

GEOCHEMICAL REPORT

ANGEL PROPERTY

OMINECA MINING DIVISION

NTS 93F/11W

LATITUDE 53°35'N LONGITUDE 125°17'W

DATES OF WORK: June 1, 1981 - Jan. 6, 1982

owner K. Wayne Livingstone

operator Geoex Resources Ltd.

contractor JMT Services Corp.

written by K. Wayne Livingstone, M.Sc.  
Gordon G. Richards, P.Eng.  
Colin Harivel, B.Sc.

submitted April 15, 1982

MINERAL RESOURCES BRANCH

ASSESSMENT REPORT

10320



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## INTRODUCTION

During helicopter supported reconnaissance work in the summer of 1981, mineralized float was discovered in the vicinity of Lucas Lake, in central western B.C. Reconnaissance style soil and rock chip sampling was carried out in the area in an effort to delimit the source area for the float. This sampling forms the basis of this report.

Ninety-five samples were collected of which 63 were soil, 23 were rock chips and 9 were stream sediments.

## LOCATION AND ACCESS

Angel claims are about 100 km southwest of Vanderhoof in west Central British Columbia. They are in an area of subdued topography between Natulkuz Lake and Cheslatta Lake, some 7 km northwest of Lucas Lake. Access is by helicopter from Burns Lake to the northwest or from Prince George to the east.

## TOPOGRAPHY AND VEGETATION

Elevations on the property range from 3400 feet to 3800 feet above sea level. A 2½ km long lake in the middle of the claims is 3450 feet in elevation approximately. Gentle undulating hills are covered in jackpine-spruce forests with very little underbrush. A few open greasy swamps occur along the major drainages.

## MINERAL CLAIMS

<u>NAME</u>	<u>UNITS</u>	<u>RECORD NO.</u>	<u>RECORD DATE</u>	<u>OWNER</u>
ANGEL #1	9*	3842	June 30/81	K. W. Livingstone
#2	15*	3843	June 30/81	K. W. Livingstone

