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ONTARIO DEPARTMENT OF MINES
AND NORTHERN AFFAIRS

OPEN FILE REPORT

5057

SOME RADIOACTIVE MINERAL OCCURRENCES
IN THE COUNTIES OR DISTRICTS OF
FRONTENAC, HALIBURTON, HASTINGS, MANITOULIN,
NIPISSING, PARRY SOUND, PETERBOROUGH, AND RENFREW

By
J. Satterly

1971



ONTARIO

DEPARTMENT OF MINES AND NORTHERN AFFAIRS
GEOLOGICAL BRANCH

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J.E. Thomson,
Director, Geological Branch.

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PREFACE

The following short reports on radioactive mineral occurrences examined by J. Satterly, 1954-57, in the Counties or Districts of Frontenac, Haliburton, Hastings, Manitoulin, Nipissing, Parry Sound, Peterborough, and Renfrew are being put on record as Open File Report 5057 at the request of the Data Retrieval and Education Section since these reports were used in compiling the Source Mineral Deposit Records on uranium.

These reports are also on file in the Resident Geologist's office for Southern Ontario at Toronto.

Some of the examinations were made at the request of the Mining Lands Branch in connection with discovery of "valuable mineral in place" as defined by the Mining Act (R.S.O. 1950, Chapter 236, printed June, 1956*, Section 1(w), in provincial parks (Section 39a) or in areas reserved for summer resort purposes (Section 39(c)).

J.E. Thomson
Director, Geological Branch

11 May 1971

*Because of changes in the Mining Act the reference is to the Act that applied during the period of the examinations, 1954-57.

FRONTENAC COUNTY

ONTARIO
DEPARTMENT OF MINES**WHYTOCK - GRAY - ELKINGTON PROPERTY,**
Miller Township, Frontenac County
by
J. Satterly

A uranium-bearing mineral occurs in a muscovite granite pegmatite on claim E.O. 4896, being patented lot 15, Southwesterly Range of Miller Township, Frontenac County. This lot is owned by H. and R. Elkington of Plevna. Dr. C. J. Whytock and Mr. Allan Gray of Sharbot Lake hold additional lots by staking around the above described lot, and the Elkingtons also own additional patented lots. Exploration has been confined to the pegmatite on claim E.O. 4896 and was carried out in 1954 and 1955 when potash feldspar was shipped by or for N. B. Davis to Buckingham, P.Q. The spar is reported to be of dental grade.

The pegmatite was developed by an open cut 30 feet wide and 150 feet long in a northwest-southeast direction. This open cut is now largely filled with water, the depth at the northwest end being a few feet and at the southeast end being 40 feet, according to H. Elkington. The west wall of the open cut is 5 feet high above the water at the northwest end, and 10 feet high at the southeast end. It is vertical and cannot be examined closely. The east side of the open cut is more irregular. A large dump conceals rock exposures to the east, and forest covers them to the west. Limited exposures of pegmatite on both sides of the open cut indicate that the pegmatite may be a dike about 50 feet wide. It can be traced to the southeast for an additional 120 feet where it passes under a swamp. The country rock is a dark green, fine-grained biotite gneiss, probably a granitized paragneiss. The gneissic structure in an exposure north of the dump strikes N.35° E., and dips 50° NW. The material on the dump indicates that much quartz and a buff potash feldspar were removed from the open cut. Such material can be seen in place at the northwest end of the open cut. The present walls of the open cut are graphic granite pegmatite with erratically distributed clusters or radiating sheaths of muscovite up to a foot across. Associated with the mica, either in it, or in feldspar near it, are elongate, rounded, or irregular masses of a pitchy-black uranium-bearing mineral from 1/4 to 2 inches across. This mineral is identified as pyrochlore by D. A. Moddle, Provincial Assayer. The elongate shape of some specimens suggests to the writer that a second uranium-bearing mineral may be present.

The dike is believed to be a typical example of a segregated (zoned) pegmatite with a central core of potash feldspar and quartz and a wall zone of graphic granite pegmatite with erratically distributed muscovite. The average geiger reading on this wall zone material is about 30 (1M). Background count is about 15 (1M). The dump lying to the east of the open cut is approximately 100 by 100 feet, and from 0 to 10 feet thick. Geiger readings range from 30 to 40 (1M) with spot-highs on 5M scale on rock containing mica and the uranium-bearing mineral. These geiger readings indicate that the pegmatite has a very low uranium content and that ore-grade material could be obtained only by hand-cobbing material from the wall zone.

The writer examined the showing on June 23, 1955, with Mr. H. Elkington and Mr. Allan Gray. The open cut is 10 chains by truck road from a gravel-surfaced road, 6 miles northwest of Plevna village.

June 29, 1955.

HALIBURTON COUNTY

5

MALCOVITCH PROPERTY
CLYDE TOWNSHIP, HALIBURTON COUNTY

by
J. Satterly

The Malcovitch property in Clyde township, Haliburton county comprised originally 41 claims, E.O. 12653, 18454, 18648 - 18665, 19047 - 19067. The main showing is on claim E.O. 12653, being the south half of lot 21, concession XI,¹ adjacent to an H.E.P.C. service road 9.8 miles south of Whitney. The property was under

¹. Cancelled July 26, 1957.

option to C.C.Huston and Associates in 1955-56. The option was dropped in April, 1956. The property is a cerium prospect. The writer examined the main showing only, nine other showings are reported by P. Malcovitch.

A low ridge adjacent to the H.E.P.C. service road strikes N.35°E. and has been stripped or trenched to bedrock by six cross-trenches over a length of 400 feet. The ridge as exposed in the workings is a pink pegmatitic leucogranite with feldspars from 1/4 to 1 inch across. Biotite is present in accessory amount, and allanite in a shattered zone from 3 - 10 feet wide which strikes with the ridge and dips about 50° SE. Exposed widths of the granite range from 35 - 150 feet. Geiger readings using an EA-135 PI (on internal) average 500 c.p.m., and on the allanite zone range from 1,000 - 2,000 with occasional spot-highs to 3,000, and one spot-high in the most northernmost working of 7,000.

P. Malcovitch reports that the average of channel samples

taken on the allanite zone was 0.67 percent Ce_2O_3 .

The writer examined the property on June 18, 1956, under the guidance of P. Malcovitch.

P. J. McLEAN
LOT 6, CONCESSION IV, HARCOURT TOWNSHIP
HALIBURTON COUNTY

by
J. SATTERLY

P.J. McLean of Windsor, Ontario, holds 36 claims in the southwest part of Harcourt township, Haliburton county. The property is reached from highway No.500 by the road to Farquhar Lake and a private road (locked gate) to Scraggy Lake, a distance of 3.9 miles. It was examined by the writer on September 7, 1957. The main showing is on claim E.O. 24945 or the north half of lot 6, concession IV, Harcourt township, Haliburton county, and is reached from the above private road by a trail 2,000 feet long.

Exploration:

The work to date consists of bulldozed areas, strippings, and several shallow pits or trenches spaced over a north-south length of 700 feet.

General Geology:

The area is underlain by granite gneiss or hybrid granite gneiss (see O.D.M. map 1957b), although at the main showing the country rock is scapolite-biotite gneiss and silicated marble.

Economic Geology:

Exploration has exposed at the main showing, 130 feet south, and 200 feet north, well-shattered magnetite-bearing red leucogranite striking north and dipping 40 - 45°W. These three exposures may represent a single dike ranging in true width from 8 feet at the main showing to 5 feet (130 feet south) to 1 foot (200 feet north). The rock contains abundant magnetite in grains to 1/2 inch across and accessory zircon, titanite, and uranothorite.

The main showing, just south of the north boundary of claim E.O. 24945 or the north half of lot 6, concession IV, is in a bulldozed area at the bottom of a dry valley. Shallow trenching over a length of 30 feet exposes an 8-foot dike of shattered leucogranite. Geiger readings are 10,000 with a 3-foot footwall zone reading 15,000 - 20,000 c.p.m. Sample 57-S-17 is a chip sample taken by the writer across 3 feet.

At 130 feet south, near the top of the ridge on the east side of the gully, 2 pits, 4 by 6 by 1 and 4 by 10 by 4 feet deep in a bulldozed clearing expose a similar sheared red magnetite-bearing leucogranite. In the north pit geiger readings were 25,000 - 35,000. Sample 57-S-18 is a composite grab sample taken by the writer in this pit. The south pit, 5 feet away, exposes 5 feet of granite gneiss and magnetite leucogranite. The former reads 10,000 - 15,000, and the latter 25,000 - 30,000 across 2 feet.

At 200 feet north of the main showing a bulldozed stripping, 100 feet long, exposes in a pit a 1 foot dikelet of sheared magnetite leucogranite cutting scapolite-biotite gneiss and silicated marble. Geiger readings on the dikelet were 8,000 - 15,000 c.p.m.

Background count on scapolite-biotite gneiss is 500 c.p.m.

Summary:

The samples were submitted to the Provincial Assay Office for analysis with the following results:

No.	Geiger Reading at Exposure Average	Location	Times B.G.C.	U ₃ O ₈ (radiometric) percent	U ₃ O ₈ (chemical)
57-S-17	17,000	Main Showing	34x	0.09	0.035
57-S-18	30,000	130 ft.south, N.Pit	60x	0.07	—

The analyses of Sample No. 57-S-17 give a Th/Ur ratio of 6.3/1 indicating that the radioactive mineral present is probably uranothorite.

HASTINGS COUNTY

11

H. SUNDSTROM

CARLOW TOWNSHIP, HASTINGS COUNTY

In 1957, Herman Sundstrom held ten claims, E.O. 25170 - 9, in lots 13 - 16, concessions XII and XIII, near Stringer Lake, Carlow township, Hastings county.

Exploration consists of surface trenching on radioactive showings. The writer examined two showings on September 18, 1957.

The general geology is shown on Ont. Dept. Mines Map No. 1954-3.

