

Clarendon Township Property
Southeastern Ontario, Canada

MAGNETOMETER SURVEY

REFERENCES:

1. M. H. Fyock & Associates, Geological Survey, June 24th, 1958.
2. Letter by Ogden re trenching results, July 15th, 1958.
3. Diamond Drilling Programme by Michael Ogden, August 8th, 1958.
4. Personal communications with officers and personnel of Faraday Uranium Mines in Bancroft, Ontario.

INTRODUCTION:

The trenching programme of last summer - recovered some excellent assays in uranium oxide - these coupled with the results of the immediately previous geological survey led to a programme of short drill holes in order to try and enlarge upon the uranium occurrences as found in the trenching. A total of 650 feet of drilling was done in 9 holes.

The drilling programme showed that the mineralisation on surface did not continue in any quantity to a depth of even 25 feet. Thus it was decided that much larger zones of uranium oxide must be discovered than any of those that were known to that time.

Considering the fact that at the most only 20% of the property is exposed bedrock, at least 80% of the property must be underlain by rocks whose mineral content cannot be ascertained by observation. It was, therefore, necessary to resort to some indirect method of locating any concentrations of radioactive minerals that might exist in those portions of the property that

are covered by soil, swamp and lake. It is generally known in southeastern Ontario that radioactive minerals are frequently found in or near an abnormal quantity of the mineral magnetite. Magnetite may exist without uranium but as a general rule, where there is some uranium in pegmatitic rocks, there is usually some associated magnetite. Now magnetite is magnetic and even a small percentage of it in a rock is readily detectable by survey with a sensitive magnetometer. Thus it was decided to conduct a detailed vertical magnetic intensity survey over the whole property including all lakes and swamps in order to see what anomalous conditions could be found. The survey was completed during the period January 12th to April 2nd, 1959.

PROPERTY AND LOCATION

The property consists of 20 claims in Lots 14 to 18, Concessions 2 to 5 of Clarendon Township in Southeastern Ontario.

The claims are as follows:

7 claims numbered EO-24702 to EO-24708 inclusive.
9 claims numbered EO-24864 to EO-24872 inclusive.
4 claims numbered EO-25455 to EO-25458 inclusive.

The property lies between and on, both Coxvale and Fawn Lakes. The north-south gravel road connecting the villages of Ardoch and Coxvale cuts through the centre of the property about three miles south of Ardoch.

Access to the property is thus simple by motor vehicle from either Coxvale or Ardoch, both of which are 20 to 30 miles north of the main Toronto - Ottawa Highway, called No. 7.

OWNERSHIP:

The property is held under the name of H. H. Fyock of 323 Poplar Street, Mansfield, Ohio.

METHOD OF SURVEY:

As the geological trend of the rocks is roughly East and West, a grid system of picket lines was laid out on the property in a North-South direction with an interval between lines of 200 feet. Three East-West base lines were required to properly lay out and cut the lines. Each picket line is a straight line through the bush with a numbered picket at every 100 feet along it marked with the line number and the distance North or South from the nearest base line.

A Sharpe "A-2" vertical intensity magnetometer was used with a sensitivity of 22.0 gammas per scale division. Base stations were established on the North Base Line at 2 East, 16 East, 34 East, 50 East. There were two other base stations - one at 5600 feet South on Line 18 West and another at the South-West tip of the island at 2400 feet south on Line 38 West. The main base station was at 2 East on the North base line and was given an arbitrary value of 570 gammas. All readings were calculated so that their value is what it would have been had the whole 2,269 readings been taken simultaneously with that at the main base station. The calculations remove most of the effect of the hour to hour, day to day, and week to week variations in the earth's magnetic field plus jars and shakes to the instrument that might alter its ability to measure magnetic intensity.

A total of 2,269 stations were established for a total line mileage of 42.8.

RESULTS OF THE SURVEY.

Six anomalous zones have been found by the magnetometer survey. About nine other spots showed up that are worthy of some investigation but for various reasons are not likely to be productive of uranium mineralization.

Zone 1: Near the northeast corner of the property on Lines 44 & 46 at about 1100' N. This area of anomalous results is some 400 feet in length and appears to be 100 feet in width. It occurs near three outcrops which were mapped during the summer all of which showed narrow pegmatite dykes up to 2 feet in width striking in a north westerly direction. The magnetic zone definitely strikes in a northeasterly direction and represents an extraneous percentage of magnetite in a zone that may or may not be visible in outcrop. Surface investigation is indicated.

Zone 2: Near the north central part of the property about 1400 feet east of the road. It occurs on Line 14 East and 16 East at 400 feet North of the North Base Line. This zone is not as clearly defined as No. 1, being a broad zone about 350 feet in diameter. It lies right in the middle of a cedar swamp and could only be investigated by diamond drilling.

Zones 3, 4 & 5: Zone No. 3 lies about 400 feet north of No. 2 and appears to form the northeast extension of a discontinuous zone, the centres of which have been called 3, 4 & 5.

The total length of all together is 4,000 feet. The three together might represent variations in magnetite content within a pegmatite dyke which has not yet been discovered at the surface.

Zone 3 is about 300 feet in length and lies in the cedar swamp. It could be tested by diamond drilling only.

Zone 4 is about 1,600 feet in length and extends along or near mapped outcrop area just northeast of the road.

It is, however, particularly interesting and perhaps significant that Zone No 4 extends near the area in which the first drill hole was put down in 1956. That hole, which was vertical, assays 0.013% radio metric $U_3 O_8$ equivalent in the first 15 feet and 0.020% through 15 to 26 feet. If the magnetic anomalous zone were to be drilled, it should be drilled towards the southeast for about 200 feet in length.

Zone 5 is a local high value about 200 feet in diameter. It may be the southwest continuation of 3 and 4 but as it lies in heavy overburden it can only be tested by drilling.