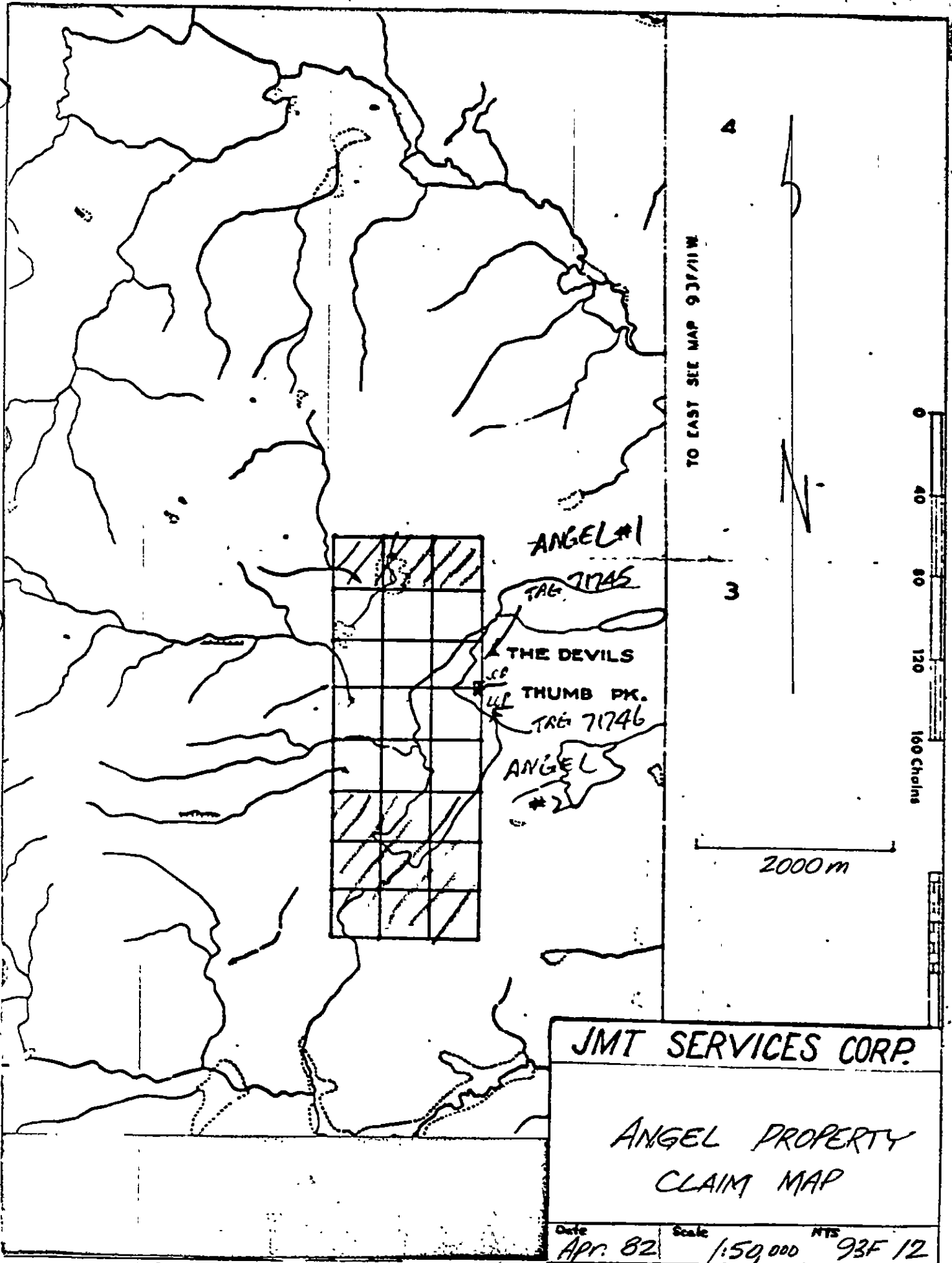
\*both claims reduced to 6 units each

## GEOLOGY

Tupper in G.S.C. Memoir #324, maps Triassic-Jurassic andesitic Takla group volcanic rocks about 13 km to the south of the property which are in turn overlain by middle and lower Jurassic units of Hazelton Group rocks of andesitic composition. This Hazelton unit crops out in the southeast of the property. The bulk of the property is shown to be underlain by Tertiary



<b>JMT SERVICES CORP.</b>			
<i>ANGEL</i>			
<b>PROPERTY LOCATION MAP</b>			
SCALE			
1:36		1:36	
Prepared By	Drawn By	DATE - REVISED	JMTS MAP AREA
			DRAWING No.



TO EAST SEE MAP 93F/11W

4

3

ANGEL #1

TAG 71745

THE DEVILS

THUMB PK.

TAG 71746

ANGEL #2

2000 m

0 40 80 120 160 Chains

JMT SERVICES CORP.

ANGEL PROPERTY CLAIM MAP

Date Apr. 82 Scale 1:50,000 NTS 93F 12

Ootsa Lake Group volcanics which include rhyolite, dacite and associated tuffs and breccias. East of the property some 3 km a plug of later Endako Group andesite (?) is exposed.

Mineralization in two outcrop areas (R641-R648 and R633-R639) and in float is characterized by intense silica flooding and quartz veining with strong clay alteration (particularly at R633 to R639) and up to 3% disseminated pyrite. Away from these outcrop areas glacial outwash is widespread and most likely has severely contaminated or even completely hidden soil development over other mineralized areas.

#### GEOCHEMISTRY

Sample traverses were made northwest of the unnamed lake covered by the claims in order to delimit the geochem anomaly associated with mineralized float; about half the samples were taken in this area. Other samples were taken in reconnaissance style traverses to determine if the present claim coverage was adequate.

