SUMMARY

Magnetic zones of varying continuity and size occur throughout the surveyed area. A large, complex magnetic area is located in the south - central part of the area surveyed. The positions of the two sampled areas on its perimeter may be found to have significance.

Stripping is proposed across several magnetic features with the checking of exposed bedrock by radiometric measurements. Radioactive zones responding favorably to preliminary sampling should be systematically trenched and sampled at a minimum depth of two feet.

INTRODUCTION

The magnetometer survey covers part of a group of forty mining claims held by Coulee Lead and Zinc Mines Limited in Bridges Township, about forty-five miles east of Kenora, Ontario. It was laid out to cover the strike extensions of two sampled areas about 2,000 feet apart, and is confined mainly to eleven of the claims which are numbered as follows:

K 39965, K 39966,
K 39969 to K 39971,
K 39974, K 39977,
and K 41202 to K 41205.

The property is accessible across a small lake from the

end of a short side road running north from Highway 17.

The area is underlain by Archean granite and related intrusive rocks including pegmatite and porphyry dykes in which uranium values are found. Remnants of earlier sediments and volcanics altered and partly assimilated by the granitic rocks are fairly common. The magnetic rocks in the area are expected to be mainly pegmatite dykes and some components of the metasediments and metavolcanics.

As the property is largely covered by generally light overburden, this survey was undertaken to try to trace known pegmatite and locate new pegmatitic zones under the overburden and otherwise provide structural information to help guide further exploration.

SURVEY EQUIPMENT AND PROCEDURES

A Sharpe MF - 1 Magnetometer was employed to provide the magnetic readings. The picket lines were spaced 200 feet apart along the base line which runs North 80 degrees East. The intermediate traverses across anomalous zones were paced. The spacing of readings along the lines was generally 25 feet, with 50 - foot spacings used on a few lines in areas of low magnetic relief.

SURVEY RESULTS

The large plan accompanying this report shows all the magnetic results of the survey in profile form. The smaller plan shows the results in the south - central area in contour form.

The northern edge of the area surveyed shows a higher magnetic background and a series of trends that appear more or less continuous. This may represent minor changes in composition of the granitic intrusives near their boundary with metasediments to the north. In the rest of the surveyed area, several anomalous zones have good continuity but appear to be composed of individual magnetic features that are generally shorter than the distance between the lines. This type of anomalous zone consisting of many small anomalies may be expected of magnetite - bearing pegmatites as pegmatite mineralization is characteristically irregular, but similar magnetic results may be anticipated over the metasediments and metavolcanics.

The complex magnetic system extending through the south - central part of the surveyed area is notable because of its proximity to the sampled areas and the indication of possible structural change around Line 16 East between 300' South and 1,000' South. The possibility that these zones may be partly caused by highly magnetic pegmatite is a key question, but it is also evident that the pegmatite may not be noticeably magnetic

in places and that favorable ground is not confined to the strongly anomalous zones. The latter is illustrated by the large mass of pegmatite lying north of the magnetic zone near the Base Line at Line - O. The anomalous zone here will serve as a guide to extending the pegmatite showings and exploring the possibility that the magnetic zone may have a relationship with the boundary of the pegmatite or with uranium values in pegmatite near its margin. Near Line 16 East a similar situation exists with values found in pegmatite in a weakly anomalous area some 200 feet east of the strong magnetic zone.

As some pegmatites are not noticeably magnetic while others may be irregularly and variably magnetic, it follows that any magnetic response may be caused by pegmatite with no indication shown of width or continuity. It also follows that weak anomalies near the main anomalous zones and elsewhere are as likely to indicate pegmatite as the strong anomalies.

RECOMMENDATIONS

A program of stripping is recommended to search for pegmatite bodies which may be the causes of various magnetic features and to investigate areas adjacent to the earlier trenching. After detailed examination of the exposures for radioactivity, favorable zones should be systematically trenched and sampled at a minimum depth of two feet.

It is suggested that conditions permitting, stripping locations be chosen from the following, crossing the locations

as accurately as practicable, at about plus 10 degrees to the direction of the picket lines except as noted.

1) Base Line at 100' West, to 400' north and 50' south

2) Base Line at 300' East, to at least 100' north and 100' south

3) Base Line at 1400' East, 150' north and 300' south

4) Line 18 East at 700' South, 350' north and 400' south

5) Line 16 East at 400' South, 100' north and 250' south, at North 30 degrees East

6) Line 16 East at 600' South, 100' north and 250' south at North 30 degrees East

7) Line 14 East at 800' South, 400' south

8) Line 12 East at 700' South, 200' north and 500' south

9) Line 4 East at 700' South, 100' north and 250' south

10) Line 8 East at 900' South, 250' north and 250' south

It may be assumed that other stripping locations will be chosen in the course of this program on the basis of results obtained.

Respectfully Submitted,

A. B. Fleming, B. Eng.

Toronto, Ontario.
February 5th, 1968.

020

SEIGEL ASSOCIATES LIMITED
GEOPHYSICAL CONTRACTORS AND CONSULTANTS

79 MARTIN ROSS AVE.
DOWNSVIEW, ONTARIO
CANADA

TELEPHONE 633-2450
636-0801
TELEX 02-29891

SUMMARY

A ground radioactive spectrometer survey utilizing a Scintrex GIS-2 Gamma Ray Integrating Spectrometer with threshold set at 1.65 MeV (to record only uranium and thorium) was executed on a claim group in the Game Lake Area, Ontario.

Fourteen zones of first and twelve zones of second priority were outlined in the area surveyed.

Follow-up of these anomalies by means of stripping the surrounding overburden and systematic trenching and sampling is recommended.

SEIGEL ASSOCIATES LIMITED
GEOPHYSICAL CONTRACTORS AND CONSULTANTS

79 MARTIN ROSS AVE.
DOWNSVIEW, ONTARIO
CANADA

TELEPHONE 633-2450
636-0801
TELEX 02-29891

REPORT ON A GROUND RADIOACTIVE SPECTROMETER SURVEY IN THE GAME LAKE AREA, BRIDGES TOWNSHIP, KENORA REGION, ONTARIO ON BEHALF OF COULEE LEAD AND ZINC MINES LIMITED

INTRODUCTION

During the period October 19th to October 31st, 1967, inclusive, a geophysical field party executed a ground radioactive spectrometer survey on claims located in the Game Lake area, Township of Bridges, Kenora Region, northwestern Ontario, on behalf of Coulee Lead and Zinc Mines Limited. The claims covered in whole or in part include the following:

K39965, K39966,
K39969 - K39971 inclusive,
K39974, K39977, K39980,
K41202 - K41205 inclusive.

Mining rights on these claims are held by Coulee Lead and Zinc Mines Limited and are found on Bridges claim map (Kenora Mining Division, District of Kenora). The centre of the property is about 10 miles west of the Vermillion Bay townsite and one mile north of the Trans Canada Highway. Access to the property is by road and across a lake. Plate 1, on the scale 1" = 40 chains, shows the property location in relation to the local topography.

On this property the survey lines were cut oriented N20W at 200' intervals. About 17.3 miles of cut line cover the 12 claims on which the readings were taken.

TOPOGRAPHY AND GEOLOGY

The area over which the survey was executed is part of Archean aged strongly foliated gneiss, migmatite, granite porphyritic granite, quartz and feldspar porphyries and pegmatite, including areas containing abundant inclusions of metasediments or metavolcanics or both. (See Map 2115 Kenora-Fort Frances Sheet, Geological Compilation Series of Ontario Department of Mines, 1967 and Preliminary Report on Radioactive Occurrences in the Kenora Area by E.O. Chisholm, Ontario Department of Mines, 1950).

Submicroscopic grains of radioactive material are found as a constituent part of narrow pegmatitic stringers and dikes in the gneissic-metavolcanic belt. High radioactivity is particularly noticeable where a great amount of coarse grained biotite is present in the pegmatite (or in porphyritic granite and feldspar porphyry).

In the western part of the property there is more outcrop than in the eastern part where light bush and underbrush cover most of the rock. The granitized outcrop in the western part are more radioactive on the whole than those in the eastern part. A number of east-west running ridges are outcropping for 1000' or more in the western part of the area. Between these ridges low swampy and bush-covered terrain is present. Less than 10% of the

area consists of outcrop.