Zone 6: This is on Line 2 west at 850 feet south. It appears from the magnetic results to strike north and south but from the local occurrences of pegmatite dykes in the area, it is more likely to strike southeast. It may be significant that it is within 500 feet of the two known occurrences of the best uranium mineralisation in the property. Both these occurrences have been drilled but the vicinity of this anomaly bears careful investigation and possible drilling.

ODD ANOMALIES

Three inexplicable and rather odd situations exist, two of them are extraordinary low values - one on Line 22E at 1600 feet south and the other on the island at 34 west and 2100 south. The one extraordinary high value is at Line 8 east at 300 south where the value of 800 gammas was obtained in one spot. As this is very local it might be due to a piece of steel pipe or some like thing left on the ground. None of these three zones can be considered of economic significance.

OTHER SPOT ANOMALIES

There are local high readings in the following places:

Line 54 east at 900 south
Line 50 & 52 east at 2000 south
Line 42 east at 2000 south and 2200 south
Line 36 east at 2000 south
Line 32 east at 2500 south
Line 28 east at 1200 south
Line 24 east at 2100 south

CONCLUSIONS

1. Six zones have been found which should be investigated for possible uranium content. Three of them (nos. 1, 4, and 6) can be examined on the ground for outcrop is nearby, The other three (nos. 2, 3 and 5) are in swamp or heavy soil cover and could be investigated only by diamond drilling.

2. Following the ground investigation it is quite possible that drilling will be the only method by which any of the zones can be probed. Although three zones are

near outcrop there may be no reason for their existence in those outcrops, which would suggest that the zones are covered from view.

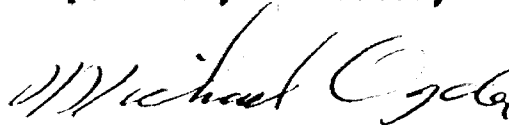
3. The magnetic results are not similar to those obtained at Faraday Uranium Mines. Their large uraniferous pegmatite dykes showed up with frequent large (1000 gammas) changes of magnetic intensity. Whereas the Lyock magnetic results seldom vary more than 150 gammas. Therefore the Faraday type of magnetic occurrence cannot be expected to repeat exactly on the Lyock & Associates ground.

4. It must be borne in mind that a lot of the Faraday ore is not magnetic. Thus there could be uraniferous zones that have not as yet been found.

RECOMMENDATIONS

1. Investigate the three zones near the outcrop early this summer.
2. Probe the most interesting zones by about five holes of 200 feet in length. Total drilling would then be 1000 feet.
3. The other small areas of interest, listed in the report, should also be investigated on the ground for possible uranium content.

Respectfully submitted,


Michael Ogden P.Eng.

M. H. FYOCK & ASSOCIATES

Clarendon Township Property
Southeastern Ontario, Canada

GEOLOGICAL SURVEY



31C15NW0083 63.989 CLARENDON

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REFERENCES:

1. Preliminary Report on the Geology of Clarendon Township, P.R. 1951-3 by B.L. Smith of the Ontario Department of Mines.
2. Claim Map, Clarendon Township.
3. Fyock Claims, Geological Report, by Michael Ogden, May 8th, 1957.
4. Air Photographs, Forest Resources Inventory, Q-65, 5-135 to 137 inclusive, and Q-66, 5-180 to 182 inclusive, on a scale of one inch to the quarter mile.

PROPERTY AND LOCATION:

The property consists of 20 claims in Lots 14 to 18, Concessions 2 to 5 of Clarendon Township in Southeastern Ontario.

The claims are as follows:

- 7 claims numbered EO-24702 to EO-24708 inclusive.
- 9 claims numbered EO-24864 to EO-24872 inclusive.
- 4 claims numbered EO-25455 to EO-25458 inclusive.

The property lies between and on, both Coxvale and Fawn Lakes. The north-south gravel road connecting the villages of Ardoch and Coxvale cuts through the centre of the property about three miles south of Ardoch.

Access to the property is thus simple by motor vehicle from either Coxvale or Ardoch, both of which are 20 to 30 miles north of the main Toronto - Ottawa Highway, called No. 7.

INTRODUCTION:

The property was originally staked and recorded by Mr. Fyock & Associates in October of 1955. Prospecting, diamond drilling and radioactivity surveys, conducted on a limited scale,

all suggested the possibility of locating a commercial uranium deposit in the vicinity. Assays showed that the radioactivity was due to uranium with very little thorium. The writer obtained an assay of 0.31% uranium oxide from a grab sample and one of the drill holes encountered 0.134% uranium oxide over a length of 15 feet.

With such encouraging results from the initial work, the property was enlarged to 20 claims and it was decided to conduct a geological survey over the whole group with the purpose of locating one or more large pegmatite dykes containing relatively continuous zones of uranium oxide content which might prove to be of commercial value.

METHOD AND CONTROL OF THE GEOLOGICAL SURVEY:

The entire property has been mapped on a scale of one inch to 400 feet. One aerial photograph covering most of the property was enlarged to the above scale and has been used as the topographic base map. The geology was mapped by pace and compass traverses at 400-foot intervals or less, using roads, power line and lake shores as control. One base line was cut and chained from Area B to Fawn Lake as control on the mapping of the north-east portion of the property.

Thus the accuracy and control of the survey are such that scaled distances are accurate to about plus or minus 10%.

In the geological mapping the purpose was to map all pegmatite dykes of one foot or more in width, noting their average radioactivity as a multiple of the normal background count.

Particular attention was paid to large dykes or dykes whose radioactivity was more than double that of the country rock.

The dykes are shown plotted on the accompanying map with a couple of figures noted beside them. The first is the average width and the second is their radioactivity as a multiple of the radioactivity of the normal gneissic rock in the area.

