A RADIOMETRIC SURVEY ON PART OF BOTTLE BAY LAKE PROPERTY

TEMPLE TOWNSHIP KENORA MINING DIVISION ONTARIO OF F.O.B. MINING AND EXPLORATION LIMITED

Introduction

During the period October 15 to October 26, 1976 a radiometric survey (McPhar TV 1 Scintillometer) was run over all or part of 18 claims as follows:

K350713 to K350719 inclusive
K431541 to K431543 inclusive
K431545 and K431546
K431551
K431553 to K431555
K431581
K431586

The claims are held in the name of F.O.B. Mining and Exploration Limited of Thunder Bay, Ontario. The work was carried out by M. Kremko of Protoshield Exploration Services of Thunder Bay, Ontario.

Following the recommendations set forth in 2 separate reports and discussions on this property lines were cut over all or parts of the above claims at 400 foot spacing. The base line was centred on claim post 1 of claim K431554 and run at an azimuth of 335°. This orientation for the base line was to parallel a depression which was considered to be a fault depression since it was devoid of rock outcrop in an area of outcrop. As well, another linear expressed by swamp boundaries was found with air photographs. It exists east of the base line trending into the north end of Bottle Bay lake as its north shore line at an azimuth of 315°. Another fault may occupy the centre of Bottle Bay Lake. These postulated faults hold interest as possible sources of more concentrated uranium mineralization.

This survey as well as a radon gas survey were run to probe these fault areas and to cover the areas of known mineralization all within the above 18 claims. The radon

NOVEMBER, 1976

M. KREMKO
PROTOSHIELD EXPLORATION SERVICES

gas survey is reported under separate cover by the contractor Robert H. Morse and measures radioactivity due to radon gas from soil gases.

Location and Access

F.O.B. Mining and Exploration Limited holds 69 contiguous, unpatented mining claims in Temple Township, Kenora Mining Division, Ontario within concessions 4 to 6 and lots 4 to 8. These are numbered as follows:

K350713 to K350719 inclusive	K406286 to 406287 inclusive
K405718 & K405719	K406310 to 406315 inclusive
K406109 & K406110	K431537 to 431586 inclusive

The claim group is accessible by road 3 miles east of Vermilion Bay, Ontario on highway 17 and 4 miles south of highway 17 to the centre of the group.

Topography and Drainage

The topography of the claim group is typical of granitic areas of the shield in that the outcrops occur in either large masses of high terrain underlying several claims or sporadic areas within high ground. These all occur as islands within swamp areas. The entire area is covered by clay except in some of the outcrop areas where a sandy residual soil has been developed. The area is generally treed by poplar, jackpine and spruce. Alders occupy the edges of the swamp areas which themselves are grass and spruce covered. About 20% of the area has been logged over in recent years.

Results of the Survey

The results of the survey are shown on the enclosed map entitled "McPhar TV 1 Scintillometer Survey" at scale of 1 inch to 200 feet. The readings as plotted could not be contoured and have been coloured red for +10,000 cpm total radioactivity and blue for 5000 to 9,999 total radioactivity divided by a factor of 10 (for easier plotting) at a height of 2 feet above ground.

Mileage Surveyed

About 13.125 miles of picket line were cut with pickets at 100 foot intervals chained from the base line. Subsequently an additional 2.96 miles of line were ribboned for detail. Readings were taken at 50' intervals on all lines establishing 1751 stations. In addition where anomalous readings were encountered between stations readings were recorded for a total of 1917 samples.

Work Done To Date

In 1975 F.O.B. Mining and Exploration developed several rock trenches and stripping within the present map area These trenches were developed on outcrops prospected with a scintillometer and thus found to contain uranium.

On April 25, 1976 an AXT diamond drill hole, FOB 76-1 was collared at what is now XL - 40N, 8+50 W to drill in a location that promised several radioactive intersections. At this time the granitic areas were being mapped and prospected with a scintillometer.

All of this work is shown on the accompanying 200 scale plan. As well this work is mapped and reported on in two reports of May and June 1976.

General Geology

The geology of this property has been reported on previously in the above mentioned reports. The uranium mineralization is usually detected within red, pegmatitic, course grained granite at times accompanied by uranophane staining along fractures and associated with clusters of small apatite grains.

Mineral Deposits

This property bears uraniferous pegmatitic granites. Prior to diamond drilling (FOB 76-1) only spots and small areas of radioactivity were encountered by scintillometers as is noted on the accompanying map which indicates a similar discontinuous pattern of local concentrations of radioactivity. DDH. FOB 76-1 encountered throughout its entire length with the exception of the sediment intersections over 0.25 lbs./ton

U_3O_8 and one intersection of 3.4 lb. U_3O_8/ton from 391.0 to 396.0 feet.

