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GEOCHEMICAL AND PROSPECTING REPORT ON THE
MONT GROUP - MT. DIXIE, B.C.

ATLIN MINING DIVISION

N.T.S. MAP-SHEET 104N/11E
Lat. 59°37' N; Long. 132°15' W

for

Union Oil Company of Canada Limited

by

R.J. Bilquist and
R.R. Culbert, P.Eng., PhD

D.G. Leighton & Associates Ltd.
Vancouver, B.C.

30 September, 1977

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

NO. _____

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GEOCHEMICAL AND PROSPECTING REPORT ON THE
MONT GROUP - MT. DIXIE, B.C.

ATLIN MINING DIVISION

INTRODUCTION

This report describes the results of exploration work completed to date on the MONT property. Field work was done at intervals in the Fall of 1976 and Summer of 1977. A temporary camp was established on the property between the 16th and 23rd of July, 1977.

Conclusions set forth in this report are based primarily on prospecting work carried out by R.J. Bilquist supported by geochemical data.

SUMMARY AND CONCLUSIONS

1. The MONT property consists of four unsurveyed mining claims registered in the name of Union Oil Company of Canada Limited.
2. The property, which is located approximately 16 miles east of Atlin, British Columbia, is presently reached by helicopter.
3. The claims are located at the eastern edge of Surprise Lake batholith where it contacts Cache Creek age metamorphic rocks.
4. Work done on the property to date has consisted of prospecting and geochemical surveys for uranium.
5. Mineralization found consists of two types. One, the Dixie showing, is similar in most respects to the Purple Rose occurrence at Cracker Creek. The other consists of uraniferous coatings on alaskite boulders.
6. Although regional silt anomalies led to the discovery of the Dixie showing, the geochemical response in soil samples adjacent to uranium mineralization is poor.

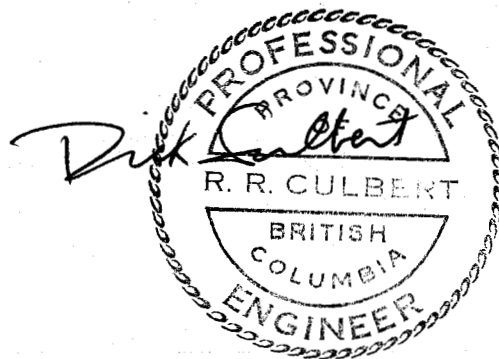
Respectfully submitted,

Ron Bilquist

R.J. Bilquist

R.R. Culbert, P.Eng., PhD

30 September, 1977



GENERAL DESCRIPTIONS

Location and Access

The MONT property is located in the northwestern portion of British Columbia approximately 16 miles east of Atlin. More specifically, the claims are located between Mount Dixie and Quartz Creek on the south side of Surprise Lake. The geodetic coordinates are 59°37' North, 132°15' West.

The property is presently accessible from Atlin by helicopter and roads.

Glaciation

Glacial features of the MONT property and surrounding area were determined from a study of airphotos. These are shown on a map entitled "MONT property - glacial features" (in pocket). Also shown are some of the more obvious structural lineations.

