



32D045W0848 63.1794 MCELROY

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GEOPHYSICAL REPORT

ON

ERICKSON PROPERTIES

McELROY TOWNSHIP  
LARDER LAKE MINING DIVISION  
PROVINCE OF ONTARIO

Introduction

From August 20 to September 4, 1965, Sulmac Exploration Services Limited carried out a combined seismic and ground magnetometer survey on a group of claims held by R. A. Erickson and located in McElroy Township, Larder Lake Mining Division, Ontario.

The magnetometer survey was run over a north-south grid, with readings taken every 100 feet on picket lines 400 feet apart using a Sharpe A-2 magnetometer.

The seismic method was used to obtain two profiles of bedrock elevation, plus random checks on bedrock depth on the properties.

The results of the seismic survey are shown in the table in the appendix and on the accompanying sections, while the results of the magnetometer survey are presented in contoured form on the base map at a scale of 1" = 200 feet.

Purpose

The purpose of the survey was to prove or disprove the presence of buried river channels on the property as predicted by Lee, Hobson and Grant in their respective papers.\*

Properties and Locations

The properties are located in McElroy Township, Larder Lake Mining Division, Ontario.

The survey was carried out over the following mineral claims. The last listed claim constitutes property B, while the others pertain to property A.

- L 86211
- L 86212
- L 86214
- L 86215
- L 86216
- L 86218
- L 86219
- L 86217

The claims are situated in the central portion of McElroy Township, about 20 miles from Kirkland Lake. Access is by bush roads off either highways 66 or 112.

Survey Specifications

The magnetometer survey was done using a Sharpe A-2 magnetometer. This measures variations in the vertical component of the earth's magnetic field to an accuracy of  $\pm 10$  gammas.

Corrections for diurnal variations were made by tying in to previously established base stations at intervals not exceeding two hours. Readings with this instrument were taken every 100 feet along the picket lines.

The seismic survey consisted of determinations of depth to bedrock along Line 48+00W and the baseline on property A and at random locations on property B using reverse profile refraction shooting. The instrument used was a portable single channel FS-2 facsimile seismograph with a time scale range of 340 milliseconds, with dynamite as the source of seismic energy.

#### Record Quality

As depth determinations are based on the assumption of uniform velocities and planar interfaces between layers, any departure from this ideal condition will cause a scatter in the points and difficulty in interpretation. Therefore, every determination is given a grade in order to specify the relative accuracy of the determinations.

The quality of the field record is controlled by the surface or bottom topography, condition of the surface or bottom material, and the topography of bedrock. In general, the record quality is determined by the amount of scattering and by the amount of interference from noise, etc. Therefore, the

record quality is shown in the table by the letters A, B, C, and ?.

A determination listed as "A" is indicative of well defined velocities. Here the estimated accuracy of the determination is  $\pm 10\%$ .

A determination listed as "B" is indicative of well defined velocities, but scattering of the points is present. Estimated accuracy of determination is  $\pm 15\%$ .

A determination listed as "C" is indicative of not-too-clearly defined velocities due to an increase in the scatter of points and noise level. Estimated accuracy of the determination is  $\pm 20-30\%$ .

A determination listed as "?" is indicative of uncertainty concerning the velocities, and thus in depth calculations, due to irregular bedrock, inhomogeneity in the overburden, or high noise level. This record is of doubtful quality.

### Discussion of Results

#### Property A

Two seismic profiles were obtained on this property. On Profile 1, i.e. on L48W, five seismic determinations were undertaken, resulting in the possible identification of two or three layers and the bedrock.

The depths to bedrock on this profile were similar to those obtained by Hobson\* on his CD profile, and appeared to indicate a depression on the northern half of the line. However, it should be noted that the determinations were 600 feet apart, the shot points on the interpreted bedrock part of the refraction record were widely spaced, and no topographic control was employed. Thus additional work with closer spaced determinations and shot points, together with topographic control, are necessary to delineate the interpreted channel in the bedrock.

The determinations along the baseline, i.e. Profile 2, resulted in the identification of two layers but failed to locate the bedrock. However, they showed the bedrock to lie at least 120 feet below the ground surface.

The magnetometer results exhibited a fairly constant magnetic background with an average relief of 200 to 400 gammas.

#### Property B

The random seismic determinations resulted in the identification of two possible intermediate layers and showed the average depth to bedrock to be in the order of 100 feet, as predicted by the general bedrock elevation of profile EF by Hobson et al\*. However, in this particular property there was

supposedly a 200 foot depression and the results of the seismic survey failed to support this claim.

Again the magnetometer results exhibited the same characteristics as those on property A.

Check work was then done over what was thought to be the depression part of profile EF. The two determinations carried out failed to substantiate the existence of this channel.

#### Summary and Recommendations

A combined seismic and magnetometer survey was carried out on two properties held by R. A. Erickson and located in McElroy Township, Larder Lake Mining Division, Ontario. The purpose of the survey was to delineate, if possible, the buried channels as predicted by Hobson, Lee, et al\*.

The results indicated the existence of a possible channel in the northern portion of property A, but failed to substantiate the claim of a depression on property B.

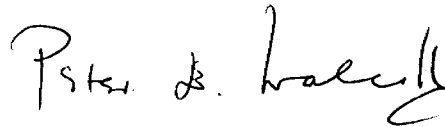
Additional work using closer spaced determinations and shot points, together with topographic control, is recommended to further investigate the possible channel on property A, but no further work need be done on property B.

This report does not represent a guarantee of the depth determinations as so reported. It does, however, represent

the results derived from an application of advanced geophysical techniques together with a careful analysis of the information thereby obtained.

Respectfully submitted,

SULMAC EXPLORATION SERVICES LIMITED



Peter E. Walcott, B.A.Sc., P.Eng.,  
Geophysicist.

October 29, 1965

\* Grant, A. and Hobson, G. Tracings buried river valleys in the Kirkland Lake area of Ontario by hammer seismograph. Canadian Mining Journal, Volume 85, No. 4, pp 79-83.

Lee, Hubert A. Buried valleys near Kirkland Lake, Ontario. Geological Survey of Canada, Paper 65-14.

TABLE I

<u>Deter-</u> <u>mination</u>	<u>Location</u>	<u>Direction</u> <u>of Shot</u>	<u>V<sub>1</sub></u>	<u>d<sub>1</sub></u>	<u>V<sub>2</sub></u>	<u>d<sub>2</sub></u>	<u>V<sub>3</sub></u>	<u>d<sub>3</sub></u>	<u>V<sub>4</sub></u>	<u>D</u>	<u>Grade</u>
1.	L48W 5+00N	S	800	2.5	4,500	44.0	5,500	310.0	25,000	356.5	A
2.	L48 1+00S	S	900	4.1	4,400	34.0	5,500	284.0	25,500	322.1	A
3.	L48 7+00S	N	900	5.8	5,500	53.6	6,300	261.0	19,200	320.4	B
4.	L48 7+00S	S	900	6.8	-	-	5,900	213.0	12,500	219.8	A
5.	L48 13+25S	S	900	2.9	-	-	5,250	249.0	15,000	251.9	B
6.	L48 13+25S	N	900	1.0	-	-	4,500	203.0	17,000	204.0	A
7.	L48 19+00S	N	800	2.5	-	-	5,200	264.0	10,200	266.5	A
8.	B.L.38+00W	E	900	2.9	-	-	4,750	>120.0		>122.9	A
9.	B.L.28+00W	E	900	3.1	-	-	5,500	>120.0		>123.0	A
10.	B.L.18+00W	E	850	2.3	-	-	4,400	>120.0		>122.3	A
11.	B.L. 6+00W	E	800	1.0	-	-	4,750	>121.0		>122.0	A
12.	B.L.12+00W	E	1000	2.4	-	-	5,000	108.0	16,000	110.4	A
13.	B.L. 6+00W	E	900	2.5	-	-	4,100	93.2	20,000	95.7	A
14.	L8W 6+00S	N	-	-	-	-	4,600	127.0	23,000	127.0	A
15.	L8W 3+00S	S	900	2.7	-	-	5,400	101.3	14,000	104.0	A
16.	Hobson 1	S	900	2.4	-	-	5,000	114.0	25,000	116.4	A
17.	Hobson 2	N	900	2.3	-	-	4,750	105.0	11,400	107.3	A

Where:

V<sub>1</sub> = velocity of 1st layer - ft./sec.d<sub>1</sub> = thickness of 1st layer - ft.V<sub>2</sub> = velocity of 2nd layer - ft./sec.d<sub>2</sub> = thickness of 2nd layer - ft.V<sub>3</sub> = velocity of 3rd layer - ft./sec.d<sub>3</sub> = thickness of 3rd layer - ft.V<sub>4</sub> = velocity of bedrock - ft./sec.

D = depth to bedrock surface - ft.



## SURVEY SPECIFICATIONS

The instrument used was a FS-3 facsimile seismograph manufactured by Hunted Limited of Toronto, Ontario.

The seismic waves are picked up by geophones, and the output is fed to the stylus through a filter, a pre-amplifier, a gain-control, an amplifier, a pulse former and a printing amplifier. First and subsequent arrivals appear as black marks on the facsimile paper, which has a total time range of 180 milliseconds. Thus all seismic pulses up to 340 milliseconds can be recorded if the 160 millisecond delay is used.

The instrument is powered by a 24 Volt DC source, while geophones with a natural frequency of 14 cps and a coil resistance of 220 ohms were used.

The refraction technique was used with dynamite as a source of energy to make determinations of depth to bedrock at previously planned locations. In this method the geophone is set up at the site of the depth determination and successively larger charges of dynamite are laid out at 50 ft. intervals. These charges are then detonated one at a time and the subsequent seismic arrivals are recorded at the geophone.

The velocities of the various overlying layers and the bedrock and the depth to each of these at the geophone location are calculated from the various time arrivals and distances from the geophone. The results are presented in the form of bedrock profiles.



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GEOPHYSICAL REPORT  
ON  
ERICKSON PROPERTY

McELROY TOWNSHIP  
LARDER LAKE MINING DIVISION  
PROVINCE OF ONTARIO

EAGLE GEOPHYSICS LIMITED  
REXDALE, ONTARIO  
SEPTEMBER 1966

## INTRODUCTION

From August 26th to 30th, 1966, Eagle Geophysics Limited carried out a seismic survey on a group of claims held by R.A.Erickson and located in McElroy Township, Larder Lake Mining Division, Ontario.

This survey was a continuation of a previous survey done in 1965, the purpose of which was to prove or disprove the presence of buried river channels on the property as predicted by Lee, Hobson and Grant in their respective papers\*.

The seismic method was used to obtain four (4) north-south profiles of bedrock elevation across the property, i.e. on Lines 4W, 16W, 28W, and 40W respectively.

The results of the survey together with those of the 1965 survey are shown in the table in the appendix and on the accompanying sections. A map showing their location is to be found at the back of the report.

PROPERTY AND LOCATION

The property consisting of 7 unpatented mineral claims is located in the central portion of McElroy Township, Larder Lake Mining Division, Ontario. Access is by bush road off Highway 66, the turnoff being about 15 miles east of the town of Kirkland Lake, Ontario.

