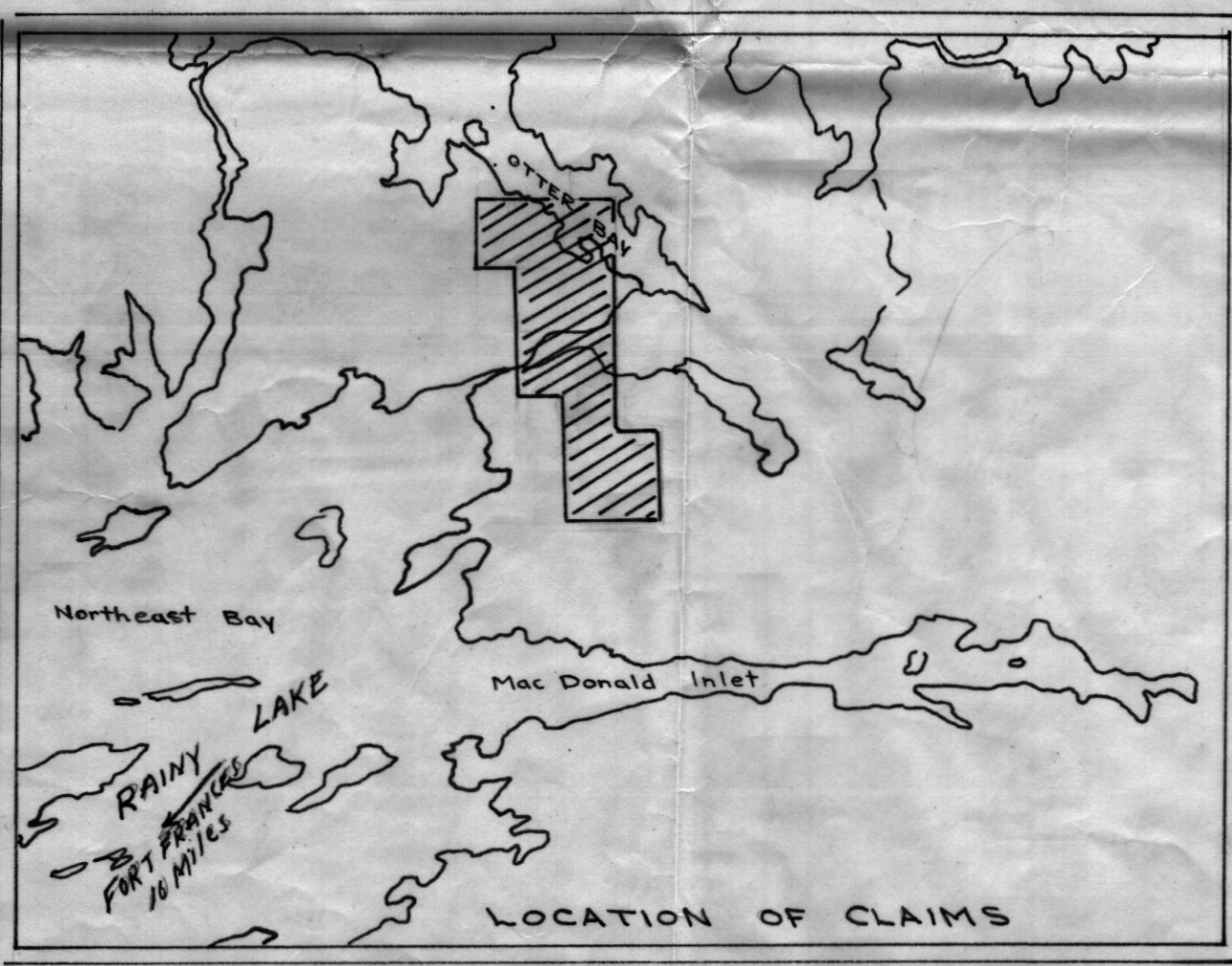
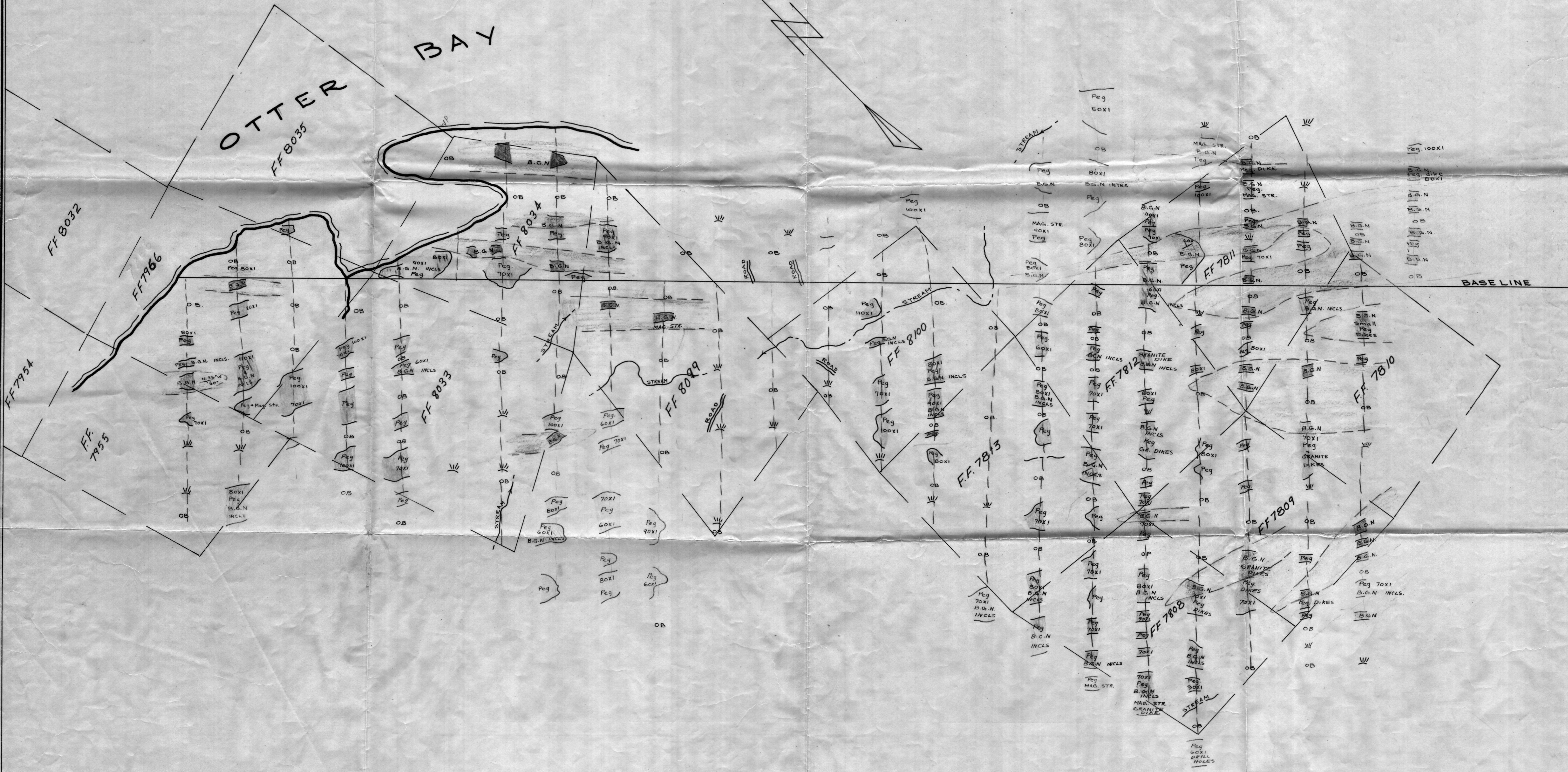