Conclusions and Recommendations

It must be realized that only outcrop or very shallow overburden areas are amenable to scintillometer prospecting. Therefore the results of this survey shown on the accompanying plan indicate outcrop readings if followed by an "oc". The remaining readings have little meaning except perhaps in general they indicate comparable overburden thickness. They do not negate the area covered as the overburden may be too thick for detection of any radioactivity.

The postulated fault areas did not prove anomalous from this survey since thay are swamp or water filled. The one exception, near the base line (from 0 to 24N), is lined by outcrop and proved in part to be anomalous along its flanks.

Two anomalous areas can be outlined in general and are as follows:

(1) generally encompassed by claims K350716 & K350717 and,

(2) within the outcrop areas of claims K350713 and K350714. Diamond drill hole F.O.B. 76-1 drilled in area (2) encountered over 0.25 lb. U_3O_8/ ton throughout the hole. Recent communications with German interests indicate this to be a marginal economic grade. These values or better could be intersected in other localities throughout these anomalous areas.

It is recommended that these anomalous areas be diamond drilled. The amount and location of the drilling must await the results of the Radon gas survey to which this survey is complementary.

Respectfully submitted,

Thunder Bay, Ontario
November 4, 1976

Myron B. Kremko
(Field Geologist)
PROTOSHIELD EXPLORATION SERVICES

RADON SURVEY

BOTTLE BAY LAKE PROPERTY

TEMPLE TOWNSHIP, ONTARIO

for

F.O.B. MINING AND EXPLORATION LTD.

by

R. H. MORSE & ASSOCIATES LTD.

NOVEMBER 22, 1976

Robert H. Morse, Ph.D.,P.Eng.
188 Willow Avenue, Toronto,Ont.
699-5760 (416)

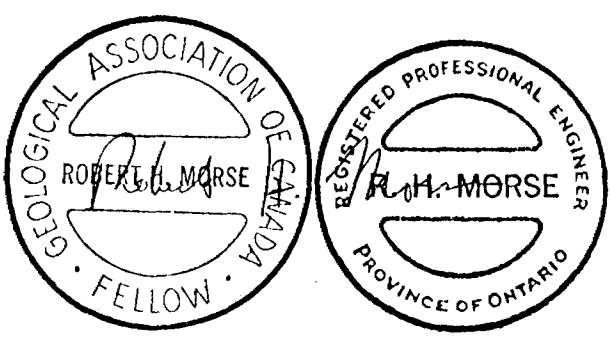
SUMMARY

A survey of radon (Rn^{222}) in soil gas has been carried out over part of the Bottle Bay Lake property. Several high readings were observed, the highest being 833 cpm. North from the drill hole an anomalous area extends a minimum of 2000 feet (open to the north) with a width of about 800 feet. South of the swamp a second anomalous area extends about 2000 feet north from the "F" zone with a width of about 900 feet. A small but geologically important radon anomaly occurs on the base line near 10N. The latter constitutes a particularly attractive drill target because it is in one of the two major depressions of the area and may be due to fault-controlled mineralization. A drilling program is recommended.

Respectfully submitted,

November 22, 1976

Robert H. Morse, Ph.D., P.Eng.



INTRODUCTION

A survey of radon (Rn^{222}) in soil gas has been carried out over part of the Bottle Bay Lake property of F.O.B. Mining and Exploration Ltd. This property is located in Temple Twp., about 6 miles southeast of Vermilion Bay, Ontario.

The following description of the geology and mineralization of the area is taken from reports by M. Kremko. The area is underlain by granitic rocks and arkosic metasediments. Uranium mineralization is associated with pegmatites intrusive into the above. Mineralization on the surface is spotty but a 501-foot drill hole assayed mainly in the $\frac{1}{4}$ lb U_3O_8/T range with one 5-foot intersection of 3.4 lb/T.

The radon survey was carried out to identify targets for follow-up drilling, particularly in low-lying, overburden-covered areas over faults. Gamma radiation, measured by the scintillometer, is damped out by a foot or so of barren rock or soil making the scintillometer mainly an outcrop tool. Radon gas is more penetrating in soil than gamma rays so that the two techniques are complementary. In the present state of the art detailed radon surveys are restricted to soils unsaturated with water; thus radon determinations were not possible over several large swamps on the property. Much of the area, however, is considered ideal for this type of survey.

Soils of the area comprise three types, each of which occupies about a third of the total. The extent of each type can be seen by reference to Fig. 1 or 2. Podzolic soils are developed in the "outcrop areas". Swamps, where radon determinations were generally not possible, are underlain by saturated organic soils. The remainder of the area is underlain by clay. Poplar, jackpine and spruce are the main tree types.

