'79- #134-# 7412

WEIR MOUNTAIN REPORT NUMBER 4

GEOLOGY AND GEOPHYSICS

CY 4 to CY 8 CLAIMS

RECORD NUMBERS 227 to 231

WEIR MOUNTAIN, ATLIN MINING DISTRICT, BRITISH COLUMBIA

NTS 104 N

59^{o} 39' N, 132^{o} 59' W

Owner: Mattagami Lake Mines Limited

Author: Franco Morra, M.Sc.

Date: September 1978

REVISED: September 1979

Part 3 of 3

ABSTRACT

Mattagami Lake Mines Limited owns twelve claims (195 units) in the Weir Mountain area, 41 km northeast of the community of Atlin, northwestern British Columbia. This report discusses only CY 4 to 8 claims of the twelve claim group. These claims cover a series of small uranium, zinc and lead anomalies.

Geophysical work was carried out on five of the twelve claims during the month of August, 1978. As a result of this program, numerous additional sphalerite occurrences were discovered. The economic potential of the sphalerite occurrences was not proven and the work carried out to date on the property has not been able to confirm the existence of any large bodies of conductors below the surface.

CONTENTS

***

Figures

<u>Maps</u> all in pocket

CHAPTER ONE. INTRODUCTION

1-1 PROPERTY AND OWNERSHIP

Mattagami Lake Mines Limited is the owner of mineral claims CY 4 to CY 8, record numbers 227 to 231. These claims were staked for the company by F. Morra and W. Howard and were recorded in Atlin, British Columbia, on 26th of July, 1977.

The claims staked cover 96 units or 2400 hectares (5930 acres).

1-2 LOCATION AND ACCESS

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

No roads lead to the property. Access is 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, southeast flanks and precipitous cliffs on the northwest 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 dense short willow bush up to 1300 m. Above this elevation, there is a very immature alpine type of soil, 10 to 50 cm

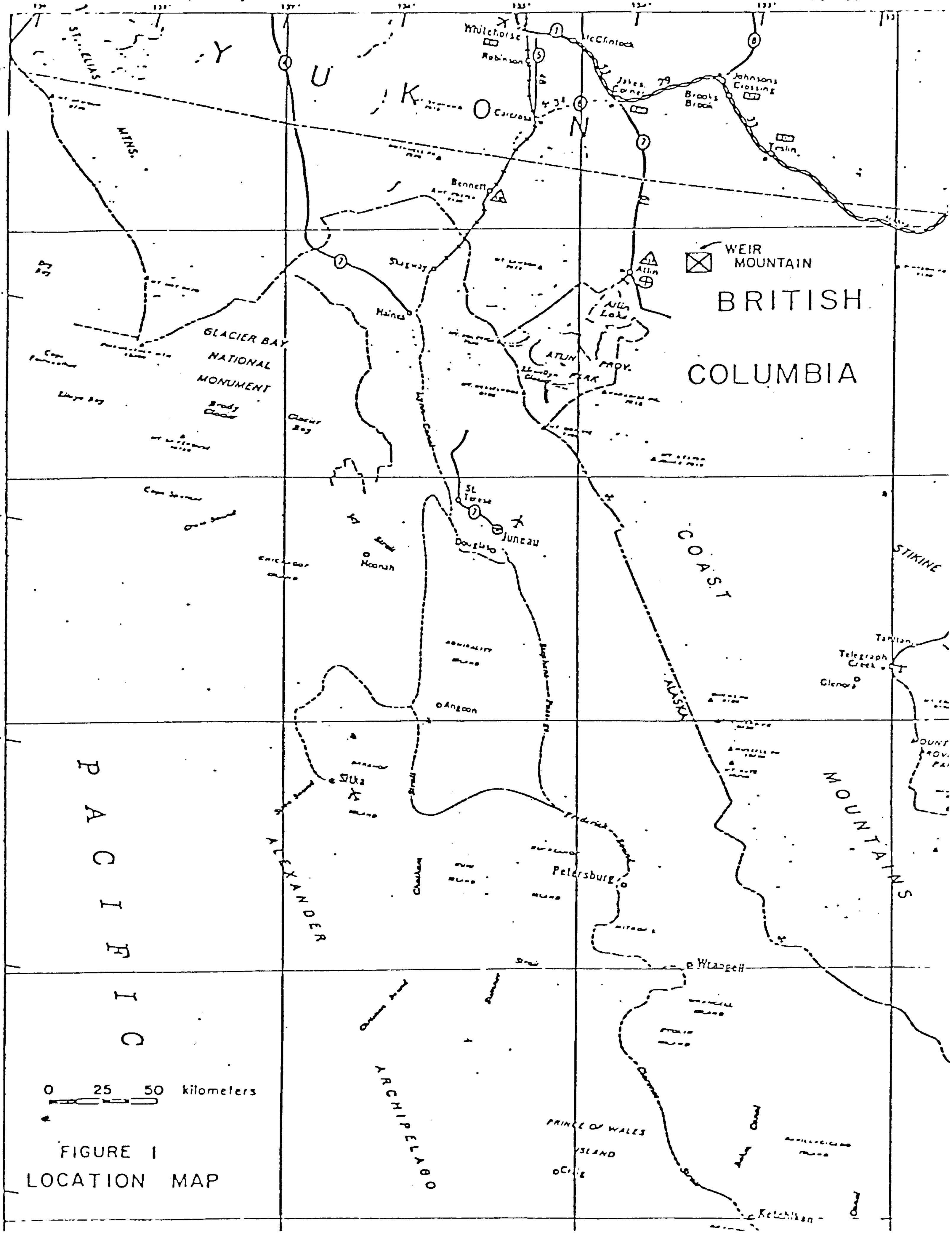


FIGURE 1
LOCATION MAP

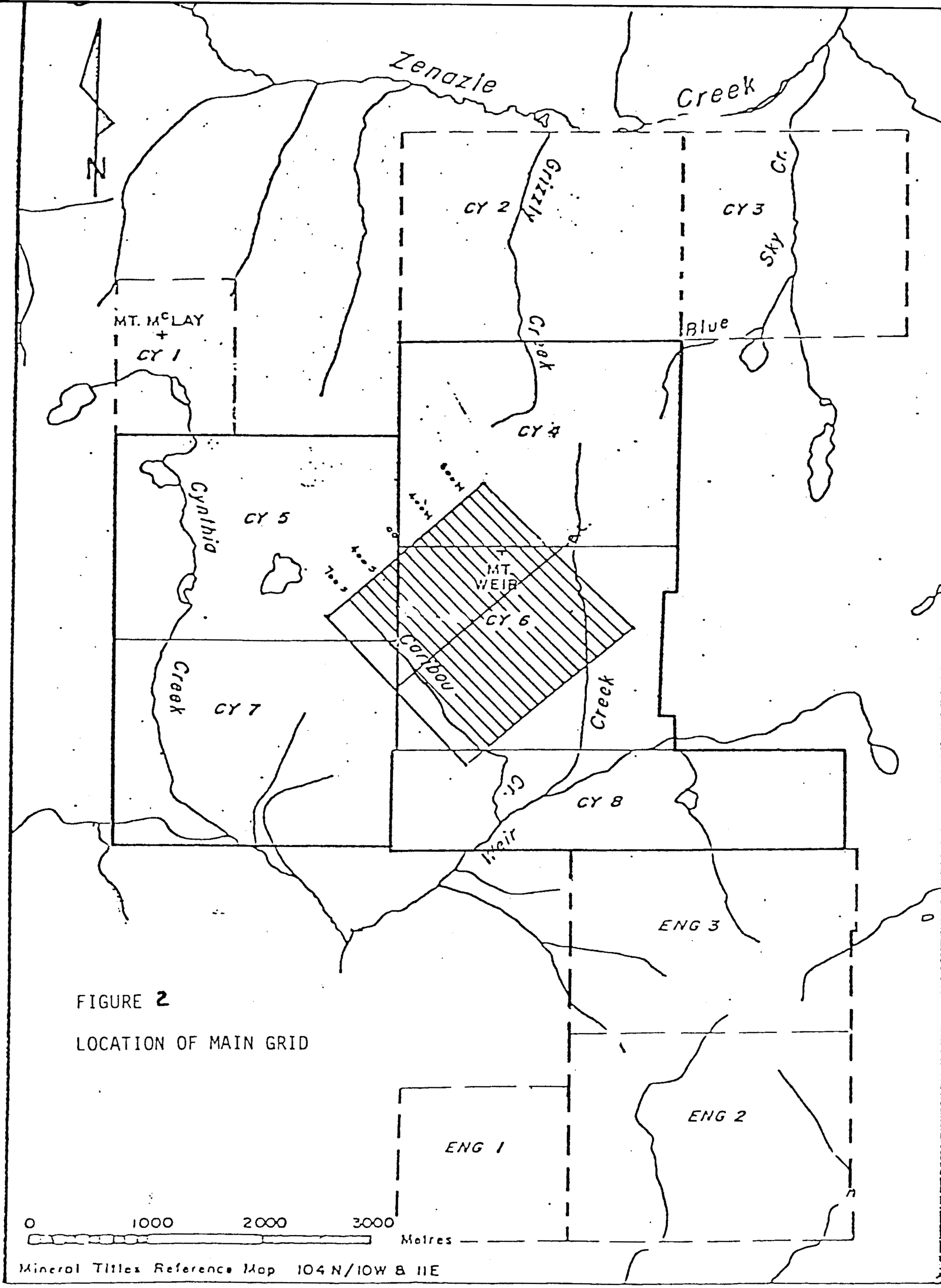


FIGURE 2

LOCATION OF MAIN GRID

thick. Vegetation here constitutes grass and lichens. Moraine and fluvial deposits cover extensive areas at valley bottoms.

1-4 CLIMATE

The CY 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 south-west. Summer temperatures average +4 ^{o} C and snow storms are common during the summer months, especially in June and August.