MINING DIARION
LOU L. EVISCAL
197 12 1953
RECEIVED



RAINY LAKE MINING LTD.

FORT FRANCES ONTARIO

GEOLOGY

MAINVILLE LAKE GROUP

SCALE 1"=400'

JULY 11/57

LEGEND

- Peg - PEGMATITE
- B.G.N. - BIOTITE GNEISS
- PEGMATITE & BIOTITE GNEISS
- 70XI - GEIGER COUNTER READINGS
- OB. - OVER BURDEN
- SWAMP
- TRAVERSES
- MAG. STR. - MAGNETITE STRINGERS
- GR - GRANITE
- OUTLINE OUTCROP AREA
- STRIKE & DIP BEDDING
- CONTACT ASSUMED
- CONTACT DEFINED

M-2126

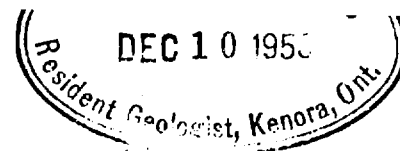
210 m/led





52C15SW0031 63A.333 OB1K0BA LAKE

010



Report on the Examination
of the
Showings on the Mainville Lake Group
of
Rainy Lake Mining Ltd.
Oct. 4, 1955

To accompany pegmatite showing #11

INTRODUCTION

Rainy Lake Mining Ltd. purchased a group of thirty-nine contiguous claims, numbers-- FF 7673 - 74 - 75 - 76 - 77 - 78 - 79 - 80 - 81 - 82 - 83 - 84 - 85 - 86, - FF 7798 - 99 - 800 - 01 - 02 - 03 - 04 - 05 - 06 - 07 - 08 - 09 - 10 - 11 - 12 - 13, FF 7954 - 55 - 56, - FF 8032 - 33 - 34 - 35, FF 8099 and FF 8100. These claims lie between Otter Bay of Mainville Lake and MacDonald Inlet of Rainy Lake on the Tupman Lake claim map in the Rainy Lake Mining Division, Northwestern Ontario.