FIELD METHODS

Radon determinations were made in the field using two different model RD-200 portable radon detectors manufactured by E.D.A. Electronics Ltd. (Serial numbers 1106 and 1111) and one model CPD-284A, a prototype of the above, manufactured by Atomic Energy of Canada Ltd.

Holes were made 12 inches deep in the soil with 1¼" soil sampling augers manufactured by Oakfield apparatus Co. Soil gas was transferred immediately to the radon detector by inserting a ¼" tube into the hole and pumping with a rubber bulb pump. Inside the instrument the gas sample is placed inside a chamber whose inside walls are coated with silver-activated zinc sulfide and viewed with a photomultiplier tube. Each time an alpha particle from a decaying radon atom hits the zinc sulfide a pulse of light is emitted which is detected by the photomultiplier tube and recorded as a count on a digital readout.

Instrument background was monitored for one minute before sampling and the samples were counted for three 1-minute intervals each. Thoron (Rn^{220} from the thorium decay series) is charactarized by a decreasing count rate during the first three minutes due to its short half-life, 55 seconds. Radon-222, from the uranium decay series, on the other hand, exhibits a rising count rate owing to build-up of daughter products. The amount of each isotope present can therefore be determined by analysing the change in count rate over the first three minutes. Cpm due to radon-222 is equal to

$$.87C_3 + .32C_2 - .34C_1$$

where C_1, C_2 and C_3 are the net counts (instrument background removed) in each of the first three minutes respectively. All the readings obtained in the field were reduced to radon-222 content by means of this formula. The calculations were done with a Hewlett Packard HP-25 programmable calculator. Results were plotted in Fig. 1.

The radon survey commenced Oct. 14 and the field work was completed Oct. 26. The work was carried out by D. Crawford, the writer and M. Kremko, and supervised by the writer.

Most of the readings were at 50- or 100- foot intervals along lines 200 or 400 feet apart but a few were more closely spaced. Results with this technique are available immediately and sample spacings were adjusted by the field operator to give more detail in the anomalous areas. A total of 1148 readings were taken over about 16 miles of line.

ROLLING MEAN ANALYSIS

Owing to the erractic nature of the mineralization on this property and to the sampling error inherent in the radon technique, the results of the radon survey (Fig. 1) are erractic and not contourable. In order to smooth out the data to make contouring possible and provide a more general indication of mineralization trends on the property, a five-point rolling mean map was prepared (Fig. 2). The centre sample was weighted by 0.4, the two nearest by 0.2 and the two next nearest by 0.1. This weighted average was then plotted for the centre sample point. The calculation was carried out on the HP-25 programmable calculator.

RESULTS AND INTERPRETATION

The results of the radon survey are presented in Fig. 1. Several high values are noted, the highest being 833 cpm 25 feet east of the drill collar of F.O.B. 76-1. By way of comparison, in the Bancroft Camp radon readings over 100 cpm are generally considered to be worthy of further investigation.

Two anomalous areas were identified, separated by a swamp where radon readings were not possible. These general patterns are well illustrated on the rolling mean map (Fig. 2). Most of the rolling mean values within these anomalous areas are over 20 cpm and several are over 100 cpm.

North from the drill hole an anomalous area extends a minimum of 2000 feet (open to the north) with a width of about 800 feet. Besides the 833 cpm reading mentioned above, this anomalous area contains a reading of 539 cpm, one of 333 cpm and several others over 100 cpm.

South of the swamp a second anomalous area extends about 2000 feet north from the "F" zone with a width of about 900 feet. It includes a reading of 306 cpm and several others over 100 cpm. This anomalous area can be correlated with a weaker radon anomaly on strike at L44N-19E giving a total possible length of 4500 feet or more. The highest radon reading observed on this extension is 68 cpm and the highest rolling mean value is 37 cpm.

A good correlation exists between the radon anomalous areas, represented by the rolling-mean contours, and the general areas of high scintillometer readings. In detail, however, this correlation is poor with several radioactive zones in areas of near-zero radon values. This is not surprising in view of the nature of the two types of survey involved. The scintillometer works best in areas of very thin or no soil and it was in these areas that known radioactive zones were found. The radon counter, on the other hand, does not work well in soil less than a foot thick and so the radon survey missed some of the zones which the scintillometer found. Adapted as they are to the two different environments the two techniques, radon and scintillometry, complement each other.

The radon readings closest to the "F" zone are not anomalous but a value of 100 cpm occurs 100 feet to the northwest, and additional high values 600 to 1100 feet to the southeast suggest an extension in this direction (see Fig. 2).