TOPOGRAPHY, FOREST COVER AND ROCK OUTCROP:

The western part of the property is quite rugged with rocky ridges rising 30 to 60 feet above the valley floors. The eastern portion near Fawn Lake is gently undulating.

Forest cover consists of second growth maple, birch and poplar with some elm, oak and coniferous trees.

Rock outcrops on about 20% of the land portion of the property.

GENERAL GEOLOGY:

The property is underlain by a two-mile wide zone of grey to pink gneisses of granitic composition. That this zone is precambrian granitized sediments is reasonably sure due to its concordance with adjacent volcanic and sedimentary rocks, as disclosed by the geological mapping of the Township. The granitic gneisses are arched into an anticline whose axis strikes through the middle of the property at 55 degrees true, which is parallel to the gneissosity or bedding.

Quartz-feldspar porphyry dykes with varying degrees of radioactivity intrude the granitic gneiss. Most of them, notably

the small ones (2 inches to 12 inches wide) are parallel to the bedding. (These have not been shown on the map.) The medium size dykes (1 foot to 4 feet in width) usually strike at about 90 degrees to 120 degrees true, which is parallel to the common direction of jointing in the area. The few big dykes (5 feet to 30 feet in width) have no pattern or common directional trend.

AREAS OF INTEREST DESCRIBED

The results of the geological mapping, prospecting, and radioactivity test work are shown on the accompanying plan "Geological Survey" at a scale of one inch to each 400 feet. Four areas of interest, A, B, C and 2,700 Feet East are discussed below.

Area A: Located on the south-east shore of Coxvale Lake in claim EO-24706. On top of a large outcrop overlooking the lake there is an almost continuous exposure of a 5 to 30 foot wide pegmatite dyke over a length of 700 feet. The radioactivity of the dyke varies from two to three times normal with one 4 foot diameter area at the extreme west end being about ten times normal. This is the widest and longest traceable dyke found on the property.

About 500 feet south-east of this dyke, across the road, there is an exposure of an irregular dyke of 3 to 10 feet in thickness with a radioactivity of two to three times background.

Area B: Just east of the road in the north-west corner of claim EO-24705. About 100 feet east of the road and forty feet south of the base line there is an exposure of a 5 to 16 foot wide

pegmatite dyke which strikes at 120 degrees true. It averages about 8 feet wide with a radioactivity of three times normal. However a continuous core of the dyke, 1 to 3 feet in width, has a radioactivity of four to six times normal background. This dyke had the longest continuous zone of abnormally high radioactivity and was thus chosen as the test dyke for comparison of radioactivity with uranium oxide assays. Three samples were taken across the true width of the dyke at its widest point from a freshly blasted cut across the dyke.

<u>Sample No.</u>	<u>Location</u>	<u>Width</u>	<u>Average Radio-activity as a multiple of normal background</u>	<u>U3O8 Assay</u>	<u>ThO2 Assay</u>
1	East Portion	7.8 feet	1 to 2	Nil	Trace
2	Centre Portion	2.4 feet	5 to 6	0.02%	Trace
3	West Portion	5.4 feet	2 to 3	Nil	Trace

Note: Nil means less than 0.005%
Trace means less than 0.01%

Area C1 is on the crest of the hill, north of the creek between Coxvale and Fawn Lakes, about 200 feet east of Coxvale Lake. It is in claim EO-24708. At this local there is an exposure of a pegmatite dyke varying in width from 3 to 15 feet with an average of 5 feet. Its radioactivity averages four times background and one 2 X 5 foot area was six or seven times normal background. Two samples, of five pounds each, were selected from here and assayed as follows.

<u>Sample No.</u>	<u>Location</u>	<u>Type</u>	<u>Average Radio-activity as a multiple of normal background</u>	<u>U3O8 Assay</u>	<u>ThO2 Assay</u>
1023	Area C	Selected	6	Nil	Nil
1024	Area C	Selected	7	0.005	Nil

Area 2,700 Feet East On the base line. At this point there is an exposure of a south-east trending pegmatite dyke about 4 feet wide on the average and with a radioactivity of twice that of normal background. At the north end of the exposure there is a 3 foot diameter area that is 40 times background. A sample was chipped from the flat pegmatite but as the surface was massive and hard only a quarter of a pound of rock was obtained which poorly represents the rock. The sample No. 1022, assayed 0.005% to 0.007% uranium oxide and nil in thorium oxide. A similar count (40 times background) was obtained at the Faraday property in areas that assayed 0.10% uranium oxide.

COMPARISON WITH FARADAY URANIUM MINES LIMITED:

As a guide to the value and potential value of the Fyock Claims, the surface exposures of Faraday Mines were examined. Faraday was the first producer of uranium oxide in Southeastern Ontario, it has some of the highest grade ore (0.20%) and is currently processing about 1,000 tons a day.

As a rough guide the two geiger counters used on the Fyock claims were compared with two grades of rock on the Faraday property. Rock assaying 0.05% uranium oxide had a count of 15 to

25 times normal background, and 0.10% was 35 to 45 times background. Background count at both Faraday and Fyock properties was the same.

The ore is found in discontinuous zones of 3 to 35 feet in width within a broad area of many pegmatite dykes which again are discontinuous. The dykes vary from a few feet to 60 feet in width.

In outcrop the dykes are usually poorly radioactive, i.e. 1 to 5 times normal background. Occasionally there will be exposures of 20 to 40 times background.

Another particularly significant point is that all the high grade zones are associated with an increase in the magnetite content of the rock which is detectable by surface magnetometer. The run of the mine grade is about 0.10% uranium oxide.

CONCLUSIONS:

1. Although the surface assays and radioactivity on the Fyock property seem very poor, it must be remembered that similar results are usually obtained from random exposures at the surface of a producing mine.
2. Only about 20% of the bedrock is exposed on the property, so that many dykes exist on the property that have not as yet been found for they are covered with overburden. Yet, as the country rock is fairly homogenous in hardness and texture, the exposures that do exist can be assumed to be representative of what is available. Thus although probably five times the number of dykes exist than have been found, they are likely to be similar in size,

content, and tenor to those already discovered.

