'78 - # 24 -

WEIR MOUNTAIN REPORT NO. 3

GEOLOGY AND GEOCHEMISTRY

CY1 to 8, ENG 1-3 CLAIMS

RECORD NUMBERS 224 to 231 and 221 to 223

WEIR MOUNTAIN, ATLIN MINING DISTRICT

BRITISH COLUMBIA

NTS 104N

59°39'N, 132°59'N

Owner Mattagami Lake Mines Ltd.
Exploration Division

Author F. Morra, M.Sc.

Part 2 of 3

6898

## SUMMARY

1. An anomalously radioactive area has been delineated by Mattagami during the 1977 reconnaissance helicopter borne radiometric survey. The area is located approximately 41 km N60°E of Atlin, B.C., within the Surprise Lake batholith.

2. As a result of the reconnaissance survey, Mattagami staked 11 claims (187 units) in the area, during the 1977 field season, and carried out a detail geochemical sampling within the area (see Weir Mountain, Report No. 2, F. Morra, October 1977).

3. Detailed geochemical sampling, both soil sampling and stream sediment sampling, was carried out within Mattagami's property during the 1978 field season.
   In addition, a CEM survey was completed in one area of particular interest.
   Ground and helicopter borne radiometric survey, radon-in-soil survey and geological traverses were also completed during the 1978 field season.

4. The area presents radioactive anomalies of interest and other mineral occurrences (in particular Zn and Pb) which deserves further work. None of the presently found anomalies approaches economic grade and/or tonnage.

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## FIGURES



## TABLES

# CHAPTER ONE

# INTRODUCTION

## 1-1 Property and Ownership

Mattagami Lake Mines Limited is the owner of mineral claims CY1 to CY8 and Eng 1, 2 and 3, Record Numbers 224 to 231 and 221 to 223 respectively. These claims were staked for the Company by F. Morra and W. Howard and were recorded in Atlin, B.C. on 26 July 1977.

The claims staked over 187 units or 4675 hectares (11,553 acres).

## 1-2 Location and Access

The property acquired by Mattagami is located in the Weir Mountain area (Figures 1 and 2, northern B.C., NTS 104N, approximately 41 KM N60$^{o}$E of the community of Atlin, and its geographical location is 59$^{o}$39'N and 132$^{o}$59'W.

No roads lead to the property. Access it possible via helicopter from Atlin. A gravel road connects Atlin to the east shore of Surprise Lake, 15 km west of Weir Mountain.

## 1-3 Physiography

The area is mountainous, with gently sloping, vegetation covered, SE flanks and precipitous cliffs on the NW flanks. Recent glaciation has left wide U-shaped valleys and rounded mountain tops, as well as cirques and hanging valleys. The elevation is 1000 to over 2000 m above sea level.

Vegetation is a dense short willow bush up to 1300 m. Above this elevation there is a very immature alpine-type of soil, 10 to 50 cm

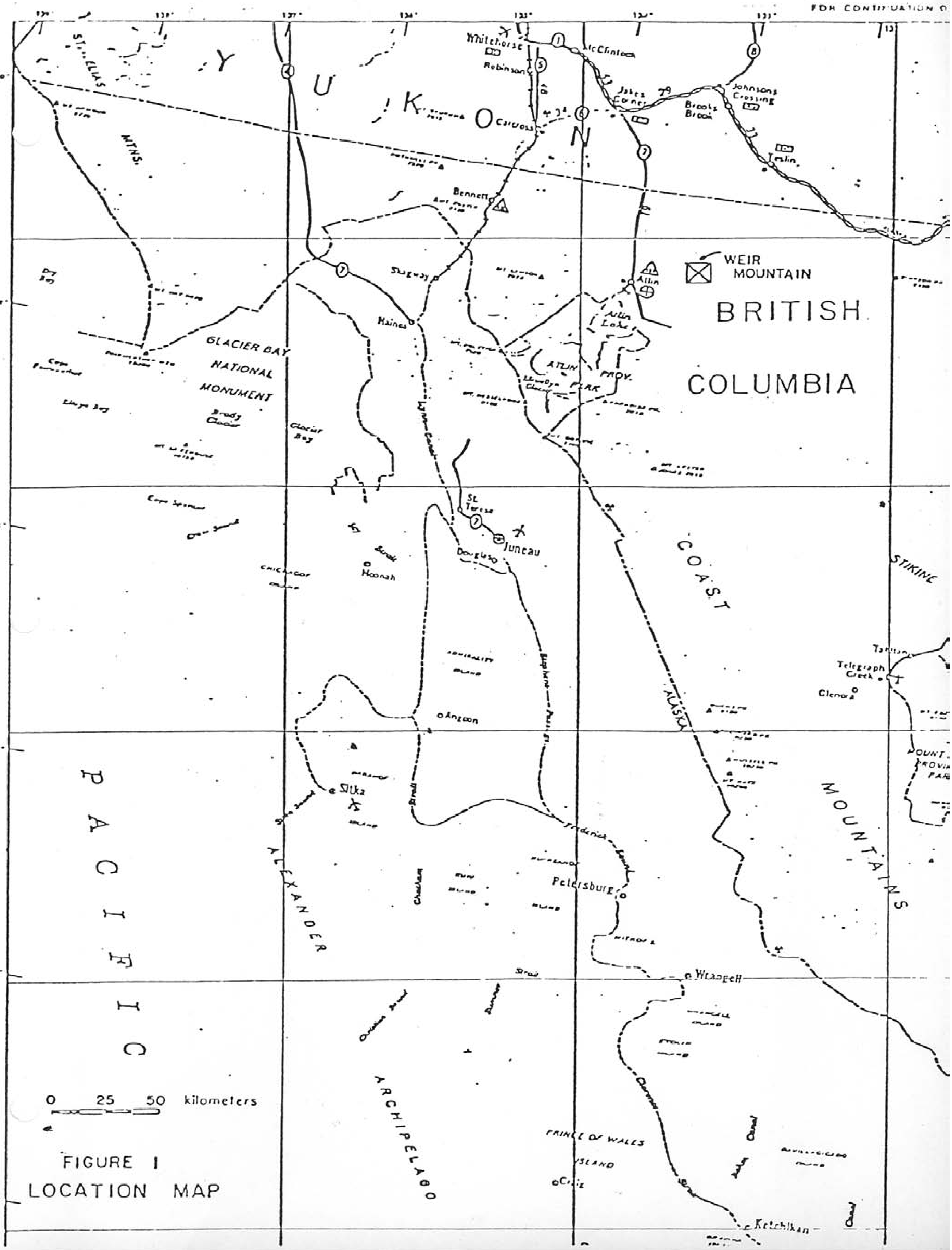
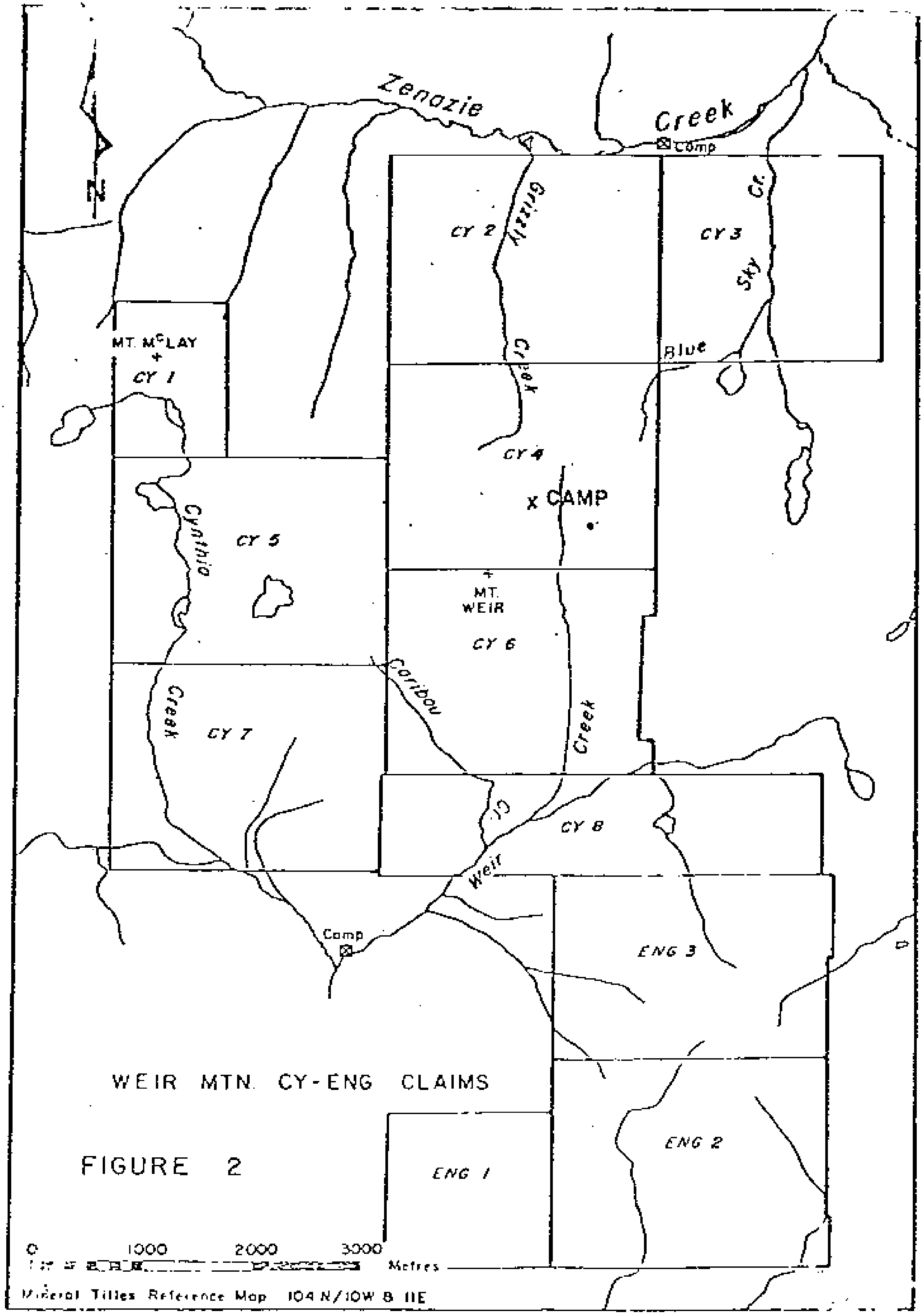



FIGURE 1
LOCATION MAP




WEIR MTN. CY-ENG CLAIMS

FIGURE 2

thick, and vegetation constitutes grass and lichens. Moraine and fluvial deposits cover extensive areas at valley bottoms.

1-4 Climate

The CY and Eng claims are almost completely free of snow towards the middle of July to the end of August.

The area is characterized by strong winds, prevalent from SW. Summer temperatures average +4°C and snow storms are common during the summer months, especially in June and August.

1-5 Work Program, June 1978

The personnel during the 1978 field season consisted of:

F. Morra - party chief

J. Biczok - senior assistant

N. Ball - junior assistant

L. Ball - junior assistant

The exploration approach used during the 1977 field season is presented in Weir Mountain Report No. 2.

During the 1978 field season, the crew completed a geochemical and geophysical (radiometric and CEM) survey in areas not covered by the 1977 survey, and in areas where a more detailed type of survey was required.

The work on the claims was carried out from May 29 until June 26, 1978. In 1978, field work carried over the claims included:

1) Geological, ground and helicopter borne radiometric traverses over all claims.

2) Approximately 100 geochemical stream sediment, 200 soil sampling, and 100

rock samples collected for analysis.

3) Radon-in-soil survey over 92 sample sites.

4) Grid line chaining on CY 3, 4, 6 and 8 claims.

5) CEM survey.

6) Hand-trenching.

A base camp was established at the headwaters of Weir Creek (Figure 2). One fly-camp was established in CY 3 claim, along Blue Sky Creek.

The main grid on CY 6 claim is seen in Figure 4.

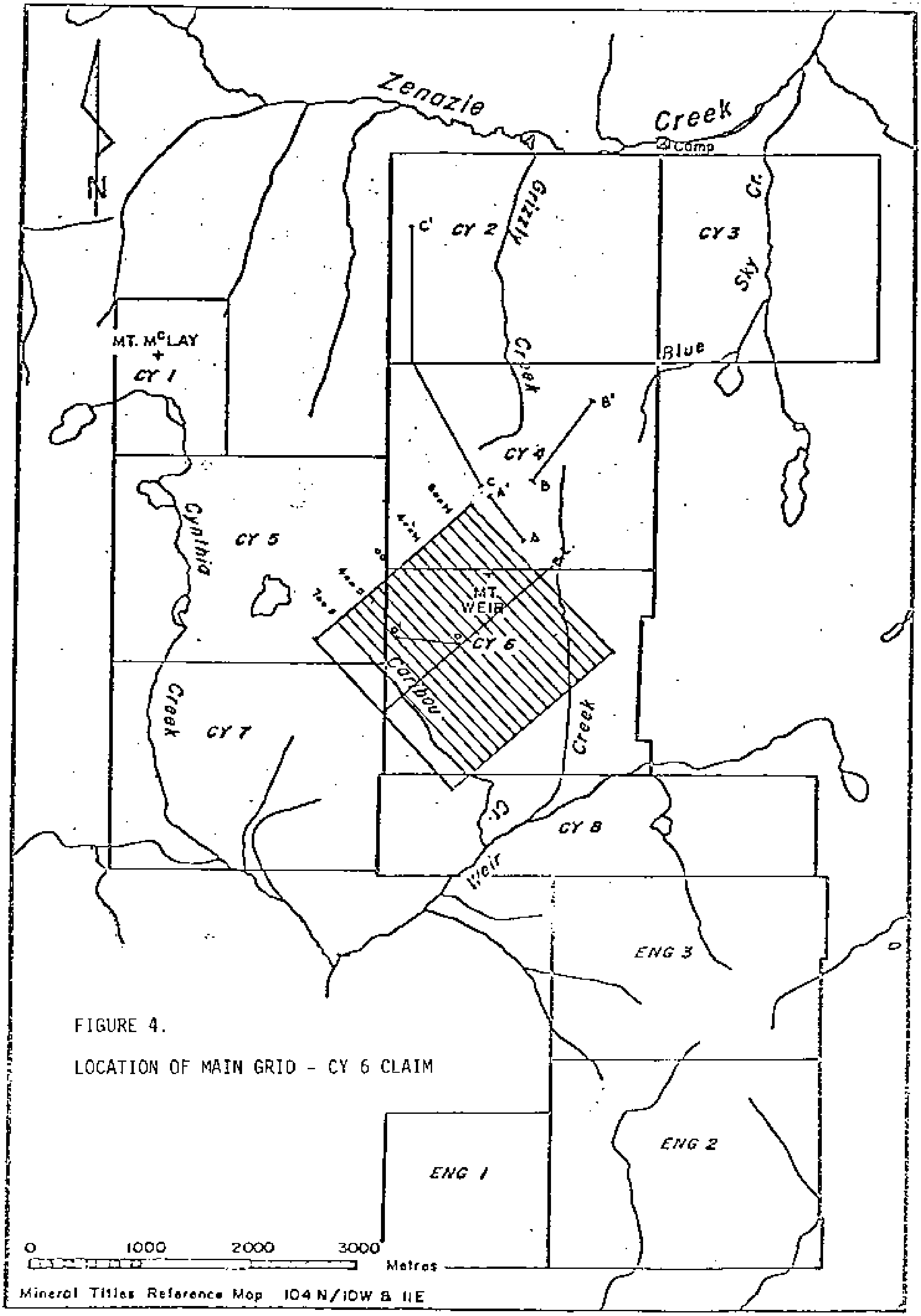



FIGURE 4.