The radon anomaly with perhaps the most commercial potential lies in a depression near the base line at L10N. It is over 200 feet long and includes a radon value of 162 cpm and another of 93 cpm. It lies in a steep long depression, probably a fault, a likely place geologically for high grade uranium mineralization. Scattered areas of high radioactivity in outcrop occur along the flanks of this depression (see report by M. Kremko). Also particularly high radon readings were observed along the east flank from L16N to L22N. Low radon values elsewhere in the depression do not rule out the possibility its being occupied by a uranium

orebody. The overburden here is thicker than elsewhere and could easily prevent the upward migration of recognizable amounts of radon. On the other hand the radon anomaly could conceivably be due to movement in solution of radium (the parent of radon) from the known occurrences on the high ground into this valley and deposition in the form of a transported anomaly.

RECOMMENDATIONS

Any recommendations for follow-up on this property must take account of geology, scintillometry and drill results, as well as the radon survey. As pointed out in Kremko's report the mineralization exposed on surface is spotty, and the erratic nature of the radon values substantiates this. This spottiness is not completely due to incomplete rock exposure because in many of the radioactive areas exposure is good and the mineralized zones can be seen to constitute only a small fraction of the exposed rock. In view of this the assay results from the drill core, which indicated substantial footages of about ¼ lb/T and a 5-foot intersection of 3.4 lb/T, are surprising. The drill core was examined by the writer with a McPhar TV-1 spectrometer and no radioactivity was detected. This is not consistent with the assay results but more what one would expect from the surface exposure.

The radon survey tends to confirm the picture of spotty but widespread mineralization indicated by the scintillometer. The hypothesis that the two anomalous areas outlined by the rolling mean contours represent large low-grade uranium orebodies must assume that the assay results as reported are in fact valid. This should be established before any substantial follow-up of this hypothesis is undertaken. If the assays prove to be valid then each of these anomalous areas should be drilled as indicated on Figs. 1 and 2.

The smaller radon anomaly in the fault at BL-10N should be drilled regardless of the above. The proposed drill hole is indicated on Figs. 1 and 2.

Ontario

Ministry of Natura

52F14SW8161 2.2261 TEMPLE

900

GEOPHYSICAL – GEOLOGIC TECHNICAL DATA STATEMENT

DEC 2 1976

MINING LANDS SECTION

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) RADIOMETRIC

Township or Area TEMPLE TOWNSHIP

Claim Holder(s) F.O.B. Mining & Exploration Co Ltd
P.O. Box 2717 Sta P, Thunder Bay Ont.

Survey Company Protostaff Exploration Services

Author of Report ~~Roger~~ Myron Krenko

Address of Author P.O. Box 1231, Thunder Bay Ontario

Covering Dates of Survey Oct 7 to Nov 4, 1976
(linecutting to office)

Total Miles of Line Cut 16.1

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
--Electromagnetic	
--Magnetometer	
--Radiometric	40
--Other	
Geological	
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: Nov 25/76 SIGNATURE: Myron Krenko
Author of Report or Agent

L.D.

Res. Geol. _____ Qualifications 2.1260

Previous Surveys

File No.	Type	Date	Claim Holder
2.2161	Radiometric Geological	1976	F.O.B. Mining
Research was Reassessment work only			

OFFICE USE ONLY

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)	
K	350713	✓
K	350714	✓
K	350715	✓
K	350716	✓
K	350717	✓
K	350718	✓
K	350719	✓
K	431541	✓
K	431542	✓
K	431543	✓
~~K~~	~~431544~~ K431545	✓
K	431546	1/2 ✓
K	431551	1/4
K	431553	3/4
K	431554	✓
K	431555	✓
K	431581	✓
K	431586	✓

TOTAL CLAIMS 18

RECEIVED
DEC 2 1976
PROJECTS UNIT

If space insufficient, attach list

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey

Number of Stations 1251 Number of Readings 1917

Station interval 50 feet Line spacing 400' x 200'

Profile scale N.I

Contour interval N.I

MAGNETIC

Instrument

Accuracy - Scale constant

Diurnal correction method

Base Station check-in interval (hours)

Base Station location and value

ELECTROMAGNETIC

Instrument

Coil configuration

Coil separation

Accuracy

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency (specify V.L.F. station)

Parameters measured

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION / RESISTIVITY

Instrument

Method ☐ Time Domain ☐ Frequency Domain

Parameters - On time Frequency

- Off time Range

- Delay time

- Integration time

Power

Electrode array

Electrode spacing

Type of electrode

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument McPhar TV1 Scintillometer.