SURVEY EQUIPMENT, PROCEDURES AND STATISTICS

The geophysical ground equipment consisted of a 2" x 2" sodium iodide crystal coupled to a photomultiplier tube whose output was fed into a Scintrex GIS-2 Gamma Ray Spectrometer. This instrument is a fully transistorized scintillation counter with gamma ray discrimination, enabling the distinction to be made between uranium, thorium and potassium.

The variable threshold was set at 1.65 MeV so that only gamma ray energies higher than 1.65 MeV (from uranium or thorium) were counted. Occasionally, in areas of increased radioactivity the threshold was set at 2.50 MeV so that discrimination between uranium and thorium could be made and percentages of U and Th calculated. The formulae used for these calculations are as follows:

$$\text{.....\% Th} = \frac{\text{c.p.s. at 2.50 MeV - c.p.s. at 2.50 MeV background}}{250}$$

$$\text{.....\% U} = \left(\frac{\text{c.p.s. at 1.65 MeV - c.p.s. at 1.65 MeV background}}{830}\right) - 2.7\left(\frac{\text{c.p.s. at 2.50 MeV - c.p.s. at 2.50 MeV background}}{830}\right)$$

c.p.s. = counts per second measured on the ratemeter

c.p.s. = counts per second background level

250, 830 and 2.7 refers to a semi-infinite source (= average outcrop). The members of the uranium and thorium series are supposed to be in equilibrium and leaching and radon effects are ignored in these factors.

The accompanying copy of a paper by R.H. Pemberton and H.O. Seigel gives further information on the theory of operation of this type of radiometric detection.

Along the survey lines readings were taken every 100'. Over most of the outcrops (granite to pegmatite) readings were taken as often as possible between the lines to locate possible anomalies. If no anomalies were found the average counts per second of the whole outcrop was taken as a significant measure. The most important anomalies are marked in the field by red flagging on the nearest tree (with the c.p.s. indicated) or by marking the area on the outcrop with red paint.

Plate 2, on the scale 1" - 400' shows the survey lines covered and their relation to the claims involved.

DISCUSSION OF RESULTS

Plates 3 and 4, on the scale 1" = 100' and Plate 5 on the scale 1" = 20', show the actual survey results.

Each station is marked by the c.p.s. of gamma ray energies higher than 1.65 MeV (occasionally c.p.s. over 1.65 MeV/c.p.s. over 250 MeV). For outcrops the average in c.p.s. is given for that part of the outcrop surveyed. For some anomalies separate measurements are given for U and Th both in c.p.s. and in percentage.

Approximate geological determination of rock facies of the outcrops was made in the field and this geological information is given as well.

In general, zones with higher than 20 c.p.s. (1.65 MeV setting) are narrow and not wider than 1 foot, anomalies usually have no greater surface extension than 1 sq. ft. Exceptions are marked on the plates.

Typical background values for the rock types and covered areas are as follows:

Rock Type	Background in c.p.s. U + Th 1.65MeV	Th 2.50 MeV
Swamp and bush	1-2	1
± 1' overburden	2-3	1-2
Metavolcanics and metasediments	2-3	1-2
White and fine-grained granite	3-4	1-2
Red Granite	4-5	2
Porphyries and pegmatite	5-7	2

High counts of gamma ray radiation energies from uranium and thorium are associated with pegmatite and porphyritic granite stringers particularly where a high amount of biotite (crystals larger than ½") is present. There is no constant uranium/thorium relation found throughout the area surveyed. The following zones and smaller areas are of interest:

A. Lines 3W - 13W, Station 15N

This zone is located at the top and south slope

of a long ridge. The width of the zone varies but it is generally not greater than 1 foot. Most of the zone gives 15-20 c.p.s. (1.65 MeV)(less than .02%U). The important part is immediately east of line 10W where a small area exists with up to 135 c.p.s./31 c.p.s. (0.12% Th and 0.06%U).

B. Line 16W Station 14.40N

A red granite outcrop - sharp edged in the west dipping east and there covered with bush and moss - has a zone smaller than 1 foot wide and 80' long. This zone gave better than 30 c.p.s. (1.65 MeV) with the maximum being 110 c.p.s. (0.10%U).

C. Line 28W Station 10.50N)

At the north slope of a granite-pegmatite in metasediments - a small area 5' x 1' shows over 30 c.p.s. (1.65 MeV).

D. Line 6E Station 11N

In a bushy area the small granite outcrops give readings up to 43 c.p.s. (= 0.04%U).

E. Lines 21W-22W, Station 5.50N

A red granite-pegmatite in metasediments shows over a length of 130' higher than background level with readings up to 35 c.p.s. (1.65 MeV).

F. Lines 4W-10W Stations 2.00N - 2.50N

This 600' long zone has two major sections. One around line 7W with readings up to 45/6 (0.02% Th and 0.03% U). The second section between line 5W and 6W has a small surface exposure 2' x 2' in size with readings up to 38/6, this is located

30'W of a small pit.

G. Lines 0+00 - 2+50W Stations 1.00N - 2.50N

(See Plate 5) The known trenches and pits were all examined. The readings are influenced by both the rock pieces and dust blown around by blasting and by scattering from the sides of the trenches. The readings are higher than they should be for a flat undisturbed outcrop containing the same amount of uranium and thorium. The undisturbed part of the granite outcrop has readings up to 5-6 c.p.s. (1.65 MeV). In the trenches with fresh unbleached rock the average is up to 30-35 c.p.s. (0.015% Th and 0.025%U). The highest readings 200 c.p.s./30 c.p.s. or 0.12% Th and 0.15%U were given by the biotite-rich porphyry granite-pegmatite zones. Most of the trenches do not exceed 5' x 2'.

H. Line 20W along B.L.

A small zone 80' long and generally 1' in width shows readings over 50 c.p.s. (1.65 MeV). The highest readings over a section 1' x 1' were 185 c.p.s./13 c.p.s. or 0.05% Th and 0.17%U. Another part 3' x 3' gives 50 c.p.s. or 0.05% U.

J. Line 18W-20W Station 4.80S

L. Line 24W-25W Station 6.50S

Two granite-pegmatite ridges are easterly dipping into swampy-bush covering in the S.W. part of the grid. Readings up to 30 c.p.s. with a maximum of 60 c.p.s. over a section less than 1' x 1' were measured.

K. Line 8E Station 2.80S

A narrow zone 100' long with a maximum of 56 c.p.s./4 c.p.s. at the west end (0.02% Th and 0.05% U).

M. Line 25E-26E Station 16N

Two small anomalous zones close together in granite with a maximum over 1' x 1' of 40 c.p.s.

N. Line 15E-17E Station 1N

A 200' long, narrow zone in granite with local spots up to 45 c.p.s. (1.65 MeV).

O. Line 19E Stations 6.20S and 7.50S

The trench at station 6.20S had a maximum in the biotite rich zone of up to 145 c.p.s./8 c.p.s. (0.03% Th and 0.14%U). Thirty feet NNW from the trench up to 14 c.p.s. were recorded with a background of 3-4 c.p.s. Thirty feet SSE of the trench a very small spot shows 27 c.p.s. which may possibly be caused by a boulder.

The pit 3' x 3' and 4' deep at 7.50S gave an average of 160 c.p.s./12 c.p.s., this is strongly influenced by the sides of the pit. Maximum is 200 c.p.s./16 c.p.s. or 0.08% Th and 0.18% U.

Other zones of second priority are located as follows:

Line 28W	Station 5.00S
Line 22W	Station 1.50S
Line 16W-18W	Station 13.30S
Line 16W-17W	Station 13.70S

Line 15W-14W	Station B.L.	
Line 12W-11W	Station 3.50N	
Line 10W	Station 4.10S	
Line 2E	Station 8.70N	(boulder?)
Line 4E	Station 2.50S	
Line 4E	Station 12.30S	
Line 12E	Station 7.40S	
Line 20E	Station 8.60S	

CONCLUSIONS AND RECOMMENDATIONS

Fourteen radioactive zones of first priority and twelve zones of second priority were delineated in the survey. Due to the fact that 90% of the area surveyed is covered by overburden it is apparent that we have in fact been able to sample the uranium content of only a small percentage of the area's bedrock surface due to the limiting penetration ability of gamma radiation (17 inches of overburden effectively masks 90% of uranium gamma radiation from below).