No. I Showing is on the north half of lot 18, concession XII, Carlow township, about 120 feet west of the Boulter road. The north part of this lot is underlain by a ridge of pink granite gneiss and leucogranite. Parts are graphic granite. Geiger readings are fairly uniform being 500 c.p.m. to occasionally 1,000 on fractures. A 20-30-foot basalt dike cutting the granite reads 400. At the showing the granite gneiss is medium- to coarse-grained and consists of pink feldspar, grey to white quartz, sparse altered mafics with accessory titanite and quite abundant allanite. The gneissic structure strikes N.70°E., and dips 30°S. A white coating on fractures is a carbonate. Geiger readings were 1,000 - 3,000 and may average 2,000. The area reading 1,000 or better is 30 feet wide and has an exposed length along the strike of 150 feet. A grab sample, taken by the writer, of chips from the dump, and submitted to the Provincial Assay Office for analysis, gave 0.01 percent U₃O₈ (radiometric).

No. 2 Showing is on the south half of lot 17, concession XII. A pit, 15 x 10 x 5 feet deep, about 300 feet northwest of a bush road, exposes an almost flat-lying granite gneiss complex of alternating bands of pyroxene-poor leucogranite, pyroxene-rich granite, and patches of quartz-rich scapolite pegmatite or lenses of salmon-pink calcite. Accessory minerals are titanite, zircon, and uranothorite. Geiger readings were 1,000 - 3,000, and a spot-high of 10,000 where uranothorite was seen.

EAGLE NEST MINES, LIMITED
DUNGANNON AND FARADAY TOWNSHIPS, HASTINGS COUNTY

In 1957, Eagle Nest Uranium Mines, Limited held the mining rights on a number of lots in the northwest part of Dungannon and adjoining Faraday township. Exploration in 1956-57 was carried out on seven radioactive areas designated as the Mountain, Tower Line, Pinnacle, Gossan, Field, Mica, and Weimer zones. With J.C. Stoughton as guide the writer examined a number of workings on all these zones, except the Weimer, on September 19, 1957.

Exploration:

Surface exploration on the seven radioactive areas comprises bulldozed strippings, pitting, trenching, and thirteen drill holes.

General Geology:

The geology of the property is shown on Ont. Dept. Mines maps Nos. 1955-8 and 1957b and consists mainly of hybrid syenite gneiss, leucogranite, and hybrid granite gneiss cut by syenite and granite pegmatite dikes, some of which are highly radioactive over narrow widths. Other radioactive occurrences are on fractures, in sulphide zones, and in mica metamorphic pyroxenite.

Economic Geology:

Mountain Zone: Workings on this zone are in lot 69,

Hastings Road West, Faraday township (1 working) and in lots 69 and 70, Hastings Road East, Dungannon township (6 workings). In these workings spaced at intervals northeast over a length of 800 feet several pegmatite dikes or shear zones in the granitic rocks have been examined. They have been explored by five drill holes. On lot 69, Hastings Road West, Faraday township, a pit exposes red leucogranite with fractures, 1 - 3 feet apart, striking N.85°E., and dipping vertically. These fractured zones gave geiger readings of 10,000 - 30,000. The normal granite read 2,000. Two pits over the boundary in lot 69, Hastings Road East, Dungannon township, expose a shattered, rusty-weathering, pyrite-rich pegmatite dike, 1 - 2 feet wide, that strikes east, and dips 60°S. It cuts almost flat-lying hybrid granite gneiss and pink granite gneiss reading 1,000 - 1,500. The pegmatite reads 20,000 - 40,000 over 1.5 feet. Sample 57-S-34 was a chip sample taken by the writer across 1.5 feet averaging a count of 35,000. It was submitted to the Provincial Assay Office for analysis with the following result: 0.11 percent U_3O_8 (radiometric), 0.023 percent U_3O_8 (chemical). Two pits near a pond in lot 70, Hastings Road East, expose in the west pit a 1 foot shattered zone reading 15,000, and in the next pit east a 3-foot wide shattered granite pegmatite, striking N.85°E., and dipping vertically, reading 20,000 across 3 feet. The country rock is a flat-lying hybrid granite gneiss. Two additional pits to the east were not examined.

Tower Line Zone: Three small pits on lot 71, Hastings Road East, expose leucogranite, syenite and granite pegmatite † calcite reading 4,000 with spot-highs of 10,000 - 15,000.

Pinnacle Zone includes a number of workings spread over a distance of 500 feet on lots 70 and 71, Hastings Road East. Radioactive occurrences are found as uraninite coating fractures in syenite, in calcite-pyroxene syenite or granite pegmatite dikelets, and in apatite-pyrrhotite-pyroxene zones. The country rock is leucogranite or syenite. All these occurrences are very narrow often 1 foot or less in width. Geiger readings may be quite high, being greater than 50,000, owing to the sporadic occurrence of uraninite. A grab sample, 57-S-36, of the apatite-pyrrhotite-pyroxene material was taken by the writer and submitted to the Provincial Assay Office for analysis with the following results: 0.01 percent U_3O_8 (radiometric). The fractures, dikes and sulphide zones have variable strikes and dips from N.10°E. - N.20°W., dip 60°W. - N.60 - 70°E., dip 35°N to vertical.

Gossan Zone is on lot 71, Hastings Road East, and has been explored over 80 feet by stripping and two trenches. These workings expose a crumbly-weathering, rusty, biotite-pyroxene syenite pegmatite, 3 - 8 feet wide, cutting grey flat-lying granite gneiss. A 15-foot length of the pegmatite gave geiger readings greater than 50,000. The dike strikes east, and may have a vertical dip.

Mica Zone is on lot 29, concession XVI, Dungannon township. A stripping, trench and pit expose a complex of hybrid granite gneiss, granite pegmatite \pm magnetite, a patch of biotite-scapolite metamorphic pyroxenite. Geiger counts greater than 50,000 were obtained at the weathered contact between the pegmatite and pyroxenite, and on thin seams 1 - 2 inches thick of uranothorite-allanite-zircon-pyroxene filling fractures that strike N.30° W., dip 60° E., or E., dip 40° S.

Field Zone as the name indicates is in a field on lot 29, concession XVI, Dungannon township. A pit and 30-foot trench expose leucogranite reading 1,000 rarely to 4,000 cut by five calcite-pyroxene stringers, a few inches wide, in various directions. Geiger counts of 15,000 - 50,000 were recorded. Uraniothorite was noted as rounded black prisms at one spot-high.

Summary and Conclusions:

The following conclusions may be drawn from a review of the geiger readings, distribution of visible radioactive minerals, and analyses of two typical samples from different zones.

1. The high-grade areas or fracture zones containing uraninite or uranothorite are often narrow, of small extent, or so widely spaced that it is doubtful they would upgrade the overall uranium content of the granitic body to make the

whole average an ore grade.

2. The thorium/uranium ratio (about 15:1) on a sample from the Mountain Zone indicates a high thorium and low uranium content. Even if continuity of the dikes could be proven, the zone would be uneconomic at the present time.

3. The sulphide zone on the Pinnacle Zone gave a very low assay, 0.01 percent U_3O_8 (radiometric), and, if typical, indicates that the sulphide showings are uneconomic.

P.J. McLEAN

DUNGANNON TOWNSHIP, HASTINGS COUNTY

In 1957, P.J. McLean of Windsor, Ontario, held fifty claims in the northeast corner of Dungannon township, Hastings county. Two groups of showings were examined by the writer on September 20, 1957.

Radioactive showings have been explored by pits and trenches adjacent to the York River in concession XVI.

The general geology is shown on Ont. Dept. Mines Map No. 1955-8.

On lot 5, concession XVII, a ridge of marble parallels the York River. Banding in the marble strikes N.17°E., and dips 50°E. Leucogranite and granite pegmatite are exposed at intervals for over 1,500 feet. The ridge has been explored by five pits or trenches that expose widths of 5 - 35 feet of the granitic rocks. Geiger readings on marble were 700 - 800 c.p.m., and on the granitic rocks 1,000 - 4,000, and may average 1,500. Random spot-highs of 10,000 - 12,000 were noted. The granitic rocks are yellow-brown peristerite leucogranite pegmatite, pink leucogranite or leucogranite pegmatite with sparse pyroxene. Irregular lenses or stringers of salmon-pink calcite are present and account for pyroxene concentrations with disseminated molybdenite.

Exposures of pegmatite, probably on lot 6, concession XVII, have been explored by two trenches 80 feet apart. The country rock is marble striking N.5°W., and dipping 50°E. Widths of 3 - 17 feet of leucogranite or granite pegmatite are exposed. Geiger readings are low, 600 - 2,500. The background count on the marble is 700.

CHARLES ROCKWELL
DUNGANNON TOWNSHIP, HASTINGS COUNTY

Charles Rockwell of Chicago, U.S.A., held options on the mineral rights on a number of lots in Dungannon township, Hastings county. Exploration on radioactive showings was carried out on the farms of Gordon Card in May, 1957, and of John Hawkins in Dec. 1956. The writer examined the showings on September 9, 1957.

Gordon Card

The showings on the farm of Gordon Card are on lot 18, concession XI, Dungannon township. In an old field on a ridge about 0.3 miles east of the farmhouse a north-south bulldozed stripping connects exposures of granite and granite pegmatite over a length of 550 feet, and additional exposures indicate a length of 950 feet in all for the granite body. The maximum width is about 300 feet (see Ont. Dept. Mines Map No. 1955-8). Minor inclusions of amphibolite and silicated marble are present. Geiger readings on the leucogranite and leucogranite pegmatite are 600 - 2,000 over the bulldozed stretch, and drop to 700 - 1,000 on the exposures to the south. Spot-high areas were found as follows:- 1), at the north end a test pit reads 3,000 - 4,000 with a spot-high of 35,000 across 2 feet (sample 57-S-22). 2) At about 400 feet south from the north end of the bulldozed stripping another shallow test pit has been put down at a spot-high of 25,000 at a point where the leucogranite is

hematitized and contains a small glassy quartz pod a few inches across. At this point yellow uranium stain was noted, and a few grains of amber uranothorite. The remainder of the rock around the pit reads 1,000 - 3,000. 3) One other spot-high was found on a mica-hornblende (or pyroxene) concentration in the granite pegmatite at 450 feet south, the geiger reading 30,000 over 1 foot.

