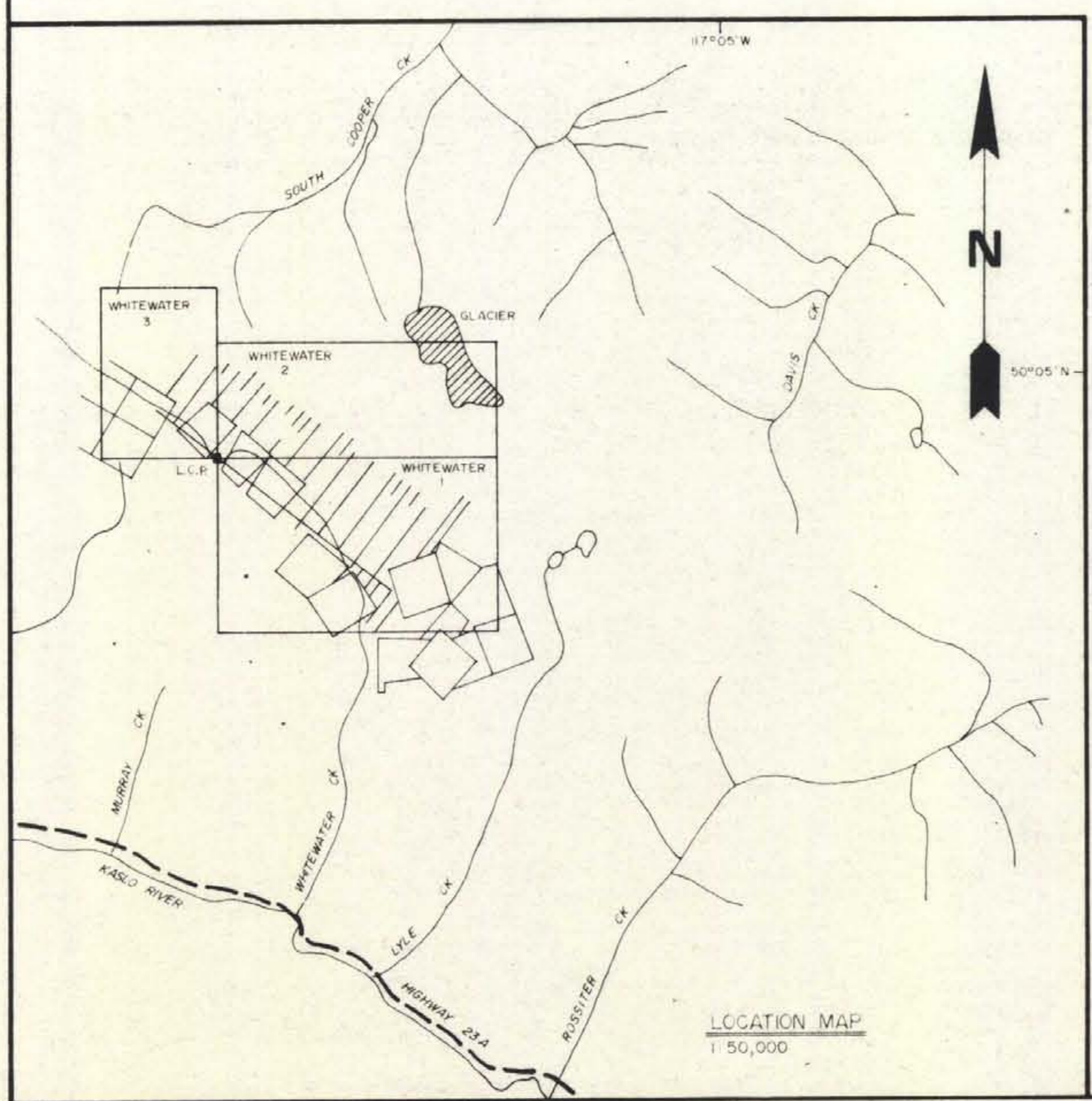
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ALBERTA ENERGY
7835



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MINING DIVISION

SLOCAN PROJECT
ANOMALY 2 - GOLD
SAMPLE LOCATION MAP

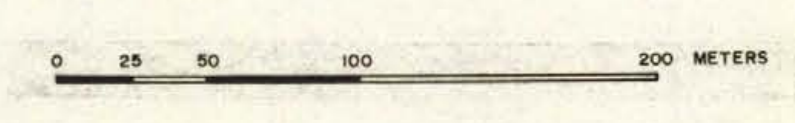
Drawn By	R IVANY	Scale	1:5,000
Date	NOV. 1979	Project NO.	78-C-004



LEGEND
 + 80,16,140 — SOIL SAMPLE RESULTS: Au(ppb), Ag,Cu (ppm)
 ■ LEGAL CLAIM POST
 — CREEK

Au RESULTS
 75 - 199 ppb
 200 - 499 ppb
 500 - 999 ppb
 > 1000 ppb

MINERAL RESOURCES BRANCH
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AMOCO CANADA PETROLEUM CO. LTD.
 MINING DIVISION

SLOCAN PROJECT
 ANOMALY 2 — GOLD
 GEOCHEMISTRY RESULTS
 Au (ppb), Ag, Cu (ppm)

Drawn By	R IVANY	Scale	1:5,000
Date	NOV. 1979	Project No.	78-C-003