

85-712
13872

SOIL GEOCHEMICAL SURVEY REPORT

ON THE

MOUSE MOUNTAIN
(MM1,4,5, COT 2)

MINERAL CLAIMS

CARIBOU MINING DIVISION

NTS LOCATION 93-G-1

AT LATITUDE 53°02'N, LONGITUDE 122°21'E

OWNED AND OPERATED BY

FIRST NUCLEAR CORPORATION LTD.

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

13,872

By: J.A. Climie (P. Geol)
Consultant

September 23, 1985

J.A. Climie

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1. INTRODUCTION

1.1 LOCATION AND ACCESS

The Mouse Mountain claims are located on NTS Map Sheet 93 G/1 and are situated 12 kilometers from the town of Quesnel, B.C. along the Barkerville Highway (Drawing 85-1). The property is easily accessible off the highway via farming and logging roads and trails which can be utilized by four-wheel drive vehicles during the summer months. The old Barkerville road also crosses the property.

1.2 TOPOGRAPHY AND VEGETATION

The property is situated within the extensive interior physiographic plateau known as the Fraser Basin. The topography of the claim area is a glaciated and stream eroded plateau which displays a gentle relief, situated between the Cottonwood and Quesnel Rivers. The steepest slopes are encountered along deeply incised stream valleys. Maximum relief is about 274 metres, from the highest to lowest points on the property. The average elevation on the Mouse Mountain claims is about 914 metres.

Vegetation consists of a mixture of coniferous and deciduous trees as well as cleared agricultural land. The coniferous stands are dominated by spruce, fir and cedar trees while birch and poplar trees dominate the lower lying wetter areas.

1.3 HISTORY OF THE PROPERTY

The history of the property is sketchy and incomplete as few records were kept and little assessment work has been recorded. Interest in the area probably started in the early 1950's when copper minerals were noted in outcrop along the

YUKON TERRITORY

WATSON LAKE

FORT NELSON

FORT ST. JOHN

PRINCE RUPERT

BRITISH COLUMBIA

PRINCE GEORGE

ALBERTA

Mouse Mountain Claims

GOLDEN

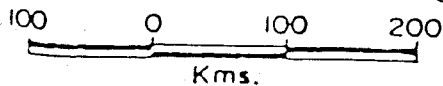
KAMLOOPS

VANCOUVER

VICTORIA

TRAIL

U.S.A.



DRAWING 85/1

edge of the old Barkerville Highway, marking the location of a significant surface showing. There is evidence of some hand pits and prospector shafts near this showing. The exact age of this work is unknown.

The property has been staked by numerous companies and individuals over the last thirty years.

In 1955-1956 a car-load of hand-sorted ore averaging 5.5% Cu was produced from the property and shipped to the Tacoma smelter.

In 1967, Euclid Mining Corporation from Vancouver planned to heap leach the main showing and some preparatory work was undertaken, including the testing of a pilot leach process, before the operation closed down later that year due to lack of funding. No records are available regarding this work. In 1970, Bethlehem Copper drilled 14 percussion drill holes on the property.

In 1975, Dupont of Canada drilled 5 percussion holes on the northwestern end of the property.

Diamond drilling was also carried out on the property, however, information regarding the location of holes and results is not available.

Geochemical surveys have been conducted on the property and some of the data has been filed for assessment reports.

Geophysical surveys have been conducted on the property. An I.P. survey was run by Canadian Superior, however only two lines were completed and the geophysicist considered the data erroneous and uninterpretable.

The Mouse Mountain property was acquired by First Nuclear Corporation Ltd. in July of 1981 and now includes MM 1-5, Cot 1-2, and the Jess 2 claims which form a contiguous group.

Previous work by First Nuclear, the current owner and operator of the property, consisted of a ground magnetic survey and a reconnaissance soil geochemical survey carried out during 1981. As exploration emphasis was on base metals at this time, only molybdenum, lead, zinc and copper were analysed. Anomalous results were detected for all of these elements. No detailed subsurface evaluation of these has been undertaken since emphasis shifted to the precious metal potential of the property. Results of this work are reported in previously submitted assessment reports.

During 1984, approximately 112 km of flagged reconnaissance grid at a line spacing of 250 metres, and 50 metre stations, were established over the MM 1-5, Cot 1-2 and Jess 2 claims. Some prospecting, geological work and rock geochemistry were undertaken. Results were reported in previously submitted assessment reports.