Sample 57-S-22, taken by the writer, was analyzed by the Provincial Assay Office with the following result: 0.03 percent U_3O_8 (radiometric).

John Hawkins

A single test pit has been put down on a radioactive showing in about the centre of lot 20, concession XI, Dungannon township. The country rocks are biotite syenite, hybrid syenite gneiss, and biotite-nepheline-plagioclase gneiss (see O.D.M. map No. 1955-8). The test pit exposes a 1 to 2-inch biotite veinlet for a few feet that gave an off-scale 50,000 reading on the geiger. The gneissic complex reads 700 - 1,000 c.p.m.

YORK RIVER URANIUM MINES, LIMITED
FARADAY TOWNSHIP, HASTINGS COUNTY

In 1957, York River Uranium Mines, Limited held a group of lots in northeastern Faraday township, north of the Monck road and west of the York River. Exploration was carried out in 1955-56 and seven radioactive zones were found, designated "A" to "G". The writer examined two of the zones on September 19, 1957. J.C. Stoughton acted as guide.

Exploration:

Surface work by bulldozed strippings, trenching and pitting was carried out on a number of the zones.

General Geology:

The geology is shown on Ont.Dept.Mines Map No. 1957b. The property is largely underlain by the Faraday leucogranite or granite gneiss, except in the southern part of the property where hybrid syenite gneiss and metagabbro are exposed.

Economic Geology:

The writer examined two of the zones: "B" and "D".

B. Zone is on the north half of lot 4, concession B, south of Vanluven Lake. It has been explored by bulldozed strippings and seven pits and trenches over an area 300 feet across. The rocks exposed are leucogranite, syenite, syenite and granite pegmatites. A small inclusion of marble was noted

in one pit. Geiger readings on the granite or syenite average 1,000. The pegmatites vary considerably in mineral content, ranging from stringers of hornblende to hornblende syenite pegmatite † calcite † apatite giving geiger readings of 1,000 - 4,000, and spot-highs to greater than 50,000 where reddish-brown grains of pyrochlore were noted. The best of these spot-high areas averaged 2 inches wide over an exposed length of 10 feet. These pegmatites have ill-defined boundaries and obviously originated by replacement. The distribution of the radioactive minerals is very erratic.

D Zone is on the south half of lot 6, concession XV on a hill 1/2 mile southwest of Waterhouse Lake. A granite ridge has been explored by bulldozed strippings and seven pits or trenches over a length of 500 feet. The country rock leucogranite on granite gneiss gave geiger readings of 500 - 1,000. The workings expose irregular dikelets of pyroxene or pyroxene granite pegmatite † calcite † biotite, and narrow fractured zones. These gave occasional spot-highs of 10,000 to greater than 50,000. Uranothorite in clusters of small rounded prisms or needles was noted at two of these spot-highs. The pegmatite dikes are small and erratic in distribution. The work to date has failed to indicate any continuity to the more radioactive areas.

The locations of the other zones on the property are recorded as follows:-

- A - S.1/2, lots 2 and 3, concession XV, (stripping only),
- C - S.1/2, lots 2 and 3, concession XV, (no work),
- E - N.1/2, lots 9 and 10, concession B, (6 trenches),
- F - S.1/2, lots 5 and 6, concession B, (no work),
- G - S.1/2. lot 8, concession B, (2 pits).

SOUTH STATE URANIUM MINES, LIMITED
MONTEAGLE TOWNSHIP, HASTINGS COUNTY

South State Uranium Mines, Limited held under option in 1957 lots 17 and 18, concession II, and lots 20 and 21, concession I, Monteagle township, Hastings county. The writer examined the property on September 9, 1957. The earlier work on the property has been described in report of the Ont. Dept. Mines, Vol. 65, 1956, pt. 6, p.

Exploration:

At the time of the writer's visit bulldozed areas on three zones, each over 700 feet in length, exposed radioactive zones designated A. B. C. B zone, the original show^{ow}ing, is known as the Dallas zone, and the C zone as Tiffany. Shallow trenching by shovelling has been carried out at 5-foot intervals on the zones for a geiger ratemeter survey. A number of narrow trenches have been put down on the B zone, and a few pits elsewhere.

General Geology:

The property is underlain by marble, mica metamorphic pyroxenite, leucogranite, granite gneiss and granite pegmatite. These rocks strike N.30°E. and dip 40°SE.

Economic Geology:

Radioactive showings are found in the granitic rocks, the

mica metamorphic pyroxenite, and in discontinuous lenticular bodies of salmon-pink calcite, pale green diopside, and mica. The radioactive mineral is probably uranian thorianite or thorianite and forms grains, cubes or cube interpenetration twins.

The original showing, now known as the Bar^{or} Dallas Zone, is in a north-south bulldozed clearing 725 feet long. The zone consists of a calcite-diopside-mica band in mica metamorphic pyroxenite or of the latter rock entirely. A central calcite section about 250 feet long is 8 - 20 feet wide, and gave geiger readings of 5,000 - 40,000 and may average 10,000 over a 5-foot width. South of it for 300 feet the rock is mainly mica pyroxenite that reads 1,000 - 2,000, and north of it for 175 feet a sinuous calcite band, 1 - 5 feet wide, in mica pyroxenite reads 1,000 - 5,000 with a maximum of 10,000. The last 75 feet to the north is mica pyroxenite with an exposed width of 10 feet reading 1,000 - 2,000. Background count on marble away from the C zone is 500 c.p.m. A grab sample, 57-S-19, was taken by the writer at a point reading 13,000.

The A Zone is north and east of the B. zone, and west of the C. zone. The south end of A zone is about 75 feet north of the B zone. A. zone is in a large north-south bulldozed clearing about 150 feet wide and 600 feet long. This clearing exposes a mixed assemblage of marble, mica metamorphic pyroxenite, granite gneiss, and granite pegmatite. The granite pegmatite forms a number of irregular lenticular bodies, and the mica pyroxenite ± scapolite occurs as pods with widths of 30 - 60 feet at intervals over a length of about 400 feet.

These gave geiger readings of 500 - 2,000. At 115 feet north of the south end a small lens of calcite-diopside-mica rock with grains and cubes of uraninite has a spot-high of ~~4,000~~ 40,000 across 1 foot (Sample 57-S-21). Geiger readings of over 5,000 indicate that the lens is about 6 feet in maximum width and has a length of 20 feet. A spot-high of 30,000 across 1 foot was also noted in the mica pyroxenite at 95 feet north of the south end.

The C or Tiffany zone, to the north and east of B zone, is in a bulldozed clearing 725 feet in length. A radioactive mica-calcite zone and associated mica pyroxenite has widths of 20 - 40 feet, and has been exposed to date over a length of 425 feet. Geiger readings were 500 - 2,000 with random spot-highs across 1 foot of 3,000 - 5,000, and one of 20,000. The background count on grey marble is 500.

Samples 57-S-19 and 57-S-21 were submitted to the Provincial Assay Office for analysis with the following results:

Sample No.	Location	Geiger Reading C.P.M.	Times B.g.c.	U ₃ O ₈ (radiometric) percent	U ₃ O ₈ (chemical) percent
57-S-19	B Zone	13,000	26x	0.05	—
57-S-21	A Zone	40,000	80x	0.41	0.30

Summary and Conclusions:

The analysis of Sample 57-S-21 giving an approximate thorium/uranium ratio of 1.5:1 is in keeping with the radioactive mineral being uranian thorianite. At the present time there is no market for thorium. On the basis of geiger readings on the

B zone and the above analyses it is doubtful if the small body of calcite (5 feet wide and 250 feet long) would grade 0.10 percent U_3O_8 (chemical).

MANITOULIN DISTRICT

GEOLOGIST'S REPORT FOR "DISCOVERY"
ON THE
L.R. BOUSSQUET RADIOACTIVE MINERAL SHOWINGS

PHILIP EDWARD ISLAND
Carlyle Township
Manitoulin District
Parry Sound Mining Division
Ontario

• June 25, 1957

by J. Satterly

L.R. BOUSQUET RADIOACTIVE MINERAL SHOWINGS

Philip Edward Island, Carlyle Township, Manitoulin District.



L.R. Bousquet, Killarney, Ontario, has staked claims on Philip Edward Island, Carlyle township, Manitoulin district, on the west side of Beaverstone Bay. One of the showings is on a small island (KG 2358) between Burnt Island and Philip Edward Island.

Guide and Date of Inspection

Mr. L.R. Bousquet took the writer by boat to examine the showings on June 18, 1957.

Exploration

Surface exploration consists of a few test-holes for sampling purposes.

Geology

The geology is shown on Map 221A, Collins Inlet Sheet, Geological Survey of Canada. The rocks examined by the writer were granite, granite gneiss, hybrid granite gneiss, garnet-biotite gneiss, and biotite granite pegmatite (porphyroblast type). The gneisses strike N. to NE. and dip 40° - 60°E. The granite pegmatite bodies are weakly radioactive.

Neogenic Geology

The pegmatite bodies are leucogranite, biotite granite, and granite pegmatite mainly of the porphyroblast type, that is, a rock formed by the growth of feldspar crystals (porphyroblasts) in the host rock, probably a biotite paragneiss, by replacement. The biotite of the host is recrystallized and forms aggregates that wrap around the feldspar crystals. Geiger readings indicate that the more radioactive parts of the pegmatite often contain more biotite. Parts of the rock are red-stained (hematitized), and yellow uranium stain was noted at a number of places. Radioactive minerals identified are monazite, and the secondary mineral uranophane.

The showing on island KG 2358 is a biotite granite pegmatite dike with a maximum exposed width of 20 feet cutting garnet-biotite paragneiss. To the west hybrid granite gneiss is exposed. The gneisses strike N.25°E., and dip 70°E. to vertical. The background count on the paragneiss is 400 counts per minute (c.p.m.)¹. The granite pegmatite reads 1,000 - 2,000, and may average 1,500 c.p.m. Sample No. 57-S-5 was taken by the writer from a shallow test-hole at a point reading 1,500 c.p.m.

