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WEIR MOUNTAIN REPORT NO. 6

GEOLOGY, GEOPHYSICS AND GEOCHEMISTRY

CLAIMS CY1 - 8, CY 9, ENG 1 - 3

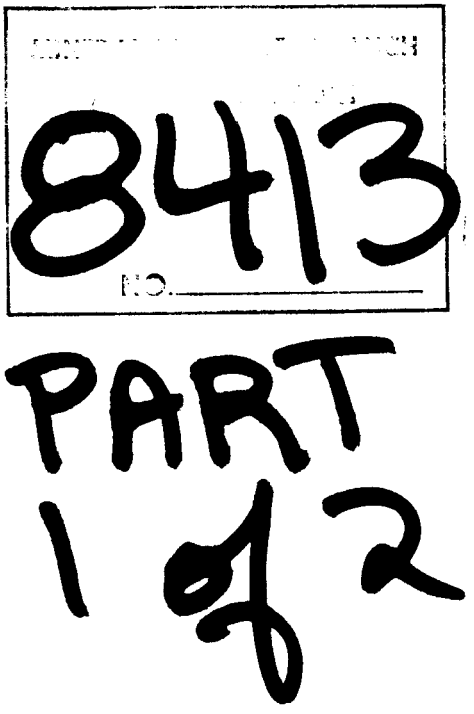
RECORD NUMBERS 224 to 231, 479, 221 to 223

WEIR MOUNTAIN AREA

59°39'N, 132°59'W

NTS 104N/10W

ATLIN MINING DISTRICT



PART 1 of 2

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STATEMENT OF QUALIFICATION

I, Lloyd Alterton, the undersigned, graduated from the University of New Brunswick in 1979 with a B.Sc. degree in geology and since May 31, 1979 to the present, have been employed by Mattagami Lake Exploration Limited as a geophysical party chief.

Lloyd Alterton

SUMMARY

During the period of August-September 1979, four interconnected grids were laid in on the Weir Mountain property. Magnetometer surveys were conducted over all grids although the survey is not complete in some areas. Results of this work are presented in a separate report by J. Loiselle (1979). More than 640 soil samples were collected over three of the grids: Caribou Creek, Feather Creek and Galena Creek grids; and analyzed for Cu, Pb, Zn, Ag, Sn, W, U. On the Caribou Creek grid, the soil samples outlined large geochemical fans emanating from a number of prominent geophysical anomalies, several of which are recommended for trenching and drilling. On the Feather Creek grid sampling is incomplete, however a large Pb-Zn anomaly has been partially defined. Numerous mineralized boulders (sphalerite) have been found nearby. Following completion of the geochemical and magnetometer surveys in this area, the anomaly should be trenched in several locations. In the Galena Creek area, sampling has outlined a 600 m long Zn-(Pb-U) anomaly which corresponds to the cutoff point for the Pb-Zn-Ag rich boulders found in Galena Creek. Detailed soil sampling and geophysical surveys are required to fully delineate this anomaly. When this is accomplished, trenching and drilling of this zone is highly recommended.

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CHAPTER ONE: INTRODUCTION

1-1 Property and Ownership

Mattagami Lake Exploration Limited is the owner of mineral claims CY-2 to CY-4; CY-6 to CY-9; and ENG 1 to ENG 3; record numbers 224 to 231, 479, and 221 to 223. These claims were staked for the company by F. Morra and W. Howard and were recorded in Atlin, British Columbia on the 26th of July, 1977.

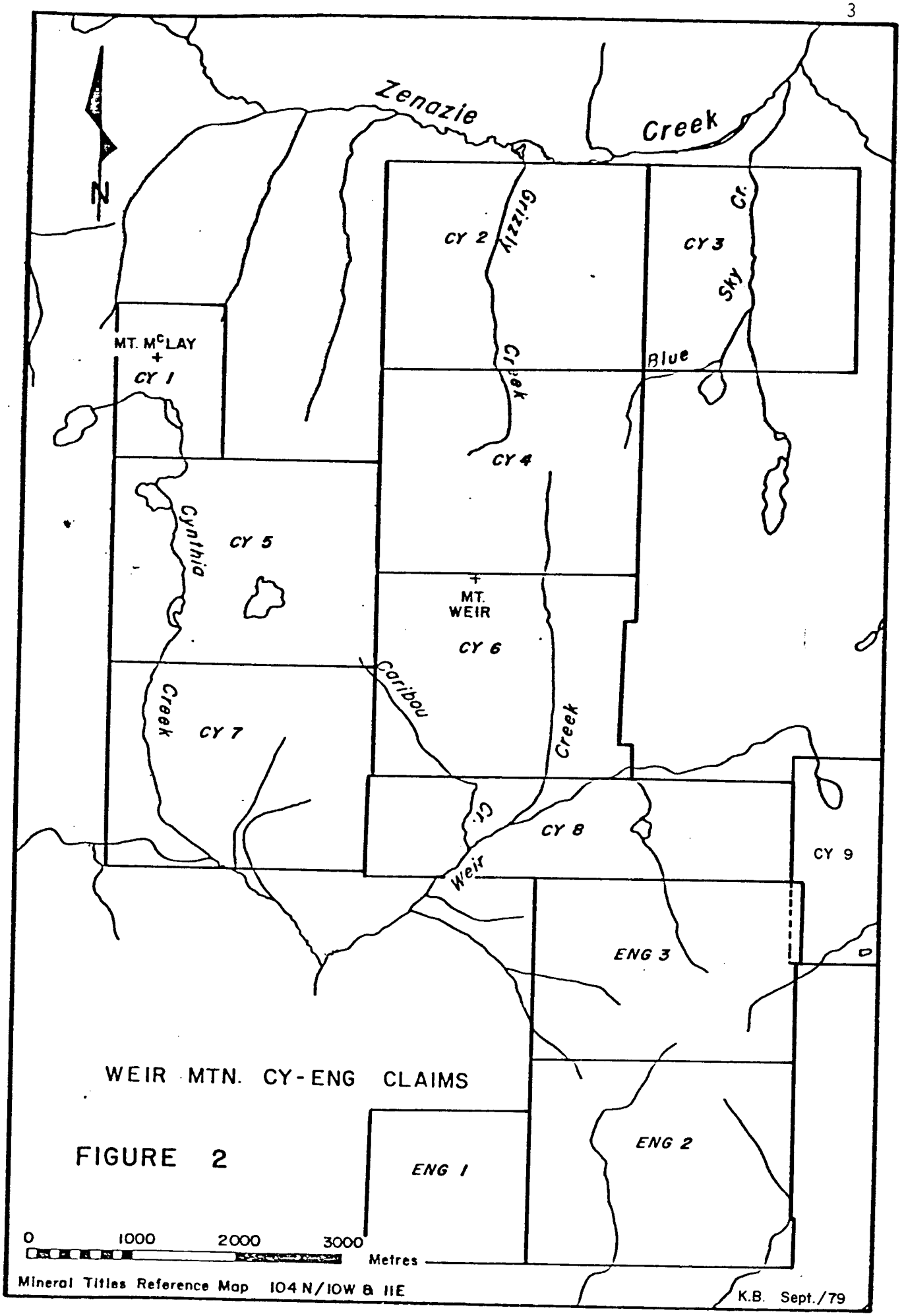
The claims cover 169 units or about 4,150 hectares.

1-2 Location and Access

The claims are located in the Weir Mountain area, northern British Columbia, NTS 104N (Figures 1 and 2). The property lies 41 km northeast of the community of Atlin and its geographical co-ordinates are 59°39'N and 132°59'W.

There are no roads to the property. Access is via helicopter from Atlin. A gravel road connects Atlin with the west shore of Surprise Lake, 22 km west of Weir Mountain.

In the future, if the property warrants development, a gravel road to the area could be constructed relatively easily (Figure 2). The road could begin at one of two sites, either the south end of Surprise Lake or the eastern end of the Spruce Creek Road. Both starting points are connected by road to Atlin and each route would cover roughly the same distance (9.6 km) before converging to the common route west of McKinley Creek. The total distance from either starting point to the junction of Weir and Terrahina Creeks is 32 km, and most of the route traverses sparsely wooded, relatively

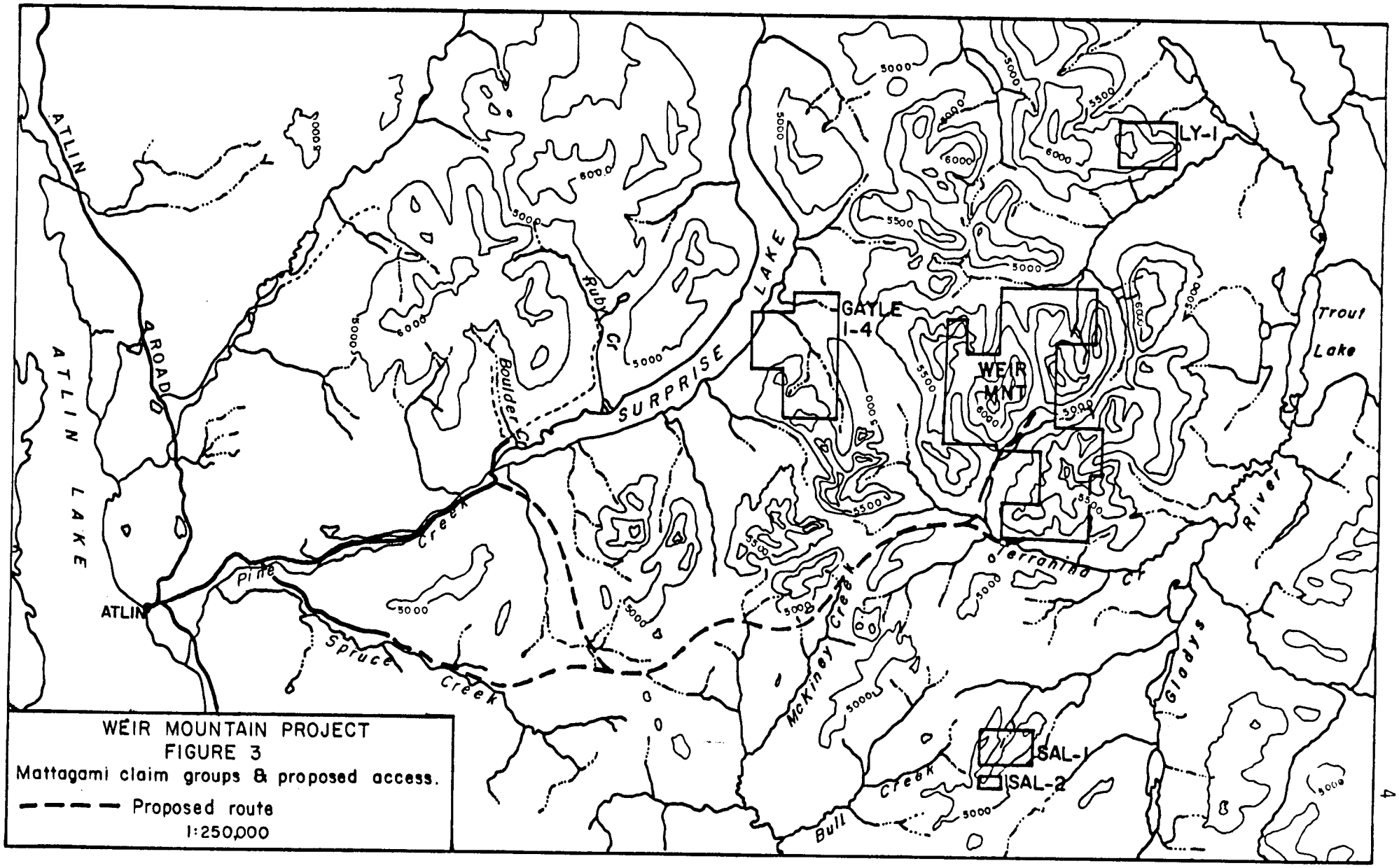


WEIR MTN. CY-ENG CLAIMS

FIGURE 2

Mineral Titles Reference Map 104 N/10W & 11E

K.B. Sept./79



WEIR MOUNTAIN PROJECT
FIGURE 3
Mattagami claim groups & proposed access.
— — — — Proposed route
1:250,000

flat bottomed valleys. From the Weir/Terrahina junction, roads could be constructed 6 km to the Caribou Creek zones and 6 km to the Galena Creek zone. To maintain an acceptable grade, the latter route may involve either a number of switchbacks, or possibly an alternative route along the 5500' contour level.

