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An Inventory of the Mineral Resources in Peterborough County

by

A.G. Menard

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Northern Development
and Mines

Ontario Geological Survey

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V.G. Milne, Director
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F O R E W O R D

Eastern Ontario has a legthy record of mineral development dating back more than 150 years. Peterborough County is known to possess a wide variety of metallic minerals and industrial minerals.

Initiatives of the mining subcommittee of the Greater Peterborough Economic Council, aided and supported by the provincial and federal governments, have resulted in a comprehensive review and analysis of the mineral resource potential of the county.

This report, commissioned by the Council, constitutes an inventory of mineral occurrences in Peterborough County. It is published by the Ontario Geological Survey to help achieve wider circulation of the information and to assist those involved with encouragement of mineral resource development in the region.

V.G. Milne
Director
Ontario Geological Survey

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In particular, the author wishes to thank Diane Arjoon and Beth McLachlan for their tireless efforts in researching the hundreds of reports and references to mining in Peterborough County.

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An Inventory of the Mineral Resources in Peterborough County

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Introduction

The Greater Peterborough Economic Council Sub-Committee on Mining was formed in April 1985 as part of an overall strategy to promote economic growth in the Peterborough Area. The mandate of the Sub-Committee is to encourage the exploration and development of the mineral resources in the county.

In accordance with this objective an inventory of mineral occurrences in Peterborough County was carried out during the spring of 1986. The information herein will aid in the identification of specific commodities having favourable exploration and development potential. A detailed examination of specific properties will be carried out in subsequent studies.

Location Map

Location:

The County of Peterborough is situated in south-central Ontario, approximately 150 km northeast of Toronto. The geographic centre of the County is 443300 latitude and 781200 longitude. It covers an area of 3957.2 square kilometers and is bordered by the Counties of Haliburton to the north, Victoria to the west, Hastings to the east, and Northumberland to the south.

Highway 115 and Highway 28 provide access from the south, Highway 7 from the east and west, and Highway 28 from the north. Numerous secondary and county roads provide access within the study area. Table 1 lists the major transportation routes.

Canadian National Railways and Canadian Pacific Railways provide rail service to industries in the city of Peterborough as well as links to the northern and eastern mining areas. The Mineral Inventory Map indicates the areas serviced by rail.

Historically, the Trent Severn Waterway was the major transportation route to the area. it enters the County of Peterborough at Rice Lake. Initially used by the commercial/industrial sector, it is now primarily a tourist route to the northern lakes and Georgian Bay.

TABLE 1

TRANSPORTATION ROUTES:

Major Highway	Directions
Highway 115	North-South
Highway 28	North-South
Highway 30	North-South
Highway 45	North-South
Highway 7	East-West
Highway 7b	East-West
Highway 36	East-West
Secondary/County Roads:	
Highway 7A	East-West
Highway 134	North-South
Highway 507	North-South

Land Use:

Extractive Industrial: Municipal By-laws and Official Plans

The following is a summary of the various municipal zoning by-laws and official plan designations which pertain to mining, pits and quarries within the County of Peterborough.

Designated Areas: The southern townships of Cavan, North and South Monaghan, Otonabee, Asphodel, Dummer, Douro, Smith, Ennismore, Harvey and Belmont are designated under the Pits and Quarries Control Act.

In the designated areas, no pit or quarry may be established or operated without a licence or permit issued by the Ministry of Natural Resources. The locations of such uses must also be compatible with the permitted uses set out in the local official plans and zoning by-law.

In general, the official plans of the area municipalities recognize that certain areas are existing and potential sources of mineral resources. Provisions for extractive uses in the zoning by-laws are also included. These regulations for the most part, apply to existing operations. An amendment to the official plan is generally required where new extractive uses are proposed in areas not designated for those purposes. In addition, to conform to the official plan and zoning by-law, proposed uses must also meet strict operational regulations.

The following description of the various aggregate resource policies is taken from the Peterborough County Planning Department report on Aggregate Extraction (December 1985):

Harvey Galway-Cavendish Chandos Burleigh-Anstruther Aggregate and Mining Protection	The Aggregate and Mining Protection category is designed to protect lands so designated for sand and gravel or quarry operation purposes and requires an amendment to the plan (either to Rural and Forest Area or Recreation Dwelling Area) prior to development occurring. These policies were, however, generally not implemented in the zoning by-laws. Lands designated as Aggregate and Mining Protective, were often zoned as Rural, which permitted the uses specifically precluded by the plan.
Dummer Belmont-Methuen Asphodel Extractive	The Extractive Industrial designation is applied to lands having high potential for gravel pit and quarry operations. The plan stipulates that

Industrial Areas	only existing active operations may be zoned; and an amendment to the by-law shall be required for the opening of a new pit within an area designated Extractive Industrial. An amendment to the plan is required for new gravel pit and quarry operations in areas not designated Extractive Industrial.
Cavan Aggregate Resource	The Aggregate Resource designation is limited in application, however, it includes all lands currently licenced under the Pits and Quarries Control Act for extraction as well as those lands identified as areas of primary significance. An official plan amendment is required for new Pit and Quarry operations outside the Aggregate Resource nations.
Ennismore Extractive Industrial	The Extractive Industrial designation applies to a narrow band of land bisecting the township east to west. The designation reflects existing pit and quarries. Major expansions or new operations are to be by amendment to this plan and the zoning by-law.
North Monaghan Agricultural	The Agricultural designation was applied to the bulk of the rural area. The uses permitted include agricultural uses, forestry, conservation resource managment, small scale commercial and industrial, wayside pits and quarries, aggregate extraction. Extractive industrial uses do not have a separate designation in this plan.
Smith Extractive Industrial and Probable Extractive	The Extractive Industrial category recognizes existing pits and quarries, however, areas with potential that are as yet undeveloped, are placed in a Probable Extractive category. New pits and quarries in the Probable Extractive category are to be developed by official planning amendment and zoning by-law amendment. This category is applied to lands to maintain the natural amenity of the rural area.
Otonabee Pits and Quarries and Aggregate Reserve	The Pits and Quarries designation is applied primarily to areas of established pit and quarry operations. The designations however, are larger in

area than the existing use. The uses permitted include quarrying and the extraction of sand, gravel and other mineral aggregates. Ancillary facilities may be provided for crushing, screening, aggregate storage and equipment maintenance. Processing operations may be permitted, provided they are compatable with surrounding land uses. Farming and other agricultural activities may be permitted. Wayside pits and quarries may be established as well. Existing pits and quarries may be placed on an extractive industrial zoning category. Any new pit or quarry will require a re-zoning.

The Aggregate Reserve designation identifies areas where significant mineral aggregate deposits are located. Such areas have been so designated in order to preserve them for future extractive operations. These areas are to be developed by amendment to the plan and by-law.

Douro Extractive Industrial

Several areas have been placed in the Probable Extractive Industrial classification - New pits and quarries in this category are to be developed by official plan and zoning by-law amendment. Existing pits may be recognized in the by-law.

General Geology of Peterborough County:

The north portion of Peterborough County lies within the southern Grenville Structural Province. The oldest rocks are Late Precambrian metavolcanics and metasediments referred to as the Grenville Supergroup (Wynne - Edwards, 1972 pg. 262-336). The rocks were deposited between 1700 and 1200 million years ago. These were intruded by extensive granite batholiths and locally by bodies of gabbro, anorthosite, nepheline and alkalic syenites. The metamorphism and deformation of the metasediments, which accompanied the emplacement of the batholiths, produced a strong regional northeasterly trending structure. Locally, the metasediments envelope and separate the batholiths

In the southern portion of Peterborough County, the Precambrian rocks are overlain by Paleozoic rocks of the St. Lawrence Lowlands which were deposited between 460 and 480 million years ago (Liberty, 1969 pg. 20). The boundary or contact of these two rock types bisects the County in an irregular line. It is exposed from the west in the Pigeon Lake area, crosses through Buckhorn, Stoney and Clear Lakes and continues southeasterly into Belmont Township.

The Paleozoic rocks present in the Peterborough area are collectively known as the Simcoe Group (Liberty, 1969 pg. 25). Within the Simcoe Group, the stratigraphic units present are the Shadow Lake, Gull River, Bobcaygeon, Verulam and Lindsay Formations. The basal Shadow Lake Formation consists of red and green shales, siltstones, sandstones and arkose. The Gull River Formation consists of pale grey to pale brown/grey lithographic to sublithographic limestone. The paleozoic outliers north of the Precambrian contact are represented by this formation. The Bobcaygeon Formation is exposed mainly in the western portion of the county and in some of the central portions of the northern outliers.

Two distinct lithologies have been identified in the Bobcaygeon Formation. The lower part consists of fine- to medium-grained nodular limestone. The upper part consists of fine- to medium-grained bioclastic limestone with shaley partings.

The Verulam Formation consists of brown to grey (in varying shades) medium- to coarse-grained bioclastic limestone interbedded with shale and shaly limestone. The Lindsay Formation underlies the southern part of the county and consists of grey to bluish sublithographic to fine-granined nodular limestone. The Lindsay Formation is the uppermost unit of the Simcoe Group. The above descriptions of the Paleozoic formations are taken from Carson, D. M. (1981 pg. 3-6).

During the Pleistocene Epoch, the entire area was glaciated.

The main physiographic features formed by glaciation are the Dummer Moraine, characterized by large angular boulders of Paleozoic limestone and Precambrian rocks, the Peterborough Drumlin Field which is a series of northeast oriented hills of stratified sand and gravel, and the Bridgenorth and Norwood Eskers which are long, sinuous sand and gravel ridges.

Study Methodology

The compilation of this inventory consisted of a detailed search of the available references to minerals and mining in Peterborough County. These data sources included published reports and maps of the Ontario Geological Survey and the Geological Survey of Canada; assessment files from the district and Toronto offices of the Ministry of Northern Development and Mines and the Ministry of Natural Resources, all duly acknowledged in this report.

An inventory record form was designed to provide the reader with information relating to the geology, development history, zoning regulations and claim status of the occurrences.

The inventory records are presented in this report under the general headings of Base Metals, Precious Metals, Industrial Minerals, Iron-Titanium Occurrences and Radioactive Minerals. Construction aggregates, peat, and marl deposits have been studied in recent reports and, for this reason, were not included in this study. Sources of information relating to these commodities were included in the reference section. Where sufficient information was available, a detailed record form was completed. In instances where information was limited, those occurrences are summarized at the end of each section.

The map which accompanies this report illustrates the general geology, structure and location of mineral occurrences in Peterborough County. For detailed geological information on a specific site, the reader may refer to the maps and reports listed on the inventory record for that occurrence.

Introduction to Inventory Records: Explanatory Notes:

1. Name: The name of the occurrence, commonly referred to in government reports and assessment files, was recorded. Names of companies holding an option on a property, or local references to a site, are listed in the history section on the record form.

2. Commodity: Describes the major mineral, rock etc. present. A qualifying adjective or essential characteristics may also be given. For example: Granite; pink, fine-grained.

3. Accessory Minerals: This describes those minerals known to be present in the rock which are in minute quantities and, as such, do not effect the classification or definition of the rock.

4. Rock Association: This is a brief description of the local geologic associations observed. The inter-relationships of structural features, group classifications, or other related details are summarized.

5. Classification: Where sufficient geologic information permitted, a classification of the occurrence is listed. Depending on the occurrence, classifications were made according to metal contents, lithologic associations, mineral constituents, texture, and dominant colors. Stratigraphic references for Paleozoic formations are also listed.

6. Location: The location of the occurrences were listed by Township, Concession and Lot. Geographical information, and distances were also provided.

7. Mineral Inventory Map Number: The locations of the occurrences were plotted according to the available information on the site. Efforts were made to ensure the accuracy of the information, however, in many cases, only a lot and concession were listed in the literature. Therefore, only a general location could be plotted. In cases where a group of claims were explored, the symbol was plotted in the centre of the work area. The number designation adjacent to the symbol, on the map, refers to the Inventory Record for that occurrence.

8. N.T.S. Map Number: Refers to the National Topographic Series Map designation.

9. U.T.M. Grid Coordinates: Refers to the Universal Transverse Mercator Grid Coordinates.

10. Access: Access information was provided from a specific city, town or village. Distances are listed in kilometers. Since the location of many occurrences, as reported in the literature, were somewhat vague, access and distances should be considered approximate.

    If extensive work (drilling, trenching, etc.) was reported, it was assumed that an access road would have been built. Unnamed roads were listed as the "fourth or fifth concession" or, in the case where a distinct geographic feature was present, it was listed as "the Deer Bay Road".

11. Property Status: This section documents two components, the current claim status and the current zoning status. The claim status is listed as of April 1986. Since the claim status of a property may literally change overnight, the reader is well-advised to confirm the current standing of the property with the proper officials.

    The zoning status of the property lists both municipal bylaw designations and official plan designation. A summary of the applicable sections of these documents is included in the text of this report.

12. Commodity Status: The commodity status refers to the state of exploration or work performed at that location. The following are the designations used for this report:

    Occurrence: Commodity known (or assumed, through staking for that particular commodity) to occur. Minimal, if any, work performed.

    Prospect: Property evaluated through trenching, drilling, extensive geophysical/geochemical testing, test shipments, and so on; no commercial production

    Past Producer: Output produced and sold for commercial rather than just for test purposes.

    Active: Property fully or seasonally active; includes sporadically active deposits, known as "active upon demand".

13. Geological Description: A description of the geology of area and site specific is listed, as reported in the available literature.

14. History: The history of work performed, and relevant background information on the site, is indicated.

15. References Cited: The references cited includes only those works specifically referred to in the text of the report. References made to assessment files are listed according to the Toronto assessment file record.

16. Additional References: Additional references includes all works used which pertain to the subject of the report whether actually referred to in the report or not. The list of additional references was included on the inventory record form to provide the reader with the background information found in the literature which pertains specifically to the occurrence described.

The use of the headings "Rock Association" and "Classification" are from Vos et al, 1981.

Base Metals

Occurrences of copper, lead and zinc in Peterborough County are found in rusty weathering schists containing disseminated sphalerite, graphite and minor amounts of gold and silver, in stratiform layers of disseminated pyrite and pyrrhotite with some spalerite and galena, and in metavolcanic and sedimentary hosted rocks.

The most significant occurrence of base metal mineralization documented to date is the Deer Lake deposit in concession 1, lot 27 of Belmont Township.

The mineralization consists mainly of pyrrhotite, pyrite and sphalerite in concordant rusty weathering graphitic schists. The base metal content has been estimated to be 0.3 to 0.5 percent zinc and 0.03 to 0.04 percent copper. Large tonnages are indicated from drilling.

In Cavendish Township, the volcanic belt on the western margin of the Burleigh granite intrusion has been reported to have favourable potential for base metal mineralization (Bright, 1980 pg. 69). Rusty zones and stratiform disseminations of pyrite and pyrrhotite in the metavolcanics have been identified in the area immediately west of Laronde Lake, along St. Croix Creek and in a wide belt extending from lots 6 to 15, concessions I to VII (Bright, 1980 pg. 69).

Felsic metavolcanics and associated metasedimentary rocks in Harvey Township are reported to contain pyrite and pyrrhotite with minor sphalerite and chalcopyrite (Morton, 1983 pg. 34). Also minor amounts of molybdenite, chalcopyrite, bornite and pyrite were discovered within a quartz monzonite intrusion located in the central area of the township.

It is acknowledged that pyrite and related sulphides may be considered industrial minerals, however, they are presented in this section since the commodity of major interest was base metals.

Name:
Deer Lake (Cordova Lake)

Mineral Inventory Map No.:
1

Commodity:
Base Metals: Zinc-copper

Accessory Minerals:
Pyrrhotite, pyrite, locally abundant graphite and chalcopyrite.

Rock Association:
The deposit occurs within an extensive sequence of thinly bedded argillite, siltstones, and sandstones at the top of a thick succession of mafic metavolcanics. There are minor interbeds of marble within the sequence.

Classification:
Stratiform Clastic-hosted, Copper-zinc-silver (rusty schist) deposit.

Location:
This prospect is located within concession I, lot 27, Belmont Township.

NTS Map No.:
31C/12

UTM Grid Coordinates:
443430 N, 775330 E

Access:
From Havelock, travel east on Highway 7 for 13 km to County Road 48. Travel north on County Road 48 to Cordova Mines (approx. 16 km). Travel north on the Marmora/Belmont Township Boundary Road for 9 km. Turn left onto a bush road which provides access to the occurrence.

Property Status:
East 1/2 lot 27, conc. I, leased mining rights only; west 1/2 patented, surface rights only (Claim Map M.53). Zoning: special district 1 (Bylaw 1977-25); recreational residential (Official Plan).

Commodity Status:
Prospect

Geological Description:
This area is underlain by Precambrian metasedimentary rocks and is near the nose of a syncline. Disseminated schist is part of a sequence of thinly bedded argillite, siltstone and sandstone. Mineralization is concentrated in 2 sulphide zones. The larger one extends several hundred metres in its largest dimension and is about a hundred metres across. The second zone, about 300 m to the northwest also extends for several hundred metres, but is much narrower. The main base metal section is about 600 m long and 200 m wide (DEMR, 1981 NMI Card 31C/12 Zn1). The most favorable area lies astride the boundary of lots 27 and 28 in concession I of Belmont, where the main sulphide zone is located (Beavon, 1969 pg. 3).

Size and Grade: Metallic minerals include pyrrhotite with minor sphalerite and chalcopyrite ranging from 5 to 20 % and the grade averages about 0.05% Cu, 0.5% Zn and 0.2 oz. silver/ton. A random grab sample of the rusty schist

contained 0.02 oz. Au/ton, 2.47 oz Ag/ton, 0.67% Cu and 0.14% Zn (Carter, 1980 pg. 172). Anomalous values in zinc, copper, and iron have been reported over considerable widths, but insufficient exploration has been completed to formulate accurate figures to be calculated (C. R. Young, Personal Communication).

History:
This occurrence has been investigated by a number of companies. The earliest record of exploration was in 1957 by the Texas Gulf Sulphur Company.

In 1964, Keevil Mining Group Limited reportedly diamond drilled one hole. Metalridge Mining Corporation Limited, a private company, was incorporated in 1968 to acquire and develop the prospect. Diamond drilling in 1968 to 1969, totalling 1615.4 m, indicated large tonnages of pyrrhotite, with minor zinc and copper, in 2 deposits. In 1970, Metalridge had feasibility tests carried out for the production of powdered iron and sulphur. Barymin Explorations Limited acquired a 6% interest in Metalridge in 1969. In the late 1970's or early 1980, there were 8 holes drilled ranging from less than 30.5 m to 263.7 m in length, including some by C. R. Young of Havelock, Ontario. Metal values ranging from 0.01 to 0.1% Cu, 0.04 to 1.13% Zn and tr to 0.05 ozs Ag/ton were intersected in all holes. The property, while currently inactive, shows potential for future exploration and development under more favourable economic conditions.

References Cited:
Beavon, R. 1969, pg. 3.
Carter, T. R. 1980, pg. 172.

Additional References:
Bartlett et al. 1980, pg.92-93.
Bourque, M. S. 1982, pg. 89-91.
Guillet, G. R. 1983, pg. 13.
Lumbers, S. B. 1964, pg. 29-30.
Mineral Policy Sector; Corporation Files: Metalridge Mining Company Annual Report, 1969.
Shklanka, R. 1969, pg. 216.

Name:
Parker-Barker Prospect

Mineral Inventory Map No.:
2

Commodity:
Base Metals: Galena

Accessory Minerals:
Barite, calcite

Rock Association:
An eighteen inch galena barite vein cuts across interbedded marble and schist and may be traced southeasterly for three miles. The marble unit is part of the Vansickle Formation (Hewitt, 1960 pg. 109).

Classification:
Composite vein deposit in marble of the Vansickle Formation.

Location:
This occurrence is located on concession I, lot 2, Methuen Township.

NTS Map No.:
31C/12

UTM Grid Coordinates:
443500 N, 774900 E

Access:
From Cordova Mines, travel 10 km east on County road 48 to the Vansickle Sideroad. Proceed north for approximately 8.0 km. The occurrence lies on the west side of this road.

Property Status:
Patented; south part of lot 2, concession 1, patented for surface rights only (Claim Map M.126). Zoning: environmental control, rural (Bylaw 1977-25); recreational residential, environmental control (Official Plan).

Commodity Status:
Prospect

Geological Description:
This occurrence has been described by Vennor (1870 pg. 163-4) as follows: "A northwest and southwest lode near the southeast corner of Methuen...cuts grey vertical calc-schist, striking 20 degrees, and is composed of calcspar and heavy spar, the former being of a rose or flesh-red color, in which there is a good show of galena. The average width of the lode is about 18 inches, and has been traced in a southeasterly direction for nearly three miles into Marmora."

History:
The history of this occurrence is described by Vennor (1870 pg. 163). "In 1868, a shaft was dug by Messrs. Parker and Barker. On this lode two or more shafts have been opened...close to the boundary of the lake." No further reports of work were documented subsequent to Vennors report until 1960 when Hewitt (1960 pg. 160) reported that a "pit, 70 feet long and 6 feet wide and reported to be 50 feet deep has been sunk in the vein." It is uncertain

whether the pit Hewitt (1860 pg. 160) refers to is the same working described as shafts by Vennor (1870 pg. 163-4). It is possible that the shaft work was discontinued in favour of an open pit excavation.

References Cited:
Hewitt, D. F. 1960, pg. 190,160.
Vennor, H. G. 1870, pg. 163-164.

Additional References:
Adams, F. D. 1894, pg. 163.
Department of Energy, Mines and Resources. 1945, NMI Card 31C/12.
Martin, W. 1983, pg. 14,21.
Ministry of Natural Resources. 1945, SMDR 070553.
Ontario Geological Survey. 1983c.
Satterly, J. 1943, pg. 50.
Shklanka, R. 1969, pg. 216.

Name/Location:
Anstruther; lots 24-25, conc. XIV

Mineral Inventory Map No.:
3

NTS Ref:
31D/16

Commodity:
Base Metals: Molybdenite

Description of Deposit/Notes:
There is limited geological information which specifically describes this occurrence. Parsons (1917 pg. 287) reports on an occurrence of molybdenite in lot 24 or 25, conc. XIV and notes that no development work has ever been done at that location. Further references (Adams and Barlow, 1910 pg. 31; Johnston, 1968 pg. 53; DEMR, NMI Card 31D/16 Mo 15) mention the occurrence and the fact that its exact presence has been unsubstantiated.

The present literature search found a report (Goodwin, 1903 pg. 56) which may explain the origin of the report of this occurrence. "Specimens of molybdenite were brought to the class by Mr. M. H. Jones. These specimens were found on lot 24 or 25 in the fourteenth concession of Anstruther township."

Work/Type/Year:
None reported - specimen sample taken.

References:
Adams, F. D. and Barlow, A. E. 1910, pg. 31.
Goodwin, W. L. 1903, pg. 56.
Johnston, A. J. 1968, pg. 53.
Parsons, A. L. 1917, pg. 287-289.

Name/Location:
Belmont; lot 8, conc. V

Mineral Inventory Map No.:
4

NTS Ref:
31C/15

Commodity:
Base Metals: Chalcopyrite

Description of Deposit/Notes:
The following is according to Satterly (1943 pg. 21): "An opening has been made in an outcrop containing aggregates of quartz and chlorite with minor amounts of calcite, chalcopyrite and magnetite crystals. The largest aggregate measures 2 by 3 feet. The quantity of chalcopyrite is insignificant."

Work/Type/Year:
No reports of work at this location have been found in the literature.

References:
Satterly, J. 1943, pg. 21.
Shklanka, R. 1969, pg. 216.
Thomson et al. 1957, pg. 2.

Name/Location:
Belmont; lot 20, conc. VI

Mineral Inventory Map No.:
5

NTS Ref:
31C/12

Commodity:
Base Metals: Stratiform sulphide mineralization, pyrite, pyrrhotite, chalcopyrite, sphalerite

Description of Deposit/Notes:
Bartlett et al (1980 pg. 93) describes this occurrence as a stratiform sulphide occurrence. The sulphides are in three stratiform zones in cherts and metawackes. The zones are within the upper parts of Cycles I, II and III. The cycles referred to are used by Bartlett et al (1980 pg. 92) to describe periods of volcanism in the area.

Work/Type/Year:
Diamond drilling, pits and trenches, sampling and testing.

References:
Bartlett et al. 1980, pg. 92-93.

Name/Location:
St. Croix Occurrence - Cavendish; lot 2 (S 1/2), conc. IX

Mineral Inventory Map No.:
6

NTS Ref:
31D/16

Commodity:
Base Metals: Pyrite

Description of Deposit/Notes:
Bright (1976 pg.124) describes the geology of this occurrence as follows: "Rusty zones and stratiform disseminated pyrite and pyrrhotite mineralization are present in the metavolcanics. The St. Croix Creek occurrence is one of several reported occurrences in a wide band of metavolcanics.

Work/Type/Year:
Mapping and several small trenches are the only work reported to have occurred on this property. The work was carried out in 1977 by K. Webster.

References:
Bright, E. G. 1976, pg. 122-126.

Name/Location:
Cavendish; lots 13 and 18, conc. XV-XVI

Mineral Inventory Map No.:
7

NTS Ref:
31D/16

Commodity:
Base Metals: Lead-Zinc

Description of Deposit/Notes:
The claim group is underlain by three rock types; siliceous marbles, granite and amphibole-rich metasediments. Rusty zones and stratiform disseminations of pyrite and pyrrhotite are thought to have the most favourable potential for base metal mineralization (Bright, 1981).

Work/Type/Year:
St. Joseph Explorations conducted an exploration program in 1979. Work consisted of linecutting, geological mapping, VLF and magnetometer surveys as well as diamond drilling (Cavendish Assessment File 79, 80).

References:
Bright, E. G. 1981, Map P.2420.
Ontario Geological Survey. 1983b.

Name/Location:
Union Creek Lead Mine - Galway; lot 20, conc. A

Mineral Inventory Map No.:
8

NTS Ref:
31D/9

Commodity:
Base Metals: Galena

Description of Deposit/Notes:
The mineralization is found in thin veins with barite and calcite. The main vein worked varys in width from 5 cm to 35 cm (Satterly, 1956 pg. 50).

The old workings of the mine consist of two shafts and an adit along a line 320 degrees. Adams (1894 pg. 14) reported that the main shaft is about 30 m deep with drifts of 21 m to the south and 24 m to the north.

Work/Type/Year:
In addition to the underground workings described above, a mill was built at the site. According to Uglow (1916 pg. 26) about 26 tons of ore were shipped in 1911. There are no further references to the type or amount of work done at this location.

References:
Adams, F. D. 1894, pg. 14-15.
Satterly, J. 1956, pg. 50.
Shklanka, R. 1969, pg. 216.
Thomson et al. 1952, pg. 9.
Uglow, W. L. 1916, pg. 26.

Name/Location:
Galway; lot 7, conc. I

Mineral Inventory Map No.:
9

NTS Ref:
31D/10

Commodity:
Base Metals: Pyrite, pyrrhotite

Description of Deposit/Notes:
This occurrence includes two openings, one in crystalline limestone, carrying a small quantity of pyrrhotite, and the other in a fine-grained gneiss, carrying some pyrite and a little pyrrhotite (Adams, 1894 pg. 12J).

Work/Type/Year:
Small pits were sunk to test for possible gold, silver and nickel mineralization. No significant values for metals were reported at this location (Adams, 1984 pg. 12J).

References:
Adams, F. D. 1894, pg. 12J.

Name/Location:
Galway; lot 12, conc. III; lots 11 and 15, conc. IV

Mineral Inventory Map No.:
10

NTS Ref:
31D/10

Commodity:
Base Metals: Pyrite, pyrrhotite

Description of Deposit/Notes:
The pyrrhotite on lot 12, conc. III is described as a compact, massive, pyrrhotite. On lot 15, conc. IV, work was done in rusty weathering gneiss, overlain by crystalline limestone. The geology of lot 11, conc IV, is described as highly quartzose gneiss, often garnetiferous, containing small quantities of disseminated pyrrhotite (Adams, 1894 pg. 12J).

Work/Type/Year:
No work is reported on lot 12, conc. III, or on lot 11, conc. IV. On lot 15, conc. IV, two small openings were put down on the property.

References:
Adams, F. D. 1894, pg. 12J, 38R.

Name/Location:
Reynolds Mine - Galway; lot 18, conc. IV

Mineral Inventory Map No.:
11

NTS Ref:
31D/9

Commodity:
Base Metals: Pyrrhotite

Description of Deposit/Notes:
A pit was sunk on a bed or vein of white quartz, from 1.2 m to 1.8 m thick, which is interstratified with fine-grained dioritic gneiss. Pyrrhotite mixed with pyrite occurs in bands in the quartz. The largest of these appearing at the surface is 10 cm wide, but expands in places so as to form pockets, while elsewhere the metallic minerals occur finely disseminated through the quartz (Adams, 1894 pg. 12J).

Work/Type/Year:
A pit 12 m by 2.5 m and 7 m deep was sunk on this property. A specimen of the pyrite and pyrrhotite was assayed and gave the following results: gold-none, silver-none, nickel-0.19% (Adams, 1894 pg. 12J).

References:
Adams, F. D. 1894, pg. 12J.

Name/Location:
Hopkins Mine - Galway; lot 17, conc. X. Flaherty Farm - Galway; lot 18, conc. IX.

Mineral Inventory Map No.:
12

NTS Ref:
31D/10

Commodity:
Base Metals: Galena

Description of Deposit/Notes:
The Hopkins mine is described by Satterly (1943 pg. 49): "A. Hopkins sank a shaft approximately 45 feet deep in 1906 on a pyrite-galena vein about 6 inches in width. Some galena was disseminated in the adjoining wall rock. No gold was present." On lot 18, conc. IX, a shaft, sunk in 1916, and small pits and trenches opened in 1941, were worked to expose a vertical fissure vein composed of white calcite. Galena was present in a narrow vein in the calcite. The results of the work did not indicate an economic deposit. Work was discontinued in 1943.

Work/Type/Year:
Shaft (shallow) 1916; trenches, pits, 1941.

References:
Easton, R. M. and Bartlett, J. R. 1984. OGS Map P.2699.
Satterly, J. 1943, pg. 49.
Shklanka, R. 1969, pg. 216.

Name/Location:
Galway; lot 1, conc. X

Mineral Inventory Map No.:
13

NTS Ref:
31D/10

Commodity:
Base Metals: Pyrite, pyrrhotite

Description of Deposit/Notes:
Adams (1894 pg. 10J) reported that a pit, 4.3 m deep, was sunk in a quartz vein cutting gneiss. The vein, 0.6 m in thickness, contained small amounts of calcite, pyrrhotite and pyrite. It is interesting to note that a sample assayed in Oregon showed the grade to be 30 oz. of gold/ton in addition to silver, nickel and copper. A subsequent assay of the same material, done by a Toronto geologist, returned no values for gold, silver or related metals.

Work/Type/Year:
Minimal work was done at this site apart from the above mentioned pit. Similar small workings for gold and metals are scattered throughout this area.

References:
Adams, F. D. 1894, pg. 10J.

Name/Location:
Galway; lots 5 and 6, conc. XIV

Mineral Inventory Map No.:
14

NTS Ref:
31D/15

Commodity:
Base Metals: Pyrrhotite, pyrite

Description of Deposit/Notes:
Pyrite and pyrrhotite in a rusty-weathering siliceous clastic metasediment.

Work/Type/Year:
None reported.

References:
Easton, R. M. and Bartlett, J. R. 1984. OGS Map P.2699.

Name/Location:
Galway; lot 16, conc. XIV

Mineral Inventory Map No.:
15

NTS Ref:
31D/15

Commodity:
Base Metals: Pyrrhotite

Description of Deposit/Notes:
A pit, 2.4 m deep, has been sunk on the line of contact between the crystalline limestone and the rusty weathering gneiss. The limestone, on a fresh surface, is light greyish and contains a considerable amount of pyrrhotite, with minor pyrite found in stringers several centimeters wide (Adams, 1894 pg. 11J).

Work/Type/Year:
A pit, 2.4 m deep, was sunk on this property. Some of the pure pyrrhotite was selected and assayed, giving the following results: gold-none, silver-none, nickel (with some cobalt-0.05%) (Adams, 1894 pg. 11J).

References:
Adams, F. D. 1894, pg. 11J, 39R.
Easton, R. M. and Bartlett, J. R. 1984. OGS Map P.2699.

Name/Location:
Galway; lot 15, conc. XV

Mineral Inventory Map No.:
16

NTS Ref:
31D/15

Commodity:
Base Metals: Pyrrhotite

Description of Deposit/Notes:
Field Mapping was done in dolomitic and dolomitic calcite marble and siliceous metasedimetary rocks near the eastern edge of a small clearing in this location. Pyrite and pyrrhotite were observed in the wall rock. The dominant sulphide mineralization appears to be only pyrite and nickel-poor pyrrhotite. Disseminated sulphide flakes in the calcitic marble may be arsenopyrite.