Background

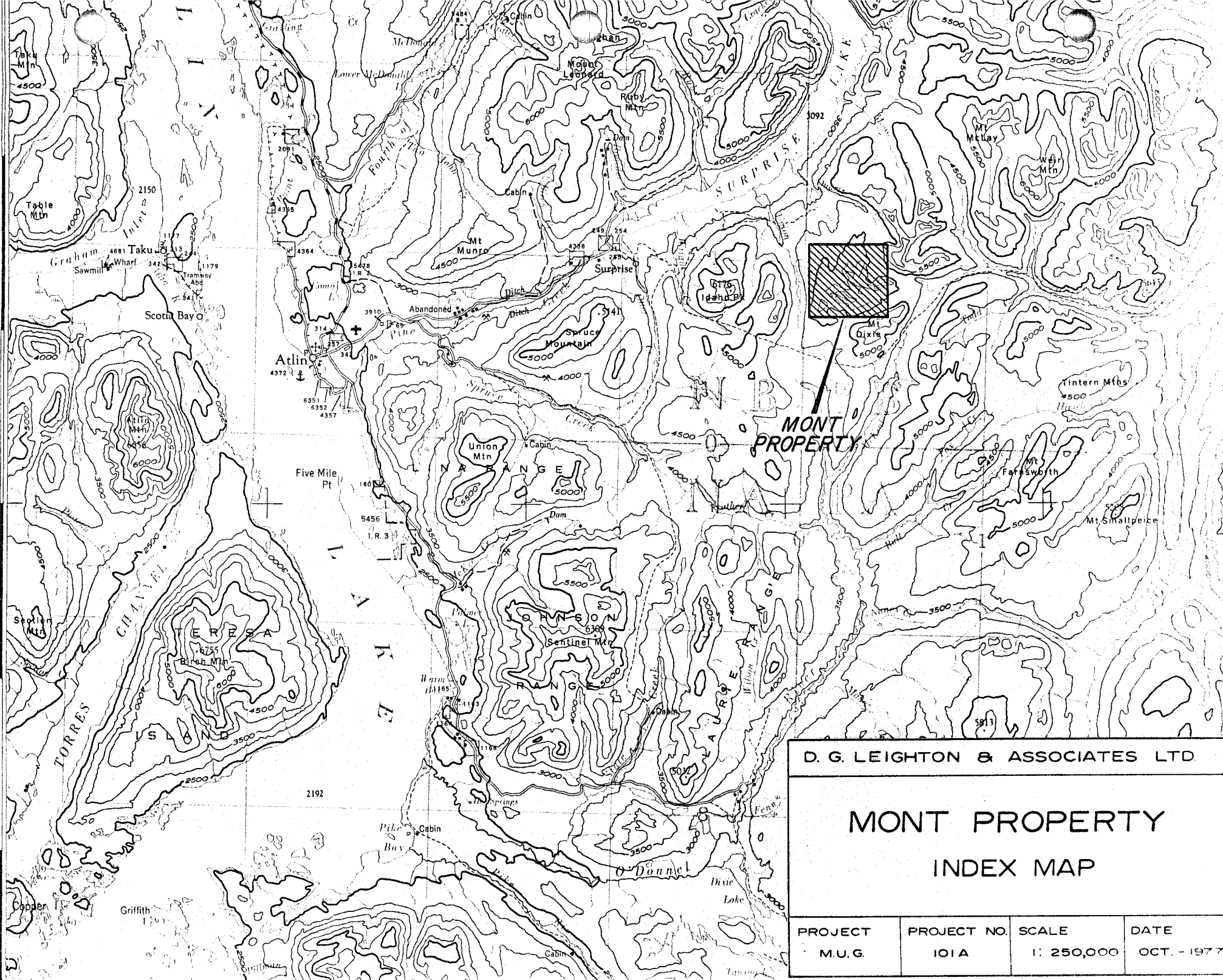
Regional stream sediment sampling during 1976 indicated anomalous values in the Mount Dixie area which led to the staking of three MONT claims. Prospecting in the Fall of 1976 resulted in the discovery of the Dixie showing. Follow-up in the Fall of 1977, which consisted of additional geochemical work, prospecting and some hand trenching, resulted in the discovery of additional radioactive occurrences, and the MONT-4 claim was added. There is no record of previous uranium exploration work on the area covered by this property.

Claims

The MONT property held by Union Oil Company of Canada Limited now consists of the following two claims:

<u>Mineral Claims</u>	<u>Units</u>	<u>Record No.</u>	<u>Record Date</u>	<u>Expiry Date</u>
MONT - 2	16	134	Sept. 17, 1976	Sept. 17, 1977
MONT - 4	20	237	July 26, 1977	July 26, 1978
MONT - 1)	allowed to lapse			
MONT - 3)				

662
661
660
30'
659
658
6467



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MONT PROPERTY INDEX MAP			
PROJECT	PROJECT NO.	SCALE	DATE
M.U.G.	101A	1: 250,000	OCT. - 1977

GEOLOGY

The MONT property on the southwest margin of the Surprise Lake batholith (alaskite) covers both geochemical anomalies in the Union Lake area and a uranium showing on a cirque headwall $1\frac{1}{2}$ miles north of Mt. Dixie.

The alaskite roof is exposed in the southwest wall of this cirque, and the mineralization appears to be associated with an apophysis of the intrusive extending up and southward into the metamorphic suite. This roughly divides an area of pyritic cherts and metavolcanics on the northwest from a sequence of interbanded cherts and calcareous rocks. Where exposed by the cirque wall, the northwestern contact of the granite is a shear zone of yellowish color. This is radioactive across about 50 feet. Outcrop does not occur in this zone, but small pieces of leached rock found here indicate an altered granite with quartz veining. Lines and patches of alteration involving uranium minerals extend for at least another 100 feet into the granite flanking this shear zone.