1-3 Physiography

The area is mountainous, with gently sloping, vegetation covered, southeast flanks and precipitous cliffs on the northwest flanks. Recent glaciation has left wide U-shaped valleys as well as cirques and hanging valleys. The elevation is 1,000 to over 2,000 m above sea level.

Vegetation is dense, short, willow bush up to 1,300 m. Above this elevation, there is very immature alpine-type soil, 10 to 50 cm thick. Vegetation here constitutes grass and lichens. Valley bottoms are covered by extensive fluvial and moraine deposits.

1-4 Climate

The CY and ENG claims are almost completely free of snow from early July to the end of August although many cornices persist for much of the summer.

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

1-5 History

During July 1977, eleven claims (187 units) were staked in the Weir Mountain area for Mattagami Lake Mines Ltd. to cover a radioactive area discovered by a regional helicopter-borne radiometric survey in 1977. One additional claim (CY-9, 8 units) was staked in 1978.

Geochemical sampling, radon detection in water and soil and radiometric surveys were carried out to cover most of the CY claims in 1977, (Weir Mountain Report No. 2, F. Morra).

Detailed geochemical and geophysical surveys (magnetometer, RADEM, VLF, I.P., Radiometric) were completed during the summer of 1978, predominantly on the CY-3, CY-4 and CY-6 claims. The results of this work are presented in Weir Mountain Reports, Numbers 3 and 4, the CEM Report, Weir Mountain (T. Gledhill and D. Sutherland, 1978) and the I.P. Report (Phoenix Geophysics).

This work helped delineate the source of some of the geochemical anomalies, namely two uranium occurrences and several sphalerite and magnetite occurrences.

During the first part of the 1979 program (June and July) work was concentrated on the CY-3, CY-6 to CY-9, and ENG 1 to ENG 3 claims. This included geological mapping, prospecting, magnetometer, radiometric and radon in soil surveys.

Following encouraging results obtained during the June-July 1979 period of work, exploration was renewed in August and September. A base camp was established at the mouth of Caribou Creek. Exploration consisted of the following:

1. Establishment of grids in the Galena Creek, Feather Creek, CY-7 and Weir Mountain areas.
2. Detailed soil sampling and magnetometer surveys along these grids.
3. Trenching of several mineralized localities.
4. Detailed geological mapping of several anomalous areas.
5. Testing of various geophysical instruments over mineralized zones.

Results of the magnetometer survey are discussed in a separate report by J. Loiselle (1979).

Work was carried out by the following personnel:

J. Biczok - Geologist

J. Loiselle - Geophysicist

G. Doucet - Camp setup and grid layout

L. Girard - Assistant

Trenching was carried out by two man crews from BEMA Industries and McCrory Holdings Ltd. A 4.6 km tie line and several base lines perpendicular to this line were surveyed with a laser transit by Hosford, Impey, Welter and Associates Ltd.

1-6 Purpose of the Work

The main purpose of work carried out during the August-September exploration program was to delineate the source of mineralized boulders found in Galena Creek and to further define the known mineralized zones in the Caribou Creek area. In addition, a few days were spent following up scattered anomalies - stream sediment, rock samples, etc. - detected during the previous program. This report deals with the results of this work and offers some observations on the new found tin mineralization.

CHAPTER TWO: GENERAL GEOLOGY

The CY and ENG claims lie almost entirely within the Surprise Lake batholith, a Cretaceous lobe of the Coast Range batholith. The batholith consists predominantly of various types of alaskite and granite, of which eleven different phases (see Map 1) have been found on the property to date, (Biczok, 1979). The legend of Map 1 has brief descriptive notes of each phase. The southernmost claims, ENG 1 and 2 cover the contact of the batholith with the Permian Cache Creek Group which, in this area, consists of cherts, chert breccias, quartzites and argillites.

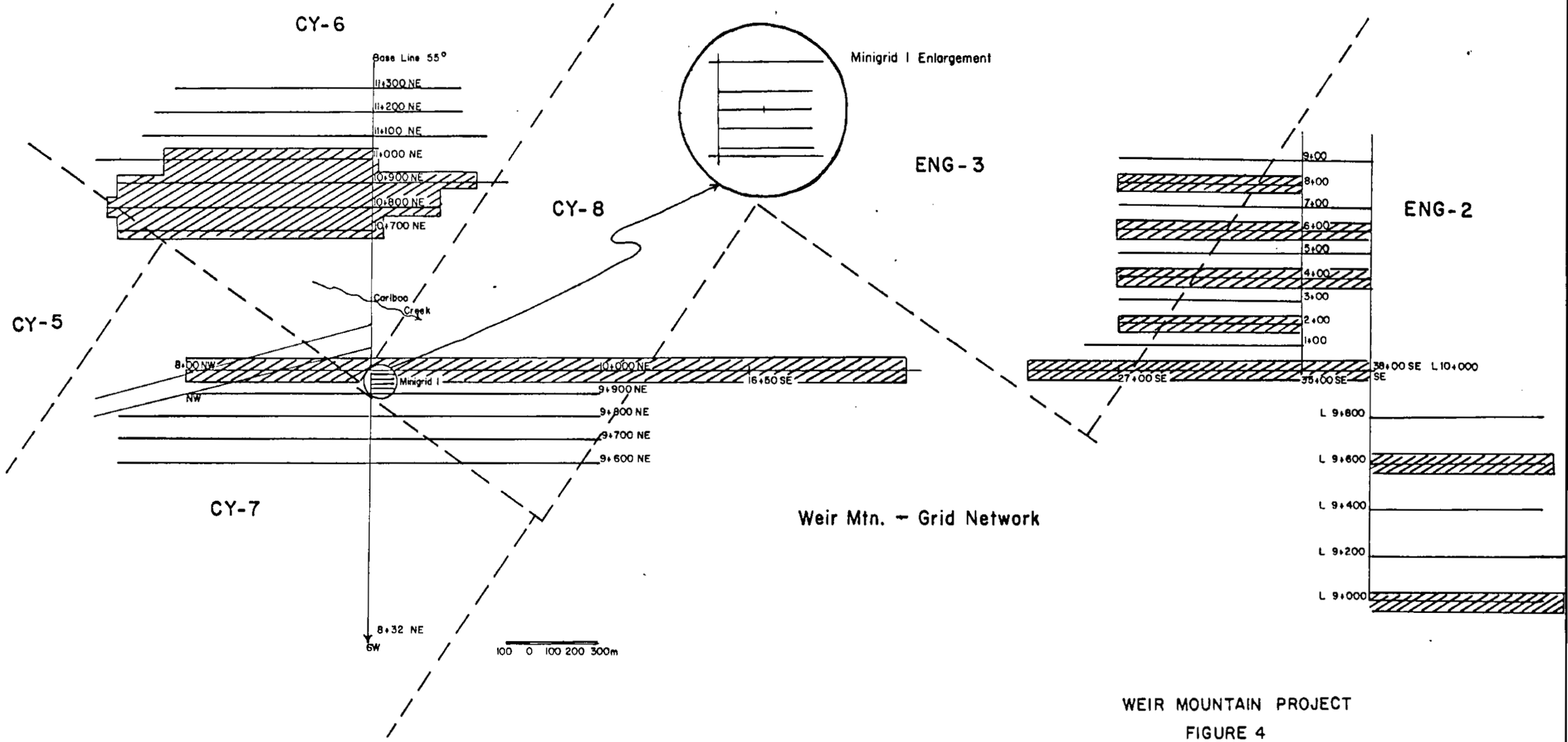
Only minor additions and revisions have been made to the geology map as presented in Report No. 5 (Biczok, 1979). Additional mapping was carried out on CY-2, 5, 7, 8 and 9. In all areas medium to coarse-grained, equigranular to porphyritic alaskite (phase II) is the dominant lithology and is frequently intruded by a variety of aplite dykes.

CHAPTER THREE: GEOPHYSICS

During this program a detailed magnetometer survey was conducted over several areas by J. Loiselle (Fig. 4). The equipment used consisted of a Scintrex MF-2 Fluxgate magnetometer connected to a small chart recorder, allowing readings to be taken rapidly at two to four meter spacings. This instrument system was developed by Mr. Loiselle as part of his M.Sc. program at the University of Manitoba, and is described, along with the results, in a separate report (Loiselle, 1979). The advantage of the system is that it allows readings to be taken at small intervals (2 to 4 meters) with virtually the same speed as normal surveys at greater (eg. 25 m) intervals. This close spacing is critical in the Weir Mountain area since much of the mineralization is found within narrow (3 to 8 meter) magnetic veins.

The survey did not locate any major new anomalies since much of the Weir Mountain-Caribou Creek area had been previously surveyed. However, due to the different positions of the lines and closer spacing of the stations, this survey did serve to delineate some of the minor anomalies in the area. This major anomalies had already been fairly well delineated in previous surveys (Morra, 1978; Biczok, 1979).

On ENG 3's Feather Creek grid (Grid III of Loiselle) where tin rich magnetic boulders have been found, and a large soil anomaly delineated, the magnetic survey did not locate any anomalous areas. This is probably because it was not extended far enough to the northeast. The significant geochemical anomaly in this area makes the extension of the grid and magnetometer survey of great importance. Once the source area is located, it should be delineated by a close spaced magnetometer survey. This should be followed up by trenching and, if results are encouraging, a series of short diamond drill holes.



Weir Mtn. – Grid Network

WEIR MOUNTAIN PROJECT

FIGURE 4

Surveyed grid network 1979 & areas covered by magnetometer surveys

Areas of detailed mag. surveys by J. Loiselle.

Claim boundary.

In the Galena Creek area of ENG 2 only two lines (L9+600 SW and L9+000 SW) were surveyed. Line 9+000 SW does not cross the significant geochemical anomaly in this area, and line 9+600 SW crosses the anomaly in an area of thick glacial overburden. Although a magnetometer survey may be of limited use in this area due to the thickness of the overburden and low magnetic susceptibility of the mineralization, a detailed survey should still be carried out in the area of the soil anomaly. The survey may be able to assist in defining the source of the Pb-Zn-Ag mineralization on the upper slopes, where overburden is thinner.

The magnetic structures in the Caribou Creek area have been interpreted by Loiselle, using a very dubious technique, as ranging from six inches to six feet (0.15 - 1.8 m) in width. However this should not be regarded as evidence that the entire mineralized zone is less than 1.8 meters across. Trenching has shown that the major sphalerite-chlorite veins are 3 to 8 meters in width and the distribution of mineralized float in other areas (eg. anomaly C) suggest that these zones are equally as wide. The thinness of the magnetic anomalies may be due to local concentrations of magnetite within larger veins, as the veins themselves are not greatly magnetic.

CHAPTER FOUR: GEOCHEMISTRY

4-1 Introduction

A total of 642 soil samples were collected on the grid system and analyzed for the following elements: Ag, Pb, Zn, Cu, Sn, W and U. Samples were generally collected at 25 meter intervals from the B or C horizon. Soil development in this area is extremely poor and most samples consist largely of mechanically weathered bedrock. Sampling was carried out over three grids on the property:

1. The Caribou Creek Grid which covers the southern flank of Weir Mountain on CY-6.
2. The Feather Creek Grid situated on the west flank of Mt. Shiziko on ENG 3.
3. The Galena Creek Grid located west of Galena Creek on ENG 2.