The property consists of the following mineral claims:

186211

186212

186214

186215

186216

186218

186219

SURVEY SPECIFICATIONS

The seismic survey consisted of making determinations of depth to bedrock at various stations along Lines 4W, 16W, 28W, and 40W respectively.

The instrument used was a portable single channel FS-3 facsimile seismograph with a time scale range of 340 milliseconds, and employing dynamite as the source of seismic energy.

RECORD QUALITY

As depth determinations are based on the assumption of uniform velocities and planar interfaces between layers, any departure from this ideal condition will cause a scatter in the points and difficulty in interpretation. Therefore every determination is given a grade in order to specify the relative accuracy of the determinations.

The quality of the field record is controlled by the surface or bottom topography, condition of the surface or bottom material and the topography of the bedrock. In general the quality of the record is determined by the amount of scattering, and by the amount of interference from local noise disturbances. Therefore the record quality is shown in the tables by the letters A, B, C, and ?.

A determination listed as "A" is indicative of well defined velocities. Here the estimated accuracy of the determination is  $\pm 10\%$ .

A determination listed as "B" is indicative of well defined velocities, but scattering of points or a small noise level is present. Estimated accuracy is  $\pm 15\%$ .

A determination listed as "C" is indicative of not-too-clearly defined velocities and/or an increase in the noise level. Estimated accuracy of the determination is  $\pm 20-30\%$ .

A determination listed as "?" is indicative of uncertainty concerning the velocities, and thus the depth calculations due to high noise level, irregular bedrock or inhomogeneity in the overburden. This record is of doubtful quality.

DISCUSSION OF RESULTS

Sixteen seismic determinations were attempted on the property. The records obtained were of high quality and resulted in the possible identification of two layers and the bedrock.

Depths to bedrock were calculated and plotted so that profiles of bedrock elevation were obtained on Lines 4W, 16W, 28W, and 40W respectively. These are shown on the accompanying sections.

The records of the 1965 determinations on Line 48W were reviewed and resulted in a slightly different interpretation as shown on the accompanying section.

Topographic control along the lines profiled was undertaken by the claim holder so that all bedrock elevations are relative to a fixed point, namely ON, 4W which was arbitrarily given an elevation of 100 feet.

The overall results are largely indeterminate and from them no obvious channel in the bedrock is apparent. They do, however, show that considerable differences in bedrock elevation exist on the property, thereby emphasizing the need for at least a mile of profile before any firm conclusion can be made regarding a definite bedrock channel.

SUMMARY AND RECOMMENDATIONS

A seismic survey was carried out on a property held by R.A.Erickson and located in McElroy Township, Larder Lake Mining Division, Ontario. The purpose of the survey was to delineate, if possible, the buried channels as predicted by Lee, Hobson and Grant\*.

The results are largely indeterminate and failed to show any obvious bedrock channel. They did, however, show that considerable bedrock relief exists on the property, so that the possibility of a channel occurring on the property cannot be ruled out.

Additional work is suggested such that at least two of the profiles are extended half-a-mile on each side. This should result in a definite conclusion regarding the existence of any buried bedrock valley.

This report does not represent a guarantee of the depth determinations as so reported. It does, however, represent the results derived from an application of advanced geophysical techniques together with a careful analysis of the information thereby obtained.

This report has been prepared solely for the use of R.A.Erickson to assist in trying to locate a buried bedrock channel, and Eagle Geophysics Limited assumes no responsibility for loss or damage suffered by third parties in reliance upon information contained in this report.

Respectfully submitted,  
EAGLE GEOPHYSICS LIMITED,  
*Peter E. Walcott*  
Peter.E.Walcott, P.Eng.  
Geophysicist.

Rexdale, Ontario  
September, 1966



TABLE OF RESULTS

<u>Shot No.</u>	<u>Location</u>	<u>Direction Shot</u>
1	48W, 4+28N	South
2	" 1+64S	South
3	" 6+29S	North
4	" 8+13S	South
5	" 14+15S	South
6	" 12+46S	North
7	" 17+66S	North
8	40W, 6+53N	South
9	" 2+43N	South
10	" 1+38S	North
11	" 5+46S	North
12	28W, 3+08N	South
13	" 0+16S	South
14	" 2+74S	North
15	" 6+53S	North
16	16W, 4+29N	South
17	" 0+44S	South
18	" 4+76S	North
19	4W, 4+65N	South
20	" 1+34N	South
21	" 0+17S	North
22	" 3+50S	North
23	" 6+38S	North

TABLE OF RESULTS

<u>Shot No.</u>	<u>V<sub>1</sub></u>	<u>d<sub>1</sub></u>	<u>V<sub>2</sub></u>	<u>d<sub>2</sub></u>	<u>V<sub>3</sub></u>	<u>D</u>	<u>Grade</u>
1	800	3.4	5,300	298.0	22,000	301.4	A
2	900	5.5	5,200	270.0	20,000	275.5	A
3	900	5.9	5,200	260.0	19,000	265.9	A
4	900	6.8	5,900	213.0	12,500	219.8	A
5	700	2.9	5,250	249.0	15,000	251.9	A
6	-	-	4,500	203.0	17,000	203.0	A
7	-	-	5,200	312.0	13,000	312.0	C
8	800	3.0	5,000	128.0	14,000	131.0	A
9	-	-	5,200	238.0	20,000	238.0	A
10	700	2.6	5,500	216.0	20,000	218.6	A
11	1500	22.8	5,600	158.0	17,000	180.8	A
12	850	2.9	4,600	163.0	18,000	165.9	A
13	850	4.6	4,900	129.0	15,000	133.6	A
14	800	2.1	4,600	180.0	20,000	182.1	A
15	800	2.5	4,500	162.0	14,000	164.5	A
16	800	2.5	4,600	170.0	14,500	172.5	A
17	900	8.8	5,000	222.0	20,000	230.8	A
18	700	3.0	4,750	223.0	20,000	226.0	A
19	800	4.2	4,750	206.0	15,800	210.2	A
20	950	7.4	4,800	229.0	17,000	236.4	A
21	800	5.0	4,600	190.0	17,000	195.0	A
22	900	5.0	4,750	233.0	20,000	238.0	A
23	1000	13.7	5,400	230.0	20,000	243.7	A



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GEOCHEMICAL SURVEY

ERICKSON CLAIMS

MCELROY TOWNSHIP

LARDER LAKE MINING DIVISION

PROVINCE OF ONTARIO

RAYMOND A. ERICKSON

601 S. BURTON PLACE

ARLINGTON HEIGHTS, ILLINOIS

DECEMBER, 1968

## I N T R O D U C T I O N   A N D   Q U A L I F I C A T I O N S

On May 26th through June 1st, July 6th and 7th, and August 2nd and 3rd, 1968, a geochemical survey was conducted by Mr. Raymond A. Erickson on 8 claims registered in his name in McElroy Township, near Kirkland Lake, Ontario. The purpose of the geochemical survey was to explore for heavy metals.

This report presents the results of the geochemical survey.

Qualifications of Mr. Raymond A. Erickson to conduct the survey include the following items:

1. Graduate of the University of Wisconsin in 1941 with a Bachelor of Science degree in Chemical Engineering.
2. Holder of Professional Engineer's License No. 7685 in the State of New Jersey.
3. Has over 27 years of experience in the field of chemical engineering involved in various aspects of research, development, engineering, planning studies, consultation, market surveys and sales coordination. Over 23 years of the foregoing have been in responsible type work requiring one's own initiative in supervision, consultation and coordination.
4. Has intimate knowledge of the claims and field procedures because of previous participation in seismic surveys made on the claims as well as other work accomplished on the claims.

B A C K G R O U N D

The claims were staked originally to search for buried placer gold in an ancient river valley system, originally defined in a publication written by Hulbert A. Lee (1) and in an article co-authored by A. Grant and G. Hobson (2). The ancient river valleys have been filled with sand and gravel as a result of glacial action. The Munro esker traverses one part of the 7-claim group.

Seismic work done in the summers of 1965 and 1966 established that the depth to bedrock ran from 131 to 312 feet over the surveyed area of the 7-claim group and a depth to bedrock of about 100 feet on the single claim. The seismic survey work was reported for assessment work credit in October, 1965 and September, 1966.

Work during the summer of 1967 consisted of drilling with hand tools to depths of 35 feet. This established the presence of traces of gold after the penetration of a few feet of sand and gravel with one anomalous high gold content of 0.58 ounces per ton. The location of the drilling was on the 7-claim group at 4,000' west and 70' north on the lines cut for seismic work. At this location there is a slow-moving spring flowing out of the esker sands and into the creek which makes a northerly loop through the 7-claim group.

Work conducted concurrently with the geochemical survey during the summer of 1968 includes a radiometric survey and a beneficiation study which are the subjects of separate reports.

(1) Lee, Hulbert A. Buried Valleys near Kirkland Lake, Ontario, Geological survey of Canada, paper 65-15.

(2) Graft A. and Hobson, G. Tracing Buried Valleys in the Kirkland Lake area by Hammer Seismograph, Canadian Mining Journal, Vol. 85, No. 4.

F I E L D P R O C E D U R E S

The field work consisted of three phases: the obtainment of samples of water, soil and sand.

All water samples were obtained from springs flowing into creeks. A traverse was made of the lengths of the creeks on the claims and all springs observed flowing into the creeks were sampled into small polyethylene bottles and analyzed after removal from the claims. Water sample locations are shown in Table I.

All soil samples were obtained from humus or organic matter which is abundant and widespread on the claims. Sample locations were on a grid pattern using lines cut previously for seismic surveys. A spacing of 400 feet was employed in the traverses. Samples were obtained within 400-500 feet of any point on the claims. Sampling was done by twisting a trail auger about 12 to 18 inches into the top surface of humus and transferring the material adhering to the auger into a small polyethylene bags for removal from the claims. At some locations, the humus was in admixture with sand and at other locations it was admixed with clay. Humus was quite extensive over the claims because of the dense growth of trees and underbrush. Soil sample locations are shown in Table II.

An attempt was made to sample sand on a grid pattern over the claims. The concept was to dig or drill through a thin layer of clay over most of the area as indicated by previous seismic survey work. However, it was found difficult to get through a relatively thick layer of clay normally present on the flat, low-relief sections of the claims. The attempts included dynamiting

and digging a pit over 10 feet deep at one location and drilling to over 20 feet at two locations without being able to penetrate the clay. The effort to obtain samples of sand was reduced to collecting such samples wherever there were exposures or where there was a thin cover of clay. Samples containing gravel were screened in the field through 8 mesh size. Sand sample locations are shown in Table III.

Attempts were made to recover various size fractions and concentrate heavy minerals from the gravel deposits in the slow moving spring (corresponding to Sample No. G7 in Table III) and the fast moving spring (corresponding to Sample No. G4 in Table III). Concentrates of various size fractions were made using a batea. These concentrates were examined visually and through a microscope for diamonds and diamond-indicator minerals. This work had ~~to~~ carry-over into beneficiation studies which is the subject of a separate report.