X-ray diffraction patterns from a sample of altered granite have confirmed the presence of zeunerite, a green mineral of the Autunite group which uranium forms with copper and arsenic. The main uranium mineral appears to be a yellow to white granular material concentrated in vugs and fractures of the altered intrusive, but it has not as yet been possible to identify the X-ray diffraction pattern of this. Arsenopyrite was observed in small amounts at the Dixie showing, and tetrahedrite is likely also present in view of the geochemically high copper and silver values and of the role of this mineral at the Purple Rose showing near Cracker Creek.

The granite involved is a mixture of coarse and finer grained minerals, which is fairly common near the pluton margin. The alteration is largely a vuggy silicification with copious albite and clay-sericite alteration of plagioclases. Muscovite is more common than biotite, and there is 1-2% sphene.

The real surprise in the study of Dixie rocks has been that the sample of altered granite analyzed was almost 2% fluorine. Furthermore, a thin section showed that this was not present as fluorite, but due to the rock being 15% topaz, which appears to have pre-dated silicification. It seems likely, however, that both the topaz and the uraniumiferous alteration resulted from fluids during late stages of the pluton's crystallization.

Where the radioactive shear of the Dixie passes beyond the cirque rim, it becomes covered with talus from the north and can no longer be detected by casual scintillometer traverses. Furthermore, neither the water nor silt in the cirque lake below this shear are anomalous in uranium. Were it not for exposure by a steep cirque wall, this very interesting showing would not have been detectable with exploration methods used to date.

PROSPECTING

Prospecting was carried out using a scintillometer and rock hammer. The scintillometer used was a French made Saphymo-Stel, model SPPZ - NF, and counts quoted in this report were obtained from this instrument.

Traverse routes were governed first by those regions which had anomalous geochemical values and second by areas which were of geological interest. Actual prospecting consisted of traversing on the ground and carefully examining rock in areas of anomalously high radioactivity. Variations in both rock and radioactivity were recorded.

Radioactivity in the intrusive rock is generally high on the MONT property (180 - 200 cps). There are zones where background counts rise significantly (450 - 600 cps) with no apparent change in rock type. For comparison, a traverse was made outside the property over a small intrusive to the southeast on Mt. Dixie. The background count of the Mt. Dixie intrusive ranged between 50 and 70 cps, significantly less.

A total of eight days were spent prospecting on the MONT property with much of the work focused in the area of the original showing. This occurs in an outcrop of medium grained alaskite which is east of and adjacent to a large shear zone. Uranium occurs in the mineral zeunerite (copper - uranium arsenate). Minor arsenopyrite and chalcocite are disseminated in fresh rock away from fracture planes. Hand trenching aided by "mudcap" blasting to a depth of one meter did not indicate improved grades to depth. A grab sample assayed: 0.124% U_3O_8 , 0.03% Cu, 0.76% As.

Immediately west of the shear zone toward the metasediment contact a coarse pegmatite is exposed.

Anomalous radioactivity was noted in a cirque located about 700 meters north of the legal corner post of MONT - 4 claim. Background radioactivity in this area increases from 180 to 350 cps, and some boulders run up to 600 cps. These boulders are medium grained alaskite which contain anomalous amounts of biotite and manganese oxide coatings on fracture planes.

A large talus boulder with counts up to 2600 was discovered on a slope 100 meters east of the small lake between identification posts 2 east and 3 east on MONT - 4. A fragment of this rock yielded little uranium upon assay, but surprisingly contained 1.17 oz./ton silver. The source of this boulder was not identified in spite of considerable prospecting effort. A zone of radioactive soil was recorded approximately 120 meters south, a sample of which ran 1.6 ppm silver and 110 ppm uranium (see prospector's sketch map in pocket).

Across the valley to the north of the Dixie showing two parallel shears were noted where the background radioactivity rises from 220 to 320 cps. The outcrop contains abundant smokey quartz, bright pink feldspar and a

yellow-green micaceous mineral. About 100 meters southeast of this zone a northeast trending quartz breccia is exposed. One rock caused the scintillometer to rise from 290 to 340 cps.

Results of the prospecting work are summarized on an accompanying map entitled MONT Property - Prospector's Sketch (in pocket).

GEOCHEMISTRY

General

Silt samples from Union Creek below Union Lake run in excess of 100 ppm which is unusual for such a large creek, especially that close to the alaskite margin. A moderate amount of radioactivity was encountered in springs and gullies above these lakes to the northwest, but nothing striking came from geochemistry here.