A number of outcrop areas have shown uranium concentrations of respectable proportions (greater than 0.10% U). Most of those located to date, however, are not of great areal extent on surface outcrop.

The uranium and thorium percentages as computed from the readings taken with the GIS-2 spectrometer are valid only if the radioactive decay series in each case is in equilibrium. If leaching of uranium has in fact taken place then the calculated

percentages for uranium may well be too low. During the last year it has fairly well been established that leaching of uranium is far more common than previously believed. In such cases one can expect improvement in grade as one blasts down into the unweathered rock.

It is recommended that scraping-off of the overburden around the fourteen priority zones be undertaken. This should be followed by trenching and systematic sampling as surface indications dictate.

The area is ideally located for continuous winter operations and a bulldozer could very usefully be employed immediately.

Respectfully Submitted,

SEIGEL ASSOCIATES LIMITED

Jan Klein

Jan Klein, M.Sc.

Roger H. Pemberton

Roger H. Pemberton, M.Sc.

Toronto, Ontario
November 9th, 1967.

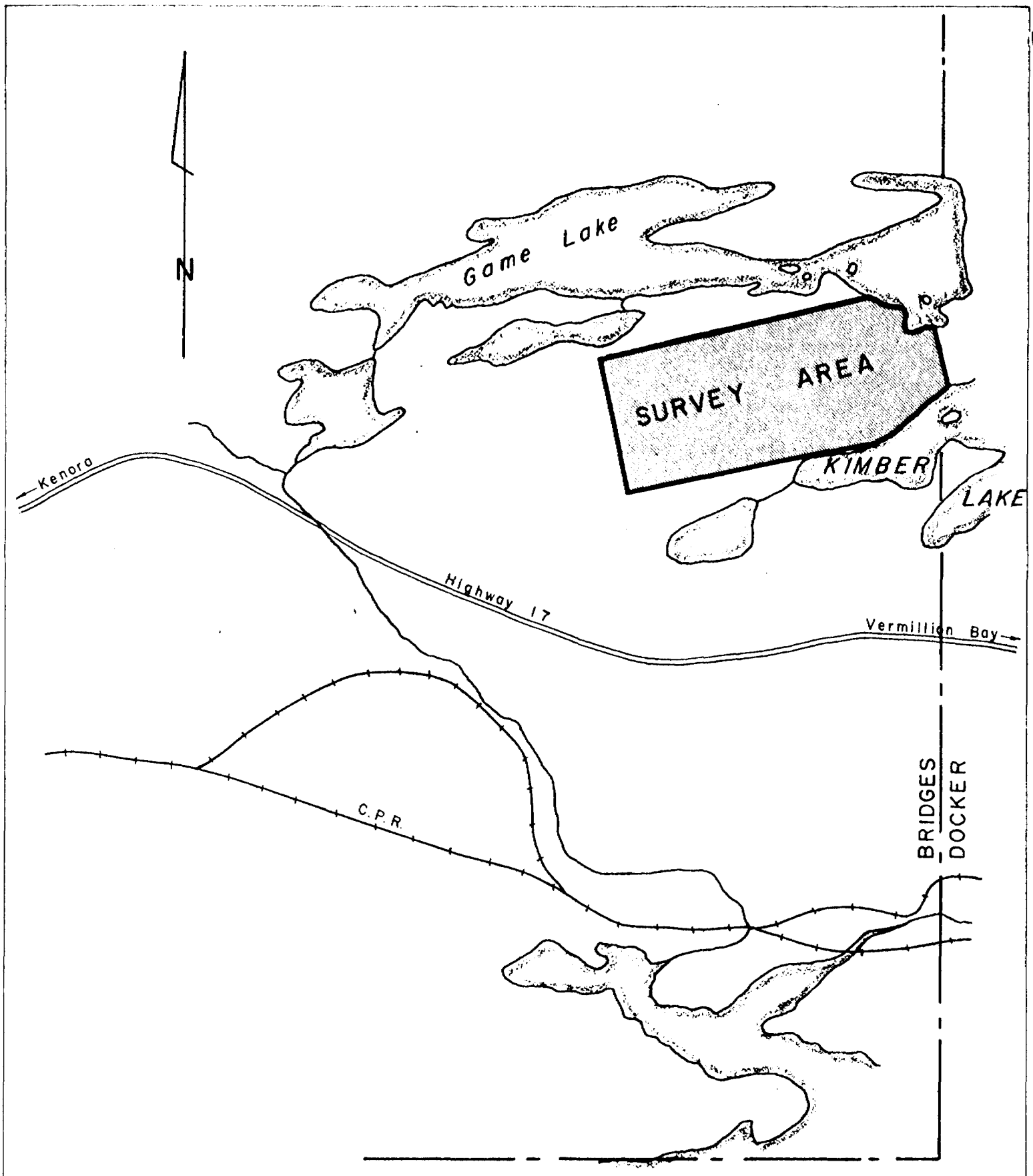


PLATE I

COULEE LEAD & ZINC MINES LIMITED

GAME LAKE AREA , BRIDGES TOWNSHIP

KENORA REGION , ONT.

LOCATION MAP OF THE

GROUND RADIOACTIVE SPECTROMETER SURVEY

SCALE 1" = 1/2 MILE

SURVEY BY SEIGEL ASSOCIATES LIMITED

OCTOBER 1967

63.2267

REGISTERED PROFESSIONAL ENGINEER
R. H. PEMBERTON
PROVINCE OF ONTARIO

REPORT ON AN AIRBORNE RADIOACTIVITY SURVEY IN THE GAME AND GORDON LAKE AREAS, ONTARIO ON BEHALF OF COULEE LEAD & ZINC MINES LIMITED

by

Jan Klein, M.Sc.

and

Roger H. Pemberton, M.Sc.

Toronto, Ontario

October 12th, 1967.

SEIGEL ASSOCIATES LIMITED
GEOPHYSICAL CONTRACTORS AND CONSULTANTS

79 MARTIN ROSS AVE.
DOWNSVIEW, ONTARIO
CANADA

TELEPHONE 633-2450
636-0601
TELEX 02-29891

SUMMARY

During the period September 25th to September 30th 1967, Seigel Associates Limited flew 286 line miles of airborne radioactivity survey in the Game Lake and Gordon Lake areas of northwestern Ontario. The threshold radioactive spectrometer employed recorded only the higher energy gamma rays originating from the uranium/thorium series.

In the Game Lake area several zones along the geological strike with higher than 1½ times background uranium/thorium counts are found. In the Gordon Lake area no interesting zones are indicated.

SEIGEL ASSOCIATES LIMITED
GEOPHYSICAL CONTRACTORS AND CONSULTANTS

79 MARTIN ROSS AVE.
DOWNSVIEW, ONTARIO
CANADA

TELEPHONE 633-2460
636-0801
TELEX 02-29891

REPORT ON AN AIRBORNE RADIOACTIVITY SURVEY IN THE GAME AND GORDON LAKE AREAS, ONTARIO ON BEHALF OF COULEE LEAD & ZINC MINES LIMITED

INTRODUCTION

During the period September 25th to September 30th, 1967, an airborne radioactivity survey was undertaken in the Game Lake and Gordon Lake areas, northwestern Ontario, on behalf of Coulee Lead & Zinc Mines Limited, (Plate 1). On September 27th and 29th a total of 258 miles of survey line was flown in the Game Lake area. In the Gordon Lake area a total of 28 miles of survey line was flown on September 29th 1967.

AREA OF SURVEY

The areas over which the survey was conducted are part of Archean aged granites, gneisses, pegmatites etc. (See: Map 2115 Kenora - Fort Frances Sheet, Geological Compilation Series of Ontario Department of Mines, 1967 and Preliminary Report on Radioactive Occurrences in the Kenora Area by E.O. Chisholm, Ontario Department of Mines, 1950.)