¹. Geiger readings were taken with an Electronic Associates, Ltd., EA-135 PI.

On Philip Edward Island, at the shore, a dike of biotite granite, leucogranite, and granite pegmatite has an exposed width of 20 feet. It cuts hybrid granite gneiss or highly

injected biotite paragneiss. The gneisses and pegmatite strike N.15°E., and dip 60°E. The dike rock is pale pink with random spots deep red in colour from hematite staining, and spottily distributed yellow uranium stain. Sample No. 57-S-6 was taken by the writer at a shallow test-hole where the geiger read 2,500 c.p.m.

At about 150 feet south of the above a 5-foot granite pegmatite dike is exposed in contact with a hybrid granite gneiss that reads 500 c.p.m. The west wall of the dike exposure reads 25,000, but the first foot east only reads 4,000, and the remaining 4 feet reads 1,000 c.p.m. A grab sample, No. 57-S-7, was taken by the writer at a point reading 25,000 c.p.m.

The writer was shown some additional exposures of granite pegmatite in hybrid granite gneiss to the south of the above. Mr. Bousquet reports that pegmatite is exposed at intervals across two claims.

Samples

The samples were submitted to the Provincial Assay Office for analysis. The results and geiger readings are tabulated below:-

Sample No.	Location	Geiger Reading c.p.m.	Times Background Count	U ₃ O ₈ (radiometric) percent	U ₃ O ₈ (chemical) percent
5	KG 2358 Is.	1,500	4x	0.008	—
6	Philip Edward Is.	2,500	5x	0.02	—
7	Philip Edward Is.	25,000	50x	0.11	0.08

Summary

The analyses indicate that representative granite pegmatite may contain 0.01 percent U_3O_8 . The spot-high occurrences are too infrequent to upgrade the U_3O_8 content to anything near 0.1 percent. In the writer's opinion these showings do not constitute "valuable mineral in place" as required by Section 1 (w) of the Ontario Mining Act.

PLICATE

C 5612



DEPARTMENT OF MINES

LABORATORIES BRANCH

CERTIFICATE OF ASSAY

The following results have been obtained on samples submitted by:

~~R. S. Matherly, Dept. of Mines, Settlement House, Toronto, Ontario~~

Sample No.	Radioactivity (Beta-ray activity) Uranium Oxide (U ₃ O ₈) Equivalent
57-5	0.008
57-6	0.001
57-7	0.11
Chemical analysis	
Sample No. 57-7	Uranium Oxide (U ₃ O ₈) - 0.001

Fees received for above \$.....~~1.00~~.....

Date..... June 27th..... 1957.....

H. A. Kiddle (D. A. Kiddle)
Provincial Assayer

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GEOLOGIST'S REPORT FOR "DISCOVERY"
on the
DALE SCHAFER RADIOACTIVE MINERAL PROPERTY
Philip Edward Island
Carlyle Township
Manitoulin District
Parry Sound Mining Division
Ontario

June 25, 1957

by J. Satterly

DALE SCHAFFER RADIOACTIVE MINERAL PROPERTY

Philip Edward Island, Carlyle Township, Manitoulin District

In September, 1956, Dale Schaffer et al staked 3 claims on Philip Edward Island, Carlyle township, Manitoulin district, under Section 39 (c) of the Mining Act. These claims are on the north side of the island, adjacent to Collin's Inlet.

Guide and Rate of Inspection

Mr. Clarence Noble, Beaverstone Lodge, acted as guide and the discovery showing was examined on June 18, 1957. Beaverstone Lodge is on Beaverstone Bay, Georgian Bay, and may be reached most conveniently by a 20-minute flight from Sudbury.

Exploration

No surface or other exploration has been carried out on the claim group.

Geology

The geology of the area is shown on Map sheets 220A and 221A of the Geological Survey of Canada. On the claim group, the rocks are granite, granite gneiss, hybrid granite gneiss, with minor areas of paragneiss and quartzite, cut by granite pegmatite. The granite pegmatite is a porphyroblast type formed by replacement. Feldspar porphyroblasts are wrapped around by biotite books. These pegmatite bodies are slightly radioactive.

Economic Geology

The pegmatite bodies are a porphyroblast type, that is, a rock formed by the growth of feldspar crystals (porphyroblasts) in the host rock, probably a biotite paragneiss, by replacement. The biotite of the host is recrystallized and forms aggregates that wrap around the feldspar crystals. Geiger readings indicate that the more radioactive parts of the pegmatite often contain more biotite. Accessory minerals associated with the biotite are minute crystals of zircon, and yellow to amber grains of monazite.

The writer examined rock exposures, mostly pegmatite, on claims Nos. 2, 3 and 7 of the claim group. The discovery post on claim No.2 is said to be at a point 740 feet south, and 441 feet west of No.1 post. As Philip Edward Island is forested with pine, spruce, maple, poplar and birch, much of the rock is mantled with lichen growth and pine needles, so that the relative proportions of the different rock types could not be ascertained in the time available for examination. It appeared, however, that on claim No.2 granite pegmatite is almost continuously exposed from the discovery post to the west boundary of the claim. This pegmatite gave readings of 1,000 to 2,000 with spot-highs to 3,000, except near the discovery post where a spot-high of 30,000 counts per minute (c.p.m.) was recorded. The average count on this area of pegmatite is probably not more than 1,500 or 5x background count. The background count on garnet-biotite paragneiss was recorded as 300, and on quartzite as 300 to 500 c.p.m. A grab sample,

No. 57-S-1, was taken by the writer of pegmatite at a point reading 1,500 c.p.m. Two other grab samples were taken by the writer, No. 57-S-3 of pegmatite reading 4,000, and No. 57-S-4, reading 20,000 c.p.m.

On claim No.3 immediately west of No.2 a biotite granite is exposed with minor pegmatite stringers. Geiger readings were 500 with spot-highs to 1,000 c.p.m. South of claim No.3 is claim No.7, on which a small swampy lake straddles the south boundary of the claim. On the north shore of this lake a mass of granite pegmatite has an exposed width of 150 feet. The foliation strikes N.40°E., and dips 80°SE. Geiger readings range 600 - 1,000 c.p.m. A grab sample, No. 57-S-2, was taken by the writer at a point reading 1,000 c.p.m.

Samples

The samples were submitted to the Provincial Assay Office for analysis. The results and geiger readings are tabulated

below:

Sample No.	Location	Geiger Reading c.p.m.	Times Background Count	U3O8 (radiometric) percent	U3O8 (chemical) percent
1	Claim No.2	1,500	5x	0.009	—
2	Claim No.7	1,000	3x	0.005	—
3	Claim No.2	4,000	13x	0.03	—
4	Claim No.2	20,000	70x	0.07	0.006

Summary and Opinion

Samples Nos. 1 and 2 are considered to be representative of the porphyroblast granite pegmatite of the claim group. The results indicate that the uranium content is below ore grade.

The spot-high occurrences are too few and far apart to appreciably affect the overall average which would appear to be below 0.01 percent U_3O_8 . In the writer's opinion these showings do not indicate "valuable mineral in place" as required by Section 1(w) of the Ontario Mining Act.



DEPARTMENT OF MINES

LABORATORIES BRANCH

CERTIFICATE OF ASSAY

The following results have been obtained on samples submitted by:

Mr. J. Lutterly, Dept. of Mines, Parliament Bldg., Toronto, Ont.

Sample No.	Radioactivity (Beta ray activity) Uranium Oxide (U ₃ O ₈) Equivalent
# 57-S-1	0.019%
# 57-S-2	0.005%
# 57-S-3	0.03%
# 57-S-4	0.07%
Chemical Analysis	
57-S-4	
Sample # 4 - Uranium Oxide (U ₃ O ₈) - 0.06%	

Fees received for above \$..... Dept.

Date..... June 26th 195...7

..... *D. A. Modde* (D. A. Modde)
Provincial Assayer

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ONTARIO

DEPARTMENT OF MINES

LABORATORIES BRANCH

CERTIFICATE OF ASSAY

The following results have been obtained on samples submitted by:

~~Mr. J. Satterly, Dept. of Mines, Parliament Buildings, Toronto, Ont.~~

~~IDENTIFICATION~~

Sample 57-3 - This specimen is a piece of granite porphyry containing local dark streaks of biotite. A few small scattered grains of a yellow-orange vitreous mineral were seen. They were found both in and out of the biotite. An x-ray pattern (unheated) confirmed that they were zirconite.

Sample 57-4 - Specimen consists chiefly of biotite. Scattered orange-yellow vitreous grains were noted, which, when x-rayed (unheated) gave a zirconite pattern. White zircon-like grains were identified by x-ray (unheated) as zircon.

Fees received for above \$..... Dept.

Date..... June 27th 195...7.

D. A. Moddle (D. A. Moddle)

Provincial Assayer

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NIPISSING DISTRICT

R.J. COUSINTINE
PECK TOWNSHIP
ALGONQUIN PROVINCIAL PARK

By J. Satterly

R.J.Cousintine has staked four claims comprising lots 2 and 3, concession IV, Peck Township, Algonquin Provincial Park. The writer examined granite pegmatite dikes, accompanied by R.J. Cousintine, on November 7, 1956.

EXPLANATION:

None.

GENERAL GEOLOGY:

On the claims visited the country rock is amphibolite or hybrid granite gneiss. These rocks strike N. 25-40° E., and dip 20 - 50° SE. Cutting these rocks are narrow sills or dikes of granite pegmatite which are slightly radioactive.

ECONOMIC GEOLOGY:

The claims were staked for radioactive granite pegmatite dikes.