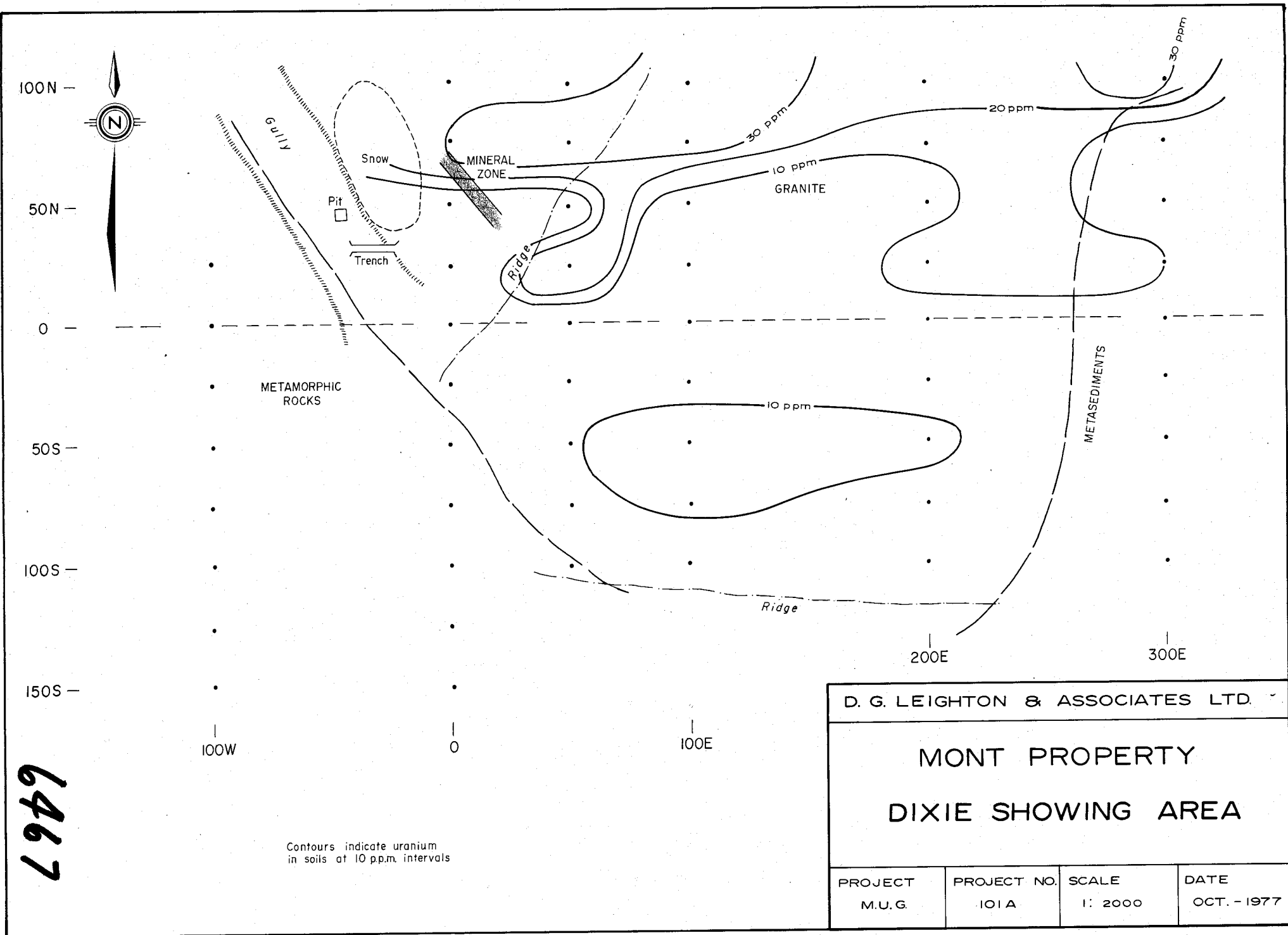
The area selected for soil sampling (the Dixie showing) is located on a fairly steep ridge where soils are poorly developed. Material collected could most accurately be described as talus fines from several centimeters below the ground surface. Grub hoes were used to obtain samples, which were tested using the procedures outlined in Appendix "A".

MONT - 2 (Dixie) Grid

Scattered zeunerite float occurs in blocky granite talus to east of the showing on MONT - 2 claim. A small grid of soil (talus fines) and radiometric readings was carried out here to determine the radiometric and geochemical expression of this style of mineralization (see maps following this page).