Submicroscopic grains of radioactive material are found as a constituent part of narrow pegmatitic stringers and dikes in the gneissic belts. A large amount of black biotite is associated with them. The radioactive materials are fine particles of uraninite and monazite. Molybdenite in small amounts in present.

SURVEY EQUIPMENT

The geophysical apparatus was installed in a Cessna 185 aircraft. This aircraft is well suited to low altitude surveying and is able to fly safely at a speed between 90 and 100 M.P.H.

The airborne radioactivity recording geophysical equipment consisted of a 5" x 4" sodium iodide crystal coupled to a photomultiplier tube whose output was fed into a Sharpe SC-1 ratemeter. The threshold in this ratemeter was set at 1.65 MeV so that only gamma radiation arising from the uranium/thorium series was recorded on an Esterline Angus Recorder.

SURVEY PROCEDURES AND STATISTICS

Prior to the commencement of the survey maps derived from aerial photographs on the scale of 1" = ¼ mile were obtained from the Ontario Department of Lands and Forest. A grid of north-south lines were drawn on the maps at one-eighth mile intervals in the Game Lake area and at one-fourth mile intervals, along the strike in the Gordon Lake area for navigational purposes. The areas and line directions were selected by Coulee Lead and Zine Mines Limited. The survey was flown at an altitude better than 200' and at an average airspeed of 90 miles per hour.

SURVEY OF RESULTS

The survey results have been plotted on 4" = 1 mile maps (Plates 2 and 3). The anomalies are designated as follows. The numerical ratio is in terms of the actual value of the peak of the anomaly in number of counts per second over the average background in its immediate vicinity in counts per second. The alphabetical affix refers to the shape of the anomaly. A is a very sharp anomaly, B is less sharp, C is broad and D is very broad. In the Game Lake area the supposed anomalous trend is marked. The fiducial marks on the maps correspond with those on the original field recording tape.

CONCLUSIONS AND RECOMMENDATIONS

The amplitude of the individual peak response of a given occurrence is related to its percent uranium and/or thorium, its surface area of exposure to the airborne detector system, the elevation of the aircraft above the ground and its airspeed. Thus, any one of the recorded anomalies in this present survey could be caused by a high grade concentration over a limited area or, alternatively, lower grade concentrations over a larger area. Only ground investigations can resolve the actual significance of each individual anomaly.

A ground follow-up program should be considered with priority given to those anomalies showing "A" shape, especially where these occur near a supposed anomalous trend. Detailed investigation should also be made around isolated individual anomalies which, on ground investigation, have been found to have

been caused by interesting concentrations of uranium or thorium, as it is not possible to give 100% coverage over the entire area surveyed. Certainly, between individual flight traverses, there is a sizeable area which, as yet has not been effectively surveyed and which should be investigated in the vicinity of each radioactive occurrence found to be of interest on the ground.

Anomalies or zones with first priority for a ground follow-up program are in the Game Lake area from west to east:

a) the anomalous trend south and north of the highway between lines ON and DN

b) the single anomalies south of the highway between the lines 12N and 18S

c) the anomalous trend north of the highway between the lines 30S and 33S

d) the main anomalous trend between the lines 34N and 59S

e) the anomalous trends just south of Langton Lake between the lines 49N and 58N

f) the anomalous trend 3/4 mile south of Langton Lake between the lines 53S and 60N

g) the small anomalous trend just north of the main trend between the lines 48S and 51S

h) the anomalous trend just north of the highway between the lines 56N and 60N

i) the anomalous trend along the highway at the east end of the area

j) the single anomalies with "A" shape in this area.

Respectfully submitted,

Roger H. Pemberton, M.Sc.

Jan Klein, M.Sc.