Values measured counts per minute (total scale)

Energy windows (levels) 3 - 2.5 MeV (total), 1.6 mev (U+Th), 0.2MEV (Th)

Height of instrument 24" Background Count 500cpm

Size of detector 1.25 x 1" sodium iodide crystal.

Overburden Residual Soil, Clay - from 0 to unknown depth.
(type/depth - include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey McPhar TV1 Scintillometer.

Instrument counts per minute (total)

Accuracy _____

Parameters measured _____

_____

Additional information (for understanding results) _____

_____

_____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____
(specify for each type of survey)

Accuracy _____
(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY - PROCEDURE RECORD

Numbers of claims from which samples taken _____

_____

_____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

_____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

_____

Drainage Development _____

Estimated Range of Overburden Thickness _____

_____

_____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

_____

_____

_____

General _____

_____

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_____

_____

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_____

_____

_____

ANALYTICAL METHODS

Values expressed in: per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

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_____

_____

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_____

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Ontario

Ministry of Natural Resources

File 2.2261

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

RECEIVED
DEC 2 1976
MINING LANDS SECTION

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Radon

Township or Area Temple Twp.

Claim Holder(s) F.O.B. Mining and Exploration Ltd.
Box 2717 Stn P, Thunder Bay

Survey Company Robert H. Morse

Author of Report Robert H. Morse

Address of Author 188 Willow Ave., Toronto

Covering Dates of Survey Oct. 7 to Nov. 23
(linecutting to office)

Total Miles of Line Cut 16.1

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

DAYS per claim

Geophysical
- Electromagnetic
- Magnetometer
- Radiometric
- Other

Geological

Geochemical 20

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer ____ Electromagnetic ____ Radiometric ____
(enter days per claim)

DATE: Nov 23 SIGNATURE: Robert H Morse
Author of Report or Agent

Res. Geol. ____ Qualifications 2.1260

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
K	350713
K	350714
K	350715
K	350716
K	350717
K	350718
K	350719
K	431541
K	431542
K	431543
K	431545
K	431546 1/4
K	431551 1/4
K	431553 3/4
K	431554
K	431555
K	431581
K	431586

RECEIVED
DEC 2 1976
PROJECTS UNIT

TOTAL CLAIMS 18

If space insufficient, attach list

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy -- Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

_____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured _____

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

_____

Base station value and location _____

_____

Elevation accuracy _____

INDUCED POLARIZATION
RESISTIVITY

Instrument _____

Method ☐ Time Domain ☐ Frequency Domain

Parameters -- On time _____ Frequency _____

-- Off time _____ Range _____

-- Delay time _____

-- Integration time _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

_____

Additional information (for understanding results) _____

_____

_____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken K350713-19;K431541,42,43,45,46; K431551, 53,54,55,81,86 i.e. same as listed on front page.

Total Number of Samples 1148

Type of Sample soil gas
(Nature of Material)

Average Sample Weight

Method of Collection make hole with 1¼" auger remove gas with rubber bulb pump

Soil Horizon Sampled B and C

Horizon Development none to fair

Sample Depth 12"

Terrain gently rolling granite hills, clay plains and swamp.

Drainage Development poor

Estimated Range of Overburden Thickness 0 to 30'

ANALYTICAL METHODS

Values expressed in: cpm Rn^{222}
per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others Radon (Rn^{222})

Field Analysis (1148 tests)

Extraction Method none

Analytical Method Alpha scintillometry (using E.D.A. RD-200)

Reagents Used none

Field Laboratory Analysis

No. (none tests)

Extraction Method

Analytical Method

Reagents Used

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis none

Commercial Laboratory (none tests)

Name of Laboratory

Extraction Method

Analytical Method

Reagents Used

General

General

NOTES

400' surface rights reservation along the shores of all lakes and rivers

This Township lies within the Corporation of the Township of MACHIN

RESERVES

(R1) surface rights withdrawn from staking under Sect 39(d) of Mining Act (R.S.O.'50) 18 July '55 File 8651