1-5 HISTORY

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

Geochemical sampling, radon detection in water and soil and radiometric survey have been carried out to cover most of the staked ground in 1977 (Weir Mountain Report Number 2, F. Morra).

During the first part of the 1978 field season, the crew completed a geochemical and geophysical (radiometric and CEM) survey in areas not covered by the 1977 work, and in areas where a more detailed type of survey was required. The work was carried out from May 29th until June 26th, 1978. The results of this work are presented in Weir Mountain Report Number 3 (F. Morra, 1978) and in the CEM Report, Weir Mountain (T. Gledhill and D. Sutherland, 1978). These results helped delineate the source of some of the geochemical anomalies during the second phase of the 1978 exploration activity, namely two uranium (kasolite) showings and several sphalerite and magnetite showings.

In the second part of the 1978 exploration work in the area, work was carried out over the claims CY 4 to 8, from August 7th to August 29th, 1978. This included:

1. geological traverses
2. induced polarization survey*
3. magnetometer survey
4. VLF EM16 survey
5. radon in soil survey
6. hand trenching
7. radem survey (only one day survey).

1-6 SCOPE OF THIS REPORT

Much of the work carried out over the property in August, 1978, was geophysical. The purpose of the geophysical surveys was to test different techniques over known uranium occurrences in Weir Mountain, specifically Anomaly A (uraninite and galena) and Anomaly C (kasolite and wulfenite). For a detailed description of these anomalies, see Weir Mountain Report Number 3, 1978.

The geophysical survey, in particular the VLF survey, was also expected to give valid indications about shallow geological structures. This would be of interest since it is believed by this writer that mineralization is here associated and related to structural lineaments.

Due to the paucity of outcrop, none of the fractures or assumed faults were investigated nor followed for more than a few metres at the most.

* The IP survey results will be presented in a separate report.

In the Weir Mountain area overburden consists of felsenmeer, talus, very immature alpine soil and glacial debris. The overburden ranges from 5 cm to 150 cm thick (estimated) and covers 90-95% of the surveyed area.

Bedrock is alaskite of Cretaceous age, presenting textural variations from fine grained to porphyritic to coarse grained to pegmatitic. The alaskite is cut by a number of diabase dykes of unknown age. The dykes carry magnetite in great amounts, hematite and sphalerite. Their size was ascertained only in a few cases and were found to range in thickness from 10 cm to 2-3 metres. The dykes are usually subvertical or steeply dipping to northwest and the direction is believed to be primarily N50^{o}E.

The geophysical surveys were carried out over a grid, mostly within CY 6 claim, and partly covering CY 4, 5, 7 and 8 claims (Figure 2).

The geology and mineralization of the area is described in Weir Mountain Reports 2 and 3. (AR 6898)

CHAPTER TWO. GEOPHYSICS

2-1 INTRODUCTION

The program carried out on the property consisted of VLF EM16, magnetometer, radem, radiometric, radon in soil and IP surveys. The IP was conducted by one Phoenix Geophysics field operator and his assistant. In particular:

a. A VLF EM16 survey was conducted on the "main grid" on Weir Mountain to cover approximately 27000 metres of chained lines with readings taken every 25 metres. The Seattle transmitting station was normally used whenever the signal was detectable. Maine station was also used. Some of the lines were surveyed using both stations. No strong anomalies were evidenced by this survey.

b. The magnetometer survey was conducted on the "main grid" of Weir Mountain over 30000 metres of chained lines, with readings taken every 25 metres along the lines. Areas of particular interest were surveyed in a more detailed manner. The magnetometer survey revealed the presence of several strong magnetic anomalies.

c. The radem instrument was only used for a short period of time and no anomalies were detected.

d. Phoenix Geophysics's IP crew arrived on the property August 23rd. Field work commenced on August 24th and it ended on August 28th, for a total of 5 days. The survey was intended as a test only and approximately 3000 metres of lines were surveyed, with an initial electrode interval of 50 m, then reduced to 25 m. The control lines were marked over known magnetic anomalies and sphalerite and uranium occurrences.

e. The radon in soil survey was conducted along the base line and in the area of Anomaly C, in great detail.

2-2 MAGNETOMETER SURVEY

The survey was carried out over 31200 metres of lines, with readings taken every 25 m (Map Number 2). The instrument used was a McPhar M700 magnetometer which provided rapid and repeatable measurements. All readings were taken with the instrument at waist level and facing the magnetic north.

Several anomalies were detected but only a few of them show some evidence of source at the surface, due to the lack of outcrop. They probably always were generated by magnetite present in the diabase dykes. The most interesting dykes are those containing sphalerite as well as magnetite.

In general, the magnetic anomalies are spotty, random and do not show any continuity. They are small and probably also discontinuous at depth, as the IP survey indicates in some cases.

Two areas show a definite continuity in the magnetic anomaly: (a) along the base line, from 150+00S to 250+00N (Map Number 2 and Figure 6) and (b) at co-ordinates 700+00N and 600+00W.

Outcrop is lacking but magnetite mineralized boulders are common and sphalerite is present on Anomaly B. No sphalerite was noticed at Anomaly A, which is the largest and strongest one.

Readings up to 8000 gammas and up to 5600 gammas were recorded on Anomalies A and B respectively.

A detailed magnetometer survey was also carried out around

Anomaly C (Figure 5) where secondary uranium mineral staining (kasolite) was found on surface boulders (Weir Mountain Report Number 3, pg. 13, 1978). They survey shows the presence of two magnetic anomalies, both trending east-west. One is located about 75 metres north of Anomaly C and the other located a few metres south of Anomaly C, this second one being fairly weak compared to the first one.

A trench was made at co-ordinates 600 W and 215 S and bedrock reached at 55 cm depth from the surface. The contact alaskite-mafic dyke was partly exposed by this trench.

The alaskite is coarse grained, mafic free. The contact with the diabase is characterized by a 15 cm thick zone of fluorite rich alaskite, very weathered, gradually becoming more mafic and turning into a diabase rock within 1 metre distance from the fluorite rich zone. Sphalerite is abundant in the diabase dyke, as well as magnetite.

It is in this writer's opinion that this dyke is possibly genetically related to the uranium Anomaly C, the dyke being favoured for the localization and movement of uranium-leaching groundwaters along the contact.

An IP survey was conducted in this area (Line A, Map Number 2) but no strong anomalies were encountered. This can be explained by the poor conductivity of sphalerite and by the possibly very limited size of the mineralized dyke.

On Line X-X' (Map Number 2), two magnetite dykes are exposed at the surface and the magnetometer survey shows high readings at both localities. The IP survey carried out along the same line shows instead very weak and shallow anomalies, with no continuity at depth at all. This could also be the situation around Anomaly C.

To conclude, the magnetometer survey proved to be extremely effective in locating magnetic anomalies in the area covered by the grid. These anomalies are associated with diabase dykes which are often mineralized with sphalerite and possibly genetically related to uranium occurrences.

The random distribution of the magnetic anomalies suggests a limited lateral extent for these mineralized dykes, in most of the cases.

2-3 RADON IN SOIL SURVEY

This survey was completed along the base line (Figure 3) and around Anomaly C (Figure 4) as a follow up of the survey carried out during the first phase of the 1978 exploration activity in Weir Mountain (Weir Mountain Report Number 3, 1978).

The instrument used was a portable radon detector, Model RD200 by EDA Instruments Inc.

A 50 cm hole was made in the ground and the gas in the hole is pumped out and circulated through a scintillation cell mounted in the detector and a count is then taken.

The survey carried out in June, 1978, disclosed a possible anomalous zone between co-ordinates 300 S and 400 S, 500 S and 600 W, with an excess of 2000 counts/minute. Further data in between were recommended to be taken to confirm whether the zone is present or not.

Figure 3 shows the results obtained along the base line in August, 1978. The values are expressed in counts/minute. Three consecutive 1 minute readings were taken on each sampling location. Only the first reading is plotted on Figure 3. An increase in the values from the first reading to the third one were generally noted, indicating predominance of uranium derived radon 222.

Values are usually between 1000 and 2000 counts per minute, which are 3 to 4 times higher than the background for the region. This radon anomaly, which has an extent of more than 600 m along the base line, almost coincides with the magnetic anomaly of Figure 6, suggesting that radon gas, in a similar manner to groundwaters, tends to concentrate and diffuse along the diabase dykes-alaskite contact.

The results from the survey carried out around Anomaly C, although taken every 25 m or less, do not show any definite anomalous trend, extremely high values being separated by low values (Figure 4).

The highest value, 6700 cpm, was obtained at co-ordinates 288+00 S and 550+00 W, a few metres northeast of the pit. Just 10 metres to the southeast a value of 360 cpm was obtained and from here going 12 metres to the southwest, a reading of 6035 cpm was recorded (Figure 4).

Bedrock is this area is 30 cm to 90 cm below the surface and the overburden is composed of sand and gravel. Radon 222 concentration in the soil depends very much on the bedrock porosity and permeability besides the presence of uranium minerals.

The alaskite is fractured and jointed and radon 222, being a gas, can easily move through these fractures and this can therefore explain the presence of high values next to low values within a few metres separation.

It is of interest to note that the radon in soil values obtained during this survey are similar to those obtained in 1977 and in June, 1978, on a regional scale. This observation is not valid when trying to reproduce values from a detailed or very detailed survey.

2-4 VLF EM16 SURVEY

The survey was carried out over 28200 metres of lines, with readings taken every 25 metres (Maps Number 3 and 4). The instrument used was a VLF EM16 unit by Geonics Ltd.

The VLF transmitting stations used during the survey were Cutler, Maine and Seattle, Washington, depending on the signal strength.

For easy interpretation of the results, the readings were plotted as profiles on Maps Number 3 and 4. The curves obtained are generally smooth, with variations due to topography and thickness of overburden.