The group was staked in July, August, and September of 1954, to cover a molybdenite showing and a large radioactive pegmatite dike. At present the claims are held under a one-year's extension of time to perform assessment work.

An examination of the showings was made by the author on September 24th, 1955.

GEOLOGY

Since only the immediate area around the showings was examined, no detailed description of the geology of the entire group is possible.

Claim FF 7956 is underlain by a series of rusty-weathering biotite and biotite-hornblende gneisses. These strikes N 25 degrees W approximately and dip at an angle of 60 degrees to the north-east.

The gneisses are intruded by one major pegmatite dike which conforms with the bedding in the gneisses and varies from 200 to 250 feet in width. Numerous other dikes ranging from a few inches to 30 feet in width were noted, some conforming to the bedding; others cutting it at right angles.

The south part of the group is underlain by a series of granite gneisses striking generally east-west. These gneisses contain numerous narrow pegmatite dikes which are intruded along bedding and seldom are

over a few inches in width.

Farther north on claims FF 7679 the dikes increase in width to a maximum of 30 feet and some biotite gneiss is present.

SHOWINGS

The north showing consists of the wide pegmatite dike. Sections of which give high geiger counter readings. This dike ranges from 200 to 250 feet in width and appears to be very uniform over its 800-foot exposed length. To the northwest it disappears under Mainville Lake and to the southeast under low ground.

It is a coarse-grained quartz-feldspar-biotite pegmatite with small grains of a reddish-brown mineral, probably zircon as an accessory mineral. The zircon tends to be concentrated in patches here and there throughout the dike. Large inclusions of biotite gneiss are common in the footwall section.

Random traverses were run across the dike and readings taken with a Kaytomic Super-X Bismatron type geiger counter. The background reading in the area is 400 on the 1x scale and over the dike is from 700 to 800 on the 1x scale. Large sections of the dike give readings from 1200 to 1800 on the 1x scale and a number of more localized areas reacted up to 400 on the 10x scale or 10 times the background count. A grab sample from one of the latter sections assayed 0.45% U308 to the ton by chemical assay.

Yellow and white oxides were noted on the surface of the dike in a number of places generally in sections of higher geiger readings. A brownish stain also is present and appears to indicate sections of high radioactivity.

The core from a number of short holes drilled with a packsack drill into one of the sections of high radioactivity was examined.

It was noted that the dike there has a distinct red color. Three representative samples of the pegmatite were chosen for assay.

The molybdenite showing consists of scattered large grains of molybdenite in a white quartz-feldspar pegmatite dike intruding biotite gneisses. The mineral shows up only on one small outcrop lying in the center of a long narrow draw so that the extent of the mineralization could not be determined. Occurrences of the molybdenite are reported from other sections of the claims group but these were not examined by the author.

Two vertical holes were drilled to a shallow depth into the outcrop. No molybdenite was noted in the core, however neither hole intersected the pegmatite dike. One hole however contains a six-foot section of disseminated chalcopyrite estimated by visual examination to contain 1% to 1 1/2% copper.

Two short holes were drilled into a white quartz-feldspar pegmatite dike outcropping a short distance from the molybdenite showing but no mineral was intersected. A high content of zircons was noted in some sections of the core. The dike is not radioactive.

SUMMARY AND RECOMMENDATIONS

The pegmatite dike outcropping along the south shore of Otter Bay of Mainville Lake has sufficient indications of the presence of U308 to warrant detailed exploration.

A series of short holes have been drilled into one of the zones of high radioactivity. Three representative samples of this core were chosen for assay. These holes can be utilized to blast out a deep trench which will allow detailed examination of the zone and provide fresh rock for sampling.

The following program of work is recommended:

- (1) A picket line be run along the south-west edge of the

(4)

exposed section of the dike and parallel to it. This should be extended north-west to the lake shore and south-east to the boundary of the claim.

(2) A detailed geiger counter survey be made over the exposed section of the pegmatite dike. Using the picket line for control, traverses should be run at right angles to the strike of the dike at 100-foot intervals. Readings should be taken every 25 feet along each traverse and at closer intervals in sections of high radioactivity. Those results should be accurately plotted on a scale of 1 inch-100 feet and contoured to outline the sections of high radioactivity.