4-2 Caribou Creek Grid

This grid covers the south flank of Weir Mountain, an area covered in felsenmeer, and minor till, which slopes to the south at 20-30^{o}. Geochemically it exhibits a myriad of anomalies many of which appear to be derived from strong, linear magnetic anomalies (Figs. 5 and 6). The two most significant of these magnetic anomalies are:

ANOMALY 1 A 200 m long zone extending from Line 10+800, 925 NW to Line 10+900, 850 NW. From this zone a large geochemical "fan" extends several hundred meters to the south (downhill).

Lead and zinc obtain maximum values of 2,250 ppm and 3,800 ppm respectively (Fig. 5) while tin and uranium reach 40 ppm and 760 ppm respectively (Fig. 6). Molybdenum (330 ppm) and tungsten (200 ppm) also reach impressive levels in this area, however their dispersion is more restricted.

Also extending downhill from the magnetic anomaly is a wide (approx. 15 meter) train of chlorite-sphalerite boulders, similar to the rocks of the E and F zones. Trenching in this area did not reach bedrock, however the soil became increasingly blacker at depth and a large boulder containing 20-40% flourite was encountered (R-300: 0.23% Zn, 15.6 gm/tonne or 0.36 oz/ton Ag). These features indicate that the source of this anomaly is a chlorite-sphalerite vein. It may have an unusual alteration assemblage which gives rise to the flourite boulders as well as the very high lead, tungsten, molybdenum and uranium in soil anomalies.

A very strong tin anomaly (90 to 120 ppm) occurs at the west end of line 10+900 and trends southward from there across the magnetic anomaly (Fig. 6). The source of this anomaly is unknown but since it is the highest concentration of tin in soil encountered to date it should be followed up with detailed geological, geochemical and geophysical surveys.

The magnetic anomaly has already been surveyed in some detail (Morra, 1978b). Using the half-peak height technique to interpret the data points to a source up to 6.5 m wide. This presents an inviting target which should be drilled and trenched during the upcoming season.

ANOMALY 2 This intense anomaly is roughly 400 m long and reaches an amplitude of 8,000 gammas (Morra, 1978). It is centred at roughly 00 on the baseline of the old grid. There are several narrow linear anomalies which branch off from the main body and extend for hundreds of meters, generally in a NE-SW direction. There are several strong zinc anomalies (up to 2,820 ppm) associated with the main body, generally starting near the ends of the anomaly and continuing downhill from there.

The intensity and form of the magnetic anomaly, and the type of mineralization (largely magnetite) found in a trench through this zone (T-7),

indicate that this anomaly is produced by a large magnetite vein up to six meters wide, plus a series of smaller, subparallel veins. The assays of trench samples (T-7, Chapter 6 - 0.13% Zn, 8 gm/tonne Ag) in themselves do not warrant the drilling of this anomaly. However there is evidence that these veins undergo mineralogical changes along strike, therefore more trenching and detailed soil sampling should be carried out along this anomaly.

MINOR ANOMALIES There are at least five other coincident magnetic and geochemical anomalies on this grid which deserve follow-up.

A 100 m long magnetic anomaly on L10+700 and L10+800 at 10+500 NW is connected to another magnetic anomaly on L11+300 at 10+600 NW by a series of zinc, lead and tin geochemical anomalies, I.P. anomalies and hematite stain zones (Figs. 5 and 6). The intensity of the zinc anomaly (G1,000 ppm) and presence of scattered mineralized boulders in this area warrant further work. The geochemical sampling should be extended to the NE and SW and fill-in lines sampled throughout this zone.

Two coincident uranium and zinc geochemical anomalies and narrow magnetic anomalies occur south of the new baseline (Figs. 5 and 6). These have not been adequately sampled or surveyed with a magnetometer. The grid should be extended to the west and additional lines surveyed in at 50 meter intervals to delineate these zones. The only possible trenching site identified to date is L11+100, 9+800, where strong uranium, zinc, I.P. and magnetic anomalies overlap.

The last significant anomaly occurs on L11+300 at 10+900 NW. Here an 800 gamma magnetic anomaly overlaps a strong VLF conductor and has a moderate tin anomaly located downhill. This anomaly is situated at the northern end of the sampled area and has not been adequately surveyed. The area should be

subjected to soil sampling and the magnetometer survey should be extended to the NW and NE of the anomaly. Fill-in lines at 50 m spacings should also be completed.

SUMMARY The soil sampling and geophysical surveys on this grid have revealed two major and five minor coincident geochemical and geophysical anomalies. To fully delineate these, the area surveyed must be extended to the SW, NW and NE, and fill in lines completed over the anomalies at 50 m spacings. Trenching should be carried out along the length of the two major anomalies and if time permits at the following minor anomalies: L10+700, 10+500 NW; L11+00, 9+800 NW; and L11+300, 10+590 NW.

4-3 Feather Creek Grid

This grid was established on the west flank of Mt. Shiziko (Fig. 4, 35+00 SE, ENG 3) to follow-up geochemical anomalies and mineralized float discovered during the earlier work (Biczok, 1979). Due to the onset of winter this grid was not sompletely sampled in the anomalous area, however a large lead and uranium anomaly has been partially delineated (Fig. 8a, 8b, 9). The anomaly is roughly 900 m long with a width of up to 200 m, although much of it is narrower, and is still largely open to the east. No appreciable magnetic anomalies have been discovered in this area (Loiselle, 1979) however this is probably because the survey was not completed over the anomalous area. A large magnetite vein up to five meters wide containing up to 0.55% Zn and 0.1% Pb crops out 400 m east of the anomaly and trends E-W toward the anomaly. Mineralized boulders, rich in zinc and tin (sphalerite and cassiterite) have been found on strike with this vein, suggesting that the mineralogy of the vein changes along strike from magnetite in the east, to sphalerite-magnetite-cassiterite in the west. To fully evaluate this area, the Feather

Creek Grid should be extended to the NE and fill-in lines completed at 50 m spacings over the anomalous area. A detailed magnetic survey and soil sampling program should then be carried out over these lines, and when the anomaly is delineated completely, trenching should be undertaken at several sites along its length.

A number of interesting spot anomalies are also found in this grid. Spot anomalies of 120 ppm U, 580 ppm Pb and 40 ppm Sn are found respectively at the following locations: L10+100, 30+75; L10+200, 31+50; L10+500, 29+50. Prospecting, soil sampling and magnetometer surveys should be carried out in detail around these anomalies.

4-4 Galena Creek Grid

The potential of this area seems to be as great as, or even greater than, the Caribou Creek area. The Galena Creek Grid was set up over the cut-off point of mineralized boulders found in the creek (Biczok, 1979), in order to delineate the source of these boulders.

In spite of the 200 m spacing of the lines a large geochemical anomaly, corresponding with the cut-off point in the creek, has been partially delineated (Figs. 8a, 8b, 9). The anomaly is at least 600 m long, open to the east and possibly the west as well. Geochemical values up to 620 ppm Zn, 720 ppm Pb and 86 ppm U have been obtained from this anomaly and mineralized boulders of varying types have been found along its length. Galena has been found, apparently in place, west of and along strike with, the anomaly. However this mineralization does not resemble the boulders found in Galena Creek, and may represent an alteration zone peripheral to the main mineralization zone.

Paralleling the main anomaly, 100 to 200 meters to the north, are a series of zinc, lead and uranium anomalies which may be continuous. This

anomaly is also at least 600 m long and open to the east. Another series of zinc and lead anomalies, again possibly continuous, occurs 400 m north, immediately south of the 38+00 baseline. This anomaly is apparently on strike with a large area of slightly mineralized quartz boulders (0.37% Zn, 0.21% Pb) at L10+00, 38+00.

The parallel nature of the geochemical anomalies and the varying types of mineralized float found in this area suggest that there may be a parallel series of large, mineralized veins beneath the overburden, each vein having a different mineralogy. In order to locate these veins the Galena Creek Grid must first be completed with lines every 100 m plus fill-in lines at 50 m spacings over critical areas and extended to both the east and west. Detailed soil sampling along these lines should be accompanied by a variety of geophysical surveys: magnetometer, EM-31, Crone Shootback and if possible, an I.P. survey. Trenching may be possible on the upper slopes where overburden is thinnest, and this should be followed by drilling.

CHAPTER FIVE: AREAS OF DETAILED FOLLOW-UP

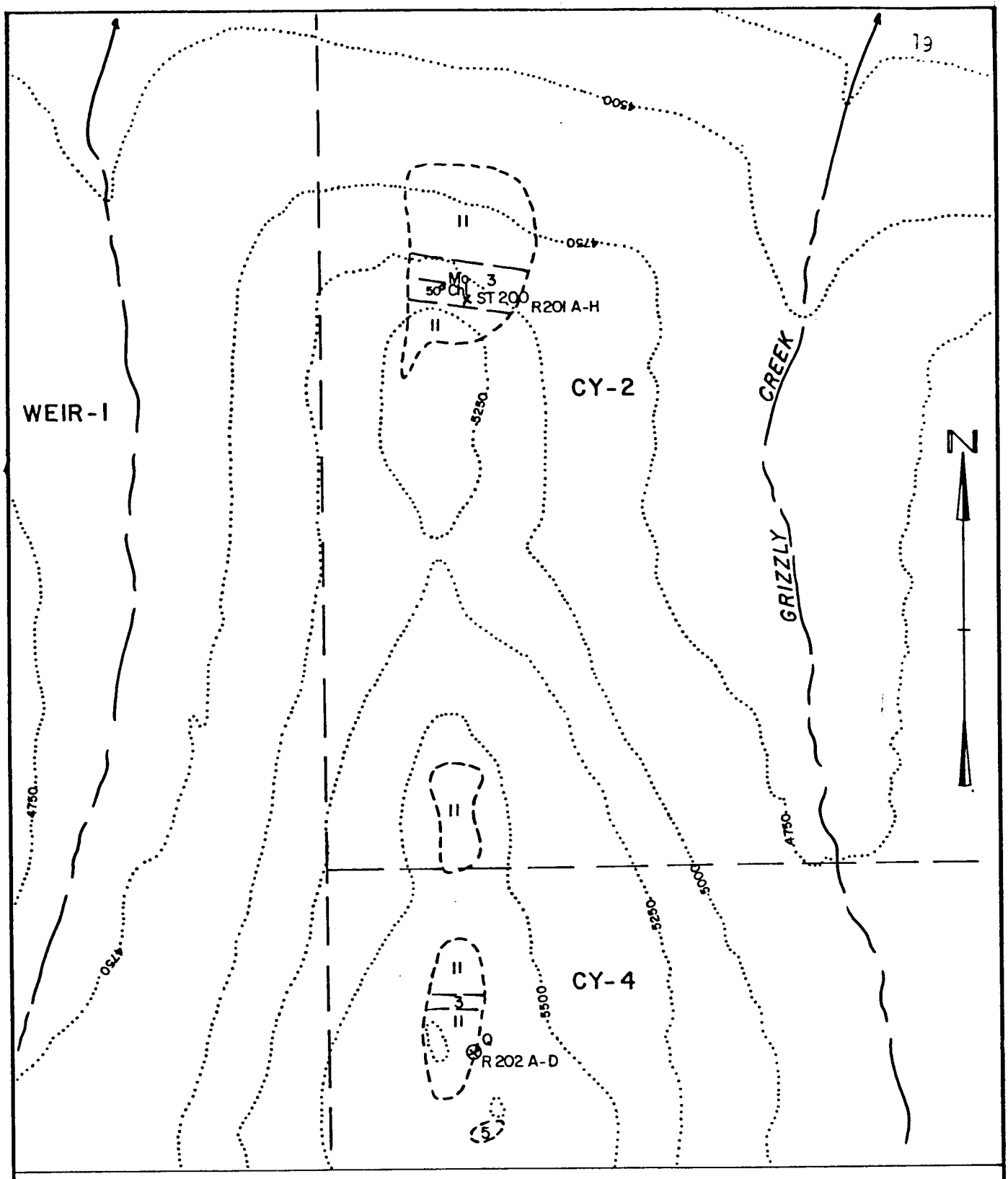
5-1 CY-2

In response to a purported tungsten occurrence on the north side of Weir Mountain (indicated on the GSC map of the Atlin area by J.D. Aitken, 1959) geological mapping and detailed sampling of the area were carried out during the June-July 1979 exploration program (Biczok, 1979). Tungsten proved to be enriched in both fresh and chloritized aplites and alaskite in this area. Several narrow chlorite veins containing minor sphalerite, and resembling the larger veins of the E zone, were found in this area, however these contained only minor amount of tungsten. The greatest enrichment was found in an aplite with minor quartz stringers which contained 130 ppm W. As a further followup to this anomaly, more extensive mapping and sampling were carried out during the August-September exploration period (Figure 10).