1.4 MINERAL CLAIMS

(Caribou Mining Division, B.C.)

The mineral claims on which work was actively performed are listed below:

<u>MINERAL CLAIMS</u>	<u>RECORD NO.</u>
MM 1	1775
MM 4	3905
MM 5	3906
COT 2	3908

2. REGIONAL GEOLOGY

The property is situated within an irregularly shaped area of low relief known as the Fraser Basin, a sub-division of the very extensive interior plateau physiographic division of British Columbia. The surface of the basin, which is gently rolling and poorly drained, lies below the 3000 foot (914 m) contour and is deeply incised by the Fraser River and its tributaries. Glacial deposits mantle much of the basin and as a consequence outcrop is scarce.

Geologically, the property is located within the boundaries of the Quesnel Trough, a long, narrow, northwesterly trending strip of dominantly Lower Mesozoic, mainly volcanic rocks. It is flanked by older and highly deformed rocks of the Omineca Geanticline on the northeast and the Pinchi Geanticline on the southwest. The former is represented by the metasediments of the Lower Paleozoic Caribou Group and the latter by the largely sedimentary Pennsylvanian to Permian Cache Creek group. The Mesozoic rocks of the Trough in this area consist of Upper Triassic and Lower Jurassic volcanics and sediments and intrusive rocks which fall into two general age categories, 100 million years and 200 million years. Tertiary rocks are extensive and may be divided into two distinct units, a Lower Tertiary sedimentary and fragmental group and an Upper Tertiary division consisting of basaltic plateau lavas.

The dominant structural features of the area are northwest trending faults and fractures. These faults, many of which are strands of the much larger Pinchi Fault, both bound and occur within the Trough. The only producing property in the region is the Gibraltar copper deposit located 34 miles to the south-southeast of Quesnel.

3. PROPERTY GEOLOGY

The property lies within the Quesnel Trough which is a long narrow strip of Lower Mesozoic volcanic and volcanogenic sediments.

Mouse Mountain area is mapped as unit 6A by the G.S.C. which consists of argillite, greywacke, plus green, grey black and purple andesite and basalt with related tuffs and breccias. Minor conglomerate and limestones are included in this group. The age of these rocks is uncertain but they probably range from Triassic to Jurassic and are likely coeval with the Topley Intrusions.

The Mouse Mountain claims are mantelled with a variable thickness of glacial till and for the most part outcrops are rare. The rocks exposed and observed on the property are volcanics and include andesite, agglomerates, coarse pyroclastics and breccias. Most exposures were located in bulldozer trenches, to the northeast of the road showing and adjacent to the east edge of the pond near the highway to Barkerville.

The last ice movement direction is reported (J.P. Stewart pers. comm.) as being from the south.

4. PHYSICAL WORK

The physical work carried out over the above (Section 1.4) claims consisted of a semi-detailed soil geochemical survey. Previous work by First Nuclear and others in the vicinity has demonstrated the effectiveness of soil geochemistry despite the presence of glacial till overburden.

Purpose of the survey was to define gold and silver soil anomalies relating to possible mineralization on the property.

5. SOIL GEOCHEMICAL SURVEY

5.1 Procedure

Samples were collected at 50 metre intervals along the 250 metre spaced lines. The grid lines are oriented at 090° true and extend to the western and eastern limits of the respective claims. Grid lines are flagged but not cut.