No strong anomalies were detected, however several possible anomalies are observed (Map Number 5), some of them coinciding with CEM and magnetic anomalies. All of these anomalies would be the result of narrow, weak conductors or possibly deep conductors.

Three short test lines were explored with the VLF over known sphalerite and magnetite occurrences (Figure 7). VLF profiles are compared to magnetic profiles. A very poor correlation between the profiles is observed and no definite EM16 anomalies are detected.

Further VLF EM16 survey in this area is therefore not recommended.

2-5 VLF-RADEM SURVEY

This survey was only carried out over approximately 1300 m of lines, with readin-s taken every 25 m. The lines where the survey was conducted are IP Lines A and B (Figure 8 amd Map Number 2). The frequency used is 17.8 KH_z (Cutler, Maine).

The instrument used was a Radem VLF EM receiver from Crone Geophysics Ltd.

No anomalies were detected, although the survey was carried out over mineralized diabase dykes. As for the VLF EM26, the Crone Radem survey may have failed to be successful because of the absence of good conductors close to the surface in the explored area. However, the radem survey carried out on the property was not enough complete to definitely decide about its usefulness.

2-6 INDUCED POLARIZATION SURVEY

An IP survey for Mattagami Lake Mines Limited was carried out over five base lines for a total of 3000 m in the Weir Mountain property. This work was directed by Mr. R. Fernholm of Phoenix Geophysics with the assistance of one Phoenix helper and two Mattagami field men from August 24th to August 28th, 1978.

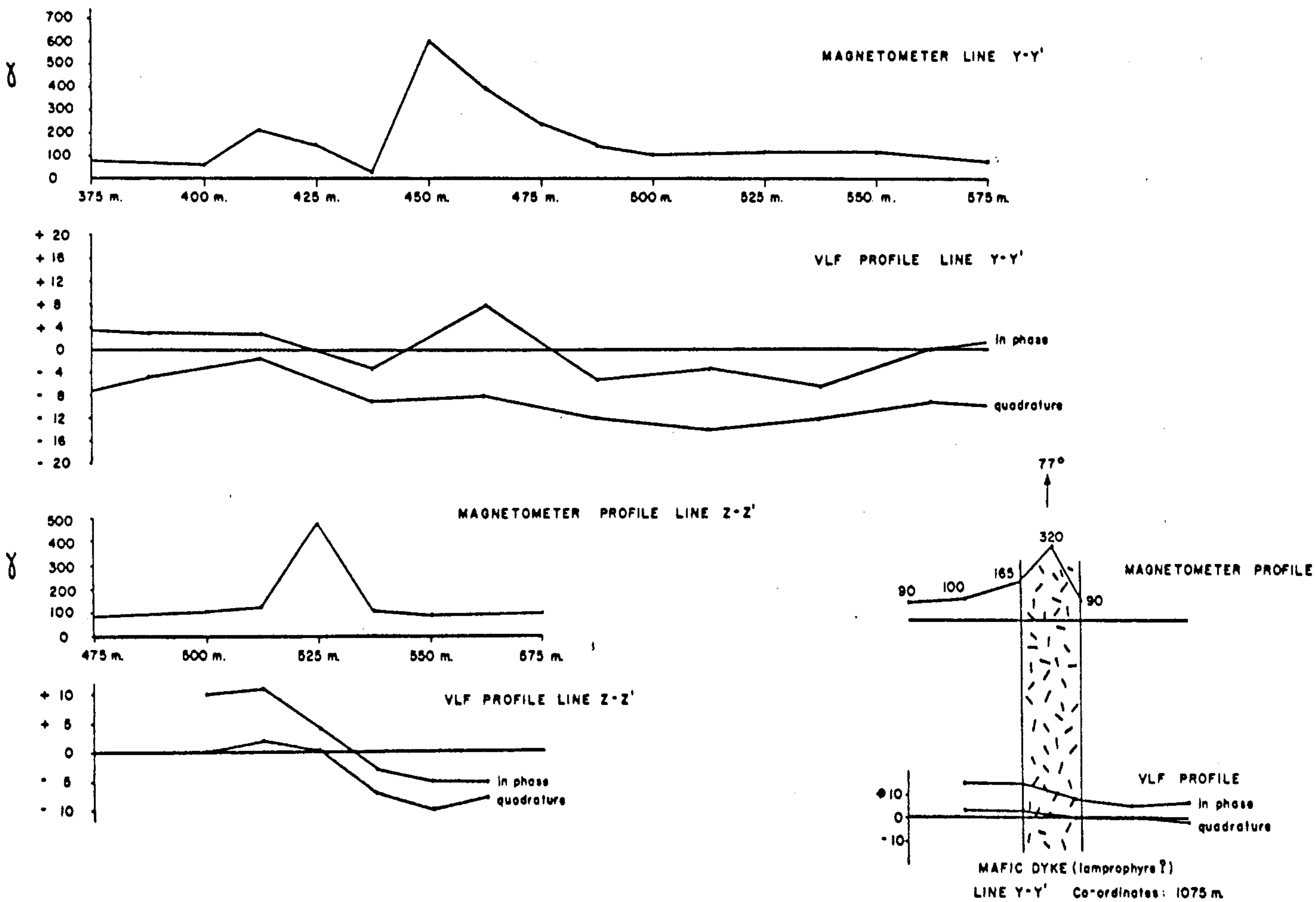
The scope of the survey was to test the IP method over known magnetic anomalies and over exposed mineralized areas (Anomalies A and C).

The presentation of data and discussion of results will be given in a separate report.

Figure 7

MAGNETOMETER AND VLF EM 16 PROFILES

LINES Y-Y' AND Z-Z'



CHAPTER THREE. GEOLOGY AND RADIOMETRIC SURVEYS

Included in this chapter is coverage of the geological, prospecting and radiometric traverses. Included in the 18 man-days of work for this section are the radon in soil surveys which were described above in Section 2-3.

No geological mapping was undertaken at this stage as distinct units of the Surprise Lake batholith were still not defined. A number of variations in texture have been noted previously (F. Morra, 1978, Weir Mountain Report No. 3) from fine grained to coarse grained and from true alaskite to biotite rich rock.

A number of radiometric, prospecting and geological traverses were completed (Map Number 1). An area of some 12 sq. km. was covered by traverses during which radiometric response was tested and any mineralization noted. Instruments used were McPhar TV1A and Geometrics GRS101. No very high uranium anomalies were detected. Twice background response (1200 cps) was obtained in fluorite rich alaskite. It was also noticed that porphyritic alaskite and pegmatite always have background radio activity (300 cps) whereas the rust coloured fine grained alaskite has higher than background (500 cps).

As noted in previous reports (Morra, op. cit.) three mineralized zones were known in this area. Subsequent to these traverses 10 new occurrences of zinc mineralization were discovered (Map No. 1). These consist of sphalerite blebs in magnetite-chlorite rich rock as possible alteration zones within the alaskite. The zones have low radioactivity except where fluorite is present and U may range up to 16 ppm.

Rock samples were collected in many of these zones (Map No. 1) and they were analyzed for a variety of elements including U, Zn, Pb, Mo, Ag, W, Au and F (Appendix). U results are anomalous but uneconomic (up to 110 ppm). No Mo, Ag, Au or F results of any significance are presented. Pb is high but still not of economic interest. Zn is the only element present of economic interest. Zn assays ranged up to 23.8%. The analyzes are in the percent range in many of the 13 sample occurrences.

Further work is required to map units within the batholith, detail soil sample and geophysically survey over the known occurrences, and prospect for new ones.

CHAPTER FOUR. CONCLUSIONS AND RECOMMENDATIONS

4-1 CONCLUSIONS

Geological and geophysical exploration in the area gave evidence for the presence of several mineralized dyke-like mafic and ultramafic bodies intruded within the alaskite.

The paucity of outcrop limited a complete investigation of these bodies, with few exceptions. The dykes normally carry magnetite in high percentages and therefore the magnetic survey was the most useful of all the geophysical methods used on the property.

The dykes are subvertical, with a preferential trend along the main set of joints and fractures of the batholith, that is N50^{O}E. Minerals associated with these dykes are magnetite, hematite, sphalerite and fluorite.

Map Number 5 shows the distribution of the geophysical anomalies in the surveyed area. With the exception of two zones, the anomalies are spotty, small and random and their economic potential seems to be limited.

The magnetic survey, the CEM, VLF EM16, radem and IP surveys failed to show any anomaly over the radiometric Anomaly A (uraninite and galena in altered and weathered quartz rich alaskite, Weir Mountain summit) and over Anomaly C (kasolite and wulfenite coating on boulder surface).

The two large anomalies are:

a. Along the base line; prospecting in this area did not reveal the presence of any outcrop but numerous magnetite and hematite mineralized boulders were found. Sphalerite was not ascertained in the boulders.

b. At co-ordinates 700 N - 600 W, where a diabase dyke outcrops at the east edge of an extensive magnetite anomaly. Sphalerite is present in small amounts (less than 1%). A 25 m deep IP anomaly is also present in the immediate vicinity of the magnetic anomaly.

The best exposure of the dykes is along the ridge southwest of Line 800S, where the first sphalerite occurrence was discovered.

4-2 RECOMMENDATIONS

On the basis of the data obtained the following recommendations are made:

1. The property should be geologically and structurally mapped, at a 1:10,000 scale and the following classification should be used in subdividing the alaskite terrain:

   a. coarse - medium - fine grained alaskite

   b. porphyritic alaskite (quartz or feldspars porphyry)

   c. pegmatite.

   This project would require 1 month by a two man experienced crew to be completed. The importance of the structural mapping and boulder prospecting is stressed. The crew should be equipped with scintillometers.

   This prospecting and mapping activity should also be extended to the adjacent Mattagami owned claims, namely CY 1 to 3 and ENG 1, 2 and 3, where galena rich boulders were found on a creek bed and where the contact Cretaceous alaskite-Paleozoic Cache Creek sediments is present.