Work/Type/Year:
None reported.

References:
Easton, R. M. and Bartlett, J. R. 1984. OGS Map P.2699.

Name/Location:
Galway; lot 16, conc. XV

Mineral Inventory Map No.:
17

NTS Ref:
31D/15

Commodity:
Base Metals: Pyrite, pyrrhotite

Description of Deposit/Notes:
A pit has been sunk in a thick band of very rusty weathering gneiss which strikes northeasterly and dips about 30 degrees. This gneiss is associated with crystalline limestone which occupies the greater part of the lot. In this gneiss there are some bands containing a good deal of garnet as well as some composed of quartzite. All contain both pyrite and pyrrhotite, often in large amounts. Masses of these sulphides, especially of the latter, as much as 17.8 cm by 30.5 cm in size, are seen on the walls of the pit (Adams, 1894 pg. 11J).

Work/Type/Year:
A pit, 2.5 m deep, was sunk on this property. An assay gave the following results: gold-none, silver-none, nickel-faint trace (Adams, 1894 pg. 11J).

References:
Adams, F. D. 1894, pg. 11J.
Easton, R. M. and Bartlett, J. R. 1984. OGS Map P.2699.

Name/Location:
Galway; lots 10 and 11, conc. XVII, XVIII

Mineral Inventory Map No.:
18

NTS Ref:
31D/15

Commodity:
Base Metals: Pyrite, pyrrhotite

Description of Deposit/Notes:
A pit on lot 10, conc. XVIII, exposed massive unaltered sulphides, which underlie a gossan capping ranging in thickness from 0.3 m to 1.2 m, over an area 33.5 m in length and 15.2 m or more in width (Satterly, 1943 pg. 83). On lot 11, conc. XVIII, rusty gneiss and crystalline limestone is exposed, both holding pyrrhotite in small amount in the form of little grains and strings (Adams, 1894 pg. 12J).

Work/Type/Year:
One shallow pit was excavated on lot 10, conc. XVIII, by R. Hughes in 1929, but most of the workings were made under the direction of P.E. Hopkins late in 1929. This work is reported to have consisted of 35 pits excavated at 4.6 m intervals and a trench 15.2 m in length. The pits were from 0.9 m to 1.8 m deep (Satterly, 1943 pg. 82) and an opening has been made on lot 11, conc. XVIII (Adams, 1894 pg. 12J).

References:
Adams, F. D. 1894, pg. 12J.
Easton, R. M. and Bartlett, J. R. 1984. OGS Map P.2699.
Satterly, J. 1943, pg. 82-83.

Name/Location:
Harvey; lot 14, conc. XII; lot 17, conc. XII, lot 16, conc. XIII

Mineral Inventory Map No.:
19

NTS Ref:
31D/9

Commodity:
Base Metals: Sulphides; chalcopyrite, pyrite, pyrrhotite may include, associated calcite, epidote, garnet and actinolite.

Description of Deposit/Notes:
Four deposits are known: Number 1 deposit (lot 14, conc. XIII) consists of chalcopyrite and galena in late Precambrian porphyritic mafic metavolcanic rocks; number 2 deposit (lot 17, conc. XII) contains pyrite, chalcopyrite and sphalerite in northerly trending late Precambrian quartz rich schists and gneiss; the number 3 deposit (lot 16, conc. XIII) consists of arsenopyrite and chalcopyrite in northerly trending late Precambrian mafic metavolcanics including amphibolite, hornblende schist, and hornblende-biotite-garnet schist; and number 4 deposit (lot 17, conc. XII) consists of pyrite and sphalerite in late Precambrian calcite-tremolite-actinolite marble.

Work/Type/Year:
No extensive work is reported on these specific properties.

References:
Department of Energy, Mines and Resources. 1981, NMI Cards 31D/9
CU9-CU12.

Name/Location:
Methuen; lot 26, conc. IV

Mineral Inventory Map No.:
20

NTS Ref:
31C/12

Commodity:
Base Metals: Copper

Description of Deposit/Notes:
Hewitt, (1960a pg. 159) reported that small amounts of chalcopyrite and pyrite are reported in rusty gneiss in pits at this location. He also noted that some prospecting was carried out in concession 1, north of Trouting Bay on Tangamong Lake.

Work/Type/Year:
Pits; minimal work performed. Locally some prospecting.

References:
Hewitt, D. F. 1960a, pg. 159.

Gold

The exploration for gold in Peterborough County has been continuous since its first discovery in 1890 at the present-day Cordova Mines site. Numerous references to gold mining in this area may be found in the literature (Adams, 1894 pg. 79; Bartlett et al, 1980 pg. 92; Carter and Colvine, 1974 pg. 199-207; Satterly, 1943 pg. 37-40).

The gold deposit at Cordova Mines in Belmont Township has been the site of a number of development programs. Gold at this location has been extracted by underground mining, as well as, more recently, heap leaching methods. An estimated 23,000 oz. of gold have been extracted from this mine (W. Hood Personal Communication). The main underground production period was between 1892 and 1940. A heap leaching operation was established in 1979, to process reserves estimated to be 50,000 tons (grading 0.12 oz. per ton) of ore (Narain, 1979 pg. 201). Most recently, exploration in this area has been renewed by a Toronto-based mining company. A diamond-drilling program, and geophysical and geological surveys are expected to commence in the 1986 field season.

The present inventory documents four gold occurrences in Peterborough County. Apart from the production at Cordova Mines and, to a lesser extent, at the Ledyard Gold Mine, no development has been done on these showings.

In the early years of exploration, hundreds of test pits and trenches were put down on virtually every rock type in the area. A rusty surface on a quartz vein was often sufficient reason to dig a test pit. As more geological information became available (often as a result of discoveries at Cordova Mines) exploration strategies became more refined.

The major and most significant mode of occurrence of gold mineralization is discordant quartz and quartz-ankerite veins (Carter and Colvine, 1979 pg. 199-207).

At Cordova Mines, a series of shear zones striking east to southeast occur near the western margin of the Cordova gabbro intrusion. In some of the shear zones, gold mineralization in quartz and quartz-ankerite veins occurs and these comprise the principle deposits at this location.

The process responsible for the gold mineralization is believed to be epigenetic, related to intense igneous intrusive activity, and regional metamorphism (Carter and Colvine, 1979 pg. 199-207).

There is limited geological information which pertains to other gold occurrences in Peterborough County. However, the detailed studies performed on the Cordova gold deposits, as

well as other areas in the Grenville, have provided invaluable geological data and should be considered when developing exploration strategies.

Name:
Ledyard Gold Mine

Mineral Inventory Map No.:
21

Commodity:
Precious Metals: Gold

Accessory Minerals:
Pyrite, arsenopyrite

Rock Association:
The ore zone consists of quartz and pyrite with a small proportion of arsenopyrite and free gold.

Classification:
Gold bearing quartz veins in shear zones in metagabbro.

Location:
The Ledyard Gold Mine is located in Belmont Township on the east half of concession 1, lot 19, approximately 0.5 km south of Cordova Mines.

NTS Map No.:
31C/12

UTM Grid Coordinates:
443152 N, 774651 E

Access:
From Havelock, travel northeast on County Road 48 for 10.5 km to Freeman Corners, then north on County Road 48 for 7.6 km. Continue on this road for 2.0 km to Cordova Mines. The site is located 1.4 km south on access road.

Property Status:
Patented (Claim Map M.53). Zoning: extractive industrial (Bylaw 1977-25); extractive industrial, recreational (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The quartz vein striking east at the surface of the mine was 1.2 m to 1.8 m wide. At a depth of 14 m the vein is divided by a dyke, so that the walls are 3.7 m apart. At a depth of 30 m the crosscut showed the vein to be 5.5 m wide. The vein dips 40 degrees south. (Satterly, 1943 pg. 36). The free gold occurs more abundantly in the rotten honey-combed quartz and "gossan" on the surface (Adams, 1894 pg. 79a).

History:
This mine was operated between the years 1893 and 1896 by Ledyard Gold Mines Company Limited. They sank a 30 m shaft, did 9 m of drifting, 26 m of cross-cutting and installed a 2 ton per day mill. Between 1893-94, they milled 55 tons from which were recovered about 13 oz of gold for a recovered grade of about 0.24 oz Au/ton. The area is now under exploration by a number of companies. The work, detailed in the section on the Cordova Gold Mine, consists of geophysical surveys and geological mapping.

References Cited:
Adams, F. D. 1894, pg. 79a.
Satterly, J. 1943, pg. 36.

Additional References:
Carter, T. R. 1980, pg. 169-174.
Department of Energy, Mines and Resources. 1981, NMI Card 31C/12 AU16.
Gordon, J. B. 1979, pg. 38-39.
Guillet, G. R. 1983, pg. 47-48.
Ontario Bureau of Mines. 1893, pg 51.
Ontario Bureau of Mines. 1894, pg 234.
Ontario Bureau of Mines. 1895, pg 262.
Ontario Bureau of Mines. 1896, pg 58.

Name:
Cordova Gold Mine; Lasir Gold Mine

Mineral Inventory Map No.:
22

Commodity:
Precious Metals: Gold

Accessory Minerals:
Pyrite, arsenopyrite, chlorite, serpentine, sericite, quartz, apatite, silver

Rock Association:
The gold bearing vein materials occur in shear zones near the west margin of an intrusive body of gabbro. Crystalline limestone, paragneiss, conglomerate, and altered volcanic rocks are exposed to the west and north of the gabbro mass.

Classification:
Gold-bearing quartz-ankerite veins (in schistose metagabbro)

Location:
The Cordova Mines are situated in Belmont Township on concession I, lot 20 (east half), about 3.2 km northeast of Belmont Lake.

NTS Map No.:
31C/12

UTM Grid Coordinates:
443210 N, 774715 E

Access:
From Havelock, travel north on Highway 48 for 9.6 km to Freeman Corners. Continue north on Highway 48 for 8 km to the village of Cordova Mines. The mines are situated immediately south of this village.

Property Status:
Patented (Claim Map M.53). Zoning: environmental control, rural (Bylaw 1977-25); environmental control, extractive industrial (Official Plan).

Commodity Status:
Past Producer

Geological Description:
The diorite is a medium- to coarse-grained, usually massive rock composed of plagioclase (labradorite) and hornblende. In some places local differentiation is indicated by more felsic and mafic phases, such as (1) pegmatite including pegmatitic diorite, (2) highly feldspathic rock or anorthosite, and (3) aplite. The first two occur within the diorite, while the third cuts the diorite as dikes. Diamond drilling in the area of the mine indicated that the main diorite is cut by a later diorite similar to it in composition. A banding is found in the diorite and is interpreted as a primary structure due to differentiation. The diorite mass is, therefore, composite in nature.

A series of shear zones striking east to southeast occur near the western contact of the diorite. Where the diorite is cut by the shear zones, considerable alteration, partly to chlorite but mainly to biotite, is shown.

In some of the shear zones gold-bearing vein material occurs and constitutes the deposit of the Cordova Mine. A number of shear zones occur in the vicinity ofthe mine. The shearing in any one zone is commonly irregular, due to branching and contortion, but nevertheless is persistent along its strike. Underground work indicates that at least one of the shear zones is much less persistent on its dip than it is along its strike. The width of the individual shear zones ranges from between 0.3 to 12.2 m, averaging about 1.8 m. The shearing across any one zone may be uniformly developed, but in some cases certain shear planes seem to have taken up most of the movement and have become major shear planes or "mud slips".

The shear zones show some silicification and slight mineralization throughout much of their exposed lengths, but only three, or possibly two, are extensively developed underground, which contain workable ore bodies. The ore bodies developed from the west of No.1 shaft strike from 60 to 70 degrees and generally dip from 60 degrees to 70 degrees southeast, while in the vicinity of No. 3 shaft they strike 70 to 85 degrees and the average dip being about 65 degrees south. Many of the ore bodies in the vicinity of No. 1 shaft occur at, or close to, the intersection of two shear zones trending 280 and 65 degrees. The ore bodies also occur where there is contortion and variation within the shear zones, as in old stope areas near both No. 1 and No. 3 shafts. This irregularity may account for the wide ore bodies on the upper levels. Two types of vein material are recognized, only one of which is ore bearing. This type includes (1) replacement of the shear zones by vein material, (2) the development of a series or zone of closely spaced stringers or veinlets paralleling the planes of shearing, (3) the occurrence of veinlets in a more or less brecciated irregular replacement zone, and (4) the rarer occurrence of individual large lenses of massive vein material parallel with the shearing planes.

The vein matter exhibits a parallel banding, which is due to its emplacement along shear planes. This banding is not as evident in the more richly mineralized ore bodies as in the irregularly brecciated ore bodies containing much disseminated fine pyrite. Pyrite is the predominant metallic mineral, but pyrrhotite does occur. Pyrite may constitute as much as 50% of the ore in the better-grade ore bodies. The gold is apparently confined to the pyrite.

The second type of vein material, which occurs on the 9th level in the southeastern part of the mine, consists of lenses of carbonate and quartz mineralized with pyrrhotite.

The description above was provided by Satterly (1943 pg. 37-40). Drill Core is available for viewing at the Tweed drill core library.

History:
In 1890, H. T. Strickland discovered gold in this area. A syndicate, composed of Messrs. Carscallen, O'Neil, Strickland, and Burnhas, acquired the property and, in September 1891, began sinking the first three of several shafts through which the early development of the mine was carried out. From October 1892 to late in 1893 when it became idle, the property was under lease to the Moira Gold Mining Company of New York.

In 1897 an English firm, the Cordova Exploration Company, was granted a working option by A. W. Carscallen, who had by then acquired sole ownership of the property. A mining plant was erected and a 10-stamp mill put into operation. During the next 2 years considerable underground exploration was carried out, after which the company purchased the property. At that time development was being carried out in six shafts, Nos. 1, 2, 3, 6, 7 and 10,

but by 1901 all mining operations were being confined to shafts 1, 2 and 3, and an additional 10-stamp had been added to the mill.

In January, 1903, the Belmont Gold Mining Company, a subsidiary of the Cordova Exploration Company, took over the mine but operated for only a few months when the mine was closed. At that time the main workings consisted of No. 1 shaft sunk to a depth of 125.0 m, with 4 levels; No. 2 shaft, 310.9 m and east of No. 1, to a depth of 56.4 m, and No. 3 shaft, 392.3 m southeast of No. 1, to a depthof 99.1 m with a connection to the bottom level of No. 2 shaft (shafts Nos. 1, 2 and 3 are inclined at 67 degrees). Several additional shafts had been sunk: No. 4 shaft, little more than a deep prospect pit; No. 5 to a depth of 31.4 m; No. 6, 228.6 m northeast of No. 1, to a depth of 25.9 m; No. 7 (vertical), 129.5 m north of No. 1, to a depth of 24.4 m, and No. 10, 170.7 m east of No. 1 to a depth of 14.0 m (DEMR, 1983 NMi Card 31C/12 Au1). In 1911 Cordova Mines Limited purchased the property and operated it until fire destroyed the surface plant in 1917. During the years 1917 to 1930, two other operators treated an additional 41,722 tonnes and recovered 13,700 ounces of gold.

In 1933 Consolidated Mining and Smelting Company of Canada Limited pumped out and supplied the mine and in 1935 bought the property. Development included the deepening of No. 3 shaft to 305 m (inclined depth), with the establishment of several new levels; the sinking of a 2-compartment winze (No. 912) from the 9th or 304 m level, 50 m on the incline, to the 10th level; and several hundred meters of drifting, cross-cutting and underground diamond drilling. As a result of this work, a small orebody was blocked out in 1938 which justified the construction of a 110 tonne/day cyanide mill which was completed in 1939. Work on the property continued until July 1940. At this time all operations ceased. The company treated 30,000 tonnes of ore for a recovery of 0.1117 oz.of gold per ton ($4.50/ton at $38.50 per oz. of gold). In November 1963, Orvana Mines Limited acquired an option on the property and diamond drilling and sampling of the tailings dump was undertaken in 1965. This company last held the property in 1968.

In 1979 a small group of Havelock and Toronto businessmen began making on-site tests to perfect a cyanide heap-leaching process for treatment of gold ore and tailings. Experimentation on the mill tailings continued through 1980, the tailings reporting to assay as high as 0.303 ounces of gold per ton and the underground data indicating a minimum of 180,500 tonnes, including 23,000 tonnes of broken ore, grading between 0.12 and 0.25 ounces of gold per ton (Narain, 1980 pg. 130). According to Cominco files at the Ontario Geological Survey, the reserves remaining were reported to average 0.12 ounces au/ton with 42,000 tonnes proven, 45,500 tonnes probable and 91,000 tonnes possible ore outlined (Carter, 1979 pg. 201). The group of businessmen were members of the Cordova Gold Syndicate. One member, Walter H. Hood, purchased these claims from Cameron S. Belmont, Ontario and subsequently assigned the property to Laisir Gold Inc. After July 1980, 90 ounces of gold was produced using the heap-leachingtechnique.

In January 1983, Laisir announced that recent work had disclosed 63,500 tonnes at 0.1 oz/tonne Au in old tailings, plus 18,000 to 27,000 tonnes of lower grade material on the surface and at least 91,000 tonnes at 0.18 oz/tonne Au in the underground workings. In this same year the company entered a joint venture with Minetech Limited in which the latter undertook to build a plant to recover gold from the old tailings using cyanidation. Minetech expended about $250,000 before it went bankrupt. The whole tailings area was cleaned of grass, trees, roots, and stockpiling of some of the tailings was completed. Two large plastic-lined ponds and a tailings pond had been completed. The

mill building with 8 leach tanks, was erected, and 550 volt power was brought to the property. The access road to the tailings had been improved and the above facilities incorporated into the then current treatment plant (Narain and Burkart, 1984 pg. 286-287). Direct cyanide tests on old stamp mill tailings, carried out by the Ontario Research Foundation of Mississauga and Lakefield Research of Canada Limited of Lakefield, Ontario, achieved 75% gold recovery. In 1984, Silver Princess Resources Inc. optioned the property. The agreement, as reported in the Northern Miner Newspaper (July 19, 1984) was for three years. The company had planned to conduct underground geophysical and geochemical surveys as well as surface diamond drilling. Silver Princess Resources did not pursue the option.

A Toronto-based company is currently working south of the property and as of May 19, 1986 has conducted magnetic and VLF-EM surveys. The magnetic survey shows areas of high susceptibility close to the margins of the gabbro which underlies the major portion of the claim area. The VLF survey indicated anomalies related to the conductive overburden. These anomolies are thought to be the result of structural features in the intrusive. One noteable variance appears to be related to the numerous shear zones/structures which host the gold-bearing ores of the nearby Ledyard Gold property. A description of the Ledyard Mine is included in this report. Belmar Resources currently has plans to conduct a small drill program (366 m) in the 1986 field season.

References Cited:

Carter, T. R. and Colvine, A. C. 1979, pg. 201.
Department of Energy, Mines and Resources. 1983, NMI Card 31C/12 Au1.
Narain, M. and Burkart, J. 1984, pg. 286.
Narain, M. and Ghandikota, M. 1980, pg. 130.
Northern Miner. 1984, July 19.
Satterly, J. 1943, pg. 37-40.

Additional References:

Adams, F. D. 1894, pg. 79a, 158s.
Annual Reports, Geological Survey of Canada: Vol 6, 1892 -93 pg. 79 AA and 159 S; Vol 7, 1894 pg. 125S; Vol 12, 1899 pg. 128 A.
Annual Reports, Ontario Geological Survey: Vol 7, 1898 pg. 89; Vol 8, 1899 pg. 40,41; Vol 9, 1900 pg. 92,93; Vol 10, 1901 pg. 114; Vol 11, 1902, pt 1 pg. 188-192, 234-236; Vol 12, 1912, pt 1 pg. 9; Vol 23, 1914, pt. 1 pg 9,10; Vol 24, 1915, pt 1, pg. 157; Vol 25, 1916, pt 1, pg. 128; pt 2, pg. 15; Vol 26, 1917, pt 1, pg. 135; Vol 27, 1918, pt 1, pg. 133; Vol 43, 1934, pt 1, pg. 67; Vol 45, 1936, pt 1, pg. 96; Vol 46, 1937, pt 1 pg. 118; Vol 47, 1938, pt 1, pg. 107; Vol 48, 1939, pt 1, pg. 12,98; Vol 49, 1940, pt 1 pg. 104; Vol 50, 1941, pt 1, pg. 28,29.
Bartlett et al. 1980, pg. 92-95.
Carter, T. R. 1980, pg. 169-174.
Gordon et al. 1979, pg. 38.
Guillet, G. R. 1983, pg. 47.
Miller, W. G. 1902, pg. 188-192.
Sabina, A. P. 1969, pg. 137-138.

Name:
Harvey; conc. I, lot 5

Mineral Inventory Map No.:
23

Commodity:
Precious Metals: Gold

Accessory Minerals:
Pyrite

Rock Association:
The property is underlain by Late Precambrian schistose rock of the Grenville Structural Province. A body of quartz within this schistose rock contains gold (Miller, 1899 pg. 213).

Classification:
Schist enclosing quartz outcrop.

Location:
This occurrence is located in the southeast corner of concession I, lot 5, just north of Burleigh Falls, in Harvey Township.

NTS Map No.:
31D/09

UTM Grid Coordinates:
443357 N, 781240 E

Access:
The occurrence may be found just north of Burleigh Falls, off Highway 28.

Property Status:
Crown land (Claim Map M.101). Zoning: rural, residential (Bylaw 1979-9); recreational residential, hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
According to Miller (1899 pg. 213) gold assaying 0.1 oz/ton was found in an outcrop of quartz. The author also notes that quartz "in vein-like forms" has segregated out of the rocks. Mortons map (1983) indicates numerous sills and dikes of granite-granodiorite in lot 5 of concession I. The granite is presumably the host rock for the gold bearing quartz.

History:
Apart from the assay referred to above, there is no record of further work done at this site.

References Cited:
Miller, W. G. 1899 pg. 213.
Morton, R. L. 1983, OGS Map P.2475.

Additional References:
Gordon, J. B. 1979 pg. 47.
Ministry of Natural Resources. 1983, SMDR 002238.

Name/Location:
Chandos; conc. II (lot unknown)

Mineral Inventory Map No.:
Location uncertain. No number designation.

NTS Ref:
31C/13, 31D/16

Commodity:
Precious Metals: Gold

Description of Deposit/Notes:
Apart from A. P. Coleman's one sentence reference (1900 pg. 199) to gold in Chandos Township, no further references were found on this occurrence in the literature. The only other recorded occurrences in concession II are; uranium (lot 31), magnetite (lots 27, 28) and copper (lots 31, 32). A literature search on these occurrences did not document any references to gold mineralization.

Work/Type/Year:
No references were found to development work at this location.

References:
Coleman A. P. 1900, pg. 199.

Industrial Minerals

The present inventory identified over 50 occurrences of industrial minerals in Peterborough County. For the purposes of this report, industrial minerals were considered to include structural materials such as building stone and traprock.

There are currently two producers of industrial minerals: Indusmin and the 3M Corporation. Indusmin is the western world's largest producer of nepheline syenite used in the glass and ceramics industries. The 3M Corporation operates a year-round traprock operation. It is presently the sole producer of traprock for roofing granules in Canada. The plant is located 4 km east of Havelock in Belmont Township. Another traprock deposit, also located in Belmont Township, has undergone detailed testing and has been found to meet the specifications for use in road construction and roofing materials.

Deposits of calcite and dolomite occur in Burleigh and Belmont Townships. Extensive drilling, sampling and laboratory testing carried out on these properties indicated large tonnages of high purity carbonate. Calcite and dolomite are widely used in industry for fillers and extenders in paper, paints, flooring products, and rubber compounds.

A deposit of vermiculite has been identified through diamond drilling and sampling in Cavendish Township. The property of vermiculite that gives it commercial value is its unique capacity to expand many times its volume when heated. Expanded vermiculite is lightweight and has a low thermal conductivity. It is also chemically inert. These properties make it most suitable for thermal and acoustical insulation.

Other uses of vermiculite are in the construction industry. These include a vermiculite-gypsum plaster, precast structural panels and insulation, as well as uses in the cement industry. Further testing to assess the potential of this vermiculite deposit is required. A number of companies have recently expressed interest in developing this prospect.

Numerous occurrences of garnet and corundum are located in Methuen and Chandos Townships. The principle use of these minerals was in the abrasives industry. Synthetic abrasive products such as Carborundum have since replaced natural abrasives in the majority of industrial applications.

In southeastern Chandos Township, metamorphic mineral assemblages of sillimanite-corderite occur along a 1 km wide zone extending southwesterly from South Bay in Chandos Lake. Tonnages, grades and potential applications for this mineral

are not available since little exploration directed towards economic uses has been done. In industry, the major use of sillimanite and similar metamorphic minerals has been in the manufacture of refractories. These minerals retain strength properties and remain stable at high temperatures which is essential for this type of application. It has also been used as a constituent for refractory cements for oven linings and furnaces. Further exploration of this area is necessary to accurately access its economic significance.

Wollastonite is a calcium metasilicate commonly found in contact zones or skarn deposits. It is used by the ceramic industry as a constituent of glazes, in floor and wall tiles, porcelain, electrical insulators and as a filler and extender in paints and paper.

There are no defined occurrences of wollastonite in Peterborough County, however, the geologic conditions would appear favorable for its occurrence. Exploration for wollastonite should be concentrated on the contact aureoles of granite plutons such as the Loon Lake Pluton in Chandos, as well as skarn deposits along major metamorphic contacts. Since little, if any exploration for wollastonite has been done in this area, numerous opportunities for new discoveries exist.

Name:
Parks Occurrence

Mineral Inventory Map No.:
24

Commodity:
Industrial Minerals: Graphite

Accessory Minerals:
Quartz-feldspar, tourmaline

Rock Association:
Pegmatite dikes composed of quartz and feldspar contain disseminations of graphite. The pegmatite dikes are numerous and crosscut the Precambrian marble which is the country rock in this area.

Classification:
Graphite-bearing pegmatite dike.

Location:
This occurrence is located at the southern end of concession I, lot 38, in the township of Anstruther.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444600 N, 780400 E

Access:
From the town of Apsley, travel 2 km east on secondary highway 504. The site is located 0.4 km north of road 504 and about 0.4 km east of Apsley Lake.

Property Status:
Patented, surface and mining rights (Claim Map M.45). Zoning: rural (Bylaw 2-1979); rural and forest area, hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Adams and Barlow (1910 pg. 370) describe this occurrence as follows: "The lot is underlain by crystalline limestone, which is cut by a series of great pegmatite dikes. These are composed of quartz-feldspar, together with some tourmaline. In one of these the graphite is found. The mineral occurs disseminated in thin films of scales through the vein, associated in some cases with a pale yellow mineral, which occurs in groups of bladed crystals, often radially arranged. The original character of the mineral has not been determined, as it is now in a highly altered condition. The graphite frequently occurs enclosed in or enveloping this yellow mineral, but it is also found in the other constituents of the vein, and is sometimes found filling what are evidently lines of fractural traversing the rock." This granite-bearing dike is about 11 m wide.

History:
Satterly (1943 pg. 43) writes that, in 1890, a 10.6 m shaft was sunk on the pegmatite dike. He also reported that dump material showed very little

disseminated graphite and that the site had little economic significance.

References Cited:
Adams, F. D. and Barlow, A. E. 1910, pg. 370.
Satterly, J. 1943, pg. 43.

Additional References:
Martin W. 1983, pg 131.
Ontario Geological Survey. 1984a.

Name:
Crowe River Traprock

Mineral Inventory Map No.:
25

Commodity:
Industrial Minerals: Traprock

Accessory Minerals:
Very minor pyroxene.

Rock Association:
The deposit is located within the Cordova gabbro intrusion which is primarily medium-to coarse-grained metagabbro. The occurrence is located on the western margin of the intrusion near the contact with the Belmont metavolcanic unit.

Classification:
Medium-grained metagabbro.

Location:
This deposit occupies portions of concession 1, lots 13 and 14, Belmont Township, on the east side of the Crowe River north of Crowe Lake.

NTS Map No.:
31C/12

UTM Grid Coordinates:
443020 N, 774720 E

Access:
From Havelock, travel east on Highway 7 for 8 km to County Road 48. Proceed north on County Road 48 for approximately 6 km. The deposit is located approximately 1.1 km east of this point. A number of bush roads access the area.

Property Status:
Patented (Claim Map M.53). Zoning: extractive industrial (Bylaw 1977-25); extractive industrial (Official Plan).

Commodity Status:
Occurrence

Geological Description:
This deposit is located on the western margin of the Cordova gabbro. Bartlett et al (1980 pg. 92) describes the Cordova gabbro intrusion as medium- to coarse- to locally very coarse-grained metagabbro. The rock consists mainly of amphibole and plagioclase with very minor relict pyroxene. A number of physical tests were done on this material with the following results as reported by Guillet (1983 pg. 144): magnesium sulphate soundness, % loss 1.5; absorption percent 0.36; Los Angeles abrasion, % loss 11.5; bulk specific gravity 3.038. The test results indicate that the rock meets the specifications for hot mix asphalt aggregate. The traprock also meets the requirements for roofing granules (dye acceptance, particle size) (C. R. Young, personal communication, 1986).

History:
Geological surveys, diamond drilling, sampling and testing have been carried

out on this property by C. R. Young of Havelock.

References Cited:
Bartlett et al. 1980 pg. 96.
Guillet, G. R. 1983 pg. 144.

Additional References:
Carter, T. R. 1980, pg. 169-174.

Name:
3M Corporation

Mineral Inventory Map No.:
26

Commodity:
Industrial Minerals: Traprock

Accessory Minerals:
Epidote, chlorite, massive calcite, hematite, quartz

Rock Association:
The deposit is located within a large mass of altered (chloritized and epidotized) basalt near the contact with the intrusion and Paleozoic limestone. The intrusive rocks, according to Bartlett (1980 pg. 94) represent a fourth phase, or cycle, of volcanic activity.

Classification:
Mafic and intermediate metavolcanics.

Location:
The area under license includes part of the west half of lot 8, concession IV, lots 6, 7, and 8, concession V; the southeast quarter of lots 7 and 8, the east half and part of the west half of lot 6, concession VI, Belmont Township.

NTS Map No.:
31C/5

UTM Grid Coordinates:
442630 N, 774912 E

Access:
From Havelock, travel east on Highway 7 for 6.4 km. The main entrance to the plant is from Highway 7.

Property Status:
Patented (Claim Map M.53). Zoning: extractive industrial (M2) (Bylaw 1977-25); extractive industrial (Official Plan).

Commodity Status:
Active Producer

Geological Description:
Guillet (1983 pg.141) describes the geology as follows: "The quarry is in fine-grained metagabbro with the rock being a uniform, dense, hard, green massive stone that tends to break into equidimensional (cubic) fragments. The stone is practically free of sulphide minerals". Bartlett et al (1980 pg. 94) also described the geology of this area as follows: "mafic and intermediate metavolcanics which likely represent a fourth volcanic cycle, are exposed...The westernmost rocks of this cycle are typically amygaloidal and/or plagioclase-phyric mafic flows."

Minor slabby or soft slips and sulphide zones are wasted, but the rest is crushed and screened to produce a granule in the -10 to +35 mesh range, the principle size demanded by the roofing granule market. Some of the finer product is sold for asphalt filler in the -60 to +200 mesh range (Guillet, 1983 pg. 142)

The crushed material has characteristics which allow for the absorption of colour dyes and the adherence of the ceramic coating which is based on a sodium silicate composition. The material can be baked to 950 degrees celsius without decrepitation. The ability of the rock and coating to withstand relatively high temperatures without decrepitation is critical for this type of application.

History:
The original mill was started by Ontario Rock Limited in 1907 to produce limestone aggregates for road surfacing. In 1948, Building Products Canada Limited took over the operations and built a coloring plant to produce artificially colored roofing granules. In 1960 the operation was purchased by 3M Canada Incorporated. As a result of fire a new mill was constructed in 1961. In 1978, limited diamond drilling was done. Major additions were made to the new mill in 1979 which increased the crushing and screening capacity by 50 percent. Modifications were also made to the colouring plant which increased mixing capacity by 30 percent. About 1600 tonnes of rock are quarried daily. The finished daily output is approximately 1000 tonnes. The company is the only Canadian supplier of roofing granules and traprock aggregate. A small amount is exported to Belgium and France (Narain and Burkart, 1984 pg. 286).

References Cited:
Bartlett et al. 1980 pg. 92-94.
Goudge, M. F. 1938, pg. 151.
Guillet, G. R. 1983, pg. 141-144.
Narain, M. and Burkart, J. 1984, pg. 286.

Additional References:
Sabina, A. 1970, pg. 142.