LOCATION OF MAIN GRID - CY 6 CLAIM

# CHAPTER TWO

## GEOLOGICAL SETTING

The claims ( CYL - 8, ENG 1,2 and 3) are located within a large batholith of alaskite Cretaceous age, that extends eastward from Atlin Lake, northern B. C., as a lobe of the Coast Range Batholith.

Strong textural differences are present within the alaskite, from fine-grained to very coarse-grained, to porphyritic, suggesting the presence of different phases of the same intrusion, or perhaps separate intrusions.

The southernmost part of Mattagami's property, ENG 1 and 2 claims, covers the contact between the alaskite and the Cache Creek Group, mainly composed of chert, argillite and quartzite.

This contact is often marked by gossan zones, with pyrite mineralization and hematite staining, extending laterally within the alaskite and the Cache Creek Group for several tens of metres. The alaskite found in the property is otherwise almost free of visible alteration zones except at the Weir Mountain summit where one outcrop of very altered and weathered fine-grained alaskite occurs (U, Pb, Zn mineralization present), and along fault zones, where the K-feldspar is often altered and Fe-oxides are present.

# CHAPTER THREE

# MINERALIZATION

## 3-1 Introduction

The claims owned by Mattagami in this area cover part of the Cretaceous Surprise Lake batholith. The entire batholith presents anomalous radioactivity, with a $U_3O_8$ average content of 8 ppm, which is approximately 3 times higher than the average $U_3O_8$ content detected in similar rock types elsewhere.

Metalliferous mineralization within the area includes zeunerite and other non-identified uranium minerals, molybdenite, galena, sphalerite, hematite, magnetite, pyrite, fluorite, wolframite and beryl.

All the above-listed minerals were found in outcrop as well as on talus slopes and along creek beds;with the exception of magnetite and sphalerite which occur in mafic dykes, all the other minerals mainly occur within the alaskite, in fractures evident by hydrothermal alteration.

Strong hydrothermal alteration is lacking within the alaskite, although kaolinization of the feldspars, chloritization and epidote alteration occur locally.

Supergene alteration is evidenced by a surface zone of oxidation on the north side of Weir Mountain, and by the presence of a zone of

Kasolite and wulfenite staining present on the SW flank of Weir Mountain.

The only type of mineralization of some interest observed on outcrop seems to be always associated to local fractures or assumed faults.

Structural lineaments in the map area have a constant N50$^{o}$E trend and 60$^{o}$NW dip. Due to the paucity of outcrops none of the fractures or assumed faults were investigated nor followed for more than few meters at the most.

Five radiometric anomalies have been found within Mattagami's property, namely (Figure 3):

- Anomaly "A", a mineral occurrence in outcrop located on top of Weir Mountain (unidentified uranium mineral galena, sphalerite and silver values).

- Anomaly "B", in soil, on a swampy area along Blue Sky Creek (uranium in soil anomaly).

- Anomaly "C", a secondary mineral occurrence on talus boulders, on the SW flank of Weir Mountain (kasolite - $Pb(UO_2)(SiO_3)(OH)_2$ and wulfenite - $PbMoO_4$).

- Anomaly "D", in soil, located on Blue Sky valley (uranium in soil anomaly).

- Anomaly "E", mineral occurrence in outcrop, located within CY 8 claim (sphalerite, galena).

All these anomalies, with the exception of Anomaly E, have a limited lateral extent, and Anomalies B, C, and D are probably related to secondary enrichment processes due to leaching and supergene alteration.

## 3-2 Detailed Description of Anomalies

### Anomaly A

The original "discovery zone", Anomaly A, was found on the summit of Weir Mountain, in 1977 as a result of ground followup of helicopter borne radiometrics.

Between the summit and an area immediately to the west of the base camp, along the crest, three phases of alaskite-granite were found.

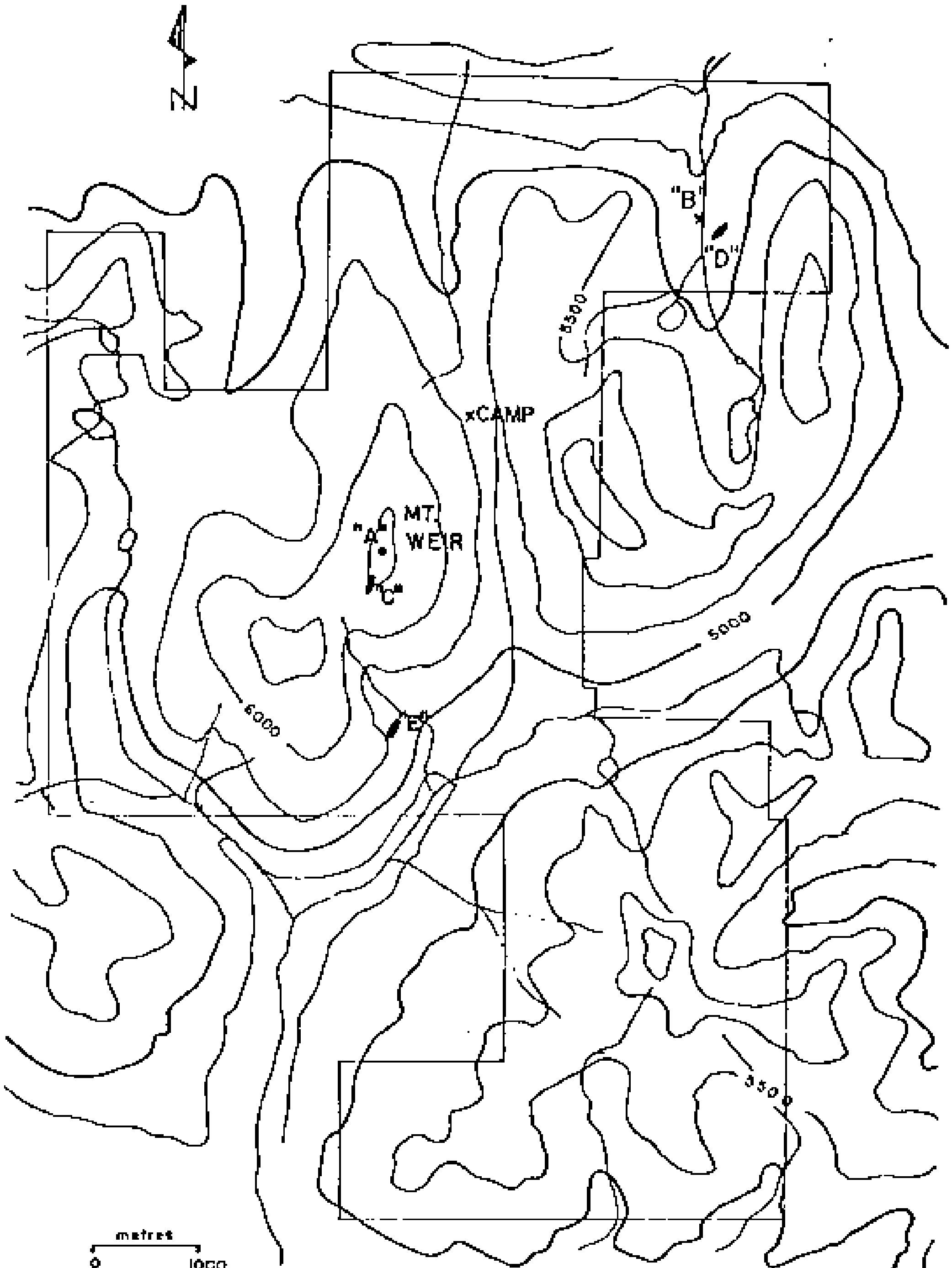



FIGURE 3

MINERAL OCCURRENCES

Phase 1 is a fine-grained alaskite with a saccharoidal, equigranular texture, containing 3-5% biotite, 25-30% quartz and approximately 70% feldspar, largely potassium feldspar.

Phase 1 is probably the youngest. Phase 2 has approximately the same modal composition but is coarser-grained and locally porphyritic. It is the dominant type along the N-S crest of Weir Mountain. Phase 3 occurs in the vicinity of the summit. It is similar to Phase 2 but it has a higher quartz content ( 40%) and is strongly porphyritic with euhedral K-feldspar phenocrysts averaging 1.5 cm in length. A contact between Phase I and 3 found in a talus block suggests that Phase 1 intruded Phase 3.

A small (11 cm wide) quartz vein was found intruding Phase 2, west of camp. This vein is slightly radioactive (500 cps on a GRS 101 scintillometer) and a sample (115 R 528) has been sent for analysis. Results indicate 4.5 lb/ton $U_3O_8$, 0.017% Mo and 0.27% Pb.

Several magnetic dykes 1 to 2 m across were also found intruding Phase 2.

On the summit of Weir Mountain a mineralized quartz vein crops out. The vein is approximately 20 cm wide and exposed for approximately 40 cm. It is radioactive (up to 4000 cps on a GRS 101 scintillometer) and contains up to 4 lb/ton $U_3O_8$, 1.65% Pb and 4.0% Zn (from Weir Mountain Report No. 2). Several smaller veins (1-4 cm wide) are found nearby.

The euhedral nature of the quartz crystals (up to 3 cm long) and the vuggy nature of the veins suggest that they are filling tension fractures. The outcrop in which the vein occurs, and those nearby, are strongly sheared and have abundant hematite staining. There are two major shear directions present: $160^{\circ}$, $75^{\circ}$W and $50^{\circ}$, $65^{\circ}$ NW, the latter being associated with the heaviest hematite staining and locally massive magnetite and specular hematite veins. Shearing of this magnitude is not found elsewhere along the crest, possibly due to the paucity of outcrops.

It is suggested that the quartz and metallic minerals filled open tension fractures produced by the intense shearing/faulting in this area. This mineralization may be of similar origin as that found by Johns-Manville to the east of Mattagami's property, where quartz and molybdenite have filled tension fractures in a 100 m wide zone associated with a major fault.

Anomalies B and D (J. Biczok, writer)

From June 12 to 14, 1978 soil samples and radiometric readings were taken along a grid in the Blue Sky Creek area (see Figures 5 & 6). This was initiated as a result of three anomalous soil samples taken in the area during 1977.

Soil samples were taken at 25 meter spacings along 5 north-south lines and at 100 m spacings on several lines outside the area. Radiometric readings were taken with a TV-1A at each sample location and extra samples were taken along the lines wherever radiometric response was high.

The highest radiometric readings were found at coordinates BL00 + 00. This proved to be the result of a grey clay bed at least 10 m x 10 m. This layer was overlain by 10 cm of non-radioactive organic soil and was exposed in the test pit for a 40 cm depth (the lower limit of the clay is unknown). TV-1A readings were: $T_1$ 100,000 cpm, $T_2$ = 4600 cpm, $T_3$ = 600 cpm. This anomaly is presumed to be the result of the adsorption of uranium by the clay and is therefore thought to have little economic significance. A more interesting anomaly was found in the southeastern area of the grid. Anomalous radiometric readings occur in a NE-SW line 200 m long and 10-20 m wide. The highest reading was $T_1$ = 65,000 cpm, $T_2$ = 2400 cpm, $T_3$ = 500 cpm at coordinates 250E 315S. Average $T_1$ levels in this area are 15,000 cpm.

Other $T_1$ readings in the anomaly range from 25 to 47,000 cpm. This anomaly is thought to be related to some underlying geologic feature since it cross cuts the local drainage pattern and includes a variety of soils, mainly brown sandy soil, but also black organic soil.

Two other restricted anomalies were found at 100W 300S ($T_1$ = 37,000) and at 00 + 175S ($T_1$ = 25,000). The latter anomaly may be due to the high organic content of the soil; however, the former appears to be a significant anomaly. A stream sediment sample (115S 517) was taken nearby and further followup is recommended. It is also recommended that further work, possibly a radon-in-soil survey and an EM survey be done over the linear anomaly (Anomaly D).