2. Blast-trenching on Anomaly A is recommended to verify the significance of the uranium and lead anomaly at shallow depth.
3. Hand trenching across magnetic anomaly at co-ordinates 600 W - 200 S, 700 W - 300 S. Three more trenches should be made across the anomaly (Figure 5). Overburden is here 30 to 60 cm thick and trenches should be at least 6 metres long. The problem that might be encountered here is due to the water that could fill the trenches if a drainage channel is not made. This zone is of interest because of the high amount of sphalerite found in one boulder (greater than 23% zinc). Fluorite is also very abundant at the diabase-alaskite contact. This area is also thought to have had genetic importance in the formation of Anomaly C.
4. Detailed mapping (1:50 scale) of the sphalerite rich dykes, especially those present along the ridge southwest of Line 800S, with chip sampling of the same scale.
5. IP survey over the entire grid (36,000 meter-lines). If an IP survey is undertaken, the whole Weir Mountain project would require more than one month to be completed. Instead, a four man crew for two months would be necessary. It is strongly recommended that the Weir Mountain project not be started before the month of July since the presence of snow could greatly slow down and limit the exploration activity, especially the geological mapping and prospecting phase of the operation.

6. Drilling is not yet recommended at this stage.

4-3 BREAKDOWN OF MAN-DAYS SPENT ON MATTAGAMI'S PROPERTY DURING THE 1978 FIELD SEASON, AUGUST 7 to AUGUST 29

CY 4	17 man-days
CY 5	9
CY 6	72
CY 7	4
CY 8	2
Total	104 man-days

The personnel during the 1978 field season consisted of:

F. Morra	exploration geologist	August 7 to August 29
J. Biczok	senior assistant	August 7 to August 29
N. Ball	junior assistant	August 7 to August 29
A. Williams	geophysical assistant	August 11 to August 29
2 Phoenix Geophysics IP crew operators		August 23 to August 29
W. Mercer	Mattagami district geologist	August 7 and 8

REFERENCES

Gledhill, T.R. and D.B. Sutherland: Report on the Electromagnetic Survey, CY Claims, Weir Mountain Area, 1978.

F. Morra: Weir Mountain Report Number 2, CY 1 to 8, ENG 1 to 3 Claims, 1977. Assessment Report 6898.

F. Morra: Weir Mountain Report Number 3, CY 1 to 8, ENG 1 to 3 Claims, 1978. Assessment Report 6898.

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.

Franco Morra

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

Dated: September 1978

CERTIFICATE

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

1. I am a geologist residing at 6814 - 110 Street, Edmonton.
2. I am a graduate of Edinburgh University, Scotland, with a B.Sc. Hons (1968) in geology and McMaster University, Ontario, with a Ph.D. (1975) in geology.
3. I have been practicing my profession since 1974 and am at present District Geologist for Noranda Mines Limited in Edmonton.
4. 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.
5. I supervised the work that is described in this report.

Dated: September 25 1979

W. Mercer, Ph.D.

GEOLOGICAL ASSOCIATION OF CANADA
W. MERCER
FELLOW

STATEMENT OF COSTS

STATEMENT OF COSTS

DETAILS

	COST/ UNIT:	UNIT TOTAL:	TOTAL:
MAGNETOMETER			
Wages		$ 778.74	$
McPhar Fluxgate Magnetometer (1 mo/263.00)		263.00	
Camp Cost		1,890.48	2,932.22
RADEM			
Wages		359.42	
Camp Cost		1,009.37	1,368.79
V.L.F.			
Wages		778.74	
Camp Cost		4,555.48	5,334.22
I.P.			
Wages		699.06	
Camp Cost		2,452.63	
Contractor		5,724.58	8,876.27
GEOLOGY, RADIOMETRICS, PROSPECTING, RADON SURVEYS, GEOCHEMISTRY			
Wages		1,078.26	
Helicopter		2,529.90	
Hughes 500 7.7 hours $255. + fuel	$2,198.70		
Bell 47 1.6 hours $180. + fuel	331.20		
Ground Transportation		769.72	
Radiophone (SBX-11) 1 mo. @ $175./mo.		175.00	
Camp Costs		1,541.83	
General		200.09	
Analyses		458.60	
62 Sample prep.	122.40 (total)		
51 Uranium	2.90 each		
55 Zinc	1.40 each		
42 Lead	0.65 each		
28 Molybdenum	0.65 each		
4 Tungsten	4.60 each		
7 Fluorine	5.00 each		
2 Gold	4.90 each		
4 Silver	0.65 each		6,753.40
TRENCHING AND SAMPLING			
Wages		479.26	
Camp Cost		405.74	885.00
SUPERVISION		512.44	512.44
REPORT PREPARATION		379.92	379.92
GRAND TOTAL:			$27,042.26

FELLOW · GEOLOGICAL ASSOCIATION OF CANADA · W. MERCER

Noranda Mines Limited
Mattagami Lake Exploration Division
Suite 1110
8 King Street East
Toronto, Ontario M5C 1B5

noranda

Telephone 362-1653

WORK PERFORMED IN THE
EXPLORATION OF OUR WEIR MOUNTAIN PROJECT

F. Morra - $1,516.67/month
N. Ball - 810.00/month
J. Biczok - 1,400.00/month

August 7-31, 1978: Geological, electromagnetic, radiometric and induced polarization surveys, and trenching.

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

STATEMENT OF COSTS

Magnetometer

13 man days
30 kilometers
$97.79 per kilometer

Cost		$ 2,932.22

Radem

6 man days
1.3 kilometers
$1,052.91 per kilometer

Cost		1,368.79

V.L.F.

13 man days
27 kilometers
$197.56 per kilometer

Cost		5,334.22

Induced Polarization

Non contract
13 man days

Cost	$3,151.69	

Contract
10 man days

Cost	5,724.58	

3 kilometers
$2,958.75 per kilometer

Cost		8,876.27

Geological and Prospecting	
18 man days	
Cost	$ 6,553.31
General	
Cost	200.09
Trenching & Sampling	
5 man days	
Cost	885.00
General Supervision	
Cost	512.44
Report Writing	
Cost	379.92
GRAND TOTAL	$27,042.26

CERTIFIED CORRECT

Chief Exploration Accountant

August 22, 1979.

APPENDIX: ROCK SAMPLES ANALYSES

BARRINGER MAGENTA

GEOCHEMICAL LABORATORY REPORT Nº. 78-

SAMPLE TYPE: Rocks / SAMPLE NUMBER	U ppm	Zn ppm	Mo ppm	Pb ppm	Ag ppm	Au ppm	F ppm
115R-801	18.0	475					
802	18.6	25,500					
803	10.8	42,000					
804	52.0	1750	25				
805	28.0	70					
806	22.0	22,250					
807	18.0	360					
808	19.6	335					
809	11.0	125	10	42	1.2	.06	
810	32.0	1625	20	51			
811	7.4	185	19	25			
812	30.0	15,500		515			
813	17.0	5250		560			
814	28.0	25,500		1250			
815	14.0	4125		260			
816	12.0	5875		1050			
817	19.2	11,500		750			
818	8.2	1875		155			
819	6.4	1125		42			

BARRINGER MAGENTA

GEOCHEMICAL LABORATORY REPORT No. 78-

SAMPLE TYPE: / SAMPLE NUMBER	U ppm	Zn ppm	Mo ppm	Pb ppm	Ag ppm	Au ppm	F ppm
115R-820	28.0	70					
821	26.0	1250					
822	17.8	26,500					
823	4.4		24				
824	18.0	8625					
825	6.6	15,500		1600			
826	22.0	33,500	6	73			
827	12.0	1250	6	30	3.2		
828	110.0		3				
829	11.6	130	24	58			
830	8.0	1125	21	500			
831	30.0	16,250	3	89			
832	5.2	19.0%	2	240			
833	10.4	13,750	8	46			
834	3.8	16,750	3	36			
835	6.6	13,000	2	125			
836	6.2	19,000	2	130			
837	24.0	2625	35	150			
838	28.0	2625	30	150			

BARRINGER MAGENTA

GEOCHEMICAL LABORATORY REPORT No. 78-

SAMPLE TYPE: / SAMPLE NUMBER	U ppm	Zn ppm	Mo ppm	Pb ppm	Ag ppm	Au ppm	F ppm
115R-839							
840							
115R-700A		11.30%		5550			
700B		3750	2			.02	
701	.8	225		28			
702	1.3	4125		365			
703	7.6		23		3.5		
704		27,500		225	4.9		
705A		23.8%		93			
705B							
705C		38,250		130			
106R-706	12.0	5250	28	1900			
707	13.4	5000	2	2450			
710	16.0	41,250	2	285			
711	62.0	1375	27	310			
712	3.2	6375	3	135			
713	4.2	35,250	3	3150			
			~~2~~	~~5550~~			
			~~2~~	~~150~~			