The soil uranium analyses ranged from less than 0.5 to 40.0 ppm, with the high values scattered. Even forty ppm cannot be classified as anomalous for reconnaissance purposes in this region. Background values were also obtained for the drainage silts and gully soils involved. The conclusion is that this mineralization is not detectable on a reconnaissance or even follow-up basis by geochemistry.

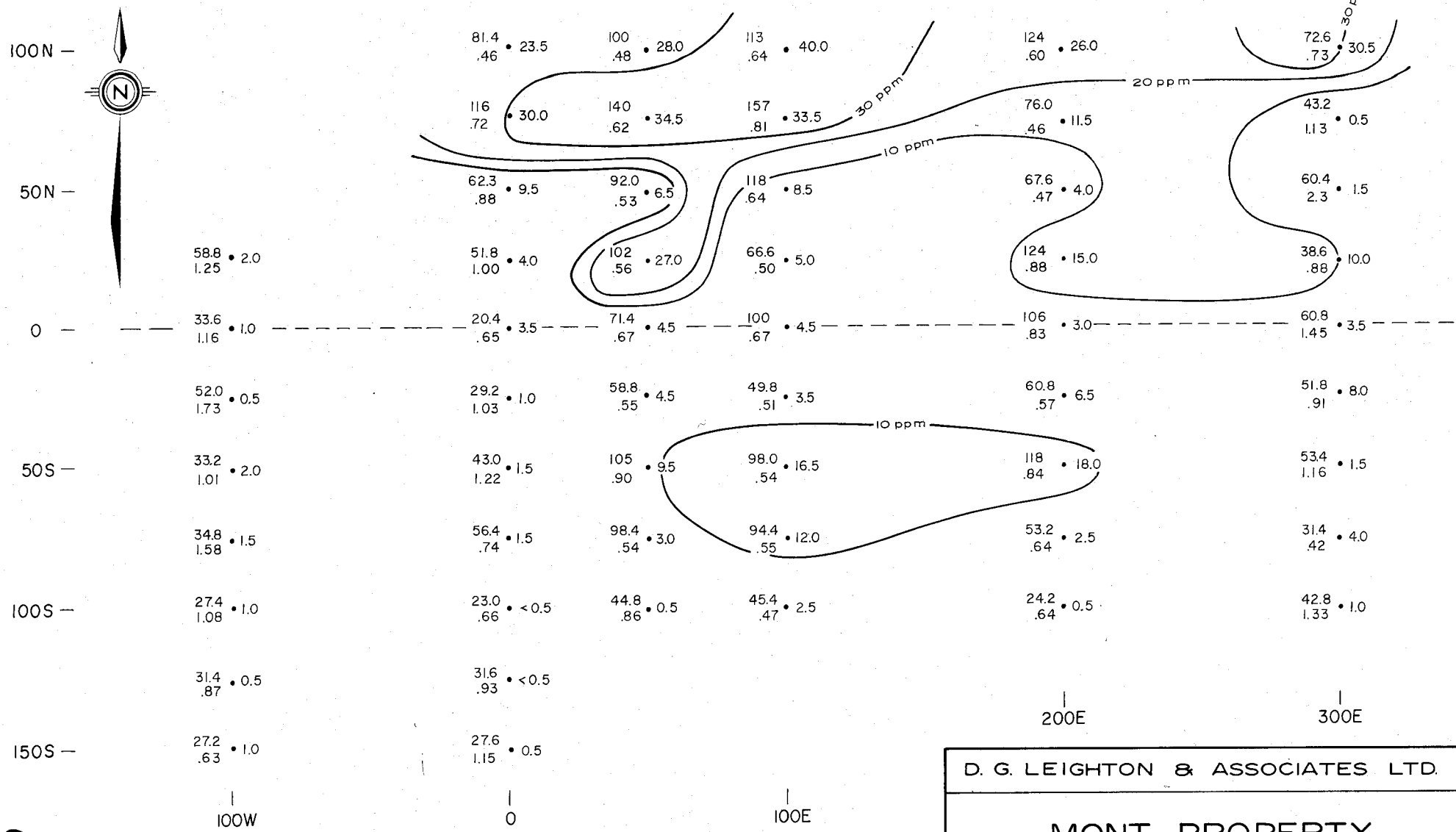
Hand-held scintillometers may be used to locate the individual pockets of uranium mineralization here, but a spectrometer survey (using a Spectra 44 and 30 second counting time) showed the mineralized zone poorly. The counts due to uranium (after effect of thorium was removed) did record some anomalies, but these were scattered and of a form which would likely have been very weak had any overburden been present. The U/Th ratio turned out to be highest in the sediments, and of no use in isolating mineralization. From this it is concluded that where erosion has not exposed mineralization to prospecting, neither geochemistry nor spectrometer surveys are likely to indicate clearly a zone of mineralization of the style encountered on the Dixie showing.