During this second examination, no enrichment was found in any aplite without quartz stringers, however significant amounts were found in the numerous small quartz stringers and the chlorite-quartz veins.

One quartz vein (R-201C) contained 550 ppm W and 233 ppm Mo. The molybdenum is present as visible molybdenite and ferromolybdate. A sample of a 2 cm wide quartz-chlorite vein returned 80 ppm W and 710 ppm Mo although no molybdenite was visible.

The significant amounts of molybdenum and tungsten found in this area indicate that more work should be done. Unfortunately it is surrounded on three sides by broad, talus filled valleys and in two directions (N and W), the claim boundaries are nearby. However there is considerable exposure in



: OUTCROP

: GEOLOGICAL CONTACT

ST200 : STOP LOCATION & NUMBER

R201 : ROCK SAMPLE NUMBER

⊗ : FLOAT SAMPLE

Mo. : MOLYBDENITE

Chl. : CHLORITE VEINS

: JOINT SET, INCLINED.

[II] : Medium to coarse grained, porphyritic to equigranular biotite granite /alaskite.

[5] : Coarse grained, porphyritic brown dyke.

[3] : Quartz - Kfd. porphyritic aplite

[2] : Fine grained biotite aplite

Contour interval 250 feet.

WEIR MOUNTAIN PROJECT.

FIGURE 10

Geology & sample location map, CY-2, CY-4.

Scale of Feet
0 500 1000 2000

0 100 200 300 400 500 600
Scale of Metres

the area to the south, and a program of detailed mapping, rock sampling, and possibly a soil geochemical survey should be sufficient to evaluate the potential of this area.

5-2 CY-5

One of the largest of the weathered out, linear depressions found to date occurs in the SE corner of CY-5 (Map 1). The zone is 40 meters wide and is visible over a strike length of several hundred meters. The NE end of the zone terminates in a cliff and is covered by a large ice overhang. Below the ice numerous chlorite boulders have been found. They closely resemble the chlorite-sphalerite veins of zones E and F, except for the lack of visible sphalerite.

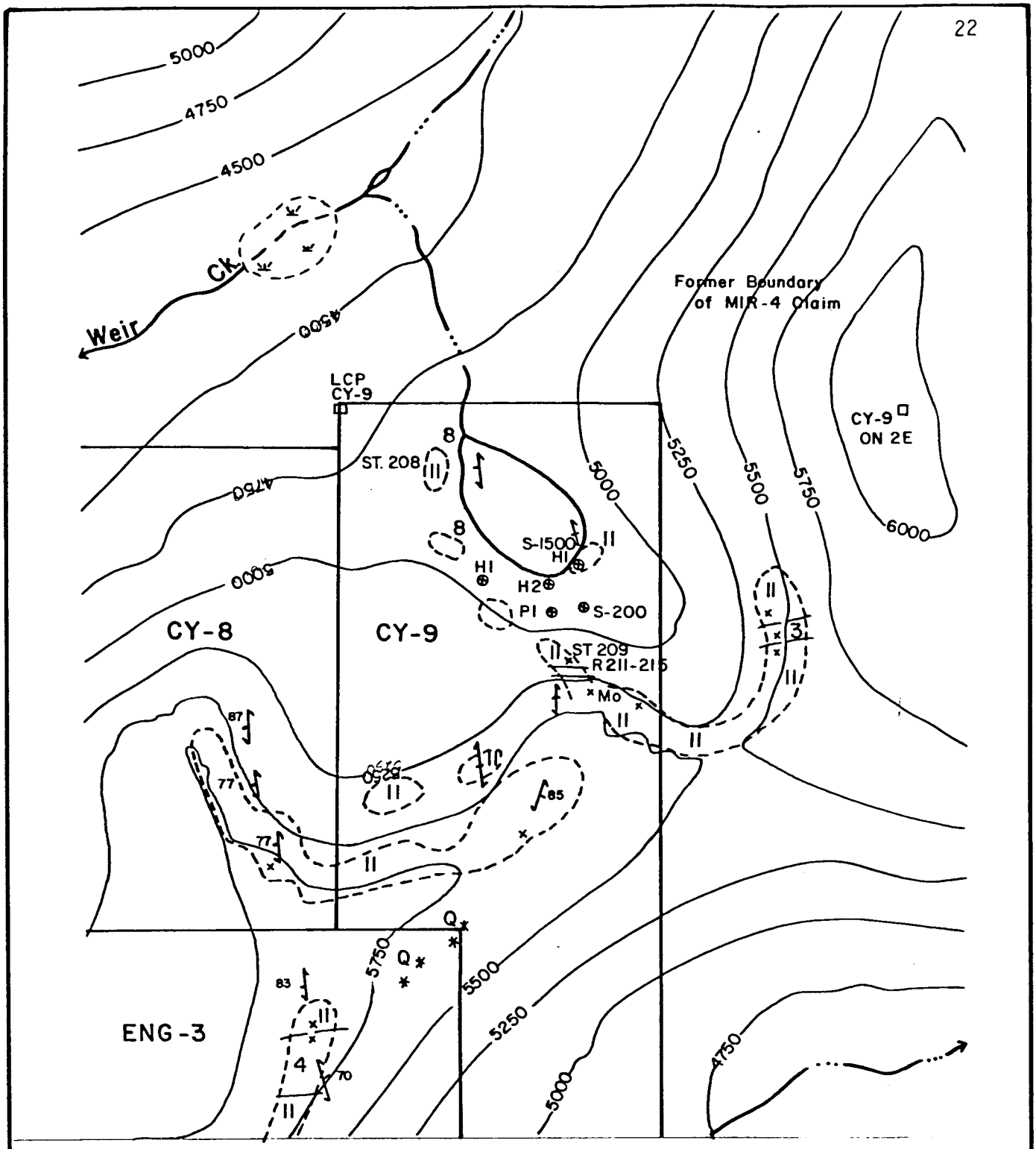
Several float samples were collected from the depression and analyzed. The best assay was of R-223B, a black, fine grained chlorite sample, which returned values of 1,000 ppm Sn, 6.2 gm/tonne Ag (0.17 oz/ton) and 0.18% Zn. The values are of definite interest and indicate that more work is required in this area. The overhang should be destroyed by blasting and the depression trenched in several locations along strike. Geophysical surveys (magnetometer, EM-31, EM-16R) should be used to delineate the length of this zone and indicate the areas of greatest mineralization. If mineralization is exposed in the trenches, or strong geophysical anomalies are detected, follow-up drilling is highly recommended. Because of its great width, the mineralization here need not be as intense as in the narrower E and F zones for it to still be economic.

5-3 CY-9 Tungsten Anomaly

During the initial period of exploration in 1979, a stream sediment sample anomalously high in tungsten (S-1500: 95 ppm W) was collected on a small stream

draining into the south end of the lake on CY-9. The author resampled this area in September in an attempt to further delineate the anomaly (Figure 11).

From Table 1 it is apparent that two panned samples (H-2 and H-3) are anomalously high in tungsten (i.e. 50 and 100 ppm W respectively). However none of the rock samples collected would seem to represent a potential source for this anomaly. Most of the rock exposed in this cirque is phase 11, medium-coarse grained equigranular alaskite. The only potential tungsten source visible in the area is a rather bizarre, banded aplite-quartz dyke in the SW corner of the cirque. The uppermost 1½ meters of the dyke is a flow banded, very siliceous, aplite while the lower 1½ meters consists of thick quartz veins. Underlying this is an aplitic quartz-feldspar porphyry. Five samples were collected (R-211 to R-215) of these varying lithologies however none proved to be significantly anomalous in tungsten or any other element. It must be assumed that the source of the tungsten anomaly lies elsewhere in the cirque.



: Outcrop Boundary

: Geological Contact

: Shear Foliation; Inclined, Vertical

Q : Quartz

Mo ; Molybdenite

× : Stop Location

R : Rock Sample

⊕H,S,P : Geochemical Sample : Panned, Stream Sediment, Soil.

* : Talus

11 Medium to coarse grained, equigranular to porphyritic ALASKITE

8 Coarse grained BIOTITE GRANITE

4 Quartz feldspar porphyry ALASKITE /APLITE

3 Quartz porphyry APLITE

1 Fine grained equigranular APLITE , no mafics.

WEIR MOUNTAIN PROJECT

FIGURE 11

CY-9 TUNGSTEN ANOMALY

SCALE OF METRES

0 100 200 300 400 500

TABLE ONE: Geochemical Analyses - CY-9 (all values in ppm)

Sample No.	Ag	Cu	Pb	Zn	Sn	W	U	Mo
115-H- 1	0.4	2	8	50	15	10	9.0	
H- 2	0.5	1	11	31	8	50	10.0	
H- 3	0.2	2	12	18	5	100	22.0	
115-S- 200	0.4	4	8	40	10	7	28.0	
S-1500*	0.4	8	12	50	-	95	42.0	6
115-P- 200	0.4	2	16	29	10	26	1.2	
115-R- 211		3		5	L5	L2	2.0	4
R- 212				3	L5	3		5
R- 212B				5	8	3		5
R- 213				25	L5	8		20
R- 215				25	L5	4		7

H - Panned Stream Samples

S - Stream Sediment Sample

P - Soil Sample

R - Rock Sample

* Collected in July, all others collected in September.

CHAPTER SIX: TRENCHING RESULTS

A total of eight trenches were excavated during this program. Most were over known occurrences of mineralization although several were designed to test geophysical anomalies.

TRENCH 1: is located on CY-7, at approximately 10+10 NE and 75 SE, on a plateau south of Caribou Creek (See Map 1) to test a magnetic anomaly which had been traced for over 500 meters. The trench was blasted to a depth of 8 feet without hitting bedrock and at this point drilling further became extremely difficult due to the presence of dry permafrost. On the northwest side of the trench at a depth of 4 feet, numerous grey, altered alaskite boulders were encountered (Fig. 12). These boulders resemble alteration zones associated with the sphalerite bearing veins and are therefore thought to indicate the presence of one of these veins.

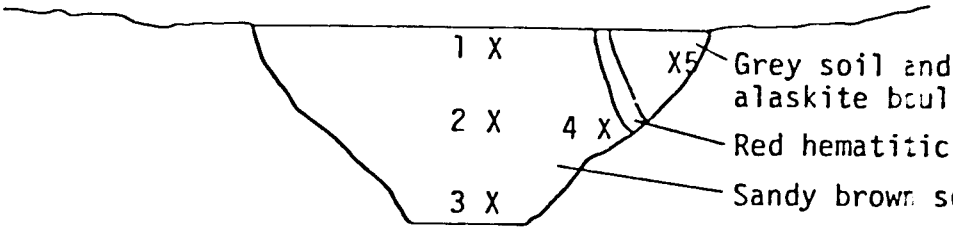
The soil analyses are listed in Table 2. Zinc reached 2,900 ppm in the soil while lead peaks at 300 ppm. Tin shows an enigmatic distribution, decreasing from 5 to 0 ppm with depth.