Name:
Round Lake Dolomite Property

Mineral Inventory Map No.:
27

Commodity:
Industrial Minerals: Marble

Accessory Minerals:
None reported.

Rock Association:
The occurrence is located within a north trending belt of carbonate metasediments with mafic and intermediate flows to the east and siliceous metasediments in a north trending zone to the west.

Classification:
Marble: Dolomitic.

Location:
The Round Lake Dolomite Property is located within concession VI, lot 23, in Belmont Township.

NTS Map No.:
31C/12

UTM Grid Coordinates:
443150 N, 775150 E

Access:
From Havelock, travel north on County Road 44 for 4.8 km to County Road 46. Continue on County Road 46 for 2.0 km then south on Concession Road 7 to the hamlet of Round Lake. The occurrence site is located approximately 2.0 km east of the hamlet of Round Lake. Access from this point is by bush road.

Property Status:
East half, patented surface rights only, west half leased mining rights (Claim Map M.53). Zoning: special district 1 (Bylaw 1977-25); rural, recreational (Official Plan).

Commodity Status:
Prospect

Geological Description:
The deposit is located within a north-northeast trending dolomitic marble unit which pinches out approximately 4 km north of the northeast end of Round Lake. This marble unit overlies rusty mudstone consisting of cummingtonite +/- garnet +/- magnetite. Overlying the dolomite unit are thin mafic to intermediate, massive flows and the Cycle III mafic metavolcanics (Bartlett et al, 1980 pg. 93).

History:
During the years 1976 to 1980, diamond drilling was done on this deposit. Six drill holes were put down and test results indicated the dolomite to be of high purity. This material has potential uses in aggregate and chemical industries.

References Cited:

Bartlett et al. 1980, pg. 93.

Name:
Belmont Calcite (Whitney) Property

Mineral Inventory Map No.:
28

Commodity:
Industrial Minerals: Marble

Accessory Minerals:
Quartz, mica, diopside, tremolite, iron sulphide

Rock Association:
The marble unit consists of calcitic and dolomitic sections. It overlies metavolcanics of the Belmont metavolcanic group.

Classification:
Calcitic marble.

Location:
The main area of exploration lies in Belmont Township on the north half of concession VI, lot 31, 5 km south of the town of Oak Lake.

NTS Map No.:
31C/12

UTM Grid Coordinates:
~~4489495~~ N, ~~[redacted]~~ E
4939001 270600 Zone 18

Access:
From Havelock, travel north on County Road 44 for 10.9 km. Travel east on County Road 46 for 7.6 km. The site is located 1.4 km east of County Road 46.

Property Status:
Patented, surface rights only; leased, mining rights only EO 28496 (Claim Map M.53). Zoning: extractive industrial zone (M2) (Bylaw 1977-25) ; extractive industrial, recreational residential (Official Plan).

Commodity Status:
Prospect

Geological Description:
Narain and Ghadikota (1980 pg. 129-130) describe the geology of this area as follows: the Northumberland Mines Limited property "is underlain by white, pink and grey Grenville marble. Diopside and tremolite are present in some places, but there are wide bands of high purity marble. A narrow amphibolite dike containing traces of chalcopyrite was seen cutting across the marble beds." The deposit is estimated to be more than 300 m wide.

Mineralogy: Quartz, mica, diopside, tremolite and iron sulphides are the principal impurities, irregularly distributed. Some bands of the marble are of high purity (Guillet, 1983 pg. 82).

Drill core available for viewing at the Tweed drill core library.

History:
Hewitt (1964d) reported that "Bonter Marble Company has quarried white fine crystalline Grenville marble on lot 31, concesssion 6." This is presumably

the small quarry referred to on the National Mineral Inventory Record (31C/2, STN 1). In 1975 the ground was acquired through optioning and staking by Northumberland Mines Limited, who in turn had optioned the property from J. D. Cumming and C. R. Young of Havelock, Ontario. Detailed geological mapping and metallurgical testing was carried out by Northumberland. Records indicated that the No. 1 showing received most of the exploration. Six diamond drill holes were completed indicating the No. 1 zone to be at least 240 m long by 61 m wide and to extend to at least 61 m down dip. Recoverable open pit reserves in the No. 1 zone, to a depth of 61 m, were calculated at 1,100,000 tonnes averaging 93.24% CaCo3. The No. 2 zone is located about 0.4 km to the southwest of the No. 1 zone. The white calcium carbonate here is exposed over an area of 183 by 91 m. A bulk sample of 18 tonnes was tested and it was indicated that a high quality brightness calcium carbonate could be produced. The product could be used for landscape stone, pre-cast concrete filler and plastics, paint and paper fillers.

In 1977, Engelhard Minerals and Chemicals Corporation of the U.S.A., through its subsidiary with Canadian White Pigments Corporation, optioned the ground. The option was dropped after diamond drilling 15 holes, totalling 1227.4 m. During1979, the property was optioned by Preussag Canada who conducted a diamond drilling program (823 m). In 1980, Northumberland mines optioned the property to Arriscraft Limited. Geological surveys and limited drilling was done during the period of 1980 to 1983. The property is currently of interest to a number of companies. Tentative plans call for more testing and diamond drilling (F. Lovett, Personal Communication, 1986).

References Cited:

Department of Energy, Mines and Resources. 1981, NMI Card 31C/12, STN 1.
Guillet, G. R. 1983, pg. 82.
Hewitt, D. F. 1964d, p~. 19.
Narain, M. and Ghadikota, M. 1980, pg. 129-130.

Name:
Eels Creek

Mineral Inventory Map No.:
29

Commodity:
Industrial Minerals: Marble

Accessory Minerals:
Mica, quartz, pyrite

Rock Association:
The rocks at this location are part of the Mayo Group carbonates of the Jack Lake basin in eastern Burleigh and northwestern Methuen Townships.

Classification:
Mayo Group carbonates.

Location:
The deposit is located in the east half of concession VIII, lot 3, Burleigh Township, approximately 38.5 km northeast of the city of Peterborough.

NTS Map No.:
31D/9

UTM Grid Coordinates:
443500 N, 780407 E

Access:
From Burleigh Falls, travel north on Highway 28 for 8.5 km to the junction of the 5th Concession Road of Burleigh Township. Proceed south for 5 km to the junction of the Youngs Bay road. Proceed east on this road for 3 km to its terminus at Eels Creek.

Property Status:
Patented, surface and mining rights (Claim Map M 62) Zoning: recreational residential (Bylaw 32-1982); rural and forest area, hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The deposit lies in the previously mentioned marble belt in the area of Eels Creek. A ridge is formed which trends in a north-south direction. This ridge measures 365 m in length, 12 m in width, and rises 12 m above the lake. The marble is a semi-translucent white and blue-white color having bands of brown mica flakes giving it a dirty appearance.

A short distance east of the ridge, gneissic granite intrudes into the marble as thin dykes.

To the west of Eels Creek the marble seems very micaeous and impure. The micaceous bands throughout the deposit strike north and dip between 14 to 40degrees west (Goudge, 1938 p. 152).

To the east and northeast of this marble unit, C. R. Young of Havelock put

down two drill holes (1983, 1984). The drill program successfully delineated three distinct zones. The west zone consists of white, high purity calcium; the intermediate zone is a micaceous-calcitic gneiss with 1 to 2 m parallel bands of white high purity calcium; the east zone consists of white to grey calcium with +/- 20 % biotite and some parallel bands of hornblende gneiss. A number of companies have shown interest in this property (C. R. Young, Personal Communication, 1986). The processed calcium carbonate would have use as a filler and extender in paints and paper as well as a number of specialized applications.

History:
The development work at this location is listed above.

References Cited:
Goudge, M. F. 1938, pg. 152.

Name:
Davis Limestone Property

Mineral Inventory Map No.:
30

Commodity:
Industrial Minerals: Marble

Accessory Minerals:
Siliceous impurities present in varying amounts: diopside, tremolite quartz and pyrite, phlogopite.

Rock Association:
The rocks at this location are associated with the Mayo Group Carbonates of the Jack Lake Basin.

Classification:
White-grey, medium- to coarse-grained calcitic marble.

Location:
This prospect is located in Burleigh Township on concession X, lot 9. The property is wholly within the borders of the Petroglyphs Provincial Park.

NTS Map No.:
31D/9

UTM Grid Coordinates:
443700 N, 780300 E

Access:
From Lakefield, travel north on Highway 28 for approximately 3 km to County Road 6, then east on this road for 32 km. Turn left onto road which leads into Petroglyphs Provincial Park and travel 4.5 km along this road. The site is located 0.3 km west of this road.

Property Status:
Withdrawn from staking 7/2/72 (Claim Map M.62). Zoning: rural (Bylaw 32-1982); rural and forest areas, hazard land (Official Plan); Provincial Park designation.

Commodity Status:
Prospect

Geological Description:
This marble is high calcium (averaging over 93% $CaCo_3$ and less than 1% $MgCo_3$), but only 3 percent of the claim area contains quality marble (Guillet, 1958 MNR Burleigh Assessment File 5).

Drill core available for viewing at Bancroft Drill Core Library.

History:
Between 1954 and 1958 stripping, trenching, sampling and detailed geological mapping, done by Industrial Minerals of Canada Limited, took place on a Grenville marble occurrence on Claim EO 18498. In 1967, L. V. Lomas Chemical Company carried out a drilling program consisting of 16 holes. An additional 3 holes were put down in 1970 by the same company. The exploration programs were conducted to delinate high purity zones of marble for use in filler

applications. The marble was found to contain excessive quantities of siliceous impurities (mica, quartz) and did not warrant further exploration. Reserves on the claim are an estimated 45,500 tonnes less a 20% waste factor (Guillet, 1958 MNR Burleigh Assessment File 5). The area has since been designated a Provincial Park (Petroglyphs) and extractive uses are not permitted.

References Cited:

Guillet, G. R. 1958, MNR Assessment File 5, Burleigh Township.

Additional References:

Martin, W. 1983, pg. 172.
Ontario Geological Survey. 1984b.

Name:
R. A. Hill

Mineral Inventory Map No.:
31

Commodity:
Industrial Minerals: Marble

Accessory Minerals:
Siliceous impurities present in varying amounts; may include diopside, tremolite, quartz, phlogopite, pyrite.

Rock Association:
The rocks are associated with the Mayo Group carbonates which are structurally confined to the Jack Lake carbonate basin, a cross-folded southwest plunging synclinorium (Bright, 1980 pg. 67).

Classification:
White-grey, medium- to coarse-grained calcitic marble.

Location:
This prospect is located on concession XI, the east half of lot 10, in Burleigh Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
443800 N, 780500 E

Access:
From Lakefield, travel north for approximately 3 km to County Road 6, then east on this road for about 32 km. Turn left onto road which leads into Petroglyphs Provincial Park and travel 3.5 km along this road. The site is located 0.5 km east on this road.

Property Status:
Withdrawn from staking. Zoning: wilderness, hazard land (Bylaw 32-1982); rural and forest areas, hazard land (Official Plan).

Commodity Status:
Prospect

Geological Description:
Records indicate that diamond drilling took place at this location in the years 1966, 1967 and 1970. The results of the drilling are unknown. The rock is presumably of the same unit as described by Guillet (1958 MNR Burleigh Assessment File 5), on page of this report, for the Davis occurrence.

History:
Between October 1966 and June 1970, R. A. Hill put down 3 diamond drill holes totalling 251.6 m (MNR Assessment Files 10-12). The claims were withdrawn from staking by the Ontario Government in 1972. The area is designated as a Provincial Park and as such no mining activity is permitted.

References Cited:
Bright, E. G. 1980, pg. 68.

Guillet, G. R. 1958, MNR Assessment File 5, Burleigh Township.

Additional References:

Martin, W. 1983, pg. 172-173.
Ontario Geological Survey. 1984b.

Name:
Goshawk Mines Prospect

Mineral Inventory Map No.:
32

Commodity:
Industrial Minerals: Vermiculite

Accessory Minerals:
Biotite, amphibolite

Rock Association:
The deposit, hosted in marble, consists of disseminated phlogopite mica which has been altered to vermiculite. In some areas, the vermiculite is concentrated in a mica schist. The marble unit is bordered on the south part of the claims by the Anstruther granite gneiss body.

Classification:
Vermiculite in mica schist along alteration zone of marble and granite gneiss.

Location:
This Goshawk prospect is located in Cavendish Township within concessions III, and IV, lots 19 to 23.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444352 N, 781757 E

Access:
The property is located approximately 56 km north of Peterborough. Highway 507 provides the main access to within 3 km of the west boundary of the property. A series of cottage roads bisect the claim group.

Property Status:
EO 460128, 38132, 38133, 38134, 38139, 38140, 38141, 38142, 463848, 463849 leased (Claim Map M.72). Zoning: wilderness, hazard land, recreational residential (Bylaw 78-43); recreational dwelling area, aggregate and mining protection, rural and forest area (Official Plan)

Commodity Status:
Prospect

Geological Description:
The following description is from Archibald (1976 pg. 4), "The claim group is mainly underlain by Grenville limestone which has been altered to a marble. Areas can be seen in this marble with disseminated flakes of amber mica which has been altered to vermiculite.

In some areas, the vermiculite is heavily concentrated in a mica schist, locally striking approximately east-west.

On the south part of the claim group is the Anstruther granite batholith in the form of granite gneiss. Bordering this mass is a band of dark paragneiss which has been altered to biotite schist and amphibolite.

Narrow lenses of amphibolite are also found within the marble.

The limestones occur as a series of east-west trending ridges with steep north faces and gentle south dipping slopes. Bedding varies from 30 degrees to very flat south dipping.

In areas of vermiculite-rich limestone, the tops of the ridges generally appear to be capped by harder, vermiculite-poor limestone which has protected the softer vermiculite-rich limestone from erosion. A few localized outcrops showan estimated ten to thirty percent vermiculite.

Vermiculite is prevalent in the top soil over large areas and these areas are in many places underlain by vermiculitized limestones".

Depending upon the sieve size and bulk density of the expanded vermiculite product, vermiculite may be used for insulation filler, agricultural uses, paint extenders, and lightweight concrete aggregate. Preliminary tests indicated that the material does not absorb water, rendering it unusable for agricultural uses. Due to its non-absorption properties and fine grain size, the product would be better suited for filler and extender purposes.

The company also holds leased claims in lots 13 and 17, concession 2. The vermiculite occurs as concentrations of small flakes in lenses and seams which are confined to a narrow band (approximately 3-4 m wide). Further exploration and testing is required to accurately assess the economic potential of the vermiculite at this location.

History:
The showings were first staked in 1950 by Harvey G. Greene and, by 1962, he held 39 claims. By 1962, he had carried out an extensive program of test pitting, and rapid development of cottage land provided ample access to his holdings. The best vermiculite exposures were excavations along the cottage roads particularly in the south halves of lots 23 and 25, concession IV, containing the "A" zone. Other showings occur in the south half of lot 22, concession IV (zone "C") and the northwest corner of concession II, lot 14 (zone "D"). The showing in lot 14, was exposed in bulldozer trenches. The showings (zone "B") in lots 22 and 23 occurred along the main cottage road which runs eastward from the highway through the narrow strip of land that divides Lakes Catchacoma and Mississagua. A narrower private road running north from the main one about 300 m east of the Mississagua River bridge provided access to the showing in lot 25. The occurrence was probably acquired in 1976 from Ruth Greene of Peterborough by Kebrew Holings Inc. of Toronto, Ontario. The property was subsequently acquired by Goshawk Mines Limited. They carried out auger sampling and a large surface trench was cut, from which 2 large bulk samples were shipped to Vermiculite of Canada and the Ontario Research Foundation.

In 1977, Goshawk changed its name to Insulite Development Corporation Inc. Since 1977, surveys for assessment purposes have been the only work done at this site. However, there has been interest expressed by a number of companies indeveloping the property further (John Tokarsky, 1986 Personal Communication).

References Cited:
Archibald, C. W. 1976, Qualifying Report on Cavendish Property for Goshawk Mines Limited, June 25.
Department of Energy, Mines and Resources. 1981, NMI Card

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Additional References:
Guillet, G. R. 1962, pg. 14-19.
Hoadley, J. W. 1960, pg. 95, pg. 98.
Martin, W. 1983, pg. 291-292.
Mineral Policy Sector, Corporation Files: "Insulite Development Corporation Inc."

Name:
Galloway (Deer) Lake

Mineral Inventory Map No.:
33

Commodity:
Industrial Minerals: Marble

Accessory Minerals:
Siliceous impurities present in varying amounts may include diopside, biotite, tremolite, quartz and graphite.

Rock Association:
The marbles in this area are part of the Mayo Group as described by Hewitt and James (1955 pg. 23-30). The Mayo Group is a predominantly carbonate-rich sedimentary sequence which conformably overlies the clastic and calcareous metasediments of the Hermon Group.

Classification:
Mayo Group carbonates; siliceous marble.

Location:
The body of marble is located on the shores of the western half of Deer Lake on concession XIII and XIV of the Township of Cavendish.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444900 N, 782300 E

Access:
From Lakefield, travel north on Highway 28 for 17.8 km to Highway 36, then west on Highway 36 for 15.2 km to Highway 507. Travel north on Highway 507 for 24.6 km. Access to the west side of the lake is by cottage road.

Property Status:
Concession XIV, lots 13 and 14 - patented (Claim Map M.72), concession XIII, lots 13 and 14 - crown land with south half of lot 14 patented for surface rights only (Claim Map M.72). Zoning: rural, wilderness, recreation recreational residential (Bylaw 78-43); recreation dwelling area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
This body of marble is described by Adams and Barlow (1910 pg. 195): "The exposures are very extensive, especially about the northern end of the lake, where the rock has a well-bedded appearance, striking 10-15 degrees, the beds being nearly vertical."

The observations recorded by Adams and Barlow (1910 pg. 195) are supported by field work done by Bright (1979 pg. 110-117). The author found that the area on the west and north borders of the lake is underlain by carbonate metasediments which are part of a north-northeast complexly folded carbonate unit. Metavolcanics and intercalated metasediments are in contact with this

unit immediately west of Galloway Lake. Both units are within the Harvey-Cardiff tectonic arch and form synclinal belts around and between the Burleigh and Anstruther plutons.

History:
No references to development activity in this marble belt were documented.

References Cited:
Adams, F. D. and Barlow, A. E. 1910, pg. 195.
Hewitt, D. F. and James, W. 1955, pg. 23-30.

Additional References:
Martin, W. 1983, pg. 125.
Ontario Geological Survey. 1983b.

Name:
Harvey; conc. IX, lot 12

Mineral Inventory Map No.:
34

Commodity:
Industrial Minerals: Limestone

Accessory Minerals:
None reported.

Rock Association:
Paleozoic outlier represented by Bobcaygeon Formation.

Classification:
Limestone: exposed upper section of Bobcaygeon Formation: bioclastic limestone, nodular limestone. Limestone-upper sequence (Bobcaygeon) fossiliferous.

Location:
The quarry is located on concession IX, lot 12 in Harvey Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
443400 N, 782200 E

Access:
From Buckhorn, travel west on road which leads to Sandy Point Bay for 1.75 km to road which accesses Big Bald Lake. Proceed north on this road for 1.65 km. The quarry is located 150 m east of this road.

Property Status:
North half patented for surface rights, south half patented (Claim Map M.101). Zoning: extractive industrial (Bylaw 1985-94); rural (Official Plan).

Commodity Status:
Past Producer

Geological Description:
The quarry is located at the contact of the Paleozoic rocks of Middle Ordovician age and the Burleigh Gneiss Complex (Pre-Grenville and Grenville Supergroup Ages). The following is taken from Carson (1981 pg. 8-14). The upper unit (Bobcaygeon Formation) is variable in composition ranging from pale to medium brown, fine- to medium-grained bioclastic limestone. The overall thickness is approximately 25 m. In the immediate area of the quarry, only the upper meter is exposed. The Bobcaygeon Formation overlies the Gull River and Shadow Lake formations. The Gull River formation is the dominant stratigraphic unit exposed and is estimated to be 8+/- meters in thickness. It consists primarily of grey to brownish, lithographic to sublithographic limestone in beds 20 to 30 cm in thickness.

History:
About 17,000 tonnes of limestone reportedly were produced from this quarry presumably for road aggregate and fill (Martin, 1983 pg. 158).

References Cited:

Carson, D.M. 1981, pg. 6-14, 21.

Name:
Galway Township

Mineral Inventory Map No.:
35

Commodity:
Industrial Minerals: Diabase (Traprock)

Accessory Minerals:
None reported.

Rock Association:
The diabase intrudes the crystalline limestone and interbanded gneiss which are the regional country rocks.

Classification:
Early mafic intrusive; metagabbro-diabase.

Location:
This occurrence is located in Galway Township approximately 8 km south of the town of Kinmount.

NTS Map No.:
31D/9, 31D/10, 31D/15, 31D/16

UTM Grid Coordinates:
444700 N, 783900 E (Reference point in the town of Kinmount).

Access:
From the town of Kinmount, on the northern border of Somerville and Galway Townships, travel south on Highway 121 for 7.1 km. The occurrence may be found approximately 1 to 2 km east of the highway.

Property Status:
Patented (Claim Map M.94). Zoning: rural (Bylaw 1978-43); rural (Official Plan).

Commodity Status:
Occurrence

Geological Description:
In the central and westerly portion of Galway Township a large area of crystalline limestone, which is interstratified with bands of gneiss, amphibolite and quartzite, is developed. The strike of these limestones is 210 degrees with a dip of 30 degrees southeast. They frequently contain bands of bluish-black, partially altered, limestones, and limestone- conglomerates occur about the centre of the west line of Galway. About 8 km south of Kinmount, a trap dike, striking north and south, cuts the crystalline limestone and interbanded gneiss, and, in several other places in Galway, small outcroppings of volcanic rocks were seen. The limestone is also intruded by numerous granite and pegmatite dikes (Johnston, 1905 pg. 93). There is no information given on the size and extent of this dike. Hewitt and Satterly (1957) identified a gabbro body in this location which measures approximately 2 to 3 km in length and 0.5 to 1 km in width.

History:
There are no reports of work having been done at this site specifically or in

other areas of this intrusive. Given the relatively small size of this body, the potential for development of a major quarrying operation is questionable. There may be potential for a small scale "on demand" use for aggregate in local road construction. Further investigation is required to assess the potential of this deposit.

References Cited:

Hewitt, D. F. and Satterly, J. 1957, OGS Map 1957b.
Johnston, W. A. 1905, pg. 93.

Name:
Canada Cement Company Limited

Mineral Inventory Map No.:
36

Commodity:
Industrial Minerals: Limestone

Accessory Minerals:
None reported.

Rock Association:
The limestone exposed in the quarry represents approximately 13 m of the middle part of the Verulam Formation. Refer to the general geology section of this report for a detailed description of Paleozoic formations.

Classification:
Paleozoic Limestone: Verulam Formation.

Location:
The quarry is located in concession VII, lot 16, Douro Township, immediately southeast of the village of Lakefield.

NTS Map No.:
31D/8

UTM Grid Coordinates:
442400 N, 781600 E

Access:
From Lakefield, proceed north on Highway 28 for 3.0 km. Turn right (east) and travel 2.2 km. Turn right and proceed 0.1 km to quarry.

Property Status:
Patented. Zoning: agricultural, extractive industrial (Bylaw 1974-10); extractive industrial (Official Plan).

Commodity Status:
Past Producer

Geological Description:
Goudge (1938 pg. 148) describes this quarry as follows: "It is of the side-hill type and is opened along the side of a low escarpment facing northwest and trending N75E. The present face is 400 yards long and attains in places a height of 40 feet which will be increased somewhat as the quarry is worked farther into the hill. Only a few inches of soil cover the limestone, which is thinly bedded, fine to medium in grain, of a dark blue-grey color, and is interbedded with blue-grey calcareous shale, the shale being most prevalent in the lower half of the quarry face where it is about equal in amount to the limestone."

In addition to the geological description from Goudge, other relevant information on this site is presented in detail by Carson (1981 pg. 48). The following describes the stratigraphy in a 13.3 m section on the south wall of the quarry.

Limestone - dark brown, weathers yellow brown; coarse-grained; one bed;

fossiliferous with abundant brachiopods. Thickness 0.08 m.

Limestone - dark to light chocolate brown and grey, weathers yellow brown; fine- to coarse-grained; in beds up to 5 cm thick, uneven bedding; undulose base; distinct colour change from the rest of the section. Thickness 0.50 m.Limestone - dark brown, weathers grey; coarse- to fine-grained bioclastic with gastropods and brachiopods; massive. Thickness 0.10 m.

Limestone - below; less shale, more resistant. Thickness 0.39 m.

Limestone - below; conglomeratic. Thickness 0.17 m.

Limestone - dark to medium grey, weathers pale; very fine-grained; in beds 5 cm thick. Thickness 0.34 m.

Limestone - conglomerate; grey and dark brown, weathers brown; coarse-grained with large fossil fragments; one bed; thin shaly horizon at top. Thickness 0.13 m.

Limestone - interbedded with calcareous shale, below; more competent. Thickness 0.80 m.

Limestone - dark grey, weathers same; fine-grained; one resistant bed. Thickness 0.11 m. Limestone - below; interbedded with calcareous shale. Thickness 0.27 m.

Limestone - pale brown and grey, weathers grey; medium- to coarse-grained, slightly bioclastic with some larger fossil fragments; also dark grey brown, weathers pale to medium grey; fine-grained; no fossils; both limestones are in beds 6-11 cm thick; competent; marked change in bedding, interbedded with shale seams of thickness equal to limestone beds. Thickness 0.87 m.

Limestone - interbedded with calcareous shale, below. Thickness 0.87 m.

Limestone - below. Thickness 0.13 m.

Limestone - interbedded with calcareous shale, below. Thickness 0.82 m.

Limestone - below; shell conglomerate 54cm from base. Thickness 1.60 m.

Limestone - interbedded with calcareous shale, below. Thickness 0.32 m.

Limestone - below. Thickness 0.34 m.

History:

References Cited:

Carson, D. M. 1981, pg. 48.
Goudge, M. F. 1938, pg. 148.

Name:
Vansickle Marble Property

Mineral Inventory Map No.:
38

Commodity:
Industrial Minerals: Marble

Accessory Minerals:
Silica, sulphides

Rock Association:
Narrow units of dolomite and limestone of the Vansickle Formation outcrop in a northeasterly trending unit between metasediments and gneisses.

Classification:
Dolomitic marble: Vansickle Formation.

Location:
The Vansickle Marble property is located in Methuen Township on concessions I and II, lots 3 to 6, about 8 km north of Cordova Mines.

NTS Map No.:
31C/12

UTM Grid Coordinates:
443700 N, 774900 E

Access:
From Cordova Mines, the site may be reached by travelling 1 km north on the Peterborough-Hastings Boundary Road (Vansickle Side Road). The occurrence is located approximately 0.8 km west of this road.

Property Status:
Concession II, lot 3 NE 1/4, lot 4 E 1/2-leased; concession I, lot 5, lot 6 SE 1/4 - patented, mining rights only (Claim Map M.126). Zoning: extractive industrial, open space, rural, hazard land (Bylaw 1977-25); extractive industrial, open space, recreational residential (Official Plan).

Commodity Status:
Prospect

Geological Description:
The Vansickle Formation (Hewitt, 1960a pg. 118) consists of schist and limestone or marble with some conglomerate. The trend of this unit is northeast and dips 40-50 degrees SE. It is underlain by arkose and quartzite of the Oak Lake Formation (Hewitt, 1960a pg. 118). The carbonate sequence is estimated to be 1372 m in thickness.

History:
Diamond drilling took place on these properties in 1964 by C. R. Young (4 holes, totalling 202.4 m) (Ontario Geological Survey, 1983c pg. 18). In 1976 the Canadian White Pigments Corporation put down 4 holes, totalling 250 m (MNR Assessment File 24), and in 1980, Preussag Canada Limited drilled 3 holes, totalling 100 m (MNR Assessment File 26). The option held by Preussag was discontinued in 1981. Later that year the claims were leased to W. R. Barnes. Minimal work has been done at this location since 1981.

References Cited:

Hewitt, D. F. 1960a, pg. 118.
Ontario Geological Survey. 1983c, pg. 18.
Ministry of Natural Resources. Methuen Assessment Files 24, 26.

Name:
Indusmin, Division of Falconbridge Limited

Mineral Inventory Map No.:
39

Commodity:
Nepheline Syenite

Accessory Minerals:
Magnetite, Muscovite, Calcite, Biotite, Hornblende

Rock Association:
The area is in the Grenville structural province, to the northwest of the Methuen granite, and in the contact zone between the Methuen granite and the Lasswade marble to the northwest. This contact zone is underlain by Precambrian noncalcareous metasedimentary and metavolcanic rocks which are intruded by the Blue Mountain nepheline syenite body.

Classification:
Intrusive sill.

Location:
Indusmin properties cover concessions VI, and IX-XII, lots 13, 14, and 19-21, Methuen Township.

NTS Map No.:
31C/12

UTM Grid Coordinates:
444035 N, 775658 E

Access:
From Peterborough, travel north on Highway 28 for 16 km to Lakefield. Continue on Highway 28 for 3 km to the junction of County Road 6. Turn right and proceed northeast for 35 km to the mine site.

Property Status:
Patented (Claim Map M.126). Zoning: extractive industrial Bylaw 1977-25).

Commodity Status:
Active Producer

Geological Description:
The nepheline syenite deposits of Methuen Township have been the subject of numerous reports. The following information is a summary of the geology of the main deposits and is taken from MacGregor and Turek (1984 pg. 125-128).

The Blue Mountain nepheline syenite body outcrops in a northeast-trending area, 4 km by 1 km in size, with an area 6.0 km by 0.4 km, extending southwest from the main body.

The nepheline syenite is a fairly uniform, foliated, fine- to medium-grained leucocratic rock composed essentially of albite, microcline and nepheline with minor amounts of biotite, magnetite, muscovite and hornblende. Garnet, corundum, zircon, sodalite, cancrinite, tourmaline, prehnite and natrolite may or may not occur as accessory minerals.

Payne (1966) outlined six mineralogical zones; these are summarized as follows:

The muscovite zone outcrops at the southwest end of the body. It is fine-grained and has a poorly developed foliation. Mineral grains generally are anhedral, with interlocking borders. Corundum is a characteristic accessory mineral.The muscovite-magnetite zone outcrops at the northwest end of the body and at the south end of Cabin Ridge pit. It is fine- to medium- grained and light grey. Mineral grains have irregular interlocking borders; replacement of albite by microcline is distinctive. Abundant muscovite, magnetite and calcite are the main accessory minerals. Corundum, zircon and biotite occur in trace amounts.

Along the flanks of the biotite zone, adjacent to the contact with metasediments and the Methuen granite, is the biotite-muscovite zone. It is fine-grained and dark grey, with irregular penetrating grain boundaries. Biotite inclusions are linearly oriented in nepheline grains; feldspars contain many calcite cancrinite, magnetite and mica inclusions. Magnetite is found in small quantities and is interstitial to feldspars, surrounded by a muscovite rim. Foliation, as outlined by albite, muscovite and biotite, is prominent.

The biotite zone is extensively developed and hosts all current mining activity. It is a light grey, medium-grained rock. Magnetite and biotite are the predominant mafic minerals. Biotite often is bleached and occurs as thin platelets. Foliation is poorly developed in the centre of the zone and becomes prominent only toward borders of the zone. Mafic-depleted haloes around magnetite grains are commonly found adjacent to the biotite-muscovite zone. Impoverishment of biotite extends 3 to 4 cm from magnetite grains. Calcite, a minor accessory mineral found interstitial to magnetite and biotite, is sometimes rimmed by augite and zoisite. Zircon occasionally is found as inclusions in biotite. Feldspars and nepheline usually have strong interlocking borders.

In the central part of the nepheline syenite body is the hornblende zone, a grey, medium-grained rock characterized by hornblende, garnet and magnetite. Feldspars and nepheline have slightly interlocking borders. Foliation, which is more prominent in this than in any other zone, is produced by parallel alignment of nepheline, feldspars and hornblende. Garnet fills the interspace between feldspars and nepheline. Zircon is a minor accessory mineral, usually associated with magnetite.

Contact with the country rock is characterized by the pink syenite zone. This fine-grained, strongly foliated pink rock is composed essentially of albite, microcline, muscovite and biotite, with minor amounts of nepheline.

Mafic bodies are common to the biotite zone and form concordant sheets up to 300 m long with widths of a few metres. As well as delineating the foregoing six mineralogical zones in the nepheline syenite.Derry (1951) and Phipps (1955) believed that the mafic rocks were remnants of basic dikes and sills that had been less altered during nephelinization. Hewitt (1960a) suggested that these bands represent sedimentary inclusions, metamorphosed basic dikes or biotite shear zones. Guillet (1962) felt that they were stoped blocks of metasediments, and Payne (1966) believed them to be metasediments stoped from the sill roof during magma intrusion.