Soil samples were taken up to a depth of 20 cm and from B-horizon wherever possible. Stream sediment was taken from the active stream bed and in sufficient quantity to provide a few grams of -80 mesh material for analysis. Rock chips were made up of 5-10 chips with total weight of approximately 400 g. All samples were placed in standard kraft paper bags, labelled and shipped to Chemex Labs Ltd., 212 Brooksbank Avenue, North Vancouver, B.C.

A summary of the analytical methods as follows:

<u>ELEMENT</u>	<u>METHOD</u>
Pb	Perchloric-nitric acid extraction; Atomic absorption analyses
Zn	" " " " " " "
Ag	" " " " " " "
Cu	" " " " " " "
Mo	" " " " " " "
Au	Fire Assay and Hot Aqua Regia - Atomic absorption
As	Perchloric nitric acid extraction; colorimetric determination

## RESULTS AND CONCLUSIONS

Although soils are strongly contaminated by glacially derived gravels, results are encouraging. A six hundred metre by four hundred metre silver anomaly open to the south is shown on Figure 3. It is supported by high values in some samples for gold and arsenic. In some areas of the survey, the lack of anomalous results may be caused by masking by glacial outwash deposits. A summary of the soil results is shown in the following table.

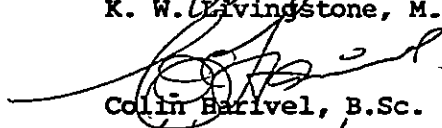
	<u>LOW</u>	<u>HIGH</u>	<u>EST. AV.</u>	<u>EST. BACKGROUND RANGE</u>	<u>CONSIDERED ANOMALOUS</u>
Ag	0.2	2.1	0.2	0.2	0.3
Pb	4	57	7	4 - 10	20
Zn	3	128	65	20 - 80	100
Au	0.02	0.02	0.02	0.02	0.03
As	1	43	8	1 - 15	20
Cu	3	19	8	3 - 15	20
Mo	1	10	1	1 - 2	4

Anomalous results in rock for Ag and Au are shown on Figures 3 and 4 respectively. The highest precious metals values in rock chips are 0.75 ppm Au and 17.6 ppm Ag. The lowest are 0.02 Au and 0.2 ppm Ag.

The anomalous values in both rock and soil, particularly for silver, make the area worthy of further detailed work. Mapping and detailed sampling to further narrow the source of the mineralized, silicified volcanic float should be done over the area northwest of the lake. The grid should be on lines 100 m apart with a 25 m sampling interval over the present anomaly with mapping coverage extended northeast and southwest for at least 500m with a view to creating a detailed outcrop distribution map.

Respectfully submitted,

  
K. W. Livingstone, M.Sc.

  
Colin Barivel, B.Sc.

  
Gordon G. Richards, P.Eng.



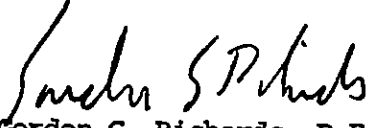
STATEMENT OF COSTS  
ANGEL PROPERTY

TIME			
J. S. Christie	June 1, 2(½)		\$200.00
G. Richards	June 1,2(½), 1981 Jan. 5,6		600.00
K.W.Livingstone	June 1,2(½)		200.00
D. Bennett	June 1,2,3		600.00
B. Price	June 1,2(½)		200.00
FOOD and ACCOMMODATION			
		9 field days @ \$50	450.00
TRUCK Rental	June 1, 2, 3	3 days @ \$50	150.00
DISBURSEMENTS			
B. C. Tel			20.10
Chilcotin Cariboo Aviation			511.50
Geochem			1,706.00
P.W.A.Freight			36.00
Helicopters			2,034.00
Expenses			340.06
P.W.A. Airfares	4 men one-way Vancouver-Prince George		324.00
Report, writing, typing, drafting			<u>2,000.00</u>
			<u>\$10,361.66</u>