The significant enrichment of zinc and lead in the soil over this zone is an encouraging sign; it indicates that this 500 m long magnetic anomaly may be mineralized.

TRENCH 2: is located 150 meters northeast of Trench 1, along the same magnetic anomaly, where a sphalerite bearing vein crops out. Trenching revealed that the vein is 12 feet wide, with patchy alteration and mineralization continuing to the northwest for at least 10 meters (Figure 13). The vein itself trends approximately 60^{o} and where exposed in the trench, contains a central zone of unmineralized alaskite, 0.6 meters wide.

Fig. 12: TRENCH 1: 10+10 NE, 75 SE

CROSS SECTION



1. 115-T1-P-1
2. 115-T1-P-2
3. 115-T1-P-3
4. 115-T1-P-4
5. 115-T1-P-5

PLAN VIEW

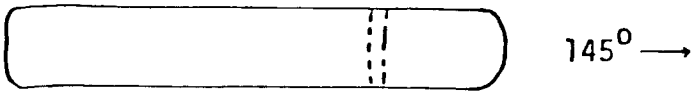
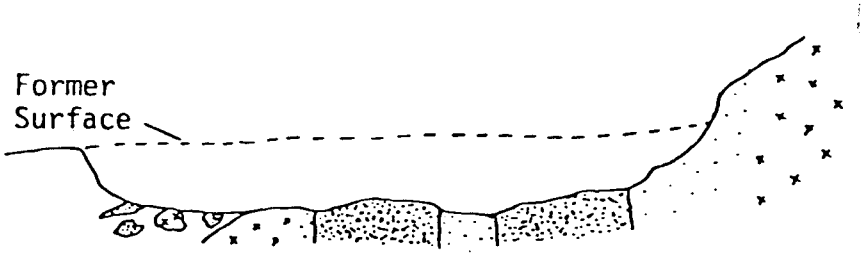
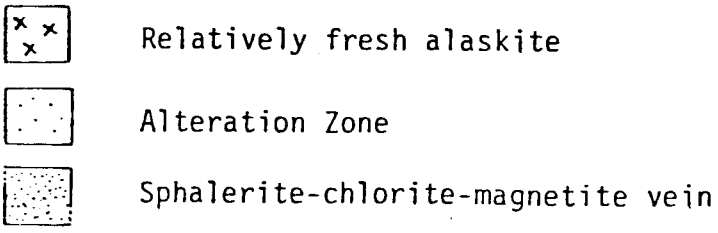


FIG. 13: TRENCH 2:

CROSS SECTION



PLAN VIEW



0 1 2

meters

TABLE 2: Geochemical Results - Weir Mountain Trenches (all in ppm)

Trench	Sample No.	Cu	Zn	Pb	Ag	Mo	Sn	W
1	115-T1-P1	20	120	42	1.2	L2	5	0
1	-P2	26	88	22	1.6	L2	2	0
1	-P3	26	90	22	1.6	L2	0	0
1	-P4	68	2900	300	2.2	L2	2	0
1	-P5	18	1000	200	1.6	L2	0	0
3	115-T3-P1	20	6000	1500	2.6	L2	50	5
3	-P2	6	2500	1100	3.6	L2	35	0

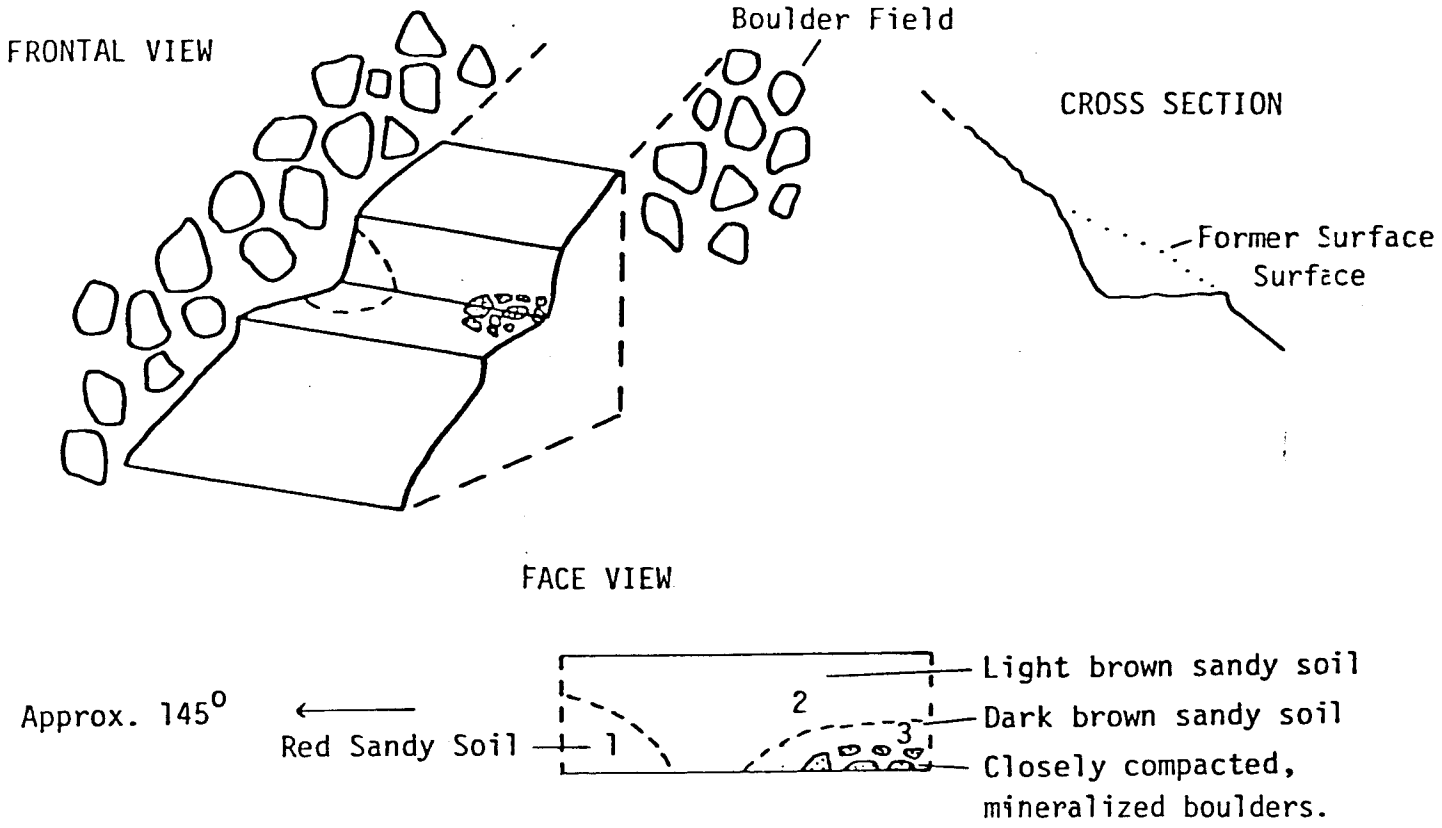
TRENCH 3: was excavated over the southernmost vein (Vein #2) in anomaly 'E'. The presence of this vein has been presumed from the presence of a linear depression, paralleling vein #1, which is filled with sand and mineralized talus. Due to the presence of the sand and the unstable nature of the slope, drilling was not possible here and the trench was excavated by hand. A depth of approximately five feet was reached. Although no definite bedrock was encountered, numerous closely compacted, mineralized boulders were encountered in the bottom (Fig. 14). These appear to be more heavily mineralized than the surface talus and contain sphalerite.

TRENCHES 4 & 5: are both located on Vein #1 of anomaly 'E'. Trench 4 was mistakenly located and has not been sampled. Trench 5 is on the lower portion of Vein #1. Trenching revealed that the vein is 22 feet wide with sphalerite concentrations continuing for several feet into the country rock on either side of the actual vein (Fig. 15).

TRENCH 6: was excavated on a high magnetic anomaly located along the baseline at 135^{o}, for approximately 20 feet in length, 6 feet in width, and 3-4 feet in depth (Fig. 16). The trenchers feel that bedrock was reached, however this is not certain. No trace of mineralization was observed in any of the rocks exposed, which consisted predominantly of fresh, white, aplitic alaskite.

TRENCH 7: was located 25 meters southeast of trench 6 and was blasted at 45^{o} for 19 feet in length, 4 feet in width and 2-3 feet in depth (Fig. 17). Heavily altered alaskite was encountered in much of the trench with the central seven feet being steel grey-black in colour and quite metallic in appearance. This is probably a magnetite vein although the rocks are not as magnetic as pure magnetite should be, suggesting the presence of other metallic minerals.

Fig. 14:
TRENCH 3: Vein #2, Anomaly E

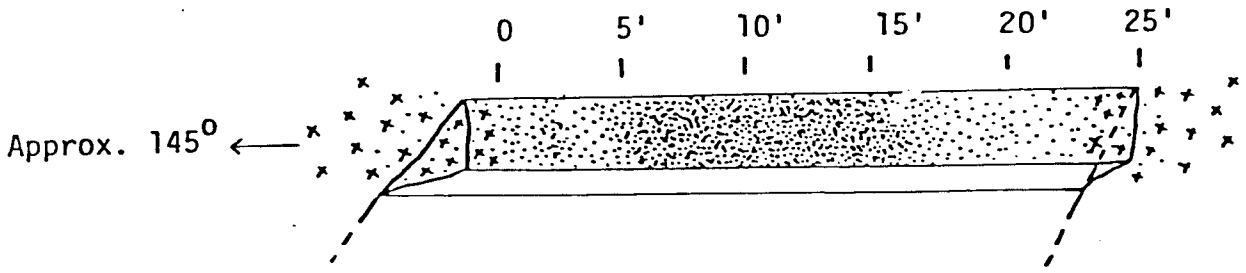


1. 115-T3-P1
2. 115-T3-P2
3. 115-T3-P3

0 1 2
meters

Fig. 15:

TRENCH 5: Vein #1, Anomaly E



Porphyritic, medium grained alaskite

Sphalerite bearing vein. Density of dots indicate degree of mineralization

0 1 2

meters

Fig. 16: TRENCH 6

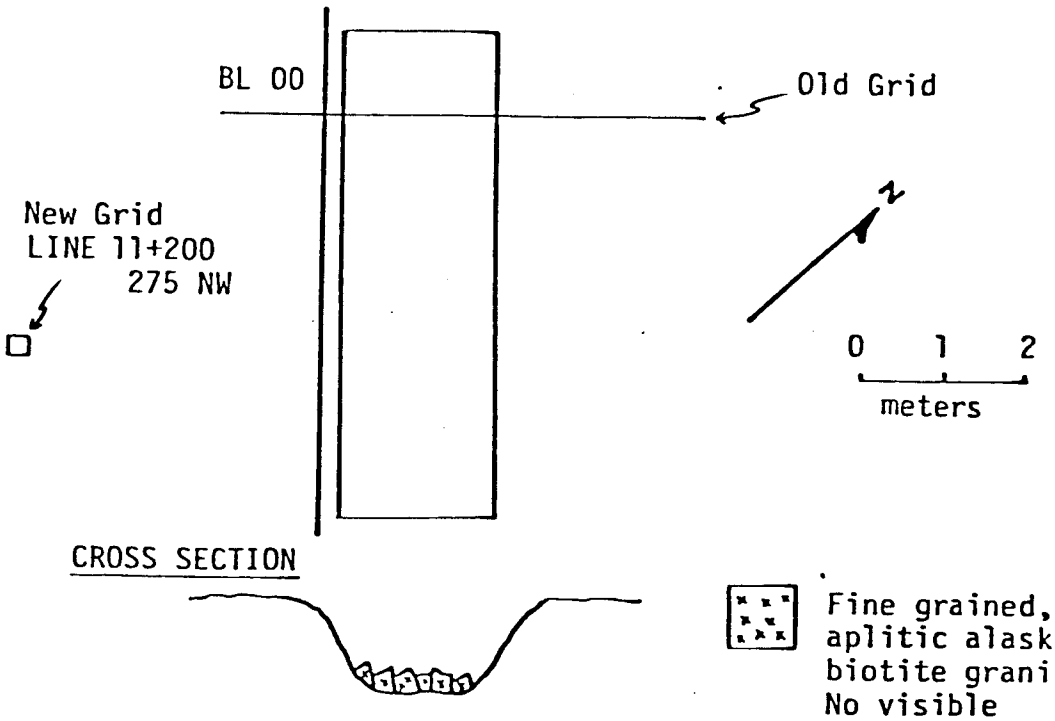
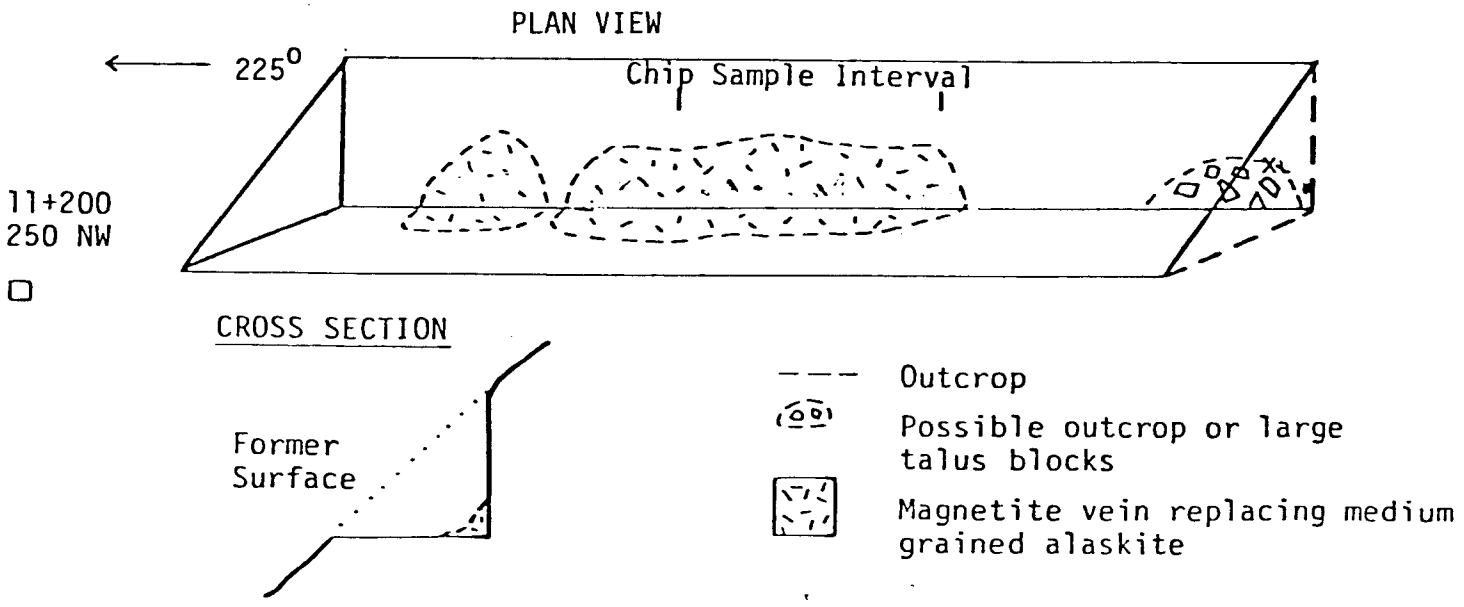


Fig. 17 : TRENCH 7



TRENCH 8: consisted of two trenches at right angles over a sphalerite mineralized boulder train north of anomaly 'C'. These tranches were excavated by the crew from BEMA and did not hit bedrock, although very black soil, probably derived from a sphalerite bearing vein, was encountered in one. These trenches rapidly filled with water and further work was not attempted.

CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS

Significant lead-zinc-tin mineralization has been found on the property in the past. This latest work has succeeded in delineating geochemical and geophysical anomalies which correspond with the known mineralized zones or outline new areas of potential mineralization.

To further evaluate the potential of this property the following exploration program is recommended:

1. Detailed soil sampling and geophysical surveys should be completed over the Galena and Feather Creek grids. Trenching of any major anomalies on the Feather Creek grid is recommended, while the Galena Creek anomaly should be tested by diamond drilling at several sites.

2. Detailed geophysical surveys (EM 31, EM 16R, magnetometer) should be completed wouth of Caribou Creek to delineate completely the 'E' and 'F' zones. These two parallel(?) zones should also be tested with a series of diamond drill holes.

3. A number of geophysical and geochemical anomalies on the Caribou Creek grid require further follow-up. Several of these are suitable for trenching while two (anomaly 'C' and the magnetic high at 00 on the old baseline) should be drilled.

4. Geological mapping of, and prospecting over, the entire claim group should be completed this year. This work is almost complete but further mapping is required on CY-1, 2, 3, 5 and 7.

Respectfully submitted,

John Biczok

John Biczok

JB/sal

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CERTIFICATE

I, John Biczok, of Edmonton, Province of Alberta, do hereby certify that:

1. I am a geologist residing at #5, 10556 - 80 Avenue, Edmonton, Province of Alberta.
2. I am a graduate of Lakehead University, Ontario with a H. B.Sc. (1976) in geology and am presently completing an M.Sc. at the University of Manitoba, Winnipeg.
3. I have been practising my profession since 1973 and am at present Exploration Geologist with Mattagami Lake Exploration Limited in Edmonton.
4. I was party chief for the crew that conducted the work in this report and the report is correct to the best of my knowledge and ability.

Dated: april 23, 1980

John Biczok

John Biczok, H. B.Sc.

STATEMENT OF COSTS - WEIR MOUNTAIN PROJECT

Grid Location - 26 mandays		
Wages	$ 1,699.90	
Surveys	7,281.37	
Travel	1,079.57	
Vehicle Rental	671.71	
Vehicle Operation	98.41	
Camp Operations	1,204.82	
Cook	225.50	
		$ 12,261.28
Soil Sampling - 10 mandays		
Wages	$ 517.50	
Travel	415.22	
Vehicle Rental	258.35	
Vehicle Operations	37.85	
Camp Operations	463.40	
Cook	86.37	
Analyses	6,612.30	
		8,391.35
Magnetometer - 20 mandays		
Wages	$ 1,362.17	
Equipment Rental	526.96	
Travel	830.45	
Vehicle Rental	516.71	
Vehicle Operations	75.70	
Camp Operations	926.80	
Cook	173.46	
		4,412.25
Trenching - 42 mandays		
Wages	$ 2,863.35	
Contractors	5,678.50	
Travel	1,744.01	
Vehicle Rental	1,085.14	
Vehicle Operations	158.98	
Camp Operations	1,946.34	
Cook	364.31	
	13840.63	13,840.63
Helicopter - Transwest Helicopters (35.6 hours)		10,957.75
Postage and Freight		1,321.01
Report Writing - 26½ mandays		1,545.83
Radios - Tundra Technical		598.74
Drafting - 17 mandays		1,224.00
	TOTAL	$ 54,552.84

WORK PERFORMED IN THE EXPLORATION OF OUR WEIR MOUNTAIN PROJECT

	Salary	Total per Day (with bush bonus)
J. Loiselle	1,500.00/month	70.01
J. Biczok	1,586.67/month	74.06
G. Doucet	1,583.33/month	73.90
L. Gerard	45.00/day	51.75

August 16, 1979
to
Spetember 30, 1979

Grid Location, Soil Sampling, Magnetometer Survey and Trenching

All above salaries are subject to bush bonus and vacation pay.

Long. 133° 00' W.

Lat. 59° 40' N.

ZENAZIE CREEK

GRIZZLY CREEK

BLUE SKY CREEK

Mt. TETA

MT. McCLAY

LAKE CYNTHIA

WEIR MTN.

MT. MANVILLE

GARIBOU CREEK

CYNTHIA CREEK

WEIR CREEK

FEATHER CREEK

MT. SMAZKO

GALENA CREEK

CHICKADEE RIDGE

WEIR CREEK

LCP CY-1

LCP CY-2

LCP CY-3

LCP CY-4

LCP CY-5

LCP CY-6

LCP CY-7

LCP CY-8

LCP ENG-1

LCP ENG-2

LCP ENG-3

Trench 1

Trench 2

dyke

LOCATION MAP

Long. 133° 00' W.

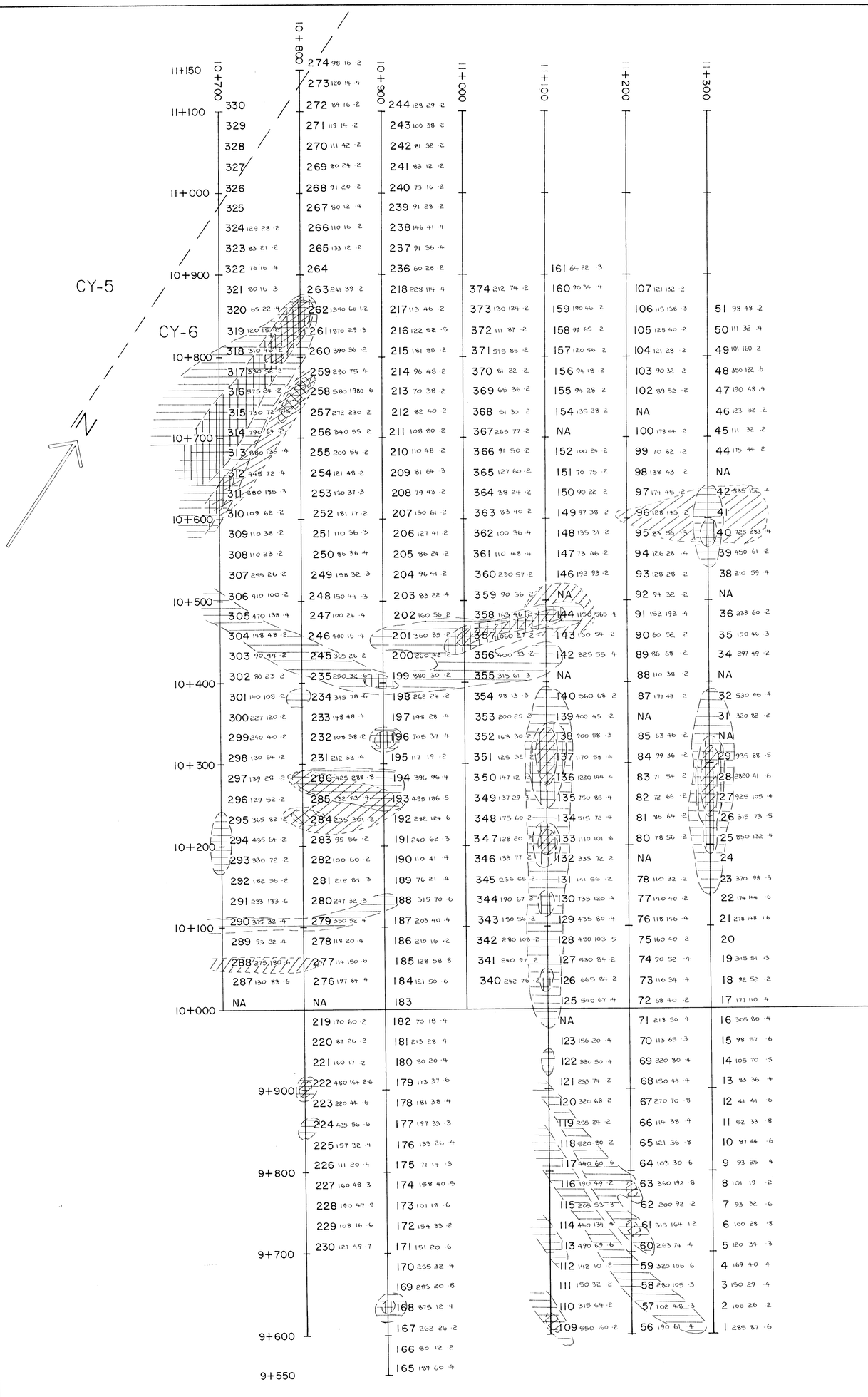
- Outcrop perimeter
- Small outcrop
- Q: Quartz
- Shear foliation (dip unknown, inclined, vertical)
- Joint plane (inclined, vertical, dip unknown)
- Geological contact (defined, assumed)
- Trench