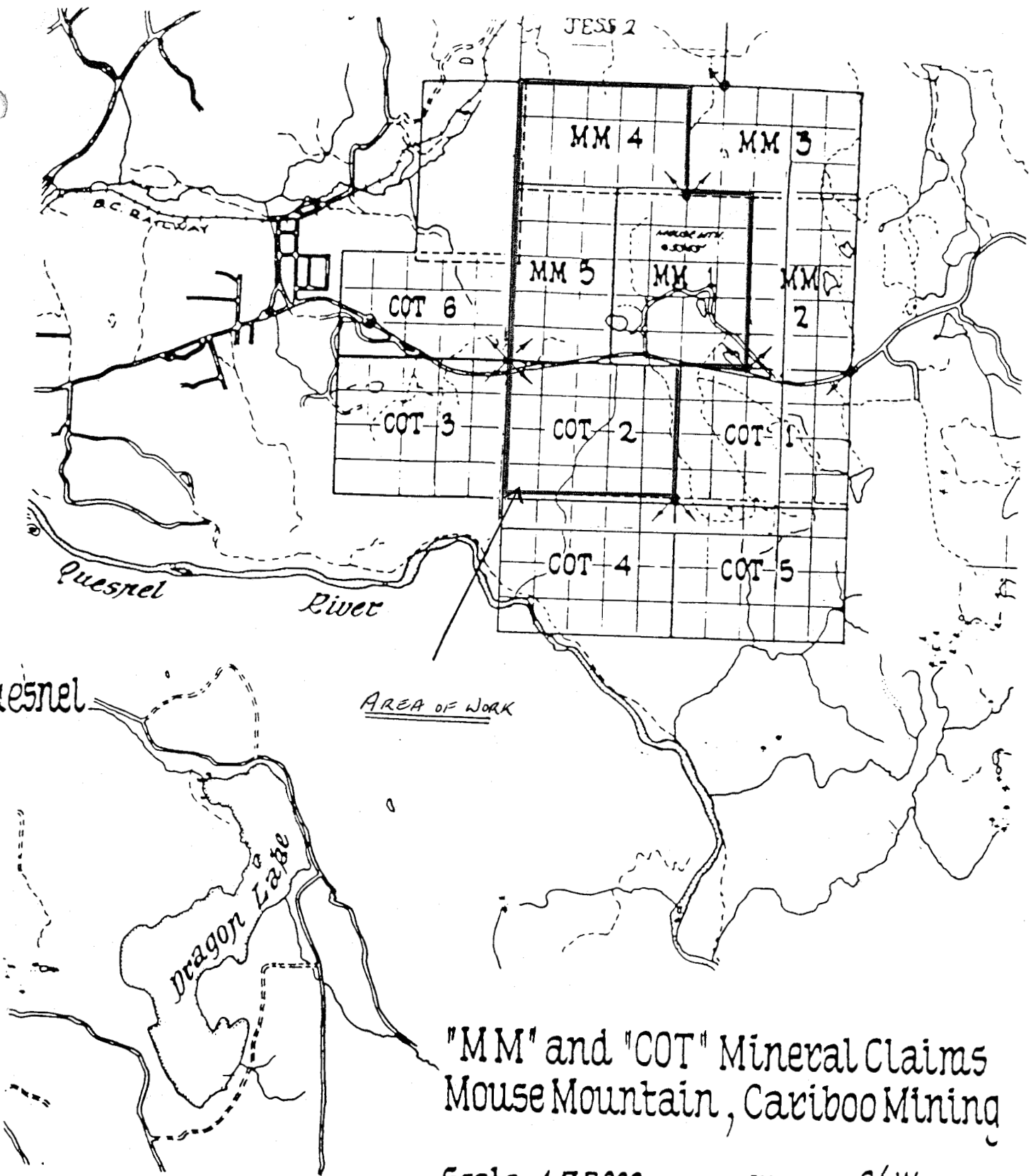
Samples were collected, using a mattock, from the B1 horizon at a depth ranging from 25 to 35 centimetres. No attempt was made to sample organic-rich swamps or bogs. Several small lakes on the property also precluded sampling.

Sampling medium is predominantly glacial till of unknown thickness. Typical soil profile developed on the till consists of:

0 - 10 cm;	organic litter
10 - 20 cm;	black, organic-rich A horizon
20 - 35 cm;	dark brown-grey B1 horizon consisting of variable-sized boulders in a clay-silt-sand matrix
35 - 50 cm;	yellow-brown to grey B2 horizon consisting of boulders in a clay-silt-sand matrix.
50 cm and deeper;	grey to light brown, unweathered till.

5.2 PRESENTATION OF DATA

Drawing 85-2 is a 1:75,000 scale plan showing the location of the claims and area sampled.



"MM" and "COT" Mineral Claims
 Mouse Mountain, Cariboo Mining

Scale 1:75,000

Map 93G/1W.

DRAWING 85/2

12275'

The sample results for gold appear in Drawing 85-3 at a scale of 1:5,000 and those for silver in Drawing 85-4 at the same scale.