(3) The high radioactive zones of the dike be tested by drilling. Preliminary drilling could consist of a limited number of X-ray holes to a depth of 100 to 150 feet. The core would be carefully examined and selected sections submitted for assay.

Following the results of this program and provided the results are sufficiently encouraging, a more extensive program of deeper drilling should be instituted.

In conjunction with the above program a number (four or five) of long picket lines spaced at 1000 foot intervals should be run across the claim group. Using them as control, the claims should be thoroughly prospected for other radioactive dikes and for extensions to the known showing.

The program of work for the molybdenite showing should be more limited until further information is obtained.

Four holes are recommended to be drilled at an angle of 45 degrees under the outcrop in which the molybdenite crystals are found. These should give information as to the extent of the molybdenite and chalcoppyrite mineralization.

If these holes give encouragement, further drilling is

(5)

recommended. If not, thorough prospecting and mapping of that section of the claims group is recommended in an attempt to extend and outline the mineralized sections.

It is reported that there are large areas of high magnetic attraction on the group and that coarsely crystalline magnetite is present. This deposit should be checked as to size, grade, and impurities with the consideration in mind of outlining a sizeable body of concentrating iron ore.

Dated this 4th day of October, 1955

H. D. McLeod. P. Eng. Geologist.

Pegmatite
11.



52C155W0031 63A.333 OBIKOBA LAKE

020

A BRIEF REPORT ON THE MAINVILLE LAKE RADIOACTIVE
OCCURRENCES, RAINY RIVER DISTRICT

On Wednesday, June 29, 1955, the writer made a brief examination of two radioactive showings along the shores of Mainville Lake, Rainy River District, Ontario. Mainville Lake lies some 20 miles northeast of the town Fort Frances, Ontario, and drains into Northeast Bay of Rainy Lake. It's location may be seen on the G. S. C. Map No. 266 A, the Kenora sheet.

As far as the writer knows there are no published geological maps available of the area immediately around Mainville Lake. However, A. C. Lawson's G. S. C. Map No. 98 A shows the area immediately south of Mainville Lake to be underlain by banded and streaked gneisses of Algonian age. A brief shoreline reconnaissance of the southeast end of Mainville Lake was made by the writer; the rocks exposed here are lit-par-lit injected quartz-feldspar-biotite gneisses and amphibolites, and massive granitic rocks containing irregular xenoliths and inclusions of the gneisses. All these rocks are cut by the contain dikelets, irregular masses and local blows and segregations of coarse-grained granite pegmatite, of varying size.

Two showings were seen by the writer. Both had been found by Elmer Corrigan of Emo, Ontario and had been staked by him.

The first showing lies along the east shore of the southeast end of Mainville Lake on claim number 8103. It occurs in a mass of coarse-grained granite pegmatite, with local aplitic phases which is exposed for a length of 120 feet and a width of 60 feet. The pegmatite contains a few small inclusions of leuco-quartz-diorite. Two small pop-holes have been blasted into the rock at the south end of the pegmatite mass. The exposed and broken rock in these pop-holes shows minor amounts of yellowish uranium stain along slip surfaces and cracks which gives moderate

- 2 -

counts on the geiger counter over isolated spots where stain can be seen. The remainder of the pegmatite gave no noticeable increase in geiger counts over background. Mr. Corrigan optioned the ground on which this showing is located to Pioneer Consultants, Limited. An employee of this company, Mr. John Pollock, conducted the writer around the showings.

The writer carefully selected a sample from this showing consisting of the most radioactive rock fragments to be found in the pop-holes. This sample was designated as Sample number Corrigan 1.

The second showing lies almost due south of the first showing and is located about 50 feet inland from the west shore of southeast end of Mainville Lake, on claim number 7966. Here there is a small exposure of granite pegmatite, containing some biotite and showing minor amounts of hematitic stain. A small pop-hole has been blasted into the pegmatite here; no uranium stain was seen on the broken rock, but moderate counts on the geiger were noted over a patch of pegmatite some 2 square feet in size. The remainder of the pegmatite gave no noticeable increase over background in geiger counts. The ground on which this showing lies has been optioned by Mr. Corrigan to Holly Uranium, Limited.

The writer carefully selected a sample from this showing consisting of the most radioactive rock fragments to be found in the pop-holes. This sample was designated as sample number Corrigan 3.

The writer took a composite sample of pegmatite from both showings; the rock fragments were selected in an attempt to get a representative sample of the rock masses at both showings. This sample was designated as Sample No. Corrigan 2.

These samples were forwarded to the Provincial Assayer for analysis.