STATEMENT OF QUALIFICATIONS

I, Gordon G. Richards, of Vancouver, British Columbia, do hereby certify that,

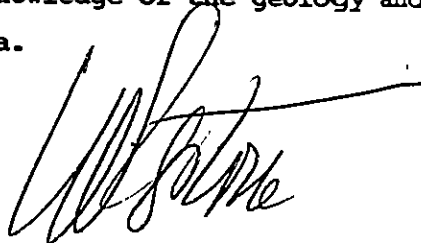
1. I am a Professional Engineer of the Province of British Columbia, residing at 6195 Lynas Lane, Richmond, B.C., V7C 3K8.
2. I am a graduate of the University of British Columbia, B.A.Sc., 1968, M.A.Sc. in 1974.
3. I have practised my profession as a mining exploration geologist, continuously since 1968..
4. This report is based on my personal knowledge of the district, and mapping of the geology at the property.

  
Gordon G. Richards, P.Eng.

STATEMENT OF QUALIFICATIONS

I, K. WAYNE LIVINGSTONE of Vancouver, British Columbia do hereby certify that,

1. I am a Professional Geologist, working in British Columbia and residing at 6775 West Blvd., Vancouver, B.C.
2. I am a graduate of CARLETON UNIVERSITY, Ottawa, Ontario with a B.Sc. honours geology, 1966.
3. I am a graduate of the UNIVERSITY OF BRITISH COLUMBIA with a M.Sc. geology, 1968.
4. I have practiced my profession as a mining exploration geologist since 1965.
5. I am a Member of the Geological Association of Canada.
6. I am a Member of the C.I.M.M.
7. This report is based on personal knowledge of the geology and mineral potential of the claim area.

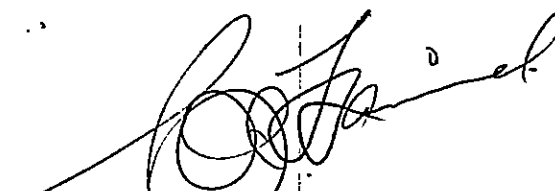


K. Wayne Livingstone, M.Sc.

STATEMENT OF QUALIFICATIONS

I, Colin Harivel, of Vancouver, British Columbia, do hereby certify that:

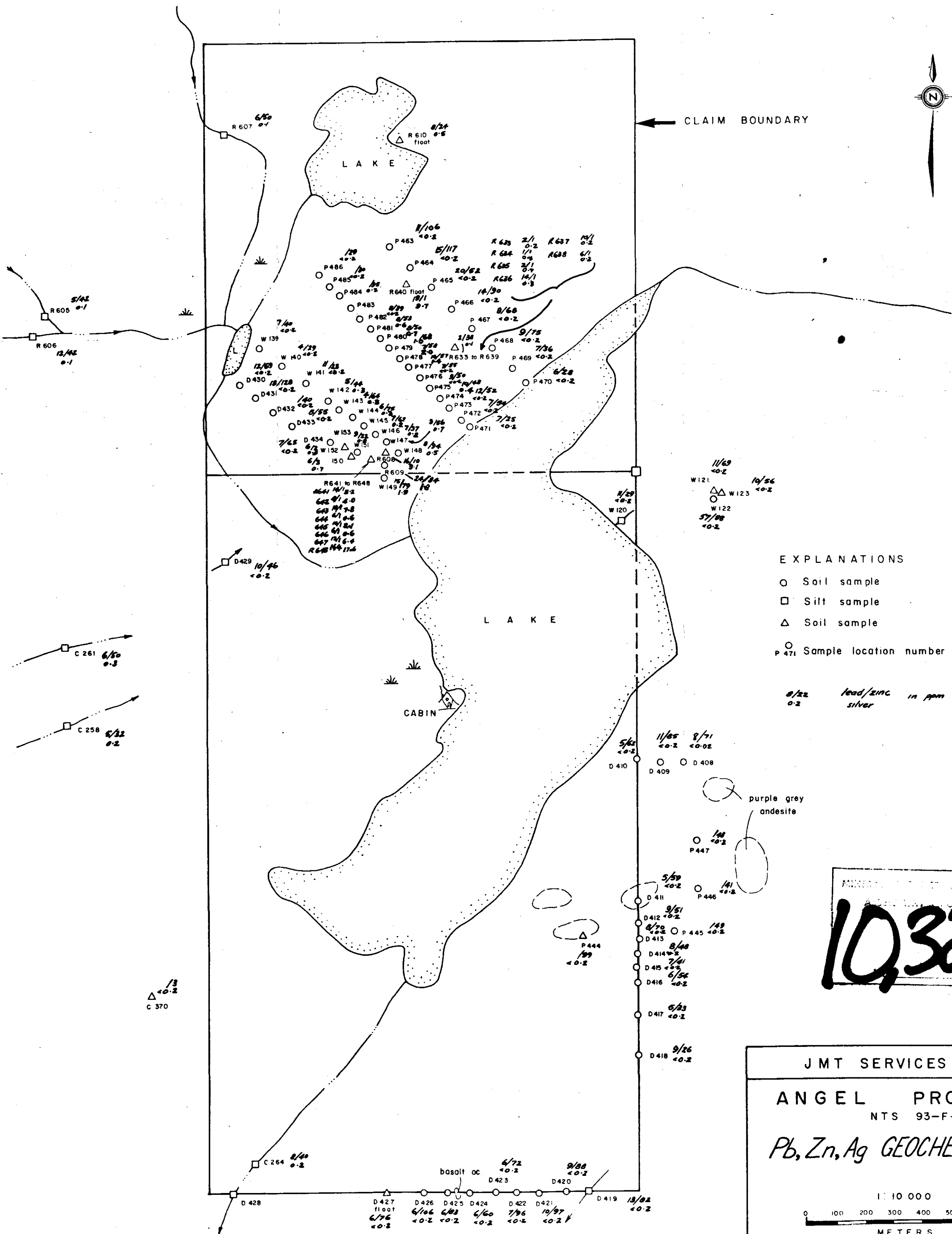
1. I am a geologist residing at 3996 West 10th Avenue  
Vancouver, British Columbia
2. I am a graduate of the University of British Columbia,  
B.Sc. Honours Geology, 1972
3. I have practised my profession as a mining exploration  
geologist continuously since 1972
4. I am a Fellow of the Geological Association of Canada.



Colin Harivel, B.Sc.



← CLAIM BOUNDARY



EXPLANATIONS

- Soil sample
- Silt sample
- △ Soil sample
- Sample location number

8/22 lead/zinc in ppm  
0-2 silver

purple grey andesite

10,320

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ANGEL PROPERTY  
NTS 93-F-11