(R2) reserved for public use, 29 Sept '52 File 53817

(R3) reserved for reforestation File 18131

(R4) Crown reserve File 163473

SAND & GRAVEL

(S1) Gravel File 80843

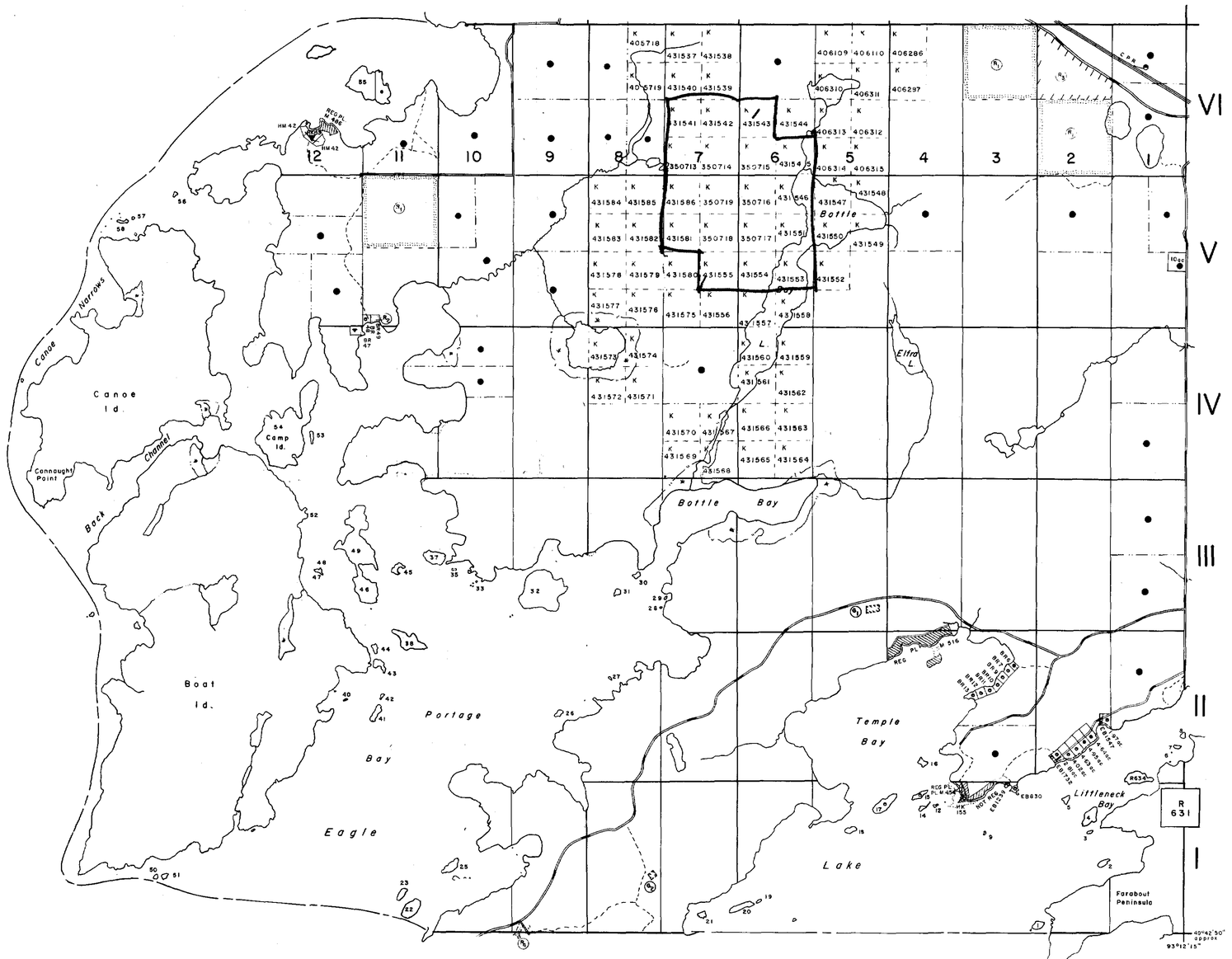
(S2) " " 190861

MUTRIE Tp. M.2013

VERMILION BAY M.2046

AUBREY Tp. M. 1944

M. 1729



GARNET BAY M.1729

BUCHAN BAY M.1288

LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES: TOWNSHIPS, BASE LINES, ETC. / LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES: LOT LINES / PARCEL BOUNDARY / MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	◒
" MINING RIGHTS ONLY	◒
LEASE, SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	■
" MINING RIGHTS ONLY	■
LICENCE OF OCCUPATION	▼
CROWN LAND SALE	C.S.
ORDER-IN-COUNCIL	OC
RESERVATION	(R)
CANCELLED	(X)
SAND & GRAVEL	(S)