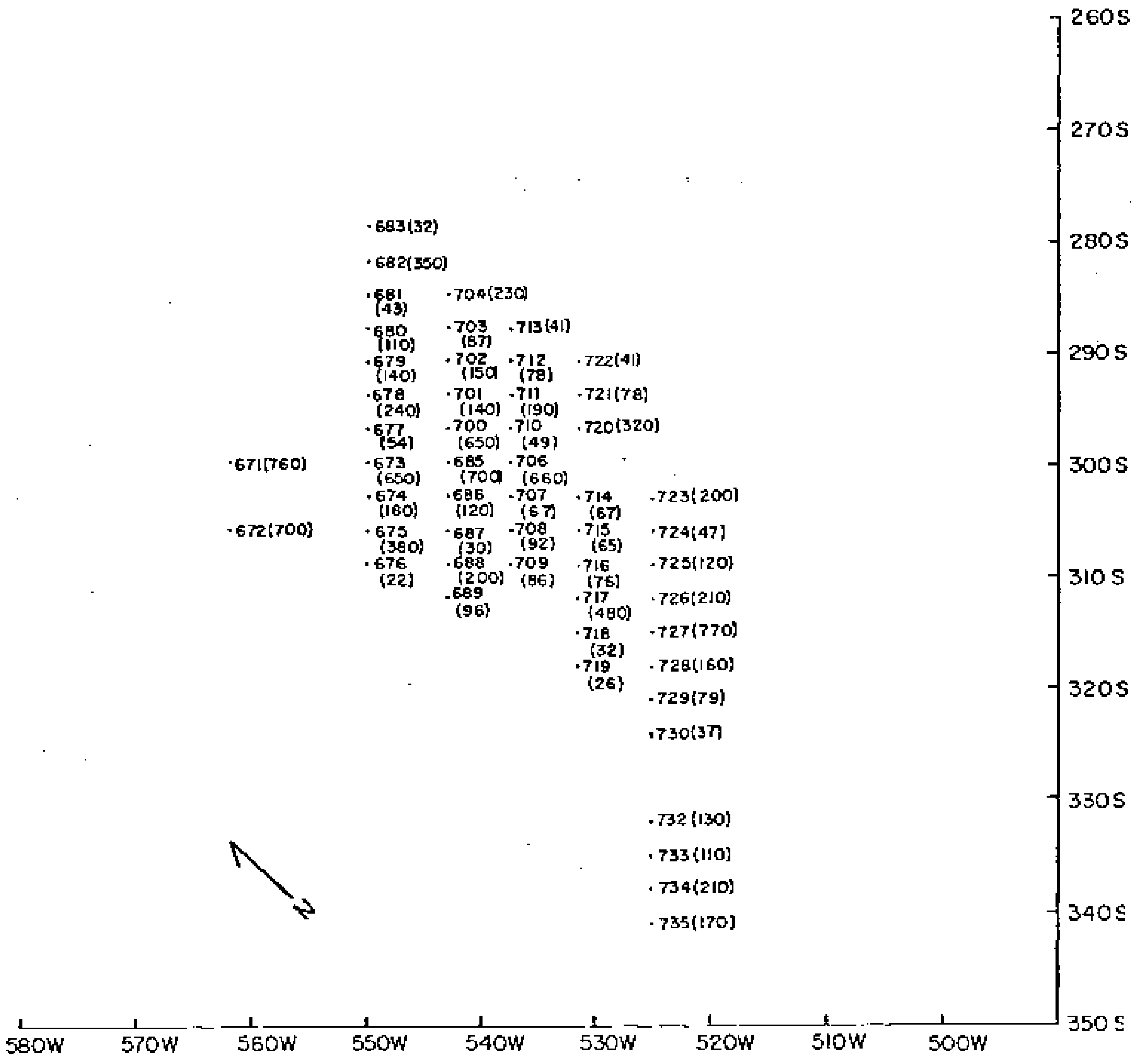
<u>Anomaly C</u> (Figures 3, 7 and 8)

This radioactive anomaly is located within CY 6 claim, and occupies an area of 10 m by 40 m. Mineralization is present as yellow and orange stain on surface boulders (kasolite) and cubic brown crystals (wulfenite).

One trench, 1.50 m by 1.20 m by 1.0 m deep was dug down to bedrock, but revealed unmineralized, intensely weathered alaskite.

The anomaly has been probably produced by supergene alteration processes. This is suggested by the fact that the highest radioactive count rates (Figure 7) were obtained on the upslope end of the anomaly, where the trench was dug. The secondary mineralization coats boulders that lie in an aligned fashion, long axes pointing downhill, in a slight depression that may be an intermittent stream bed.

In addition to the above factors it should be noted that the radiometric counts obtained at the highest radioactivity spot were $T_1$ = 90,000 cpm, $T_2$ = 300 cpm, $T_3$ = 55 cpm (McPhar TV1A). For the uranium to be at




720 SAMPLE LOCATION

(123) URANIUM (ppm)

LOCATIONS BY PACE AND COMPASS

0 10 M

FIGURE 8

SOIL SAMPLE SURVEY — ANOMALY "C"

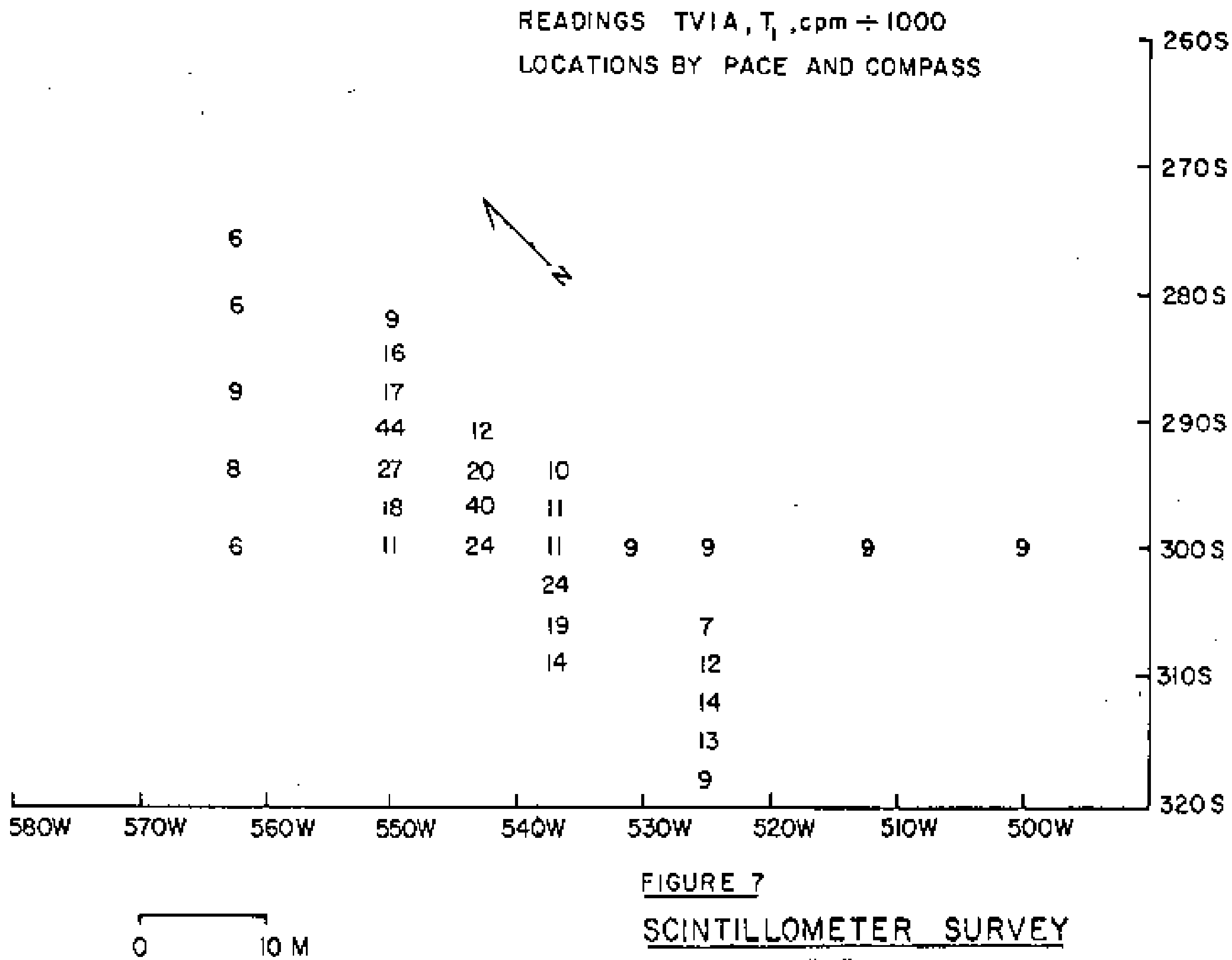



FIGURE 7

SCINTILLOMETER SURVEY

ANOMALY "C"

radioactive equilibrium, a count of $T_1$ = 90,000, should have been combined with $T_2$ in the thousands. This also implies that the secondary uranium minerals are not accompanied by primary uranium mineralization.

Finally, it should be noted that secondary uranium minerals, though not of economic importance and not giving a strong $Bi^{214}$ response with a spectrometer, will give a strong radon-in-soil response.

Soil sampling was performed over this location in detail (Figure 8). This is discussed further in the section on geochemistry below.

Anomaly E

Numerous sphalerite and galena-rich boulders were found along the Caribou Creek and on a terminal glacial deposit on CY 8 claim in 1977.

The thick snow cover present on the area in June 1978 did not allow any followup of the boulder anomaly, until the very last day of the 1978 exploration activity.

The geological traverse was completed at the base of the NW-SE ridge, on the W side of Caribou Creek. During the traverse one 4 m wide mafic dyke, intruding alaskite, with a high content of sphalerite and galena was encountered. The dyke strikes N48$^{\circ}$E and dips 62$^{\circ}$NW.

Its continuity was not ascertained, due to the lack of outcrop. Other similar dykes, but containing less visible mineralization, were encountered during the traverse. They all have similar strike and dip.

Quartz veins with high content of fluorite and beryl were also found in the alaskite nearby the mafic dykes.

(Conclusions based on assay results of rock samples; refer to Figures 10 & 11).

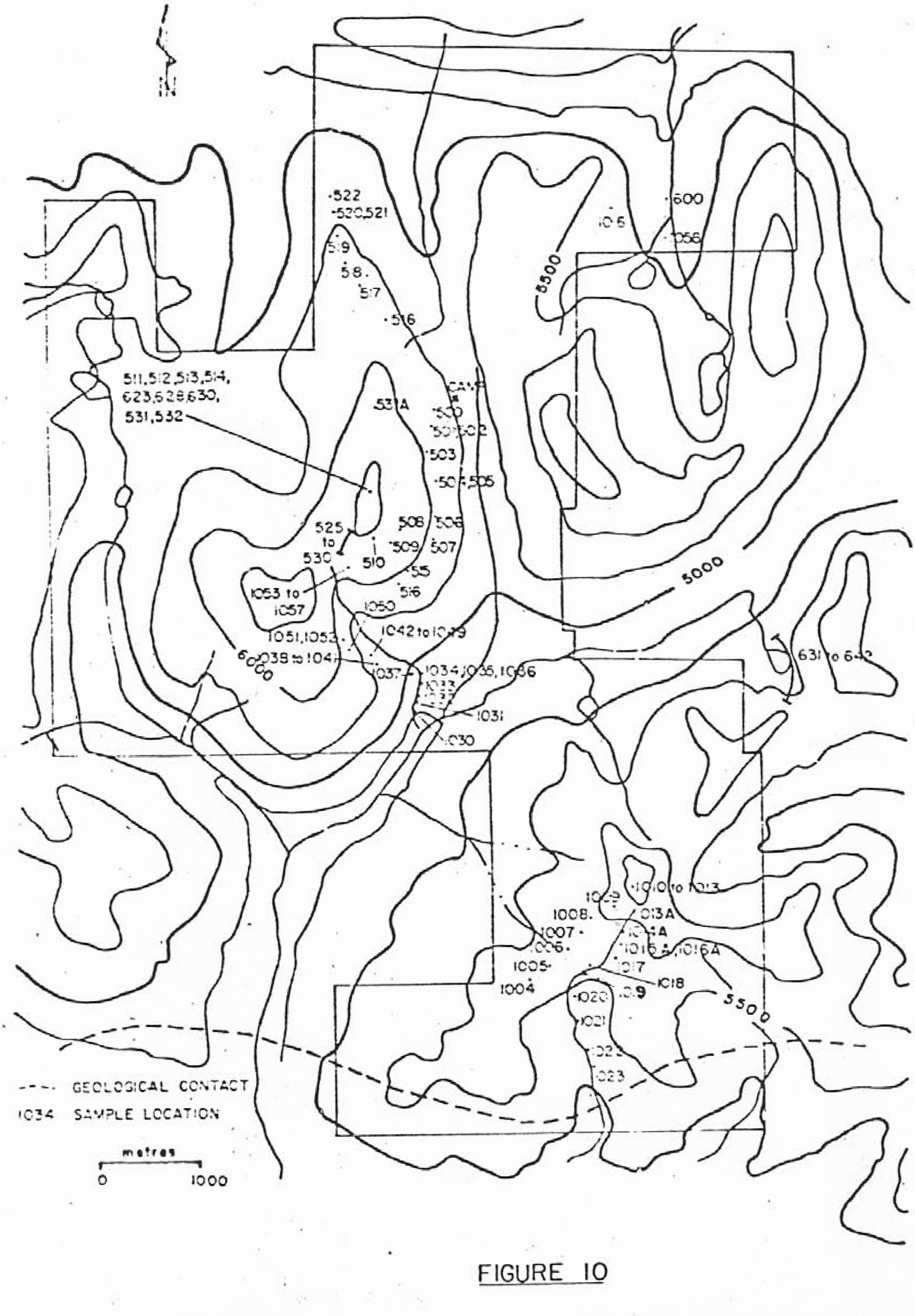
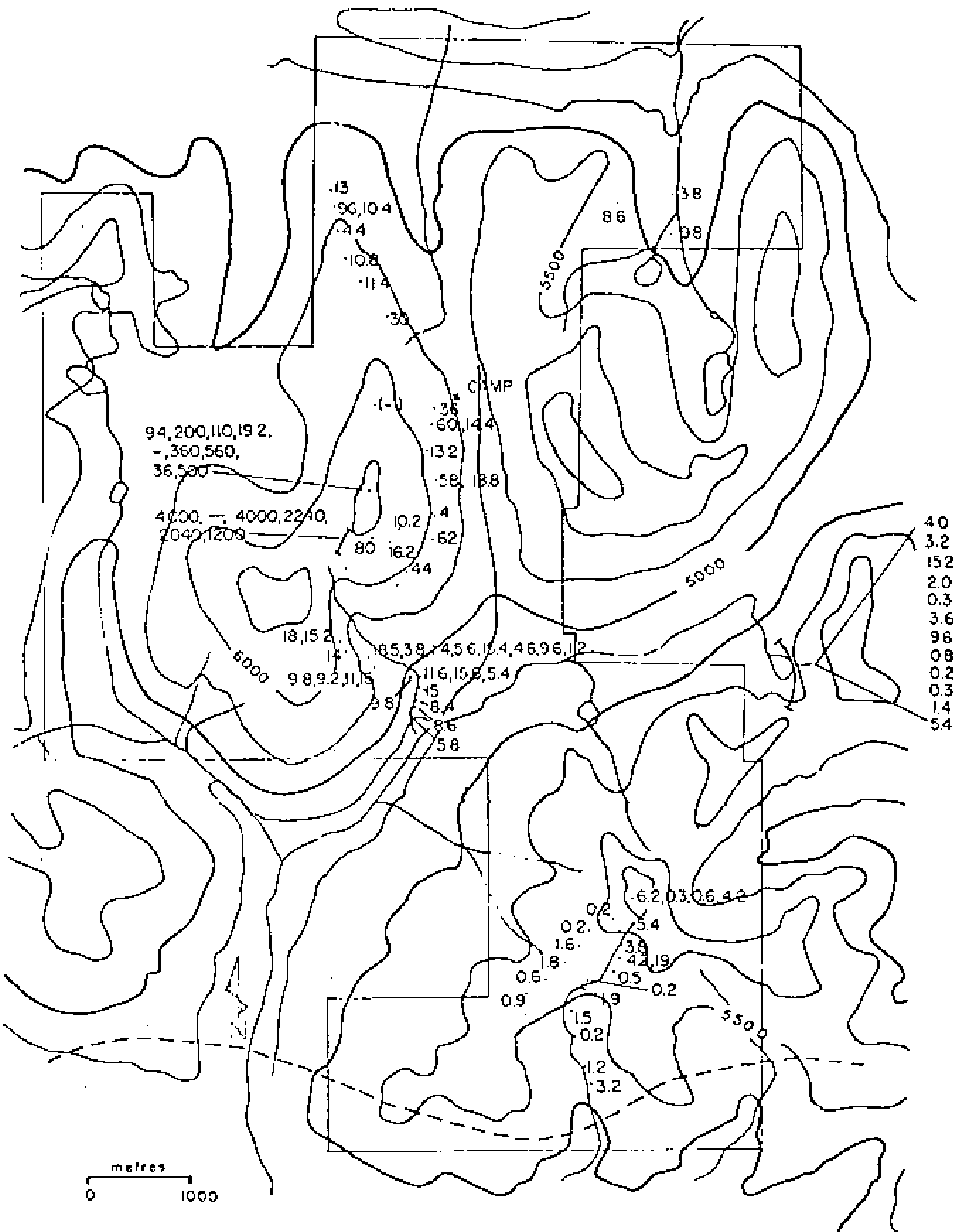