Data have not been contoured since the 250 metre line spacing is considered too great to provide meaningful contours.

5.3 RESULTS - GOLD
(Drawing 85-3)

Gold soil geochemical values ranged from 0 to 630 ppb. No statistical treatment of data was attempted since distribution of anomalies is considered self-evident. Background is in the order of 0 to 10 ppb gold.

The following broad categories of anomalies are designated:

10 - 49 ppb Au	weakly anomalous
50 - 100 ppb Au	moderately anomalous
greater than 100 ppb Au	strongly anomalous

Results for the individual claims are discussed below:

MM 4 Claim

Most samples are background. Several, scattered, weakly-anomalous results, with a maximum value of 40 ppb gold, were defined.

MM 5 Claim

Most samples are background. Several, weak gold anomalies, once again rather scattered with no well defined trend, are evident. However, one isolated strongly anomalous value of

135 ppb gold was obtained from organic-rich soil on line 105N near a small lake.

MM1 Claim

Most results lie within the background range. Several, scattered, weakly anomalous values, up to 45 ppb gold, were defined. In addition, two moderately anomalous values of 55 and 70 ppb gold were delineated on lines 115 N, 1,350 metres apart.

No well-defined anomalous trend is evident on the MM 1 Claim.

Cot 2 Claim

Numerous anomalous results are present on the Cot 2 Claim.

Over 50 gold values defined as weakly anomalous (10-49 ppb) are plotted.

Ten moderately anomalous (50-100 ppb) values, with a maximum of 95 ppb gold were defined.

Six strongly anomalous values, with a maximum of 630 ppb gold (second highest 330 ppb), were defined.

No well defined anomalous trends could be discerned, however, many of the highest anomalies occur on line 97+50N in proximity to, and west of, a steep ravine. The strongest anomaly, of 630 ppb gold occurs on line 85+00N, the most southerly line sampled.

Outcrops of a dark-green mafic breccia were noted in the ravine bottom.

5.4 RESULTS - SILVER

(Drawing 85-4)

Silver values were very low, ranging from 0 to 1.9 ppm (next highest 1.6 ppm). Most values were in fact, zero.

No results considered to be anomalous were defined, nor was any correlation noted between the silver values of greater than zero and any of the gold anomalies.

6. CONCLUSIONS

Gold results from the MM 4, MM 5 and MM 1 Claims are not particularly encouraging, especially if the ice direction is from the south. Anomalies on these claims are generally weak. The highest value of 135 ppb gold (MM 5) occurs in close proximity to a lake, in organic-rich soils subject to flooding, hence this stronger anomaly may be due to hydromorphic processes. Nevertheless, the source may be of interest.

Anomalies defined on the Cot 2 claim are considered much more interesting, and may be an indication of gold mineralization in the area. Anomalous values occur over a wide area on this claim, however, at the sample density utilized no well-defined trend was evident. Neither the till thickness nor the transportation distance is known. Hence at this stage there is no indication whether source is on the claim, or from south of the claim (if ice direction is indeed from the south).

Since the strongest anomaly was obtained on the most southerly line sampled (85+00 N), the ground to the south, is also of interest. Cot 1, to the east, should also be evaluated.

The magnitude of the gold soil anomalies on the Cot 2 claim and geological environment suggest the area has good potential for gold mineralization and further investigations are recommended.

7. RECOMMENDATIONS

The following recommendations are made:

- additional geochemical work should be carried out on the anomalous samples; in particular, gold content of coarser size fractions should be established;
- initial, brief geological investigations are recommended on the Cot Claims, especially in areas of outcrop in the ravine on Cot 2, to establish local geology and whether there is evidence of mineralization - alteration in vicinity of the anomalies;
- a Quaternary expert should be utilized to examine till profiles at the strongly anomalous sites and comment on possible source direction and distance;
- continued soil sampling is recommended, at the same scale as the present survey, on the adjacent Cot 1 Claim and to the south to more fully define extent of the anomalous area;
- the above investigations should determine the nature of further, more-detailed exploration to be conducted.