SCALE: 1 INCH = 40 CHAINS

FEET 0 500 1000 2000 4000 6000 8000

METRES 0 200 400 600 800 1KM 2KM

ACRES	HECTARES
40	16

TOWNSHIP 2.2261

TEMPLE

DISTRICT

KENORA

MINING DIVISION

KENORA

Ministry of Natural Resources

Ontario Surveys and Mapping Branch

Date 9 75

Whitney Block Queen's Park, Toronto

Plan No. M.2047

LOT 8 7

LOT 7 6

LOT 6 5

L-60N

L-56N

L-52N

L-48N

L-44N

CON VI V

L-40N

L-36N

L-32N

L-28N

L-24N

L-20N

L-16N

L-12N

L-8N

L-4N

L-0

K431541

K431542

K431543

K350713

K350714

K350715

K431545

K431586

K350719

K350716

K431546

K431581

K350718

K350717

K431551

K431555

K431554

K431553

BASE LINE N25°W

BOTTLE BAY LAKE

LEGEND

- 5000-9999 cpm total
- 10,000+ cpm total
- Outcrop Area
- Rock trenches (Zones & Pits)
- Scintillometer reading at waist level - 100- total scale/100 cpm
  - 200- U+Th scale cpm
  - 20 - Th scale cpm
  - ⌐ read over outcrop
- Scint. read at waist level (over outcrop) - total scale/100
- as above - no outcrop
- Diamond Drill Hole F.O.B. 76-1
- Base & Picket Lines
- Survey Area claim boundary
- Claim lines
- Claim post
- Claim number
- Swamp
- Gravel Road
- Drill, Trench & Winter Road

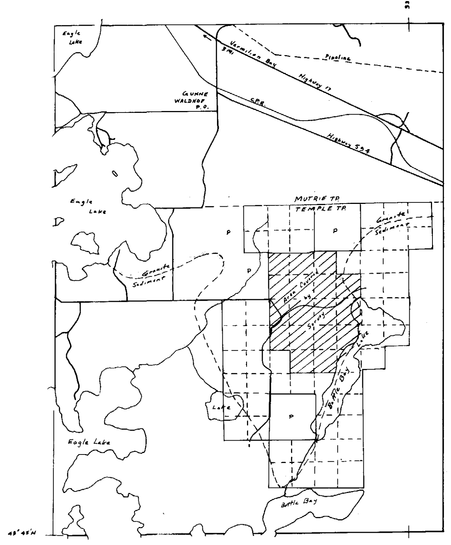
INSTRUMENT USED

McPhar TV-1 Scintillometer

Serial No. 175-10, 3 energy levels - 2.5 MEV (T1 setting - total scale)
- 1.6 MEV (T2 setting - U+Th scale)
- 0.2 MEV (T3 setting - Th scale)

NB cpm U_3O_8 = (T2 - background) - 3.5 (T3 - background)

Calibration - Th source - 3.5 T3 = T2



KEY MAP: 1:50,000

November 2, 1976	F.O.B. MINING & EXPLORATION LIMITED	Scale: 1"= 200'
	Bottle Bay Lake Property Temple Township	
Drawn by: M. Kremko, B.A.Sc. P.Eng.	McPhar TV-1 SCINTILLOMETER Survey	Date by: M. Kremko, B.A.Sc. P.Eng.
Kenora M.D. Ontario	By: Protoshield Exploration Services	NTS 52F14

210

LOT 8
LOT 7
LOT 7
LOT 6
LOT 6
LOT 5

K431541
K431542
K431543
K431545
K350713
K350714
K350715
K350716
K431586
K350719
K431546
K350718
K431551
K431581
K350717
K431555
K431554
K431553

L-60 N
L-56 N
L-52 N
L-48 N
L-44 N
L-40 N
L-36 N
L-32 N
L-28 N
L-24 N
L-20 N
L-16 N
L-12 N
L-8 N
L-4 N
L-0

CONCESSION VI
CONCESSION V

BASE LINE N 25° W

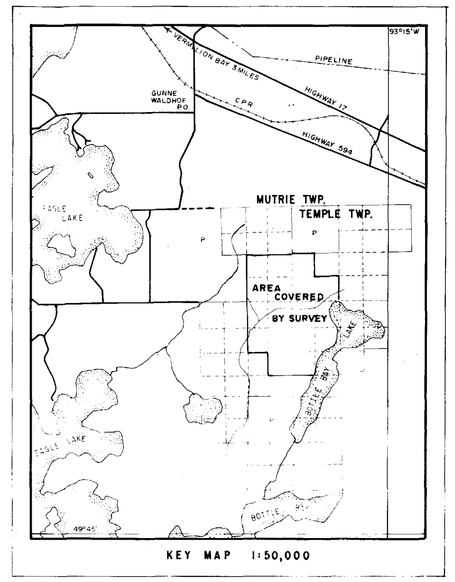
B o t t l e L a k e B a y

DDH 76-1

ZONE "N"
ZONE "O"
ZONE "P"
ZONE "Q"
ZONE "R"
ZONE "S"
ZONE "T"