Toronto, Ontario
October 12th, 1967

63.2267

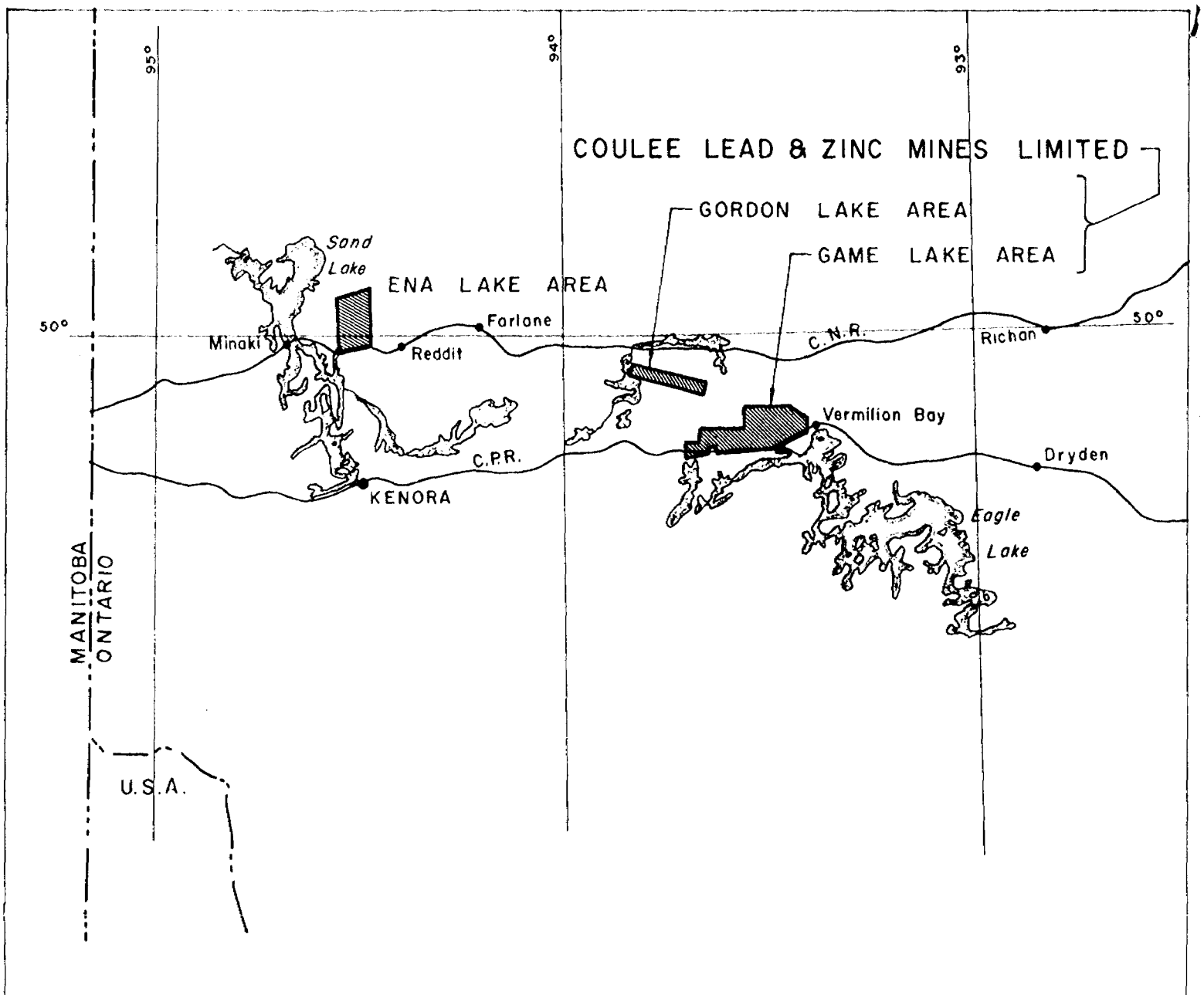


PLATE I

MINING PROPERTY LOCATION MAP

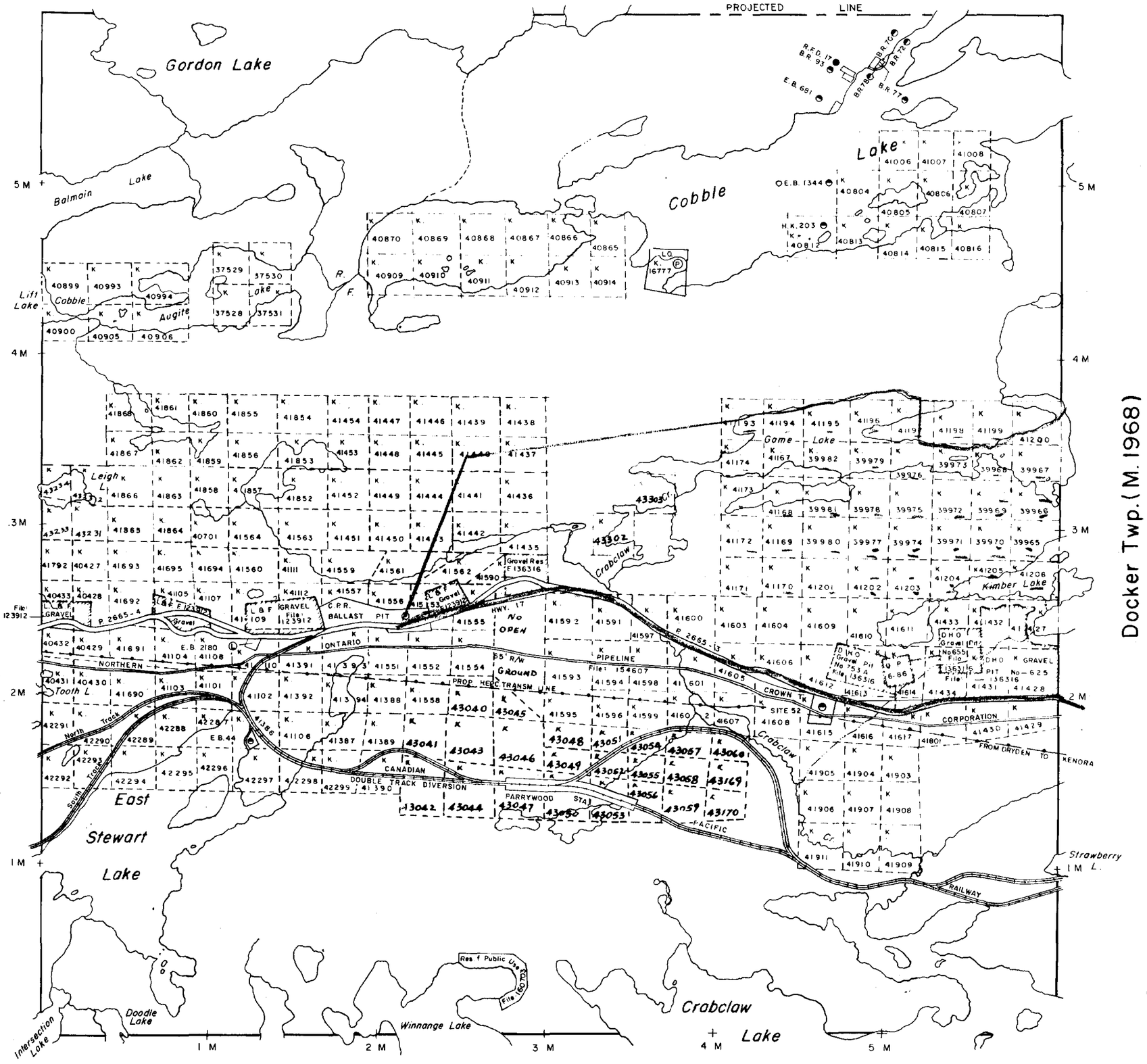
KENORA, ONTARIO

SCALE 1" = 16 MILES

SEIGEL ASSOCIATES LIMITED

SEPTEMBER 1967

REGISTERED PROFESSIONAL ENGINEER
R. H. [illegible]
PROVINCE OF ONTARIO



Tustin Twp. (M.2048)

Docker Twp. (M.1968)

Crabclaw Lake Area (M.1971)

THE TOWNSHIP
OF

BRIDGES

DISTRICT OF
KENORA

KENORA
MINING DIVISION

SCALE: 1-INCH 40 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
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 MUSKEG	
MINES	
CANCELLED	C.

NOTES

400' Surface Rights Reservation Around All Lakes And Rivers.

Parcels indicated Thus:

● Patented for Mining & Surface Rights
◒ —"— Surface Rights Only.

PLAN NO. M.1951

DEPARTMENT OF MINES

— ONTARIO —

(2 x 3)

COULEE LEAD AND ZINC MINES LIMITED

PLAN OF PART OF A

MAGNETOMETER SURVEY

GAME LAKE PROPERTY

BRIDGES TOWNSHIP

KENORA MINING DIVISION

ONTARIO

NOVEMBER Scale: 1" = 100' 1967

63.2267

Instrument Used: SHARPE MF-1 MAGNETOMETER

L-2W L-0+00 L-2E L-4E L-6E L-8E L-10E L-12E L-14E L-16E L-18E L-20E L-22E L-24E

BASE LINE (N 80° E)