3. The main difference between the Fyock property and the Faraday property is that at the Mine there is an area or zone of many pegmatite dykes, most of which are considerably larger than those found on the Fyock ground.

4. A magnetometer survey of the property would probably detect most of the high grade zones of uranium oxide that exist on the property whether covered by overburden, water or even by rock. It would, of course, also detect those zones of unusually high magnetite content that are not associated with high grade uranium. That is, although all high grade zones are probably magnetic anomalies, all magnetic anomalies are not high grade zones.

5. The most promising areas for a future drilling programme are areas A and B where about five holes of 50 to 75 feet in length could be drilled in each area, beneath the known dykes, in order to establish their variation in uranium oxide content with depth.

RECOMMENDATIONS:

Each successive phase of exploration on the Fyock Property has discovered bigger or more highly radioactive dykes than what was known before, which has increased the value or possibilities of the property. That is the accepted pattern of careful exploration. However this latest phase, the geological survey, did not improve the value or potential of the property in proportion to the additional funds expended. The trend of improvement has been broken so that now would seem to be the prudent time to stop.

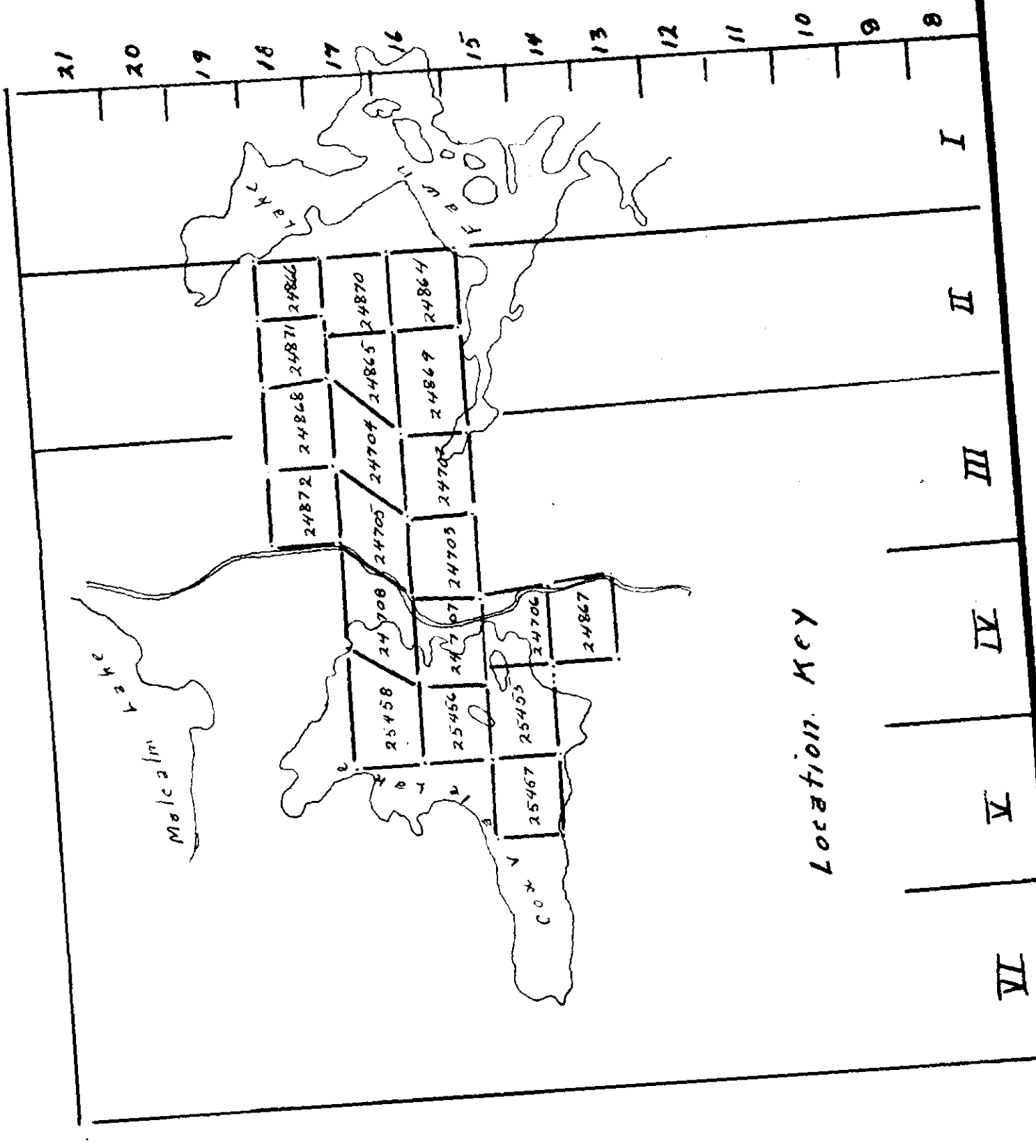
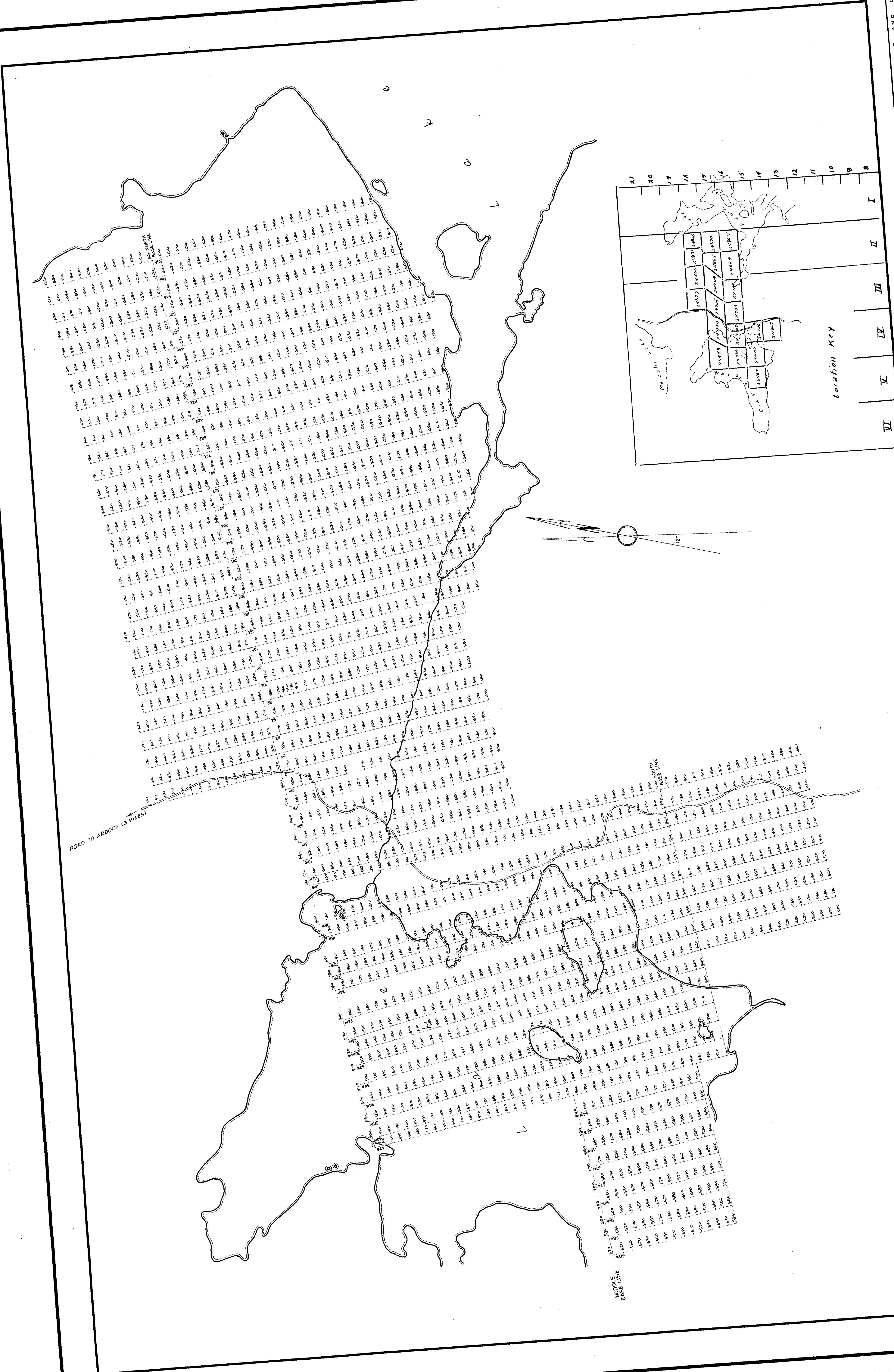
It is impossible to say whether or not a probable mine