A N A L Y T I C A L P R O C E D U R E S

Spring water samples were analyzed for total heavy minerals (including copper, lead and zinc) using a geochemical exploration kit purchased from Jens Moxgensen Laboratory, Toronto. The powder contents from a white THM capsule (commercially available) was thoroughly mixed with 5 milliliters of water sample in a test tube. Then 20 drops of xylene solution was added with shaking. The development of a bluish, purple or red color would indicate total heavy metals contents of 50, 100 or 200 ppm respectively. However the color stayed green for these spring water samples (and for all soil and sand samples) indicating a total heavy metal content of nil as shown in Table I.

Soil and sand samples were tested for total heavy minerals using the same kit. 300 Milligrams of a sample was measured into the test tube using a graduated aluminum piston-type pellitizer. 5 milliliters of distilled water was added. This was followed in succession by adding a white THM capsule and 20 drops of xylene solution for the development of color. Again all results were nil as shown in Tables II and III.

Sand samples were sent in for spectographic analyses as shown in the analytical report attached to Table III.

R E S U L T S   A N D   C O N C L U S I O N S

The nil results for all types of samples showed lack of any indications or haloes for total heavy metals.

All of the sand samples showed detectable contents of chromium, manganese, titanium and vanadium by qualitative spectographic analysis. The presence of these metals is considered to be a corrolary with the presence of Kimberlitic minerals which were found with ease in the beneficiation studies (reported separately).

60 samples were obtained and 67 analytical determinations were made. No lines were cut since this had been done previously for seismic survey work.

Field work was done on May 25-June 1, July 6 and August 2-3, 1968. Laboratory work was done at various times in June, July and August, 1968 as shown in the compilation of personnel and man-days worked in Table IV.

It is concluded that the finding of heavy metals depends upon drilling through the overburden and obtaining cores of the underlying bedrock. It is also concluded that there are indications offering encouragement in searching for Kimberlitic minerals and Kimberlite bodies which may contain diamonds.

Respectfully submitted,



Raymond A. Erickson, P. Eng.

Arlington Heights, Illinois  
December 27, 1968

RAE:pe

TABLE I  
SPRING WATER SAMPLES

<u>Date Sampled in 1968</u>	<u>Approximate Grid Location (On 7-Claim Group)</u>		<u>Total Heavy Metals -ppm</u>
July 6	4600'W	1700'S	Nil
"	4600'W	1450'S	Nil
"	4900'W	1400'S	Nil
"	4400'W	1000'S	Nil
"	4200'W	800'S	Nil
"	4100'W	300'S	Nil
"	3900'W	50'N	Nil
"	3800'W	100'N	Nil
"	3600'W	50'N	Nil
"	3500'W	50'N	Nil
"	3450'W	50'N	Nil
July 7	1300'W	450'N	Nil
"	900'W	50'N	Nil

TABLE II

SOIL SAMPLES

<u>Date Sampled in 1968</u>	<u>Grid Location (7-Claim Group)</u>		<u>Description</u>	<u>Total Heavy Metals -ppm</u>
Aug. 3	000	000	Humus with Fine Sand-Medium Brown	Nil
"	400'W	000	Humus with Fine Sand-Light Brown	Nil
"	800'W	000	Humus with Fine Sand-Medium Brown	Nil
"	1200'W	000	Humus -Medium Brown	Nil
"	1600'W	000	Humus -Medium Brown	Nil
"	2000'W	000	Humus -Dark Brown	Nil
"	2400'W	000	Humus -Dark Brown	Nil
"	2800'W	000	Humus with Fine Sand-Light Brown	Nil
"	3200'W	000	Humus with Clay -Black	Nil
Aug. 2	3600'W	000	Humus with Sand -Medium Brown	Nil
"	3600'W	400'S	Humus with Clay -Light Brown	Nil
"	3600'W	800'S	Humus -Light Brown	Nil
"	3600'W	1200'S	Humus with Clay -Dark Brown	Nil
"	3600'W	1600'S	Humus with Clay -Dark Brown	Nil
"	4000'W	000	Humus -Dark Brown	Nil
"	4000'W	400'S	Humus with Clay -Dark Brown	Nil
"	4000'W	800'S	Humus with Sand -Light Brown	Nil
"	4000'W	1200'S	Humus -Dark Brown	Nil
"	4000'W	1600'S	Humus -Black	Nil
"	4400'W	000	Humus -Dark Brown	Nil
"	4800'W	000	Humus -Dark Brown	Nil
"	4800'W	400'S	Humus with Sand -Medium Brown	Nil
"	4800'W	800'S	Humus with Sand -Medium Brown	Nil
"	4800'W	1200'S	Humus with Clay -Light Brown	Nil
"	4800'W	1600'S	Humus with Clay -Light Brown	Nil
"	5200'W	000	Humus -Black	Nil
"	5200'W	1600'S	Humus -Medium Brown	Nil
"	5600'W	000	Humus -Medium Brown	Nil
"	5600'W	400'S	Humus -Medium Brown	Nil
"	5600'W	800'S	Humus -Dark Brown	Nil
"	5600'W	1200'S	Humus -Dark Brown	Nil
"	5600'W	1600'S	Humus with Clay -Medium Brown	Nil

## (Single Claim)

Aug. 3	000	000	Humus -Medium Brown	Nil
"	400'W	000	Humus -Medium Brown	Nil
"	400'W	400'N	Humus -Medium Brown	Nil
"	400'W	400'S	Humus -Medium Brown	Nil
"	800'W	000	Humus -Medium Brown	Nil
"	800'W	400'N	Humus with Clay -Medium Brown	Nil
"	800'W	400'S	Humus with Sand -Medium Brown	Nil
"	1200'W	000	Humus with Clay -Dark Brown	Nil

TABLE III

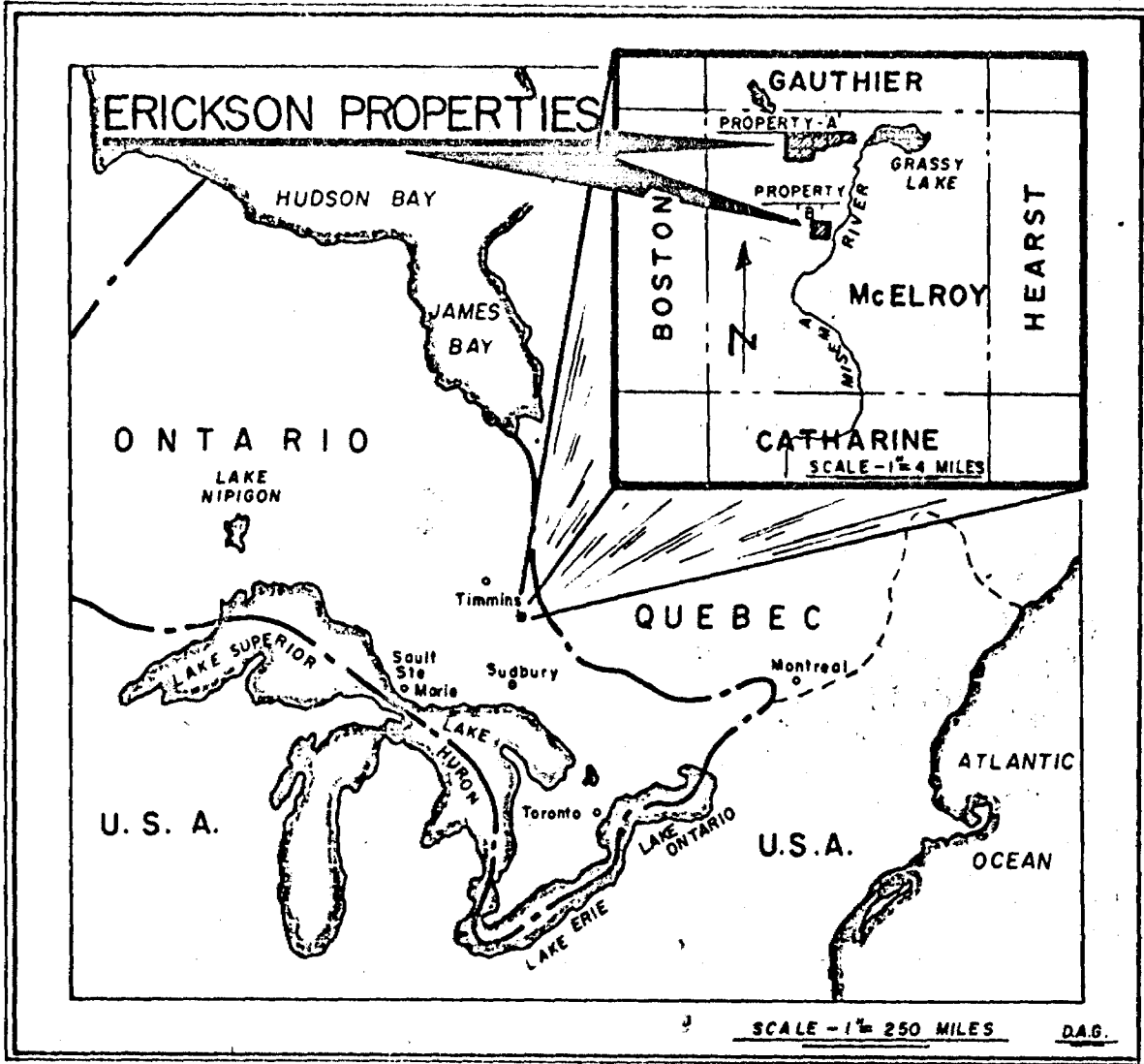
SAND SAMPLES

<u>Date Sampled in 1968</u>	<u>Sample Number*</u>	<u>Approximate Grid Location (7-Claim Group)</u>	<u>Description</u>	<u>Total Heavy Metals -ppm</u>
May 29	G1	1300'W 450'N	Fine Sand from Spring Bed	Nil
May 29	G3	3350'W 5'S	Gravel Bar in Creek Field Screened through 8 Mesh	Nil
May 27	G4	3850'W 150'N	Fast Flowing Spring Bed Field Screened through 8 Mesh	Nil
May 29	G5	1100'W 100'S	Fine Sand from Creek Bed	Nil
May 29	G6	400'W 100'S	Sand from Middle of East End Road	Nil
May 27	G7	4000'W 80'N (Single Claim)	Fines from Slow Moving Spring Field Screened through 8 Mesh	Nil
May 31	G2	700'S 000	Coarse Sand	Nil

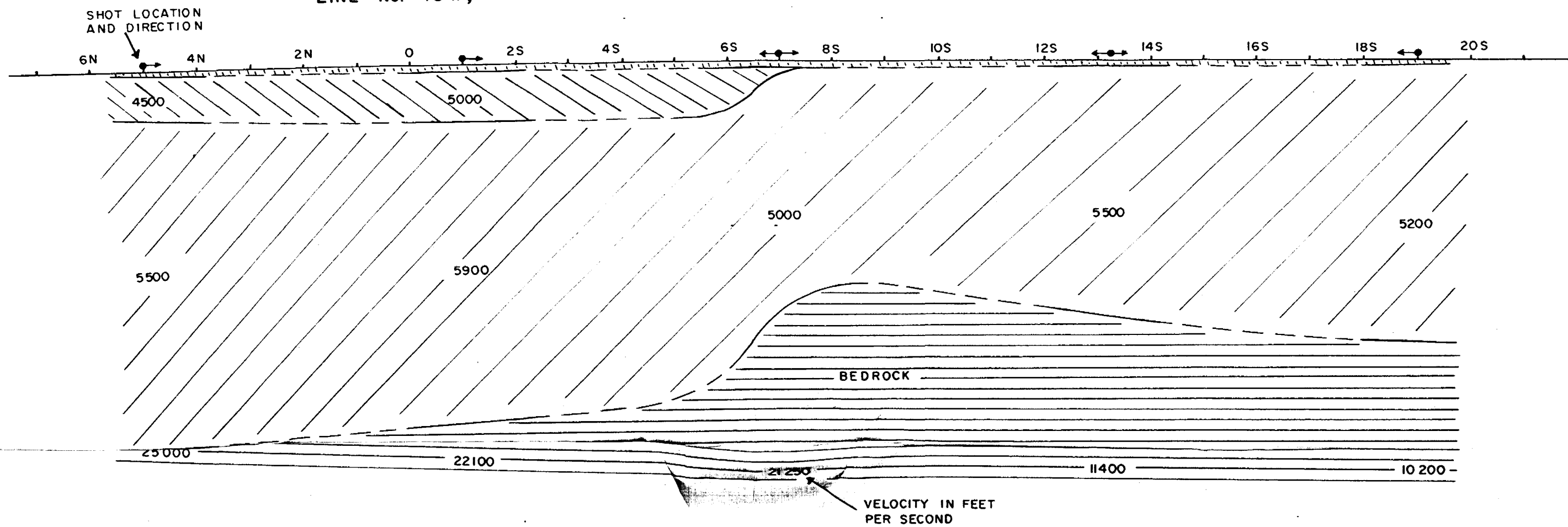
\*See following page for spectrographic analytical report No. A 8501.