Pb, Zn, Ag GEOCHEMISTRY

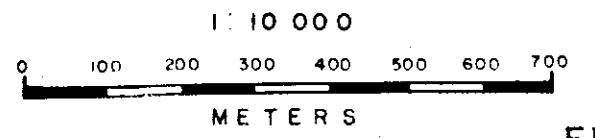
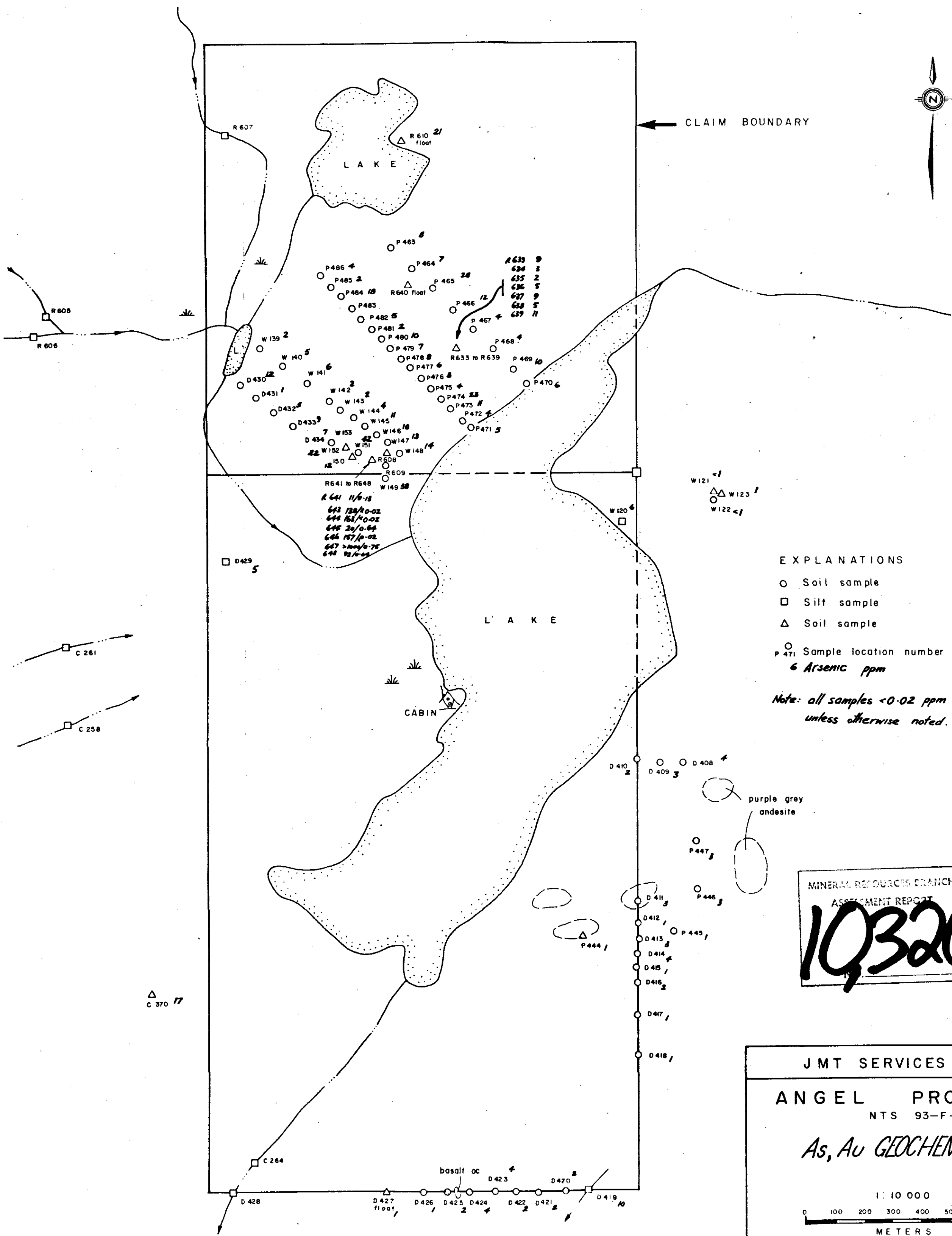


FIG. 3



← CLAIM BOUNDARY



EXPLANATIONS

- Soil sample
- Silt sample
- △ Soil sample
- Sample location number
- 6 Arsenic ppm

Note: all samples < 0.02 ppm Au unless otherwise noted.