On the north half of lot 3, concession IV, the writer examined a number of small dikes of granite pegmatite. On the north side of the highway about 4 miles east of the west gate a coarse granite pegmatite dike, with an exposed width of 1 - 10 feet, outcrops for a length of 70 feet. It strikes N.25°E., and dips 50°W. The country rock is a biotite amphibolite which strikes N.40°E., and dips 50°SE. Geiger readings on the

2.

dike are 1x to 2x background count with spot-highs to 5x where clusters of allanite are present, and one of 10x at the base of the rockcut where the exposure is covered by debris. Two samples were taken:

<u>Sample No.</u>	<u>Geiger Reading</u>	<u>% U₂O₈ (R)</u>
56-S-160	5x (at spot-high)	0.10
56-S-161	Random chips across dike	0.007

To the south of the highway on this same lot three other exposures of narrow dikes or sills of granite pegmatite were examined. Readings ranged from 1x or 2x to a maximum of 5x background count.

Other sills were examined in the north half of lot 2, concession IV, at the creek outlet of a marshy pond. Scattered exposures of a granite pegmatite sill, about 3 feet thick, along the pond bank gave geiger readings of 1x - 2x. The country rock is a hybrid granite gneiss, striking N.25°E., and dipping 20°E.

CONCLUSIONS:

The geiger readings obtained at the showings, the extent of granite pegmatite, and the assay results, indicate that the deposits do not constitute "valuable mineral in place" as required by The Mining Act.

K.H. McINNES

PECK TOWNSHIP

ALGONQUIN PROVINCIAL PARK

By J. SATTERLY

K.H. McInnes staked five claims to the north of Minto Lake, Peck Township, Algonquin Provincial Park. The writer examined the discovery showing with K.H. McInnes on November 8, 1956.

EXPLORATION:

Minor stripping.

GENERAL GEOLOGY:

The bedrock is hybrid granite gneiss striking northeast, and dipping flatly southeast.

ECONOMIC GEOLOGY:

In the northeast corner of the north half of lot 7, concession IV, granite pegmatite is exposed for 15 feet along the strike, and 4 feet across. It is bounded on the northwest by granite gneiss. The long dimension of the pegmatite exposure trends northeast. Geiger readings are 1.5 to 2x background count. A grab sample, 56-8-164, taken by the writer assayed 0.007 percent U₃O₈ (radiometric).

CONCLUSIONS:

The showing does not represent a discovery of "valuable mineral in place".

- - -

J.G. McLENNAN
PECK TOWNSHIP
ALGONQUIN PROVINCIAL PARK

By J. SATTERLY

J.G. McLennan has staked four claims, comprising lot 6, concessions III and IV, Peck Township, Algonquin Provincial Park. The writer examined granite pegmatite dikes, accompanied by J.G. McLennan, on November 7, 1956.

EXPLORATION:

Stripping.

GENERAL GEOLOGY:

On the claims visited the country rock is hybrid granite gneiss striking N.20 - 45°E., and dipping 15 - 30°E.

ECONOMIC GEOLOGY:

The claims were staked for radioactive granite pegmatite dikes.

The main showing is just north of Minto Lake in the south half of lot 6, concession III. The country rock is hybrid granite gneiss striking N.20°E., and dipping 30°E. It is cut by a vertical granite pegmatite dike which strikes north. It is exposed for a length of 35 feet, and is 3 - 5 feet wide. Geiger readings are 2x - 3x with two spot-highs of 5x. The radioactive mineral from this showing has been tentatively identified by Moddle (Provincial Assayer) as pyrochlore (C.4843). Two samples were taken by the writer.

Sample No.	Nature of Sample	Geiger Readings	^{238}U
56-S-162	Chip sample across 3 feet	3x	0.004
56-S-163	Grab	5x	0.006

Another narrow sill of granite pegmatite south of the above gave barely background count readings.

CONCLUSIONS:

The limited exposure of pegmatite, the lower geiger readings, and low assay results, show that the deposit does not constitute "valuable mineral in place".

- - -

NOEL McLENNAN

PECK TOWNSHIP

ALGONQUIN PROVINCIAL PARK

By J. SATTERLY

Noel McLennan has staked five claims between the highway and Minto Lake in Peck Township, Algonquin Provincial Park. The writer examined granite pegmatite dikes, accompanied by Noel McLennan, on November 8, 1956.

EXPLORATION:

Practically none, a little stripping.

GENERAL GEOLOGY:

The bedrock is amphibolite or hybrid granite gneiss striking northeast, and dipping gently south. Narrow granite pegmatite dikes or sills strike parallel to the gneissic structure.

ECONOMIC GEOLOGY:

Weakly radioactive granite pegmatite bodies were examined at six locations as noted below:

- 1) North half of lot 4, concession IV.

Just south of the highway on the face of a steep slope of amphibolite a 2-foot chloritized biotite granite pegmatite sill is exposed for 10 feet. Geiger readings are 3 - 5x background count. A grab sample, 56-S-164, was taken by the writer and assayed 0.01 percent U_3O_8 (radiometric).

- 2) North half of lot 4, concession IV.

In the southwest part of this claim a 3-foot granite pegmatite dike, striking N.30°E., is exposed for 20 feet. Another patch of granite pegmatite, 1 foot wide, 100 feet

to the southwest, may be the same dike. Geiger readings are very low, averaging 1x background count.

3) South half of lot 5, concession IV.

Near the west boundary of the claim granite pegmatite is poorly exposed for 50 feet in length and 4 feet in width. The strike is N.35°E. Geiger readings are barely above background count. The country rock is a hybrid granite gneiss.

4) South half of lot 5, concession III.

On the west boundary of this claim a few boulders (float?) of a rusty-weathering granite pegmatite gave a geiger reading of about 3x background count. A grab sample, 56-S-165, was taken by the writer and assayed 0.03 percent U_3O_8 (radiometric). The country rock nearby is a hybrid granite gneiss.

5) South half of lot 5, concession III.

Near the south boundary of the claim, that is just south of Minto Lake, a dip slope slab of granite pegmatite has an exposed area of 20 by 30 feet. The mass represents the eroded remnant of a sill possibly 1 to 3 feet thick. Geiger readings ~~readings~~ are 1 to 1.5x background count. A grab sample, 56-S-166, taken by the writer, assayed 0.003 percent U_3O_8 (radiometric).

6) North half of lot 5, concession III.

On the east boundary of this claim a 1 foot sill of granite pegmatite is exposed for a few feet. Geiger readings are barely above the background count. The country rock is a hybrid granite gneiss striking N.30°E., and dipping 30°SE.

CONCLUSIONS:

The showings do not contain "valuable mineral in place" as required by The Mining Act.

A.L. O'LECKIE

PECK TOWNSHIP

ALGONQUIN PROVINCIAL PARK

By J. SATTERLY

A.L. O'Leckie staked two claims to the northwest of Winto Lake in Peck Township, Algonquin Provincial Park. The writer examined the discovery showing with Calvin Smith, representing A.L. O'Leckie, on November 8, 1956.

EXPLORATION:

None.

GENERAL GEOLOGY:

The bedrock is a hybrid granite gneiss.

ECONOMIC GEOLOGY:

The discovery showing is near the north boundary of the south half of lot 4, concession IV. A steep slope exposes hybrid granite gneiss containing minor stringers or dikes of granite pegmatite giving geiger readings of 2 to 3x background count.

CONCLUSIONS:

The stakers were under the impression that a geiger reading of 450 on an Electronic Associates EA-135 ratemeter was significant. The granite gneiss gave readings of 300 - 400 counts per minute, that is the background count. So although a ridge of granite gneiss is said to traverse the width of the claim it is of no economic significance.

The showing, therefore, does not constitute a discovery of "valuable mineral in place".

MRS. LOUISE E. SMITH
PECK TOWNSHIP
ALGONQUIN PROVINCIAL PARK

By
J. Satterly

Mrs. Louise E. Smith staked one claim to the west of Minto Lake, Peck Township, Algonquin Provincial Park. The writer examined the discovery showing with Mr. Douglas Smith, husband of Mrs. Louise E. Smith, on November 8, 1956.

EXPLORATION:

None, except minor stripping.

GENERAL GEOLOGY:

The bedrock is hybrid granite gneiss.

ECONOMIC GEOLOGY:

The discovery showing is at the base of a 50-foot cliff of hybrid granite gneiss in the northwest corner of the south half of lot 2, concession III.

Stripping exposes an irregular 1- to 3-foot granite pegmatite sill over a length of 30 feet. Geiger readings are very low being below the highest background count readings obtained on the hybrid granite gneiss.

A grab sample, 56-S-167, of the granite pegmatite taken by the writer assayed 0.003 percent U₃O₈ (radiometric).

CONCLUSION:

The showing does not represent a discovery of "valuable mineral in place".

GALWOOD MINES, LIMITED
SABINE TOWNSHIP, NIPISSING DISTRICT

by

J. Satterly

In 1956, Galwood Mines, Limited held 24 claims in the northeast corner of Sabine township, Nipissing District. The main showing is on claim E.O. 12114, the south half of lot 32, concession XV¹, adjacent to L'Amable Creek, 7.8 miles east of Whitney.

A small open cut, 25 x 30 feet, at the east end of a rock ridge about 100 feet high exposes coarse pink granite pegmatite in contact with pink biotite granite, grey hybrid granite gneiss, and amphibolite. The granite pegmatite contact with the amphibolite is sharp and well-defined striking N.60°E., and dipping 50°NW. The exposed width of granite pegmatite is about 20 feet, the contacts with granite and granite gneiss being gradational. Masses of pink biotite granite are present within the granite pegmatite.

The granite pegmatite consists of pink potash feldspar in masses to 2 feet across, grey quartz to 2 feet, white soda feldspar to 4 inches, an occasional book of biotite to 1 foot, and a few rough crystals or masses of radioactive mineral reported by Peter Malcovitch to have been identified as euxenite-polycrase. One mass 10 inches across is largely titanite with some euxenite. This mass gave a reading of 2000 on the EA-135 PI (Internal), the rest of the granite pegmatite reading 500 counts per minute.

1. Cancelled June 5, 1958.

The rock exposed above the open cut is hybrid granite gneiss. Other exposures of granite pegmatite are reported to occur to the west. The granite pegmatite at the open cut is limited to the area of the open cut.