FIGURE 10

ROCK SAMPLES –
LOCATION MAP




5.3 URANIUM (ppm)

FIGURE 11

ROCK SAMPLES —

URANIUM RESULTS

# CHAPTER FOUR

# GEOCHEMICAL SURVEY

## 4-1 Methods

A set of about 100 stream sediment samples along the main creeks and over 200 soil samples in areas of uranium potential were collected.

All these samples were analysed for U, and many also for Mo, Pb, Zn, and Ag.

## 4-2 Results

Results are shown in Appendices 1 & 2.

Sample location and related uranium results are shown in Figures 5, 8, and 9.

Soil sample location results and related radiometric (scintillometer) readings on anomalies B and D (Blue Sky Creek, CY 3 claim) are presented in Figure 5 and Figure 6.

Soil sampling was also completed on anonaly C, CY 6 claim. Results are presented in Figure 8.

The Blue Sky Creek grid was investigated in terms of possibilities for economic concentrations of uranium. However, the results in the two radimetrically anomalous areas, anomalies B and D, are of the order of 100 ppm or less. It has to be considered whether these are transported or soil anomalies.

Soil sampling on anomaly C shows a zone of soil with 700 ppm uranium, confirming the effectiveness of soil sampling to detect zones of uranium enrichment. A narrow zone of anomalous soil results is present, but again the problem is whether the soil uranium and radiometric anomalies are in situ or transported anomalies.

# CHAPTER FIVE

# RADON IN SOIL SURVEYS

## 5-1 Field Method

The radon content of soils was measured by means of a EDA RD 200 radon detector. A hole is made by means of a soil auger. The detector probe is inserted and soil gas pumped into the detector. Three successive counts are taken to ascertain relative thoron and radon 222 levels.

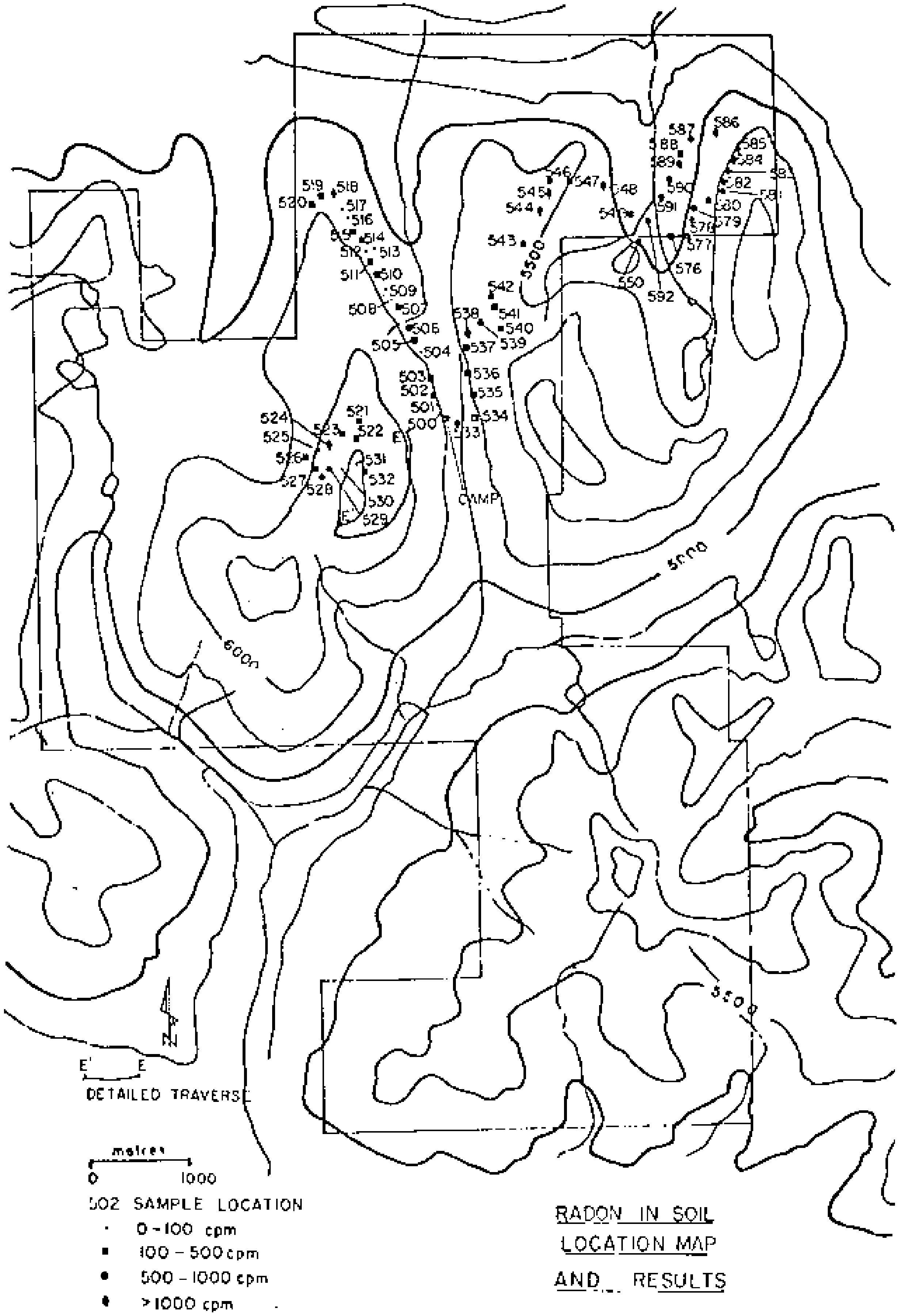
## 5-2 Results

Generally successive three minute counts gave rising count rates indicating predominance of uranium derived radon 222.

Results are given in Figures 12 and 13 for first one minute count. 92 sample sites were tested.

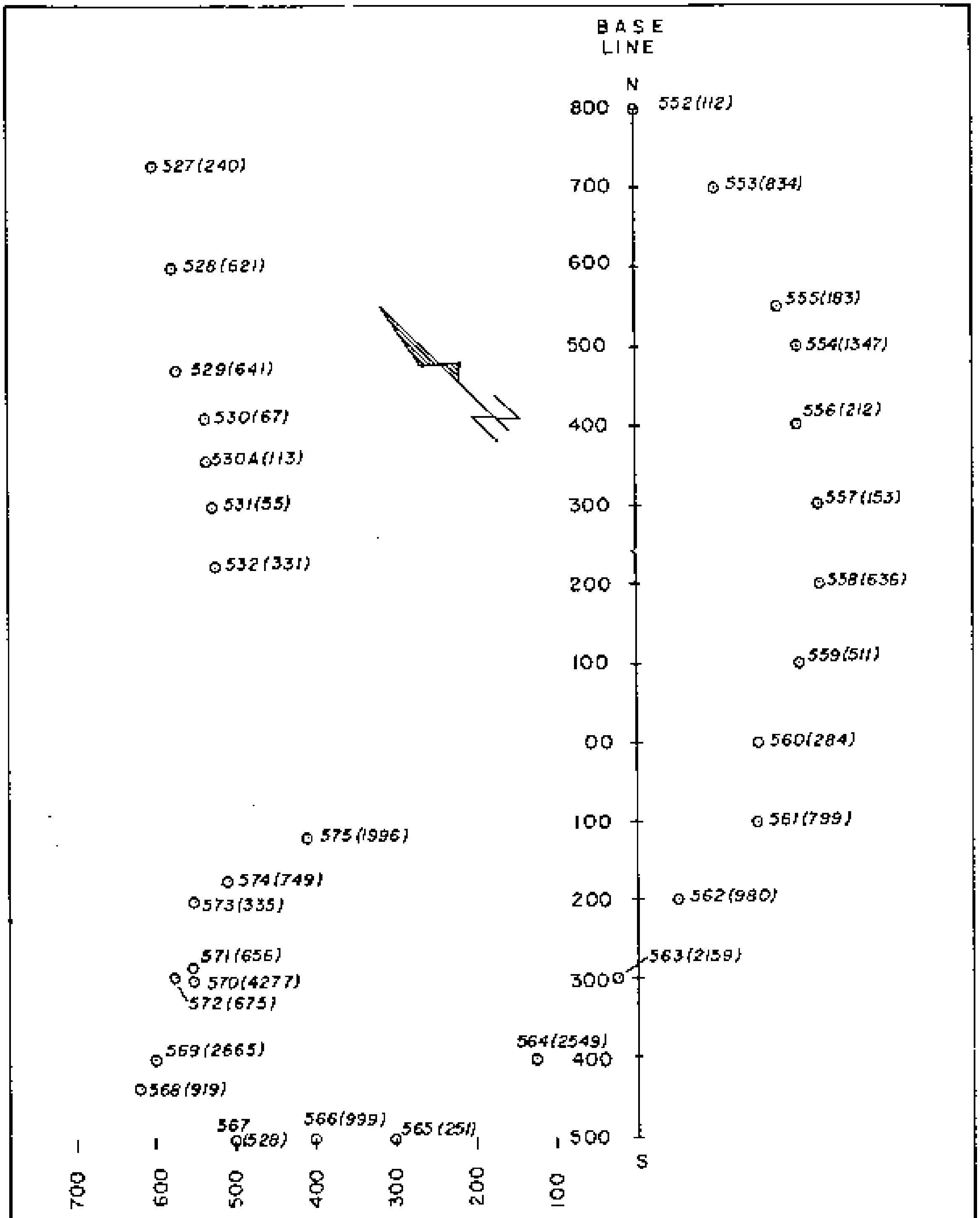
Reconnaissance results (Figure 12) are generally spotty with insufficient data to determine zones. However a particularly high area exists on the east side of the CY 2 claim and should be further investigated.

The radon in soil on the main grid, CY 6 (Figure 13) suggests the possibility of a zone between 300 S and 400S, 500 S and 600 W, with in excess of 2000 counts per minute. Further data in between would help to confirm whether this zone is present or not.




RADON IN SOIL LOCATION MAP AND RESULTS

FIGURE 12




meters
0 50 100

| SAMPLES | DATE | RECORDER |
|---|---|---|
| 527-532 | JUNE 10/78 | J.B. |
| 552-575 (E-E' TRAVERSE) | JUNE 23/78 | J.B. |

o SAMPLE LOCATION

*562* SAMPLE NUMBER

*(416)* RADON COUNTS PER MINUTE FIRST READING

FIGURE 13

RADON IN SOIL SURVEY

MAIN GRID

CY 6 CLAIM

Stream sediments surveys over the whole property (Figure 9) give the following anomalous values that require additional investigation:

| | |
|---|---|
| 5510 | 320 ppm U |
| 5792 | 420 ppm U |
| 5793 | 180 ppm U |
| 5796 | 200 ppm U |
| 5798 | 340 ppm U |
| 5621, 622, 623 | 480, 480, 440 ppm U |

The valves should be investigated by detailed stream sediment, soil, radon and prospecting.

# CHAPTER 6

# CONCLUSIONS

U, Zn and Pb anomalies were found in the Mattagami's property in the Weir Mountain area, B. C., during the 1978 exploration program.

Uranium was found in the form of kasolite as surface staining in an area of limited size.

One hand-made trench did not reveal any primary uranium mineralization immediately below the uranium occurrence.

Selected samples from the occurrence, weighing from 0.5 kg to 1.5 kg, assayed up to 10lb./ton $U_3O_8$.

Detailed soil sampling was performed on the uranium anomaly found in CY 3 during a radiometric traverse conducted in 1977 by Mattagami. The survey revealed other anomalous uranium occurences in the area, possibly related to a fault zone.

Zinc mineralization (sphalerite) was found in three separate mafic dykes, within the alaskite, on CY 6 and CY 8 claims, with assays up to 15% Zn.

Highly uranium anomalous stream sediment and water samples were collected in CY 1 claim.

The CEM survey did not reveal the presence of any conductors near the surface (see separate report: Report on the Electromagnetic Survey, CY Claims, Weir Mountain Area; Atlin Mining District, B. C.; Gledhill and Sutherland, 1978).