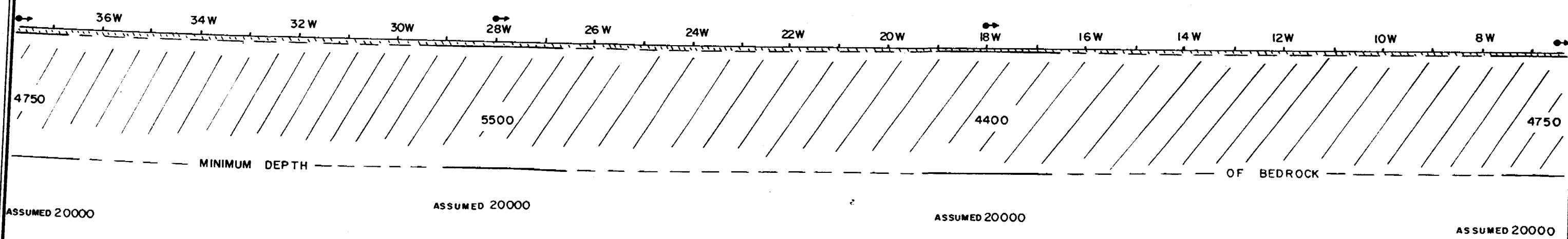
# LOCATION MAP



LINE NO.- 48 W, PROPERTY -'A'



LINE NO.- BASELINE, PROPERTY -'A'

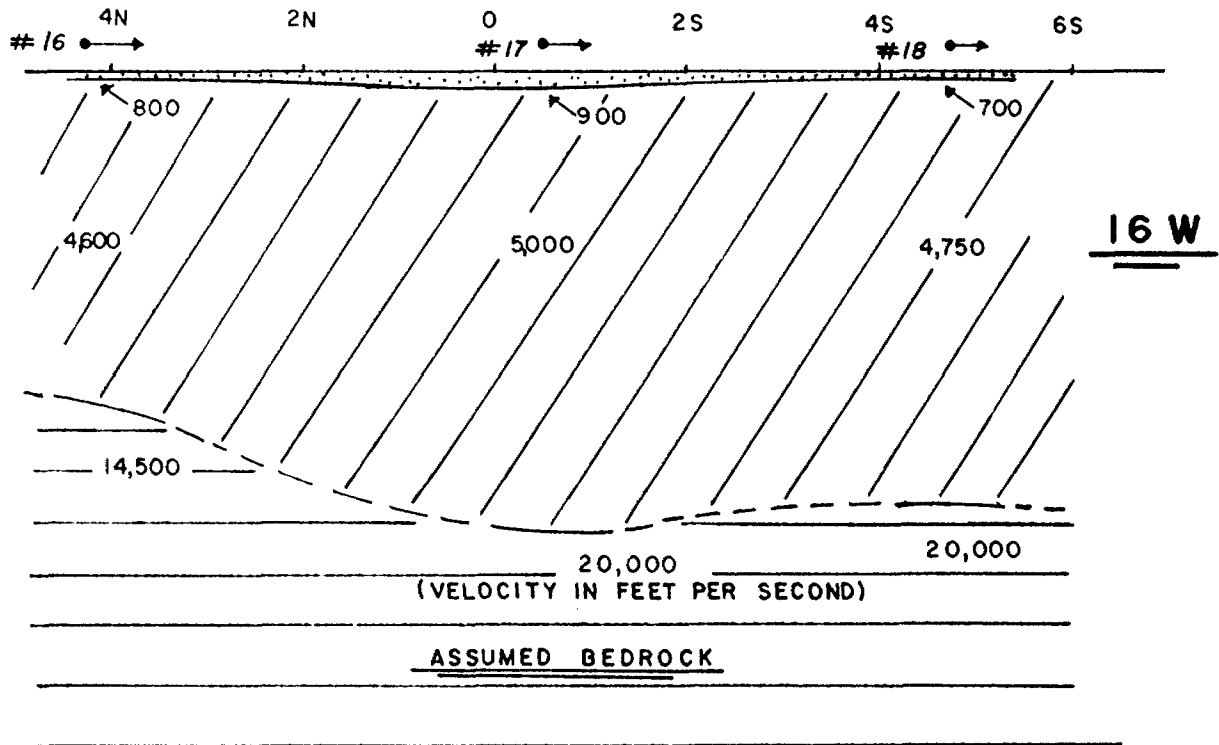
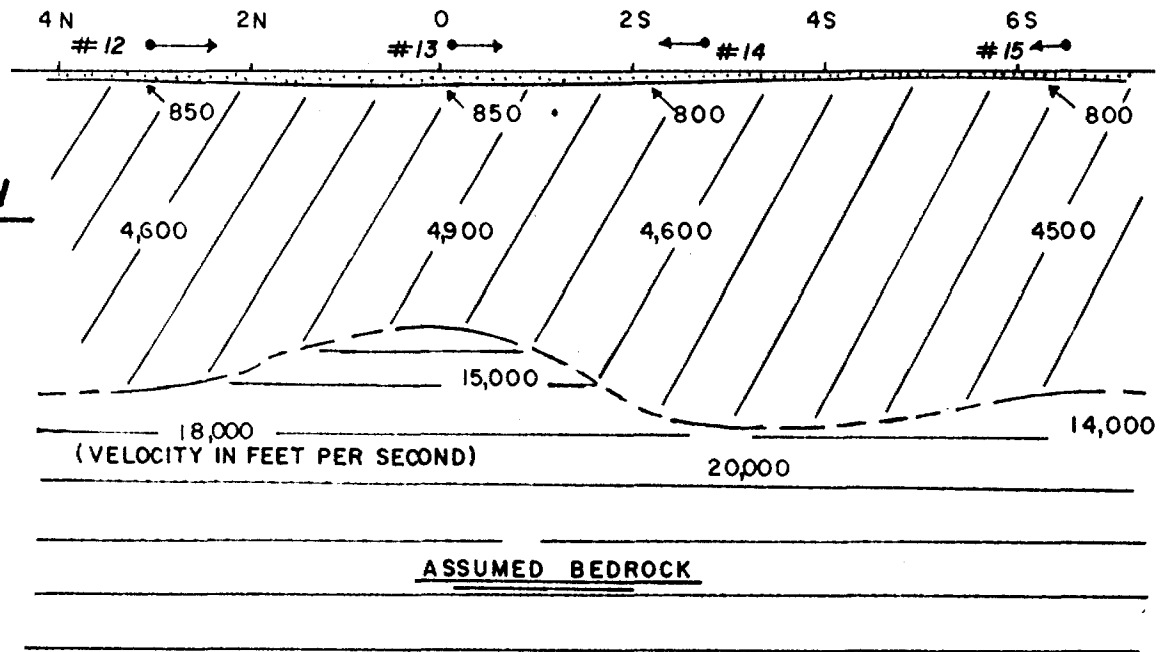


HORIZONTAL SCALE - 1"=200' VERTICAL SCALE - 1"=100'

BEDROCK PROFILES



28 W

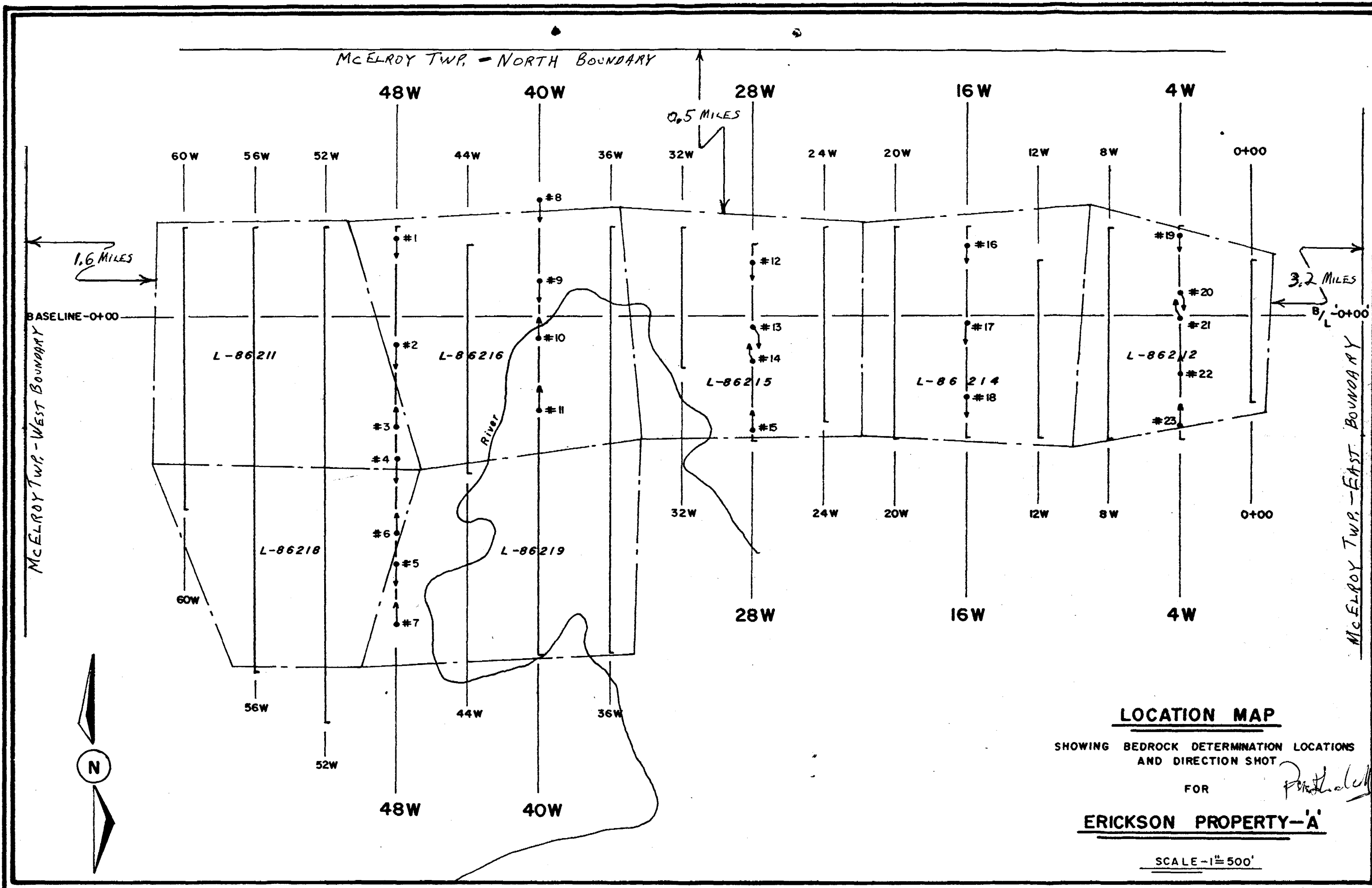


16 W

BEDROCK PROFILES

SCALE - VERTICAL - 1" = 100', HORIZONTAL - 1" = 200'