K 34970

Kimber Lake

LEGEND

500 Magnetic Contour, Value in Gammas

Pit or Trench

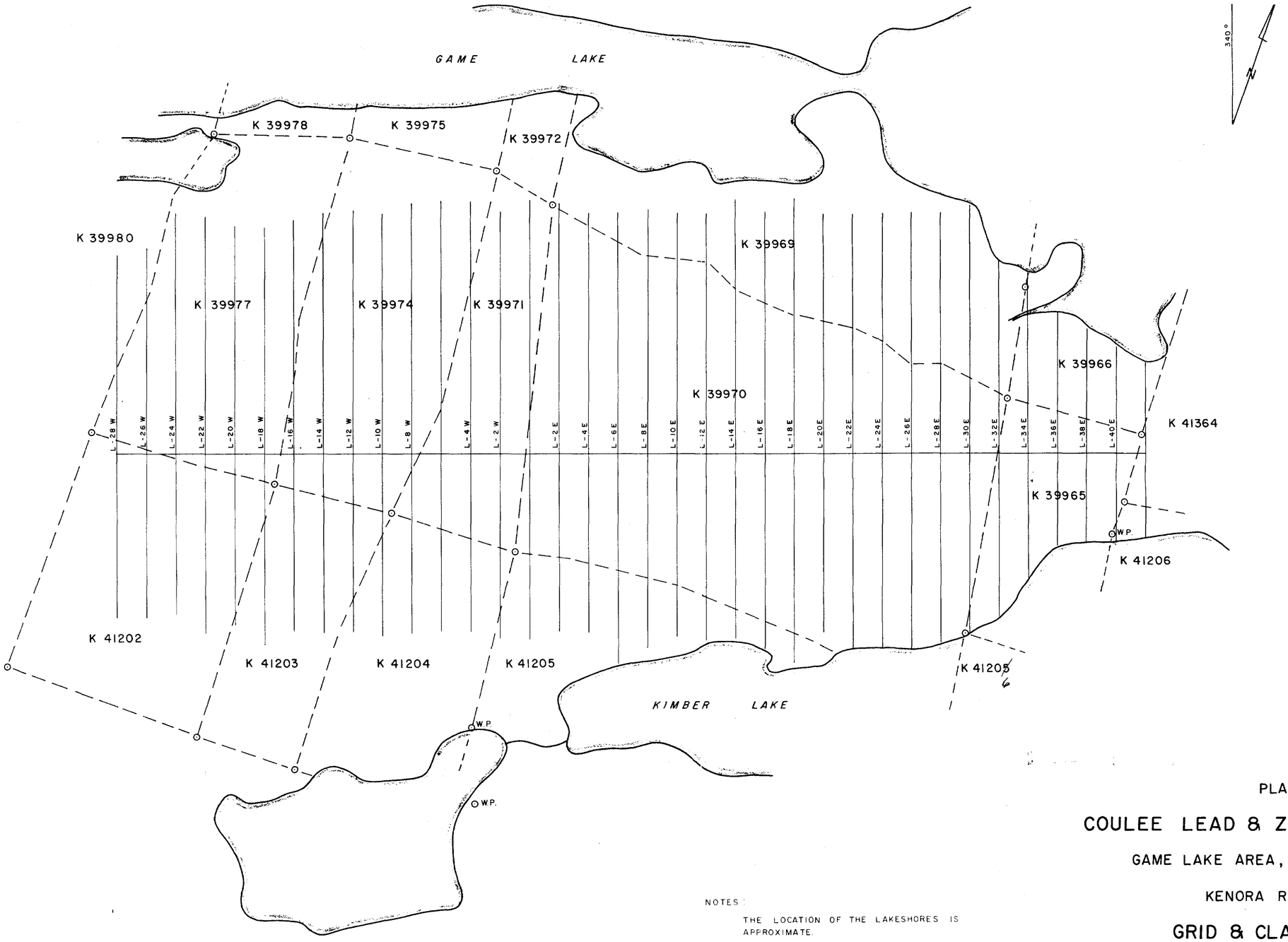
Ast

Mag

6°

W E S


COULEE LEAD AND ZINC MINES LIMITED
PLAN OF
MAGNETOMETER SURVEY
BRIDGES TOWNSHIP
KENORA MINING DIVISION
ONTARIO
GAME LAKE PROPERTY
Scale: 1" = 100'
Survey by A. B. FLEMING, Mining Engineer
NOVEMBER, 1967
63.2267
LEGEND
Magnetic Profile at Scale 1" = 10,000 Gammas
Magnetic Profile at Scale 1" = 2,000 Gammas
210 Magnetic Control Station with Magnetic Value in Gammas
Pit or Trench
Boundary between Areas of Light Overburden or Outcrop and Heavier Overburden
Instrument Used: Sharpe MF-1 Magnetometer Ser. # 40589
PROPERTY MAP
BRIDGES Twp.
HEADWAY RED LAKE GOLD MINES LTD.
Game Lake
COULEE L&Z. MINES LTD.
AREA SURVEYED
Kimber Lake
Trans-Canada Highway
Canadian Pacific Railway
DOCKER Twp.
Scale: 1 inch = 1/2 mile
Ast.
Mag.
Game Lake
Kimber Lake
Lake
(3x7)



NOTES:

THE LOCATION OF THE LAKESHORES IS APPROXIMATE.

WP - WITNESS POST

PLATE 2

COULEE LEAD & ZINC MINES LIMITED

GAME LAKE AREA, BRIDGES TOWNSHIP

KENORA REGION, ONT.

GRID & CLAIM MAP FOR

GROUND RADIOACTIVE SPECTROMETER SURVEY

SCALE 1" = 400'

SURVEY BY SEIGEL ASSOCIATES LIMITED

OCTOBER 1967

63.2267

(2x2 '12)

L-28W L-26W L-24W L-22W L-20W L-18W L-16W L-14W L-12W L-10W L-8W L-6W L-4W L-2W L-00

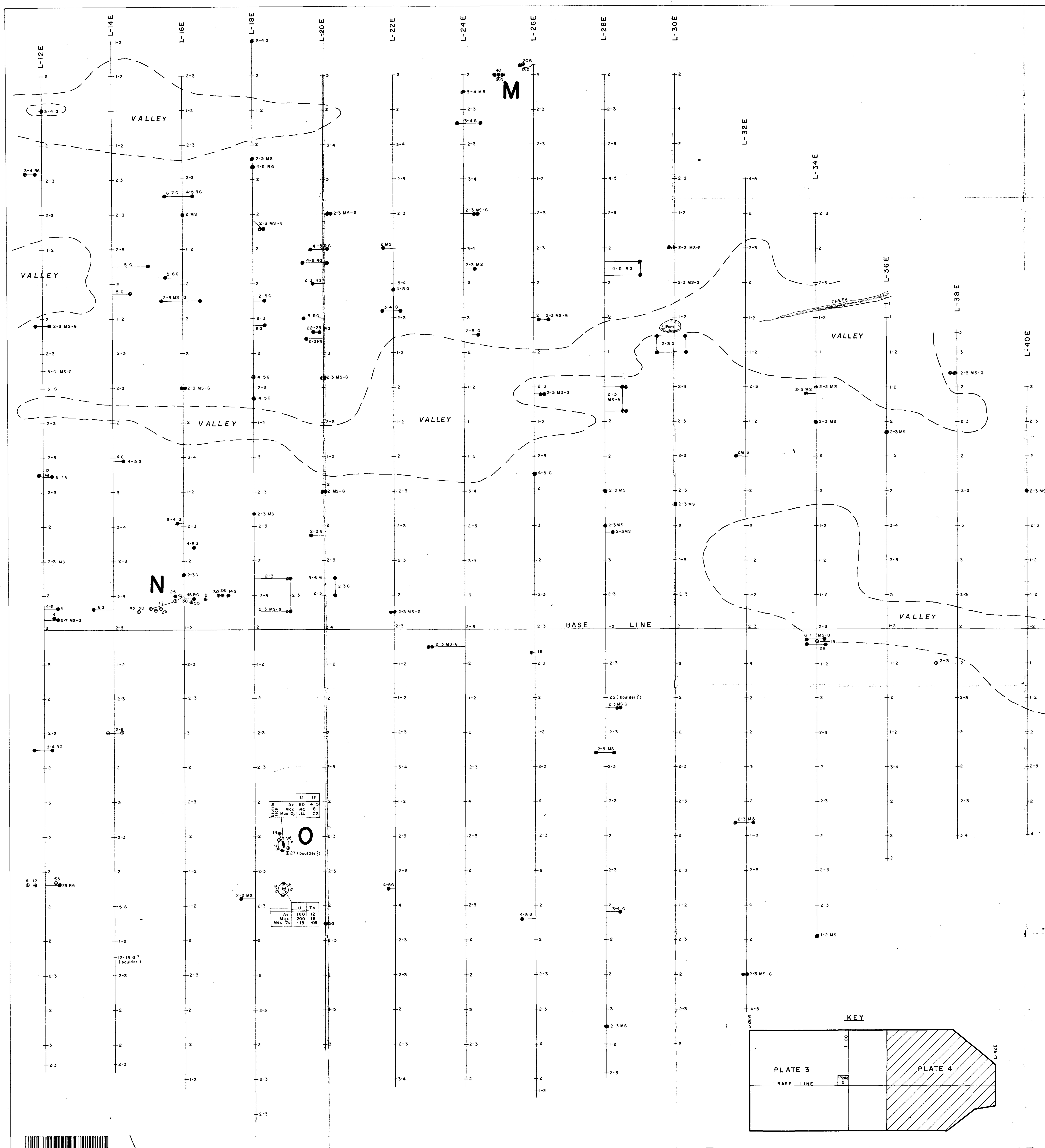
A B C D E F G H J L

VALLEY

SEE PLATE 5

Biotite rich

PLATE 3



LEGEND:

- 2-3 — SINGLE READING ON THE SURVEY LINE IN CPS. (COUNTS PER SECOND) OF GAMMA RAY ENERGIES HIGHER THAN 165 MV.
- 3-4 — SINGLE READING OFF THE SURVEY LINE (> 165 MV)
- AVERAGE READING ON OUTCROPS ALONG THE LINE SHOWN (> 165 MV)
- 23/3 — SINGLE READING IN CPS. HIGHER THAN 165 MV. / SINGLE READING IN CPS. HIGHER THAN 250 MV.
- ~ CPS. U + Th / CPS. Th
- MS — METASEDIMENTS HIGHLY METAMORPHOSED, PARTLY GNEISS MIGMATITES ETC (METAVOLCANICS)
- G — GRANITES, PORPHYRITIC GRANITES TO PEGMATITES.
- RG — RED GRANITES
- WG — WHITE GRANITES
- P — PEGMATITES TO GRANITES
- APPROXIMATE OUTLINE OF VALLEYS
- POSSIBLE CONTINUATION OF ANOMALOUS TREND

NOTES:

IN GENERAL, ZONES WITH MORE THAN 20 CPS ARE SMALLER THAN 1'.

SURVEY EQUIPMENT: SCINTREX GIS-2 GAMMA RAY INTEGRATING SPECTROMETER.

PLATE 4

COULEE LEAD & ZINC MINES LIMITED

GAME LAKE AREA, BRIDGES TOWNSHIP

KENORA REGION, ONT.