After the first phase of the 1978 exploration program, it is recommended that the whole area be more completely prospected by ground geological and radiometric traverses. In addition, magnetometer, VLF and I. P. surveys are recommended to be carried over known Pb, Zn and U occurrences within the property, on a test basis.

Trenching of anomaly "A" is also recommended.

Breakdown of Man-days Spent on Mattagami's Property,

During the 1978 Field Season up to the 25th of June 1978

| | Man-days |
|---|---|
| CY 1 claim | 1¼ |
| 2 | 6 |
| 3 | 14 |
| 4 | 15 |
| 5 | 1 |
| 6 | 29 |
| 7 | - |
| 8 | 12 |
| (9) not registerd yet | (3) |
| Eng 1 | 3¼ |
| 2 | 7¼ |
| 3 | 7¼ |
| (LY 1) not registerd yet | (6) |
| (SAL 1) not registerd yet | (2) |
| (2) not registerd yet | (2) |
| | 96 + (13) |

CERTIFICATION

I, Franco Morra, residing at 11234 - 72 Avenue, Edmonton, Alberta, do hereby certify that:

1. I graduated with a degree in geology from the University of Milan, Italy (BSc, Hon., 1972) and from the University of Alberta, Edmonton (MSc, 1977).

2. I have practiced my profession since 1972 and I am presently employed by Mattagami Lake Mines Limited as an exploration geologist.

3. To the best of my knowledge and experience all information contained within the scope of this report is believed to be accurate.

F. Morra, B.Sc., M.Sc.
Exploration Geologist

Dated: 11 August 1978

CERTIFICATE

I, William Mercer, of the City of Edmonton, Province of Alberta, do hereby certify that:

1. I am a geologist risiding at 11515 - 75 Avenue, Edmonton.
2. I am a graduate of Edinburgh University, Scotland, with a BSc Hons (1968) in geology.
4. I have been practicing my profession for 4 years and am at present District Geologist for Mattagami Lake Mines Ltd. in Edmonton.
5. I am a fellow of the Geological Association of Canada and a member of the Society of Economic Geologists and the Canadian Institute of Mining and Metallurgy.
6. I supervised the work that is described in this report.

Dated this 9th day of August, 1978

W. Mercer, PhD

APPENDIX 1

# TABLE 1

## SOIL SAMPLES - MAIN GRID

| SAMPLE NO. | LOCATION | U ppm | Pb ppm | Zn ppm | Ag ppm | Mo ppm | W ppm |
|---|---|---|---|---|---|---|---|
| 628 | 1000 N. B.L. (Weir Mtn. grid) | 62.0 | 68 | 280 | 1.2 | 2 | 6 |
| 629 | 900 N. B.L. (Weir Mtn. grid) | 28 | 56 | 290 | 1.2 | 2 | 4 |
| 630 | 800 N. B.L. (Weir Mtn. grid) | 34 | 52 | 265 | 1.3 | 1 | 4 |
| 631 | 700 N. B.L. (Weir Mtn. grid) | 37 | 52 | 230 | 1.5 | 3 | 14 |
| 632 | 600 N. B.L. | 26 | 44 | 290 | 1.5 | 2 | 4 |
| 633 | 500 N. B.L. | 64 | 55 | 410 | 1.7 | 2 | 4 |
| 634 | 400 N. B.L. | 17 | 48 | 800 | 1.5 | 3 | 80 |
| 635 | 300 N. B.L. | 48 | 55 | 375 | 1.2 | 2 | 4 |
| 636 | 200 N. B.L. | 14 | 37 | 240 | 1.2 | 2 | 4 |
| 637 | 100 N. B.L. | 20 | 62 | 390 | 1.2 | 3 | 4 |
| 638 | 00 N. 00W. B.L. | 9.0 | 89 | 245 | 1.1 | 2 | 8 |
| 639 | 199 S. B.L. | 48 | 140 | 1000 | 1.4 | 2 | 6 |
| 640 | 200 S. B.L. | 9.7 | 120 | 285 | 1.5 | 2 | 8 |
| 641 | 300 S. B.L. | 12.0 | 435 | 950 | 1.8 | 3 | 4 |
| 642 | 300 S. B.L. + 50w | 31 | 170 | 650 | 1.4 | 2 | 12 |
| 643 | 300 S. B.L. + 100w | 8.2 | 62 | 650 | 1.3 | 2 | 4 |
| 644 | 300 S. B.L. + 150w | 6.8 | 40 | 240 | 1.0 | 1 | 4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 645 | 300 S. B.L. + 200w | 5.1 | 29 | 225 | 1.1 | 2 | 6 |
| 646 | 300 S. B.L. + 250w | 31 | 60 | 255 | 1.1 | 2 | 4 |
| 647 | 300 S. B.L. + 300w | 60 | 82 | 445 | 1.4 | 3 | 8 |
| 648 | 300 S. B.L. + 350w | 32 | 130 | 405 | 1.2 | 2 | 6 |
| 649 | 300 S. B.L. + 400w | 8.0 | 63 | 165 | 1.1 | 1 | 4 |
| 660 | 300 S. B.L. + 450w | 19 | 92 | 335 | 1.0 | 1 | 4 |
| 661 | 300 S. B.L. + 500w | 92 | 89 | 465 | 1.2 | 2 | 6 |
| 662 | 300 S. B.L. + 525w | 120 | 290 | 1050 | 1.1 | 1 | 4 |
| 663 | 300 S. B.L. + 537w | 460 | 1550 | 1125 | 1.0 | 195 | 20 |
| 664 | 300 S. B.L. + 550w | 68 | 245 | 875 | 1.0 | 5 | 4 |
| 665 | 300 S. B.L. + 575w | 52 | 310 | 1150 | 1.2 | 2 | 6 |
| 666 | 300 S. B.L. + 600w | 42 | 44 | 2550 | 1.5 | 1 | 4 |
| 667 | 300 S. B.L. + 625w | 28 | 52 | 3800 | 2.3 | 1 | 6 |
| 668 | 300 S. B.L. + 650w | 41 | 35 | 450 | 1.1 | 1 | 4 |
| 669 | 300 S. B.L. + 675w | 68 | 91 | 650 | 1.4 | 2 | 6 |
| 670 | 300 S. B.L. + 700w | 42 | 33 | 350 | 1.0 | 1 | 4 |

APPENDIX 2

TABLE 2 SEDIMENT SAMPLES RESULTS

BARRINGER RESEARCH LIMITED

304 CARLINGVIEW DRIVE
REXDALE, ONTARIO, CANADA
PHONE: 416-677-2491
CABLE: BARESEARCH

# Geochemical Laboratory Report

DATE June 30, 1978

Mattagami Lake Mines Ltd.
Ste. 502, 8215-112 St.
College Plaza Office Tower
Edmonton, Alta. T6G 2C8

REPORT NUMBER 78-15C Authority: N. Ball

| SAMPLE NUMBER | U ppm | Pb ppm | Zn ppm | Mo ppm | W ppm | Ag ppm | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115S - 510 | 320 | 65 | 280 | 4 | 4 | 2.1 | | | | |
| 511 | 42 | 28 | 145 | 2 | 8 | 1.3 | | | | |
| 512 | 80 | 50 | 240 | 2 | 10 | 1.8 | | | | |
| 513 | 9.6 | 25 | 90 | 1 | 6 | .9 | | | | |
| 514 | 17.4 | 81 | 125 | 1 | <4 | 1.1 | | | | |
| 515 | 13.8 | 35 | 85 | 1 | <4 | 1.0 | | | | |
| 600 | 42 | 49 | 95 | 2 | 4 | .9 | | | | |
| 601 | 32 | 40 | 100 | 2 | 6 | .9 | | | | |
| 602 | 58 | 49 | 345 | 2 | 8 | 1.4 | | | | |
| 603 | 40 | 49 | 220 | 2 | 8 | 1.1 | | | | |
| 604 | 32 | 88 | 470 | 3 | 8 | 1.1 | | | | |
| 605 | 30 | 43 | 370 | 1 | 10 | 1.1 | | | | |
| 606 | 7.2 | 30 | 55 | 14 | 4 | 1.8 | | | | |
| 607 | 8.6 | 30 | 55 | 21 | 6 | 1.8 | | | | |
| 615 | 38 | 57 | 220 | 1 | 12 | 1.1 | | | | |
| 616 | 70 | 55 | 135 | 2 | 8 | 1.6 | | | | |
| 617 | 76 | 94 | 230 | 14 | 16 | 1.6 | | | | |
| 618 | 66 | 66 | 175 | 8 | 20 | 1.6 | | | | |
| 619 | 108 | 120 | 215 | 2 | 10 | 1.4 | | | | |
| | | | | | | | | | | |

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| ample Number | U ppm | Pb ppm | Zn ppm | Mo ppm | W ppm | Ag ppm | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115S - 620 | 32 | 72 | 235 | 1 | 24 | 1.1 | | | | |
| 621 | 480 | 43 | 145 | 28 | 10 | 2.3 | | | | |
| 622 | 480 | 47 | 145 | 33 | 10 | 2.4 | | | | |
| 623 | 440 | 59 | 170 | 33 | 10 | 2.7 | | | | |
| 624 | 58 | 36 | 125 | 40 | 6 | 2.1 | | | | |
| 625 | 19 | 19 | 70 | 3 | < 4 | 1.2 | | | | |
| 650 | 30 | 24 | 80 | 1 | < 4 | 1.0 | | | | |
| 651 | 30 | 39 | 95 | 1 | <4 | 1.2 | | | | |
| 652 | 38 | 35 | 87 | 1 | 4 | 1.0 | | | | |
| 653 | 68 | 33 | 130 | 1 | < 4 | 1.3 | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 1004 | 4.0 | 41 | 83 | | | | | | | | |
| 1005 | 2.2 | 175 | 525 | | | | | | | | |
| 1006 | 62.0 | 93 | 230 | | | | | | | | |
| 1007 | 14.2 | 21 | 88 | | | | | | | | |
| 1008 | 20.0 | 25 | 75 | | | | | | | | |
| 1009 | 11.2 | 50 | 145 | | .5 | 4 | | | | | |
| 1010 | 12.0 | 59 | 165 | | .6 | 4 | | | | | |
| 1011 | 11.4 | 45 | 155 | | .6 | 4 | | | | | |
| 1012 | 9.2 | 39 | 94 | | .7 | 4 | | | | | |
| 1013 | 10.2 | 48 | 135 | | .6 | 6 | | | | | |
| 1014 | 7.0 | 77 | 255 | | .7 | 6 | | | | | |
| 1015 | 12.2 | 64 | 165 | 2 | .7 | 8 | | | | | |
| 1016 | 9.4 | 58 | 130 | | .6 | 4 | | | | | |
| 1017 | 8.4 | 64 | 165 | | .6 | 6 | | | | | |
| 1018 | 10.0 | 54 | 140 | | .6 | 6 | | | | | |
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| Sample Number | U ppm | Pb ppm | Zn ppm | Mo ppm | Ag ppm | W ppm | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115S- 1019 | 7.4 | 58 | 145 | | .7 | 28 | | | | |
| 1020 | 6.2 | 51 | 125 | | .6 | 4 | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|
| 1060 | 30.0 | 67 | 625 | | | | | | | |
| 1061 | 14.2 | 65 | 450 | | | | | | | |
| 1062 | 15.6 | 71 | 555 | | | | | | | |
| 1063 | 17.6 | 81 | 525 | | | | | | | |
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| Sample Number | U ppm | Pb ppm | Zn ppm | Mo ppm | Ag ppm | W ppm |
|---|---|---|---|---|---|---|
| 115S- 1064 | 18.4 | 82 | 650 | | | |
| 1065 | 26.0 | 76 | 650 | | | |
| 1066 | 24.0 | 135 | 1175 | | | |
| 1067 | 42.0 | 220 | 1150 | | | |
| 1068 | 34.0 | 81 | 925 | | | |
| 1069 | 26.0 | 62 | 555 | | | |
| 1070 | 26.0 | 58 | 625 | | | |
| 1071 | 26.0 | 65 | 600 | | | |
| 1072 | 18.0 | 54 | 475 | | | |
| 1073 | 18.4 | 43 | 275 | | | |
| 1074 | 30.0 | 53 | 255 | | | |
| 1075 | 9.0 | 34 | 185 | | | |
| 1076 | 14.0 | 42 | 400 | | | |
| 1077 | 8.2 | 39 | 215 | | | |
| 1078 | 24.0 | 115 | 550 | | | |
| 1079 | 34.0 | 46 | 285 | 4 | | |
| 1080 | 10.8 | 41 | 185 | 1 | | |
| 1081 | 6.6 | 28 | 145 | 1 | | |
| 1082 | 4.8 | 25 | 120 | 2 | | |

| Sample Number SOILS | U ppm | Cu ppm | Pb ppm | Zn ppm | Mo ppm | Ag ppm | Ni ppm | Co ppm | W ppm | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115S 736 | 54.0 | | 37 | 81 | | 1.3 | | | 4 | |
| 737 | 64.0 | | 34 | 68 | | 1.1 | | | 4 | |
| 738 | 64.0 | | 22 | 85 | | 1.0 | | | 4 | |
| 739 | 11.4 | | 29 | 130 | | .9 | | | 4 | |
| 740 | 17.6 | | 26 | 150 | | .7 | | | 4 | |
| 741 | 8.8 | | 30 | 150 | | 1.0 | | | 4 | |
| 742 | 3.2 | | 27 | 165 | | 1.3 | | | 4 | |
| 743 | 6.0 | | 26 | 160 | | 1.2 | | | 4 | |
| 744 | 15.4 | | 25 | 75 | | .7 | | | 4 | |
| 745 | 11.8 | | 21 | 61 | | .8 | | | 6 | |
| 746 | 46.0 | | 19 | 57 | | .5 | | | 4 | |
| 747 | 34.0 | | 17 | 49 | | .5 | | | 4 | |
| 748 | 52.0 | | 18 | 58 | | .6 | | | 4 | |
| 749 | 86.0 | | 24 | 81 | | .8 | | | 4 | |
| 750 | 7.4 | | 24 | 47 | | 1.3 | | | 6 | |
| 751 | 34.0 | | 25 | 155 | | .7 | | | 8 | |
| 752 | 36.0 | | 17 | 65 | | .7 | | | 8 | |
| 753 | 20.0 | | I.S. | I.S. | | I.S. | | | 4 | |
| 754 | 13.6 | | 58 | 725 | | 1.3 | | | 4 | |
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| Sample Number SOILS | U ppm | Cu ppm | Pb ppm | Zn ppm | Mo ppm | Ag ppm | Ni ppm | Co ppm | W ppm | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115S- 755 | 24.0 | | 57 | 725 | | 1.7 | | | 6 | |
| 756 | 15.0 | | 52 | 555 | | 1.4 | | | 8 | |