*Peter J. Walsh*



McELROY TWP. - NORTH BOUNDARY

48W

40W

28W

16W

4W

0.5 MILES

1.6 MILES

3.2 MILES

BASELINE - 0+00

0+00

McELROY TWP. - WEST BOUNDARY

McELROY TWP. - EAST BOUNDARY

L-86211

L-86216

L-86215

L-86214

L-86212

L-86218

L-86219

River



**LOCATION MAP**

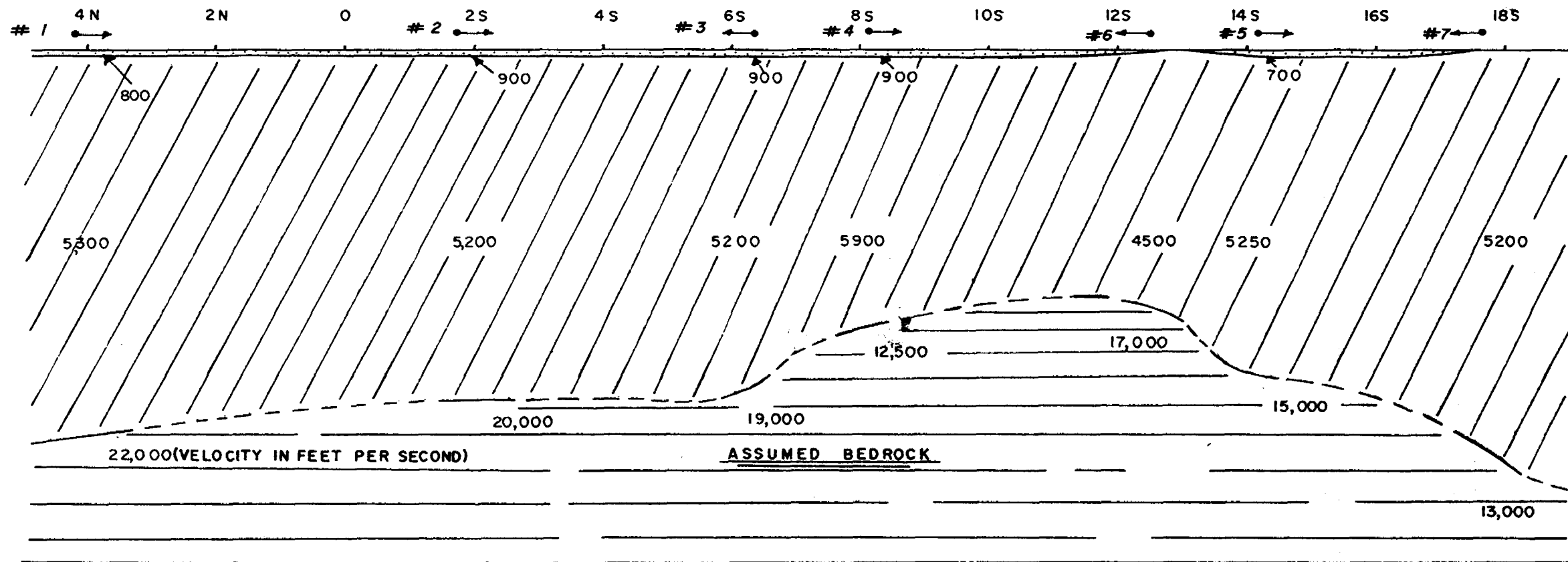
SHOWING BEDROCK DETERMINATION LOCATIONS AND DIRECTION SHOT

FOR

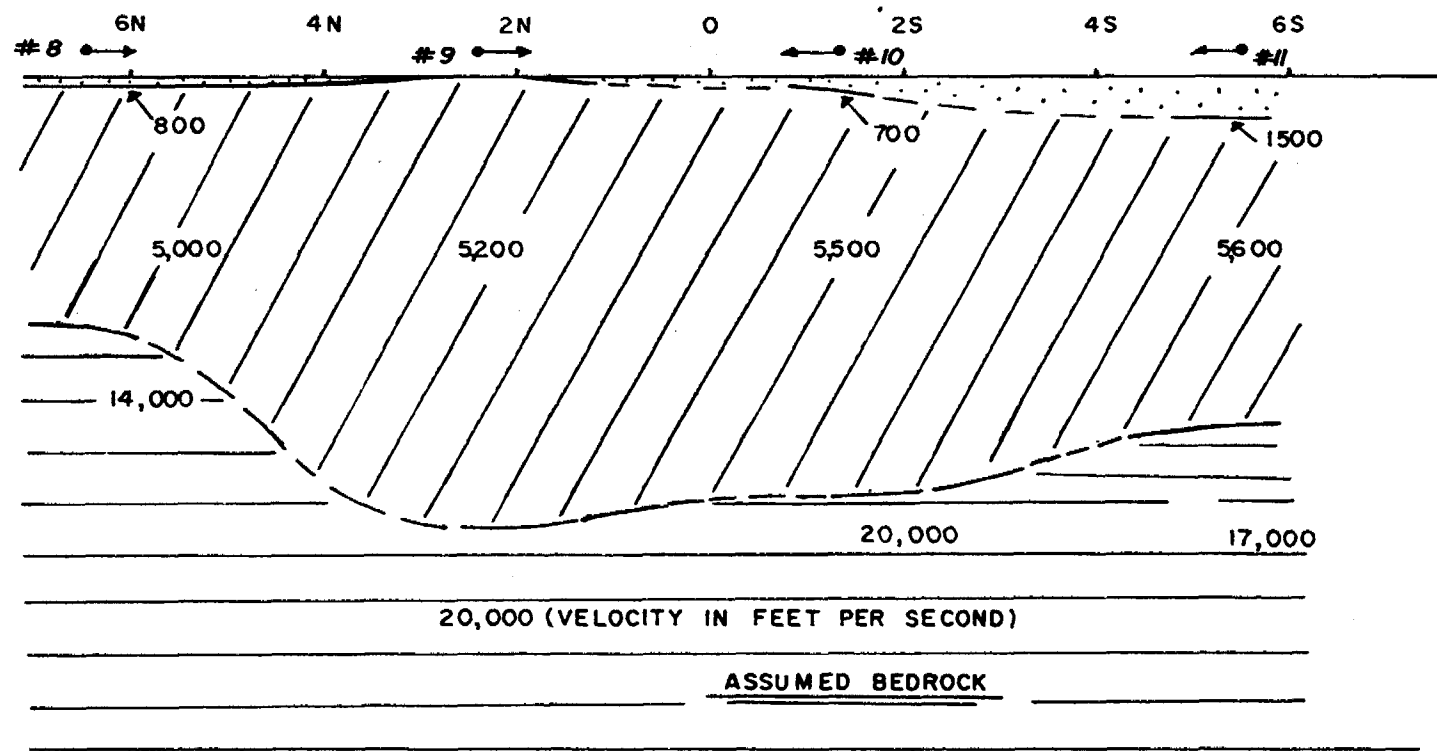
**ERICKSON PROPERTY-A**

SCALE - 1" = 500'

48 W



40 W

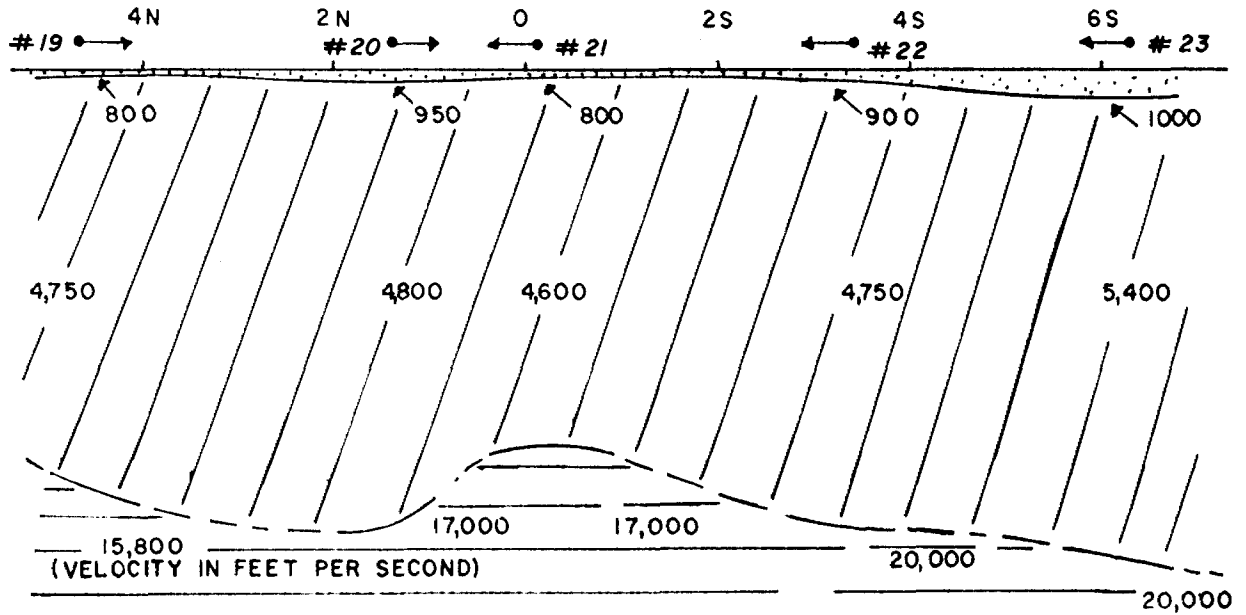


BEDROCK PROFILES

*Robert A. ...*

SCALE - VERTICAL - 1" = 100', HORIZONTAL - 1" = 200'

4 W



ASSUMED BEDROCK

BEDROCK PROFILE

*Handwritten signature*

SCALE - VERTICAL - 1" = 100', HORIZONTAL - 1" = 200'



32D04SW0848 63.1794 MCELROY

040

RADIOMETRIC SURVEY  
ERICKSON CLAIMS

MCELROY TOWNSHIP  
LARDER LAKE MINING DIVISION  
PROVINCE OF ONTARIO

RAYMOND A. ERICKSON  
601 S. BURTON PLACE  
ARLINGTON HEIGHTS, ILLINOIS  
OCTOBER, 1968

## I N T R O D U C T I O N   A N D   Q U A L I F I C A T I O N S

On August 2nd and 3rd, 1968, a radiometric survey was conducted by Mr. Raymond A. Erickson on 8 claims registered in his name in McElroy Township, near Kirkland Lake, Ontario. The purpose of the radiometric survey was to explore for radioactive minerals.