exists on the property. More work could certainly be done, but whatever approach is used it would lead to diamond drilling which is expensive (at least \$5,000.00). A Magnetometer survey could be done first to help locate probable concentrations of uranium oxide and then a drilling programme to follow that. Or, the best known dykes could be drilled now. But either approach is in my opinion unlikely to be fruitful.

The whole country-side east and west of the property is potential ground for uranium mineralization. Thus it seems more financially sound to expend any further effort on basic prospecting for a more highly potential zone than any of those known to exist on the property.

Respectfully submitted,


Michael Ogden.



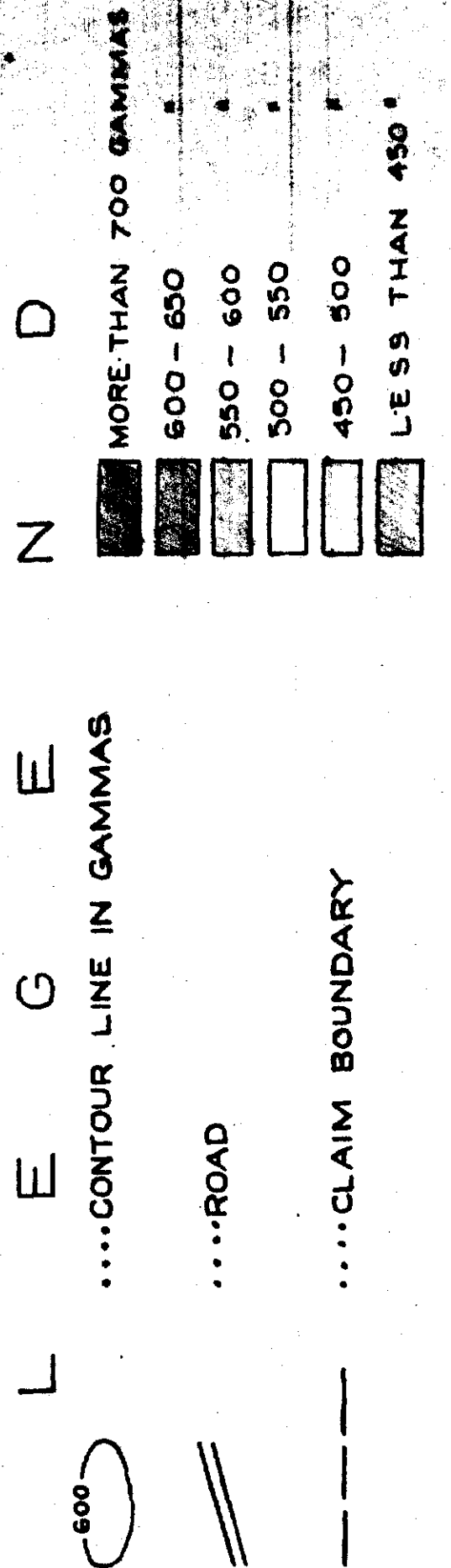
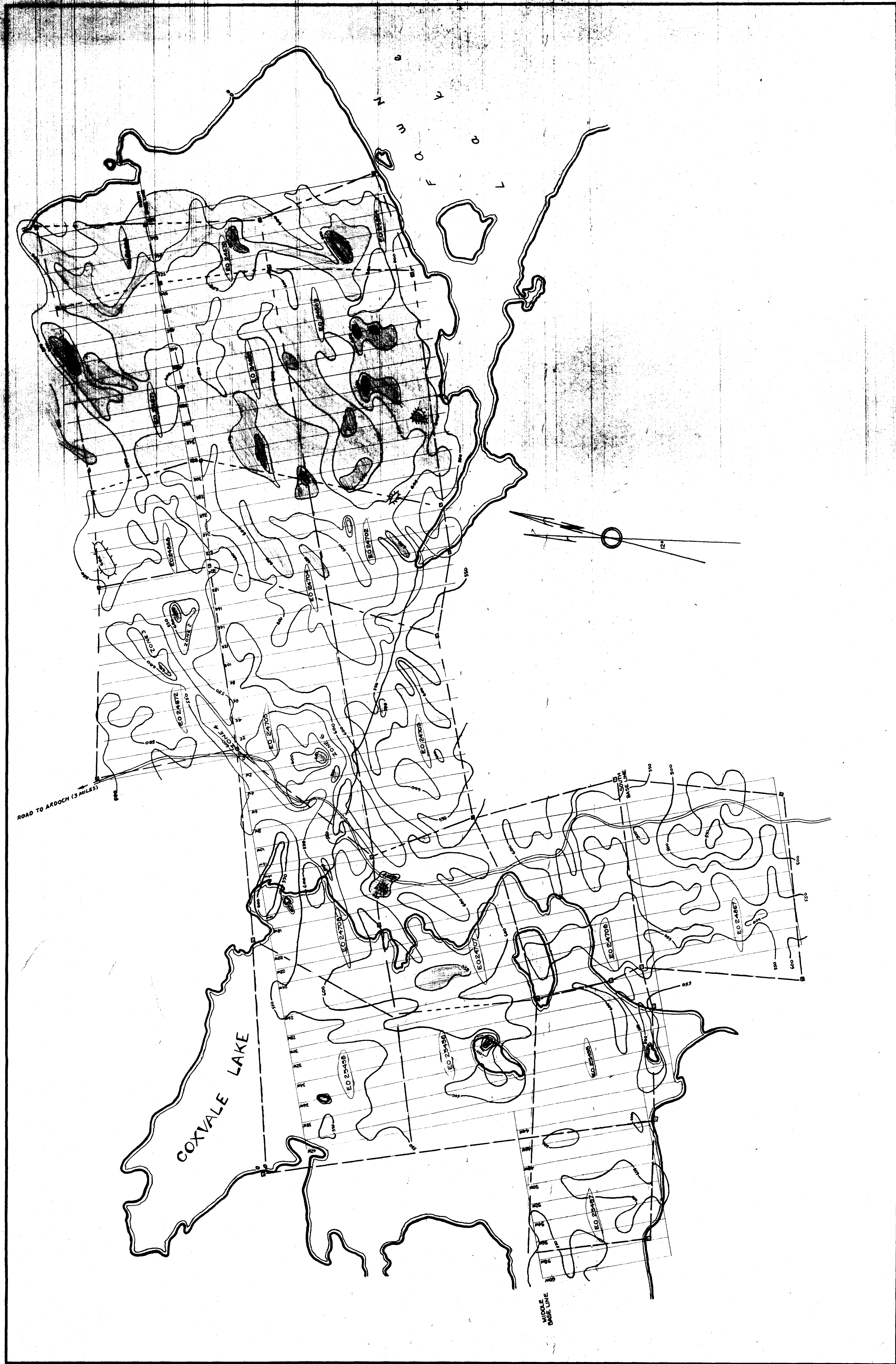
HALET BROADHURST AND CO.
 M. H. FYOCK AND ASSOCIATES
 MAGNETOMETER SURVEY
BASE MAP OF READINGS
 Clarendon Township, Ontario
 SOUTHEASTERN

DATE: MARCH 15
 SCALE: 1 IN. = 400 FT.
 DRAWN BY: APPROVED BY: *M.C.*



E200

63989



NOTE
 TOPOGRAPHY BASED ON PICKET LINES CUT & CHAINED AT 100 FT. INTERVALS. THIS MAP IS MORE ACCURATE THAN THE GEOLOGICAL MAP & THEREFORE DOES NOT FIT IT EXACTLY.

HALET BROADHURST AND OSBORN
 FOR
 M. H. FYOOK AND ASSOCIATES
MAGNETOMETER SURVEY
 Clarendon Township Property
 SOUTHEASTERN ONTARIO
 SCALE: 1 IN. = 400 FT. DATE: APRIL, 1959
 DRAWN BY: B. SIMMONS APPROVED: M. OSBORN