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|---|---|---|---|---|---|---|---|---|---|---|
| 792 | 420.0 | | 145 | 215 | | 15.0 | | | 4 | |
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# Geochemical Laboratory Report /



| Sample Number SOILS | U ppm | Cu ppm | Pb ppm | Zn ppm | Mo ppm | Ag ppm | Ni ppm | Co ppm | W ppm | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115S- 793 | 180.0 | | 66 | 250 | | 1.9 | | | 4 | |
| 794 | 152.0 | | 51 | 230 | | 1.4 | | | 4 | |
| 795 | 60.0 | | 52 | 220 | | .6 | | | 4 | |
| 795A | 94.0 | | 57 | 235 | | .8 | | | 4 | |
| 796 | 200.0 | | 51 | 350 | | 1.7 | | | 4 | |
| 797 | 98.0 | | 32 | 235 | | 1.1 | | | 4 | |
| 798 | 340.0 | | 36 | 245 | | 4.9 | | | 4 | |
| 799 | 88.0 | | 35 | 265 | | 1.2 | | | 4 | |
| 800 | 72.0 | | 32 | 66 | | .9 | | | 4 | |
| 801 | 44.0 | | 27 | 190 | | .5 | | | 4 | |
| 802 | 80.0 | | 42 | 450 | | 1.7 | | | 4 | |
| 803 | 106.0 | | 38 | 300 | | 1.2 | | | 4 | |
| 804 | 62.0 | | 35 | 125 | | .6 | | | 4 | |
| 805 | 30.0 | | 24 | 68 | | .4 | | | 4 | |
| 806 | 28.0 | | 29 | 205 | | .6 | | | 4 | |
| 807 | 48.0 | | 36 | 145 | | .7 | | | 4 | |
| 808 | 62.0 | | 79 | 650 | | 2.7 | | | 8 | |
| 142S- 201 | 32.0 | | 30 | 135 | | .6 | | | 20 | |
| 202 | 56.0 | | 18 | 59 | | .6 | | | 28 | |
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| SAMPLE NO. | URANIUM (ppm) |
| --- | --- |
| 115S 516 | 46.0 |
| 517 | 54.0 |
| 625 | 320.0 |
| 626 | 440.0 |

TABLE 3 SOIL SAMPLES RESULTS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 671 | 760 | 1650 | 1200 | 1.2 | 200 | 32 | | | | |
| 672 | 700 | 1600 | 1400 | 1.1 | 135 | 20 | | | | |
| 673 | 650 | 1600 | 1025 | 1.0 | 8 | 8 | | | | |
| 674 | 180 | 710 | 755 | .9 | 4 | 4 | | | | |
| 675 | 380 | 930 | 900 | 1.2 | 12 | 10 | | | | |

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| ample Number | U ppm | Pb ppm | Zn ppm | Ag ppm | Mo ppm | W ppm | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115S- 647 | 60 | 82 | 445 | 1.4 | 3 | 8 | | | | |
| 648 | 32 | 130 | 405 | 1.2 | 2 | 6 | | | | |
| 649 | 8.0 | 63 | 165 | 1.1 | 1 | 4 | | | | |
| 660 | 19 | 92 | 335 | 1.0 | 2 | 4 | | | | |
| 661 | 92 | 89 | 465 | 1.2 | 2 | 6 | | | | |
| 662 | 120 | 290 | 1050 | 1.1 | 1 | 4 | | | | |
| 663 | 460 | 1550 | 1125 | 1.0 | 195 | 20 | | | | |
| 664 | 68 | 245 | 875 | 1.0 | 5 | 4 | | | | |
| 665 | 52 | 310 | 1150 | 1.2 | 2 | 6 | | | | |
| 666 | 42 | 44 | 2550 | 1.5 | 1 | 4 | | | | |
| 667 | 28 | 52 | 3800 | 2.3 | 1 | 6 | | | | |
| 668 | 41 | 35 | 450 | 1.1 | 1 | 4 | | | | |
| 669 | 68 | 91 | 650 | 1.4 | 2 | 6 | | | | |
| 670 | 42 | 33 | 350 | 1.0 | 1 | 4 | | | | |
| 671 | 760 | 1650 | 1200 | 1.2 | 200 | 32 | | | | |
| 672 | 700 | 1600 | 1400 | 1.1 | 135 | 20 | | | | |
| 673 | 650 | 1600 | 1025 | 1.0 | 8 | 8 | | | | |
| 674 | 180 | 710 | 755 | .9 | 4 | 4 | | | | |
| 675 | 380 | 930 | 900 | 1.2 | 12 | 10 | | | | |

| mple Number: | U ppm | Pb ppm | Zn ppm | Ag ppm | Mo ppm | W ppm | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115S- 676 | 22 | 315 | 455 | .9 | 3 | 16 | | | | |
| 677 | 54 | 925 | 2100 | 1.5 | 86 | 40 | | | | |
| 678 | 240 | 1800 | 1100 | 1.6 | 330 | 200 | | | | |
| 679 | 140 | 780 | 1300 | .9 | 115 | 40 | | | | |
| 680 | 110 | 745 | 1100 | 1.3 | 71 | 28 | | | | |
| 681 | 43 | 315 | 405 | 1.2 | 6 | 8 | | | | |
| 682 | 350 | 745 | 1325 | 2.3 | 6 | 8 | | | | |
| 683 | 32 | 69 | 355 | 1.2 | 1 | 4 | | | | |
| 685 | 700 | 2000 | 1475 | 1.4 | 180 | 4 | | | | |
| 686 | 120 | 800 | 900 | 2.4 | 58 | 80 | | | | |
| 687 | 30 | 935 | 950 | 1.8 | 130 | 60 | | | | |
| 688 | 200 | 1950 | 1625 | 2.5 | 89 | 40 | | | | |
| 689 | 96 | 760 | 1000 | 1.5 | 28 | 12 | | | | |
| 691 | 5.4 | 64 | 225 | 1.0 | 2 | 4 | | | | |
| 692 | 9.5 | 72 | 465 | 1.2 | 2 | 4 | | | | |
| 693 | 60 | 765 | 1850 | 1.9 | 27 | 12 | | | | |
| 694 | 43 | 395 | 1225 | 1.6 | 7 | 10 | | | | |
| 695 | 70 | 210 | 775 | 1.8 | 3 | 8 | | | | |
| 700 | 650 | 1400 | 1000 | 1.8 | 34 | 24 | | | | |

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| ımple Number | U ppm | Pb ppm | Zn ppm | Ag ppm | Mo ppm | W ppm | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115S - 701 | 140 | 540 | 465 | 1.1 | 10 | 12 | | | | |
| 702 | 150 | 765 | 850 | 1.4 | 15 | 6 | | | | |
| 703 | 87 | 355 | 445 | 1.4 | 5 | 8 | | | | |
| 704 | 230 | 755 | 1325 | 1.7 | 6 | 6 | | | | |
| 706 | 660 | 1950 | 1500 | 1.9 | 24 | 28 | | | | |
| 707 | 67 | 785 | 1100 | 1.1 | 105 | 60 | | | | |
| 708 | 92 | 1350 | 1500 | 1.5 | 110 | 40 | | | | |
| 709 | 86 | 1800 | 1125 | 2.5 | 73 | 32 | | | | |
| 710 | 49 | 325 | 345 | .7 | 2 | 100 | | | | |
| 711 | 190 | 725 | 800 | 1.5 | 9 | 4 | | | | |
| 712 | 78 | 580 | 455 | 1.1 | 4 | 4 | | | | |
| 713 | 41 | 245 | 465 | 1.5 | 2 | 4 | | | | |
| 714 | 67 | 255 | 325 | .9 | 4 | 4 | | | | |
| 715 | 65 | 620 | 825 | 1.3 | 9 | 8 | | | | |
| 716 | 76 | 650 | 725 | 1.0 | 32 | 16 | | | | |
| 717 | 480 | 2100 | 1350 | 1.3 | 170 | 8 | | | | |
| 718 | 32 | 430 | 385 | 1.1 | 16 | 4 | | | | |
| 719 | 26 | 235 | 345 | 1.2 | 6 | 4 | | | | |
| 720 | 320 | 1350 | 800 | 1.4 | 3 | 8 | | | | |

| mple Number | U ppm | Pb ppm | Zn ppm | Ag ppm | Mo ppm | W ppm | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115S - 721 | 78 | 170 | 750 | 1.1 | 2 | 4 | | | | |
| 722 | 41 | 120 | 405 | 1.0 | 2 | 4 | | | | |
| 723 | 200 | 700 | 700 | 1.2 | 2 | 4 | | | | |
| 724 | 47 | 535 | 1125 | 1.1 | 3 | 4 | | | | |
| 725 | 120 | 780 | 1100 | 1.2 | 5 | 4 | | | | |
| 726 | 210 | 1350 | 650 | .9 | 2 | 4 | | | | |
| 727 | 770 | 2250 | 1025 | 1.4 | 4 | 4 | | | | |
| 728 | 160 | 925 | 925 | 1.1 | 6 | 4 | | | | |
| 729 | 79 | 380 | 385 | .8 | 2 | 4 | | | | |
| 730 | 37 | 590 | 460 | .7 | 12 | 4 | | | | |
| 732 | 130 | 670 | 825 | .7 | 2 | 6 | | | | |
| 733 | 110 | 600 | 925 | .8 | 2 | 4 | | | | |
| 734 | 210 | 625 | 1150 | 1.3 | 2 | 4 | | | | |
| 735 | 170 | 840 | 750 | 1.0 | 2 | 4 | | | | |

| SAMPLE NO. | URANIUM (ppm) | SAMPLE NO. | URANIUM (ppm) |
|---|---|---|---|
| 115P 500 | 176.0 | 115P 526 | 52.0 |
| 501 | 6.4 | 527 | 42.0 |
| 502 | 2.4 | 528 | 70.0 |
| 503 | 1.6 | 529 | 36.0 |
| 504 | 52.0 | 530 | 56.0 |
| 505 | 52.0 | 531 | 138.0 |
| 506 | 178.0 | 532 | 116.0 |
| 507 | 240.0 | 533 | 118.0 |
| 508 | 58.0 | 534 | 144.0 |
| 509 | 52.0 | 535 | 62.0 |
| 510 | 58.0 | 536 | 17.0 |
| 511 | 1.8 | 537 | 54.0 |
| 512 | 98.0 | 538 | 80.0 |
| 513 | 38.0 | 539 | 172.0 |
| 514 | 3.6 | 540 | 13.2 |
| 515 | 1.0 | 541 | 82.0 |
| 516 | 9.6 | 542 | 64.0 |
| 517 | 19.6 | 543 | 50.0 |
| 518 | 7.2 | 544 | 110.0 |
| 519 | 4.4 | 545 | 10.0 |
| 520 | 4.2 | 546 | 19.2 |
| 521 | 6.0 | 547 | 2.6 |
| 522 | 3.6 | 548 | 7.4 |
| 523 | 1.8 | 549 | 106.0 |
| 524 | 44.0 | 550 | 94.0 |
| 525 | 40.0 | 551 | 34.0 |

| SAMPLE NO. | URANIUM (ppm) | SAMPLE NO. | URANIUM (ppm) |
|---|---|---|---|
| 115P 552 | 28.0 | 115P 578 | 48.0 |
| 553 | 13.8 | 579 | 9.2 |
| 554 | 36.0 | 580 | 3.6 |
| 555 | 5.2 | 581 | 7.2 |
| 556 | 5.0 | 582 | 38.0 |
| 557 | 7.2 | 583 | 4.4 |
| 558 | 164.0 | 84 | 2.4 |
| 559 | 104.0 | 585 | 102.0 |
| 560 | 106.0 | 586 | 5.2 |
| 561 | 32.0 | 587 | 9.6 |
| 562 | 22.0 | 588 | 20.0 |
| 563 | 5.8 | 589 | 14.4 |
| 564 | 28.0 | 590 | 4.0 |
| 565 | 8.4 | 591 | 48.0 |
| 566 | 28.0 | 592 | 5.8 |
| 567 | 3.2 | 593 | 4.0 |
| 568 | 116.0 | 594 | 3.6 |
| 569 | 5.4 | 595 | 13.2 |
| 570 | 1.3 | 596 | 84.0 |
| 571 | 0.9 | 597 | 80.0 |
| 572 | 96.0 | 598 | 5.8 |
| 573 | 8.0 | 599 | 200.0 |
| 574 | 5.0 | 600A | 40.0 |
| 575 | 7.6 | 601A | 4.8 |
| 576 | 4.8 | 602A | 36.0 |
| 577 | 4,8 | 603A | 7.0 |
| | | 604A | 4.8 |
| | | 605A | 9.0 |