This report presents the results of the radiometric survey.

Qualifications of Mr. Raymond A. Erickson to conduct the survey include the following items:

1. Graduate of the University of Wisconsin in 1941 with a Bachelor of Science degree in Chemical Engineering.
2. Holder of Professional Engineer's License No. 7685 in the State of New Jersey.
3. Has over 27 years of experience in the field of chemical engineering involved in various aspects of research, development, engineering, planning studies, consultation, market surveys and sales coordination. Over 23 years of the foregoing have been in responsible type work requiring one's own initiative in supervision, consultation and coordination.
4. Has intimate knowledge of the claims and field procedures because of previous participation in seismic surveys made on the claims as well as other work accomplished on the claims.

5. Previous experience with the Geiger counter in exploring for uranium in Wyoming.

Supporting documents for these qualifications were submitted previously in a letter to Mr. R. V. Scott dated May 16, 1968.

P R O P E R T Y   A N D   L O C A T I O N

The 8 claims are located in McElroy Township about 10 miles East of Kirkland Lake, Ontario, as shown in the location map at the back of the report. A single claim, L-86217, (property "B" on the map) is located near the center of McElroy and is reached by driving past the Adams Mine to a pump house along the Misema River followed by walking on old logging roads. A 7-claim group (property "A" on the map) is located in the North-central part of McElroy Township and is reached by a turn-off south from Route 66 just east of the Esker Lake Provincial Park turn-off.

The 7 claims in this group are:

L-86211

L-86212

L-86214

L-86215

L-86216

L-86218

L-86219



B A C K G R O U N D

The claims were staked originally to search for buried placer gold in an ancient river valley system, originally defined in a publication written by Hulbert A. Lee (1) and in an article co-authored by A. Grant and G. Hobson (2). The ancient river valleys have been filled with sand and gravel as a result of glacial action. The Munro esker traverses one part of the 7-claim group.

Seismic work done in the summers of 1965 and 1966 established that the depth to bedrock ran from 131 to 312 feet over the surveyed area of the 7-claim group and a depth to bedrock of about 100 feet on the single claim. The seismic survey work was reported for assessment work credit in October, 1965 and September, 1966.

Work during the summer of 1967 consisted of drilling with hand tools to depths of 35 feet. This established the presence of traces of gold after the penetration of a few feet of sand and gravel with one anomalous high gold content of 0.58 ounces per ton. The location of the drilling was on the 7-claim group at 4,000' west and 70' north on the lines cut for seismic work. At this location there is a slow-moving spring flowing out of the esker sands and into the creek which makes a northerly loop through the 7-claim group.

Work conducted concurrently with the radiometric survey during the summer of 1968 includes a geochemical survey and a beneficiation study which are the subjects of separate reports.

(1) Lee, Hulbert A. Buried Valleys near Kirkland Lake, Ontario, Geological survey of Canada, paper 65-15.

(2) Grant A. and Hobson, G. Tracing Buried Valleys in the Kirkland Lake area by Hammer Seismograph, Canadian Mining Journal, Vol. 85, No. 4.

S U R V E Y   S P E C I F I C A T I O N S

The radiometric survey consisted of making determinations of total count radioactivity measurements along traverses consisting of previously established base lines for Properties "A" and "B" and along selected side lines for the 7-claim group, Property "A". These lines had been cut previously for seismic surveys.

The instrument used was a portable total units Geiger counter Model 107C manufactured by Precision Radiation Instruments, Inc., of Los Angeles, California. This instrument had a selector switch to obtain any of four scale settings running from zero to maximums of 0.04, 0.20, 2.0 and 20 milliroentgens per hour. There are 20 scale markings on this instrument so that the maximum sensitivity on the lowest scale reading is 0.04 divided by 20, which is equal to 0.002 milliroentgens per hour. Interpolation between scale markings increases the sensitivity to 0.001 mr/hr.

R E C O R D   Q U A L I T Y

All of the data were obtained on the lowest scale setting since there was not enough radioactivity anywhere on the properties to require adjusting to the next higher scale setting.

The needle fluctuated quite a bit at any location even though the slow time constant setting was used. Readings were taken by eyesight averaging over a period of about one minute at each location. It is thought that the variations in readings from one location to another are more indicative of variability in background radioactivity than of radioactivity attributable to sources in the ground.

R E S U L T S   A N D   C O N C L U S I O N S

Readings along the traverses run varied from 0.01 to 0.04 milliroentgens per hour as shown in the radiometric survey map included in the appendix. A total of 116 readings are plotted. There is no meaningful pattern in the data plot and it is thought that variations in readings are due to variability in background radioactivity.

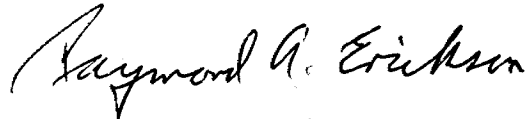
At no time did the Geiger counter reading climb markedly upwards to a high level sustained for a short period of time. Such an action might be indicative of the release of radioactive gas (radon) from some underlying source.

The results failed to show any significant radioactive source attributable to either direct presence of radioactive material or presence of diffused radioactive gas from an underlying source.

It is concluded that further work looking specifically for radioactive minerals is not promising. However, it would be worthwhile to examine any diamond drill cores for radioactivity incidental to any drilling into bedrock undertaken for other purposes.

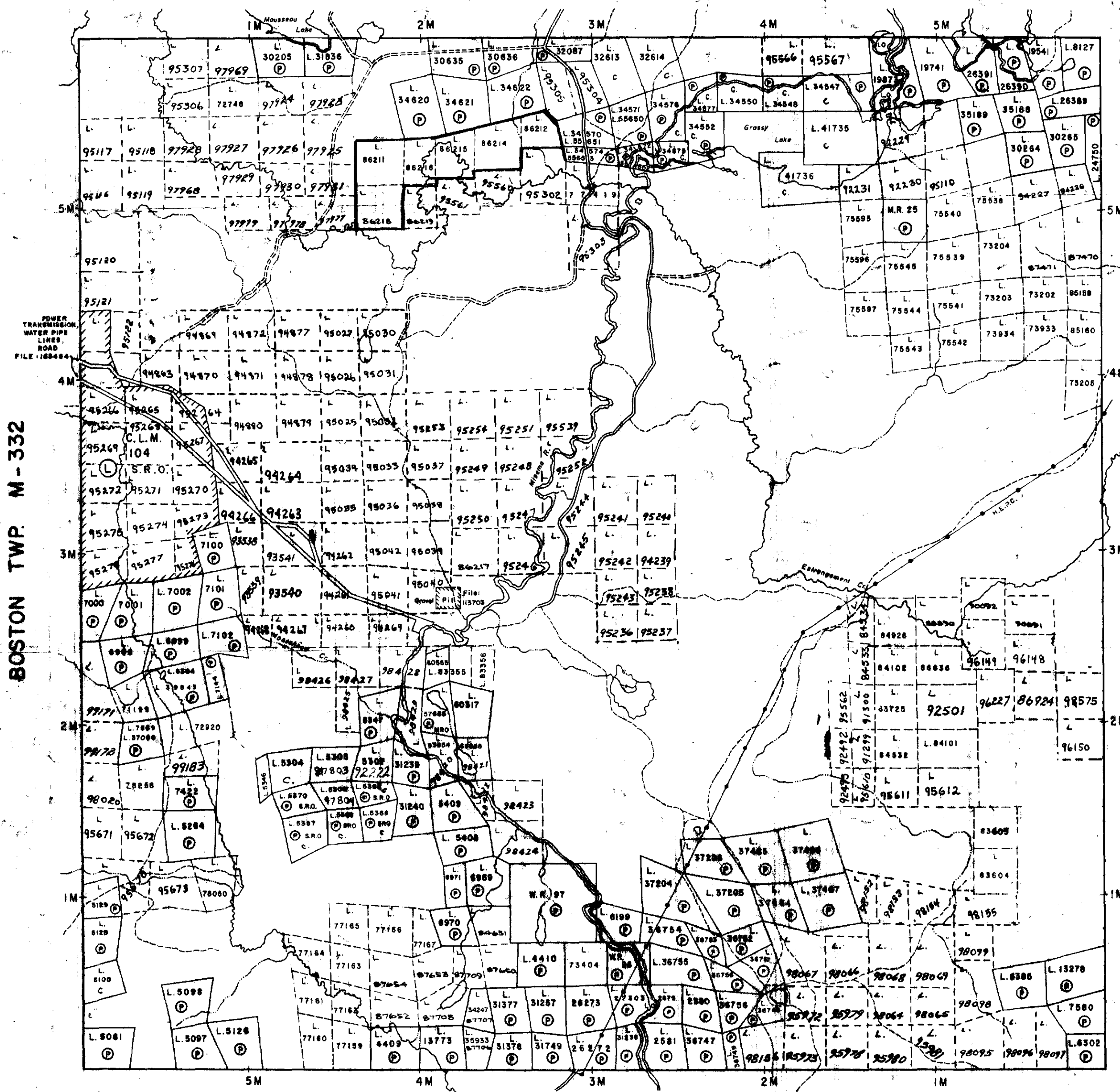
All of the work reported herein was done by Mr. Raymond A. Erickson. Field work was done on August 2nd and 3rd, 1968.

Respectfully submitted,

A handwritten signature in cursive script that reads "Raymond A. Erickson". The signature is written in dark ink and is positioned above the typed name and address.

Raymond A. Erickson, P. Eng.  
601 South Burton Place  
Arlington Heights, Ill., U.S.A. 60005

GAUTHIER TWP. M-350



THE TOWNSHIP OF  
OF  
**Mc ELROY**

DISTRICT OF  
TIMISKAMING

LARDER LAKE  
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

- PATENTED LAND Ⓟ
- CROWN LAND SALE Ⓢ
- LEASES Ⓛ
- LOCATED LAND Loc.
- LICENSE OF OCCUPATION L.O.
- MINING RIGHTS ONLY M.R.O.
- SURFACE RIGHTS ONLY S.R.O.
- ROADS —
- IMPROVED ROADS —
- KING'S HIGHWAYS —
- RAILWAYS —
- POWER LINES —
- MARSH OR MUSKIE —
- MINES Ⓜ
- CANCELLED C

NOTES

400' Surface rights reservation around all lakes & rivers.

DATE OF ISSUE

DEC 9 1966

ONTARIO DEPT. OF MINES

ONT. DEPT. OF MINES  
MINING LANDS BR.