The company is interested in the gadolinium content of the euxenite. This type of occurrence, a coarsely crystalline granite pegmatite, is characterized by an erratic and sporadic distribution of radioactive minerals. Although other pods of euxenite may be present it is doubtful if enough will be found to be of economic importance.

The property was examined on June 18, 1956, with Peter Malcovitch acting as a guide.

PARRY SOUND DISTRICT

REPORT ON A URANIUM SHOWING ON QUARTZ ISLAND,
OFF SNUG HARBOUR, CARLING TOWNSHIP, PARRY SOUND DISTRICT

by J. SATTERLY

Mr. Fred Hoshonian, 20 Minto Avenue, Hamilton, Ontario, staked in 1955 a small island, named Quartz Island by him, in Georgian Bay, southwest of Middle Island, opposite lot 75, concession XII, Carling township, Parry Sound district. These islands are at the mouth of Snug Harbour, which is 21 miles by road from the town of Parry Sound.

The writer examined the showing on this island with Mr. Hoshonian on July 2, 1956.

EXPLORATION

No trenching, test-pitting or sampling have been carried out on the occurrence. No grab samples even have been taken for assay.

GENERAL GEOLOGY

Quartz Island is about 200 feet in diameter and is composed mainly of a massive, black, coarse-grained garnet-biotite amphibolite in contact on the west side of the island with 10 to 25 feet of hybrid granite gneiss striking N.20°W., and dipping steeply to vertical. The amphibolite is foliated for a few feet from the contact with the granite gneiss. Cutting across the amphibolite, but not the granite gneiss, are a number of barren pegmatitic white quartz veins

from less than 1 to 5 feet in width striking N.35°E., and dipping 60°SE. to vertical. Granite pegmatite dikelets cut both the amphibolite and quartz veins. Middle Island to the north, and a large island to the south, expose only hybrid granite gneiss. The amphibolite is therefore a small mass, and may have originally been a gabbro.

ECONOMIC GEOLOGY

The radioactive occurrence is a narrow, pink, coarse-grained muscovite granite pegmatite containing accessory iron carbonate, and rarely green apatite and ilmenite. Hematite staining was noted. It is a dikelet, 0 to 2 feet wide, with an exposed length of 40 feet. This dikelet curves from a strike of N.25°W. to N.60°W., and the dip changes from vertical to 45°SW. Geiger readings on an EA-135 range from 100 to 600 with one spot-high of 2,000 c.p.m. where biotite is abundant. Sample 56-S-40 was collected at this place. The background count on the amphibolite is 100.

Radioactive
0.06 @ 70 U₃O₈
See next
page.

On the southeast corner of the island another muscovite granite pegmatite dike is exposed. It is 1-6 feet wide, strikes N.30°W., and dips vertically. The exposed length is 100 feet. It is possibly on strike from the above. Geiger readings range from 100 to 200 c.p.m.

These pegmatite showings are of no economic significance, since the dikes are quite small, and their radioactivity is negligible.

ASCOT METALS CORPORATION, LIMITED

by J. Satterly

In September, 1954, Ascot Metals Corporation Limited acquired the property held by Trio Uranium Mines, Limited in McDougall township, Parry Sound district. The writer examined the two main showings on September 15, 1954.

McDougall Township, Concession A, Lot 12

The showings in lot 12, concession A, McDougall township are in pegmatite exposures in a hay field just west of Highway No. 69, 3 miles north of the town of Parry Sound. Exploration consists of 6 cross trenches over a length of 300 feet on possibly two dikes. A third dike has had no exploration carried out on it. The country rock is a biotite paragneiss, striking north and dipping 35° to 45° _E.

The first dike has been explored by four cross trenches over a dike-length of 125 feet. The dike trends $N.70^{\circ}E.$, and ranges from 7 to 16 feet wide. It varies from a coarse, pink biotite granite pegmatite to a medium-grained, purplish-red leucogranite pegmatite. Yellow uranium stain is found on fractures, around books of biotite, and on the purplish-red pegmatite. Rusty patches are caused by the weathering of scattered grains of pyrite. Garnet is a minor accessory. A radioactive mineral occurs in minute shiny black grains altered in part to a yellow mineral. Geiger readings obtained in these trenches were as follows: In Trench No. 1 the average is 25 (5M) with two spot highs of 35 (5M) and 35 (10M), (Specimen: 54-S-345); In Trench No. 2 the range is 35 to 40 (5M); In Trench No. 3 the range is 20 - 35 (5M); and in Trench No. 4 the

uranium -
phane

granite
 monophane
 at mineral
 UO₂ pattern after
 heating.

averages is 35 (10M) with a spot high of 25 (50M) on hematite-stained medium-grained quartz-rich leucogranite pegmatite with disseminated minute grains of a black radioactive mineral (Specimen: 54-S-346).

What may be a second dike begins 100 feet west of the first. Two trenches, Nos. 5 and 6, have been put in this dike. It strikes about N. 65° E., has an exposed length nearly 200 feet, and ranges from 7 to 20 feet in width. It is a grey and pink, coarse, biotite granite pegmatite with rusty spots due to weathered pyrite. A pale blue ^{apatite} ~~beryl~~ was seen as a rare accessory in Trench No. 5 (Specimen: 54-S-347). A radioactive mineral in minute black grains was found in the quartz of the pegmatite in Trench No. 6 (Specimen: 54-S-348). Geiger readings in Trench No. 5 averaged 25 (5M) with two spot highs of 45 (5M). In Trench No. 6 the readings ranged from 10 to 15 (5M).

UO₂
 pattern after
 heating

What may be a third dike is 90 feet west of the second across a narrow strip of hay field. It is 400 feet long, and 50 to 60 feet wide. The rock is a typical coarse, pink, graphic leucogranite pegmatite. Geiger readings average only 40 (1M) with about five spot highs of 20 (5M).

McDougall Township, Concession A, Lot 15

A low ridge of fine to coarse, pink, graphic leucogranite pegmatite is exposed for a north-south length of at least 1200 feet. Parts of this length may be in lots 16 or 17. The pegmatite has been intruded as a sill in low-dipping biotite gneiss. Surface widths of the pegmatite may be misleading and true thicknesses may be of the order of 10 feet. Geiger readings on the mass as a whole

are 25 (1M) which is barely above a normal background count. The pegmatite has been explored by two trenches and a shallow pit where higher geiger readings are found. The southern trench, 10 feet in length, exposed mixed coarse, biotite granite pegmatite and fine leucogranite pegmatite. Geiger readings are 10 to 15 (5M). The northern trench, 22 feet in length, is 40 feet north of the southern trench. Geiger readings are 15 (5M) with a hot area at the east end of the trench reading 40 (5M). The latter is from a hematite-stained pegmatite with yellow uranium stain. Allanite (?) and uranothorite (?) were noted (Specimen: 54-S-349). The shallow pit which is 120 feet N.E. of the southern trench reads 30 (5M) on the geiger ratemeter. A hematite-stained biotite granite pegmatite exposed here contains a few grains of a black uranothorite (?) and yellow uranium staining. (Specimen: 54-S-350).

uranium
sulfate

Mineral identifications by Dr. S. C. Robinson, see letter Sept. 29/54 filed Satterly's office. Robinson thinks black grains may be highly altered uraninite.

Report on an Inspection for Mining Lands Branch,
Ontario Department of Mines, of WALL ISLAND,
Parry Sound, opposite McDougall Township, on
behalf of Mr. Gordon Macbeth.

by J. Satterly

The writer and his assistant Marvin H. Hill accompanied Mr. Gordon Macbeth, 114 Forest Avenue, Hamilton (telephone Liberty 5-3910), to Wall Island, Parry Sound, by launch on the morning of Sept. 15, 1954.

Two showings were examined by the writer.

First Showing:

Near the northeast corner of the island there is exposed an isolated small mass of coarse pink granite pegmatite about 20 by 50 feet in dimensions. The country rocks are fine-grained, pink, leucogranite gneiss, and a black biotite gneiss. The contacts of the pegmatite mass are not exposed except the footwall at one spot where it is in contact with biotite gneiss. A grab sample taken by Mr. Macbeth and analysed by the Provincial Assayer contained 0.093 U_3O_8 (C). A geiger reading here is 40 (10 M). The remainder of the mass gave readings of 25 (1 M) to 25 (5 M), and would average 30 (1 M).

A sample was taken at the same locality as Mr. Macbeth's-54-S-337. U_3O_8 content is 0.04 %.

Second Showing:

Near the east shore about halfway south from the north end of the island a coarse, pink, graphic leucogranite pegmatite is exposed for a length of 450 feet and a width of 30 to 40 feet. At

its south end it is 100 feet from the shore. The strike of the mass is about north-south. The country rock is a black, medium-grained biotite-rich gneiss, and pink fine-grained, leucogranite gneiss, dipping about 25°E. A series of shallow test-holes have been put in across the mass at about 150 feet south of its north end. Along the line of these holes it is apparent that the marginal phases of the mass contain biotite, while the central part is a graphic leucogranite pegmatite with accessory pale green muscovite. Garnets are found in the biotite gneiss at the contacts, and as a rare accessory in the pegmatite. Yellow uranium stain^{was} noted near^{the} west contact.

Grab samples were taken as follows from test-holes:

Distance from east contact (feet)	Geiger Reading	Sample No.	U ₃ O ₈ Radiometric
0	30 (1M)	54-S-338	0.01 (0.025)
12	48 (1M)	54-S-339	0.007
20	33 (1M)	54-S-340 *	0.02
27	27 (1M)	54-S-341	0.003
32	38 (1M)	54-S-342	0.004
36	17 (5M)	54-S-343	0.08 (0.067)
40(west contact)	17 (5M)	54-S-344	0.02

*Note: In Sample 340, two 1/4-inch grains of a black radioactive mineral are present. (Provincial Assayer to identify mineral). — Pyrochlore —

Geiger readings on the mass range from 25 (1M) to 30 (5M) and may average 15 (5M). A spot high of 30 (5M) was found at one point in the centre of the mass. The east contact gives very consistent readings of 40 (1M). The background count on the

black biotite gneiss about 50 feet west of the pegmatite mass is 13 (1M).