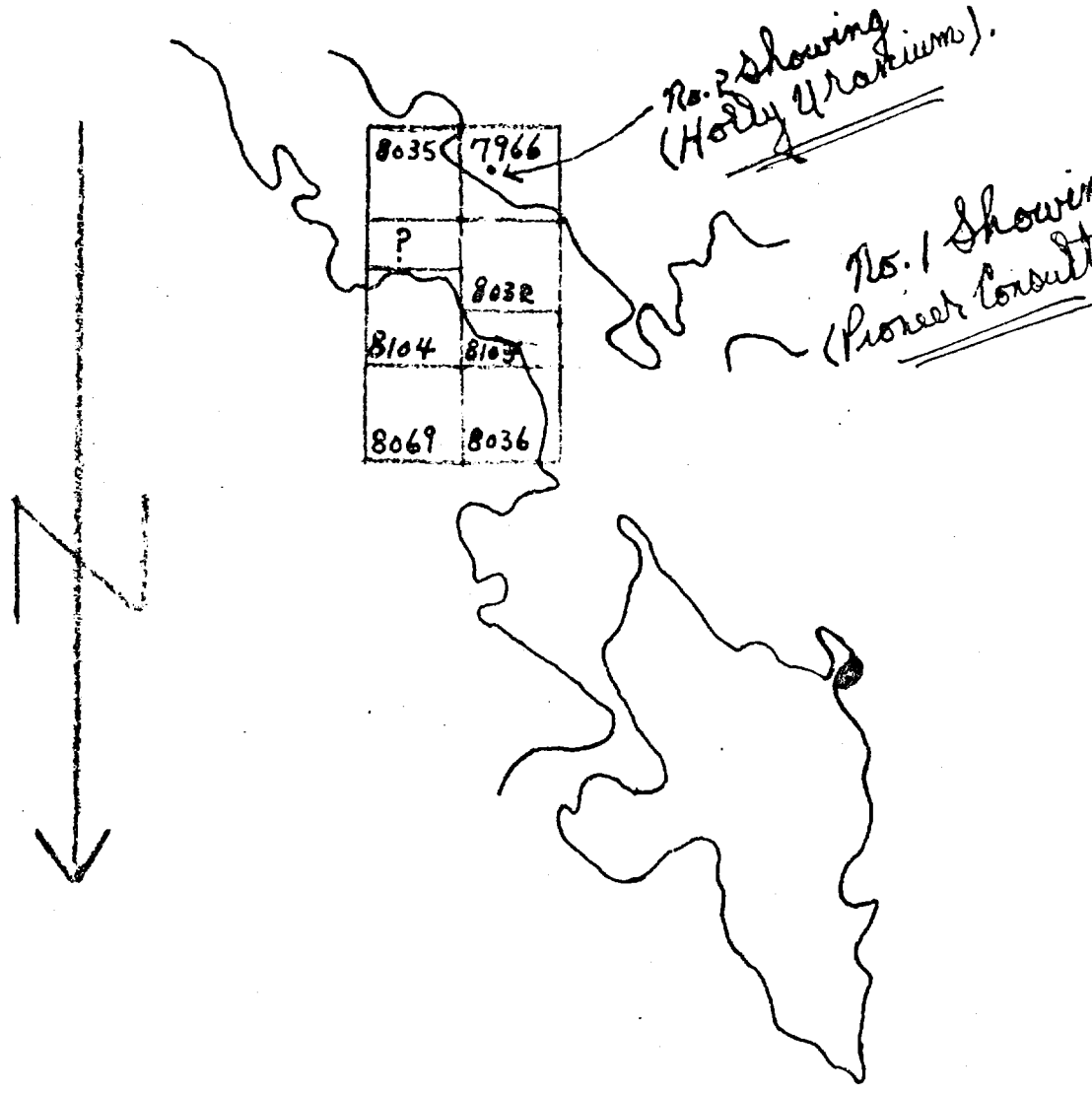
- 3 -

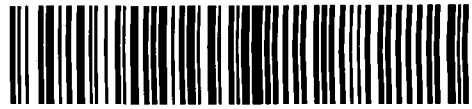
The results are as follows, (see certificate of Assay, C 2953):

| | <u>Equivalent</u> | <u>U308</u> | <u>Chemical</u> |
|---------------------|-------------------|-------------|-----------------|
| Sample No. Corrigan | 1 - 0.010% | | 0.011% |
| " " " | 2 - 0.005% | | |
| " " " | 3 - 0.02% | | 0.017% |

Respectfully submitted,

Dr. H. D. Carlson





52C15SW0031 63A.333 OBIKOKA LAKE

030

Property Report of work.
Raining River District.