Nepheline-bearing pegmatites are common in the biotite zone, but rare in the muscovite zone. Pegmatites are divided into two types: the first type

consists of albite, microcline and nepheline; the second type is similar to the first, but also contains pyrite, pyrrhotite, tourmaline, sodalite, cancrinite and muscovite. Most nepheline pegmatites are of the patch type, with irregular contacts with the host nepheline syenite.

Structure: Derry and Phipps (1957) believed that nepheline syenite replaced a series of folded metasediments; conversely, Keith (1939), Hewitt (1960a) and Guillet (1962) felt that it intruded folded metasediments.

The most prominent structural feature of the body is the northeast-trending Cabin Ridge Anticline and Grassy Lake Syncline. Foliation on the limbs dips between 30 and 60 degrees east and plunges 5 to 30 degrees southwest. Cross folding by northwest-trending folds has produced reversals in plunge direction. Foliation conforms to folding of the stoped metasediments; chemical zones within the different mineralogical zones also show this conformable relationship.

Parallel to and east of the Grassy Lake Syncline is the Grassy Lake Anticline. Between the Grassy Ridge Anticline and the Methuen Granite are several folds, some of which are isoclinal.

A number of faults cut across the nepheline syenite at angles of 30 to 40 degrees to the direction of the northeast trending fold axes.

Mining and Processing: Indusmin mines nepheline syenite from two open pits in the Blue Mountain deposit. Proven reserves are 19 million tonnes, which at the current production rate of 1,630 tonnes per day will sustain operations for forty years. Ultimate reserves are very large.

Drilling is done by air-driven mobile drills. Loading and hauling equipment consists of two front-end loaders and four quarry trucks.

The pit-run material is discharged into a jaw crusher and reduced to a minus-18 cm fraction. This fraction is further reduced to minus 5 cm in a standard cone crusher and transfered to a crude rock storage building. The feed is then placed in two Harding rotary dryers and dried to a 0.2 percent moisture content. After the material is screened to minus 1 cm in closed circuit with two shorthead cone crushers, it is ground to minus 30 mesh in rolls crushers. Magnetite is removed in low-intensity magnetic separators. Following additional screening and classification, the nepheline syenite sand is distributed to high-intensity magnetic separators where garnet, hornblende and biotite are removed.

The product from the high-intensity separators constitutes glass-grade material without further grinding or processing. Ceramic, extender pigments and filler grades are further ground in pebble mills in conjunction with air classification equipment.

Quality control is maintained throughout the operation. Sampling of drill cuttings, followed by sampling at numerous checkpoints around the mill, provides control of chemical uniformity and particle size. Routine chemical analyses are carried out for aluminum oxide (Al2O3), sodium oxide (Na2O), potassium oxide (K2O), iron oxide (Fe2O3), calcium oxide (CaO) and magnesium oxide (MgO). Determinations also are made for heavy minerals, subsieve particle size distributions and cone fusions.

The average mineralogical composition of the deposit is as follows: albite, 54%; nepheline, 22%; microcline, 20%; muscovite, 2%; mafics (biotite,

magnetite), 2%. The chemical composition of the finished product is: silica (SiO_2), 60.0%; alumina (Al_2O_3), 23.6%; iron (Fe_2O_3), 0.07%; calcium (CaO), 0.3%; magnesia (MgO), 0.1%;soda (Na_2O), 10.2%; potash (K_2O), 5.3%; L.O.I., 0.5%.

Drill core is available for viewing at the Bancroft Core Library.

History:
The Blue Mountain occurrence of nepheline syenite has been known since about 1910. In 1932 and 1933, William Morrisson prospected and staked part of the Blue Mountain nepheline syenite body and in 1934 organized Nepheline Company Limited. They interested H. R. Deeth who organized Canadian Nepheline Limited in 1935 to finance and develop the property. During the winter of 1935-36, quarrying was begun and a mill was built at Lakefield.

In 1937, an American subsidiary, American Nepheline Corporation was formed to carry on business in the U. S. and a 100 ton per day mill was erected at Rochester, N.Y. for crushing and grinding the crude nepheline syenite for the glass industry. When the Coburg-Rochester ferry service terminated in 1951, the Rochester mill was closed and a new milling operation was established in Lakefield. In 1956, the fine-grinding division at Lakefield was moved to the mine site at Nephton. From 1940 to 1945, the company operated in Canada under the name American Nepheline Corporation; in 1945 re-organization and expansion created American Nepheline Limited. A new mill with an increased capacity was built at Nephton in 1947.

Until 1946 all the ore was mined by open-pit methods, but from 1946 to 1948 several large underground stopes were opened up. Since 1948 all production has been from open-pit quarries. Since 1950 a large amount of the production wasfrom the Cabin Ridge quarry north of Big Mountain Lake. In 1955, a Canadian Pacific Railway 17-mile spur line was built to the property from Havelock. In 1956, a large expansion program was completed.

In 1961, American Nepheline Limited changed its name to Industrial Minerals of Canada Limited. In 1968, a federally incorporated company, Indusmin Limited, was formed and acquired the assets and property of Industrial Minerals of Canada Limited.

At this time the property covered about 2,500 acres in Methuen and South Burleigh Townships. By about 1975, the capacity of the plant was increased to about 1,500 tons per day. Some ore was also being produced from the No. 1 and No. 2 Ridge East areas. At the end of 1975, the reserves were estimated at 20,755,000 tons (Financial Post, Reference Cards, 1976).

Major sources of ore since 1979 have been the Mather Ridge and the Craig pit quarries, both of which are open pit mines.Production in 1981 and 1982 was approximately 400,000 and 300,000 tons per year respectively.

In 1984 Indusmin, became a fully owned division of Falconbridge Limited. Most recently, the company acquired the nepheline syenite deposit held by IMC of Canada Ltd. (Blue Mountain Deposit) to obtain complete ownership of the ore body.

Products: The major user of nepheline syenite is the glass industry which accounts for approximately 70 percent of domestic consumption (Boucher, 1984 pg. 43.1) Nepheline syenite is preferred because its use results in more rapid melting of the glass batch at lower temperatures thus reducing energy consumption as well as lengthening the life of furnace refractories. The

alumina content increases the viscosity of the melt and improves the resistance of the finished glass to surface attack.

The secondary mill products are sold to the ceramic industry. In this use the nepheline syenite acts as a vitrifying and fluxing agent, binding together the other constituents and reducing the firing time and temperature of sanitary-ware porcelain and whiteware products.

The extender and filler markets represent the smallest markets with the main uses in paints, rubber and plastic filler applications.

References Cited:

Boucher, M. A. 1984, pg. 43.1.
Derry, D. R. 1951, pg. 31-40.
Derry D. R. and Phipps C.V.G. 1957, pg. 190-195.
Duke, N.A. and Edgar, A.D 1977, pg. 515-537.
Guillet,G.R. 1962, unpbl. M.Sc thesis University of Toronto.
Hewitt, D. F. 1960a, pg. 4-55, 11, 22-23, 105-161.
Keith, M. L. 1939, pg. 1795-1826.
MacGregor, D. and Turek, V. 1984, pg. 125-128.
Payne, J. G. 1966, unpub. PH.D thesis McMaster University, Hamilton.
Phipps, C. V. G. unpub. PH.D thesis, University of Toronto, Toronto.

Additional References:

Adams, F. D. and Barlow, A. E. 1910, pg. 188-193.
Miller, G. W. 1899, pg. 42-46.
Ontario Geological Survey. 1984c.
Sabina, A. 1964, pg. 142-145.
Satterly, J. 1943, pg. 15, 16, 71-81.

Name/Location:
Belmont; east of Havelock on the railway.

Mineral Inventory Map No.:
No map number designated. Location uncertain.

NTS Ref:
31C/5

Commodity:
Industrial Minerals: Diamond

Description of Deposit/Notes:
One stone, 33 carats (6.5 gm) was found. It was rough, broken, and of little value as a gem (Ferguson, 1978 pg. 198).

Work/Type/Year:
Glacial movements are, without question, the process responsible for the deposition of this diamond. The Ontario Lobe identified by Ferguson (1978 pg. 197) moved in a southwesterly direction through this area. No other diamonds in glacial tills have been found in this region. There are a variety of techniques which could be used to explore for other occurrences along these known drift deposits.

References:
Ferguson, S. A. 1978, pg. 198.

Name/Location:
Beloporine Creek Occurrence - Belmont; lot 17, conc. X

Mineral Inventory Map No.:
40

NTS Ref:
31C/5

Commodity:
Industrial Minerals: Limestone

Description of Deposit/Notes:
The Beloporine Creek deposit consists of Paleozoic limestone of the Gull River Formation. Carson, (1981 pg. 9) describes the formation as follows: "The formation consists of pale grey to pale and medium brown and brown-grey lithographic to sublithographic limestone."

Work/Type/Year:
The limestone has been drilled as a potential high-purity calcite deposit. In 1954, one diamond drill hole, 32 m in length, was drilled by Industrial Minerals of Canada Ltd. Between 1977-1978, C. R. Young carried out 113 m of diamond drilling in three holes, and drilled another 126 m, in three holes again, in 1980. In 1980, the surface and mineral rights were sold to Harden and King Constructin of Coburg. The company stripped the area in preparation for quarrying. The material was intended for use in road construction. For reasons unknown, the company ceased work at this location in 1981-1982 (C.R. Young, Personal Communication, 1986).

References:
Bartlett et al. 1980, pg. 92-95.

Name/Location:
Burleigh; lot 3, conc. X

Mineral Inventory Map No.:
41

NTS Ref:
31D/9

Commodity:
Industrial Minerals: Corundum

Description of Deposit/Notes:
Quartziferous pegmatite dikes cross cut the country rock, which is mainly fine-grained pink or grayish granite, and carry small amounts of corundum. The size of the crystals range from 2.5 to 10 cm.

Work/Type/Year:
The reports of corundum on this site were part of a regional study intended to locate economic occurrences of corundum for the abrasive industry. There are no records, apart from the initial survey, of work having been done at this location.

References:
Miller, G. W. 1899, pg. 212.

Name/Location:
Burleigh; lot 13, conc. XI

Mineral Inventory Map No.:
42

NTS Ref:
31D/9

Commodity:
Industrial Minerals: Silica

Description of Deposit/Notes:
No geological information was found which pertains to this specific location. Martin (1983 pg. 256) states that "Quartz is reported from here, and may have been quarried at one time." The material quarried is presumably from granitic-granite gneiss referred to as the Burleigh granite gneiss dome (Hewitt, 1957).

Work/Type/Year:
Quarrying activity - unsubstantiated report.

References:
Hewitt, D. F. 1957, OGS Map 1957b.
Martin,W. 1983, pg. 256.

Name/Location:
Burleigh; lot 7, conc. XII

Mineral Inventory Map No.:
43

NTS Ref:
31D/9

Commodity:
Industrial Minerals: Corundum

Description of Deposit/Notes:
Barlow (1915 pg. 189) describes this occurrence as follows: The corundum mineralization occurs in red syenite. Petrographic studies indicate that it is composed of albite which is present largely in excess of microcline and orthoclase, biotite muscovite and corundum. The corundum occurs in individual grains which average 3 cm in length. The corundum is rounded or corroded and embedded in muscovite.

Work/Type/Year:
None reported.

References:
Barlow, A. E. 1915, pg. 189.

Name/Location:
Cavendish; lots 9-10, conc. VI

Mineral Inventory Map No.:
44

NTS Ref:
31D/16

Commodity:
Industrial Minerals: Garnet

Description of Deposit/Notes:
Dark red to brown garnets in masses occur in leucogranite and granite pegmatite. A 0.9 kg sample submitted by C. Ackerman, in 1954, assayed 26.9% iron and 36.5% silica, with a specific gravity of 3.75 (DEMR, 1954 NMI Card 70533).

Work/Type/Year:
Surface sampling and limited trenching was done by C. Ackerman in 1954. Exploration for radioactive minerals was done throughout this immediate area during the late fifties by a number of companies. Refer to the section on radioactive minerals in this report for further information.

References:
Department of Energy, Mines and Resources. 1954, NMI Card 70533.
Northern Miner, November 4, 1954.

Name/Location:
Chandos; lot 27, conc. III

Mineral Inventory Map No.:
45

NTS Ref:
31C/13

Commodity:
Industrial Minerals: Muscovite

Description of Deposit/Notes:
A mica schist associated with the regional gneiss belt contains disseminations of muscovite and garnets. The rusty appearance of the rock is attributed to the sulphides (pyrite) which are present in abundance (Miller, 1899 pg. 215).

Work/Type/Year:
A small pit located on this site was probably sunk for the purpose of locating gold mineralization in the rusty gneiss. A number of similar test pits are reported in this area, presumably for the same reason.

References:
Miller, W. G. 1899, pg. 215.
DEMR/CANMET Report 18, pg. 50.

Name/Location:
Apsley Village - Chandos

Mineral Inventory Map No.:
46

NTS Ref:
31C/13, 31D/16

Commodity:
Industrial Minerals: Graphite

Description of Deposit/Notes:
Miller (1899 pg. 213) provides this description of the occurrence; "A short distance east of Apsley a quartziferous pegmatite dike was seen cutting through crystalline limestone. The dike attracted attention from the fact that it contained considerable graphite as a secondary constituent." This mineral was found to fill numerous cracks in the dike matter.

Work/Type/Year:
A shallow pit sunk on this site is the only report of work.

References:
Miller, W. G. 1899, pg. 213.

Name/Location:
Galway; lot 11, conc. I

Mineral Inventory Map No.:
47

NTS Ref:
31D/10

Commodity:
Industrial Minerals: Silica

Description of Deposit/Notes:
This former quarry is located within the same granite unit as described in the inventory record for the Barnes Occurrence (page number). The amount of silica removed from this quarry would seem to indicate that a relatively large deposit was present. There is no geological information on this specific site and the regional geological mapping does indicate a silica deposit at these locations.

Work/Type/Year:
Martin (1983 pg. 256) reports that approximately 1800 tonnes of quartz were extracted from this quarry.

References:
Martin, W. 1983, pg. 256.

Name/Location:
Galway; lots 13-14, conc. II

Mineral Inventory Map No.:
48

NTS Ref:
31D/9

Commodity:
Industrial Minerals: Silica

Description of Deposit/Notes:
No geological information on this specific site is found in the literature. The geology in the area of lots 13 and 14 is mainly hybrid granite gneiss, migmatite and granite pegmatite in sharp contact with Precambrian marble in the west half of lot 13.

Work/Type/Year:
According to the limited information provided by Martin (1983 pg. 256) diamond drilling totalling 175.4 m was done at this location by W. R. Barnes. The results of the work were not presented in the available literature. The commodity sought is listed as "Silica" by Martin, however, there are no indications of potentially economic silica (quartzite) occurrences in this area.

References:
Martin, W. 1983, pg. 256.

Name/Location:
Galway; lots 15-16, conc. XIII

Mineral Inventory Map No.:
49

NTS Ref:
31D/15, 31D/16, 31D/9

Commodity:
Industrial Minerals: Graphite

Description of Deposit/Notes:
Graphite, in small occurrences, is reported in lots 15 and 16, conc. XIII. The graphite occurs as flakes in coarse-grained marble and in graphite schist, as reported by Satterly (1956 pg. 43).

Work/Type/Year:
Satterly (1956 pg. 43) reports that it is unlikely that an economic deposit of any importance is present at this site. However, since the mineral was found in float, a more significant occurrence may be located in the immediate area.

References:
Martin, W. 1983, pg. 140.
Satterly, J. 1956, pg. 43.

Name/Location:
Galway; lot 18, conc. XIV

Mineral Inventory Map No.:
50

NTS Ref:
31D/15E

Commodity:
Industrial Minerals: Rutile

Description of Deposit/Notes:
An occurrence of rutile has been reported at this location by Satterly (1977 pg. 329). It occurs at the contact of Precambrian marble and the southern margin of an oval shaped granite mass.

Work/Type/Year:
None reported. This site is listed in mineral collecting reports (Satterly, 1977 pg. 329).

References:
Satterly, J. 1977, pg. 329.

Name/Location:
Lynn Mine - Methuen; lot 15, conc. VII. Osterhouse Mine - Methuen; lot 16, conc. VII

Mineral Inventory Map No.:
51

NTS Ref:
31C/12

Commodity:
Industrial Minerals: Mica; biotite, muscovite

Description of Deposit/Notes:
The Lynn Mine is described by Adams and Barlow (1910 pg. 368): "This is a small excavation in some syenite dikes cutting the amphibolite...holding segregations or patches of mica." The Osterhouse Mine, also described by the authors (pg. 368), is similar in character to the Lynn Mine. Mica (biotite and muscovite) is present in segregations and patches within the pegmatite.

Work/Type/Year:
In 1905, several small openings or trenches were sunk on the dikes. Due to extensive fracturing, and the small size of the mica sheets, work was discontinued.

References:
Adams F. D. and Barlow, A. E. 1910, pg. 368.
Eardley - Wilmot V. L. 1927, pg. 18.
Hewitt, D. F. 1960a, pg. 160-161.
Martin, W. 1983, pg. 219.

Name/Location:
Methuen; lots 15-17, conc. VII, IX, X

Mineral Inventory Map No.:
52

NTS Ref:
31C/12, 31D/9

Commodity:
Industrial Minerals: Corundum

Description of Deposit/Notes:
The coarse corundum pegmatites mined for corundum in Methuen vary in width usually from 0.3 to 1.2 m. The corundum is usually in rounded individuals having irregular, though smooth surfaces resembling those produced by solution. They are almost invariably surrounded by muscovite, and both minerals are quite fresh and sharply separated from one another (Barlow, 1915 pg. 190).

Work/Type/Year:
Although corundum was mined in a number of locations in Methuen Township, no reports of work on these specific occurrences were found in the literature.

References:
Barlow, A. E. 1915, pg. 188-191.
Ontario Geological Survey. 1983c.

Building Stone

Stone for building purposes was first used in Peterborough County in the early 1800's. A limestone quarry, operated in the City of Peterborough at the present location of Jacksons Park, produced stone for the construction of the County Courthouse, two churches and a number of private homes. With the simple quarrying methods available, the flat lying, bedded limestone was ideally suited for the extraction of slabs and blocks.

In the 1890's, the use of stone for structural purposes declined with the introduction of cement products and brick-making. Since that period, stone has been used almost exclusively for decorative purposes. The present inventory identified 12 stone quarries in Peterborough County.

A small amount of red granite from two quarries located in Burleigh Township was shipped to Toronto for use as cobblestones for streetcar track beds. The Stony Lake Granite Quarries, Limited, operated two small granite quarries during the 1940's. These quarries produced a small amount of granite blocks for shipment to Vermont, U.S.A.

The only significant production of granite for building stone has come from the "Belmont Rose" granite quarry in northwestern Belmont Township. The quarry, operated intermittently since the early 1960's, has produced dimension stone blocks mainly for architectural uses. Physical tests performed on the rock indicate that it meets industry standards for building stone. Canadian Shield Stone Products Limited has recently taken an option on the property. Work is espected to commence within the year.

Limestone was quarried in Dummer, Harvey, and Burleigh Townships for use in local building construction. There are currently a number of small-scale limestone quarries operating in Dummer and Harvey Townships. The principle commercial products are decorative flagstone and landscaping stone.

Marble occurs in extensive areas throughout the county, however no significant production of marble for building or dimensional stone uses has been recorded. The majority of the exploration done on marbles has been directed towards assessing its potential use for filler and extender markets.

Name:
Belmont Granite Quarry

Mineral Inventory Map No.:
53

Commodity:
Building Stone: Granite (pink to rose)

Accessory Minerals:
Zircon, sphene, apatite

Rock Association:
Granitic rocks occupy the northwestern section of Belmont Township. The granite unit, which intrudes intermediate and felsic metavolcanics, is primarily made up of pink, biotite porphyritic granite. The southern margin of the granite lies on the Paleozoic Precambrian contact.

Classification:
Pink, medium-grained porphyritic biotite granite.

Location:
The Belmont Rose granite quarry is found on concession X, lot 31, in the northwest corner of Belmont Township.

NTS Map No.:
31C/12

UTM Grid Coordinates:
443350 N, 775750 E

Access:
From Havelock, travel north on County Road 44 for 18.5 km. The site is located 0.2 km east of the road.

Property Status:
Patented (Claim Map M.53). Zoning: extractive industrial (Bylaw 1977-25, Official Plan).

Commodity Status:
Past Producer

Geological Description:
Pink medium-grained biotite granite forms an extensive bare rocky ridge on this lot. The granite is uniform and massive with few joints. No mafic schlieren or other detrimental features were observed at the quarry site (Hewitt, 1964e pg. 23).

The granite continues to a depth of 21 m, where it is intersected by a horizontal diabase sill 3 m thick (Guillet, 1983 pg. 38).

Extensive test on the physical properties of this granite have been performed. The following results are from the files of C. R. Young, Havelock, Ontario:

Density, pounds per cubic foot - 168; abrasive hardness - 77; water absorption, 48 hr. immersion - 0.20%; compressive strength, pounds per square inch - 21,600; flexural strength, pounds per square inch - 1.670; modulus of elasticity, pounds per square inch - 7.5 x 10 million; thermal capacity,

B.T.U./pound degrees Farenheit - 0.187; thermal conductivity, B.T.U. - in/sq. ft. hr. degrees Farenheit - 4.55; linear coefficient of thermal expansion per degrees Farenheit - 2.48 x 0.00001. Chemical analysis: silica (61.76%); aluminum (19.38%); iron (3.57%); titanium (0.77%); calcium (1.70%); magnesium (1.46%); sodium (4.91%); potassium (7.07%); copper (trace); managanese (trace); zirconium (trace).The results of the tests indicate that the physical properties of the granite exceed the standards of the American Society for Testing and Materials (ASTM C615-68 pg. 34).

This material has been quarried for dimensional stone products. Other possible applications include coloured aggregate for landscape stone, road metal, exposed aggregate for pre-cast panels, curbing stone, flagstone, agglomerated granite products and ornamental stone, as well as a number of specialty uses.

History:
Guillet (1983 pg. 38) describes the original development of the property as follows: "A small quarry was opened during the 1960's on the crest of a bare rock ridge on lot 31, concession X, Belmont Township...Three vertical diamond drill holes proved the continuation of the granite to a depth of 21 m..." Since that time, more than 500 cubic meters of stone have been quarried in large mill blocks. Quarrying was renewed by Fairmont Granite Limited in 1982, with the installation of a 40 m high derrick with a lifting capacity of over 50 tonnes.

Quarrying activity was discontinued in 1983 due to operational difficulties experienced by the company. Canadian Shield Stone Products Limited has recently taken an option on the property and further development is expected within the year.

References Cited:
American Society of Testing and Materials. 1982, pg. 34.
Guillet, G. R. 1983, pg. 38.
Hewitt, D. F. 1964e, pg. 34.

Additional References:
Bartlett et al. 1980, pg. 92.

Name:
Quarry Island

Mineral Inventory Map No.:
54

Commodity:
Building Stone: Granite (red)

Accessory Minerals:
Sulphides

Rock Association:
The rock is a hybrid granite gneiss which is associated with an elliptical-shaped body of the same rock which forms a northeasterly arc on the north shore of Stony Lake.

Classification:
Red granite, granite-gneiss at the Paleozoic-Precambrian contact.

Location:
Quarry Island is located in the east end of Stoney Lake, Burleigh Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
443500 N, 780400 E

Access:
From Lakefield, travel north on Highway 28 for approximately 3 km to County Road 6, then 15.5 km along this road to the Crowes Landing side road. Proceed along this road to the public landing/boat launch area. Access from here is by boat.

Property Status:
Crown land (Claim Map M.62). Zoning: recreational residential (Bylaw 32-1982); recreational dwelling area (Official Plan).

Commodity Status:
Past Producer

Geological Description:
A small red granite quarry was reportedly worked on this island (Hewitt, 1964e pg. 23). No references to the size, physical properties, or production output were found in the literature.

A geological description of the area which included the island is provided by Hewitt (1960a pg. 125). The information provided was part of a survey of possible nepheline syenite extensions of the Blue Mountain deposit. Hewitt reported that this nepheline band is bordered by pink syenite gneiss and is seen outcropping on Craig Island in Stony Lake ... a similar narrow band of grey nepheline gneiss, interbanded with pink syenite gneiss, outcrops on Casement Island which is approximately 0.8 km west of Quarry Island.

History:
Apart from Hewitts (1964e pg. 23) report on this quarry, no further references to quarrying activity at this location were found in the literature, however,

on nearby Eagle Mount Island, reliable information indicates that the work at Quarry Island and Eagle Mount Island were contemporaneous. Refer to the inventory record for Eagle Mount Island quarry on page of this report.

References Cited:
Hewitt, D. F. 1964e, pg. 23.
Hewitt, D. F. and Satterly, J. 1957, OGS Map 1957b.

Additional References:
Martin, W. 1982, pg. 123.
Ontario Geological Survey. 1984b.

Name:
Blott Quarry

Mineral Inventory Map No.:
55

Commodity:
Building Stone: Granite (red)

Accessory Minerals:
Sulphides, hematite

Rock Association:
The rocks in this area are part of a thin (100 - meter wide) northeasterly trending unit of massive to weakly foliated granite. Late Precambrian metasediments occupy the east and west margins of the granite.

Classification:
Fine-grained red granite.

Location:
This granite occurrence is located on concession I, lots 7 and 8, Cavendish Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444200 N, 782300 E

Access:
From Lakefield, travel north on Highway 28 for about 17.8 km to Highway 36, then west on Highway 36 for 15.2 km to Highway 507. Travel north on Highway 507 for 9.2 km to access road, then 2.5 km northwesterly on this road.

Property Status:
Gravel file 104960, quarry permits (Claim Map M.72). Zoning: hazard land (Bylaw 78-43); aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
There is limited geological information which deals with this site. Hewitt (1964e pg. 22) briefly mentions the site and describes the rock as fine-grained red granite. It is probable that the quarry is located in the thin northeasterly trending unit of granite described by Bright (1981) as late tectonic felsic to intermediate plutonic rocks which are primarily massive to weakly foliated granite. The red color may be attributable to feldspars (orthoclase) containing varying quantities of hematite flakes.

History:
It was reported that W. Blott staked claims in lots 7 and 8, concession I, and removed some samples. These were found to take a good polish (Hewitt 1964e pg. 22). Apart from the brief geological and history of work information provided by Dr. Hewitt, there are no further references to exploration or development activity at this site.

References Cited:
Bright, E. G. 1981. OGS Map P.2421.
Hewitt, D. F. 1964e, pg. 22.

Additional References:
Martin, W. 1983, pg. 124.

Name:
The Rutter Granite Company Occurrence

Mineral Inventory Map No.:
56

Commodity:
Building Stone: Granite (red)

Accessory Minerals:
Pyrite (minor)

Rock Association:
Red, medium-grained granite occurs in a thin northwesterly trending unit which is bounded on the east by foliated to gneissic biotite, biotite-hornblende syenite and on the west by quartzo-feldspathic metasediments.

Classification:
Medium-grained red biotite granite.

Location:
This granite property is located on the east side of Highway 507 on concession III, lots 14 and 15, Cavendish Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444300 N, 782000 E

Access:
From Lakefield, travel north on Highway 28 for about 17.8 km to Highway 36, then west on Highway 36 for 15.2 km to Highway 507. Travel north on Highway 507 for 13 km. The site may be found in this area.

Property Status:
Lot 14, south half-leased mining rights only; north half-crown; Lot 15-leased, south half EO 35355; north half EO 33826 (Claim Map M.72). Zoning: wilderness (Bylaw 78-43); recreation dwelling area, rural and forest area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Hewitt (1964e pg. 22) describes the rock as being red medium-grained biotite granite. No other geological information on this site has been found, however, in lots 14 and 15, concession III, a thin unit of granite (80-100 m) which trends northwesterly has been mapped by Bright (1981). The granite unit is described as being massive to weakly foliated.

Size and Grade: There is no information which documents the size of this deposit. The physical tests performed on the granite indicated the following properties: average compressive strength 14687 psi; absorption .215 percent; bulk specific gravity 2.63; weight per cubic foot 164 pounds (Hewitt 1964e pg. 22).

History:

In 1963, the Rutter Granite Company quarried a few test blocks of this granite (Hewitt, 1964e pg. 22). Since this company was active in the exploration of granite for monument and building stone uses, it is probable that this site was investigated for this purpose. Physical tests performed (refer to Size and Grade) indicate that the material conforms to the minimal standards for architectural grade granite (ASTM C615-77). The potential for use of this granite, based on the available information, seems favourable for the monument, curbing stone, crushed aggregate, and specialty use industries.

References Cited:

American Society for Testing and Materials. 1977, pg. 34.
Bright E. G. 1981, OGS Map p.2421.
Hewitt, D. F. 1964e, pg. 22.

Name:
Hadley Granite Occurrence

Mineral Inventory Map No.:
57

Commodity:
Building Stone: Granite (rose/pink)

Accessory Minerals:
Pyrite

Rock Association:
The quarry is located near the western margin of a north- northeast trending granite mass. Late Precambrian metasediments envelope the granite on the south, east and west flanks. A thin unit of metasediments form the north flank. Immediately north of the metasediments is the Glamorgan Gabbro.

Classification:
Uniform, medium-grained, pink, biotite granite.

Location:
This small quarry is located on the south part of concession XVII, lot 18, Cavendish Township, approximately 11 to 14 km south of the village of Gooderham.

NTS Map No.:
31D/16

UTM Grid Coordinates:
455000 N, 782300 E

Access:
From Lakefield, travel north on Highway 28 for 17.8 km to Highway 36, then west on Highway 36 for 15.2 km to Highway 507. Travel north on Highway 507 for 29 km. The occurrence is 0.5 km west of the highway.

Property Status:
Gravel File 15461G (Claim Map M.72). Zoning: wilderness (Bylaw 78-43); rural and forest area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The granite is a uniform medium-grained, grey weathering rose pink biotite granite which contains rare pegmatitic patches and quartz lenses. Vertical jointing in the rock trends 300 degrees and is spaced at intervals of 0.9 to 1.5 m. There is further development of jointing or layering at 0.6 m to 1.2 m intervals which trends 20 degrees and dips westerly about 60 degrees. The freshly broken surfaces of the rock show occasional streaks of lighter colored, pinker more feldspathic streaks than the generally uniform pinky-grey coloring of the rock. The rock bleaches to a light brown and then a grey surface weathering; all within a few cm of the weather surface (Guillet, 1968 pg. 1-2).

History:
The only work done here is not extensive. A few diamond drill holes have been

drilled and blasted in an outcrop of granite about 10.7 m long by 3.7 m in face height. A few irregularly shaped blocks have been removed but it appears as if none have been shipped (Guillet, 1968 pg. 1-2).

The present literature search did not document any further references to this property.

Verschuren et al (1986 pg. 52-54), reported on a granite body in lot 20, concession 18, of Cavendish Township. The rock sampled by these authors is within the same granite unit as the Hadley Quarry. A detailed description of their findings is on page 108 of this report.

References Cited:

Guillet, G.R. 1968, MNR Assessment Files, Cavendish Township File 17 pg. 1-2.

Additional References:

Martin, W. 1983, pg. 125.

Name:
Highway #507-2

Mineral Inventory Map No.:
58

Commodity:
Building Stone: Granite (pink to brownish)

Accessory Minerals:
Hematite, chlorite, sericite

Rock Association:
Late granitic intrusive rocks within a northeast trending body. The site is located near the contact of a thin belt of carbonate metasediments. The metasediments are on the margin of a regional gabbro body (Glamorgan gabbro) (Hewitt and Satterly, 1957).

Classification:
Pink to brownish, fine-grained granite.

Location:
This property is located in concession XVIII, lot 20, Cavendish Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
486980 N, 707500 E

Access:
From Lakefield, travel north on Highway 28 for 17.8 km to Highway 36, then west on Highway 36 for 15.2 km to Highway 507. Travel north on Highway 507 for 31.3 km. The occurrence is located on the east side of the road.

Property Status:
Crown, patented for surface rights only (Claim Map M.72). Zoning: rural (Bylaw 78-43); rural and forest area, south part in aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Verchuren et al (1986 pg. 52-54) examined a roadcut at this location and gives the following information: The rock is described as fine-grained, foliated, pink-to-brownish granite which has a buff colour on the weathered surface. The fabric (formed by foliation) is listed as strong. Mafic dikes and felsic veining (size and extent unknown) are also reported here. The available information does not document the strike and dip of the rocks in this location, however, the regional trend of this rock unit is northeast with dips to the southeast.

Mineralogy: K-spar (microcline and orthoclase) (65-70%); quartz (20%); alkali- clino-amphibole (5-6%); biotite (4-5%); plagioclase (1-2%); opagues (hematite) (1%); sphene (C<-1%); chlorite (C<-1%); carbonate (C<-1%); sericite (C<-1%) fine-grained, foliated rock, with an anhedral granular texture. The equidimensional grains are overprinted with sub-parallel aligned

biotite grains (Verchuren et al, 1986 pg. 52).