TABLE 4 ROCK SAMPLES RESULTS

| Sample Number | U ppm | Pb ppm | Zn ppm | Ag ppm | Mo ppm | W ppm | Ni ppm | Au ppm | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115R - 500 | 36 | 1115 | 360 | 12.8 | 7 | | | | | |
| 501 | 60 | 140 | 460 | 1.2 | 3 | 4 | | | | |
| 502 | 14.4 | 95 | 420 | 3.2 | 1 | 4 | | | | |
| 503 | 13.2 | 155 | 1250 | 2.8 | 8 | 4 | | | | |
| 504 | 58 | 200 | 1150 | 3.6 | 19 | 6 | | | | |
| 505 | 18.8 | 140 | 675 | 1.5 | 4 | 4 | | | | |
| 506 | 4.0 | 150 | 1350 | 4.6 | 3 | 4 | | | | |
| 507 | 62 | 470 | 1200 | 2.9 | 12 | 24 | | .03 | | |
| 508 | 10.2 | 240 | 1050 | 2.8 | 1 | 4 | | | | |
| 509 | 16.2 | 385 | 1425 | 9.0 | 2 | 4 | | | | |
| 510 | 80 | 110 | 345 | 3.0 | 18 | 40 | | .03 | | |
| 511 | 94 | 4550 | 3350 | 12.8 | 1 | 6 | 22 | | | |
| 512 | 200 | 2200 | 4250 | 10.5 | 13 | 6 | | | | |
| 513 | 110 | 3000 | 1525 | 10.5 | 3 | | | | | |
| 514 | 19.2 | 1500 | 1050 | 4 | 2 | 4 | | | | |
| 515 | 44 | 440 | 700 | 3.5 | 9 | 12 | | | | |
| 516 | 30 | 1800 | 825 | 4.7 | 1 | 4 | | | | |
| 517 | 11.4 | 145 | 125 | 2.3 | 2 | 4 | | | | |
| 518 | 10.8 | 55 | 67 | 1.4 | 51 | 4 | | | | |

| mple Number | U ppm | Pb ppm | Zn ppm | Ag ppm | Mo ppm | W ppm | Ni ppm | Au ppm | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115R - 500 | 36 | 1115 | 360 | 12.8 | 7 | | | | | |
| 501 | 60 | 140 | 460 | 1.2 | 3 | 4 | | | | |
| 502 | 14.4 | 95 | 420 | 3.2 | 1 | 4 | | | | |
| 503 | 13.2 | 155 | 1250 | 2.8 | 8 | 4 | | | | |
| 504 | 58 | 200 | 1150 | 3.6 | 19 | 6 | | | | |
| 505 | 18.8 | 140 | 675 | 1.5 | 4 | 4 | | | | |
| 506 | 4.0 | 150 | 1350 | 4.6 | 3 | 4 | | | | |
| 507 | 62 | 470 | 1200 | 2.9 | 12 | 24 | | .03 | | |
| 508 | 10.2 | 240 | 1050 | 2.8 | 1 | 4 | | | | |
| 509 | 16.2 | 385 | 1425 | 9.0 | 2 | 4 | | | | |
| 510 | 80 | 110 | 345 | 3.0 | 18 | 40 | | .03 | | |
| 511 | 94 | 4550 | 3350 | 12.8 | 1 | 6 | 22 | | | |
| 512 | 200 | 2200 | 4250 | 10.5 | 13 | 6 | | | | |
| 513 | 110 | 3000 | 1525 | 10.5 | 3 | | | | | |
| 514 | 19.2 | 1500 | 1050 | 4 | 2 | 4 | | | | |
| 515 | 44 | 440 | 700 | 3.5 | 9 | 12 | | | | |
| 516 | 30 | 1800 | 825 | 4.7 | 1 | 4 | | | | |
| 517 | 11.4 | 145 | 125 | 2.3 | 2 | 4 | | | | |
| 518 | 10.8 | 55 | 67 | 1.4 | 51 | 4 | | | | |
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| | | | | | | | | | | |

| ample Number | U ppm | Pb ppm | Zn ppm | Ag ppm | Mo ppm | W ppm | Sn ppm | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115R - 519 | 4.4 | 120 | 55 | 1.9 | 310 | 24 | | | | |
| 520 | 96 | 2250 | 3800 | 7.8 | 1 | 4 | | | | |
| 521 | 10.4 | 40 | 105 | 1.4 | 4 | 8 | 5 | | | |
| 522 | 13.0 | 225 | 245 | 2.1 | 19 | 400 | 1 | | | |
| 523 | 80 | 6300 | 850 | 11.5 | 1 | 4 | | | | |
| 524 | 1480 | 2500 | 900 | 7.6 | 55 | 10 | | | | |
| 525 | >4000 | 1275 | 290 | 4.9 | 170 | 12 | | | | |
| 527 | >4000 | 850 | 365 | 3.0 | 340 | 24 | | | | |
| 528 | 2240 | 2675 | 445 | 4.8 | 165 | 36 | | | | |
| 529 | 2040 | 1000 | 340 | 1.9 | 880 | 100 | | | | |
| 530 | 1200 | 2500 | 23,250 | 5.2 | 29 | 6 | | | | |
| 531 | 36 | 3050 | 1050 | 5.6 | 1 | 4 | | | | |
| 532 | 500 | 2150 | 35,500 | 3.5 | 1 | 4 | | | | |
| 628 | 360 | 360 | 200 | 5.1 | 11 | 4 | | | | |
| 630 | 560 | 2800 | 600 | 3.2 | 74 | 16 | | | | |

BARRINGER RESEARCH LIMITED

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# Geochemical Laboratory Report

DATE July 12, 1978

Mattagami Lake Mines Ltd.
Ste. 502, 8215-112St.
Edmonton, Alta. T2G 2C8

REPORT NUMBER 78-24C Authority: N. Ball

| SAMPLE NUMBER ROCKS | U ppm | Cu ppm | Pb ppm | Zn ppm | Mo ppm | Ag ppm | Ni ppm | Co ppm | Mn ppm | W ppm |
|---|---|---|---|---|---|---|---|---|---|---|
| 115R- 643 | | 60 | | | 5 | 1.7 | 63 | 43 | 60 | 4 |
| 644 | | 78 | | | 1 | 1.4 | 73 | 51 | 100 | 4 |
| 645 | | 16 | | | 1 | .9 | 37 | 27 | 60 | 4 |
| 646 | | 67 | | | 3 | 1.4 | 62 | 43 | 145 | 4 |
| 646A | | 15 | | | 13 | 2.3 | 21 | 14 | 20 | 4 |
| 647 | | 13 | | | 3 | 1.8 | 38 | 27 | 100 | 4 |
| 648 | | 36 | | | 2 | 2.1 | 125 | 49 | 560 | 4 |
| 649 | | 93 | | | 1 | 1.6 | 56 | 37 | 505 | 4 |
| 650 | | 15 | | | 16 | 2.6 | 24 | 16 | 50 | 6 |
| 651 | | 11 | | | 3 | 1.6 | 20 | 14 | 235 | 4 |
| 652 | | 23 | | | 1 | .7 | 31 | 22 | 850 | 4 |
| 654 | .2 | 120 | 16 | 30 | 2 | 1.5 | | | | |
| 655 | .2 | 110 | 19 | 43 | 1 | 1.5 | | | | |
| 656 | .4 | 205 | 20 | 140 | 17 | 2.4 | | | | |
| 657 | 8.4 | 875 | 14 | 89 | 4 | 7.3 | | | | |
| 658 | .2 | 760 | 13 | 38 | 1 | 3.4 | | | | |
| 1016 | 8.6 | | 1150 | 29,000 | | 4.8 | | | | |
| 1013A | 5.4 | 20 | 2550 | 36,000 | | 3.9 | | | | 4 |
| 1014A | 3.8 | 12 | 7100 | 44,000 | | 3.4 | | | | 4 |
| | | | | | | | | | | |

| Sample Number ROCKS | U ppm | Cu ppm | Pb ppm | Zn ppm | Mo ppm | Ag ppm | Ni ppm | Co ppm | Mn ppm | W ppm |
|---|---|---|---|---|---|---|---|---|---|---|
| 115R- 1015A | 4.2 | 13 | 4000 | 44,000 | | 2.6 | | | | 6 |
| 1016A | 19.0 | 19 | 5150 | 41,000 | | 1.7 | | | | 4 |
| 1017 | .5 | 17 | 5050 | 51,000 | 2 | 2.4 | 11 | | | 4 |
| 1018 | .2 | 13 | 6900 | 58,000 | | 2.2 | | | | 4 |
| 1019 | 1.9 | 8 | 1550 | 1850 | | 2.3 | | | | 4 |
| 1020 | 1.5 | 10 | 1550 | 2150 | | 3.3 | | | | 4 |
| 1021 | .2 | 12 | 3400 | 55,000 | | 3.0 | | | | 4 |
| 1022 | 1.2 | 11 | 3800 | 48,000 | | 2.8 | | | | 4 |
| 1023 | 3.2 | 26 | 4400 | 3650 | | 6.3 | | | | 4 |
| 1024 | .2 | | 450 | | | | | | | 4 |
| 1025 | 14.4 | | 175 | | | | | | | 4 |
| 1026 | 15.0 | | 76 | | | | | | | 4 |
| 142R-234 | 7.4 | 13 | 3400 | 40,500 | | 2.2 | | | | 4 |
| 235 | .6 | 9 | 3200 | 34,500 | | 3.1 | | | | 4 |
| 236 | | 81 | | | 1 | 2.4 | 51 | 35 | 2150 | 4 |
| 237 | .2 | 75 | 165 | 1800 | 1 | 1.7 | | | | |

| Sample Number ROCKS | U ppm | Cu ppm | Pb ppm | Zn ppm | Mo ppm | Ag ppm | Au ppm | F ppm | W ppm | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115R- 658 | 7.2 | 34 | 84 | 170 | 1 | 1.4 | | | | |
| 1028 | .2 | | | | | | | | 4 | |
| 1029 | 14.6 | | | | | | | | 28 | |
| 1030 | 5.8 | | 520 | 15% | | 4.9 | | | | |
| 1031 | 8.6 | | 335 | 50,000 | | 5.5 | | | | |
| 1032 | 8.4 | | 650 | 7% | | 6.9 | | | | |
| 1033 | 15.0 | | 410 | 4,700 | | 4.4 | | | | |
| 1034 | 11.6 | | 1350 | 8,500 | | 3.5 | | | | |
| 1035 | 15.8 | | 295 | 11% | | 4.4 | | | | |
| 1036 | 5.4 | | 460 | 15% | | 3.8 | | | | |
| 1037 | 9.8 | | 190 | 55,500 | | 4.9 | | | | |
| 1038 | 9.8 | | 4250 | 47,500 | | 4.2 | | | | |
| 1039 | 9.2 | | 585 | 7.5% | | 5.2 | | | | |
| 1040 | 11.0 | | 315 | 32,000 | | 3.1 | | | | |
| 1041 | 15.0 | | 320 | 52,000 | | 3.5 | | | | |
| 1042 | 18.5 | | 160 | 33,500 | | 3.5 | | | | |
| 1043 | 3.8 | | 445 | 52,500 | | 6.4 | | | | |
| 1044 | 1.4 | | 31 | 675 | | 2.0 | .05 | | | |
| 1045 | 5.6 | | 170 | 1950 | | 2.1 | | | | |

| Sample Number ROCKS | | U ppm | Cu ppm | Pb ppm | Zn ppm | Mo ppm | Ag ppm | Au ppm | F ppm | W ppm | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 115R - | 1046 | 15.4 | | 66 | 4100 | 4 | 4.3 | | | | |
| | 1047 | 4.6 | | 39 | 200 | | 1.6 | | | | |
| | 1048 | 9.6 | | 240 | 36000 | | 5.6 | | | | |
| | 1049 | 12.0 | | 635 | 52500 | | 4.5 | | | | |
| | 1050 | 14.0 | | 2700 | 56000 | | 3.3 | | | | |
| | 1051 | 18.0 | | 1700 | 52000 | | 4.1 | | | | |
| | 1052 | 15.2 | | 4650 | 56500 | | 3.2 | | | | |
| | 1053 | 7.6 | | 190 | 4350 | | 10.5 | | | | |
| | 1054 | 11.8 | | 145 | 72000 | | 4.9 | | | | |
| | 1055 | 12.6 | | 10400 | 15000 | | 3.3 | | | | |
| | 1056 | 8.4 | | 2850 | 48500 | | 4.4 | | | | |
| | 1057 | 18.0 | | 370 | 3650 | | 2.2 | | | | |
| | 1058 | 9.8 | | 15600 | 16500 | | 5.8 | | | | |
| 142R | 238 | 16.8 | | 1250 | 12% | | 6.4 | | | | |
| | 239 | 13.6 | | 605 | 35500 | | 5.5 | | | | |
| | 240 | 16.8 | | 455 | 10% | | 5.6 | | | | |
| | 241 | 8.2 | | 590 | 10% | | 5.8 | | | | |
| | 242 | 9.6 | | 11300 | 25000 | | 5.2 | | | | |

| Sample Number | U ppm | Cu ppm | Pb ppm | Zn ppm | Mo ppm | Ag ppm | Mn ppm | Au ppm | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115R - 600 | 3.8 | 83 | 290 | 700 | 8 | 1.8 | | | | |
| 631 | 4.0 | 37 | 410 | 4150 | 5 | 1.8 | | .03 | | |
| 632 | 3.2 | 15 | 465 | 2200 | 1 | 1.3 | 3150 | .03 | | |
| 633 | 15.2 | 5 | 91 | 300 | 1 | .6 | 455 | .06 | | |
| 634 | 2.0 | 13 | 560 | 500 | 1 | 3.1 | 2150 | .03 | | |
| 635 | .3 | 7 | 160 | 555 | 1 | 3.2 | 80 | .03 | | |
| 636 | 3.6 | 845 | 41 | 100 | 7 | 4.3 | 120 | .04 | | |
| 637 | 9.6 | 160 | 21 | 50 | 4 | 1.9 | 75 | .05 | | |
| 638 | .8 | 59 | 34 | 150 | 1 | 2.4 | 605 | .03 | | |
| 639 | .2 | 94 | 39 | 125 | 5 | 1.4 | 1350 | .02 | | |
| 640 | .3 | 54 | 16 | 65 | 1 | 1.0 | 110 | .02 | | |
| 641 | 1.4 | 140 | 20 | 40 | 28 | 2.1 | 55 | .12 | | |
| 642 | 5.4 | 93 | 40 | 94 | 4 | 2.4 | 235 | | | |
| 1004 | .9 | 130 | 26 | 65 | 6 | 2.0 | | | | |
| 1005 | .6 | 27 | 23 | 88 | 9 | 1.2 | | | | |
| 1006 | 1.8 | 13 | 16 | 35 | 11 | 1.4 | | | | |
| 1007 | 1.6 | 94 | 24 | 550 | 18 | 2.8 | | | | |
| 1008 | .2 | 67 | 17 | 150 | 5 | 1.6 | | | | |
| 1009 | .2 | 19 | 14 | 33 | 1 | 1.1 | | | | |