LEGEND

1. f.g. equigranular aplite, no mafics
2. f.g. equigranular aplite, 5-7% biotite
3. quartz porphyritic aplite, 15% qtz. pheno. 2-6 mm. 5% k-fd pheno. l.t. 1-5 cm f.g. groundmass k-fd > quartz.
4. porph-qtz-kfd alaskite/granite 10-20% kfd pheno. 2-4 cm, qtz. phenos to 3mm. possible seriate porph. 3-4% biotite < 2 mm
5. coarse grained porph. dyke, brown, composition undetermined.
6. med. grained bt o. alaskite/granite dyke
7. med. - coarse grain equigranular biotite granite.
8. coarse grained equigranular to seriate porph. biotite granite 5% med.-coarse gr. biotite 3-6 mm, 20-30% qtz. < 5mm, kfd. 1-2 cm
9. pink, c.g. equigranular to porphyritic alkaline amphibole. qtz. monzonite granite 10% mg qz, 15-20% plag., 0-10% alk. amph. in.
10. strongly porphyritic alaskite, med. gr. groundmass with 30-40% kfd phenos. 2-3 cm long. 25-30% qtz. equigranular - seriate porph. to 1 cm 5% biotite generaly anhedral aggreg. to 1 cm. Groundmass is med. grained kfd, qtz, bio., minor plag.
11. m.g. - c.g. equigranular to porphyritic alaskite/granite (bio). 0-20% kfd phenos. 1-3 cm 25-35% equant. qtz. 5 mm, 2-7% bio < 2 mm, groundmass generally med. grained < 5 mm.

CACHE CREEK GROUP

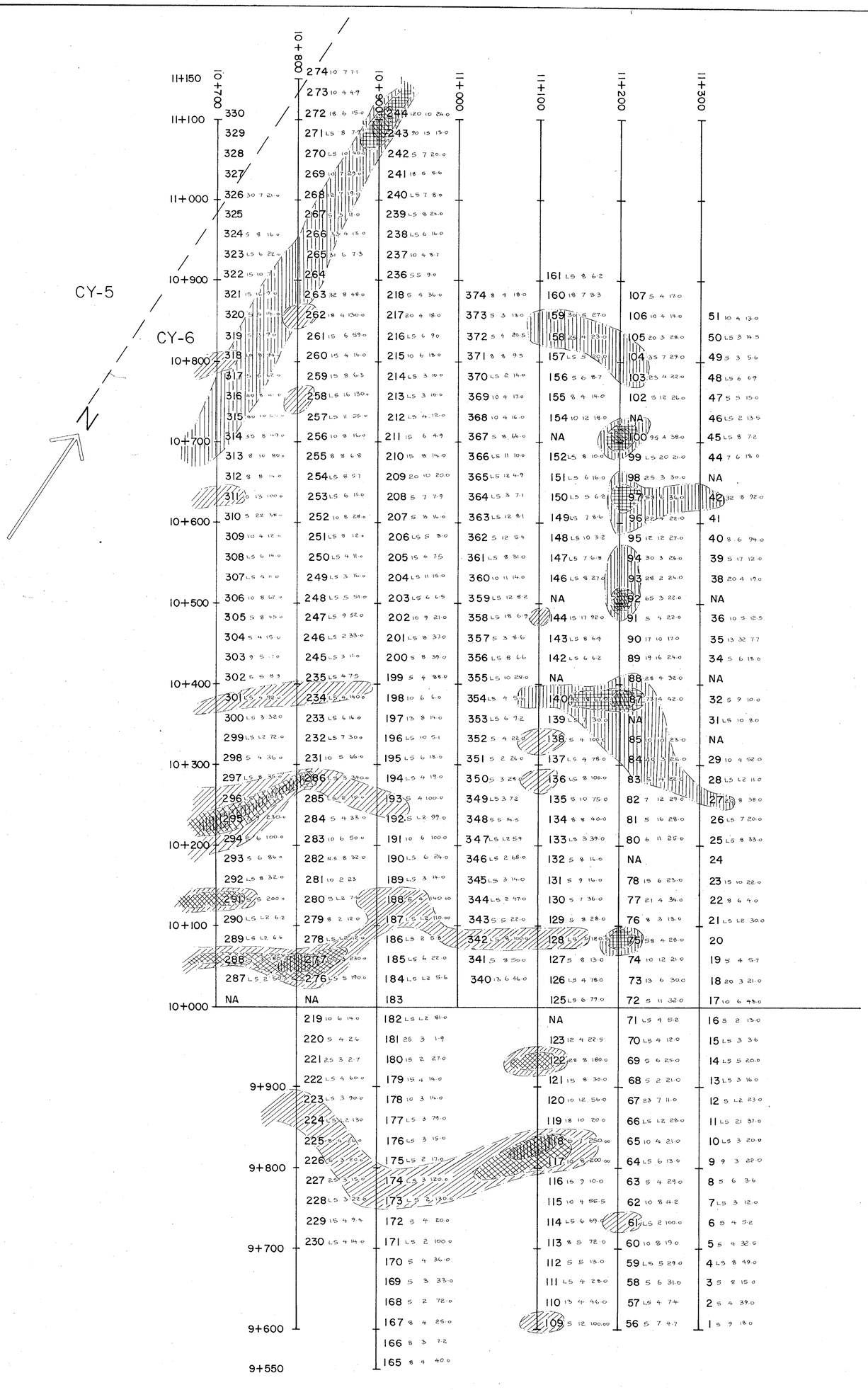
12. f.g. - v.f.g. quartzite, massive or thin bedded shales.
13. v.f.g. quartzite, hornfelsed, cherty, massive.



ZINC 300-600 ppm
ZINC 600-900 ppm
ZINC > 900 ppm
LEAD 150-300 ppm
LEAD 300-600 ppm
LEAD > 600 ppm
CLAIM BOUNDARY

8413
NO.
PART 1 of 2

MATTAGAMI LAKE EXPLORATION LIMITED	
WEIR MOUNTAIN PROJECT FIGURE 5 CARIBOU CREEK GRID (CY-6)	
SOIL SAMPLES ZINC, LEAD & SILVER (ppm)	
SEPT 1979	1:2,500



URANIUM 90-150 ppm
URANIUM 150-200 ppm
URANIUM > 200, ppm
TIN 20-40 ppm
TIN 40-60 ppm
TIN > 60 ppm
CLAIM BOUNDARY

8413
PART 1 of 2

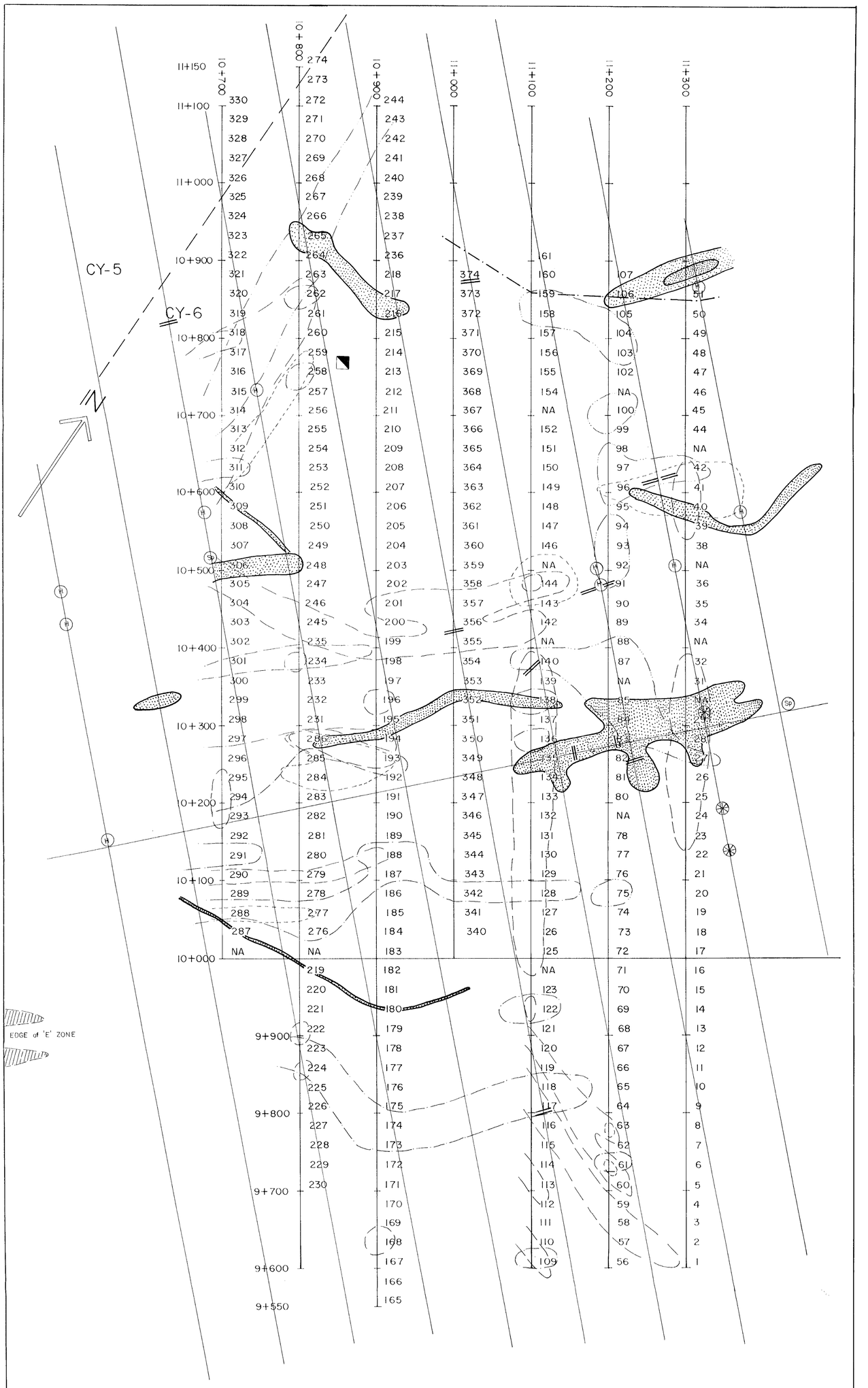
MATTAGAMI LAKE EXPLORATION LIMITED

WEIR MOUNTAIN PROJECT

FIGURE 6
CARIBOU CREEK GRID (CY-6)

SOIL SAMPLES
TIN, TUNGSTEN & URANIUM (ppm)