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MONT PROPERTY DIXIE SHOWING AREA			
PROJECT M.U.G.	PROJECT NO. 101A	SCALE 1: 2000	DATE OCT. - 1977

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LEGEND

- A • B • C
- A = counts / 30 sec. due to uranium (thorium stripped)
- B = ratio of "A" to thorium counts
- C = ppm uranium in soil (contoured)

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MONT PROPERTY URANIUM IN SOILS DIXIE AREA			
PROJECT M.U.G.	PROJECT NO. 101A	SCALE 1: 2000	DATE OCT. - 1977

SUMMARY OF COSTS
(for assessment purposes)

Wages and salaries	\$712.50	
Benefits	<u>237.50</u>	\$ 950.00
Assay costs (geochemical)		400.00
Meals and accommodation		490.00
Mobilization - mainly helicopter		300.00
Miscellaneous; includes drafting, report preparation, equipment rental, etc.		<u>500.00</u>
	Total	<u><u>\$2,640.00</u></u>

Above costs relate to geochemical, radiometric and prospecting work carried out on MONT-2 portion of the MONT property.

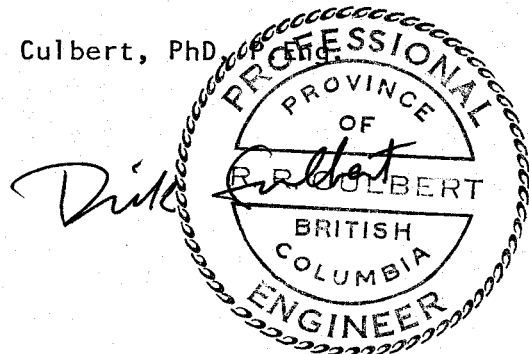
CERTIFICATION

I, R.R. Culbert, do hereby certify that:

1. I am a practicing Professional Geological Engineer with offices at 3152 West 10th Ave., Vancouver, B.C.
2. I am a graduate of the University of British Columbia, B.A.Sc. (1964), Ph.D. (1971).
3. I have practiced mining exploration for fifteen years, most of which were based in British Columbia.
4. I am a member in good standing of the Association of Professional Engineers of the Province of British Columbia.
5. I have personally visited the MONT property and supervised exploration work carried out there.

Respectfully submitted,

R.R. Culbert, Ph.D.



30 September, 1977

MIN-EN Laboratories Ltd.

Specialists in Mineral Environments

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705 WEST 15th STREET
NORTH VANCOUVER, B.C.
CANADA

ANALYTICAL PROCEDURE REPORTS FOR
ASSESSMENT WORK

Procedure for Uranium Analysis:

Rock, soil and silt samples are dried at 110°C and then rocks are crushed and pulverized to -80 mesh.

Soils and silts are sieved and the minus 80 mesh fraction is retained for analysis.

1.000 g. sub-sample is weighed and digested for eight hours with HNO_3 and HClO_4 .











Then the uranium is separated chemically from other possible interfering ions as Mn, Fe, etc.

After preparation a suitable aliquote is taken and fluxed to form a 1.5 inch diameter discs in platinum dishes.

These salt discs then are compared and measured along with suitable standard with a Jarrell Ash Fluorometer.