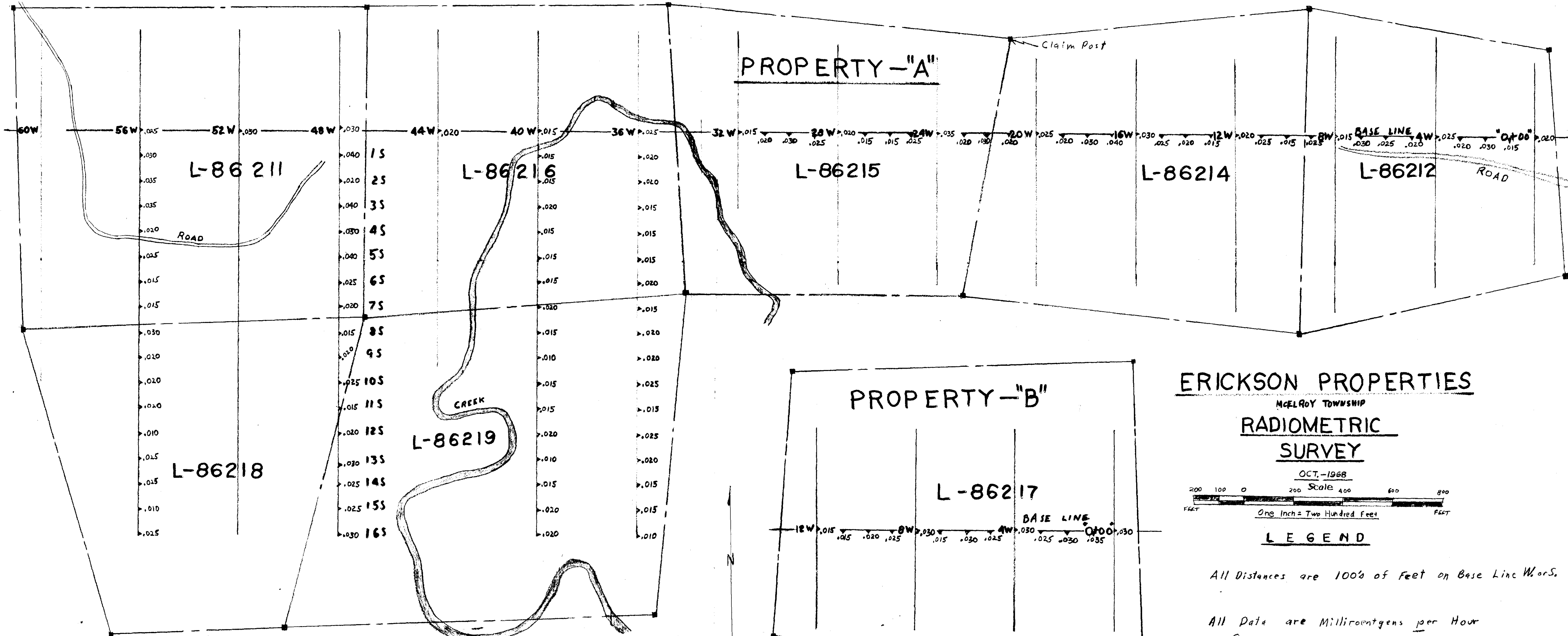
THIS MAP FOR CHECKING  
PURPOSES ONLY - MUST  
NOT BE SOLD.

PLAN NO. **M-366**

DEPARTMENT OF MINES

- ONTARIO -





**ERICKSON PROPERTIES**  
 McELROY TOWNSHIP  
**RADIOMETRIC SURVEY**

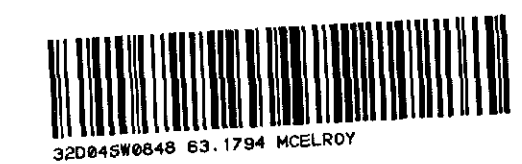
OCT.-1968  
 SCALE 400  
 200 100 0 200 400 600 800  
 FEET  
 One Inch = Two Hundred Feet  
 FEET

**LEGEND**

All Distances are 100's of Feet on Base Line W. or S.

All Data are Milliroentgens per Hour

Raymond A. Erickson, P. Eng.





GAUTHIER TWP. M-350

THE TOWNSHIP OF

Mc ELROY

DISTRICT OF  
TIMISKAMING

LARDER LAKE  
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

- PATENTED LAND Ⓟ
- CROWN LAND SALE C.S.
- LEASES Ⓛ
- LOCATED LAND Loc.
- LICENSE OF OCCUPATION L.O.
- MINING RIGHTS ONLY M.R.O.
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- RAILWAYS —
- POWER LINES —
- MARSH OR MUSKEG —
- MINES Ⓜ
- CANCELLED C.

NOTES

400' Surface rights reservation around all lakes & rivers.

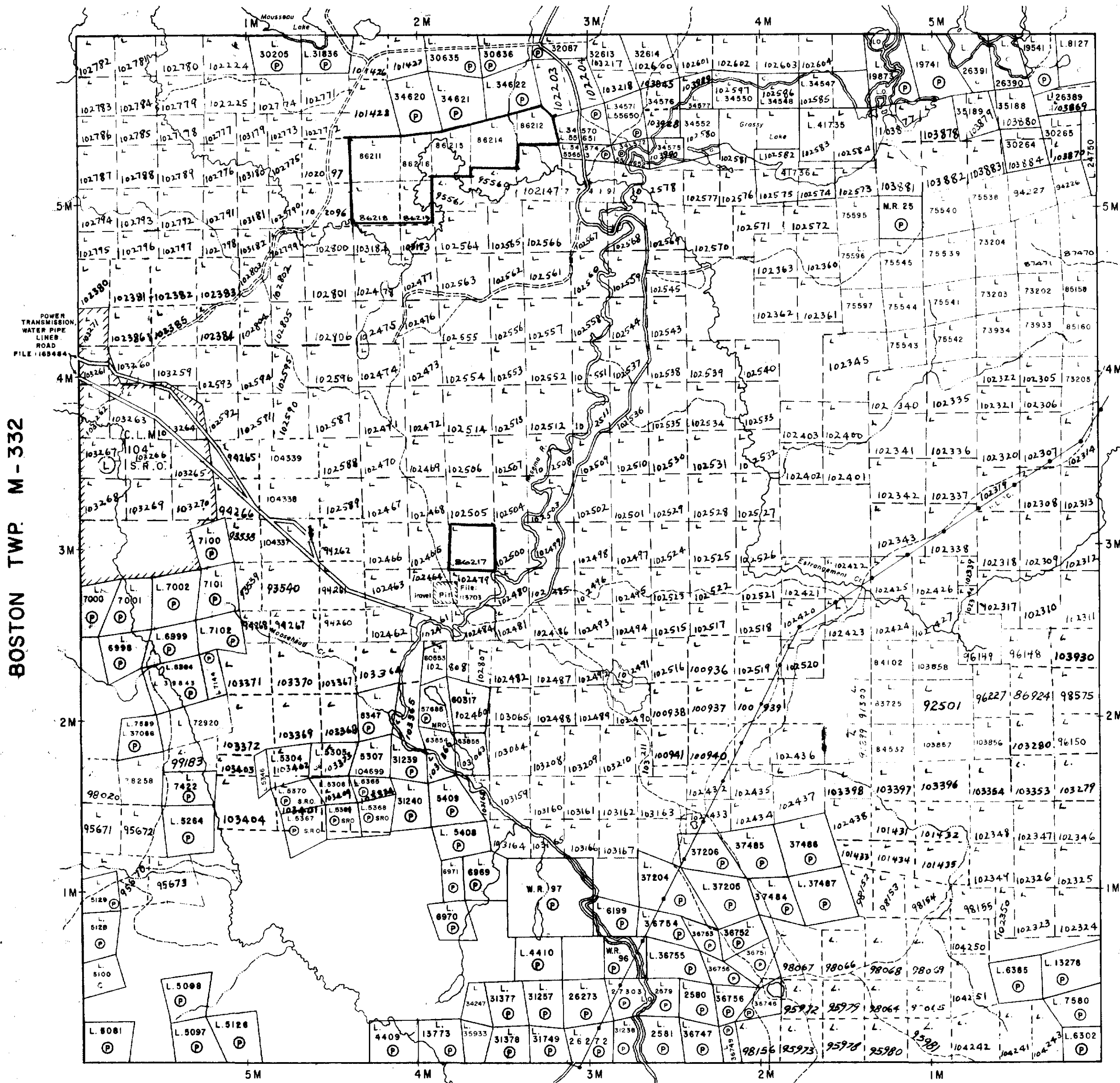
JAN 17 1969

ONT. DEPT. OF MINES  
MINING LANDS BR  
THIS MAP FOR CHECKING  
PURPOSES ONLY - MUST  
NOT BE SOLD.

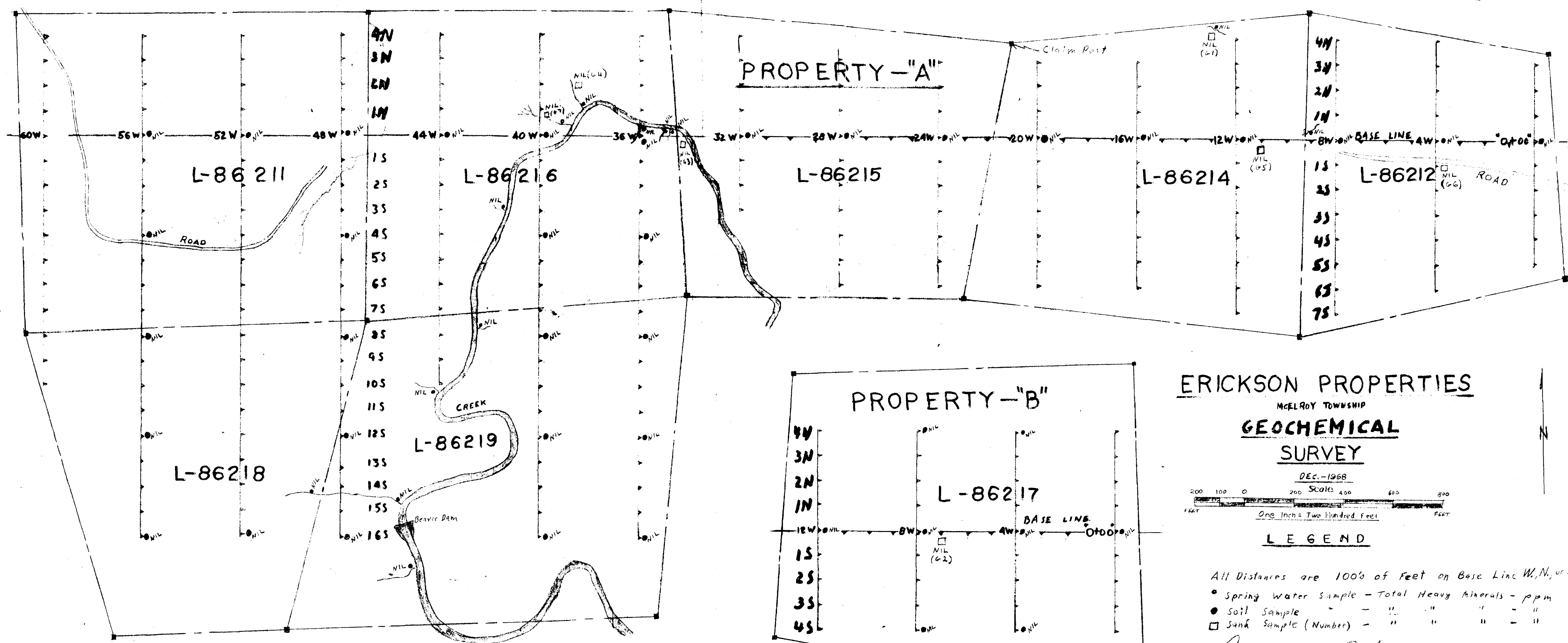
PLAN NO. M-366

DEPARTMENT OF MINES

- ONTARIO -



320945W848 63.1794 MCELROY



PROPERTY - "A"