1955

CERTIFICATE

I, H. D. McLEOD, of the Town of Fort Frances, in the District of Rainy River, Province of Ontario, hereby certify:—

1. THAT I am a Consulting Geologist and Mining Engineer, residing at Fort Frances, in the District of Rainy River, Province of Ontario.
2. THAT I am a graduate of Queen's University, Kingston, Ontario, with the Degrees of Bachelor of Science in Geological Engineering, 1946.
3. THAT I am a Registered Professional Engineer of the Province of Ontario, in the Mining Division.
4. THAT I have practiced my profession as Geologist and Engineer for 10 years.
5. THAT I have no interest directly or indirectly nor do I expect any interest directly or indirectly in the properties or securities of RAINY LAKE MINING, LIMITED.
6. THAT the accompanying report is based upon my personal examination of the property, carried out on September 24th, 1955, and my knowledge of the area in general, as well as the study of the governmental reports and maps dealing with this area.

Dated at Fort Frances, Ontario, in the District of Rainy River, this 14th day of January, 1956.

(Sgd) H. D. McLEOD, B. Sc.,
P. Engineer, Geologist,
Fort Frances, Ontario, Canada.

Emo, Ontario,
Box 29,
Oct. 4, 1955

The President and Directors,
Rainy Lake Mining Limited,
Fort Frances, Ontario.

Gentlemen:

The following is a report on your property located in the Rainy River District, Province of Ontario.

Introduction

Rainy Lake Mining Limited purchased forty-one claims, thirty-nine (F.F. 7673, 7674, 7675, 7676, 7677, 7678, 7679, 7680, 7681, 7682, 7683, 7684, 7685, 7686; F.F. 7798, 7799, 7800, 7801, 7802, 7803, 7804, 7805, 7806, 7807, 7808, 7809, 7810, 7811, 7812, 7813; F.F. 7954, 7955, 7956; F.F. 8032, 8033, 8034, 8035 and F.F. 8099 and 8100) in a contiguous group lying between Otter Bay and Mainville Lake and MacDonald Inlet of Rainy Lake on the Tupman Lake sheet in the Rainy Lake Mining Division, Northwestern Ontario. The remaining two claims, numbers F.F. 8101 and F.F. 8102, comprise the south half of Lot 37, Concession 1 north range and the north half of Lot 37, Concession 1 south range respectively of Watten Township, Rainy Lake Mining Division. The latter two claims lie approximately ten miles south-west of the larger group.

An examination of the claims was made by the author on September 24th, 1955.

Access

The southern part of the Mainville Lake group touches onto MacDonald Inlet and North-east Bay of Rainy Lake, a distance of approximately 14 miles by water from Fort Frances. To reach the north section of this group on Mainville Lake it is necessary to portage around the Mainville storage dam. This dam lies approximately sixteen miles north from Fort Frances by water. From there the claims lie two miles east on Mainville Lake.

The group is only fifteen minutes by air from Fort Frances.

No roads enter any part of that area.

Claims F.F. 8101 and F.F. 8102 straddle the Canadian National Railway line and Ontario and Minnesota power line on the east shore of Rainy Lake, a distance of five miles approximately east of Fort Frances.

History

First activity in the area came with the discovery of radio-activity in pegmatite dikes on Mainville Lake by Elmer Corrigan, a prospector from Emo, in the spring of 1954. This created considerable interest in the area resulting in a staking rush.

The Rainy Lake Mining claims were staked in July, August and September of 1954 to cover one of the radioactive pegmatite dikes on the shores of Mainville Lake. The group was extended south to MacDonald Inlet to cover a showing of Molybdenite known in that section.

The two claims in Watten Township were acquired at the same time on strike of a zone of magnetite being explored for economic deposits of iron ore.

General Geology

The Mainville Lake group is underlain by a series of granite gneisses intruded by great numbers of pegmatite dikes. The gneisses strike N.25° W. approximately and dip 60° to the north-east in the north section of the group. To the south the strike swings to a more easterly direction. In the south section of the group the strike is approximately N.80° E.

The pegmatite dikes range from a width of 2" to a maximum of approximately 250 feet. Most are intruded along the bedding of the gneiss but some cut across at right angles. All are very leasy and tend to be discontinuous.

Showings

The large radioactive pegmatite dike lying on the south shore of Otter Bay of Mainville Lake on Claim F.F. 7956 was examined in detail.

The claim is underlain by a series of rusty-weathering biotite and biotite-hornblende gneisses. These strike N.25° W. approximately and dip at an angle of 60° to the northeast. The gneisses are intruded by one major pegmatite dike which conforms with the bedding in the

gneisses and varies from 200 to 250 feet in width. Numerous other dikes ranging from a few inches to 30 feet in width were noted, conforming to the bedding; others cutting it at right angles. The large dike appears to be uniform over its 800 foot exposed length indicating that it may have considerable extent along strike. To the northwest it disappears under Mainville Lake and to the southeast under low ground.