History:
There are no reports of work having been done at this specific location, however the present inventory has documented exploration and development activity within the same granite unit. Refer to page 106 of this report for further information.

References Cited:
Hewitt, D. F. and Satterly, J. 1957, OGS Map 1957b.
Verchuren et al. 1986, pg. 52-54.

Name:
Highway #507-1

Mineral Inventory Map No.:
59

Commodity:
Building Stone: Granite (black)

Accessory Minerals:
Pyrite

Rock Association:
The rocks at this site are located near the southern margin of, but entirely within, the Glamorgan gabbro body as described by Hewitt and Satterly (1957).

Classification:
Diorite-Gabbro

Location:
This property is located in concession XVIII, lot 21, Cavendish Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
445200 N, 782300 E

Access:
From Lakefield, travel north on Highway 28 for 17.8 km to Highway 36, then west of Highway 36 for 15.2 km to Highway 507. Travel north on Highway 507 for 31 km. The occurrence is located on the east side of the road.

Property Status:
Crown, patented for surface rights only, west half claim No. EO 4955 (Claim Map P.72). Zoning; wilderness (Bylaw 78-43); rural and forest area, south part in aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Verschuren et al (1986 pg. 55-57) have recorded the following information on this occurrence: the rock is dark grey to black on a fresh surface, light grey to brownish on the weathered surface. The grain size is variable, ranging from fine to very fine. It has a uniform, foliated texture with a pronounced fabric (formed by foliation). The diorite-gabbro unit in this location strikes 250 degrees with dips near vertical. The jointing pattern is regular but intensive in amount. Jointing direction ranges from 255 degrees to 318 degrees with near vertical dips. The spacing of joints is listed as varying from 0.25 m to 0.5 m. Another feature described is the presence of cross- cutting coarse-grained calcite veins approximately 1 to 3 cm in width.

The authors point out that, due to the variable grain size and jointing at this site, the potential for the extraction of quarry blocks is minimal. However, they do recommend that further exploration in other areas of this intrusion is warranted.

The potential of this rock for use as roofing granules, road metal, reconstituted aggragate for polymer-bonded tiles and panels, ornamental stone, ashlar and specialty products appears favorable.

History:
There are no references to development work at this location. It was examined in 1985, as part of a building stone study, by the Ministry of Northern Development and Mines, Tweed District.

References Cited:
Verschuren et al. 1986, pg. 55-57.

Name:
Eagle Mount Island Quarry

Mineral Inventory Map No.:
60

Commodity:
Building Stone: Granite (pink/grey)

Accessory Minerals:
Sulphides; pyrite, pyrrhotite

Rock Association:
The quarry is located near the contact of the Precambrian- Paleozoic rocks. The granite on the island is associated with the Burleigh granite gneiss complex, located immediately northwest of the island.

Classification:
Medium-grained, pink-grey, gneissic granite.

Location:
Eagle Mount Island is located in the west end of Stoney Lake in concession IV, lot 33, Dummer Township. The quarry is locatedon the west side of the island.

NTS Map No.:
31D/9

UTM Grid Coordinates:
443300 N, 780900 E

Access:
From Lakefield, travel north on Highway 28 for about 3 km to County Road 6, then east on this road for 17 km to the McCracken's Landing access road. Follow this road to the public landing. Access from here is by boat.

Property Status:
Crown land (Claim Map M.62). Zoning: recreational residential (ByLaw 32-1982); recreational dwelling area (Official Plan).

Commodity Status:
Past Producer

Geological Description:
The rocks on the island are primarily hybrid granite gneiss associated with the Burleigh Granite Gneiss complex. The Burleigh granite gneiss complex is one of a series of four similar batholiths in the Haliburton-Bancroft area and consists of a heterogeneous mixture of granite, granite gneiss and pegmatite (Bright, 1980). The quarry lies on the extreme southeast margin of this major unit near the contact with Paleozoic limestones.

History:
It is reported that a small quarry was opened during the period 1870 to 1880. The quarry face is located immediately adjacent to a small bay on the western side of the island. Granite, in small block form, was extracted and barged to the south shore of Stoney Lake. Wagons were used to transport the material to Lakefield. From Lakefield, it was transported by train to Toronto where it was used as cobblestones for the Sherbourne streetcar track. When the track was replaced by pavement, the cobblestones were reportedly stockpiled for

other unspecified uses.

It is uncertain, though probable, that the work done at this site is contemporaneous with the quarrying activity done on nearby Quarry Island. The same family was involved in both sites and the amount of material shipped to Toronto exceeds the dimensions of the quarry on Eagle Mount Island (A.O.C. Cole, Personal Communication, April 1986.)

References Cited:

Bright, E. G. 1980, OGS Map P.2205.

Name:
Stoney Lake Granite Quarries

Mineral Inventory Map No.:
61

Commodity:
Building Stone: Granite (pink)

Accessory Minerals:
Sulphides (minor)

Rock Association:
The rocks at this site occur along the southwest margin of the Horse Lake Basin granite body which consists mainly of medium- to coarse-grained pink porphyritic biotite granite.

Classification:
Coarse-grained porphyritic biotite granite.

Location:
Two small granite quarries were opened by Stoney Lake Granite Quarries Limited, of Lakefield, on the eastern shore of Stoney Lake in the east half of lot 32, concession XII, Dummer Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
4434350 N, 783950 E

Access:
From the village of Lakefield, travel on County Road 6 for 29.3 km to the junction of County Road 6 and Highway 44. Continue north on County Road 6 (Nephton Road) for 1.5 km. The quarries are located 0.1 km east of the road.

Property Status:
Patented. Zoning: rural (Bylaw); recreational residential (Official Plan).

Commodity Status:
Past Producer

Geological Description:
The stone is a coarse-grained porphyritic biotite granite of pink colour, composed of phenocrysts of microcline up to 1.3 cm in size, plagioclase, quartz and biotite. The biotite makes up as much as 20 percent of the stone giving it a rather dark colour. Vertical joints strike 70 degrees and 345 degrees. There is well-developed horizontal sheeting allowing the removal of mill blocks up to 0.9 to 1.2 m thick (Hewitt, 1964 pg. 23).

Verschuren et al (1986 pg. 41) examined a rock cut in the same granite body in lot 12, concession 1, of Burleigh Township and reported the following information: the rock examined is described as coarse-grained, porphyritic granite. The colour on the fresh surface is blackish-mauve-pink. It weathers to a white-pink colour. Jointing is present in a regular pattern and is moderate in extent. The potential quarry block size is listed as 1.5 m X 1.5 m X 2.5 m. Felsic dikes (1-5 cm thick) and mafic knots (15 cm in diameter) are also reported to occur throughout the outcrop.

Mineralogy: K-spar (26-32%); biotite (15-20%); plagioclase (13-18%); quartz (11- 16%); clino-amphibole (arfvedsonite) (7-8%); sphene (3-4%); opaque (hematite) (1-2%); carbonate (<1-1%); sericite (<1-1%); apatite (<1-1%); muscovite (<1%); chlorite (<1%); zircon (<1%) - phaneritic - medium-grained with coarse megacrysts of feldspar, resulting in a porphyritic texture.The authors comment that the rock in this area shows favourable development potential for use as structural stone, ornamental stone, paving stone and architectural stone.

History:
In 1940, the Ritchie Cut-Stone Company Limited of Toronto bought about 85 cubic meters of mill blocks to be used for monumental purposes and, to a lesser extent, as facing material on buildings in Ottawa and London. No sales were reported for 1941, but 71 cubic meters of mill blocks were quarried (Satterly, 1943 pg. 92). The quarry was owned by Frank Coyle and R. G. Kebon of Lakefield and has been inactive since 1942 (Hewitt, 1964e pg. 23).

References Cited:
Hewitt, D. F. 1960b, pg. 150.
Hewitt, D. F. 1964e, pg. 23.
Satterly, J. 1943, pg. 91-92.
Verschuren et al. 1986, pg. 41-43.

Additional References:
Department of Energy, Mines and Resources. 1947, NMI Card 31D/9 STN.
Guillet, G. R. 1983, pg. 38-39.

Name:
Telford Bay Quarry

Mineral Inventory Map No.:
62

Commodity:
Building Stone: Limestone

Accessory Minerals:
None reported.

Rock Association:
The rock exposed in this abandoned quarry represents the upper part of the Verulam Formation which is described in detail in the General Geology section of this report.

Classification:
Paleozoic limestone: Verulam Formation (upper part).

Location:
This site is located approximately 1 km west of the Chemong causeway at Telford Bay on concession IV, lot 7, Ennismore Township.

NTS Map No.:
31D/8

UTM Grid Coordinates:
4917500 N, 706400 E

Access:
From Peterborough, travel north on Chemong Road for 9.2 km to the Chemong Lake causeway (County Road 14), then west on this road for 2.5 km. The occurrence may be found in an abandoned quarry on farm property.

Property Status:
Patented. Zoning: rural (Bylaw 12-1977); rural (Official Plan).

Commodity Status:
Past Producer

Geological Description:
Carson (1981 pg. 50) describes the stratigraphy in this abandoned quarry.

Limestone - calcarenite; pale grey and brown, and white, weathers buff and brown; distinctive change from weathering color of lower units; medium to coarse grained with rare pebble sized clasts scattered throughout, clasts more abundant at base; in beds 8-30 cm thick; unit is non-fossiliferous. Thickness 0.84 m.

Limestone - dark grey, weathers same; fine-grained; very thinly bedded; recessive; calcareous. Thickness 0.06 m.

Limestone - grey and brown mottled, weathers dark grey; fine-grained; in even beds 6-14 cm in thickness; similar to Unit 1, below, but lacks shaly partings; has finer grain size; faint banding on some fresh surfaces; rare lenses of sand size grains; 30 cm from top is 4 cm thick conglomerate unit; 40 cm from top is conglomerate unit composed of fossil fragments, cross-bedded; 5 cm from

top is fine-grained, pale grey limestone that weathers lighter than the rest of the unit. Thickness 1.29 m.

Limestone - grey and chocolate brown, weathers dark to light grey; medium-grained, grain size decreases toward top; in beds up to 10 cm in thickness,unevenly bedded, beds separated by shaly intervals up to 3 cm thick; shale is dark grey, weathers lighter; fine-grained; thin bedded and calcareous; fossil fragments common; conglomerate layer 1.84 m from base, matrix typical of unit, pebbles appear to be mud clasts up to 4 cm by 1 cm, conglomerate bed is 18 cm thick; similar bed 20 cm from top; top of unit is marked by base of 16 cm thick prominent bed. Thickness 2.26 m.

Limestone - pale to medium grey, weathers medium grey blue; sublithographic nodules with less abundant coarse crystalline matrix; in large banks 24-20 cm in thickness that weather into thinner 5 cm thick nodular beds separated by matrix material; uneven bedding; locally rubbly. Thickness 1.54 m.

History:
There is no reliable information which records the development history of this quarry. The probable uses of the limestone could have included road aggregate and building stone for area farm buildings and foundations.

References Cited:
Carson, D. M. 1981, pg. 50.

Additional References:
Winder, C. G. 1955, pg. 4.

Name:
Black River Limestone Products - Nogies Creek

Mineral Inventory Map No.:
63

Commodity:
Building Stone: Limestone

Accessory Minerals:
None reported.

Rock Association:
Paleozoic limestone: Simcoe Group: Gull River Formation.

Classification:
Paleozoic limestone.

Location:
A small building stone quarry was operated a mile north of Highway 36, on concession XIV, lot 23, Harvey Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
443600 N, 782900 E

Access:
From Buckhorn, travel 8.4 km north on Highway 36 to Flynns Turn. Continue west on Highway 36 for 8.2 km. Turn north on Concession Road 14 for 1.2 km, then east 0.7 km. The site is immediately west of Eels Creek.

Property Status:
Patented (Claim Map M.101). Zoning; rural (Bylaw 1979-9); hazard land, rural (Official Plan).

Commodity Status:
Past Producer

Geological Description:
Hewitt (1964a pg. 29), describes this quarry. In the north opening, the stone is pink to red, in part green mottled, aphanitic to fine crystalline, thin to medium bedded lower Black River Limestone. Beds range from 5.1 to 15.2 cm in thickness, with some thicker beds up to 61 cm. The beds in the south opening are 5.1 to 12.7 cm thick.

The north opening measured 61m by 15.2 m and is on the eastern edge of a low Paleozoic scarp. The quarry face is 76.2 cm to 1.2 m in height. One hundred eighty metres south of the north quarry is a second opening with a 0.6 m face opened for a length of 45.7 m.

Physical properties of the aphanitic reddish limestone from this property are as follows: compressive strength, p.s.i., average, 25,708; absorption, 0.39%; bulk specific gravity, 2.77; weight per cubic foot, 173 pounds; abrasive hardness, 46.5. The principle products were ashlar and flagstone. There are no references to the amount or destination of the extracted material.

An assessment file search (1977 Pit Description No. 77, Minden District OMNR) indicated that in lot 22, immediately south of the limestone quarry described by Hewitt above, approximately 2700 tons of red granite building stone were removed. There is no further references to this quarry other than 0.33 acreswere developed and that it is now abandoned.

History:
The quarry was operated by the Black River Limestone Products Company during the early 1960's. The stone was removed by drilling and plug and feather. Unsubstantiated reports indicate that some of this material was sold in the Toronto area. The quarry is currently inactive.

References Cited:
Hewitt, D. F. 1964a, pg. 29.

Name:
Harvey; conc. XVI, lot 5

Mineral Inventory Map No.:
64

Commodity:
Building Stone: Limestone

Accessory Minerals:
None reported.

Rock Association:
The stratigraphy at this abandoned quarry is represented by the Verulam (6.43 m) and Bobcaygeon (1.66 m) Formations.

Classification:
Paleozoic: Verulam and Bobcaygeon Formations.

Location:
This occurrence is located approximately 3.25 km southwest of the hamlet of Lakehurst on concession XVI, lot 5, Harvey Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
443000 N, 782300 E

Access:
From Peterborough, travel north on Highway 28 to the Highway 507 turnoff. Travel north of Highway 507 for 19.8 km to the town of Buckhorn, then west on the township road for 10.8 km. The site is located on the southwest corner of the junction.

Property Status:
Patented (Claim Map M.101). Zoning: rural (Bylaw 1979-9); aggregate and mining protection (Official Plan).

Commodity Status:
Past Producer

Geological Description:
Limestone - medium brown, dark brown and grey mottled, weathers buff and grey; fine- to medium-grained; coarsely fossiliferous; in beds up to 3 cm separated by shaly seams 1-2 cm thick; uneven and rubbly bedding; nodular weathering. Thickness 0.69 m.

Limestone - medium grey, weathers pale; fine- to medium-grained with medium- to coarse-grained bioclastic material; in beds 3-10 cm in thickness. Thickness 0.26 m.

Limestone - dark to medium grey, weathers pale; fine- to very fine-grained; on bed; sparsely fossiliferous. Thickness 0.04 m.

Limestone - medium to pale brown and grey, weathers pale red brown; coarse-grained bioclastic; one bed; sparsely fossiliferous. Thickness 0.08 m.

Shale - medium grey, weathers buff; fine-grained; thinly bedded with 2-3 cm beds of limestone, below, calcareous; recessive. Thickness 0.20 m.

Limestone - grey, weathers same; medium-grained bioclastic; unevenly bedded; nodular; in matrix of grey shale. Thickness 0.18 m.Limestone - above; contains brachiopod and trilobite fragments. Thickness 1.08 m.

Limestone - below; shaly. Thickness 0.35 m.

Buried Interval - at base of section on upper quarry floor. Thickness 0.80 m.

Limestone - interbedded with shale; limestone is medium grey and brown, weathers pale grey; medium- to very coarse-grained bioclastic with abundant fossil fragments and whole brachiopods and bryozoans; in beds 3-5 cm thick; rubbly weathering, with local fine-grained dark grey limestone; shale is dark grey to black, weathers lighter; fine-grained; thinly bedded, in seams a few mm to 2 cm thick; recessive; separates limestones; at 2.2 m above base, two 13 cm thick beds. Thickness 2.75 m.

Bobycaygeon Formation

Limestone - medium grey and medium grey brown, weathers pale; medium- to coarse- grained bioclastic; in beds 5-8 cm thick separated by thin shaly partings which cut at an angle to bedding giving strata a nodular appearance; abundant brachiopods. Thickness 0.20 m. Shale - dark grey, weathers pale; fine-grained; thinly bedded; recessive; calcareous. Thickness 0.19 m.

Limestone - not nodular; presence of beds and lenses of fine-grained medium grey limestone, weathers pale grey. Thickness 1.27 m.

The above stratigraphic description is from Carson (1981 pg. 44).

History:
No information on the development history at this location was found in the literature.

References Cited:
Carson, D. M. 1981, pg. 44.

Additional References:
Liberty, B. A. 1960, pg. 63.
Winder, C. G. 1954, pg. 55.

Name/Location:
Dummer; Quarry Lake

Mineral Inventory Map No.:
65

NTS Ref:
31D/8

Commodity:
Building Stone: Limestone

Description of Deposit/Notes:
Miller (1904 pg. 97) reports that "the lock on the Otonabee canal is constructed of massive beds of limestone from the lower part of the Trenton group, which was quarried near Warsaw in Dummer Township". Goudge (1938 pg. 150) also briefly describes this quarry and adds that "the stone is obtainable in huge blocks".

Work/Type/Year:
In addition to the work described by Miller (1904 pg. 97), there are a number of unsubstantiated reports of limestone from this quarry being used for foundations and in the construction of local houses and buildings.

References:
Goudge, M. F. 1938, pg. 150.
Miller, W. G. 1904, pg. 97.

Name/Location:
Dummer; lot 21 (E1/2), conc. 4

Mineral Inventory Map No.:
66

NTS Ref:
31D/9

Commodity:
Building Stone: Limestone; Gull River Formation; pale grey and brown, sublighographic limestone (Carson, 1981 pg. 6).

Description of Deposit/Notes:
A quarry is under licence to E. Payne for an 11.3 hectare area. The tonnage limit is listed as 13,000/year. Horizontal beds of Gull River limestone are extracted using shear machines. This is a seasonal operation worked by one or two individuals producing 800-900 tonnes/year. A quarry licence is also listed for lot 21, conc. 4, Dummer Township for K. Kostiuk. This is a similar operation for the extraction of small tonnages of limestone for flagstone and landscape stone uses (Lindsay District Pits and Quarries Staff, Personal Communication, June 1986).

Work/Type/Year:
Seasonal extraction; for landscape stone and flagstone.

References:
Carson, D. M. 1981, pg. 6.

Name/Location:
Harvey; lot 11, conc. I

Mineral Inventory Map No.:
67

NTS Ref:
31D/9

Commodity:
Building Stone: Limestone

Description of Deposit/Notes:
Pale grey and brown, sublithographic to lithographic limestone of the Gull River Formation.

Work/Type/Year:
Some quarrying was done at this location for limestone which was reportedly suitable for printmaking purposes (Martin, 1983 pg. 165).

References:
Martin, W. 1983, pg. 165.

Iron

Iron occurrences are found throughout the County of Peterborough. As early as 1815, the presence of iron was documented in the area (Owen, 1815). J. Ryder (1819), a federal surveyor, found that the rocks on the shore of Crowe Lake, in Belmont Township, exhibited strong magnetic attractions. In 1820, iron ore from the Blairton Mine was being produced and shipped to the iron works in Marmora. The Blairton Mine operated intermittently from 1820 to 1875. The mine officially ceased operations in 1882. A number of other iron deposits were mined during the 1800's and early 1900's. These were mainly small tonnage operations.

Iron occurrences in Peterborough County can be found in the following classification types: Contact Metasomatic, Magmatic Segregation Deposits, and Stratiform Iron Formation (Rose, 1958 pg. 60-68). Of these, the contact metasomatic deposit type is the most widespread in this area. Deposits of this type (Blairton, Belmont Ledyard, Pershing, Dominion Gulf etc.) consist of disseminated to massive magnetite in irregularly shaped pockets in skarn zones developed along the contacts of carbonate metasediments or limestones and igneous intrusions of gabbroic or granitic composition. The extent and quantity of the magnetite bearing ore varies considerably due to the erratic and irregular shape of the ore body. The iron and trace element content of the ore also varies considerably within the same deposit. These deposits are not enriched in the base or precious metals and are often characterized by low titanium contents (Gross, 1967 pg. 93-95).

Magmatic segregation iron deposits are less widespread in Peterborough County. Deposits of this type are characterized by high titanium, ilmenite, and vanadium contents relative to contact metasomatic type deposits. Iron-titanium deposits occur within or immediately adjacent to gabbroic or syenitic intrusive bodies. The high content of titanium appears to be a function of high temperature and the chemical composition of the parent magma. This is evidenced by the close genetic relationship between the intrusive host rocks and the mineral constituents of the ore. This relationship is not as well defined in contact metasomatic type deposits.

Stratiform iron formations are found mainly in Belmont Township (Young-Purdy Occurrence) and consist of magnetite-bearing cherts intercalated with mafic flows, breccias and epiclastic sediments. Stratiform iron formations in Belmont township are believed to result from exhalative processes associated with volcanism (Bartlett et al, 1980 pg. 92-95).

Name:
Biron Bay Gold Mines

Mineral Inventory Map No.:
68

Commodity:
Iron: Magnetite

Accessory Minerals:
Amphibole-garnet, pyrite, chalcopyrite, pyrrhotite

Rock Association:
The area is in a north-northeast trending belt of Proterozoic metasediments which occur as inclusions in/or bend around masses of granite gneiss and granite.

Classification:
Contact metasomatic iron deposit.

Location:
The Biron Bay Iron Ore Deposit is located within concession XV, the south half of lots 26 and 27, Anstruther Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
445145 N, 781150 E

Access:
From Apsley, travel north on highway 28 for approximately 20 km. A secondary road northwest provides access to the area of the workings.

Property Status:
Crown land (Claim map M.45). Zoning: wilderness (Bylaw 2- 1979); rural and forest (Official Plan).

Commodity Status:
Prospect

Geological Description:
Locally, magnetite lenses and bands occur in a limestone belt associated with the Anstruther granite gneiss. The arc-shaped limestone belt is about 1 km wide, trending from east to west in a south-southeast direction along a distance of 11.3 km. Magnetic surveys and diamond drilling indicates 3 zones. Zone "A" has a length of approximately 305 m and a width of 91 m, within which there are 5 separate magnetite bodies. Zone "B" is about 305 m long and has a total width of 9.1 m. A detailed magnetometer survey indicated that the "C" zone is about 340 m long and up to 40 m wide (DEMR, 1975 NMI Card 31D/16 Fe5).

Mineralization: Two diamond drill holes, put down in 1971, gave the following assays: one hole intersected 2.7 m of 32.4% Fe, 22.93% SiO_2, and 9.37% CaO; the other hole intersected 11.2 m of magnetite of which a 1.5 m section assayed 24.8% Fe, 12.2% magnetitc Fe, 0.22% P_2O_5, 0.19% S, 0.73% TiO_2, 0.71% MnO, 32.6% SiO_2, and 8.10% CaO (DEMR, 1975 NMI Card 31D/16 Fe5).

Size and Grade: Report of the mining geologist gave the following results: the drilling in the "A" zone indicated that the high grade surface sections might not extend deeper, however there might be a limited tonnage of high grade magnetite above the 30.5 m horizon.The hole in the "B" zone intersected 30.5% total Fe along a core length of 7.6 m, at the 53.3 m horizon. Zone "C" was tected to the 91.4 m horizon.

Hole 72-3 graded 33.4% total Fe along a core length of 7.8 m. Hole 72-4 intersected 28.07% total Fe along core length of 31.2 m. Hole 72-5 intersected 95.1 m of 13.51% total Fe. A test indicated that a magnetic concentrate grading 65.1% Fe, 0.13% Ti, trace P2O5, 6.4% SiO2, 0.38% MnO, 1.94% Al2O3, 1.64% CaO, 1.25% MgO, and 0.85% S, could be produced. The drilling indicated that there might be 1,400,000 tonnes of potential ore to the 228.6 m horizon.

Drill core (2600.8 m) is stored in the Bancroft Core Library.

History:
The occurrence has been known for many years and in 1913 two large pits were put down to a depth of 7.6 m. In October, 1970, T. E. Barton of Peterborough staked the occurrence as part of 12 claims. Biron Bay Gold Mines Limited optioned the property in November, 1971. Also optioned was concession XV, lot 28, from F. L. Young of Apsley, Ontario.

In January, 1971, a reconnaissance magnetic survey was completed over part of the property and in November, 1971, 2 diamond drill holes, totalling 64 m, were put down.

The property was enlarged to 20 claims by staking 8 additional claims to the north. During the summer of 1972, it was surveyed magnetically, excluding the 8 new claims. A diamond drilling program was carried out between August, 1972 and November, 1972. Seven diamond drill holes, totalling 764.7 m, were completed. Three tested the A zone, one the B zone, and three the C zone (DEMR, 1975 NMI Card 31D/16 Fe 5).

In 1975, 17 drill holes, totalling 1506.3 m, were put down to explore further extensions of the ore body. Since 1975, minimal work has been done on the property.

References Cited:
Department of Energy, Mines and Resources. 1975, NMI Card 31D/16 Fe 5.
Evans, S. W. 1972, Program Summary, Biron Bay Gold Mines Ltd.
Trussler, J. R. 1976, pg. 117-123.

Additional References:
Bright, E. G. 1975, pg. 96.
Shklanka, R. 1968, pg. 286.
Ontario Geological Survey. 1984a.

Name:
Blairton Iron Mine

Mineral Inventory Map No.:
69

Commodity:
Iron: Magnetite

Accessory Minerals:
Pyrite, pyrrhotite, chalcopyrite, pyroxene, chlorite, plagioclase

Rock Association:
Skarn deposit of magnetite at the contact of a gabbro-diorite intrusion and Paleozoic limestone.

Classification:
Contact metasomatic iron deposit.

Location:
The Blairton Iron Mine is located on the southwest shore of Crowe Lake approximately 7 km west of Marmora on lots 7 and 8, concession I, Belmont Township.

NTS Map No.:
31C/5

UTM Grid Coordinates:
442814 N, 774540 E

Access:
A short road servicing the Blairton Mobile Home Campground, 2 km north of Highway 7, provides access to the site.

Property Status:
Patented (Claim Map M.53). Zoning: rural, extractive industrial (Bylaw 1977-25); recreational residential, seasonal residential (Official Plan).

Commodity Status:
Past Producer

Geological Description:
Rose (1958 pg. 23) describes the geology of the Blairton Iron Mine as follows. "An intrusive body of gabbro-diorite forms the east wall of the deposits, with crystalline limestone and chloritic schist on the west wall. A sinuous, northerly trending shear zone in skarn and metamorphic pyroxenite carries magnetite and dips steeply east. The magnetite zone and adjacent rocks are overlain by conglomerate, succeeded by ferruginous dolomite and limestone, all of Paleozoic age."

There are two lenses of magnetite present. The main lens is approximately 210 m long and 15 m in width.

The workings of this mine consist of three pits. The Lake pit is near the shore of Crowe Lake, and the Derick and Morton pits are about 305 m south of the Lake pit.

The Lake pit trends north and south and extends almost to the shore of Crowe

Lake. The wall rock is a metamorphosed gabbro strongly stained from the weathering of sulphides, pyrite, pyrrhotite, and chalcopyrite. What appeared to be an old ore dump exposes magnetite with much sulphide.

The south and east sides of the Derick pit expose low-dipping Ordovicianlimestone lying unconformably on a magnetite bearing gabbro. "At the contact the gabbro consists of broken fragments, and the basal Ordovician bed is a conglomerate composed of angular fragments from less than an inch to as much as three inches in diameter of a red hematite rock in an impure limestone matrix. There is a very large dump, indicating that much of the rock was not of ore grade. Small ore dumps consist of a fine-grained magnetite veined by serpentine and, to a lesser extent, epidote. Numerous slips faced with serpentine cut the magnetite. Sulphides do not seem to be so abundant here as at the Lake pit. Pyrite is common, pyrrhotite is rare, and chalcopyrite was not found." (Satterly, 1943 pg. 47).

Mineralization: The host rock (gabbro-diorite) is fine- to medium-grained with disseminations of magnetite. A representative hand sample collected by the author consists of pyroxene, chlorite, and plagioclase, with coarse-grained magnetite abundant.

Size and Grade: The Lake pit is 73.1 m long and from 15.2 to 23.0 m wide. The height of the south and west wall above the water level in the pit is 15.2 to 23.0 m. The Derick pit is 61.0 m long, 45.7 m wide, and from 6.1 to 9.1 m deep to the present water level. It is reported to have an overall depth of 38.1 m. The Morton pit, adjoining the Derick pit on the south is 9.1 to 21.3 m deep.

Drill core is available for viewing at the Tweed drill core Library.

History:
The mine was opened up about 1820, and operated intermittently until 1875. During this period, some 270,000 tonnes of ore was shipped from 3 pits. In 1908 some diamond drilling was done, and in 1910 thirteen holes, with an aggregate footage of 1097.3 m, were put down by Canadian Iron Mines Limited. In 1951, some diamond drilling was done by Frobisher Limited, and a magnetometer survey and 2 diamond drill holes on Crowe Lake were done by Trent River Iron Limited. In 1957, some drilling was put down by W. S. Moore Company (Shklanka, 1968 pg. 288).

References Cited:
Rose, E. R. 1958, pg. 22-25.
Satterly, J. 1943, pg. 47-48.
Shklanka, R. 1968, pg. 287-288.

Additional References:
Bartlett et al. 1980, pg. 92-95.
Department of Energy, Mines and Resources. 1979, NMI Card 31C/5 Fe3.
Guillet, G. R. 1983, pg. 68-71.
Lindeman E. and Bolton, L. L. 1917, pg. 163.

Name:
Ledyard Iron Mine

Mineral Inventory Map No.:
70

Commodity:
Iron: Magnetite

Accessory Minerals:
Brown garnet, dark-green amphibole, white calcite, epidote, tremolite

Rock Association:
Skarn deposit of magnetite in marble near a gabbro contact.

Classification:
Contact metasomatic iron deposit.

Location:
The Belmont/Ledyard Mine is located 300 m south of the town of Cordova Mines in Belmont Township, the west half of lot 19,concession 1.

NTS Map No.:
31C/12W

UTM Grid Coordinates:
443200 N, 774705 E

Access:
This mine may be reached from Havelock by travelling east on Peterborough County Road 48 to Cordova Mines. The first road south on a loose surface road provides access to the mine site.

Property Status:
Patented (March 21, 1986)(Claim Map M.53). Zoning: extractive industrial (Bylaw 1977-25); extractive industrial, recreational residential (Official Plan).

Commodity Status:
Past Producer

Geological Description:
The geology of the iron-bearing zone varies considerably, which is characteristic of contact metasomatic deposits. In some locations across the zone a mixture of magnetite and gangue minerals, primarily pyroxene and chlorite, are found. In general, the magnetite is disseminated through the host rock, a fine- to medium-grained gabbro-diorite. The magnetite bearing zone strikes northerly and dips steeply west.

Size and Grade: The main pit has a length of 67.1 m, a width varying from 12 to 21 m, and a depth of 1 to 6 m. The Nichols pit (located 30.5 m southeast of the main pit) has a length of 16.8 m, a width of 12.2 m and a depth of 1.5 to 1.8 m.

Reserves have been estimated by Shklanka (1968 pg. 287) to be approximately one million tonnes grading 31.47% magnetic iron. A sample from the No. 1 pit assayed 51.2% Fe, 12.1% SiO_2, 0.34% sulphur, and 0.10% TiO_2.

History:
Intermittent ore shipments between the years 1899 and 1913 totalled about 7,000 tonnes. Six diamond drill holes were put down in 1906 and were said to have proven 110,000 tonnes of concentrating ore. In 1911, development work was resumed after a lapse of several years. A 3-compartment shaft, started that year, about 4.6 m north of the main pit, had reached a depth of 79.2 m early in 1914, when mining operations were discontinued. Levels were opened from this shaft at depths of 30.5, 51.8, and 70.1 m (I.O.C. Report, 1923 pg. 164).

References Cited:
Ontario Department of Mines. 1923.
Shklanka, R. 1968, pg. 287.

Additional References:
Gross, G. 1967, pg. 38.
Rose, E. 1958, pg. 29.

Name:
Twin-Lake Prospect

Mineral Inventory Map No.:
71

Commodity:
Iron: Ilmenite-Magnetite

Accessory Minerals:
Hematite, pyrite

Rock Association:
The rocks at this location are associated with the Twin Lake diorite.

Classification:
Magmatic segregation ilmenite-magnetite deposit.