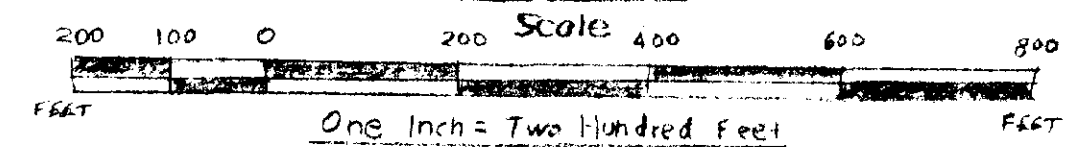
PROPERTY - "B"

ERICKSON PROPERTIES

MCELROY TOWNSHIP

GEOCHEMICAL SURVEY

DEC. - 1968

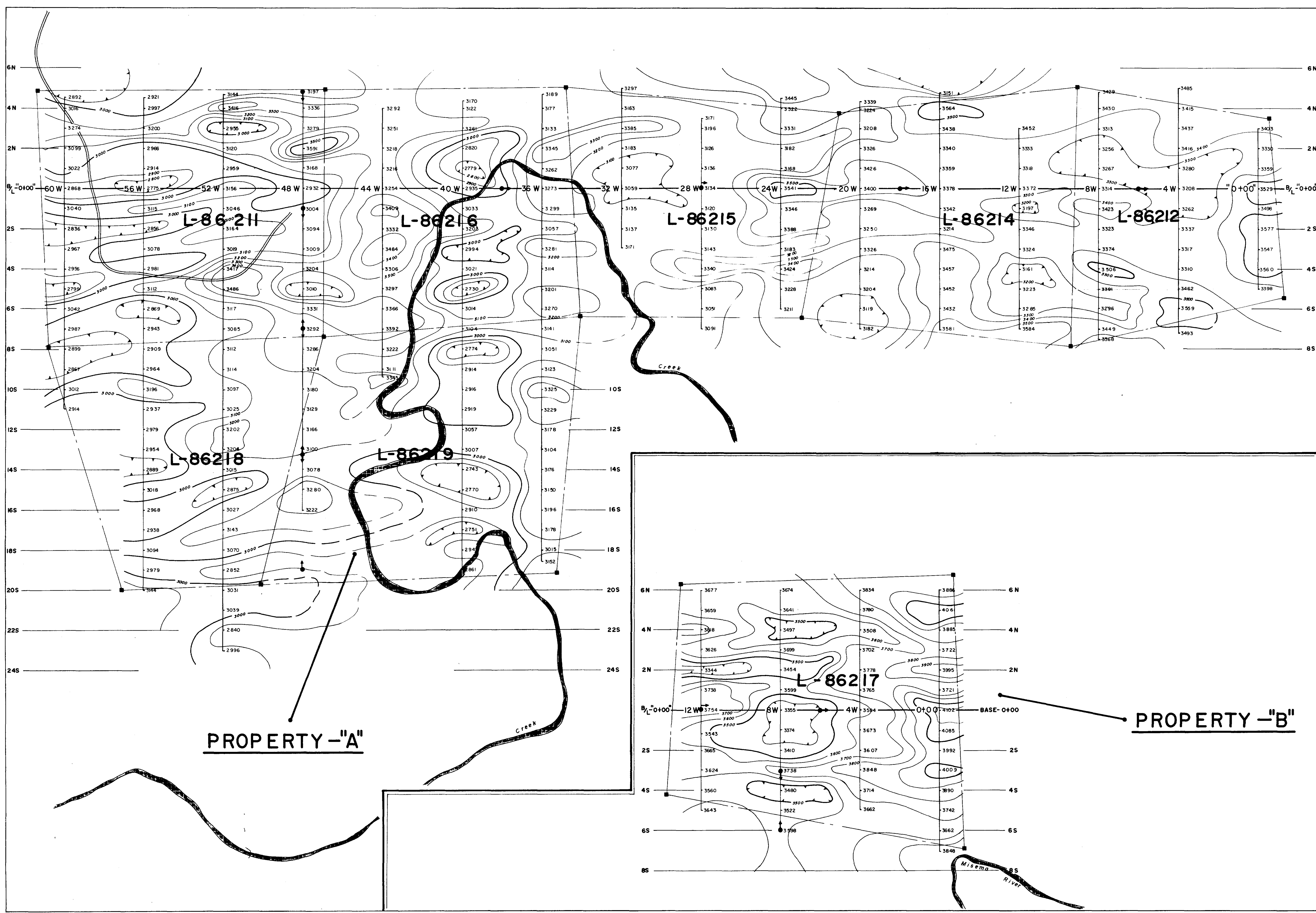


LEGEND

- All Distances are 100's of Feet on Base Line W, N, or S.
- Spring Water Sample - Total Heavy Minerals - ppm
- Soil Sample - " " " " "
- Sand Sample (Number) - " " " " "

Raymond A. Erickson, P. Eng.





**PROPERTY "A"**

**PROPERTY "B"**

**LEGEND**

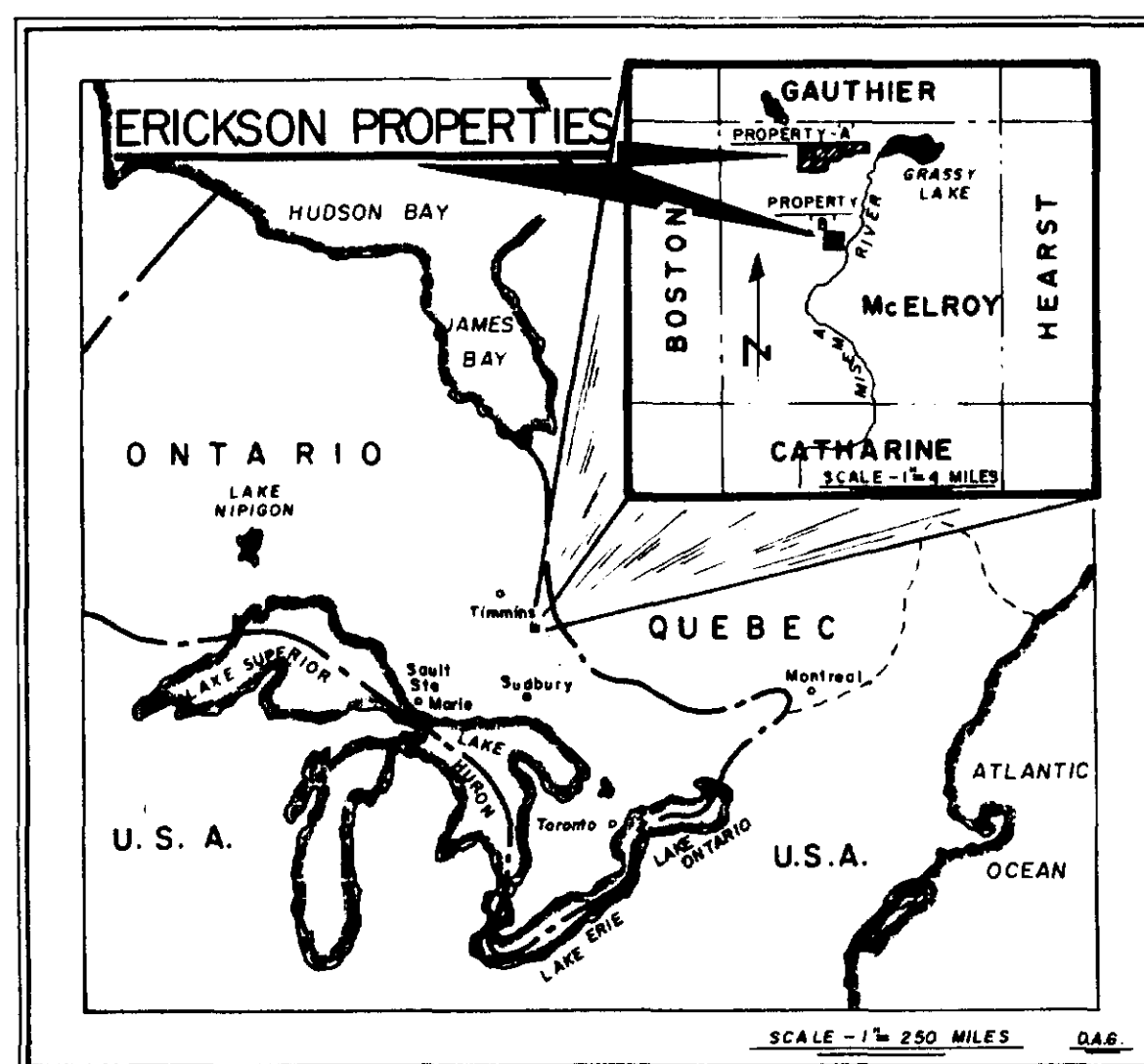
**MAGNETOMETER SURVEY**

- Contour Interval 100 Gammas
- 500, 1000 Gamma Contour
- 100 Gamma Contour
- Magnetic Depression

**MAP SYMBOLS**

- Claim Post and Claim Boundary (approx.)
- River or Creek (approx.)
- Road or Trail (approx.)
- Bedrock Determination Location and Direction shot

**LOCATION MAP**

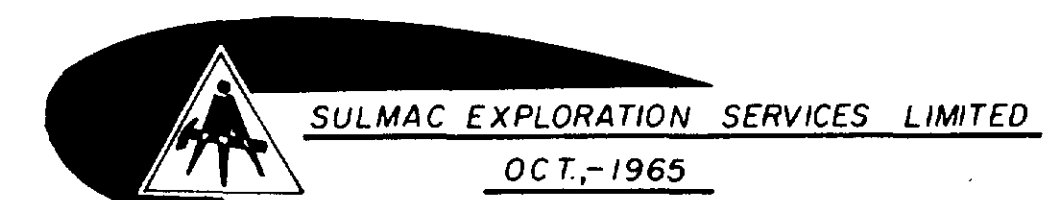


**ERICKSON PROPERTIES**

McELROY TOWNSHIP, DISTRICT OF TIMSKAMING, ONTARIO

LARDER LAKE MINING DIVISION

**MAGNETOMETER SURVEY**



SULMAC EXPLORATION SERVICES LIMITED  
OCT., 1965

Scale  
0 100 200 300 400 500  
FEET  
One Inch = Two Hundred Feet

GEOPHYSICIST: P. WALCOTT. DRAWN BY: D.A. GRANT