BARRINGER MAGENTA LIMITED

Geochemical Laboratory Report

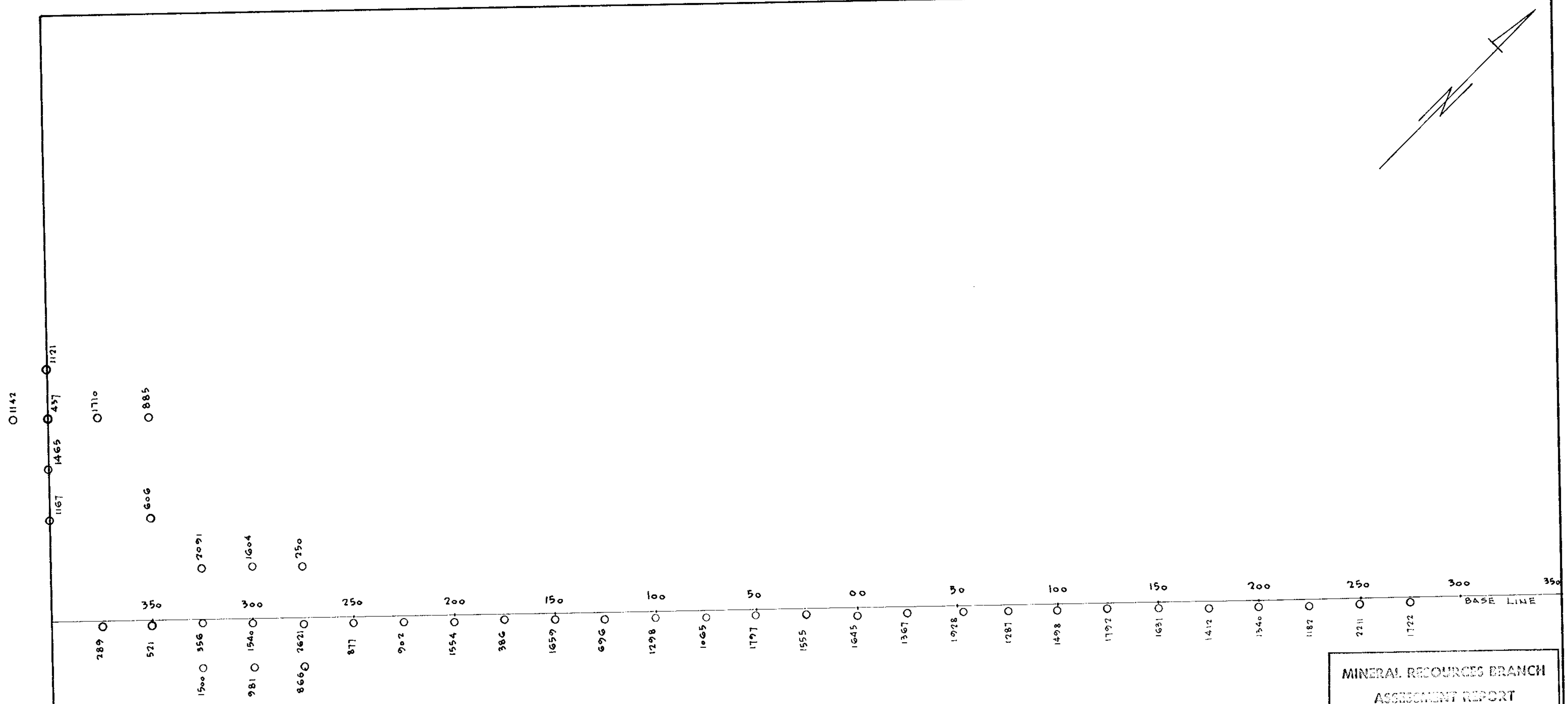
3750 - 19th STREET N.E.
SUITE 105
CALGARY, ALBERTA,
CANADA T2E 6V2
PHONE: (403) 276-9701
TELEX: 03-827584

DATE Sept. 29, 1978

Mattagami Lake Mines Ltd.
502 8215-112 St.
Edmonton, Alta.

REPORT NUMBER 78-156C Authority: N. Ball CoR.

SAMPLE NUMBER		Pb ppm	Zn %	Mo ppm	U ppm	W ppm	F ppm				
115R	841	345	5.20								
	842	1000	3.65	6	48.0	6	1280				
	843	275	4.90			6					
	844	170	1.70		92.0						
	845	950	3.65			12					
	846	4400	2.55	8	24.0	14					
106S	1501				4.8						



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

NO. 7412

Part 3 of 3

FIG. 3

MATTAGAMI LAKE MINES LTD.

RADON IN SOIL RESULTS

WEIR MOUNTAIN PROPERTY, B.C.

MAIN GRID

SCALE
0 25 50
METRES

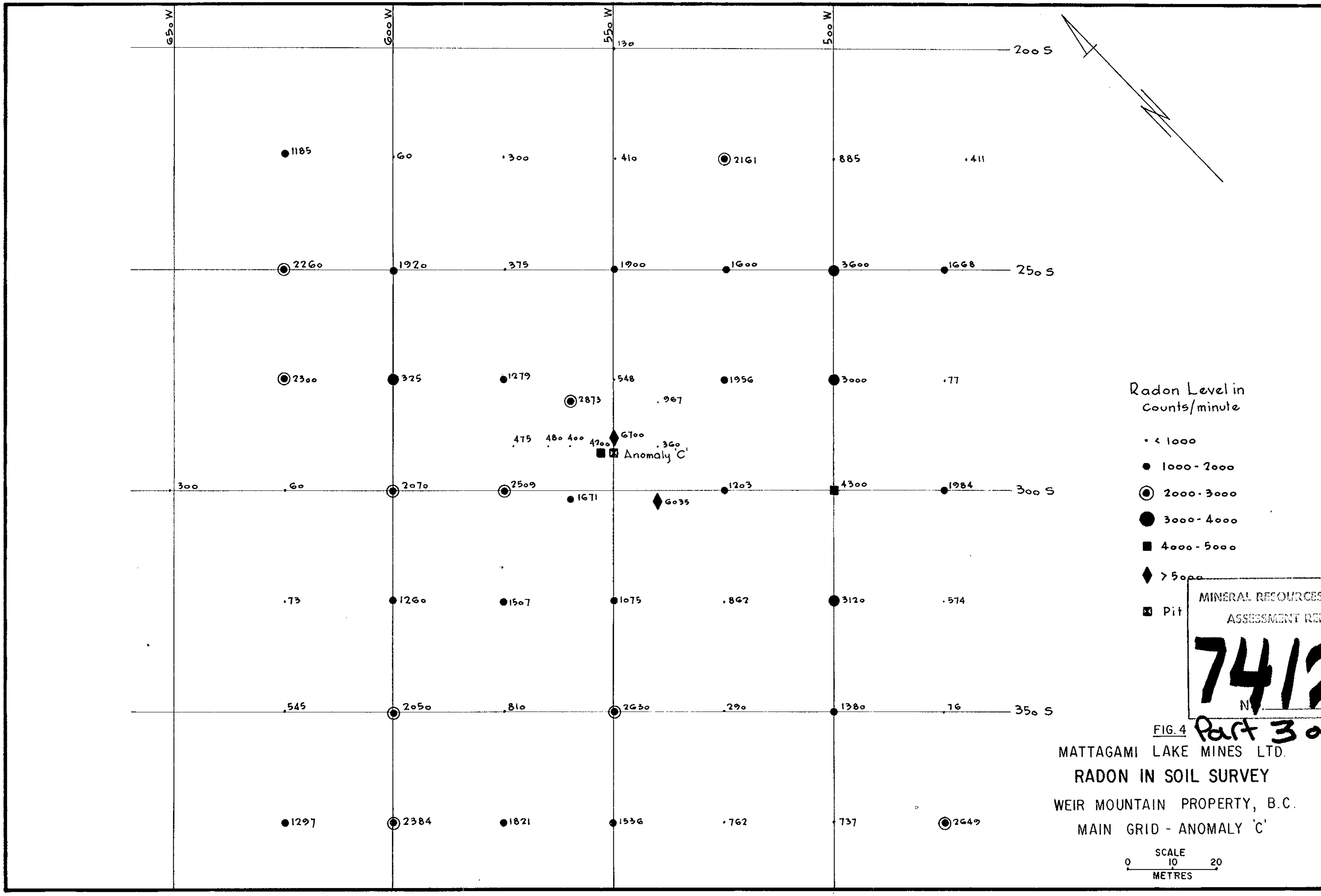


FIG. 4
MATTAGAMI LAKE MINES LTD.

RADON IN SOIL SURVEY

WEIR MOUNTAIN PROPERTY, B.C.

MAIN GRID - ANOMALY 'C'