SEPT 1979 | 1:2,500



MAGNETIC ANOMALY
V.L.F. ANOMALY
C.E.M. ANOMALY
URANIUM
TIN
ZINC
LEAD

CLAIM BOUNDARY
(H) HEMATITE STAIN ZONE
(Sp) SPHALERITE - RICH FLOAT
PIT
TRENCH
MINERALIZED TALUS

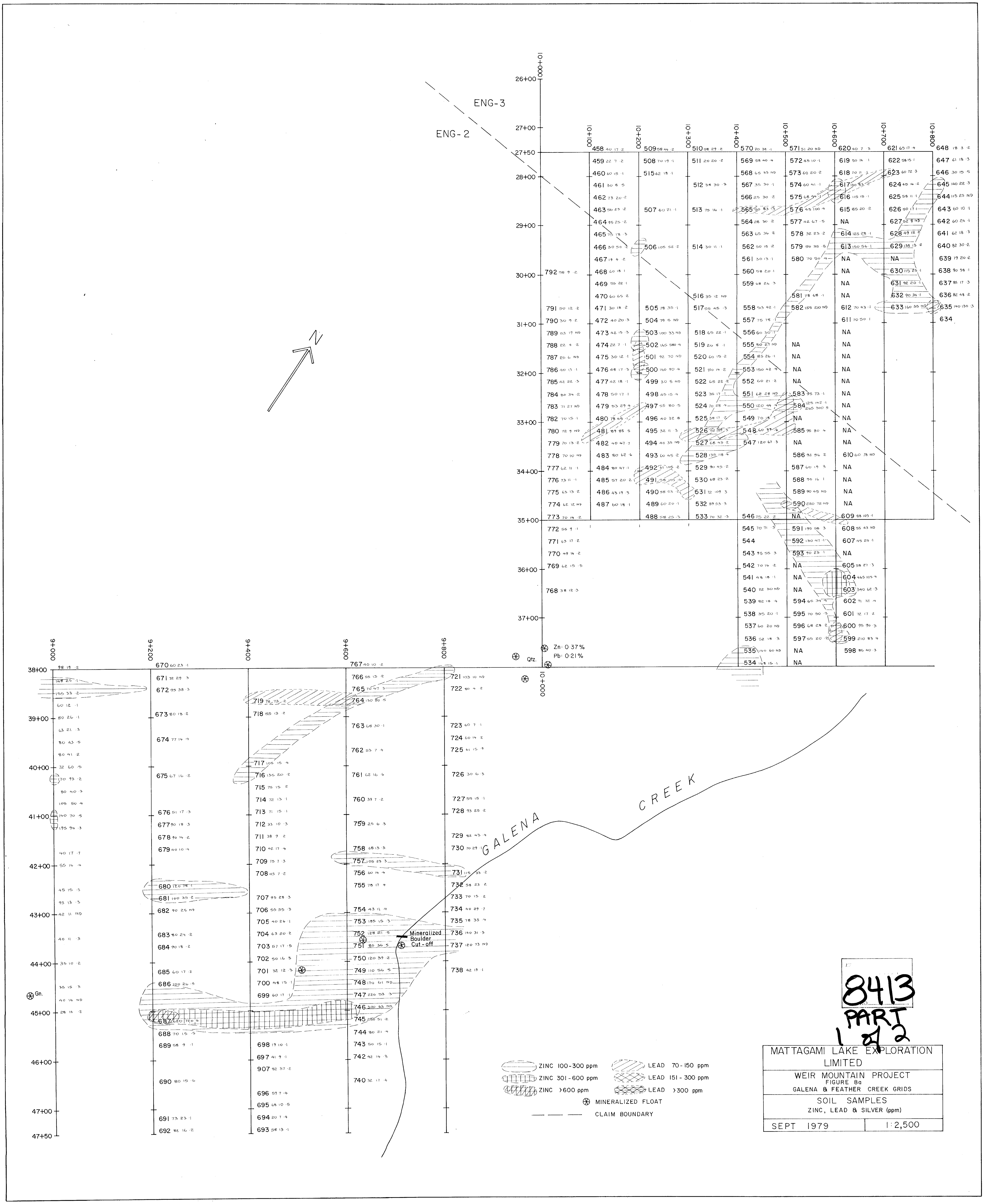
8413
PART 1 of 2

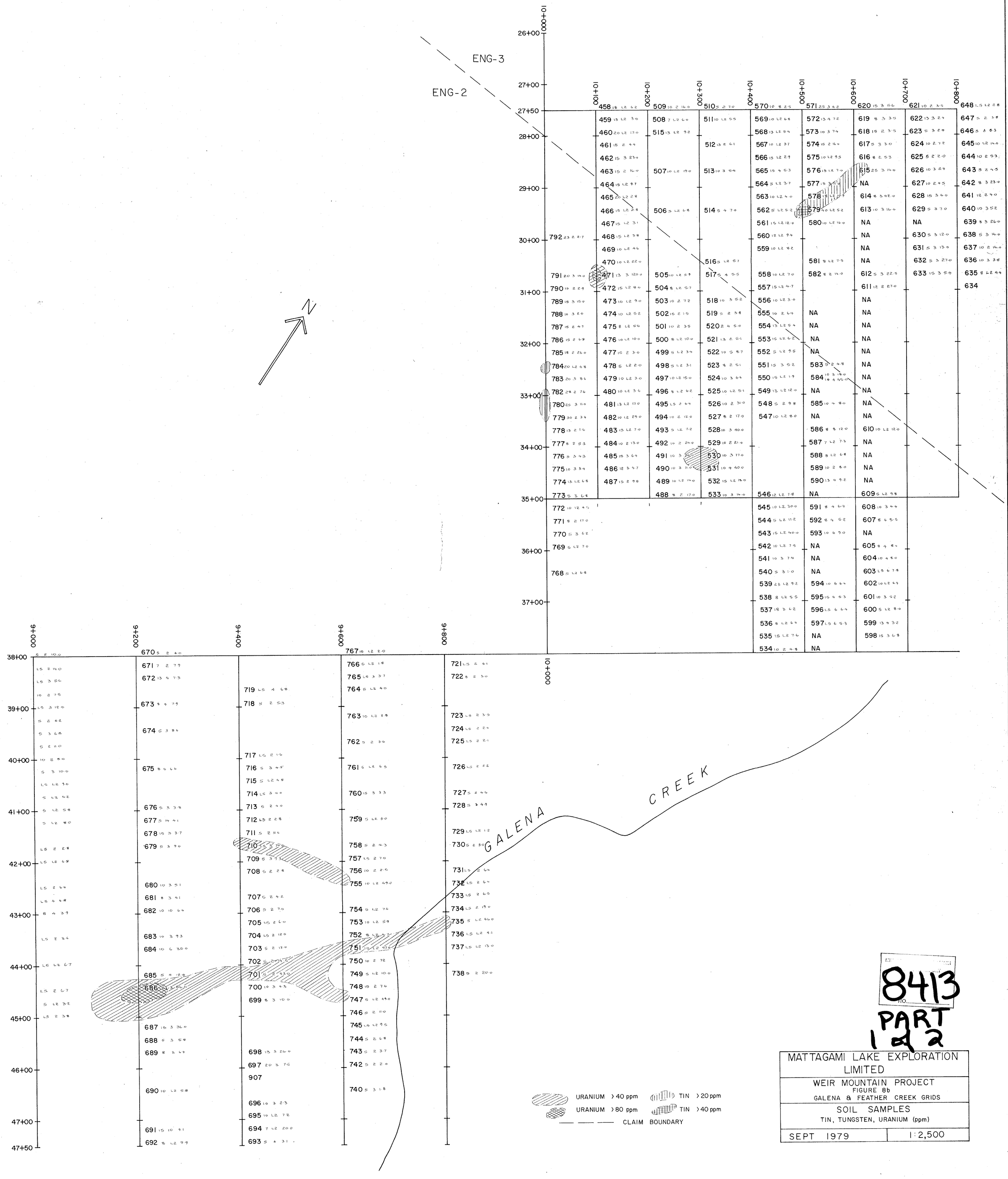
MATTAGAMI LAKE EXPLORATION LIMITED

WEIR MOUNTAIN PROJECT
FIGURE 7
CARIBOU CREEK GRID (CY-6)

SOIL SAMPLES
URANIUM, TIN, ZINC, & LEAD ANOMALY COMPOSITE.

SEPT 1979 | 1:2,500


MATTAGAMI LAKE EXPLORATION LIMITED
WEIR MOUNTAIN PROJECT
FIGURE 8a
GALENA & FEATHER CREEK GRIDS
SOIL SAMPLES
ZINC, LEAD & SILVER (ppm)
SEPT 1979
1:2,500
ZINC 100-300 ppm
ZINC 301-600 ppm
ZINC >600 ppm
LEAD 70-150 ppm
LEAD 151-300 ppm
LEAD >300 ppm
MINERALIZED FLOAT
CLAIM BOUNDARY
ENG-3
ENG-2
GALENA CREEK
Mineralized Boulder Cut-off
Zn: 0.37%
Pb: 0.21%
Qtz.
Gn.
N
8413
PART 1 of 2



8413
PART 1 & 2

MATTAGAMI LAKE EXPLORATION LIMITED

WEIR MOUNTAIN PROJECT
FIGURE 8b
GALENA & FEATHER CREEK GRIDS

SOIL SAMPLES
TIN, TUNGSTEN, URANIUM (ppm)

SEPT 1979 | 1:2,500

ENG-3

ENG-2

N

10+000 10+100 10+200 10+300 10+400 10+500 10+600 10+700 10+800

26+00
27+00
27+50
28+00
29+00
30+00
31+00
32+00
33+00
34+00
35+00
36+00
37+00

10+100	10+200	10+300	10+400	10+500	10+600	10+700	10+800
458	509	510	570	571	620	621	648
459	508	511	569	572	619	622	647
460	515		568	573	618	623	646
461		512	567	574	617	624	645
462			566	575	616	625	644
463	507	513	565	576	615	626	643
464			564	577	NA	627	642
465			563	578	614	628	641
466	506	514	562	579	613	629	640
467			561	580	NA	NA	639
468			560		NA	630	638
469			559		NA	631	637
470		516		581	NA	632	636
471	505	517	558	582	612	633	635
472	504		557		611		634
473	503	518	556		NA		
474	502	519	555	NA	NA		
475	501	520	554	NA	NA		
476	500	521	553	NA	NA		
477	499	522	552	NA	NA		
478	498	523	551	583	NA		
479	497	524	550	584	NA		
480	496	525	549	NA	NA		
481	495	526	548	585	NA		
482	494	527	547	NA	NA		
483	493	528		586	610		
484	492	529		587	NA		
485	491	530		588	NA		
486	490	531		589	NA		
487	489	532		590	NA		
	488	533	546	NA	609		
			545	591	608		
			544	592	607		
			543	593	NA		
			542	NA	605		
			541	NA	604		
			540	NA	603		
			539	594	602		
			538	595	601		
			537	596	600		
			536	597	599		
			535	NA	598		
			534	NA			

10+000	9+200	9+400	9+600	9+800
792	670	767	721	
791	671	766	722	
790	672	765		
789		764		
788	673	719	723	
787		718	724	
786	674		725	
785		763		
784				
783		762		
782	675	717	726	
780		716		
779		761		
778		715		
777				
776		714	727	
775	676	760		
774	677	713	728	
773	678	712		
772	679	759		
771		711	729	
770		710	730	
769		758		
768		709		
		757		
		708		
		756	731	
	680	755	732	
	681	707	733	
	682	706	754	734
		705	753	735
	683	704	752	736
	684	703	751	737
		702	750	
	685	701	749	738
	686	700	748	
		699	747	
			746	
	687		745	
	688		744	
	689	698	743	
		697	742	
		907		
	690		740	
		696		
		695		
	691	694		
	692	693		

38+00
39+00
40+00
41+00
42+00
43+00
44+00
45+00
46+00
47+00
47+50

GALENA CREEK

URANIUM
TIN
ZINC
LEAD

CLAIM BOUNDARY

MATTAGAMI LAKE EXPLORATION LIMITED

WEIR MOUNTAIN PROJECT
FIGURE 9
FEATHER & GALENA CREEK GRIDS

SOIL SAMPLES
URANIUM, TIN, ZINC & LEAD ANOMALY COMPOSITE.

SEPT 1979 | 1:2,500