Location:
This property is located in Methuen Township on concessions 3 and 4, lots 8 and the east half of 9, approximately 10 km northeast of the hamlet of Oak Lake.

NTS Map No.:
31C/12

UTM Grid Coordinates:
443730 N, 775220 E

Access:
From the hamlet of Oak Lake, travel north on County Road 46 for approximately 10 km. The deposit is located approximately 200 m east of County Road 46.

Property Status:
Withdrawn from staking 18/6/84, Order no. W.3/84 (Claim Map M.126). Zoning: open space, special district 1 (Bylaw 1977-25); recreational residential (Official Plan).

Commodity Status:
Prospect

Geological Description:
This property is located in the southeastern section of an oval basin structure described by Hewitt (1960 pg. 160) as the Twin Lake Diorite. The basin is approximately 3 km long and 2 km wide. Although the body ,on a regional basis, consists essentially of diorite, a representative hand sample may best be described as a gabbro. This description is based largely on the fact that mafic minerals comprise more than 35% of the rock. The sample is black, and medium-grained, with disseminations of fine-grained weekly magnetic ilmenite. Hematite and pyrite are also present in minor amounts.

Deposits of this type are thought to be derived from magmatic segregation, whereby the mineral constituents of magmas, at extremely high temperatures (820 degrees Celcius) differentiate within the gabbro mass and, when cooled, give rise to a high iron and titanium content (Gross, 1967 pg. 30). This deposit type is higher in titanium, vanadium and other elements than deposits formed by contact metasomatism.

The Twin Lake prospect is typical of iron-titanium deposits, which can be processed principally for the recovery of titanium dioxide, with metallic iron produced as a secondary product in the processing of the ore.

History:
This property, owned by Harold White of Sterling, Ontario, was optioned to the Canadian Nickel Company Limited, in 1981. Work on the property has included open cuts and an extensive diamond drilling program, which indicated a substantial deposit of 13-18 million tonnes. Exploration has since been discontinued by the Canadian Nickel Company for reasons unknown. A number of companies have since shown interest in this property.

References Cited:
Gross, G. 1967, pg. 31.
Hewitt, D. 1960, pg. 160.

Additional References:
Shklanka, R. 1968, pg. 291.

Name:
Horse Lake Diorite (Tripp, Pioneer Consultants)

Mineral Inventory Map No.:
72

Commodity:
Iron: Ilmenite-Magnetite

Accessory Minerals:
Feldspar, hornblende, pyroxene, quartz

Rock Association:
The site is located in the oval-shaped Horse Lake basic intrusive and is rimmed by granite which separates the diorite from the metasediments of the Oak Lake formation.

Classification:
Dark green, fine-grained diorite.

Location:
This occurrence is located on concession X, lots 5 and 6, immediately west of Horse Lake in the southwest corner of Methuen Township.

NTS Map No.:
31C/12

UTM Grid Coordinates:
443500 N, 775800 E

Access:
Since records document diamond drilling, an access road to the site specific is most probable, though it is undoubtedly overgrown. A CNR line which runs northwesterly to Nephton crosses the site at rail miles 10-14.

Property Status:
Lot 5, patented surface rights only; lot 6, patented (Claim Map M.126). Zoning: environmental control (Bylaw 1977-25); open space, recreational, environmental control (Official Plan).

Commodity Status:
Prospect

Geological Description:
The following geological information is from Hewitt (1960 page 154). This property is located within the Horse Lake basic intrusive which is an oval shaped body approximately 5 km in length and 3 km in width. The rock units in the immediate area of the site are described as diorite, quartz diorite and diorite breccia. A fault or lineament, regional in extent, passes through the property in a north-northwesterly direction. The amount and direction of displacement is uncertain. There are also numerous granite pegmatite dikes in the immediate area of this occurrence. Hewitt and Satterly's map (1957) shows one such unit outcropping along the west flank of the fault and terminating at the small lake in the north end of the property.

A number of drill holes were put down and drill hole 7 is described as being "mottled, light and dark green, fine-grained...tough, cohesive" diorite which is free of sulphides (MNR Assessment File 2).

History:
In 1965 Pioneer Consultants Limited, put down 10 diamond drill holes, totalling 313.6 m (MNR Assessment File 2).

The assessment records indicate that the commodity sought was ilmenite-magnetite. There are no references to the size and grade of this deposit apart from the notes described above. There is a brief comment that "the rock appears very suitable for traprock" (MNR Assessment File 2).

Further exploration should be directed towards the assessment of this property for potential product uses such as aggragate for road construction, polymer bonded glazed panels or tiles for architectural use, landscape stone, ornamental or monument stone.

References Cited:
Hewitt, D. F. 1957, Map 1957b.
Ministry of Natural Resources, Assessment File 2, Methuen Township.

Name/Location:
Dominion Gulf Occurrence (Alternate name - Pushing Prospect) - Belmont; lot 5, conc. II

Mineral Inventory Map No.:
73

NTS Ref:
31C/5

Commodity:
Iron: Magnetite

Description of Deposit/Notes:
The prospect is described by Shklanka (1968 pg. 289) as a skarn deposit of magnetite with some pyrite, pyrrhotite and chalcopyrite below 40.5 m of Paleozoic limestone. Seventeen samples (from 5 ddh) assayed 27.7% iron, 0.12% TIO2, 0.53% sulphur, 0.29% phosphorus and 0.125% copper. Concentrates grading 68.4 to 70.7% iron were obtained with 80% recovery.

Work/Type/Year:
In 1954, the Trent River Iron Company conducted a magnetometer survey to test for possible extensions to the Blairton ore body. The Dominion Gulf or Pushing occurrence was detected and a drilling program (5 drill holes) was conducted. The results presumably were not favourable at that time and no further reports of work were found in the literature.

References:
Shklanka, R. 1968, pg. 289.

Name/Location:
Belmont; lot 15, conc. II

Mineral Inventory Map No.:
74

NTS Ref:
31C/5

Commodity:
Iron: Martite, pseudomorphous after hematite

Description of Deposit/Notes:
Martite as described by Gross (1967 pg. 101) is a term commonly used for hematite (Fe_2O_3) that is pseudomorphous after magnetite and, rarely, after pyrite. It is usually iron-black with a sub-metallic lustre. Martite may be feebly magnetic due to residual or remnant magnetite inclusions.

The martite occurrence may best be described as a skarn deposit. The skarns, according to Bartlett (1983), are dense, fine-grained rocks comprising garnet, pyroxene, amphibole epidote, magnetite, pyrite, pyrrhotite and carbonate, with minor chalcopyrite.

Work/Type/Year:
C. R. Young of Havelock conducted a geophysical survey and a diamond drilling program (4 ddh) in the early 1960's. The martit -bearing zone is estimated to be approximately 125 m X 50 m. Insufficient drilling has been done to allow a probable tonnage to be estimated. The martite zone is known to contain high concentrations of vanadium pentoxide. Assay results indicated average values between 0.37% and 0.82% (C. R. Young, Personal Communication, 1986).

References:
Bartlett, J. R. 1983, OGS Map P.2613.
~~Gross, G. 1967, pg. 101.~~

Name/Location:
Belmont; lot 21, conc. III

Mineral Inventory Map No.:
75

NTS Ref:
31C/12

Commodity:
Iron: Magnetite-Hematite

Description of Deposit/Notes:
Guillet (1983 pg. 72) describes this occurrence as a small outcropping of magnetite-hematite-quartz iron formation, 6 m by 30 m, located 30 m east of the bridge over the Deer River. The author comments that the occurrence is low grade and of no economic importance.

Work/Type/Year:
None reported, apart from initial survey.

References:
Guillet, G. R. 1983, pg. 72.

Name/Location:
Belmont; lots 1-2, conc. IV

Mineral Inventory Map No.:
76

NTS Ref:
31C/5

Commodity:
Iron: Magnetite

Description of Deposit/Notes:
According to Rose (1958, pg. 47) magnetite occurs in an assemblage of greenstone, chloritic schist, breccia, metamorphic pyroxenite, crystalline limestone, diorite, trap and syenite. Intense and complete alteration to epidote-garnet rock is common and veinlets and breccia cement of calcite are abundant. Pyrite, pyrrhotite and chalcopyrite occur in fine disseminations and in carbonate veinlets.

The magnetite is characteristically fine-grained and flecked with gangue minerals that are, in places, replaced by magnetite along their edges. Veinlets of carbonates, chlorite and serpentine intersect, or fill fractures in, the magnetite.

Work/Type/Year:
The property was drilled in 1954 by the Trent River Iron Company. The showing was not extensive and did not warrant further work.

References:
Carter, T. R. 1984, pg. 161.
Department of Energy, Mines and Resources. 1952, NMI Card 31C/5.
Guillet, G. R. 1983, pg. 72.
Rose, E. 1958, pg. 47.
Shklanka, R. 1968, pg. 289.

Name/Location:
Belmont; lot 20, conc. IV

Mineral Inventory Map No.:
77

NTS Ref:
31C/5, 31C/12

Commodity:
Iron: magnetite-specular hematite

Description of Deposit/Notes:
A band of magnetite-specular hematite-quartz iron formation strikes north to northeast and dips steeply south. It is enclosed by mica-chlorite schist and metavolcanics. Miller and Knight (1914 pg. 26) gave an analysis of 24.06% iron, 0.024% sulphur and 0.126% phosphorus.

Work/Type/Year:
None reported.

References:
Gross, G. 1967, pg. 84-85.
Miller, W. G. and Knight, C. W. 1914, pg. 26.

Name/Location:
Belmont; lot 21, conc. IV

Mineral Inventory Map No.:
78

NTS Ref:
31C/12

Commodity:
Iron: Magnetite

Description of Deposit/Notes:
Bartlett (1982) provides the following description: the rock is granular, centimeter-layered and averages about 10% magnetite by visual estimation. The unit is 15 cm thick and can be traced for 400 m. The immediate enclosing rock is a fine-grained chlorite schist with minor garnet.

Work/Type/Year:
There are no references to any extensive development work at this location.

References:
Bartlett, J. R. 1982, OGS Map P.2488.

Name/Location:
Belmont; lot 15, conc. V

Mineral Inventory Map No.:
79

NTS Ref:
31C/12

Commodity:
Iron: Specular Hematite

Description of Deposit/Notes:
Satterly (1943 pg. 49) reports that "there is a north-south band of lean iron formation with an exposed width of 20 feet. To the east and west are outcrops of altered Keewatin-type basic volcanics. The iron formation is a blue-grey sugary quartzite with films of specular hematite parallel to the bedding."

Work/Type/Year:
One pit and two trenches were put down on this property prior to 1943. (Satterly, 1943 pg. 49).

References:
Satterly, J. 1943, pg. 49.
Shklanka, R. 1968, pg. 289.

Name/Location:
Belmont; lot 25, conc. VI

Mineral Inventory Map No.:
80

NTS Ref:
31C/12, 31C/13

Commodity:
Iron: Magnetite-hematite

Description of Deposit/Notes:
According to Guillet (1983 pg. 72), a "banded iron formation is exposed over an area 75 m by 45 m enclosed in green volcanic schists." The volcanics are part of the Belmont metavolcanic unit (Hewitt and Satterly, 1957).

Magnetite and hematite mineralization occurs disseminated among quartz grains. This deposit is best described as a banded magnetite-hematite-quartz iron formation. The mineralization zone is approximately 76 m in width and is exposed over a length of 45 m. It is enclosed in green chloritic volcanic schists associated with the Belmont metavolcanics. Sample results returned the following assays; metallic iron 24.06%, sulphur 0.24%, phosphorus 0.126% (C. R. Young, Personal Communication, 1986).

Work/Type/Year:
None reported.

References:
Hewitt, D. F. and Satterly, J., 1957, OGS Map 1957b.
Guillet, G. R. 1983, pg. 72.
Miller, W. G. and Knight, C. W. 1914, pg. 26.
Shklanka, R. 1968, pg. 290.

Name/Location:
Belmont; lot 16, conc. VII

Mineral Inventory Map No.:
81

NTS Ref:
31C/12

Commodity:
Iron: Hematite-Magnetite

Description of Deposit/Notes:
Hematite and Magnetite were found in schist and chert beneath a cap of Paleozoic limestone (C.R. Young Personal Communication).

Work/Type/Year:
Diamond drilling (3 holes totalling 120 m) was done on this property.

References:
Bartlett et al. 1980, pg 93.

Name/Location:
Burleigh; lot 24, conc. XVI

Mineral Inventory Map No.:
82

NTS Ref:
31D/9

Commodity:
Iron: magnetite

Description of Deposit/Notes:
Adams and Barlow (1910 pg. 315) provide the following description: "Ore from a deposit of black, fine granular magnetite was found to carry iron (63-68 percent), phosphorus (trace) and sulphur (0.03 percent). The intermixed rock matter is pyroxenite."

Work/Type/Year:
None reported.

References:
Adams F. D. and Barlow, A. E. 1910, pg. 351.
Shklanka, R. 1968, pg. 290.

Name/Location:
Chandos; lot 28, conc. II

Mineral Inventory Map No.:
83

NTS Ref:
31D/16, 31C/13

Commodity:
Iron

Description of Deposit/Notes:
Magnetite is reported to occur in several areas in the vicinity of lots 27-30, conc. II. The main showing is described by Lindeman (1913 pg. 14). "An open cut, 16 m x 6 m has been made into a hill, exposing a dark-colored amphibolite, associated with some magnetite. Magnetic indications of several other deposits in the immediate vicinity were also noticed..." Shaw (1962 pg. 26) also describes the area. "The magnetite-rich rock, up to 80% magnetite, forms a lens-like mass about 15 feet thick, striking N 45 degrees E and dipping 55 degrees northwest. It is overlain by a magnetite-biotite paragneiss..."

Work/Type/Year:
Early work involved trenching (16 m x 6 m), in 1910. Limited diamond-drilling was done in 1958 by Black Rock Mining Company. No further reports of work were found in the literature.

References:
Abraham, E. M. 1951, pg. 17.
Lindeman, E. 1913, pg. 14.
Miller, W. G. 1899, pg. 214.
Satterly, J. 1943, pg. 49.
Shaw, D. M. 1962, pg. 26.
Shklanka, R. 1968, pg. 291.

Name/Location:
Chandos; lot 21, conc. IV; lot 19, conc. XI

CHANDOS

Mineral Inventory Map No.:
84a, 84b

NTS Ref:
31C/13

Commodity:
Iron: Magnetite disseminated in granite-granite gneiss.

Description of Deposit/Notes:
The rock is a medium- to coarse-grained granite containing numerous inclusions of biotite-hornblende-plagioclase gneiss which is partially granitized. The granite contains disseminated magnetite (Abraham, 1951 pg. 17).

Work/Type/Year:
Aeromagnetic surveys indicated a maximum intensity (gammas) of 3700 and magnetic relief of 1500 to 1800. Dip needle results indicated low positive readings.

References:
Abraham, E. M. 1951, pg. 17.

Name/Location:
Chandos; lots 26-27, conc. IV

Mineral Inventory Map No.:
85

NTS Ref:
31C/13, 31D/16

Commodity:
Iron: Magnetite dissemenations in granite and syenite.

Description of Deposit/Notes:
According to Abraham (1951 pg. 17), the "anomaly is centered over granite and hornblende-biotite syenite cut by granite pegmatite. Both the granite and syenite contain disseminated magnetite." The maximum intensity is reported to be 3400 (gammas). The magnetic relief is 1500 gammas. The shape is listed as triangular, striking 70 degrees.

Work/Type/Year:
An aeromagnetic survey of the area, in 1949, is the only report of exploration on this property.

References:
Abraham, E. M. 1951, pg. 17.

Name/Location:
Chandos; lot 19, conc. V, South Bay

Mineral Inventory Map No.:
86

NTS Ref:
31C/13, 31D/16

Commodity:
Iron: Magnetite (minor amounts) in grey gneiss.

Description of Deposit/Notes:
According to Abraham (1951 pg. 16), the "crest of the anomaly lies just offshore. On shore the rock is contaminated pink granite. It contains numerous partially digested inclusions of grey gneiss. The granite contains minor amounts of disseminated magnetite."

Work/Type/Year:
The results of the aeromagnetic survey in 1949, indicated low to nil intensities in the area of South Bay. No references to exploration or development activity are reported.

References:
Abraham, E. M. 1951, pg. 16.

Name/Location:
Galway; lot 23, conc. XII; lot 27, conc. XIV

Mineral Inventory Map No.:
87a, 87b

NTS Ref:
31D/15, 31D/16

Commodity:
Iron: Magnetite disseminated in hornblende gneiss

Description of Deposit/Notes:
Adams (1894 pg. 14J) provides this description of the occurrence on lot 23, conc. XII: "The country rock is a reddish gneiss, interstratified with a dark hornblende gneiss which contains strings of red garnet, yellowish green epidote and magnetite". The author comments that the magnetite is too scattered and in insufficient quantity to be economically important. However, he points out that exploration to trace the ore body may uncover a larger deposit. On lot 27, conc. XIV, a sample of magnetite was taken and assayed 62.8% iron and 13.2% silica. No further geological information was provided on this particular showing.

Work/Type/Year:
Although Adams (1894 pg. 14J) sampled and assayed this magnetite occurrence and published the results, there were no references found which document subsequent exploration at this location.

References:
Adams, F. D. 1894, pg. 14J.

Name/Location:
Galway; lots 23-24, conc. XIV

Mineral Inventory Map No.:
88

NTS Ref:
31D/15, 31D/9

Commodity:
Iron: Magnetite

Description of Deposit/Notes:
A geological survey (Easton and Bartlett, 1984) indicated the occurrence of magnetite near a fault separating marbles and siliceous metasediments on the north from quartzite and metaconglomerate to the south in lots 23 and 24, concession XIV, Galway Township.

Work/Type/Year:
No references to work at this location have been documented.

References:
Easton, R. M. and Bartlett, J. R. 1984, OGS Map P.2699.

Name/Location:
Galway; lot 8, conc. XVII

Mineral Inventory Map No.:
89

NTS Ref:
31D/15, 31D/9

Commodity:
Iron: Magnetite in leucodiorite

Description of Deposit/Notes:
According to Easton and Bartlett (1984): "Magnetite is common in the diorite-syenite bodies along the southeastern margin of the Glamorgan gneiss, and locally accounts for up to 50% of the rock (property 17). This class of deposits has been previously unrecorded."

Work/Type/Year:
No references to work on this property were found in the literature.

References:
Easton, R. M. and Bartlett, J. R. 1984, OGS Map P.2699.

Radioactive Minerals

In Peterborough County, occurrences of radioactive minerals are confined to the northern townships of Cavendish, Anstruther, and to a lesser extent Galway, Chandos and the north portion of Harvey.

The mineralization has been identified in several rock types (Bright, 1977 pg. 110-117). These include zoned and unzoned pegmatites, calc-silicate skarns and calcite, pyroxene and biotite veins (Masson and Gordon, 1979 pg. 190-192). In Peterborough County, the pegmatite deposits are most dominant. The pegmatites are granitic to syenitic and are composed primarily of quartz, microcline, microperthite and soda plagioclase. Dikes and sills, ranging from 0.5 m to 50 m in width, and from 5 m to up to 1 km in length, have been documented (Morton, 1983 pg. 38; Masson and Gordon, 1979 pg. 190-191).

The mineralization is usually present in sheared and fractured zones in contact areas with the regional country rocks. Uraninite and uranothorite are the major minerals present with locally abundant allanite and magnetite (Robertson, 1981 pg. 22).

In Harvey Township, the major occurrences explored are associated with leucocratic dikes and sills of late pegmatitic granite which are intrusive into the local metasediments. A number of these intrusions are found throughout the township. Although found to exhibit radioactive anomalies, they are considered to be of minor significance (Morton, 2983 pg. 38-39).

In Cavendish and Anstruther townships, uranium-bearing granitic pegmatite sills are concentrated in the tightly folded high-grade metamorphosed metavolcanics and metasediments of the Hermon Group along the flanks of the Anstruther dome (Bright, 1981 OGS Map P-2422). Field work done by Bright (1980 OGS Map P-2205) indicated that the pegmatites were formed at depth by "in-situ" anatexis and by remobilization of the lower arkosic metasediments of the Anstruther Lake Group. He also noted that assimilation and metasomatism of the wallrock may also have contributed to the uranium mineralization present.

Several uranium occurrences were investigated in Chandos Township (Shaw, 1962 pg. 26-27) with all exploration activity centered on granite pegmatites. Limited diamond-drilling was carried out on the properties and, although radioactive anomalies were recorded, none of the showings were considered to be of economic significance.

Exploration for uranium in Peterborough County was most

active during the 1950's. Numerous companies staked blocks of claims and carried out geophysical and geological surveys followed by diamond drilling and trenching. On some properties, shafts and adits were driven to test the rock. Markets for uranium declined significantly in the late 1950's and many of the claims were abandoned.

Interest in uranium was renewed in the 1960's and early 1970's. The more favorable deposits were re-examined, and many new occurrences were discovered. Exploration activity gradually declined in the late 1970's, mainly due to unfavorable economic conditions.

While sufficient world-wide reserves of uranium exist to meet current demand, the proven uranium deposits in Peterborough County constitute an important future source of raw material for the nuclear industry.

In this section, numerous references to geiger readings are made. For comparative purposes, the normal background count in the Bancroft area is 20 to 25 (1M) or 400 to 500 counts per minute (cpms).

Name:
Zenmac-Newkirk B Group

Mineral Inventory Map No.:
90

Commodity:
Uranium

Accessory Minerals:
Molybdenum, chalcopyrite

Rock Association:
This property lies on the southeast border of the Anstruther granite gneiss mass and the northeast boundary of the Burleigh granite mass.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Zenmac prospect is located within concession I, lots 17 and 18, Anstruther Township, approximately 6.4 km southwest of Apsley. Portions of the prospect also extend into concessions VIII and IX, lot 26, Burleigh Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444350 N, 781000 E (western most point on Loon Call Lake)

Access:
From Apsley, travel south on Highway 28 for 2 km to township road. Travel west on township road for 2.5 km to the east end of Loon Call Lake, and then by boat to the property at the west end of the lake.

Property Status:
Leased Surface and Mining Rights, EO 33511 to EO33514 (Claim Map M.45). Zoning: wilderness, recreational and residential (Bylaw 2-2979); rural and forest area, recreational dwelling area (Official Plan).

Commodity Status:
Prospect

Geological Description:
The geology of this property is described by Satterly (1956 pg. 154) as follows: "The Zenmac property lies on the border between the Anstruther and Burleigh granite gneiss masses. The property is largely underlain by granite gneiss and granite pegmatite or pegmatitic granite with inclusions of metasediments. The latter are biotite amphibolite, biotite paragneiss, garnet biotite gneiss, and very rarely, marble. The gneisses strike northeast and dip 25 to 50SE.

In lots 17 and 18, concession I, a fault zone strikes 55 degrees and dips 40 degrees SE. On these claims radioactive pegmatite dikes are adjacent to, or in, a band of garnet-biotite gneiss."

Mineralization: Uranium-bearing sections of pegmatites were examined by Satterly (1956 pg. 155). In drill hole Z10, those sections of the core

assaying 0.08% U308 (chemical) or better, to a high of 0.32% U308 (chemical) were examined and it was noted that the pegmatite was a deeper pink and contained biotite. A fault zone which contained four lenses was explored and the following widths were indicated: A east, 113 m; A west, 73 m; B east, 82 m; B west 41 m. The uranium-bearing mineral is not always visible, but orange uranothorite was recognized as minute grains in biotite, and black uranothorite in quartz.Size and Grade: Grades based on radiometric assaying are reported to have ranged from 0.7 kg to 1.5 kg of U308/tonne.

From the drilling of Zenmac and Glenn Explorations there were estimated 180,000 tonnes to 106.7 m below the surface grading 0.136% U308. To a depth of 152.4 m over an average true width of 2.3 m there were estimated to be 370,000 tonnes (indicated and inferred) grading 0.8 kg U308/tonne. Detailed estimates are as follows:

230,000 tonnes at 0.9 kg U308/tonne (indicated); 93,000 tonnes at 0.85 kg U308/tonne (inferred); 48,000 tonnes at 0.18 kg U308/tonne (dilution).

Most of the reserve is estimated for two of the lenses that dip about 45 degrees and flatten in parts to 10 degrees; a small amount came from a third lens. The deposit contains 650,000 tonnes when the grade is 0.60 kg U308/tonne (DEMR, 1981 NMI Card 31D/9 U1).

History:
The occurrence is between Wolf Lake and the southwest end of Loon Call Lake and was within a group of claims held by Zenmac Metal Mines Limited.

"In 1953, Newkirk Mining Corporation Limited carried out an airborne scintillometer survey covering a(4000 square kilometer) area in the eastern part of Haliburton and northern part of Hastings counties. This survey indicated a number of radioactive anomalies. A block of 36[illegible] claims was staked in Anstruther and Burleigh Townships covering the anomalies. In 1955, Zenmac Metal Mines Limited acquired a 32-claim group covering some of these anomalies. This group was formerly known as the Newkirk B Group" (Satterly, 1956 pg. 154).

In 1954 and 1955 ground scintillometer surveys and geological surveys were carried out, and in 1955 radioactive anomalies and lineaments were explored by 1950.7 m of diamond drilling in 19 holes. The fault zone area on this property was explored for a strike length of 335.5 m. In this distance the four uranium bearing lenses were indicated.

The original Zenmac claims were allowed to lapse. A group of 4 claims was acquired by Reno Rinaldi, and optioned along with 20 other claims in two groups, to Glenn Explorations in April, 1967. To the end of July 1967, 7 holes, totalling 1218.2 m, had been diamond drilled, all of which intersectedsignificant uranium values over widths varying from 1 m to in excess of 9 m.

During 1967-69, Glenn Explorations diamond drilled 14 holes, totalling 3162.9 m. In 1969, Glenn Explorations changed its name to Camindex Mines Limited, and, in 1974, conducted magnetic and EM surveys. In 1978, Camindex was granted a 21-year lease on the property containing the deposit (DEMR, 1981 NMI Card 31D/9 U1).

References Cited:
Department of Energy, Mines and Resources. 1981, NMI Card 31D/9 U1.

Satterly, J. 1956, pg. 154-155.

Additional References:

Gordon et al. 1981, pg. 461-462.
Hewitt, D. F. 1967b, pg. 56.
Lang et al. 1962, pg. 246.
Ministry of Natural Resources. 1975, SMDR 000341.
Ontario Department of Mines. 1955, File 63A.221.
Ontario Department of Mines. 1967, File 63A.516.
Ontario Department of Mines. 1974, File 2.1415.
Ontario Department of Mines. 1967, Drill Log Reports 15, 26
Ontario Geological Survey. 1984a.

Name:
Aubelle Occurrence

Mineral Inventory Map No.:
91

Commodity:
Uranium

Accessory Minerals:
Garnet, biotite

Rock Association:
The Aubelle group of claims lies on the southeast border of the Anstruther granite gneiss mass and the northeast boundary of the Burleigh granite mass.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Aubelle occurrence is located within concession I, the north half of lot 19, and concession II, the north half of lot 25, Anstruther Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444450 N, 780930 E (eastern most part of Wolf Lake)

Access:
From Apsley, travel 1.6 km south on Highway 28, then west on a road 0.5 km long to the H. V. Harris farm and then 3.2 km by tractor road to the east end of Loon Call Lake.

Property Status:
Leased, surface and mining rights - concession I, lot 19 35074, concession II, lot 25 EO 38181 (Claim Map M.45). Zoning: wilderness, recreational and residential (Bylaw 2-1979); recreational dwelling area, rural and forest area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The underlying rocks on this property are granite gneiss, granite pegmatite or pegmatitic granite, and biotite amphibolite with interbeds of garnet-biotite paragneiss. The pegmatite bodies strike northeast and dip about 40SE (Satterly, 1956 pg. 144).

J. M. Cormie (1959 pg. 2-3) describes this property as follows: Bedrock is all of Precambrian age, and consists of paragneiss and crystalline limestone intruded by granite and pegmatite. The granitic intrusives are part of a large batholith occupying much of Anstruther and Burleigh Townships, and the Aubelle claims straddle the east margin of this batholith which, at this point, strikes about 340 degrees. West of the margin, the rock is mainly pegmatite, granite gneiss with various gradations of the two, plus minor remnants of the older rocks, whereas to the east they are mostly sedimentary gneiss.

Several faults are inferred from topographic lineaments. One of these, which is associated with radioactivity on adjoining properties, has been traced across the Aubelle property in a northeast direction. All radioactivity was found to be associated with pegmatite, and this rock is widespread. It is characterized by great differences in size and degree of pegmatization. It is light-pink in colour, is more felsic and those which constitute the host rock for the Bancroft area, and is much less radioactive.Size and Grade: According to Satterly (1956 pg. 144), the radioactive anomalies were shown to occur in pegmatite bodies, and a grab sample of a radioactive pegmatite gave 0.08% U308 on analysis.

Drill holes A-1 to A-4 explored an anomaly associated with a north-south fault in concession II, lot 25. A band of garnet gneiss was cut in three of the holes. It was reported that uranium assays in the pegmatite were low, the best being 0.068% U308 over 2.5 m in hole A-3.

Holes A-5 to A-10 explored a northeast-striking lineament in concession I, lot 19. Holes A-5 to A-7 cross-sectioned the lineament under a beaver pond. Hole A-5 cut garnet gneiss, but the pegmatite showed only low uranium assays. It was reported that hole A-6 intersected a 1.8 m section assaying 0.054% U308, and at 115.8 m a section was cut which analyzed to 0.083% U308 over 0.9 m. Hole A-8, located 30.5 m east of the cross-section, returned low uranium values on assay, with the best selection being 0.054% U308 over 0.6 m. Holes A-9 and A-10 were put down 61.0 m west of the A-5 to A-7 cross- section. Low uranium values were found in hole A-9, but hole A-10, located 9.4 m southeast of A-9, intersected 3.4 m assaying 0.057% U308 (radiometric) including 0.6 m of 0.128% U308 (chemical).

History:
In 1953, an airborne scintillometer survey was completed, and the survey indicated a number of radioactive anomalies. Aubelle Mines Limited, acquired a group containing some of the indicated anomalies. In 1954-1955, a ground scintillometer and geological survey was done, and it was followed up by diamond drilling, with 10 holes, totalling 1282.9 m, on concession I and II, lot 19 and concession II, lot 25. Some trenching was also performed (DEMR, 1968 NMI Card 31D/9 U6).

In 1959, Aubelle Mines Limited changed their name to Hydra Explorations Limited. No further work was done and the claims were allowed to lapse. In 1967-1968, Glenn Explorations Limited acquired a portion of the original group by staking. Geological mapping, scintillometer and magnetometer surveys were carried out during this period.

In 1969, Glenn Explorations Limited changed its name to Camindex Mines Limited and, in 1974, conducted magnetometer and electromagnetic surveys (MNR, 1975 SMDR 000330).

References Cited:
Cormie, J. M. 1959, Ontario Department of Mines Assessment File 63A.225.
Department of Energy, Mines and Resources. 1968, NMI Card 31D/9 U6.
Ministry of Natural Resources. 1975, SMDR 000330.
Satterly, J. 1956, pg. 144.

Additional References:
Gordon et al. 1981, pg. 448-449.

Hewitt, D. F. 1967a, pg. 55.
Lang et al. 1962, pg. 246.
Ontario Department of Mines. 1955, File 63A.225.
Ontario Department of Mines. 1969, File 63.2505.
Ontario Department of Mines. 1974, Files 2.1415, 2.1416.
Ontario Department of Mines. 1955, Drill Log Reports 12, 14.
Ontario Geological Survey. 1984a.

Name:
Apsley Occurrence

Mineral Inventory Map No.:
92

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This property is underlain by a folded sequence of highly granitized metasediments comprising hornblende and micaeous metasediments and granitic gneiss.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
This prospect is located on concession I, the south half of lot 21 and lots 22 to 25, Anstruther Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444400 N, 780900 E

Access:
From Apsley, travel south on Highway 28, 1.2 km to Anstruther Lake access road. The site is 2.8 km on Anstruther Lake Road.

Property Status:
Crown Land (Claim Map M.45). Zoning: wilderness, hazard land, recreational and residential (Bylaw 2-1979); aggregate and mining protection, hazard land, recreational dwelling area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Radioactive zones in pegmatite are deep red with smokey quartz and yellow alteration which indicates uranophane (Gordon et al, 1981 pg. 447).

History:
In 1954, Pole Star Mines Limited carried out geiger and geological surveys and put down 21 diamond drill holes, totalling 2561.2 m, in their adjoining Burleigh Township property (concession XII, lot 25). In 1976, a scintillometer survey and geological mapping was done by St. Joseph Explorations Limited (Gordon et al, 1981 pg. 447).

References Cited:
Gordon et al. 1981, pg. 447.

Additional References:
Ontario Geological Survey. 1984a.