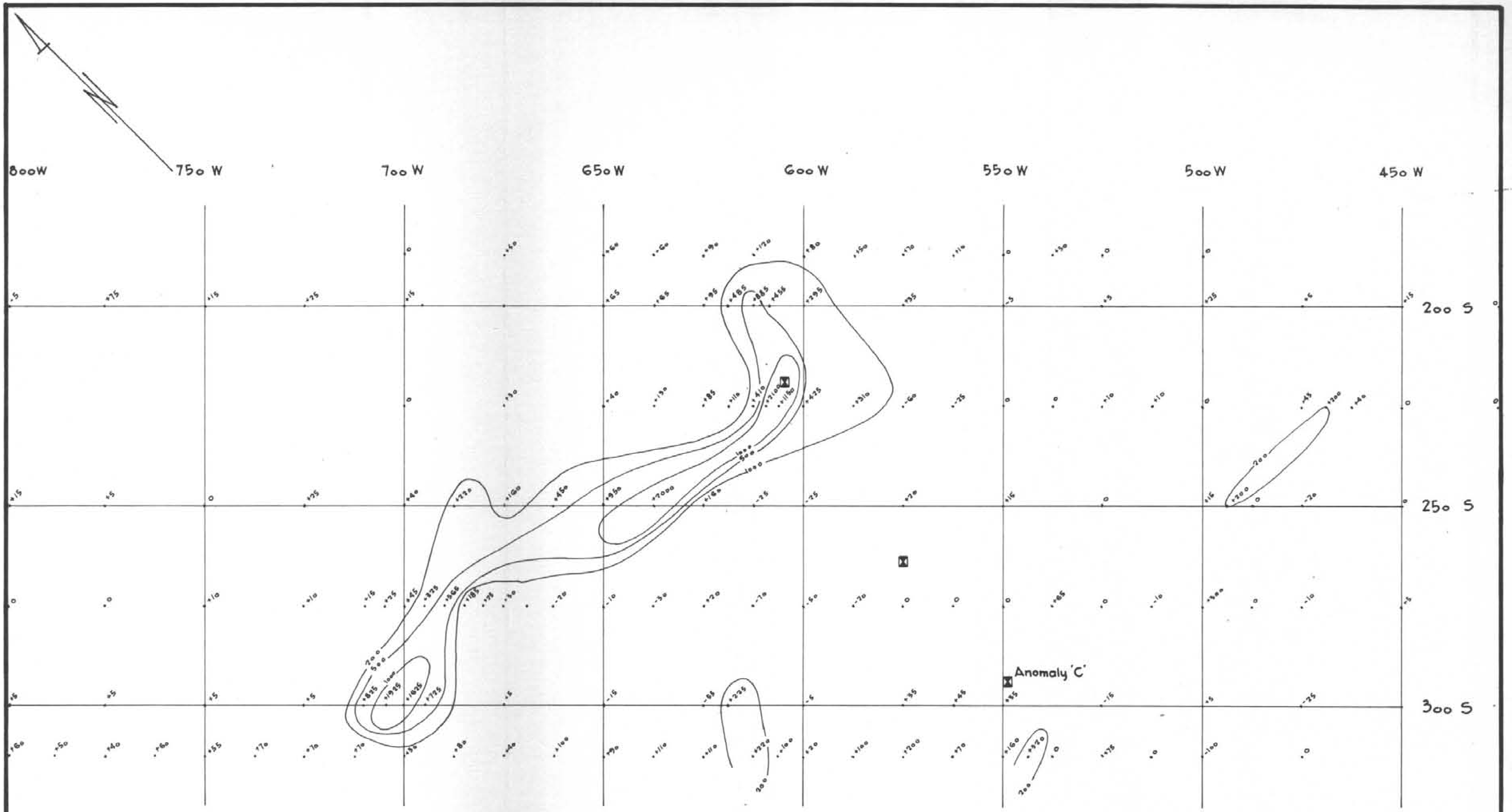


FIGURE 5

MATTAGAMI LAKE MINES LTD.

MAGNETOMETER SURVEY

WEIR MOUNTAIN PROPERTY, B.C.

MAIN GRID - ANOMALY 'C'

1:1000

0 25

METRES

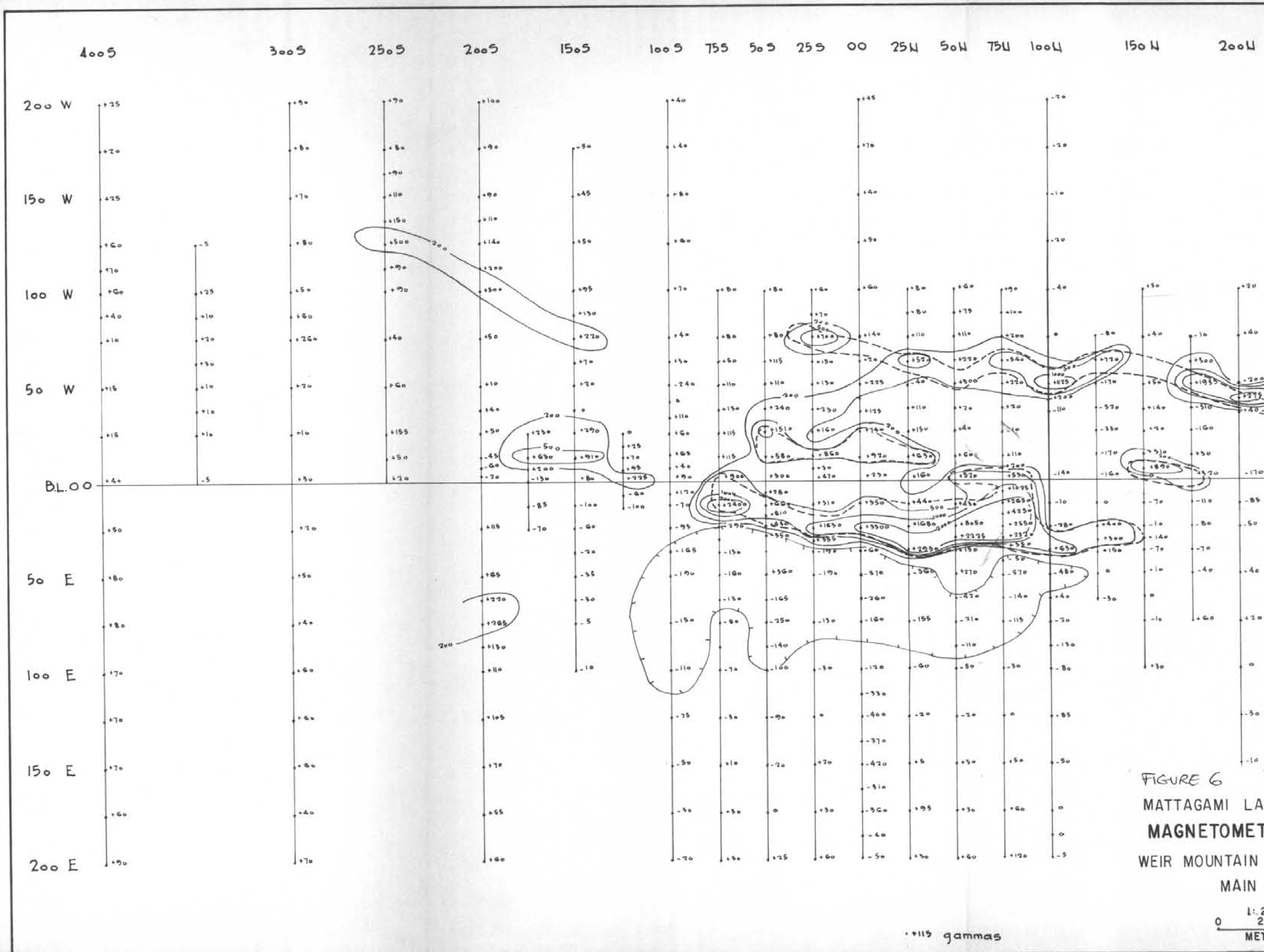


FIGURE 6

MATTAGAMI LAKE MINES LTD.

MAGNETOMETER SURVEY

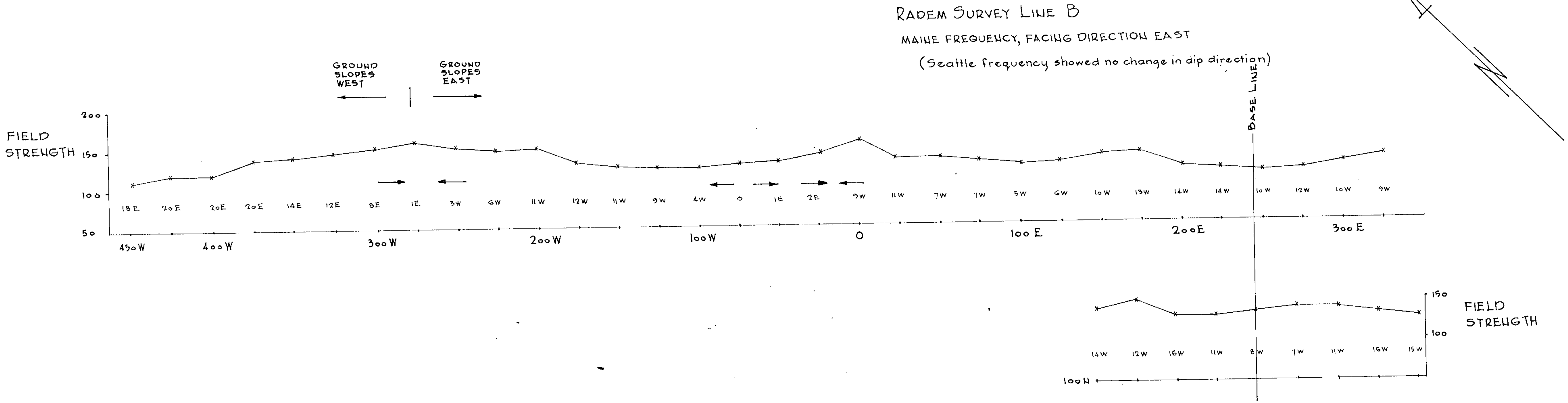
WEIR MOUNTAIN PROPERTY, B.C.