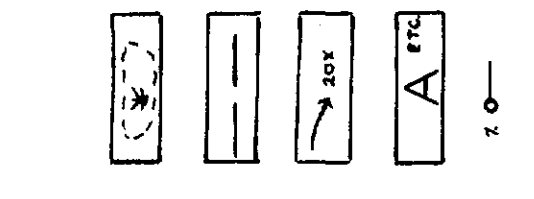


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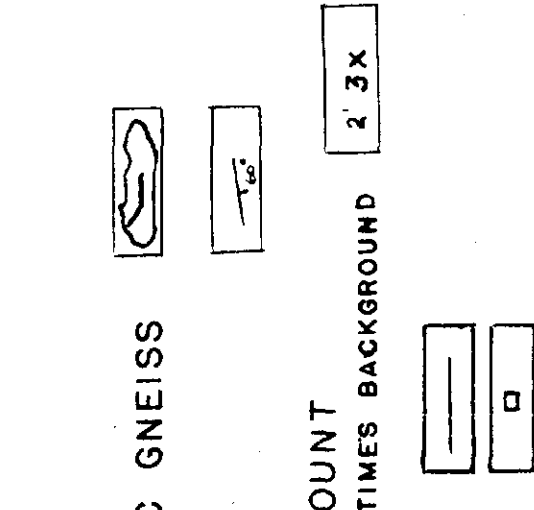
HALEY BROADHURST AND OGDEN
 P.O. BOX 100
 M.H. FYOCK AND ASSOCIATES
 GEOLOGICAL SURVEY
 CLARENDON TOWNSHIP PROPERTY
 S.E. QUADRANT
 SCALE: 1 IN. = 400 FT.
 DRAWN BY: M. POULIENEN
 DATE: JUNE 19, 1988
 APPROVED: W.M. OGDEN

63-989

REVISED
With drill hole data
Aug. 8/58. M.C.



POND OR SWAMP
 CLAIM BOUNDARY
 SMALL AREA OF HIGH RADIOACTIVITY
 AREAS OF INTEREST
 DIAMOND DRILL HOLE

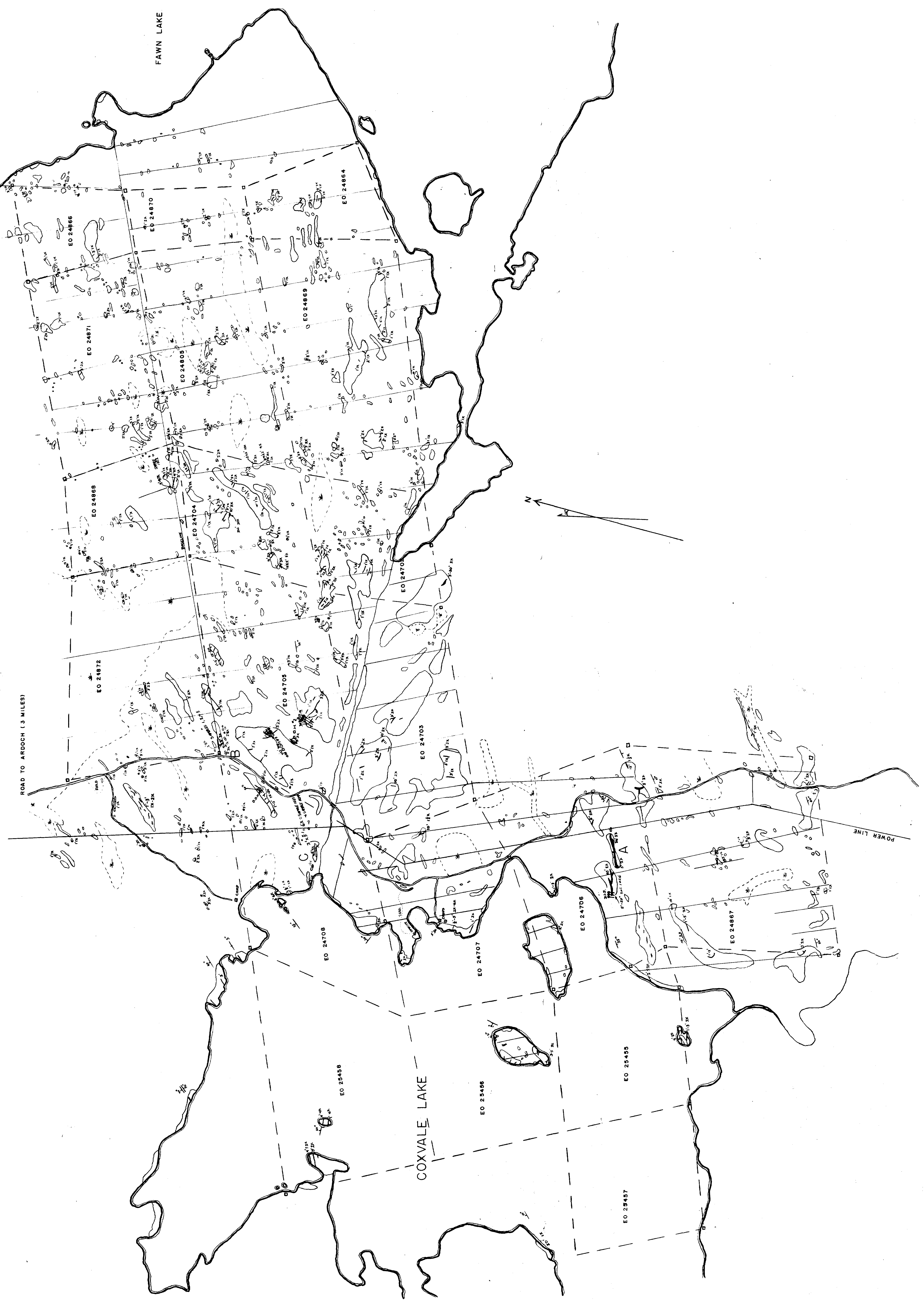
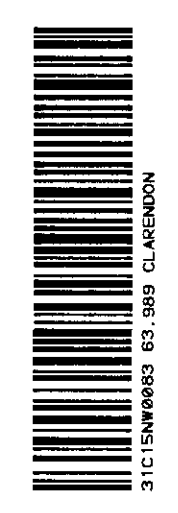