L-20E
L-16E
L-12E
L-8E
L-4E
L-0
L-4W
L-8W
L-12W
L-16W
L-20W
L-24W
L-28W
L-32W
L-36W

220



KEY MAP 1:50,000

LEGEND:

- CLAIM POST AND CLAIM LINES.
- K431545 — CLAIM NUMBER
- DDH 76-1 — DIAMOND DRILL HOLE, F.O.B 76-1
- BASE AND PICKET LINES
- SWAMP
- OUTCROP AREA
- GRAVEL ROAD
- DIRT ROAD AND WINTER ROAD
- X ZONE "R" — ROCK TRENCHES (Zones and pits)
- PROPOSED DRILL HOLE
- 38 / 96 — RADON (Rn^{222}) cpm; "96" — NO READING - OUTCROP

GEOLOGICAL ASSOCIATION OF CANADA — ROBERT H. MORSE — FELLOW

REGISTERED PROFESSIONAL ENGINEER — R. H. MORSE — PROVINCE OF ONTARIO

FIGURE 1

R. H. MORSE & ASSOCIATES LTD.

F.O.B. MINING AND EXPLORATION LTD.

BOTTLE BAY LAKE PROPERTY

RADON SURVEY

TEMPLE TOWNSHIP - ONTARIO

SCALE: 1"= 200'

R.H. MORSE Ph.D., P.ENG.

NOVEMBER, 1976

LOT 8
LOT 7
LOT 7
LOT 6
LOT 6
LOT 5

K431541
K431542
K431543
K431545
K350713
K350714
K350715
K350716
K431586
K350719
K431546
K350718
K431551
K431581
K350717
K431555
K431554
K431553

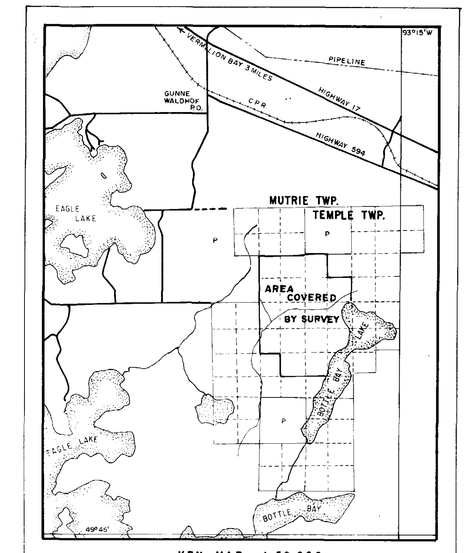
L-60 N
L-56 N
L-52 N
L-48 N
L-44 N
L-40 N
L-36 N
L-32 N
L-28 N
L-24 N
L-20 N
L-16 N
L-12 N
L-8 N
L-4 N
L-0
L-32E
L-28E
L-24E
L-20E
L-16E
L-12E
L-8E
L-4E
L-4W
L-8W
L-12W
L-16W
L-20W
L-24W
L-28W
L-32W
L-36W

CONCESSION VI
CONCESSION V

ZONE "A"
ZONE "B"
ZONE "C"
ZONE "D"
ZONE "E"
ZONE "F"
ZONE "G"
ZONE "H"
ZONE "I"
DDH 76-1

BASE LINE N 25° W

BOTTLE BAY LAKE



KEY MAP 1:50,000

LEGEND :

- CLAIM POST AND CLAIM LINES.
- K431545 — CLAIM NUMBER
- DDH 76-1 — DIAMOND DRILL HOLE, F.O.B 76-1
- BASE AND PICKET LINES
- SWAMP
- OUTCROP AREA
- GRAVEL ROAD
- DIRT ROAD AND WINTER ROAD
- ROCK TRENCHES (Zones and pits)
- PROPOSED DRILL HOLE
- RADON (Ra^{222})cpm — 5 POINT ROLLING MEAN; "oc" — "0" READING - OUTCROP
- CONTOUR LINE 40 cpm
- CONTOUR LINE 30 cpm
- CONTOUR LINE 20 cpm
- CONTOUR LINE 10 cpm

GEOLOGICAL ASSOCIATION OF CANADA · ROBERT H. MORSE · FELLOW ·

REGISTERED PROFESSIONAL ENGINEER · R. H. MORSE · PROVINCE OF ONTARIO

FIGURE 2

R. H. MORSE & ASSOCIATES LTD.

F.O.B. MINING AND EXPLORATION LTD.

BOTTLE BAY LAKE PROPERTY

RADON SURVEY
ROLLING MEAN

TEMPLE TOWNSHIP - ONTARIO

SCALE: 1"= 200'

R. H. MORSE Ph.D., P.ENG.

NOVEMBER, 1976

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