MAIN GRID

1:2000

0 25 50

METRES



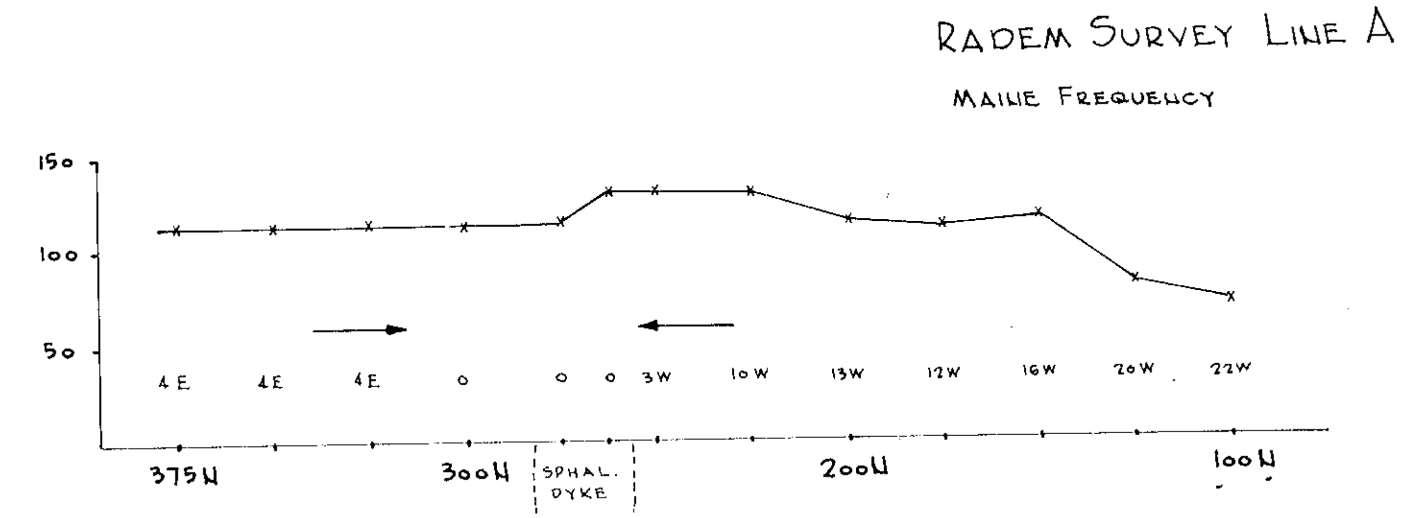
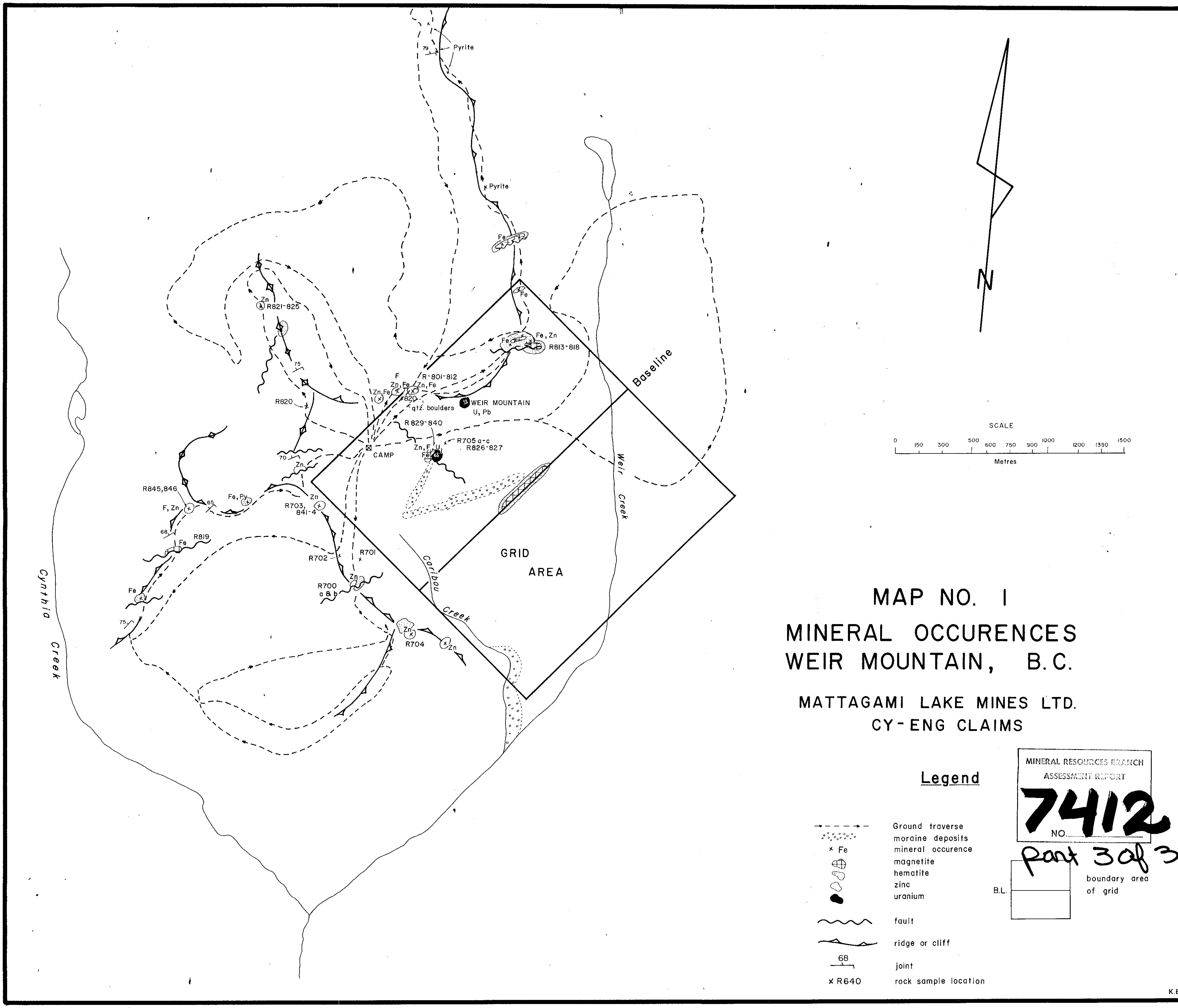
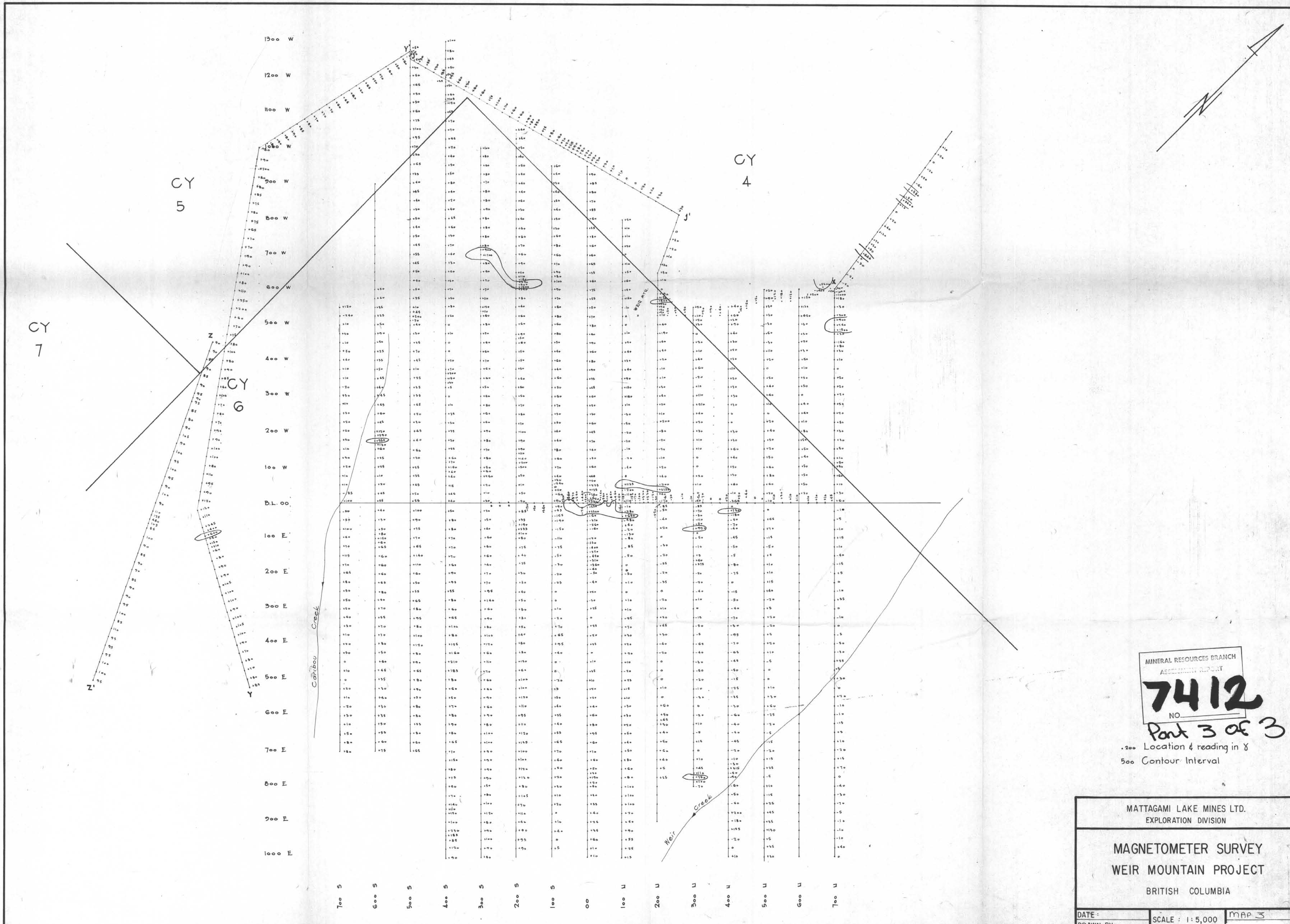