The shape of the pegmatite mass is difficult to determine. At the north end the gneisses can be seen underlying the pegmatite which is 5 feet thick, and 30 feet wide. Along the east contact the gneiss appears to dip west below the pegmatite. The altitude of the west contact could not be determined. The writer has the impression that the pegmatite mass is a remnant of a sheet or sill left in a minor roll in the gently east-dipping biotite gneiss. Its length is therefore less than 500 feet, and its thickness probably less than 50 feet.

Note: When the results of the analyses of samples numbers 338 to 344 are known, it should be possible by correlating these with the geiger readings taken at the test-holes to arrive at a rough estimate of the U_3O_8 content of the mass as a whole using 15 (5M) as an average.



ONTARIO
DEPARTMENT OF MINES

PARLIAMENT BUILDINGS
TORONTO 2, ONTARIO

GEOLOGIST'S REPORT FOR "DISCOVERY"
ON THE
T.W.KEATING RADIOACTIVE MINERAL PROSPECT
ISLANDS IN GEORGIAN BAY
WEST OF SANDY ISLAND
PARRY SOUND MINING DIVISION
ONTARIO

by
J.SATTERLY

October 18, 1956

T.W.KEATING RADIOACTIVE MINERAL PROSPECT
ISLANDS IN GEORGIAN BAY WEST OF SANDY ISLAND, PARRY SOUND DISTRICT

by
J. SATTERLY

In 1956, T.W. Keating recorded three claims on islands in Georgian Bay west of Sandy Island, about 16 miles west of the town of Parry Sound. These claims include the islands numbered 178C, 179C, 182C, 183C, 184C, 185C, 195C, and a number of unnumbered islands.

The islands were examined by the writer with Mr. Keating on October 16, 1956.

EXPLORATION:

The only surface work carried out has been three shallow test pits on islands 178C, 183C and an unnumbered island west of 183C. A packsack hole was drilled to a depth of 21 feet on island 183C.

GEOLOGY:

Rock is well-exposed on the larger islands along the shorelines, and in the case of the smaller islands the whole island is exposed rock. The islands consist of biotite paragneiss, amphibolite, hybrid granite gneiss, and granite pegmatite. Garnets are present in some bands of paragneiss and amphibolite.

Paragneiss and amphibolite are frequently interbanded. The regional strike is N.25°E. to N.20°W., and the dip is steeply east to vertical, but many of the gneiss bands are drag folded to minutely crenulated. Granite pegmatite is present as blobs or stringers, sometimes ptynatically folded, in both paragneiss and hybrid granite gneiss, and as dikes and irregular masses from a few feet to 200 feet across. These granite pegmatite masses are weakly radioactive.

ECONOMIC GEOLOGY:

The pegmatite masses are leuco-granite pegmatite or biotite granite pegmatite with pink feldspar crystals from less than 1 inch to 2 feet across. The larger feldspar crystals have quartz in graphic intergrowth. Geiger readings indicate that the more radioactive parts of the pegmatite are red-stained (hematitized), shattered, and usually medium rather than coarse-grained. The radioactive minerals noted are uraninite, thucholite, allanite, and the secondary mineral uranophane. Other accessory minerals are zircon and pyrite. These are isolated occurrences to be usually measured from a few feet to a maximum of 10 feet in size.

The radioactivity of the granite pegmatite masses on the islands is summarized below. The background count on amphibolite is 300, on paragneiss 400, and on hybrid granite gneiss 500 c.p.m. (counts per minute). The radioactivity is recorded below as the number of times an average background count of 350 c.p.m.

Island Numbers	Radioactivity X B.C.C.	Spot-highs X B.C.C.	Sample No.	Z.D.C.C. at exposure	UO ₃ (R) Percent
<u>Claim No. 1 -</u>					
178C	1.5 - 3X	6X - 10X	56-S-159	6X	0.03
Islet N. of 178C	1.5 - 2X	3X	-	-	-
179C	1.5 - 3X	7X	-	-	-
Island W. of 184C	1.5 - 3X	6X - 40X	56-S-158	40X	0.12
<u>Claim No. 2 -</u>					
183C, S. end	1.5 - 3X	5X - 40X	56-S-156	8X	0.03
183C, N. end	1.5 - 3X	6X	56-S-157	3X	0.007
184C	1.5 - 3X	-	-	-	-
<u>Claim No. 3 -</u>					
Island "AN", W. of 195C	1.5 - 3X	6X - 8X	-	-	-
Island "BN", W. of 195C	1.5 - 3X	7X, 10X	-	-	-
Island "CN", S. of 195C	1.5 - 3X	30X - 70X	56-S-155	30X	0.04
Island "DN", N. of 195C	1.5 - 4X	-	-	-	-

CONCLUSIONS:

The overall average of the granite masses is about 3X background count. From the analyses of the five samples, and the X B.g.c. obtained at the place where the samples were taken, it is apparent that the masses of pegmatite may contain approximately 0.01 percent U_3O_8 . The spot-high areas are not sufficiently large or frequent enough to materially affect the average.

The showings therefore do not qualify for a discovery of "valuable mineral in place" under the terms of The Mining Act.



ONTARIO

C 4021

DEPARTMENT OF MINES

LABORATORIES BRANCH

CERTIFICATE OF ASSAY

The following results have been obtained on samples submitted by:

Mr. J. W. Atterly, Dept. of Mines, Wellington, Ontario.

Radiactivity (Beta ray activity)
Uranium Oxide (U 300) Equivalent

1	- 15 - 355 -	0.04
2	30 - 125 -	0.03
3	30 - 127 -	0.07
4	30 - 109 -	0.12
5	30 - 110 -	0.03

Fees received for above \$.....None.....

Date.....October 15th.....1956.....

.....(D. A. Woodin).....

Provincial Assayer

Except by special permission, reproduction of these results must include any qualifying remarks made by this department with reference to any sample.

PETERBOROUGH COUNTY

A.L. KEMP

ANSTRUTHER TOWNSHIP, PETERBOROUGH COUNTY

In 1957 A.L. Kemp held eleven claims at Eels Lake, Anstruther township, Peterborough county.

Radioactive showings on claims E.O. 21101 (in lot 33, concession XVII) and E.O. 21100 (in lots 32 and 33, concession XVII) have been explored over an area of 900 x 2,300 feet by bulldozed strippings, 24 trenches and 7 drill holes totalling 1,714 feet (May-June, 1957). In September, 1957, an adit was started from near the shore of Eels Lake to intersect pegmatite zones exposed on the hill above the lake. Backs will be about 95 feet.

The general geology is shown on Ont. Dept. Mines Map No. 1957b. At the adit portal and shore the country rock is a silicated marble striking N.70°W., and dipping 70°S. The bulldozed strippings and trenches expose leucogranite, granite pegmatite and silicated marble.

Radioactive showings in the bulldozed areas and trenches have been numbered 1 to 3 by the owner. They were examined by the writer on September 17, 1957.

In the First Zone, 200 - 500 feet north of the adit, two east-west bulldozed areas have ~~been~~ explored a length of over 1,100 feet, and eleven trenches have been put down at intervals over a length of 500 feet. These workings expose leucogranite, pegmatite, and silicated marble. Much of the latter shows contorted strikes and dips. The prevailing strike may be N.70°W., dip 55°S. or steeper. The background geiger count on

marble is 400 c.p.m. The granitic bodies have not been outlined but have exposed widths up to 50 feet. They consist of coarse granite pegmatite and leucogranite containing lenticular masses of salmon-pink calcite with associated euhedral feldspar and pyroxene. The granitic rocks read 400 - 1,000 on the geiger with erratic scattered spot-highs from 10,000 - \approx 50,000 on calcite-pyroxene pods or pyroxene syenite pegmatite patches. Uranothorite, as 1 x 1-1/2 inch grains, was noted at one of the spot-highs.

The Second Zone, about 200 feet north of the first, is in an east-west bulldozed area over 800 feet long in which 8 pits or trenches are spotted at intervals over 600 feet. These workings expose silicated marble, granite pegmatite, leucogranite, and syenite pegmatite. Geiger readings are mostly 1,000 with erratic spot-highs of 10,000 to one of \approx 50,000 on a small lens of salmon-pink calcite and pyroxene.

The Third Zone, about 300 feet north of the second, is also in an east-west bulldozed area about 400 feet long in which four pits and trenches expose silicated marble, granite pegmatite, leucogranite, and syenite pegmatite. Much of the granite pegmatite is graphic. Lenses of salmon-pink calcite with feldspar and pyroxene are present. Geiger readings are 500 - 1,500 with random spot-highs of 10,000 and 15,000 on pyroxene syenite pegmatite patches.

The work to date has not outlined any continuity to the better radioactive areas.

AMALGAMATED RARE EARTH MINES, LIMITED

CAVENDISH PROPERTY (formerly
Cavendish Uranium and Mining Company, Limited)

Cavendish Township, Peterborough County

The property was described in detail by J. Satterly (Ont. Dept. Mines, Vol. 65, 1956, pt.6). The writer visited a new showing on the property on September 12, 1957.

The new showing is on claim E.O. 7490, the north half of lot 16, concession VI, Cavendish township. Over a north-south length of 200 feet five trenches expose leucogranite or leucogranite pegmatite with coarse, often abundant, accessory magnetite, and titanite, allanite, zircon, uranothorite, uraninite and uranophane. Remnant bands of biotite paragneiss in the trenches strike N. 10 - 15°E., and dip 45 - 70°E. Geiger readings in these trenches are mostly greater than ~~200~~ 10,000, the best being 26,000 across 7 feet. Spot-highs greater than 50,000 were recorded in two of the trenches. The higher geiger readings are correlated with more intense shattering in the granitic rock, and more abundant magnetite.

In this zone T. Davies reports that assays indicate a Th/Ur ratio of 2:1 whereas in the shaft area the ratio is closer to 1:1.