8. ITEMIZED COST STATEMENT

General Parameters

Operator: First Nuclear Corporation
Contractor: J.A. Climie
Field Crew: J.A. Climie, P. Goyer, R. Wilkins, J. Wilkins
Time Period: June 27 - July 5, 1985

Cost Statement of Physical Work

Contract Fees: 1158 samples at \$3.45/sample	\$4,000.00
Food and accommodation	483.95
Transportation (airfares, gas, vehicle expenses)	611.52
Equipment and supplies	38.52
Laboratory analyses	
1158 samples for Au-Ag @ \$9.49 each	11,000.00
Salary and wages (Goyer, Wilkins, Wilkins - 6 person/days)	800.00
Report preparation (consultant, typing, drafting)	750.00
Miscellaneous	75.00
	<u>\$17,758.99</u>

Cost Assessment Allocation

Total cost of physical work \$17,758.99

<u>Claims</u>	<u>No. of Units</u>	<u>Assessment Allocation</u>	<u>Period</u>
MM 1	20	\$4,000	1 Year
MM 4	15	3,000	1 Year
MM 5	15	3,000	1 Year
Cot 2	20	8,000	2 Years
		<u>Total \$18,000</u>	

Shortfall of \$241.01 to be withdrawn from First Nuclear Corporation
P.A.C. account.

9. AUTHOR'S QUALIFICATIONS

Statement of Qualifications of J.A. CLimie, Author.

Education

B.Sc. (Geology) conveyed 1966 by University of Wellington, New Zealand.

B.Sc. Honours (Geology) conveyed 1968 by University of Wellington, New Zealand.

Professional Experience

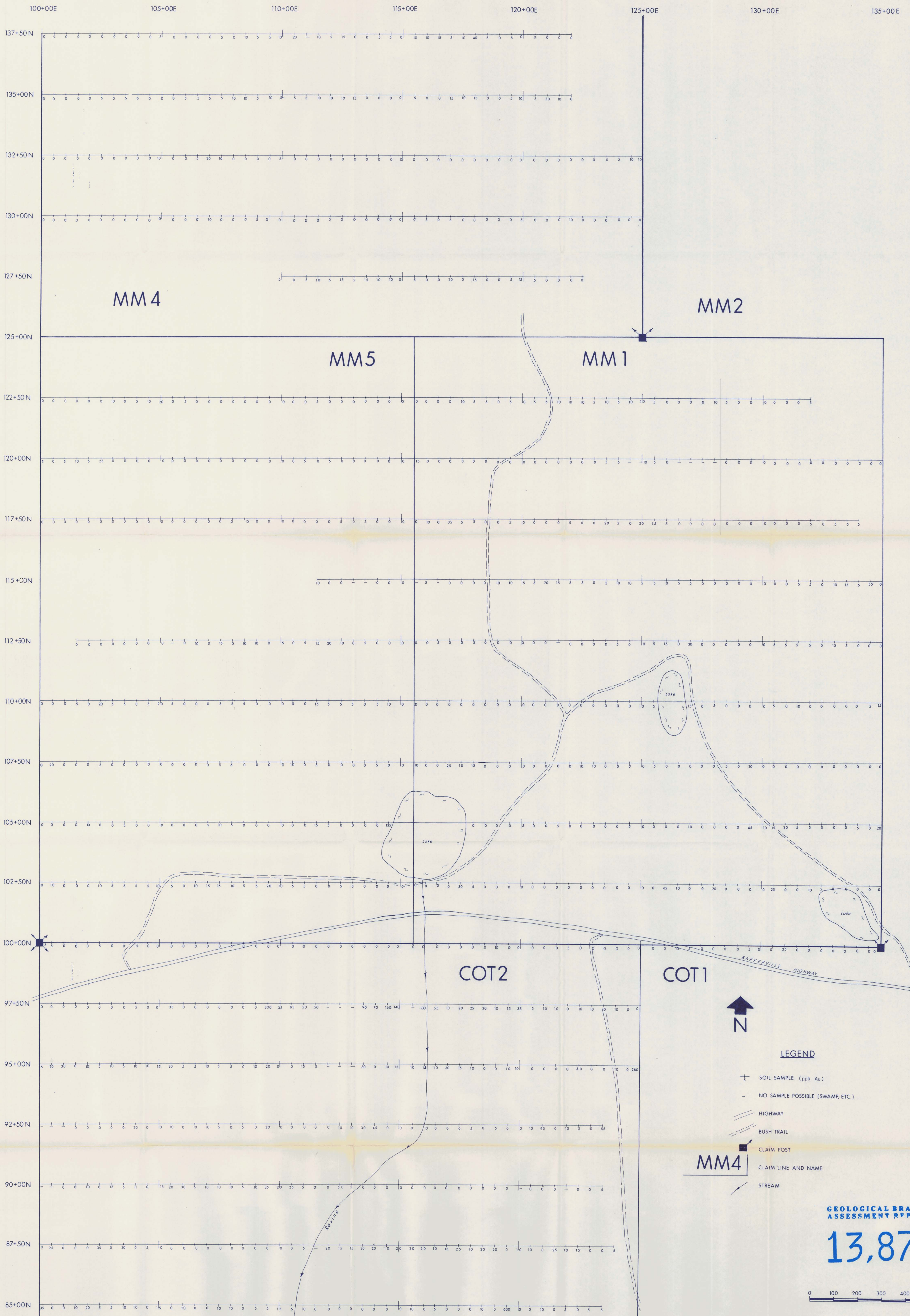
- | | |
|-----------|---|
| 1968-1969 | <u>Government of New Zealand</u>
Scientist, geological mapping in various parts of New Zealand. |
| 1969-1970 | <u>Noranda Australia Ltd.</u>
Geologist, mineral exploration in Australia, discovery and initial evaluation Koongarra uranium deposit. |
| 1970-1971 | <u>Consolidated Silver Mining Co. N.Z. Ltd.</u>
Geologist, mineral exploration and property evaluation throughout N.Z. |
| 1971-1974 | <u>Noranda Australia Ltd.</u>
Geologist, mineral exploration, property and mine evaluation throughout Australia. |
| 1974-1977 | <u>Noranda Exploration</u>
Geologist, District Geologist, mineralization and property evaluation in various regions of Canada. |