FIG. 8
MATTAGAMI LAKE MINES LTD.
RADEM SURVEY
WEIR MOUNTAIN PROPERTY, B.C.
MAIN GRID
SCALE
0 25 50
METRES



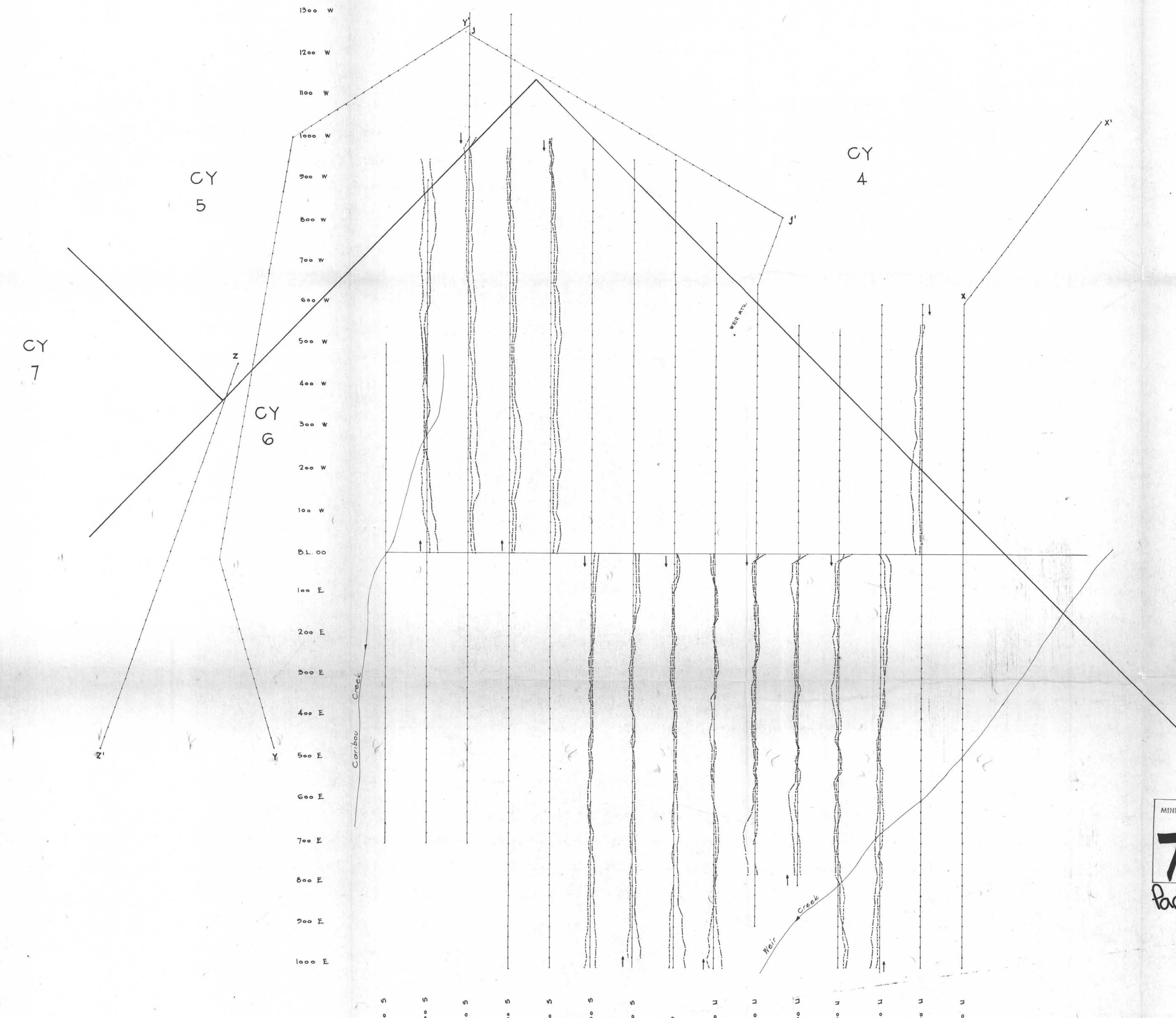
MAP NO. 1
MINERAL OCCURENCES
WEIR MOUNTAIN, B.C.

MATTAGAMI LAKE MINES LTD.
CY-ENG CLAIMS



CY 5
CY 4
CY 7
CY 6
1300 W
1200 W
1100 W
900 W
800 W
700 W
600 W
500 W
400 W
300 W
200 W
100 W
B.L. 00
100 E
200 E
300 E
400 E
500 E
600 E
700 E
800 E
900 E
1000 E
700 S
600 S
500 S
400 S
300 S
200 S
100 S
00
100 N
200 N
300 N
400 N
500 N
600 N
700 N
Z
Z'
Y
Y'
J'
Caribou Creek
Weir Creek
N
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 7412
Part 3 of 3
.200 Location & reading in γ
500 Contour Interval
MATTAGAMI LAKE MINES LTD.
EXPLORATION DIVISION
MAGNETOMETER SURVEY
WEIR MOUNTAIN PROJECT
BRITISH COLUMBIA
DATE:
DRAWN BY:
SCALE: 1:5,000
MAP 3

CY 4
CY 5
CY 6
CY 7
1300 W
1200 W
1100 W
1000 W
900 W
800 W
700 W
600 W
500 W
400 W
300 W
200 W
100 W
B.L. 00
100 E
200 E
300 E
400 E
500 E
600 E
800 E
900 E
1000 E
700 S
600 S
500 S
400 S
300 S
200 S
100 S
00
100 N
200 N
300 N
400 N
500 N
600 N
700 N
Caribou Creek
Weir Creek
WEIR MTN
In Phase
Quadrature
Scale: 1cm = ± 20 %
Transmitter: Maine Station
→ Direction of Survey
Facing Direction: 5-10°
7412
Part 3 of 3
MATTAGAMI LAKE MINES LTD.
EXPLORATION DIVISION
VLF EM-16 SURVEY
WEIR MOUNTAIN PROJECT
BRITISH COLUMBIA
DATE:
DRAWN BY:
SCALE: 1:5,000
MAP No.: 3



—·— In Phase

-·-·- Quadrature

Scale: 1 cm = 20%

Station: Seattle Freq.

→ Direction of Survey

Facing Direction 045°-050°

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

7412

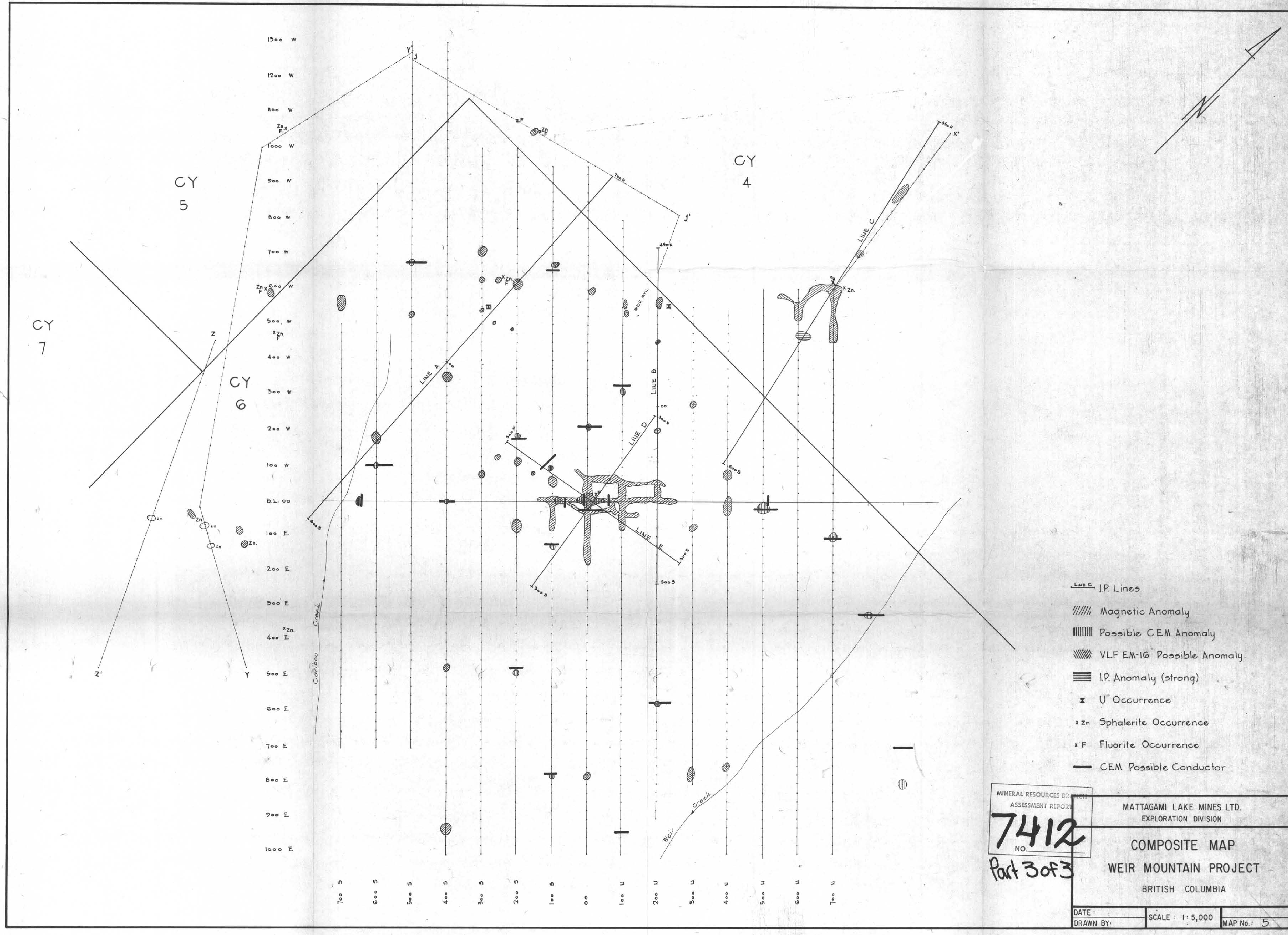
NO.

Part 3 of 3

MATTAGAMI LAKE MINES LTD.
EXPLORATION DIVISION

VLF SURVEY
WEIR MOUNTAIN PROJECT
BRITISH COLUMBIA

DATE: DRAWN BY:	SCALE: 1:5,000	MAP No.: 4


CY 4
CY 5
CY 6
CY 7
LINE A
LINE B
LINE C
LINE D
LINE E
WEIR MTN.
Caribou Creek
Weir Creek
1300 W
1200 W
1100 W
1000 W
900 W
800 W
700 W
600 W
500 W
400 W
300 W
200 W
100 W
B.L. 00
100 E
200 E
300 E
400 E
500 E
600 E
700 E
800 E
900 E
1000 E
700 S
600 S
500 S
400 S
300 S
200 S
100 S
00
100 N
200 N
300 N
400 N
500 N
600 N
700 N
I.P. Lines
Magnetic Anomaly
Possible CEM Anomaly
VLF EM-16 Possible Anomaly
I.P. Anomaly (strong)
U Occurrence
Sphalerite Occurrence
Fluorite Occurrence
CEM Possible Conductor
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 7412
Part 3 of 3
MATTAGAMI LAKE MINES LTD.
EXPLORATION DIVISION
COMPOSITE MAP
WEIR MOUNTAIN PROJECT
BRITISH COLUMBIA
DATE:
DRAWN BY:
SCALE: 1:5,000
MAP No.: 5