It is a coarse-grained quartz-feldspar-biotite pegmatite with small grains of a reddish-brown mineral, probably zircon, as an accessory mineral. The zircon tends to be concentrated in patches here and there throughout the dike. Large inclusions of biotite gneiss are common in the footwall section.

Random traverses were run across the dike and readings taken with Raytomc Super-X Bismatrom type Geiger Counter. The background reading in the area is 400 on the lx scale and over the dike is from 700 to 800 on the lx scale. Large sections of the dike give readings from 1200 to 1800 on the lx scale and a number of more localized areas reacted up to 400 on the 10x scale or 10 times the background count. A grab sample from one of the latter sections assayed 0.45% U308 to the ton by chemical assay.

Yellow and white oxides were noted on the surface of the dike in a number of places, generally in sections of higher geiger readings. A brownish stain also is present and appears to indicate sections of high radioactivity.

The core from a number of short holes drilled with a pack-sack drill into one of the sections of high radioactivity was examined. It was noted that the dike there has a distinct red color. Three representative samples of the pegmatite were chosen for assay.

The molybdenite showing consists of scattered large grains of molybdenite in a white quartz-feldspar pegmatite dike intruding biotite gneisses.

The mineral shows up only on one small outcrop lying in the centre of a long narrow draw so that the extent of the mineralization could not be determined. Occurrences of molybdenite are reported from other sections of the claim group, but these were not examined by the author.

Two vertical holes were drilled to a shallow depth into the outcrop. No molybdenite was noted in the core, however neither hole intersected the pegmatite dike. One hole, however, contains a six-foot section of disseminated chalcopryite estimated by visual examination to contain 1% to 1½% copper.

Two short holes were drilled into a white quartz-feldspar pegmatite dike outcropping a short distance from the molybdenite showing but no mineral was intersected. A high content of zircons was noted in some sections of the core.

Claims F.F. 8101 and F.F. 8102 in Watten Township are underlain by a conformable series of andesite lavas and highly recrystallized sediments. A short distance to the east of these claims large lenses of massive magnetite are being investigated as a possible source of iron ore. This formation strikes into the Rainy Lake Mining claims.

Summary and Recommendations

The pegmatite dike outcropping along the south shore of Otter Bay of Mainville Lake has sufficient indications of the presence of U308 to warrant detailed exploration.

A series of short holes have been drilled into one of the zones of high radioactivity. Three representative samples of the core were chosen for assay. These holes can be utilized to blast out a deep trench which will allow detailed examination of the zone and provide fresh rock for sampling.

The following program of work is recommended:

(1) A picket line be run along the south-west edge of the exposed section of the dike and parallel to it. This should be extended north-west to the Lake shore and south-east to the boundary of the claims.

(2) A detailed geiger counter survey be made over the exposed section of the pegmatite dike. Using the picket line for control, traverses should be run at right angles to the strike of the dike at 100 foot intervals. Readings should be taken every 25 feet along each traverse and at closer intervals in sections of high radioactivity. These results should be accurately plotted on a scale of 1 inch = 100 feet and contoured to outline the sections of high radioactivity.

(3) The high radioactive zones of the dike be tested by drilling. Preliminary drilling could consist of a limited number of X-ray holes to a depth of 100 to 150 feet. The core would be carefully examined and selected sections submitted for assay.

Following the results of this program and provided the results are sufficiently encouraging, a more extensive program of deeper drilling should be instituted.

In conjunction with the above program, a number (four or five) of long picket lines spaced at 1000 foot intervals should be run across the claim group. Using them as control, the claims should be thoroughly prospected for other radioactive dikes and for extensions to the known showing.

The program of work for the molybdenite showing should be more limited until further information is obtained.

Four holes are recommended to be drilled at an angle of 45 degrees under the outcrop in which the molybdenite crystals are found. These should give information as to the extent of the molybdenite and chalcopryite mineralization.

If these holes give encouragement, further drilling is recommended. If not, thorough prospecting and mapping of that section of the claims is recommended in an attempt to extend and outline the mineralized sections.

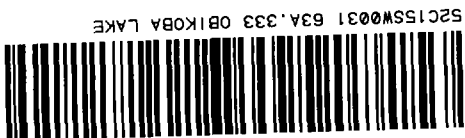
Concerning Claims F.F. 8101 and F.F. 8102 in Watten Township, a detailed dip needle survey will indicate whether or not there are bodies of magnetite of sufficient size to be investigated.