Name:
Triton-Britco-Tetra Occurrence

Mineral Inventory Map No.:
93a, 93b

Commodity:
Uranium

Accessory Minerals:
Magnetite, apatite, sphene (titanite)

Rock Association:
This occurrence is located within the Anstruther granite gneiss mass. The country rocks are made up of granite pegmatite, leucopegmatite, pegmatitic granite, hybrid granite gneiss, crystalline limestone and quartzite.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Triton-Britco-Tetra occurrence is located within concession II, the north half of lots 13 to 15, and concession III, the north half of lot 10, Anstruther Township, 9.7 km west of Apsley.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444340 N, 781500 E (the southeast corner of Anstruther Township).

Access:
From Apsley, access is by bush road west from Highway 28 to within 2.4 km of the occurrence, and then by overland traverse to Anstruther Lake.

Property Status:
The property is mostly crown land with the following exceptions: concession II, lot 13, along the shore of Anstruther Lake - Patented, surface rights only and licence of occupation; concession II, lots 14 and 15 - gravel file 152337 within properties; concession III, lot 10, licence of occupation on shore of lake (Claim Map M.45). Zoning: wilderness (Bylaw 2-1979); recreational dwelling area, rural and forest area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The occurrence consists of two main radioactive, granite pegmatite sills. Descriptions of the sills, are as follows (ODM, 1955 File No. 63A.287):

a) The larger sill is located within concession II, the north half of lot 14, and extends into the adjacent north half of lots 13 and 14. This flat dipping sill was traced for over 485 m, in an east-west direction, with small fingers extending for a total of 701 m. The exposed width is over 30 m with an offshoot extending northeast for an additional 61 m. The overall radioactivity (scintillometer) is about 0.06 mr/hr (600 c.p.m.), with local highs of 0.15 mr/hr (1500 c.p.m.)

b) The second sill is located within concession III, the north half of lot 10. The sill dips 20 SW and can be traced for 152 m, and runs into the lake at both ends. Widths of up to 30.5 m are exposed. Theaverage radioactivity is about 0.06 mr/hr (600 c.m.p.) with local highs of 0.1 to 0.13 mr/hr (1000 to 1300 c.p.m.).

Smaller, less radioactive dikes and sills are located in concession IV, the south half of lot 10, and concession III, the north half of lot 12, and the north half of lot 15.

History:
In 1955, the above occurrence was part of a group of 25 claims, concession II, the north half of lots 13 to 15; concession III, lots 12 to 15, and the north half of lots 10 to 11; and concession IV, lots 9 to 12, held by Triton Uranium Mines Limited, Britco Oil Company Limited, and Tetra Uranium Mines Limited. At this time geological and scintillometer surveys were performed (ODM, 1955 File No. 63A.287).

References Cited:
Ontario Department of Mines. 1955, File 63A.287.

Additional References:
Ministry of Natural Resources. 1975, SMDR 001096.
Ontario Geological Survey. 1984a.

Name:
Farcroft Mine

Mineral Inventory Map No.:
94

Commodity:
Uranium

Accessory Minerals:
Titanite, molybdenite

Rock Association:
This occurrence is located on the southeast boundary of the Anstruther granite gneiss mass. The country rocks consist of granite, granite gneiss, pegmatite, recrystallized limestone, and inclusions of paragneiss of Late Precambrian Age.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Farcroft prospect is located within concession III, lot 24 and the north half of lots 25 and 26, Anstruther Township, 41.9 km southwest of Bancroft.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444545 N, 780826 E

Access:
From Apsley, travel south on Highway 28 for 1.6 km to Anstruther Lake Road, then northwest on this road for 4.4 km. The site is located 1.2 km north of this road.

Property Status:
Leased, surface and mining rights EO 521109, EO 510555, EO 510546 (Claim Map M.45). Zoning: wilderness (Bylaw 2-1979); hazard land, aggregate and mining protection (Official Plan).

Commodity Status:
Prospect

Geological Description:
A well-defined fault, called the Farcroft break, cuts across the property striking 30 degrees and dipping 60 degrees SE. At the surface the pegmatite bodies form irregular masses, but, at depth, drilling indicates that they are dikes of small dimensions or form lit-par-lit injections. Uranium-bearing sections are in pegmatite, usually in the footwall sections of the dikes. The average width of pegmatite containing good uranium value is 12 to 15 m. Dikes less than 1.5 m wide were seldom found to be radioactive. Uranium minerals were not identified but are thought to be intimately associated with small books of biotite. Zones of higher uranium content are generally darker red from hematite stain, and contain biotite and chloritized inclusions of paragneiss (Satterly, 1956 pg. 149).

Size and Grade: Twelve of the holes drilled on the A Zone in the Farcroft

break outlined 4 shoots. The largest of these has an almost continuous length of uranium values for 359.7 m. Values indicated were as follows: Shoot A, 359.7 m in length, 3.2 m wide, graded 0.077% U308 (chemical); Shoot B graded 0.1% U308 (chemical) and was 45.7 m long and 1.5 m wide; Shoot C had a length of 45.7 m and a width of 1.2 m with a grade of 0.0525% U308 (chemical); and Shoot D with a length of 64 m, a width of 2.4 m and a grade of 0.70% U308 (chemical) (Satterly, 1956 pg. 149).Diamond drilling has indicated a potential reserve of 1100 tonnes per 0.3 vertical meters of uranium-bearing material, in four lenses, grading 0.077% U308 (Northern Miner. August 3, 1967 pg. 16).

Drill core is available for viewing at the Bancroft Core Library.

History:
"In 1953, Newkirk Mining Corporation Limited carried out an airborne scintillometer survey covering a (4000 square km) area in the eastern part of Haliburton and northern part of Hastings counties. This survey indicated a number of radioactive anomalies. A block of 361 claims was then staked in Anstruther and Burleigh townships to cover these anomalies. In 1954 Farcroft Mines, Limited, acquired an 18-claim group covering a strong radioactive anomaly centrally situated in the property" (Satterly, 1956 pg. 149).

In 1954, a ground scintillometer and geological survey was made, and in 1955, 36 holes totalling 3555.2 m were diamond drilled.

The claims are thought to have lapsed in 1960, and in 1964 the Ontario Charter of Farcroft Mines Limited was cancelled. The present 10-claim property was acquired by Reno Rinaldi, and optioned along with 14 other claims, in 2 groups in the immediate area, to Glenn Explorations Limited, by an agreement dated April 17, 1967. In 1969, Glenn Explorations changed its name to Camindex Mines Limited. Between 1967 and 1969, Glenn Explorations diamond drilled 8 holes, totalling 1578.6 m. In 1974, Camindex Mines did magnetic and electromagnetic surveys (DEMR, 1978 NMI Card 31D/16 U1).

In 1976, scintillometer and radon gas surveys were carried out by Kerr AddisonMines Limited (Gordon et al, 1981 pg. 455), and Imperial Oil Limited carried out geological and geophysical surveys within concessions III and IV, lots 23 and 24 (Trusler and Villard, 1978a, pg. 106)

In 1979, Northgate Explorations Limited carried out geological and geophysical surveys within concessions III to VIII, lots 24 to 33 (Logan and Meyn, 1981, pg. 125) and, in 1981, they put down 8 drill holes, totalling 506 m, within the same area (Villard and Meyn, 1982 pg. 151).

References Cited:
Department of Energy, Mines and Resources. 1978, NMI Card 31D/16 U1.
Gordon et al. 1981, pg. 454-455.
Logan, W. J. and Meyn, H. D. 1981, pg. 125.
Northern Miner. 1967, August 3, pg. 16.
Satterly, J. 1957, pg. 148-150.
Trusler, J. R. and Villard, D. J. 1978a, pg. 106.
Villard, D. J. and Meyn, H. D. 1982, pg. 151.

Additional References:
Hewitt, D. F. 1967a, pg. 55, 65.
Hewitt, D. F. 1967b, pg. 53-54.
Lang et al. 1962, pg. 247.
Ontario Geological Survey. 1984a.

Name:
Avillabona Occurrence

Mineral Inventory Map No.:
95

Commodity:
Uranium

Accessory Minerals:
Magnetite, hornblende, biotite

Rock Association:
Irregular bodies of pegmatite intruding granite and granite gneiss.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Avillabona occurrence is located within concession IV, the north half of lots 20 to 22, and concession V, the north half of lots 20 and 21, Anstruther Township, approximately 8.1 km northwest of Apsley.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444640 N, 781008 E

Access:
Access to the occurrence is from Highway 28 via a township road 1.2 km north of Apsley. The road ends at a farm (V. McCoy), but continues as a winter road to Copper Lake near the north boundary line of the property.

Property Status:
Crown land (Claim Map M.45). Zoning: wilderness, hazard land (Bylaw 2-1979); hazard land, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Satterly (1956 pg. 145) gives a detailed geology of this property. He states that the Avillabona property lies within the Anstruther mass of granite gneiss near its eastern margin. The Anstruther body has a double domical structure and is a heterogeneous mixture of granite, granite gneiss, and pegmatite. The pegmatite bodies are dikes, sills, or sheets, usually narrow in width, their lateral extent ranging from a few meters to sometimes over 270 m. Scintillometer surveys indicate that radioactive areas correspond to pegmatite dikes, sills, and sheets, or granite gneiss with lit-par-lit pegmatite. As sheets the pegmatites cover large areas and, when combined with the granites and granite gneisses, form high hills.

Lying at the base of these hills is a wide band of micaceous marble which is not well exposed. The dips conform to the domical intrusion and are gentle to the east.

Paragneisses are exposed in low ground near the Brunsman-Farcroft-Zenmac

property boundaries. Granitization is extensive in this area and pegmatite dikes are numerous. The gneisses strike northeast and dip 20-30 degrees SE.

A number of faults were assumed from the presence of lineaments and were confirmed, by drilling. These are either weak faults with moderate to heavyalteration of schistose material or simply calcite filled crevices since no brecciation or slickensiding was noted.

Size and Grade: No ore-grade was reportedly found in drilling or in surface examination. The highest recorded assay was 0.026% U308 (radiometric) over 1.5 m from drill hole A-7. Assays from the first five holes (Nos. A-1 to A-5) were extremely low; less than 0.005-0.007% U308 (radiometric) over 3.1 m (Satterly, 1956 pg. 146).

History:
The following information on the development work, carried out on this occurrence, is taken from Satterly (1956 pg. 145). In 1953, an airborne scintillometer survey, covering a 4000 square km area in the eastern part of Haliburton and the northern part of Hastings counties, was carried out by Newkirk Mining Corporation Limited. This survey indicated a number of radioactive anomalies. A block of 361 claims was then staked in Anstruther and Burleigh Townships covering these anomalies. Avillabona Mines Limited acquired a 28-claim group within concessions IV-V, lots 16 to 22.

In 1954, a ground scintillometer and geological survey of part of the property was carried out by Geo-Technical Development Company Limited. Additional surveys were made in 1955.

Diamond-drill exploration was carried out during two periods. In October to November, 1954, five holes totalling 464.5 m, were put down in concession V, lots 20 and 21, and from August to November, 1955, eight holes were drilled which totalled 1008.9 m.

References Cited:
Satterly, J. 1956, pg. 145-146.

Additional References:
Department of Energy, Mines and Resources, 1970, NMI Card 31D/16 U32.
Gordon et. al. 1981, pg. 450.
Lang et. al. 1962, pg. 247.
Ministry of Natural Resources. 1975, SMDR 000331.
Ontario Geological Survey. 1984a.

Name:
Brunsman Occurrence

Mineral Inventory Map No.:
96

Commodity:
Uranium

Accessory Minerals:
Pyrite, molybdenite, fluorite

Rock Association:
This property is located on the southeast margin of the Anstruther domical body of granite, granite gneiss, and pegmatite.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Brunsman occurrence is located within concession IV, the north half of lots 26 and 27, Anstruther Township, approximately 3.2 km west of Apsley.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444630 N, 780825 E

Access:
The property may be reached from Highway 28 by a township road 0.4 km north of Apsley. The road ends at a farm (J. McCoy) and continues as a winter road that crosses the southwestern part of the Brunsman property to Copper Lake.

Property Status:
Withdrawn from staking 15/5/85 (Claim Map M.45). Zoning: hazard land, wilderness (Bylaw 2-1979); hazard land, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
A general geology of the Brunsman Mine is given in Satterly's paper (1956 pg. 146-147):

This contact between metasediments and granitic rocks is a hybrid zone of pegmatite dikes and sills, bands and remnants of biotite-hornblende gneiss, and scattered areas of granite gneiss. Scintillometer surveys indicate that radioactive areas of this property are confined to bodies of granite pegmatite or pegmatitic granite. The relatively intrusive-free main biotite-hornblende gneiss band lies a short distance east of the claims. The Anstruther granite body borders on concession V, lot 23 in the northwestern part of the property. The hybrid zone rocks strike 15-30 degrees and dip 30-40 degrees E.

Two prominent lineaments, assumed to be faults, have been partly confirmed by diamond drilling. The Farcroft "break" has been traced from the Farcroft ore zone into the southeastern section of the Brunsman ground. Of the 13 holes

that should have intersected it, 4 did not show it, 4 had narrow mud seams, and in 5 it was indicated by a calcareous or graphite zone 0.6 m to 18.3 m wide. The other lineament cuts diagonally into the centre of the property from the Avillabona property. Five of the six drill holes intersected a narrow, highly altered and fractured zone; in the sixth hole the lineament may have been indicated by a sand seam. No radioactivity was found to be associated directlywith these fault zones.

Mineralization: Sections of core from holes B-1, B-5, and B-8, assayed 0.076-0.110% U308 (chemical). The rock is a pink-to-buff, leucogranite pegmatite with rare accessory biotite, pyrite, and molybdenite. Purple fluorite was noted in hole B-1, and also as a calcite-fluorite stringer of 0.5 mm. In hole B-1 a black uranorthorite grain was found adjacent to a fracture, which was coated with a film of purple fluorite, and an orange uranorthorite grain adjacent to a small book of biotite. Biotite occasionally forms bands up to 2.5 cm across in hole B-8. Quartz may be white, grey, or black. No uranium minerals were recognized in this core.

Size and Grade: Early drilling indicated that "A" lens was intersected from hole B-10 on the south to B-13 at the north end. This lens graded 0.071% U308 over an average width of 1.5 m for a distance of about 200 m. Further drilling on this zone indicated the lens to be of shallow depth.

History:
In 1953, Newkirk Mining Corporation Limited carried out an airborne scintillometer survey including the ground containing the occurrence. A 15 claim group covering some of these anomalies in concession V, lots 23 to 27, were acquired by Brunsman Mines Limited in 1954. Subsequent to acquisition of the claims, ground scintillometer, magnetometer and geological surveys were carried out by Geo-Technical Development Company Limited (ODM, 1954 File 63A.226). During 1955, 29 diamond drill holes totalling 2989.8 m were put down. The results of the drilling did not indicate favorable mineralization and the claims were allowed to lapse (Satterly, 1956 pg. 146).

In 1967, Glenn Explorations Limited acquired the occurrence together with those of Pole Star, Zenmac, and Farcroft. In 1969, Glenn Explorations changed its name to Camindex Mines Limited (DEMR, 1978 NMI Card 31D/16 U8).

In 1980, Northgate Exploration Limited conducted an exploration program of geophysical surveys, mapping, and sampling (Villard and Meyn, 1981 pg. 151).

References Cited:
Department of Energy, Mines and Resources. 1978, NMI Card 31D/16 U8.
Ontario Department of Mines. 1976, File 63A.226.
Satterly, J. 1956, pg. 146-147.
Villard, D. J. and Meyn, H. D. 1981, pg. 151.

Additional References:
Gordon et al. 1981, pg. 451.
Hewitt, D. F. 1967a, pg. 55.
Lang et al. 1962, pg. 247.
Martin, W. 1983, pg. 94.
Ministry of Natural Resources. 1975, SMDR 000332.
Ontario Department of Mines. 1955, Drill Log Report 16.
Ontario Department of Mines. 1967, File 63A.516.
Ontario Geological Survey. 1984a.

Name:
Newkirk (A Group) Occurrence

Mineral Inventory Map No.:
97

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
The occurrence is located on the eastern contact of the Anstruther granite gneiss mass and the metasediments. Country rocks consist of Late Precambrian granite, granite gneiss, pegmatite and gneiss of sedimentary origin.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Newkirk (A Group) occurrence is located within concession VI, the south half of lot 28, and the north half of lots 30 and 31, and concession VII, the south half of lot 30 and the north half of lots 31 and 32, and concession VIII, the north half of lot 30 and the south half of lots 31 and 33, Anstruther Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444804 N, 780832 E

Access:
From Apsley travel, 4.8 km north on Highway 28, then approximately 1.6 km west on a dirt road to the eastern part of the occurrence.

Property Status:
Crown land (Claim Map M.45). Zoning: wilderness, hazard land (Bylaw 2-1979); hazard land, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Satterly (1956 pg. 153) gives the following description of this occurrence: "The Newkirk A Group of claims lie on the eastern contact of the Anstruther granite gneiss mass with the metasediments. The Anstruther mass is a dome-shaped body, consisting of granite, granite gneiss, and pegmatite, and it occupies the western part of the claims. The eastern part of the claims is underlain by paragneiss and marble cut by pegmatite dikes. Granitization is widespread. The metasediments strike from 30 degrees in the southeast corner, to 50 degrees in the southwest, to slightly east of north in the northern :laims. The dip steepens from 30E within the Anstruther granite gneiss to)0-60 E at the eastern claim units".

ineralization: Uranium mineralization was found in pegmatites close to the ontact with granite or paragneiss. No ore zone was indicated. Records show

that all of the cores sampled assayed less than 0.05% U308 (radiometric) (Satterly, 1956 pg. 153).

Size and Grade: The best drill core sample assayed 0.108% U308/1.5m (radiometric) and 0.65% U308/1.5m (chemical), the average being 0.005% U308/3.1m (radiometric) (ODM, 1954 Drill Log Report 10; ODM, 1955b Drill Log Reports 18, 23).

History:
In 1953, Newkirk Mining Corporation Limited carried out an airborne scintillometer survey which covered a 4000 square km area in the eastern part of Haliburton and the northern part of Hastings counties. This survey indicated a number of radioactive anomalies. A block of 361 claims was then staked in Anstruther and Burleigh Townships covering these anomalies. Several groups of claims within the block were subsequently sold to various associated companies. A group of 55 claims retained is known as the Newkirk A Group (Satterly, 1956 pg. 153).

In 1954, a scintillometer and geological survey was completed by Geo-Technical Development Company, Limited (ODM, 1955 File No. 63A.220).

Between September and December, 1955, a diamond drill program of 17 holes totalling 2130.2 m was carried out.

In 1956, the Newkirk Mining Corporation Limited changed their name t Continental Mining Explorations. Since this time ownership has changed a follows: Augustus Exploration Limited (1958), Consolidated Canadian Farada Limited, which absorbed Augustus Exploration Limited (1967), and Kerr Addiso Mines Limited (1975) (MNR, 1975 SMDR 000339). In 1976, Kerr Addison Mine Limited carried out geochemical and geophysical surveys (Trusler ar Villard,1978a pg. 107)

References Cited:
Ministry of Natural Resources. 1975, SMDR 000339.
Ontario Department of Mines. 1955, File No. 63A.220.
Ontario Department of Mines. 1954, Drill Log Report 10.
Ontario Department of Mines. 1955, Drill Log Reports 18, 23.
Satterly, J. 1956, pg. 153.
Trusler, J. R. and Villard, D. J. 1978a, pg. 107.

Additional References:
Department of Energy, Mines and Resources. 1970 NMI Card 31D/16 U16.
Gordon et al. 1981, pg. 460.
Ontario Geological Survey. 1984a.

Name:
Grey Wolf - Stoney Creek Property

Mineral Inventory Map No.:
98

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
The Grey Wolf occurrence is located within the Anstruther granite gneiss mass, with the country rocks consisting of leucogranite gneiss and pegmatite containing frequent inclusions of biotite paragneiss of Late Precambrian age.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Grey Wolf occurrence is located within concession IX, the north half of lots 2 and 3, Anstruther Township, approximately 33.5 km southwest of Bancroft.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444746 N, 781652 E

Access:
From Apsley, travel north on Highway 28 for approximately 7.5 km. The site is located 14.5 km west of the highway.

Property Status:
Crown land (Claim Map M.45). Zoning: wilderness, hazard land (Bylaw 2-1979); hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
This occurrence consists of two radioactive showings, a description of each follows (as taken from Satterly, 1956 pg. 153).

The number 1 showing consists of leucogranite or granite gneiss cut by or containing patches of leucogranite pegmatite. The radioactive minerals present are allanite, zircon and uranothorite with accessory magnetite. Geiger readings ranged from 1x to 7x Bg.

Showing number 2 consists mainly of leucogranite with pegmatitic patches. Geiger readings were 1x-7x Bg, with high spots of 8x, 11x and 14x Bg. The granite or granite pegmatites contain accessory magnetite, allanite, zircon and uranothorite.

Size and Grade: A grab sample from a pit at the Number 1 showing had a geiger reading of 6x Bg and assayed 0.01% U308 (radiometric). A second random sample

from a trench at the Number 2 showing produced a geiger reading of 14x Bg, andassayed 0.03% U308 (radiometric) (Satterly, 1956 pg. 153).

History:
In 1955-1956, radioactive showings were explored by 335.3 m of stripping, minor rock trenching, pitting, and 8 drill holes totalling 211.3 m by Grey Wolf Explorations, Limited (Satterly, 1956 pg. 152).

References Cited:
Satterly, J. 1956, pg. 152-153.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/16 U64.
Hewitt, D. F. 1967a, pg. 55, 65.
Hewitt, D. F. 1967b, pg. 54.
Lang et al. 1962, pg. 247.
Ministry of Natural Resources. 1975, SMDR 000336.
Ontario Geological Survey. 1984a.

Name:
El Sol Gold Mines

Mineral Inventory Map No.:
99

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
The occurrence is located on the eastern contact of the Anstruther granite gneiss mass. Country rocks consist of granite, granite gneiss, pegmatite, pegmatitic granite, recrystallized limestone, and inclusions of paragneiss of Late Precambrian age.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The El Sol occurrence is located within concession IX, the south half of lots 30 and 32, concession X, the south half of lot 32, and concession XI, the south half of lots 32 and 33, Anstruther Township, approximately 9 km north of Apsley.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444930 N, 780759 E.

Access:
From Apsley, travel 9.5 km north on Highway 28. From this point access is west by a bush road for 1.6 km.

Property Status:
Crown land (Claim Map M.45). Zoning: wilderness, hazard land (Bylaw 2-1979); hazard land, mining and aggregate protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
A description of this property is found in Satterly (1957 pg. 148). The property is on the eastern contact of the Anstruther mass of granite gneiss, which is a dome shaped mass consisting of granite gneiss, granite, and pegmatite with the peripheral rocks dipping away from it on all sides. A lenticular body of granite pegmatite or granite strikes 350 degrees across the middle of the property. Paragneiss inclusions are present within the mass. The pegmatite begins to pinch out to the north and south boundaries of the properties, and is replaced by biotite paragneiss. Granitized gneisses cut by numerous pegmatite dikes extend west from the mass to the property boundary, whereas the east paragneiss and granitized gneiss are present in about equal amounts. A band of limestone, 61.0 m to 304.8 m wide, borders the Anstruther mass on the western part of the claim group. It strikes 345 degrees and dips 40-45 degrees E.

Scintillometer surveys show that radioactive anomalies correspond to masses of granite pegmatite or granite. Diamond drill exploration indicated that the continuity of dikes and gneisses is poor. The pegmatite dikes pinch out, reappear, thicken, or thin along their downward extension.

Mineralization: Surface sampling and trenching indicated a number of minor occurrences of uranium mineralization in pegmatites. Assessment holes in thelimestone area showed little pegmatite and no uranium mineralization. No ore zone was outlined by diamond drilling (Satterly, 1956 pg. 148).

Size and Grade: Drill core samples averaged 0.009% U308 (radiometric equivalent), with the best core sample assaying 0.13% U308/0.3 m (radiometric equivalent) or 0.122% U308/0.3 m (chemical) (ODM, 1954 File No. 63A.227).

Drill core is available for viewing at Bancroft Core Library.

History:
In 1953, Newkirk Mining Corporation Limited carried out an airborne scintillometer survey which covered a 4000 square km area in the eastern part of Haliburton and the northern part of Hastings counties. A number of radioactive anomalies were indicated and a block of 361 claims was staked which covered these anomalies. El Sol Gold Mines, Limited, acquired a 30-claim group which had radioactive anomalies indicated within its boundaries (Satterly, 1956 pg. 148).

A ground scintillometer survey was carried out by Geo-Technical Development Company Limited, and a geological survey of the property was done by Newkirk Mining Corporation Limited in 1954 (ODM, 1954 File No. 63A.227).

In 1954-55, a diamond drill program of 15 holes totalling 1130.2 m was completed.

Ken Webster, in 1975, staked the south half of lot 32, concession IX. Then, in 1976, Imperial Oil carried out geological surveying (Logan and Meyn, 1981 pg. 106). In 1978, the same company drilled 28 holes totalling 825.5 m (Villard, 1979 pg. 121).

References Cited:
Logan, W.J. and Meyn, H. D. 1981, pg. 106.
Ontario Department of Mines. 1954, File 63A.227.
Satterly, J. 1956, pg. 147-148.
Villard, D. J. 1979, pg. 121.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/16 U33
Lang et al. 1962, pg. 247.
Ministry of Natural Resources. 1975, SMDR 000333.
Ontario Geological Survey. 1984a.

Name:
Higgins Uranium Occurrence

Mineral Inventory Map No.:
100

Commodity:
Uranium

Accessory Minerals:
Pyrite, magnetite

Rock Association:
This occurrence is located near the centre of the Anstruther granite gneiss mass. Country rocks consist of biotite paragneiss, fine-grained granite gneiss or quartzo-feldspathic gneiss.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Higgins occurrence is located within concession X, the north half of lot 2, Anstruther Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444804 N, 781720 E

Access:
From Buckhorn, travel north on Highway 507 for approximately 28 km, then east for 8 km along a bush road.

Property Status:
Crown land (Claim Map M.45). Zoning: wilderness (Bylaw 2- 1979); hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
This occurrence consists of 2 showings. The main showing, referred to as the south showing, is located within the north half of lot 2, concession X. Medium- to coarse-grained brick-red leucogranite, with pegmatitic patches that reach up to 6 m in width, is exposed at this site. The second showing, referred to as the north showing, is located in the south half of lot 3, concession XII, however, no information is available on the geology of this showing (Satterly, 1956 pg. 152). Geiger readings range from 3x to 16x Bg, with a spot-high of 30x Bg. Readings of pegmatite intersected in diamond drill holes produced a maximum of 2x Bg.

Size and Grade: Diamond drill hole 2 (the north half of lot 2, concession XI) returned an assay of 0.075% U308/0.61 m (MNR, 1976 SMDR 000337).

History:
History of the development is given by Satterly (1956 pg. 152). In 1955, Higgins Uranium Mines Company Limited held 24 claims covering concessions X,

XI, and XII, lots 1 to 4. The company carried out surface exploration and diamond-drilling, with 9 holes being drilled for a total of 666.9 m.

Exploration done on the north showing consisted of 6 trenches and 5 drill holes, totalling 300.2 m. Work on the south showing included 4 trenches and 4 drill holes, totalling 366.7 m.

References Cited:
Ministry of Natural Resources. 1976, SMDR 000337.
Satterly, J. 1956, pg. 152.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/16 U17.
Gordon et al. 1981, pg. 459.
Hewitt, D. F. 1967a, pg. 55.
Hewitt, D. F. 1967b, pg. 54-55.
Lang et al. 1962, pg. 247.
Ontario Geological Survey. 1984a.

Name:
Kerr Addison Group "C"

Mineral Inventory Map No.:
101

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
The Precambrian country rock consists of a variety of metasedimentary units which have been intruded by granite rocks of the Anstruther granite gneiss mass.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
Radioactive anomalies were detected throughout concession XI, the north half of lots 33 and 34, and concession XII, the south half of lots 33 to 35, Anstruther Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
445245 N, 780708 E (Reference point is where Eels Creek drains Eels Lake).

Access:
From Apsley, travel north on Highway 28 for about 12 km. The outcrop area is accessible by a short overland traverse west from Highway 28, or by an overland traverse from a power transmission line.

Property Status:
Crown Land (Claim Map M.45). Zoning: wilderness, hazard land (Bylaw 2-1979); wilderness, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Locally, metasedimentary units of limestone/marble and paragneiss are intruded by hybrid granite gneiss. These metasedimentary units have a north-south strike and exhibit dips ranging betwen 30 degrees E and 60 degrees E.

Mineralization: Radioactive mineralization occurs in granite pegmatite dikes, however, no uranium mineral was identified (ODM, 1976 Files 2.2217, 2.2233).

Size and Grade: A scintillometer survey gave background counts of 25 c.p.s. with anomalous readings ranging from 50 c.p.s. to 480 c.p.s.. Many anomalous zones and singular spot-highs were associated with pegmatite outcroppings. The equivalent U308 kg/tonne c.p.s. readings vary from 0.05 (50 c.p.s.) to 1.3 (480 c.p.s.) kg U308/tonne (ODM, 1976 File 2.2233).

Two diamond drill holes were completed on this property. Hole K-77-3 assayed 0.08 kg U308/tonne with a high assay of 0.18 kg U308/tonne (ODM, 1977 Drill Log Report 35).

History:
In August 1975, this area was staked by Gerard Gagnon, and later that month all interests were transferred to Kerr Addison Mines Limited. In 1976, a scintillometer survey was carried out by Kerr Addison Mines Limited, and, early in 1977, 2 diamond drill holes totalling 169.9 m were put down (MNR, 1978 SMDR 001150). Esso Resources Canada Limited resumed work in 1979 with some geophysical testing and mapping (Logan and Meyn, 1981 pg. 125).

References Cited:
Logan, W. J. and Meyn, H. D. 1981, pg. 125
Ministry of Natural Resources. 1978, SMDR 001150.
Ontario Department of Mines. 1976, Tech. Files 2.2217, 2.2233.
Ontario Department of Mines. 1977, Drill Log Report 35.

Additional References:
Ontario Geological Survey. 1984a.

Name:
Kerr Addison Group "A"

Mineral Inventory Map No.:
102

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
The Precambrian country rock consists of metasedimentary rocks which have been intruded by granite stocks.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The occurrence is located on concession XIV, lot 38, Anstruther Township, approximately 29 km southwest of Bancroft.

NTS Map No.:
31D/16

UTM Grid Coordinates:
445245 N, 780708 E (Point where Eels Creek drains Eels Lake)

Access:
From Apsley, travel 10.8 km north on Highway 28, then 2.8 km northwest on cottage access road. The site is located on the west side of Eels Creek.

Property Status:
Crown Land (Claim Map M.45). Zoning: wilderness, hazard land (Bylaw 2-1979); hazard land, rural and forest area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Locally, paragneisses and marble strike mainly north- south and dip between 30 degrees E and 60 degrees E. The intruding granite gneisses form large lenticular lenses in the metasediments.

Radioactive anomalies were detected over pegmatite-migmatite and pegmatitic-granitic zones flanking the east contact of the Anstruther batholith. No uranium mineral was identified (ODM, 1976 File No. 2.2232).

Size and Grade: A scintillometer survey indicated background readings of 25 c.p.s. The equivalent U308 kg/tonne c.p.s. readings for spot-highs are 0.7 kg/tonne (320 c.p.s.) and the average is 0.2 kg/tonne (135 c.p.s.) (ODM, 1976 File No. 2.2232).

History:
In February, 1975 this claim was staked by Andre Belzil. In March of the same year, all interest was transferred to Kerr Addison Mines Limited who carried out a scintillometer survey in July, 1976 (MNR, 1978 SMDR 001153).

References Cited:
Ministry of Natural Resources. 1978, SMDR 001153.
Ontario Department of Mines. 1976, Tech. File 2.2232.

Additional References:
Ontario Geological Survey. 1984a.

Name:
Seymour Occurrence

Mineral Inventory Map No.:
103

Commodity:
Uranium

Accessory Minerals:
Feldspar, magnetite

Rock Association:
The property is underlain by marble and paragneiss at the northwest contact with the Anstruther granite gneiss mass.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Seymour occurrence is located within concession XVII, lot 3 and the south half of lots 4 and 5, Anstruther township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
445112 N, 781840 E

Access:
From Buckhorn, travel north on Highway 507 for approximately 32 km to the Pencil Lake access road. Proceed northeasterly for 8.2 km. The occurrence is located approximately 1 km north of this road.

Property Status:
Crown Land (Claim Map.45). Zoning: wilderness, hazard land (Bylaw 2-1979); hazard land, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
This occurrence consists of several radioactive granite pegmatite bodies which intrude the marble and paragneiss. They have a general northeast strike and a southeast dip. Widths vary from 1.5 m to over 60 m, with exposed lengths of up to 91 m (ODM, 1955 File 63A.285).