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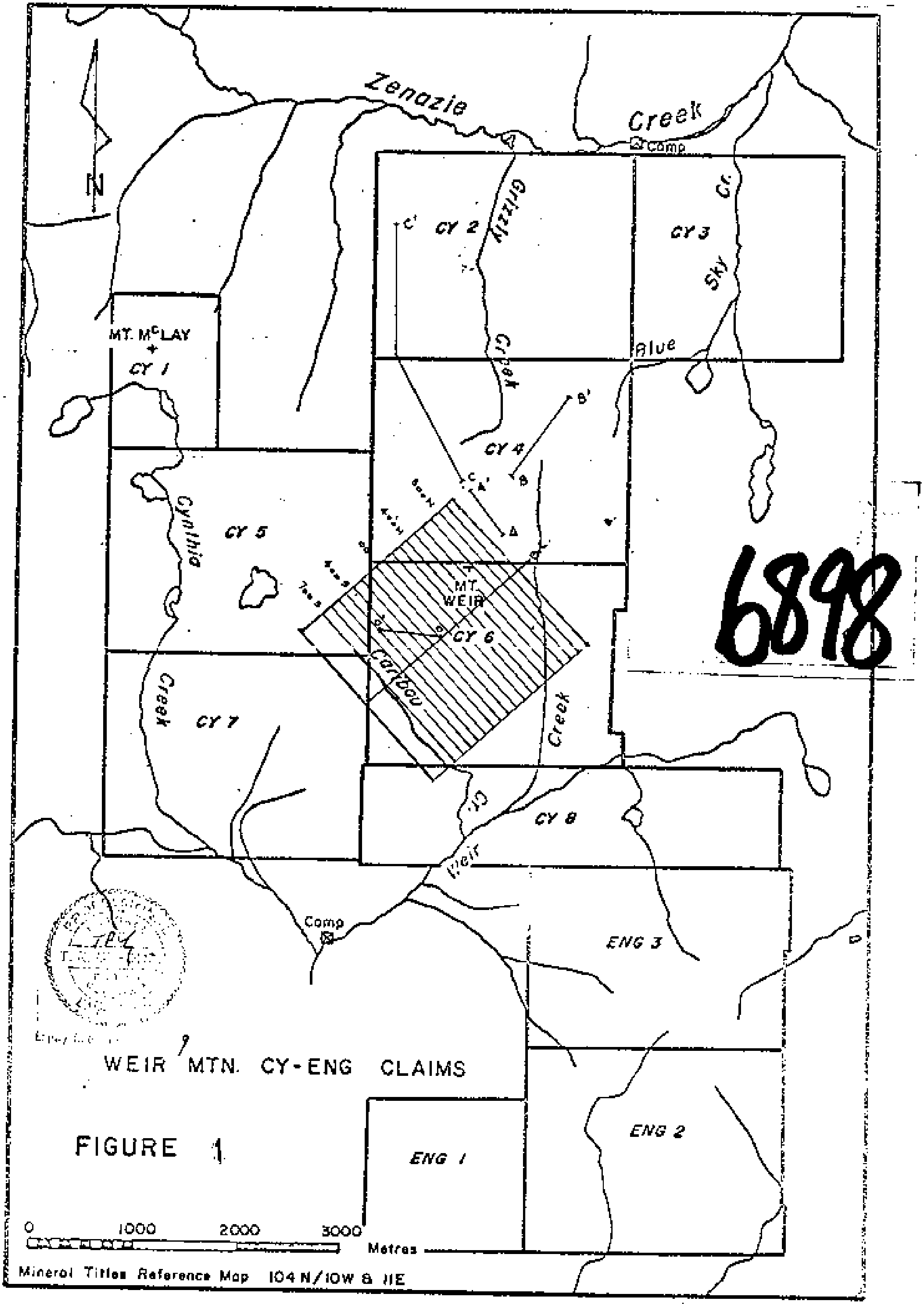
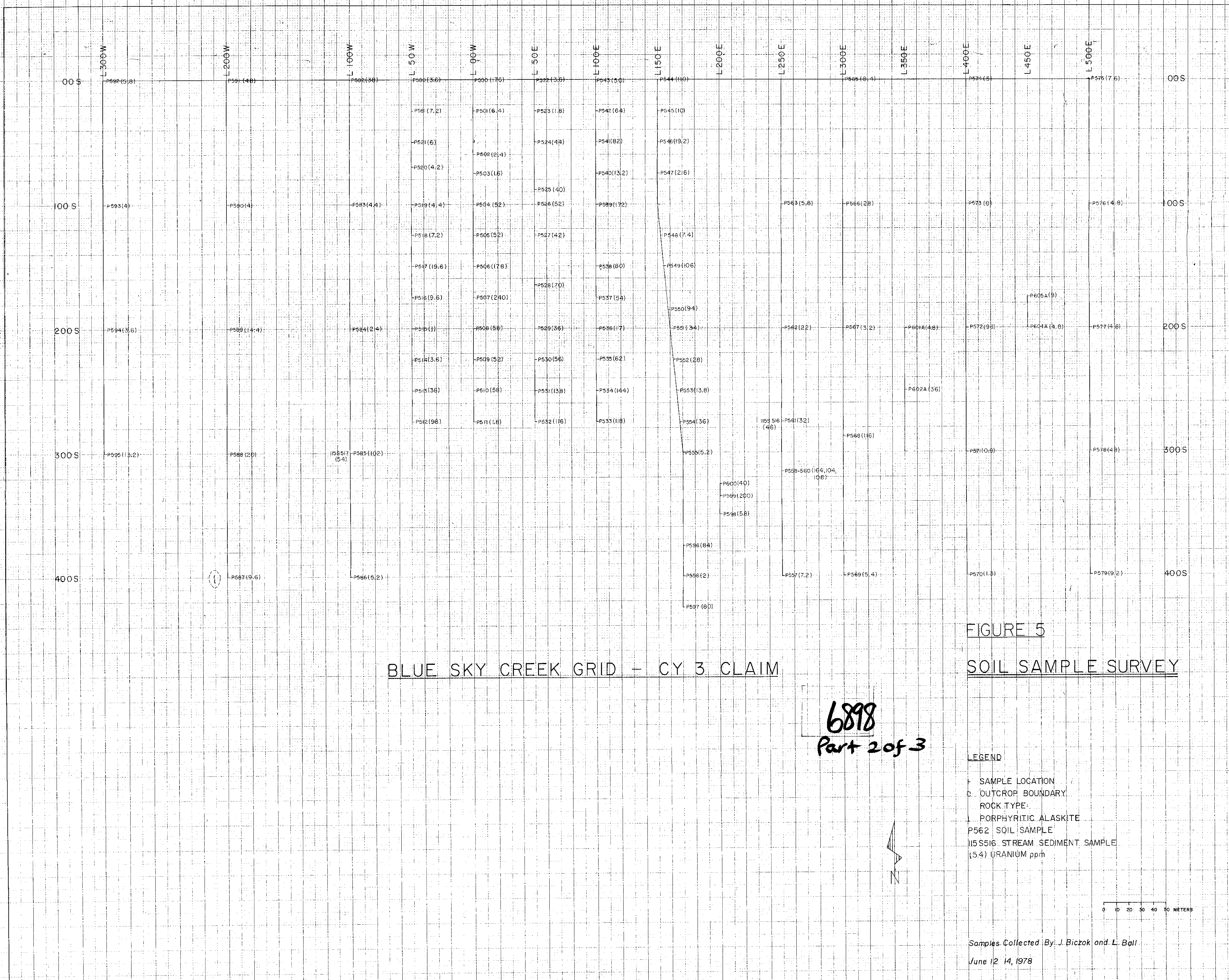
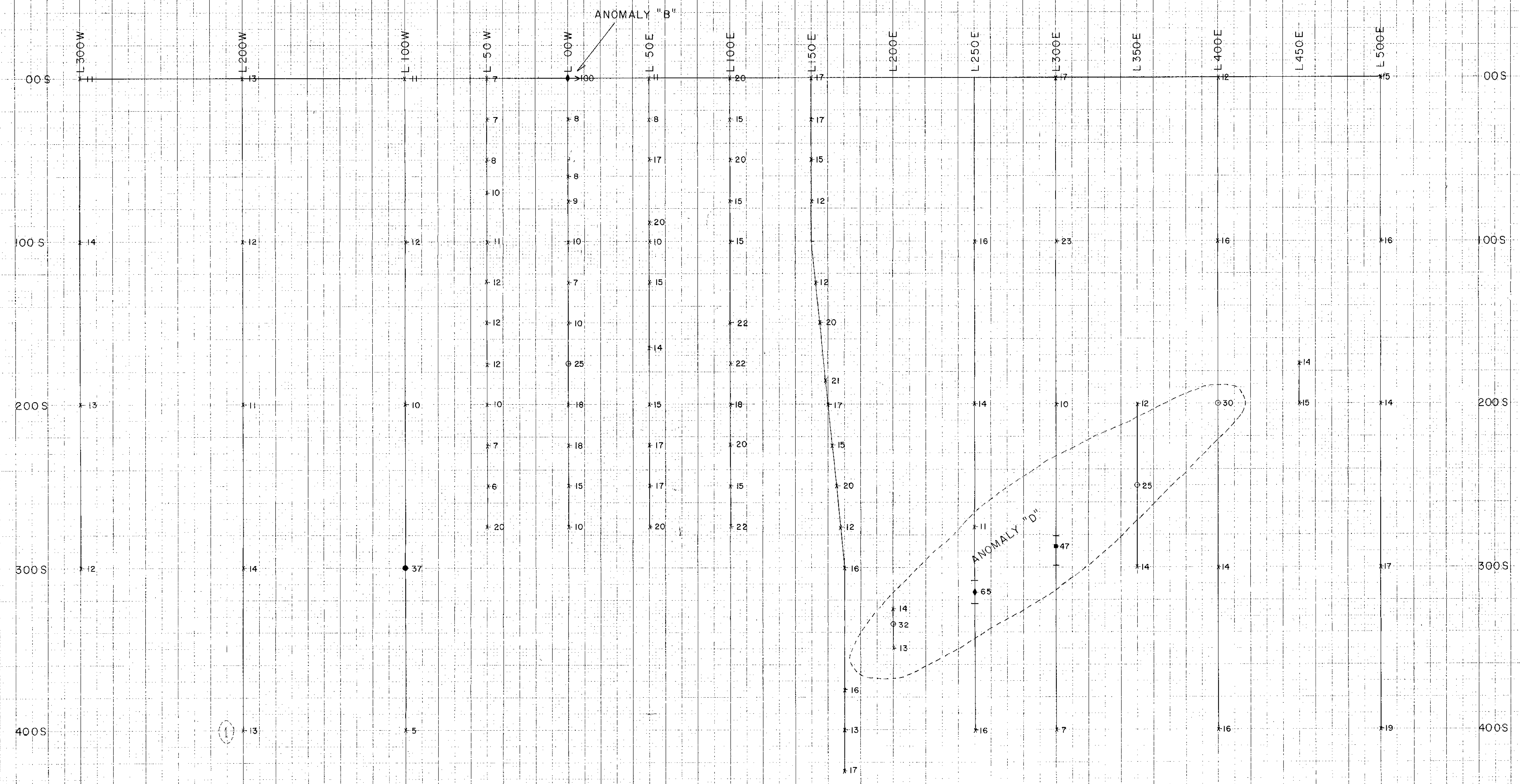
| Sample Number | U ppm | Cu ppm | Pb ppm | Zn ppm | Mo ppm | Ag ppm | Mn ppm | Au ppm | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 115R- 1010 | 6.4 | 8 | 24 | 130 | 20 | .6 | | | | |
| 1011 | .3 | 17 | 32 | 305 | 1 | 4.9 | | | | |
| 1012 | .6 | 8 | 29 | 275 | 1 | 3.3 | | | | |
| 1013 | 4.2 | 325 | 5450 | 15,000 | 1 | 7.5 | | | | |
| 1014 | 7.4 | 185 | 5050 | 13,500 | 1 | 7.0 | | | | |
| 1015 | .4 | 41 | 145 | 295 | 3 | 3.4 | | | | |
| 142R- 231 | .2 | 120 | 27 | 115 | 5 | 1.6 | 1650 | .02 | | |
| 232 | .2 | 150 | 27 | 70 | 4 | 2.3 | | | | |
| 233 | 3.2 | 275 | 6400 | 14,000 | 1 | 8.8 | | | | |


N
Zenazie
Creek
Comp
Grizzly
Creek
Sky
Cr.
Blue
CY 1
CY 2
CY 3
CY 4
CY 5
CY 6
CY 7
CY 8
MT. McLAY
MT. WEIR
Cynthia
Creek
Caribou
Creek
Cr.
Weir
Comp
ENG 1
ENG 2
ENG 3
WEIR MTN. CY-ENG CLAIMS
FIGURE 1
0
1000
2000
3000
Metres
Mineral Titles Reference Map 104 N/10W & 11E

6898


L 300W
L 200W
L 100W
L 50W
L 00W
L 50E
L 100E
L 150 E
L 200E
L 250E
L 300E
L 350E
L 400E
L 450E
L 500E
00 S
100 S
200 S
300 S
400 S
BLUE SKY CREEK GRID - CY 3 CLAIM
FIGURE 5
SOIL SAMPLE SURVEY
6898
Part 2 of 3
LEGEND
+ SAMPLE LOCATION
OUTCROP BOUNDARY
ROCK TYPE
1 PORPHYRITIC ALASKITE
P562 SOIL SAMPLE
115S516 STREAM SEDIMENT SAMPLE
(5.4) URANIUM ppm
N
0 10 20 30 40 50 METERS
Samples Collected By J. Biczok and L. Ball
June 12 14, 1978




# BLUE SKY CREEK GRID - CY 3 CLAIM

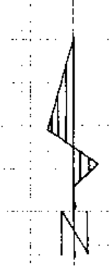
FIGURE 6

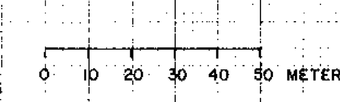
## RADIOMETRIC SURVEY

6898 Part 2 of 3

LEGEND

| | |
|---|---|
| ⊢ SAMPLE LOCATION | SCINTILLOMETER READINGS: |
| ○ OUTCROP BOUNDARY | x <25,000 cpm |
| ROCK TYPE: | o 25,000–35,000 cpm |
| 1 PORPHYRITIC ALASKITE | • 35,000–45,000 cpm |
| 21-TV-IA SCINTILLOMETER READING | ▪ 45,000–55,000 cpm |
| $T_i$ ÷1000 (cpm) | ♦ >55,000 cpm |
| EXTENT OF ANOMALOUS AREA ALONG GRID | |




*Samples Collected By J. Biczok and L. Ball*

*June 12 14, 1978*