Dated this 4th day of October, 1955.

HDM/eac.

Respectfully submitted,
(Sgd) H. D. McLEOD, P. Eng.

[Handwritten signature]



Geological Report on the Rainy Lake Mining Ltd. Mainville Lake Group.

Introduction

The Rainy Lake Mining Ltd Mainville Lake group consists of the following thirty-six contiguous claims:

- F.F. 7673 to F.F. 7678 Incls.
- F.F. 7801 to F.F. 7813 Incls.
- F.F. 7954 to F.F. 7956 Incls., F.F. 7966.
- F.F. 8032 to F.F. 8035 Incls.
- F.F. 8099 to F.F. 8100.
- F.F. 1125 to F.F. 1127.

These claims were staked to cover molybdenite showings and radioactive pegmatite dikes.

This report deals with the geological mapping done on claims F.F. 7808 to F.F. 7813, F.F. 7955, F.F. 7966, F.F. 8033, F.F. 8034, F.F. 8099, and F.F. 8100.

The accompanying geological plan shows the geology of the claims mapped. Some work was done outside the boundaries of the claims and this is shown on the map. This was due to difficulties in locating the claim corners. The time consumed in this part of the work is not claimed as assessment credit on the accompanying work report forms.

The mapping was done during the period May 27, 1957 to July 12, 1957 by L. Martin assisted by P. Jordens under the direct supervision of the writer, as consulting geologist. The work was done by the pace and compass method using a base line for control. All outcrops, claim corners, topographic features, etc. are located as accurately as possible from the base line.

Assessment credits claimed are as follows:

Geological mapping

- L. Martin, Emo, Ont. --- May 27, 1957 to July 12, 1957 --- 42 days.
- P. Jordens, Emo, Ont. --- " " --- 42 days.

Maps

- L. Martin, Emo, Ont. --- July 13 - 14, 1957. --- 2 days.
- G. Meyers, Emo, Ont. --- " " --- 2 days.

Report

- H.D. McLeod, Fort Frances, Ont. --- July 13-14, 1957. --- 2 days.

Access

The claims are located between Otter Bay of Mainville Lake

20 maps

This rock type is a mixture of coarse-grained quartz and feldspars, both plagioclase and orthoclase, with minor amounts of red zircons and black ferromagnesian minerals.

Pegmatite intrusions compose the greater part of the outcrop area on these claims. These generally occur as wide dikes intruded conformable to the strike and dip of the biotite gneiss.

Pegmatite

Narrow beds of magnetite iron formation are present here and there throughout the biotite gneiss. These are composed of alternating narrow beds of magnetite and silica. All located are too small to be delineated as a separate formation on the accompanying geological plan.

The formation is highly recrystallized and metamorphosed sediments probably greywackes.

This rock type consists of a banded mixture of biotite mica and white feldspar. The is partially due to recrystallization by the intrusion of the pegmatites and partially is residual bedding.

In this section of the claims the biotite gneiss is present as irregular inclusions in the pegmatite. Some of these are extensive particularly in the south section of the group.

Biotite Gneiss

Description of Formations

Biotite gneiss; iron formation beds.

Intrusive contact

Granite and pegmatite dikes

Table of Formations

General Geology

The claims area is largely outcrop or near outcrop with small local areas of swamp and muskeg. The section is generally all of a common elevation about 75 to 100-feet above the level of Rainy Lake. Low rock ridges are common in some places and the rock outcrop rises sharply from the shores of the lakes. The trend of formations is reflected in the ridges.

Topography

Access to the claims is by water or plane from Fort Frances a distance of approximately 15 miles.

Fort Mac Donald Inlet of Rainy Lake approximately 15 miles north of town of Fort Frances in the Fort Frances mining division Northwestern Ontario.

Small inclusions of biotite gneiss and magnetite iron formation are extremely numerous in sections of the intrusive.

Areas of fine-grained grey granite or aplite were noted in many places. This rock type appears to be a phase of the pegmatite. It occurs as irregular masses often grading into pegmatite and is so mixed up in that formation that it could not be shown separately on the scale of the mapping.

Structural Geology

Structure in the section mapped is extremely simple. The biotite gneisses strike N25°W to N35°W and dip at approximately 60° to the north-east. Some local variations were noted but these are probably due to the intrusion of the pegmatite dikes.

The pegmatite and granite dikes have been intruded conformable to the bedding in the gneisses.

Mineralization

Sections of the pegmatite dikes particularly on claims F.F. 7956 and F.F. 8034 are quite strongly radioactive.

Disseminated molybdenite has been located in pegmatite on claim F.F. 7676.

H.D. McLeod
H.D. McLeod, P. Eng.
July 14, 1967.