COBALLOY MINES AND REFINERS LIMITED
Galway Township, Peterborough County

In 1956-57. Coballoy Mines and Refiners Limited (J.J. Gray) held under option the property formerly held by Silver Crater Mines, Limited (Crystal Lake property). The recent work (an adit) was examined by the writer on September 6, 1957.

Exploration:

The previous work on the property comprised extensive surface exploration and diamond drilling and has been described by the writer (Ont. Dept. Mines, Vol. 65, 1956, pt. 6). In 1956-57 an adit was put in for a distance of 300 feet with two drifts totalling 130 feet. The adit is on lot 25, concession X, adjacent to a dam on Nogies Creek at the outlet of Crystal Lake.

Geology of the Adit:

The adit is driven N.20°W. into the side of a ridge of granite and granite pegmatite flanked by marble adjacent to Nogies Creek. In the adit the marble is a grey, medium-grained, banded rock that strikes W.60°W., and dips 45-55°SE. at the portal. A narrow band near the drifts has a dip of 25°SE.

As the walls of the adit were covered with dirt the rock could only be seen where recently broken. The granitic rocks in the adit are granite or granite pegmatite ranging from a red (microcline) to green (peristerite) type. The grain size is very variable, much of the rock is leucogranite, and patches of graphic granite are present.

No attempt was made to use the EA-135 geiger in the adit. On the dump readings were 1,000 - 2,000. Background count on marble in place was 300. The dump is therefore 3 - 7x background count. Two composite grab samples of the two granite types were taken by the writer on the dump, and submitted to the Provincial Assay Office for analysis with the following results:

<u>Sample No.</u>	<u>Type</u>	<u>U₃O₈ (radiometric) percent</u>
57-S-13	Red (microcline)	0.02
57-S-14	Green (peristerite)	0.01.

These results are in keeping with the geiger readings previously obtained by the writer on the ridge above the adit.

TAIT PROPERTY

LOT 7, CONCESSION XIII, GALWAY TOWNSHIP

J. Tait holds the mineral rights on lot 7, concession XIII, Galway township, Peterborough county. The writer examined the property on September 6, 1957.

The main showing is a ridge of granite and granite pegmatite about 150 feet wide that extends 750 feet at N.40°E. from the fence line between lots 6 and 7. The country rock in the surrounding area is marble.

Geiger readings on the granite and granite pegmatite except at the workings range from 1,500 - 3,000 c.p.m. and may average 2,000 c.p.m. Background count on marble at lot line road 5/6, concession XII/XIII, is 500 c.p.m. The granite therefore averages 4x b.g.c. At 400 feet northeast of the 6/7 fence line a cross trench 30 feet long exposes mainly a yellow-brown pyroxene granite pegmatite. The trench has not been cleaned out. Geiger readings range 2,500 - 3,000 c.p.m. A composite grab sample of chips, 57-S-16, was taken by the writer along the trench. Sixty feet west a small pit 4 by 5 feet has been put down at a spot-high of 20,000 c.p.m., and exposes pink to yellow-brown leucogranite with sparse uranitized pyroxene less than 1/2 inch across. Accessory minerals noted are zircon and minute cubes of uraninite. A composite grab sample of chips, 57-S-15, was taken by the writer at the spot-high location. Geiger readings around this pit average 3,000 c.p.m.

The two samples taken were submitted to the Provincial Assay Office for analysis with the following results:

<u>No.</u>	<u>Location</u>	<u>Geiger Reading</u>	<u>Times B.G.C.</u>	<u>U₃O₈ (radiometric) percent</u>	<u>U₃O₈ (chemical) percent</u>
57-S-15	Pit	20,000	40x	0.11	0.11
57-S-16	Trench	2,500-3,000	6x	0.02	—

Summary and Conclusions:

The analyses and geiger readings indicate that the ridge of granite and granite pegmatite contains about 0.02 percent U₃O₈ or less. The high-grade occurrence (only one was found) will not affect the overall average grade of the deposit.

J.Satterly,

BIG NELL MINES, LIMITED
HARVEY TOWNSHIP, PETERBOROUGH COUNTY

In 1957, Big Nell Mines, Limited held a block of patented and optioned ground adjacent to Nogies Creek in the northwestern part of Harvey township, Peterborough county. The main showing is in the southwestern part of lot 26, concession XVI, known as the Kennedy property.

Previous work on the property has been described by Satterly (Ont. Dept. Mines, Vol. LXV, 1956, part 6). In mid-summer 1957 Big Nell Mines, Limited carried out additional surface exploration by bulldozing an area on the radioactive pegmatite dikes over 600 feet long in a northeast-southwest direction, and by putting down seven rock trenches totalling near 400 feet in length. The writer examined these workings on September 16, 1957 (see accompanying sketch).

The workings expose widths of leucogranite pegmatite from less than 1 foot to 30 feet, the average being probably less than 10 feet. At least three dikes, striking NE, are indicated by the present workings, with lengths up to 200 feet. The dikes pinch and swell in short distances. The country rock is a fine- to medium-grained leucogranite or biotite granite or granite gneiss that strikes northeast and dips vertically. Although the dikes trend northeast they cut across the strike and dip of the granite gneiss at various angles.

The leucogranite pegmatite contains accessory magnetite, often abundant, and biotite, tourmaline, zircon, allanite, and uranothorite. Geiger readings indicate that the more radioactive dikes or parts of dikes contain either abundant magnetite or are highly shattered.

The writer took chip samples across some of the dikes to correlate with geiger readings. These samples were submitted to the Provincial Assay Office for analysis with the following results:-

Sample No.	Trench No.	Dike No.	Geiger Reading	Width of Sample feet	U ₃ O ₈ Radiometric percent	U ₃ O ₈ Chemical	Th/Ur Ratio
57-S-26	1	1	16,000	6	0.07	—	—
57-S-27	2	1	23,000	7	0.08	0.043	3.5/1
57-S-28	3	1	15,000	5	0.05	—	—
57-S-29	3	?	13,000	7	0.08	—	—
57-S-30	6	?	> 50,000	3	0.31	0.14	4.8/1

The Th/Ur ratio obtained on two of the samples correlates well with the presence of uraniothorite as the source of the radioactivity.

RENFREW COUNTY

MARQUARDT BROTHERS
RAGLAN TOWNSHIP, RENFREW COUNTY

by
J. Satterly

In 1955-56, Eric Marquardt and Christie Marquardt of Palmer Rapids held a group of 18 claims in southeastern Raglan township, Renfrew County. The claims lie to the northwest of Bruceton. The property was examined by the writer on September 7, 1956.

EXPLORATION:

Radioactive granite pegmatite dikes or bodies have been explored by stripping and trenches.

GENERAL GEOLOGY:

Exposures of leucogranite and granite pegmatite form a small irregular body striking northeast and dipping 50°SE. within an area of amphibolite¹. This body has an indicated length of nearly 1½ miles.

1. D.F. Hewitt, Ont.Dept.Mines, Map No. 1953-2, Brudenell-Raglan Area.

ECONOMIC GEOLOGY:

Radioactive granite and granite pegmatite exposures on claim E.O. 18081, the south half of lot 32, concession V, have been explored by strippings, trenches, and small open-cuts. These various workings expose identical rock types. The rock is a white, sometimes buff to pink, fine- to coarse-grained, biotite granite or granite pegmatite showing patches of yellow uranophane stain. The

biotite forms thin books from less than 1/4 inch to 2 inches across, and are evenly distributed with random orientation in some exposures, but in others cluster in groups, the latter often accompanied by yellow uranophane stain. Patches of graphic feldspar up to 2 feet across were noted in some outcrops. Black tourmaline was seen in a few places as an erratic accessory. Hornblende is present in granite exposures on the claim to the north.

Geiger readings on the granite and granite pegmatite are rather variable. At the higher readings uranophane stain, amber grains of uranothorite, and often abundant minute cubes of uraninite were observed. The radioactive mineral distribution shows a close association with the clusters of biotite books.

The geiger readings obtained may be summarized as follows, the location being from a picket line at N.20°E. from No.3 post of claim E.O. 18081:

<u>Showing</u>	<u>Location</u>	<u>Readings</u>
No. 1	180° E.of 860° N.	20x - 30x; spot-high 37x.
No. 2	120° E.of 860° N.	30x - 60x; 30x - 130x on a biotite lens 1/2 x 7 feet striking N.15°E.
No. 3	140° W.of 500° N.	20x - 43x; spot-highs 60x - 130x at uranophane and clusters of uraninite cubes.
No. 3	140° W.of 430° N.	3x - 6x; note graphic feldspar here.
No. 3	140° W.of 400° N.	14x - 43x, spot-high of 60x with uranophane and uraninite cubes.

On the showings in the claim to the north the geiger readings were low being 6x - 9x and 6x - 14x in an small open-cut and shallow test-pit respectively. Uranophane stain was noted in these occurrences.

Grab samples were taken by the writer at the Nos. 1 and 2 showings, and were assayed for U_3O_8 content by the Provincial Assay Office with the following results (Certificate C.4846):-

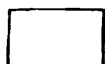
<u>Location</u>	<u>Geiger Reading</u>	<u>U_3O_8 (radiometric)</u>
No.1 Showing	30x b.g.c.	0.23
No.2 Showing	130x b.g.c.	0.26

For later information see Ontario Dept. of Mines File No. 63.798, "Report on Geological Survey and Geophysical Survey on Henderson Uranium Property, Bancroft Area, District of Renfrew, Raglan District, Ontario" by A. Gaudet, Geo-Technical Development Company, Limited, Jan.2, 1957, 6 pp., map. Shows radioactive mineral occurrences on claims E.O. 18079, 18080, 18081, and 18944. Also "Summary Report on Henderson Uranium Mines, Limited, Raglan and Lyndoch Townships, County of Renfrew, Ontario" by J.J. Harris, May 26, 1958, 9 pp. map.

LEGEND



Granite pegmatite.



Granite, granite gneiss

Geiger readings by an EA-135
in counts per minute (c.p.m.)

Analyses U_3O_8 (R) = radiometric
 U_3O_8 (C) = chemical