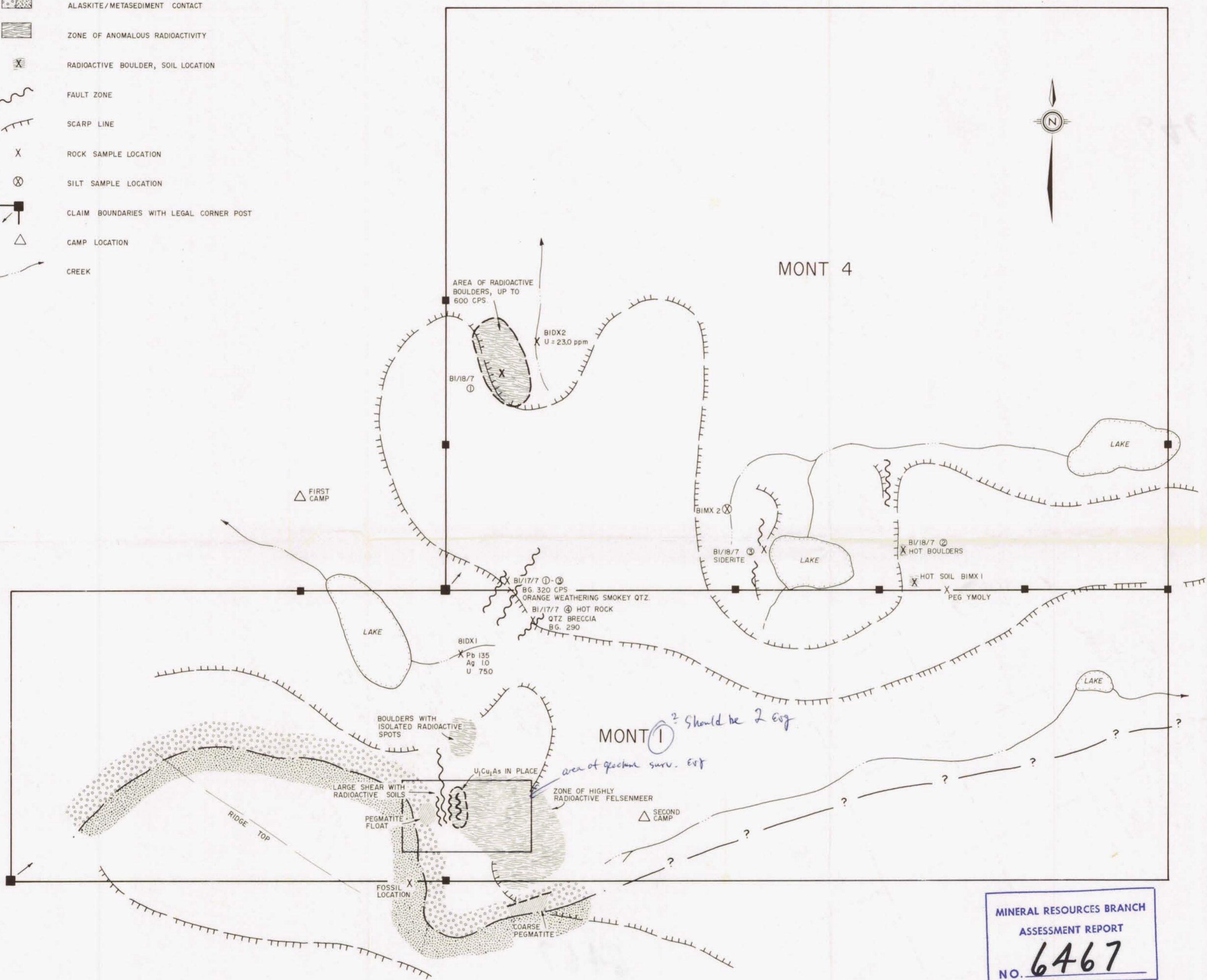
The results are calculated accordingly to the sample aliquotes used from standard graphs.

LEGEND

-  ALASKITE/METASEDIMENT CONTACT
-  ZONE OF ANOMALOUS RADIOACTIVITY
-  RADIOACTIVE BOULDER, SOIL LOCATION
-  FAULT ZONE
-  SCARP LINE
-  ROCK SAMPLE LOCATION
-  SILT SAMPLE LOCATION
-  CLAIM BOUNDARIES WITH LEGAL CORNER POST
-  CAMP LOCATION
-  CREEK



MONT 4



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ASSESSMENT REPORT
NO. **6467**