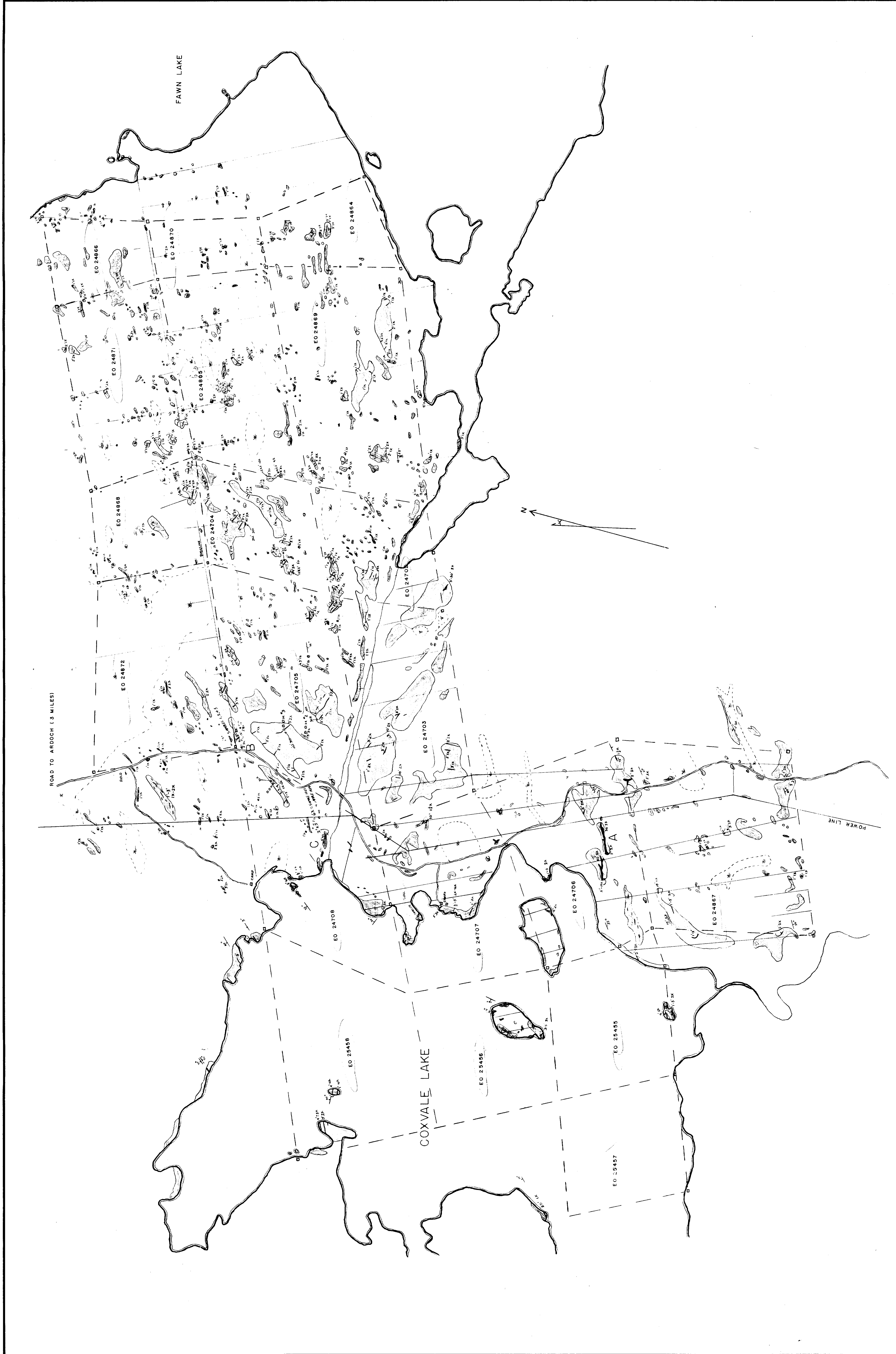
PEGMATITE DYKE IN GRANITIC GNEISS
 STRIKE AND DIP
 WIDTH AND BACKGROUND COUNT
 EX: 2 FT. WIDE, 3 TIMES BACKGROUND x 2x
 TRAVERSE LINES
 CLAIM POSTS OBSERVED

LEGEND

NOTE:
 TOPOGRAPHY TRACED FROM ENLARGED AERIAL PHOTOGRAPH, ADJUSTED
 BY CHAINED BASELINE AND PACE AND COMPASS TRAVERSES.
 GEOLOGY BY PACED COMPASS TRAVERSES AT MAXIMUM 400 FOOT
 INTERVALS. SHORE GEOLOGY BY BOAT.

2200





NOTE:
 TOPOGRAPHY TRACED FROM ENLARGED AERIAL PHOTOGRAPH, ADJUSTED
 BY CHAINED BASELINE AND PACE AND COMPASS TRAVERSES
 GEOLOGY BY PAGED COMPASS TRAVERSES AT MAXIMUM 400 FOOT
 INTERVALS. SHORE GEOLOGY BY BOAT.

LEGEND

- PEGMATITE DYKE IN GRANITIC GNEISS
- STRIKE AND DIP
- WIDTH AND BACKGROUND COUNT
 EX.: 2 FT. WIDE, 3 TIMES BACKGROUND 2.3x
- TRAVERSE LINES
- CLAIM POSTS OBSERVED
- POND OR SWAMP
- CLAIM BOUNDARY
- SMALL AREA OF HIGH RADIOACTIVITY
- AREAS OF INTEREST

HALET BROADHURST AND OGDEN
 M.H. FYOCK AND ASSOCIATES
GEOLOGICAL SURVEY
 CLARENDON TOWNSHIP PROPERTY
 SCALE 1 IN. = 400 FT. SE. ONTARIO
 DRAWN BY: R. POUTANEN
 DATE: JUNE 18, 1959
 APPROVED: W.M. OGDEN