GROUND RADIOACTIVE SPECTROMETER SURVEY

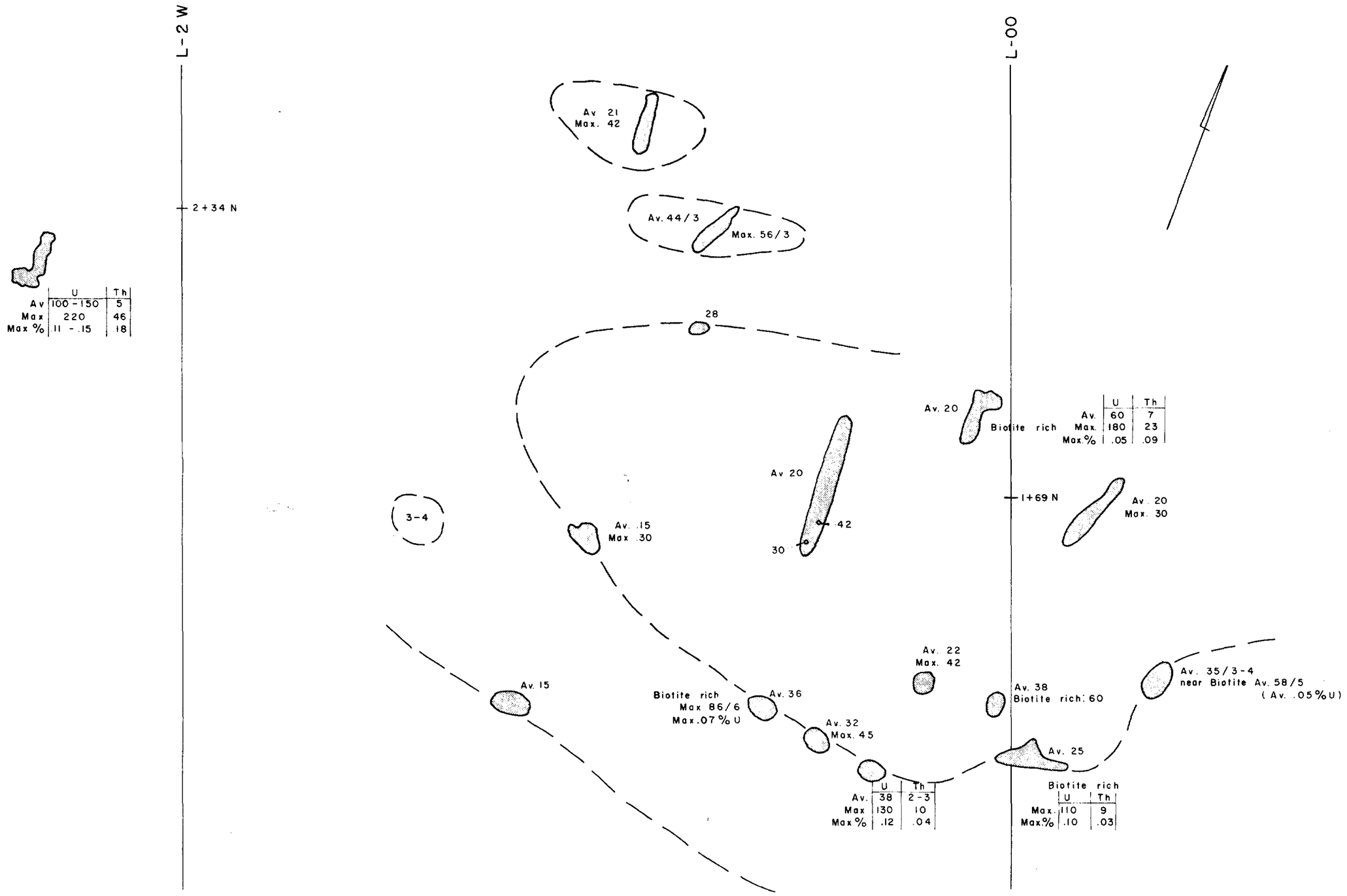
SCALE 1" = 100'

SURVEY BY SEIGEL ASSOCIATES LIMITED

OCTOBER 1967

63.2267

250



LEGEND:

42 - SINGLE READING IN C.P.S. (COUNTS PER SECOND) OF GAMMA-RAY ENERGIES HIGHER THAN 1·65 M.V.

Av. 21 - AVERAGE C.P.S. GREATER THAN 1·65 M.V. FOR THE TRENCH.

Max 180 - MAXIMUM C.P.S. GREATER THAN 1·65 M.V. FOR THE TRENCH.

Av. 44/3 - $\frac{\text{AVERAGE C.P.S. GREATER THAN 1·65 M.V. FOR THE TRENCH}}{\text{AVERAGE C.P.S. GREATER THAN 2·50 M.V. FOR THE TRENCH}} \sim \frac{\text{C.P.S. U+Th}}{\text{C.P.S. Th}}$

TRENCH

OUTLINE OF SHOWING

NOTES:

- READINGS WERE TAKEN IN THE TRENCHES.
- USUALLY MAXIMUM READINGS WERE TAKEN OVER LESS THAN ONE SQUARE FOOT OF TRENCH SURFACE.
- SURVEY EQUIPMENT SCINTREX GIS-2 GAMMA RAY INTEGRATING SPECTROMETER

PLATE 5

COULEE LEAD & ZINC MINES LIMITED

GAME LAKE AREA, BRIDGES TOWNSHIP

KENORA REGION, ONT.

GROUND RADIOACTIVE SPECTROMETER SURVEY

(DETAIL RESULTS OVER SOME SHOWINGS)

SCALE 1" = 20'

SURVEY BY SEIGEL ASSOCIATES LIMITED

OCTOBER 1967

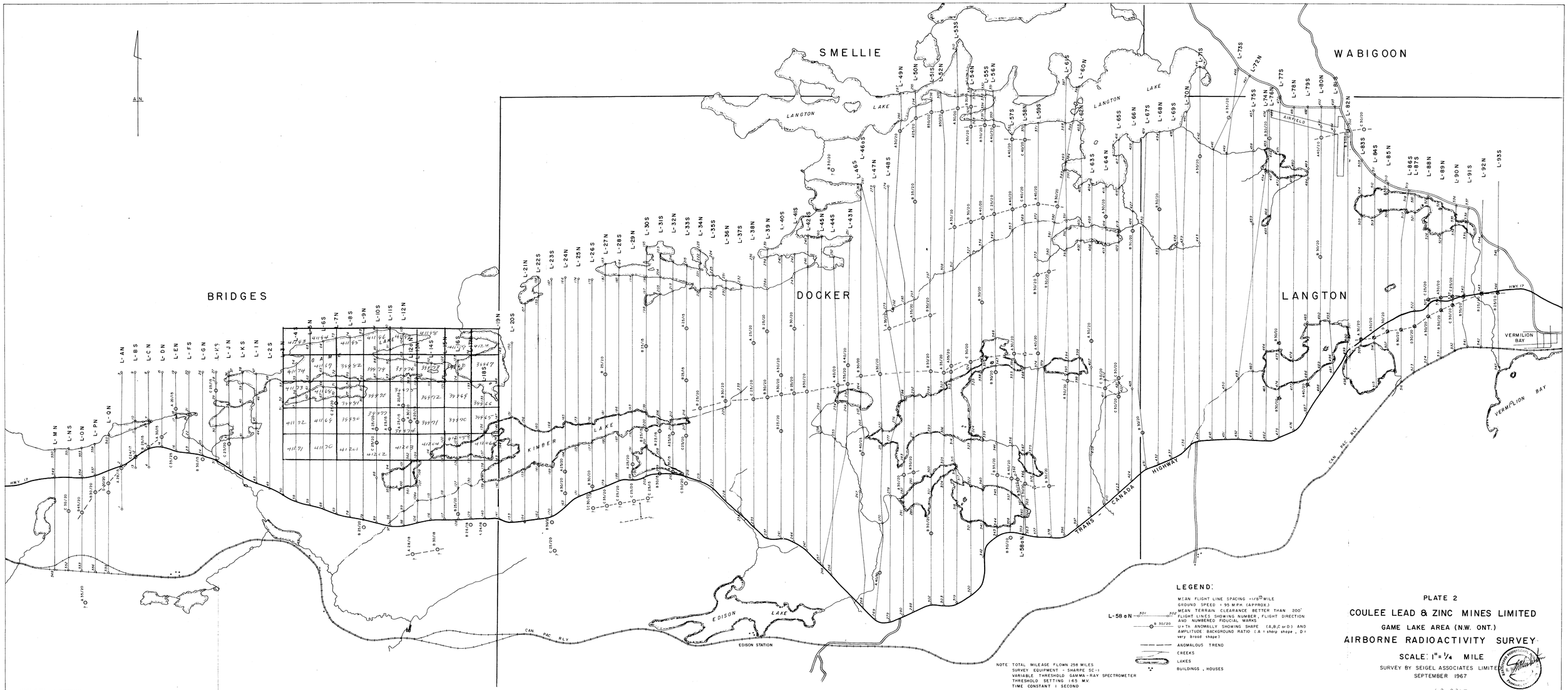


PLATE 2

COULEE LEAD & ZINC MINES LIMITED

GAME LAKE AREA (N.W. ONT.)