1977-1984 AGIP Canada Ltd.
Chief Geologist, Exploration Manager,
Set up mineral division and directed Canada-wide
exploration programs, discovery through to
pre-feasibility Mt. Skukum gold deposit. Consulted
to AGIP programs in Italy, Zambia and Australia.

1984-Present C.E.G.B Exploration
Consultant and Exploration Manager, technical
direction of programs throughout Canada. Additional
consulting activities in U.S. and Canada.

Memberships

- ° Society of Economic Geologists
- ° Canadian Institute of Mining and Metallurgy
- ° Australian Institute of Mining and Metallurgy
- ° Prospectors and Developers Association
- ° Registered Professional Geologist, Province of Alberta
(APEGGA)

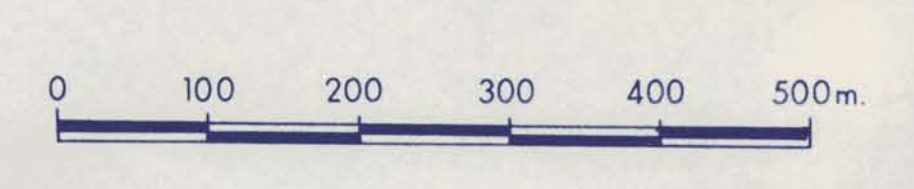


LEGEND

- ⊥ SOIL SAMPLE (ppb Au)
- NO SAMPLE POSSIBLE (SWAMP, ETC.)
- ══ HIGHWAY
- ══ BUSH TRAIL
- CLAIM POST
- MM4 CLAIM LINE AND NAME
- ↔ STREAM

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

13,872



FIRST NUCLEAR CORPORATION	
MOUSE MOUNTAIN PROJECT	
SOIL GEOCHEMISTRY	
GOLD	
DRAWING NO. 85/3	SCALE 1:5,000
NTS 93G1	

100+00E 105+00E 110+00E 115+00E 120+00E 125+00E 130+00E 135+00E



LEGEND

- SOIL SAMPLE (ppm Ag)
- NO SAMPLE POSSIBLE (SWAMP, ETC.)
- HIGHWAY
- BUSH TRAIL
- CLAIM POST
- CLAIM LINE AND NAME
- STREAM

GEOLOGICAL BRANCH ASSESSMENT REPORT

13,872



FIRST NUCLEAR CORPORATION	
MOUSE MOUNTAIN PROJECT	
SOIL GEOCHEMISTRY	
SILVER	
DRAWING NO: 85/4	SCALE: 1:5,000
NTS 93 G1	