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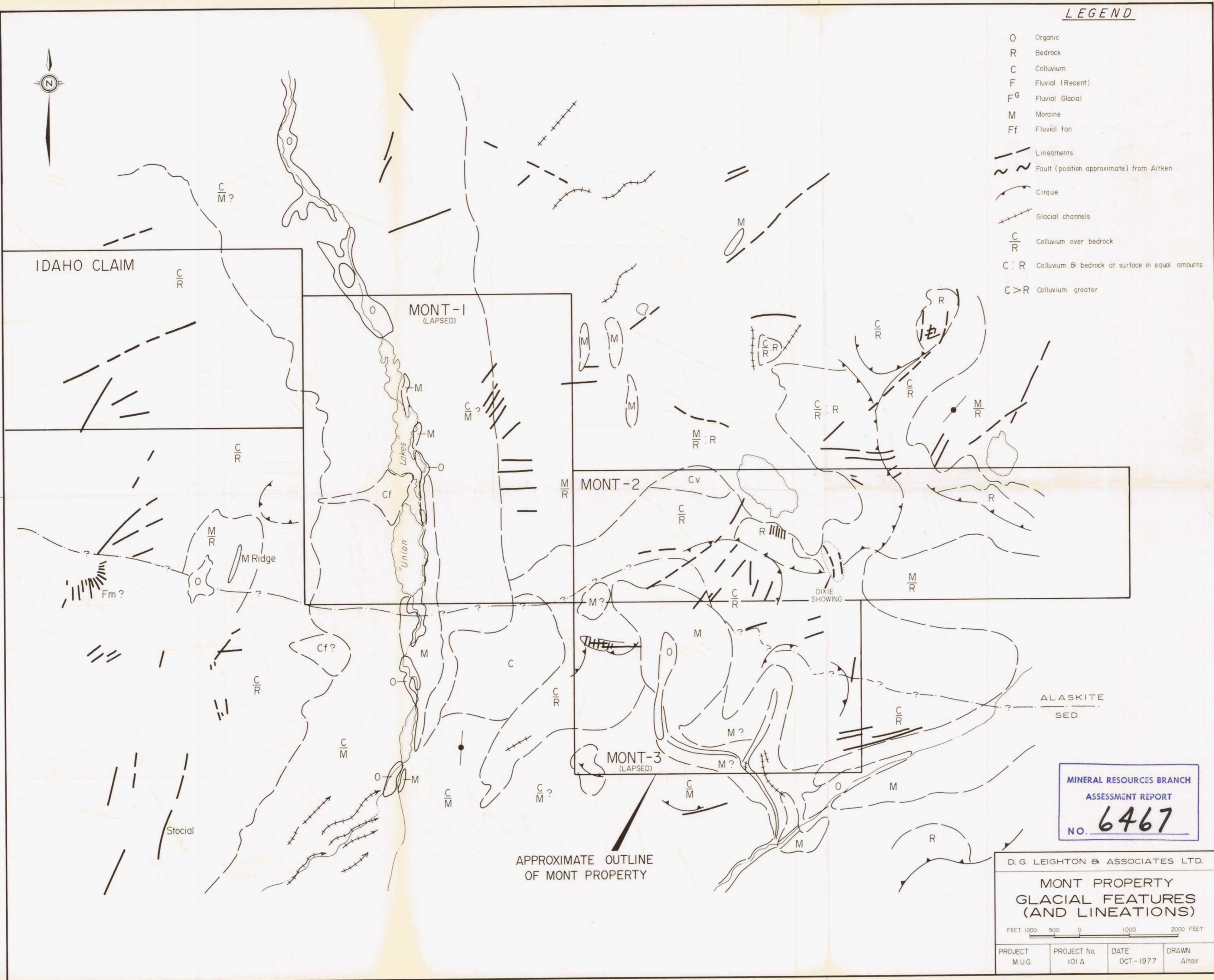
MONT PROPERTY
PROSPECTORS SKETCH

METRES 100 0 100 200 300 400 500 METRES

SCALE: 1 CM = 100 M	DRAWN BY: R. J. BILQUIST	DATE: SEPT. 1977
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LEGEND

- O Organic
- R Bedrock
- C Colluvium
- F Fluvial (Recent)
- F^G Fluvial Glacial
- M Moraine
- Ff Fluvial fan
- Lineaments
- ~ Fault (position approximate) from Aitken
- ⌒ Cirque
- Glacial channels
- $\frac{C}{R}$ Colluvium over bedrock
- C:R Colluvium & bedrock at surface in equal amounts
- C > R Colluvium greater



IDAHO CLAIM

MONT-1
(LAPSED)

MONT-2

MONT-3
(LAPSED)

Union Lakes

M Ridge

DIXIE SHOWING

ALASKITE
SED.

APPROXIMATE OUTLINE
OF MONT PROPERTY

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. **6467**

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MONT PROPERTY
GLACIAL FEATURES
(AND LINEATIONS)

FEET 1000 500 0 1000 2000 FEET

PROJECT M.U.G.	PROJECT No. 101 A	DATE OCT-1977	DRAWN Aitair
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