AIRBORNE RADIOACTIVITY SURVEY

SCALE: 1" = 1/4 MILE

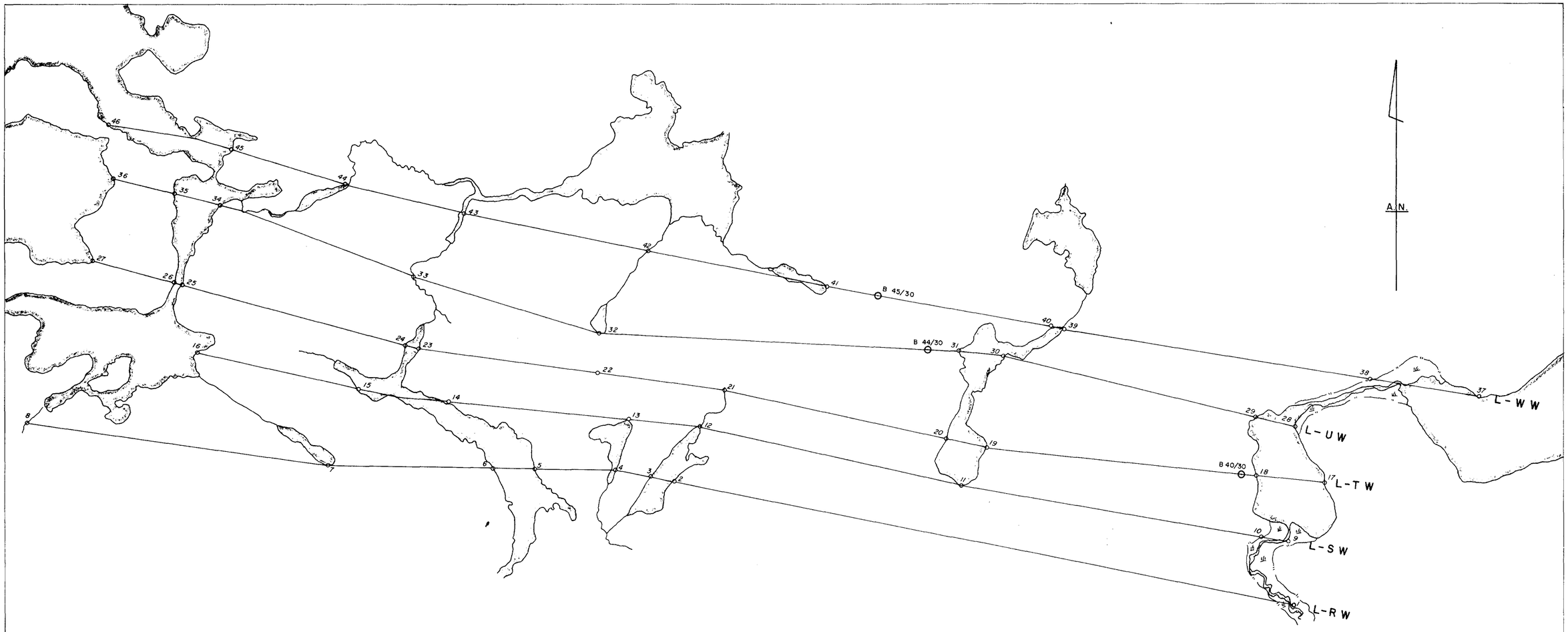
SURVEY BY SEIGEL ASSOCIATES LIMITED

SEPTEMBER 1967

63.2267

(612.13)

270



LEGEND:

L-WW 15 — 14 : MEAN FLIGHT LINE SPACING = 1/4 MILE
GROUND SPEED = 95 M.P.H. (APPROX.)
MEAN TERRAIN CLEARANCE BETTER THAN 200'
FLIGHT LINES SHOWING NUMBER, FLIGHT DIRECTION AND NUMBERED FIDUCIAL MARKS

B 45/30 : U+Th ANOMALLY SHOWING SHAPE (B = SHARP - BROAD) AND AMPLITUDE: BACKGROUND RATIO

CREEKS, SWAMP

LAKES

NOTE: TOTAL MILEAGE FLOWN 28 MILES
SURVEY EQUIPMENT - SHARPE SC-1
VARIABLE THRESHOLD GAMMA-RAY SPECTROMETER
THRESHOLD SETTING 1·65 M.V.
TIME CONSTANT 1 SECOND

PLATE 3

COULEE LEAD & ZINC MINES LIMITED

GORDON LAKE AREA (N.W. ONT.)

AIRBORNE RADIOACTIVITY SURVEY

SCALE: 1" = 1/4 MILE

SURVEY BY SEIGEL ASSOCIATES LIMITED
SEPTEMBER 1967

63.2267

L-12 W | L-10 W | L-8 W | L-6 W | L-4 W | L-2 W | L-00 | L-2 E | L-4E | L-6E | L-8E | L-10E

BASE LINE

VALLEY

SEE PLATE 5

LEGEND:

2-3	SINGLE READING ON THE SURVEY LINE IN CPS. (COUNTS PER SECOND) OF GAMMA RAY ENERGIES HIGHER THAN 1.65 MV
⊕ 3-4	SINGLE READING OFF THE SURVEY LINE (>1.65MV)
⊕—⊕	AVERAGE READING ON OUTCROPS ALONG THE LINE SHOWN (>1.65 MV)
23/3	SINGLE READING IN CPS. HIGHER THAN 1.65 MV / SINGLE READING IN CPS. HIGHER THAN 250 MV.
~	CPS U + Th / CPS Th
MS	METASEDIMENTS HIGHLY METAMORPHOSED, PARTLY GNEISS MIGMATITES ETC (METAVOLCANICS)
G	GRANITES, PORPHYRITIC GRANITES TO PEGMATITES
RG	RED GRANITES
WG	WHITE GRANITES
P	PEGMATITES TO GRANITES
	APPROXIMATE OUTLINE OF VALLEYS
	POSSIBLE CONTINUATION OF ANOMALOUS TREND

NOTES

IN GENERAL, ZONES WITH MORE THAN 20 CPS ARE SMALLER THAN 1'

SURVEY EQUIPMENT: SCINTREX GIS-2 GAMMA RAY INTEGRATING SPECTROMETER

KEY

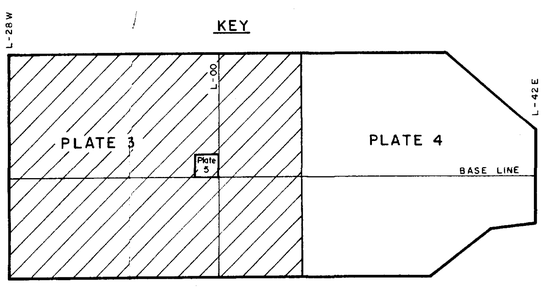


PLATE 3

COULEE LEAD & ZINC MINES LIMITED

GAME LAKE AREA, BRIDGES TOWNSHIP

KENORA REGION, ONT.

GROUND RADIOACTIVE SPECTROMETER SURVEY

SCALE 1" = 100'

SURVEY BY SEIGEL ASSOCIATES LIMITED

OCTOBER 1967

REGISTERED PROFESSIONAL ENGINEER R. H. PEMBERTON PROVINCE OF ONTARIO

63.2267

(5½ x 9½)