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ANGEL PROPERTY  
NTS 93-F-II

*As, Au GEOCHEMISTRY*

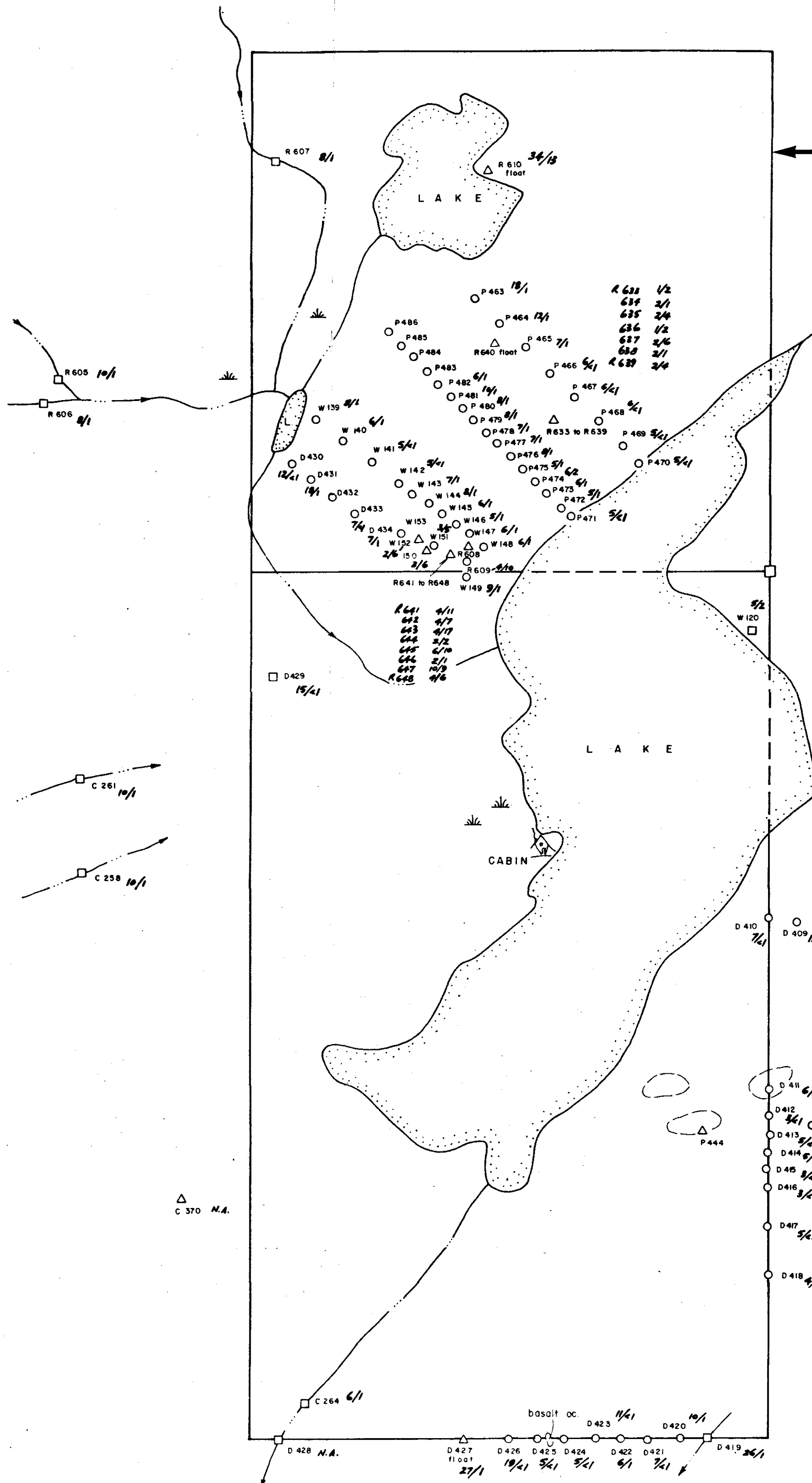
1:10 000

0 100 200 300 400 500 600 700  
METERS

FIG. 4



← CLAIM BOUNDARY



EXPLANATIONS

- Soil sample
- Silt sample
- △ Soil sample
- P 471 Sample location number

2/1 copper/molybdenum in ppm

10,320

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ANGEL PROPERTY

NTS 93-F-II

*Cu, Mo GEOCHEMISTRY*

1:10 000

0 100 200 300 400 500 600 700

METERS

FIG. 5