Size and Grade: A chip sample from an unknown location assayed 0.99% U308 (chemical) and 1.02% U308 (radiometric) (ODM, 1955 File 63A.285).

History:
K. Webster and G. Annesley had ownership of the property up to 1955. In 1955, Seymour Mining Company acquired an option on the property and conducted geological and scintillometer surveys (MNR, 1975 SMDR 000340).

References Cited:
Ministry of Natural Resources. 1975, SMDR 000340.
Ontario Department of Mines. 1955, File 63A.285.

Trusler, J. R. and Villard, D. J. 1978b, pg. 115.

Additional References:

Lang et al. 1962, pg. 247.
Department of Energy, Mines and Resources. 1970, NMI Card 31D/16 U65.
Ontario Geological Survey. 1984a.
Satterly, J. 1956, pg. 153-154.

Name:
A. L. Kemp - Anstruther Property

Mineral Inventory Map No.:
104

Commodity:
Uranium

Accessory Minerals:
Calcite, pyroxene

Rock Association:
The occurrence lies within the metasediment band which is bounded to the north and south by the Cheddar granite and Anstruther granite gneiss masses, respectively.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The A. L. Kemp occurrence is located within concession XVII, the north half of lot 33 and concession XVIII, the south half of lot 34, Anstruther Township, near the north shore of Eels Lake.

NTS Map No.:
31D/16

UTM Grid Coordinates:
445328 N, 780916 E

Access:
From Apsley, travel north on Highway 28 for approximately 12 km to the Eels lake cottage access road. Proceed northwesterly to its terminus at Eels Lake. Access to the site is by boat.

Property Status:
Crown land (Claim Map M.45). Zoning: wilderness (Bylaw 2- 1979); recreational dwelling area, rural and forest area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The country rock on this occurrence is comprised of siliceous marble, paragneiss, leucogranite and granite pegmatite of Late Precambrian age.

The occurrence consists of 3 radioactive zones. Zone one is located 61 to 152 m north of the adit (concession XVII, the north half of lot 33). The radioactive rocks in this zone are siliceous marble (400 c.p.m. - geiger survey) and leucogranite-pegmatite (400 to 1000 c.p.m.). The granitic rocks contain erratic radioactive highs ranging from 10,000 to greater than 50,000 c.p.m. on calcite-pyroxene pods or pyroxene syenite pegmatite patches. Uranothorite, 2.5 cm by 3.8 cm grains, was noted at one of the highs.

Zone two is found 61 m north of the first zone. Geiger readings average 1000 c.p.m., with spot-highs of 10 000 c.p.m., located on small lenses of calcite and pyroxene.

Zone three is located 90 m north of zone two. Geiger readings range from 500 to 1500 c.p.m. with random spot-highs of 10,000 and 15,000 c.p.m. on pyroxene syenite pegmatite patches.

Siliceous marble, granite pegmatite, leucogranite, and syenite pegmatite areexposed at each zone. Salmon-pink calcite and pyroxene are present as accessory minerals (MNR, 1975 SMDR 000338).

Adams and Barlow (1910 pg. 207) reported that mica is also found on this property.

History:
In 1957, a geiger counter survey was conducted by unknown persons. Five diamond drill holes totalling 360.1 m were put down within concession XVIII, the south part of lot 34 by A. L. Kemp, on behalf of Nathan Allen, as well as 2 holes totalling 162.2 m within concession XVII, the north half of lot 33. Twenty-four trenches were dug and bulldozed stripping was carried out. An adit was started about 46 m north of the shoreline of Eels Lake and driven north for a distance of 68.6 m (Field, 1958 pg. 145).

References Cited:
Adams, F. D. and Barlow, A. E. 1910, pg. 207.
Field, D. J. 1958, pg. 145.
Ministry of Natural Resources. 1975, SMDR 000338.

Additional References:
Adams, F. D. and Barlow, A. E. 1910, pg. 207.
Department of Energy, Mines and Resources. 1970, NMI Card 31D/16 U15.
Hewitt, D. F. 1967a, pg. 55.
Hewitt, D. F. 1967b, pg. 55-56.
Ontario Geological Survey. 1984a.
Satterly, J. 1971, pg. 72-73.

Name:
Fin Resources

Mineral Inventory Map No.:
105

Commodity:
Uranium

Accessory Minerals:
Magnetite, pyrite

Rock Association:
The Precambrian country rock is composed of a folded sequence of paragneiss, limestone, gabbro, syenite and nepheline rocks pinched between the Cheddar granite, the Glamorgan granite gneiss and the Anstruther granite gneiss.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The occurrence is located within concession XVIII, the north half of lots 3 to 6, Anstruther Township, approximately 45 km west of Bancroft.

NTS Map No.:
31D/16

UTM Grid Coordinates:
445230 N, 781840 E

Access:
From Buckhorn, travel north on Highway 507 for approximately 32 km to township road, then east on this road for 12.5 km. The site is located 400 m south of this road and is accessible by a trail.

Property Status:
EO 463658 to EO 463661 (Claim Map M.45). Zoning: wilderness, hazard land (Bylaw 2-1979); hazard land, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The property is underlain by paragneiss to the west, with some marble and amphibolite, and to the east by granite and granite gneiss. The metasediments strike parallel to the granite contact at 335 degrees and dip 50 to 80 degrees SE. They are intruded by metagabbro, syenite, and granite or granite pegmatite dikes (Gordon et al, 1981 pg. 456).

Mineralization: Radioactive mineralization occurs in a series of northeast-striking quartz-feldspar pegmatite dikes. They are quite coarse-grained, vary in color from pink to deep red, and appear to dip southeast conformably with the metasediments. Chip samples assayed from 0.01% to 0.025% U308 (chemical).

Size and Grade: Early drilling intersected 0.156% U308 over 2.6 m and 1.876% U308 over 1.7 m.

In 1977, the largest dike encountered in drilling had a true width of 2.7 m

and returned 0.05 kg U308 and ThO2/tonne (Gordon et al, 1981 pg. 456).

History:
On November 30, 1954, the property was staked by R. H. Anderson, and ownership was transferred to Garland Mining and Development Company, Limited, on March 18, 1955. During April to August of 1955, geological and scintillometer surveys, stripping, and trenching took place. On January 14, 1960, Garland Mining and Development Company, Limited, cancelled the claims (ODM, 1955 File 63A.298).

Between September and November 1976, Fin Resources Limited carried out geological, scintillometer, and magnetometer surveys. Then in May, 1977, they put down one diamond drill hole totalling 218.5 m (ODM, 1977 Drill Log Report 36).

In 1978, 12 diamond drill holes, totalling 621.2 m, were put down by Copper Lake Explorations (Gordon et al, 1981 pg. 457).

References Cited:
Gordon et al. 1981, pg. 456-457.
Ontario Department of Mines. 1955, File 63A.298.
Ontario Department of Mines. 1977, Drill Log Report 36.

Additional References:
Ministry of Natural Resources. 1978, SMDR 000327.
Ontario Geolgical Survey. 1984a.
Satterly, J. 1956, pg. 77-78.

Name:
Garland Prospect

Mineral Inventory Map No.:
106

Commodity:
Uranium

Accessory Minerals:
Magnetite, pyrite

Rock Association:
Radioactive granite or granite pegmatite dikes in a band of marble.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Garland prospect is located in concession XVIII, the south third of lots 5 and 6, Anstruther Township, 9.7 km southwest of Tory Hill.

NTS Map No.:
31D/16

UTM Grid Coordinates:
445154 N, 781800 E

Access:
Access to the site, from the village of Tory Hill, is via the Hadlington road and a bush road southeast for 20.9 km.

Property Status:
Crown land (Claim Map M.45). Zoning: wilderness, hazard land (Bylaw 2-1979); hazard land, aggregate and mining protection (Official Plan).

Commodity Status:
Prospect

Geological Description:
The Garland prospect is located within the metasediment belt that lies adjacent to the northeast contact of the Anstruther granite gneiss mass. The western third of the claim is underlain by marble and paragneiss, and the eastern third by granite and granite gneiss. The sediments are intruded by metagabbro, syenite, and granite or granite pegmatite dikes. The contact between the granite gneiss and sediments strikes 25 degrees. The sediments strike parallel to the contact and dip 50-80 degrees SE.

The prospect is made up of several irregular radioactive, pale pink-to-buff coloured leucogranite pegmatite dikes and bodies, that cut a band of marble which lies between granite gneiss to the east and paragneiss to the west. Trenching of the pegmatite exposed black, orange and amber uranothorite, uranophane, allanite and zircon. Magnetite and pyrite are present as accessories. The average geiger reading is 6x Bg with spot- highs of 6x to 40x Bg (Satterly, 1956 pg. 151).

Mineralization: Uranium assays obtained on chip samples are mostly below 0.1% U308, except for one of 0.49% U308 taken in a pit northwest of the number 4

trench (ODM, 1955 File 63A.298).

Size and Grade: The leucogranite is shown to be a very irregular body or bodiespossibly filling a drag fold in the marble. The south limb of the largest body is about 245 m long and is 4.6 to 15.2 m wide. Diamond drilling indicated an ore body 137.2 m long, with an average width of 2.7 m and grading 0.066% U308 (radiometric).

History:
In 1955, this prospect was part of a group of claims (concession XVIII, lots 4 to 12) held by Garland Mining and Development Limited. During this year geological and scintillometer surveys were carried out, along with stripping and trenching (609.6 m) on the south third of lots 5 and 6, and the north two-thirds of lot 7, concession XVIII. The prospect was also examined with a geiger counter by J. Satterly. The following year, 12 diamond drill holes were put down, totalling 546.2 m, in lots 5 and 6, concession XVIII (Satterly, 1956 pg. 150).

In 1968, New Redwood Gold Mines, Limited, drilled 3 holes, totalling 112.8 m, within the south third of lot 5, concession XVIII (ODM, 1968 Drill Log Report 33).

Twelve holes, totalling 621.6 m, were drilled in 1977 by Copper Lake Exploration Limited (DEMR, 1970 NMI Card 31D/16 U60). In the same year, Roy Newman put down 7 holes, totalling 325.5 m (Trusler and Villard, 1978b pg. 114).

References Cited:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/16 U60.
Ontario Department of Mines. 1955, File 63A.298.
Ontario Department of Mines. 1968, Drill Log Report 33.
Satterly, J. 1956, pg. 150-151.
Trusler, J. R. and Villard, D. J. 1978b, pg. 114.

Additional References:
Lang et al. 1962, pg. 247.
Hewitt, D. F. 1967a, pg. 55,65.
Hewitt, D. F. 1967b, pg. 53.
Ministry of Natural Resources. 1975, SMDR 000335.
Ontario Geological Survey. 1984a.
Traill, R. J. 1983, pg. 389.

Name:
Anstruther - Duncan Group

Mineral Inventory Map No.:
107

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This occurrence is located on the north flank of the domed Anstruther granite gneiss mass. The country rocks are composed of Late Precambrian crystalline limestone, paragneiss, granite gneiss, granite, and pegmatite.

Classification:
Uranium mineralization in pegmatite dikes and sills of Epigenetic origin.

Location:
The Anstruther occurrence is located within concession XVIII, the north third of lot 22, Anstruther Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
445330 N, 781300 E

Access:
From Apsley, travel north on Highway 28 for 6 km to Eels Lake cottage road, then 2 km northwest on this road. Turn left on bush road and continue 6.4 km. The site is located 1.2 km north of this road. Access may be gained by bush road.

Property Status:
Crown land (Claim Map M.45). Zoning: wilderness, hazard land (Bylaw 2-1979); hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The occurrence consists of several large bodies and dikes of granite pegmatite with low radioactivity (4x to 5x Bg), that in some areas crosscut, but more often occur lit-par-lit in the paragneiss and granite gneiss. The dikes are about 0.3 to 0.9 m wide and 30.5 m long (MNR, 1975 SMDR 000329).

Size and Grade: Core assays range from 0.001% U308/1.2 m (radiometric) to 0.037% U308/1.7 m (radiometric). One 0.3 m core section assayed 0.057% U308 (radiometric) and 0.054% U308 (chemical), and grab samples returned values of up to 0.21% U308 (N.M. March 8, 1956).

History:
A history of the development of this property is given by Satterly (1956 pg. 143): "In 1955-56, Anstruther Rare Metals Company Limited held a group of claims, being lots 21-24, concession XVIII, Anstruther Township, Peterborough

County.

In 1955, Geo-Technical Development Company Limited completed scintillometer and magnetometer surveys of the property and made a geological map of the northern row of four claims. In early 1956, three drill-holes were put down in lots 22 and 23, concession XVIII, for a total of (617.5 m)."

References Cited:
Ministry of Natural Resources. 1975, SMDR 000329.
Northern Miner. 1956, March 8.
Satterly, J. 1956, pg. 143.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/16 U31.
Gordon et al. 1981, pg. 446.
Lang et al. 1962, pg. 247.
Ontario Geological Survey. 1984a.

Name:
Bibis Yukon Occurrence

Mineral Inventory Map No.:
108

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
The general area is underlain by Precambrian metamorphic rock, mainly granite gneiss and hornblende gneiss (paragneiss) intruded in lit-par-lit fashion by irregular masses and dikes of pegmatite and granite.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Bibis Yukon occurrence is located in concession IV, lots 22 and 23, and concession V, lot 21, Burleigh Township, approximately 11.3 km southwest of Apsley.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444212 N, 781304 E

Access:
From Apsley, travel south on Highway 28 for 1.6 km, then west for 0.5 km on a road to the farm of H. V. Harris, then by tractor road 3.2 km to the east end of Loon Call Lake. From the west end of this lake, a bush road 6.4 km long leads to the property.

Property Status:
Crown land (Claim Map M.62). Zoning: wilderness, hazard land (Bylaw 2-1979); aggregate and mining protection, hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The granitic rocks are part of a large batholith occupying most of Burleigh and Anstruther Townships. The Bibis Yukon property is located in the northern part of the batholith.

The rocks underlying the property consist of granite gneiss, hybrid granite gneiss, minor metasediments, and dikes or bodies of granite pegmatite. The latter strike northeast and dip 40 to 50SE. East-west and northeast-southwest lineaments cross the property, but there is no evidence of faulting (Satterly, 1956 pg. 155).

History:
In 1953, Newkirk Mining Corporation, Limited, carried out an airborne scintillometer survey which covered the occurrence area. The property was

acquired by Bibis Yukon Mines, Limited, in 1954.

In 1954, a ground scintillometer and geological survey was carried out by Geo-Technical Development Company Limited (ODM, 1955 File 63A.223).

In 1955, a diamond drill program of 6 holes, totalling 712.0 m, was done on the anomalies.

References Cited:

Ontario Department of Mines. 1955, File 63A.223.
Satterly, J. 1956, pg. 155.

Additional References:

Department of Energy, Mines and Resources. 1970, NMI Card 31D/9 U22.
Gordon et al. 1981, pg. 464.
Lang, A. H. 1952a, pg. 250.
Ontario Geological Survey. 1984b.

Name:
Newkirk (E Group) Occurrence

Mineral Inventory Map No.:
109

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This occurrence is located within the Burleigh granite gneiss mass. Country rocks consist of Late Precambrian granite gneiss, granite, hornblende gneiss and pegmatite.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Newkirk (E Group) occurrence is located within concession V, the west half of lot 24, concession VI, the west half of lot 24 and east half of lot 25, Burleigh Township, approximately 10 km west of Apsley.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444310 N, 781154 E

Access:
From Apsley, travel 1.6 km south on Highway 28, then west on gravel road for 3.7 km to the east end of Loon Call Lake. This lake is 3.2 km in length and from its west end another bush road, 3.2 km long, accesses this site.

Property Status:
Concession V, west half of lot 24-Crown land; concession VI, west half of lot 24, E0482456, east half of lot 25, E0482453 (Claim map M.62). Zoning: wilderness, hazard land (Bylaw 2-1979); hazard land, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The entire area is underlain by Precambrian rock, mainly granite gneiss and hornblende gneiss (paragneiss) intruded in lit- par-lit fashion by irregular masses and dikes of pegmatite and granite. The granitic rocks are part of a large batholith occupying most of Burleigh and Anstruther townships.

The pegmatite is medium- to coarse-grained, consisting mostly of quartz and orthoclase. Ferromagnesian minerals are very scarce. All radioactivity appears to be confined to the pegmatites and pegmatitic granites, which appear to be gradational into one another. Gradations have also been noted between granite gneiss and paragneiss.

Size and Grade: Diamond drilling within the west half of lot 24, and the east

half of lot 25, concession VI, returned low uranium assays, the best being 0.032% U308 (radiometric) over 3 m in coarse-grained granite (Satterly, 1956 pg. 157-158).

History:
A brief history of exploration of this property is found in Satterly (1956, pg. 157): "In 1953, Newkirk Mining Corporation Limited carried out an airborne scintillometer survey covering a (4000 square km) area in the eastern part of Haliburton and the northern part of Hastings counties. This survey indicated a number of radioactive anomalies, and a block of 361 claims was then staked in Anstruther and Burleigh townships covering these anomalies. Several groups of claims within the block were subsequently sold to various associated companies. These 18 claims were restaked in 1955 and are designated as E Group."

In 1955, a ground scintillometer and geological survey was completed by Geo-Technical Development Company Limited. Five diamond drill holes, totalling 770.8 m, were put down on the west half of lot 24, and the east half of lot 25, concession VI (ODM, 1955 File 63A.281).

In 1956, Continental Mining Exploration Limited gained ownership of the property until 1958, when it changed hands to Augustus Exploration Limited. In May, 1967, Augustus Exploration Limited was absorbed by Consolidated Canadian Faraday Limited (MNR, 1975 SMDR 000344).

References Cited:
Ontario Department of Mines. 1955, File 63A.281.
Satterly, J. 1956, pg. 157-158.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/9 U20.
Gordon et al. 1981, pg. 470.
Ministry of Natural Resources. 1975, SMDR 000344.
Ontario Geological Survey. 1984b.

Name:
Newkirk (D Group) Occurrence

Mineral Inventory Map No.:
110

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This occurrence is located within the Burleigh granite gneiss mass, near its northern contact. The country rocks consist of pegmatite, granite, pegmatitic granite, granite gneiss, and amphibolite.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Newkirk (D Group) occurrence consists of concession VII, lot 25; concession VIII, lots 21, 22, and the west half of lot 25; and concessions IX and X, lot 25, Burleigh Township, approximately 8 km southwest of Apsley.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444344 N, 780904 E

Access:
From Apsley, travel 1.6 km south on Highway 28 to a side road, then west on this road for 3.7 km to Loon Call Lake. The occurrence is 2.4 km west-southwest of Loon Call Lake.

Property Status:
Crown land (Claim Map M.62). Zoning: wilderness, hazard land (Bylaw 2-1979); rural and forest area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The radioactive anomalies are located over pegmatite and pegmatitic granite. Spot highs of up to 4x Bg have been recorded. The gneisses and pegmatite dikes strike northeast and dip 17 to 50 degrees SE. A number of lineaments cross the gneissic structure at right angles (Satterly, 1956 pg. 156).

Size and Grade: The majority of the mineralized diamond drill cores gave low uranium assays. The best section assayed 0.063% U308 (radiometric), or 0.049% U308 (chemical) over 0.6 m (Satterly, 1956 pg. 156-157).

History:
In 1953, Newkirk Mining Corporation Limited carried out an airborne scintillometer survey of this area.

In 1954, ground scintillometer and geological surveys were carried out by Geo-

Technical Development Company Limited (ODM, 1954 File 63A.222), and, in 1955, 15 drill holes, totalling 1877.9 m were put down on a number of radioactive anomalies (MNR, 1975 SMDR 000345).

Between 1956 and 1967 the ownership of the property changed from Continental Mining Exploration Limited (1956-1958) to Augustus Exploration Limited (1958-1967) which was absorbed by Consolidated Canadian Faraday Limited in May 1967. In 1967, Camindex Mines Limited owned the property and in 1974 they carried out magnetometer and electromagnetic surveys over lot 25, concession IX, and the west half of lot 25, concession X.

References Cited:

Ministry of Natural Resources. 1975, SMDR 000345.
Ontario Department of Mines. 1954, File 63A.222.
Satterly, J. 1956, pg. 156-157.

Additional References:

Department of Energy, Mines and Resources. 1970, NMI Card 31D/9 U7.
Ontario Geological Survey. 1984b.

Name:
Great Basin - DPW Group

Mineral Inventory Map No.:
111

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This occurrence is located within the Burleigh granite gneiss mass, near its northeast contact with the metasediments. Country rocks consist of Late Precambrian granite, granite gneiss, pegmatite, paragneiss, amphibolite and crystalline limestone.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Great Basin occurrence is located within concession XI, lot 19 to 23, and the west half of lot 18, and concession XII, the east half of lots 22 to 23, Burleigh Township, approximately 6 km southwest of Apsley.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444318 N, 780800 E

Access:
From Apsley, travel south on Highway 28 for 6.2 km. A trail located west of the highway, turns behind a farmhouse and continues for 1.3 km where it terminates at the southeast corner of the claim.

Property Status:
Crown land (Claim Map M.62). Zoning: wilderness, hazard land (Bylaw 2-1979); hazard land, rural and forest area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
A general description of this area has been obtained from the Ontario Department of Mines (1970 File 2.234):

The area is predominantly a fine-grained biotite gneiss which may, in some localities, grade into a medium-grained red granite gneiss.

The foliation direction of the gneiss is north-northwest, dipping to the east between 55 and 65 degrees.

The gneiss has been intruded by coarse-grained pink pegmatite dikes; these dikes vary in thickness from a few centimeters in width to several meters and appear to be randomly distributed throughout the claim group. The pegmatite dikes, in general, are concordant with the gneissic structure and dip,

however, they do occasionally form cross cutting features. The length of the dikes is unrelated to width. The dike terminates by pinching out or by being cut-off abruptly by the gneiss.

The occurrence consists of 4 radioactive pegmatite dikes and several radioactive anomalies associated with other pegmatitic bodies.

The four pegmatite dikes are located within a radioactive zone striking 20degrees and dipping 50 to 60 degrees E. The zone has a traced length of greater than 1800 m and a width of up to 150 m. Secondary minerals of the gummmite-uranophane type are fairly common within the dikes and uranothorite has also been tentatively identified. Deep-red hematite staining is common. The radioactivity is most intense where there is a concentration of ferromagnesians, and at contacts. The dikes range in width from 12 to 34 m and have lengths of 150 to over 1200 m. These dikes are located within lot 19 and the west half of lot 18, concession XI.

Other anomalous radioactive pegmatitic bodies are located in this occurrence area. The readings range from 0.1 to 0.36 MR/HR (1000 to 3600 c.p.m.) above background readings which are in the order of 0.0004 to 0.0008 MR/HR (40 to 80 c.p.m.). The radioactive minerals in these bodies have not been identified.

Size and Grade: Thirty-four samples collected from anomalous pegmatitic bodies within the east half of lots 22 and 23, concession XII, and the west half of lot 18, concession XI, assayed from 0.01% to 1.20% U308.

Fourteen plugger-hole blasted samples from the east half of lot 23, concession XI, assayed 0.04% to 0.72% U308 with U/Th ratios from 1:1 to 3.4:1 (ODM, 1969 File 63.2556).

History:
In 1955, George W. Darling performed a geological survey, trenching (17), rock drilling and sampling on dikes located within lot 19 and the west half of lot 18, concession XI (ODM, 1955 File 63A.236).

In 1967, the Great Basin Metal Mines, Limited, conducted reconnaissance scintillometer and geological surveys, and, in 1968-1969, carried out magnetic spectrometric scintillometer surveys, trenching, blasting and drilled 35 plugger holes (ODM, 1969 File 63.2556).

In 1970, Joseph Kakish optioned the property to the Partridge River Mines, Limited, who conducted a geological survey (ODM, 1970 File 2.234).

References Cited:
Ontario Department of Mines. 1955, File 63A.236.
Ontario Department of Mines. 1969, File 63.2556.
Ontario Department of Mines. 1970, File 2.234.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/9 U21.
Ministry of Natural Resources. 1978, SMDR 000343.
Ontario Geological Survey. 1984b.

Name:
Pole Star Prospect

Mineral Inventory Map No.:
112

Commodity:
Uranium

Accessory Minerals:
Magnetite, pyrite, titanite

Rock Association:
The prospect is located on the northeast contact of the Burleigh granite gneiss mass, and the metasedimentary belt to the east. Country rocks consist of granite gneiss, granite, pegmatite granite, pegmatite and biotite-hornblende gneiss.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Pole Star prospect is located within concession XII, the east half of lot 25, Burleigh Township. The property extends onto concession I, lots 26 and 27, Anstruther Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444405 N, 780743 E

Access:
From Apsley, travel 1.6 km south on Highway 28, then west by gravel and bush roads for 1.1 km to site.

Property Status:
Crown land (Claim Map M.62). Zoning: wilderness, hazard land, rural area (Bylaw 2-1979); hazard land, rural and forest area (Official Plan).

Commodity Status:
Prospect

Geological Description:
This claim lies along the northeast contact of a large area of granitic complex with basic paragneiss and crystallized limestone. The contact zone trends north.

The granitic complex consists of granite pegmatite, granite gneiss, and hybrid gneisses. The paragneisses are mostly biotite and hornblende gneisses. All gneisses, are intruded by granite and pegmatite, and various gradations of the two types.

The main group of claims straddles the contact of the granitic complex and the metasediments. This part of the granitic complex is mostly granite gneiss, characterized by a low degree of pegmatization, and is correspondingly barren of radioactivity. The eastern part is very different. There are a number of north trending faults, the western most of which separates the two areas. The

east half is underlain by granites and pegmatites which intrude paragneiss, and some granite gneiss. The intrusive rocks outcrop in the form of a north trending ridge; and it is this partly-pegmatitic ridge which produced the anomaly.

Mineralization: Twenty-one drill holes were put down on the claim. Hole P2 intersected 5.2 m assaying 0.053% U308 (radiometric), and hole P4 intersected10.1 m assaying 0.045% U308 (radiometric), plus a deeper section of 6.7 m averaging 0.055% U308 (radiometric) (Satterly, 1956 pg. 158).

Size and Grade: The estimated size and grade indicated from diamond drilling is 370,000 tonnes averaging 0.8 kg U308/tonne, or double this amount using a lower grade of 0.6 kg/tonne (DEMR, 1978 NMI Card 31D/9 U2).

History:
In 1954, the prospect was part of a block of 16 claims within lots 23 to 25, concessions XI and XII, held by Pole Star Mines Limited. In that year Pole Star carried out a surface geiger counter survey, followed by geological mapping and diamond drilling (21 holes totalling 2561.2). (Satterly, 1956 pg. 158).

In June 1955, Pole Star was acquired by Newkirk Mining Corporation Limited, but no work was done and the claims were allowed to lapse. The showing was acquired as part of a 6 claim property by Reno Rinaldi and was optioned along with 18 other claims in 2 groups in the intermediate area to Glenn Explorations Limited in April 1967. In 1969, Glenn Explorations changed its name to Camindex Mines Limited and, in 1975, the occurrence was acquired by Brian C. Asbury of Toronto, Ontario (DEMR, 1978 NMI Card 31D/9 U2).

References Cited:
Department of Energy, Mines and Resources. 1978, NMI Card 31D/9 U2.
Satterly, J. 1956, pg. 158-159.

Additional References:
Hewitt, D. F. 1967a, pg. 55,65.
Hewitt, D. F. 1967b, pg. 56-57.
Lang, A. H. 1952a, pg. 247.
Ministry of Natural Resources. 1978, SMDR 000346.
Ontario Geological Survey. 1984a.
Satterly, J. 1977, pg. 401.
Satterly, J. and Hewitt, D. F. 1955, pg. 59.

Name:
Louvicourt (Windover) Prospect

Mineral Inventory Map No.:
113

Commodity:
Uranium

Accessory Minerals:
Magnetite, sphene, pyrite, fergusonite, columbium

Rock Association:
This prospect lies within a metasedimentary belt composed mostly of crystalline limestone and paragneiss. The belt is intruded by dikes and sills of granite pegmatite and leucogranite.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Louvicourt prospect is located within concession III, lot 3, and the north half of lot 4, and concession IV, the southhalf of lot 4, Cavendish Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444240 N, 782380 E

Access:
From Buckhorn, travel north on Highway 507 for 22 km. The site is located approximately 5 km to the west of this point.

Property Status:
Leased EO 35871 to EO 35874, EO 36894 (Claim Map M.72). Zoning: wilderness, hazard land (Bylaw 78-43); hazard land, rural and forest area (Official Plan).

Commodity Status:
Prospect

Geological Description:
The Louvicourt prospect is bounded to the northeast and southeast by the Anstruther and Burleigh granite gneiss masses, respectively.

Mineralization: Satterly (1956 pg. 167-169) gives a detailed description of the uranium mineralization in this prospect. The uranium mineralization is located within radioactive pegmatite dikes that cut, or occur lit-par-lit in biotite paragneiss, paragneiss, biotite-pyroxene gneiss, biotite granite, granite gneiss and hybrid granite gneiss.

Six groups of radioactive granite or granite pegmatite showings occur in lot 3, concession III. Other mineralization was indicated by diamond drilling done in the north half of lot 4, concession III, and the north half of lot 4, concession IV.

The uranium-bearing sections of the leucogranite (lot 3, concession III) are

characterized by the presence of deep-red feldspar, and magnetite. Accessory minerals are zircon, sphene, pyrite and black tourmaline. The uranium-bearing mineral is uranothorite (orange, brown or black grains). A specimen from trench number 3 showed fergusonite, zircon (crytolite) and a brown vitreous mineral possible anatase.On average, geiger readings were 7x to 18x Bg with spot-highs of up to 30x Bg.

Size and Grade: Assays of drill core from the north half of lot 4, concession IV, and the south half of lot 4, concession III gave the following results: the results range from 0.01% U308/0.6 m to 0.15% U308/0.6 m, with an average of 0.05% U308/0.6 m (ODM, 1969 Drill Log Report 20).

History:
In 1955, stripping and trenching were done by Silanco Mining and Refining Company Limited. Nine drill holes totalling 1147.9 m were put down in lot 3, concession III at the same time (Satterly, 1956 pg. 167). Between 1968 and 1969, magnetometer and scintillometer surveys were done by Louvicourt Goldfields Corporation. Diamond drilling was also done, with 2 holes, totalling 122.2 m, in the south half of lot 4, concession IV, and 4 holes, totalling 241.1 m in the north half of lot 4, concession III (MNR, 1976 SMDR 000357).

References Cited:
Ministry of Natural Resources. 1976, SMDR 000357.
Ontario Department of Mines. 1969, Drill Log Report 20.
Satterly, J. 1956, pg. 167-169.

Additional References:
Department of Energy, Mines and Resources. 1974, NMI Card 31D/9 CB1.
Ferguson, S. A. 1971, pg. 51.
Hewitt, D. F. 1967a, pg. 55,65.
Hewitt, D. F. 1967b, pg. 58.
Lang et al. 1962, pg. 255.
Ontario Geological Survey. 1983b.

Name:
Drude (Buckhorn Road) Occurrence

Mineral Inventory Map No.:
114

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This occurrence is located within a metasedimentary belt that is composed of biotite paragneiss and crystalline limestone. The belt has been intruded by granite and granite pegmatite bodies.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Drude (Buckhorn Road) occurrence is located within concession III, the north half of lot 16, Cavendish Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444312 N, 781940 E

Access:
From Buckhorn, travel 19 km north on Highway 507. The site is located 0.4 km east of this point.

Property Status:
Leased, Mining rights only EO 33278 (Claim Map M.72). Zoning: wilderness, recreational residential (Bylaw 78-43); rural and forest area, recreational dwelling area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The Drude (Buckhorn Road) occurrence lies between the Anstruther and Burleigh granite gneiss masses, to the northeast and southeast, respectively.

Mineralization: Satterly (1956 pg. 164) gives the following description of the uranium mineralization on this occurrence: the uranium mineralization is located within the granite and granite pegmatite bodies that are exposed on this property. One exposure measures 13.7 m by 22.9 m and is made up of purplish- red leucogranite carrying much accessory magnetite. This exposure was found to contain uranophane staining along fractures. Other uranium minerals identified included zircon, allanite, and uranothorite (orange and black). Geiger readings averaged 20x to 30x Bg with spot-highs up to 50x. One drill hole, totalling 27.4 m, failed to intersect any significant amount of granite or granite pegmatite.

A granite exposure, 36.6 m southeast of the above drill hole, was found to

contain minor amounts of magnetite, zircon, allanite, uranothorite (black and orange), and a little uranophane stain. Geiger readings were 8x to 20x with spot highs of 25x to 40x.

History:
This property was explored in 1955. Work included 5 trenches and 2 drill holes, totalling 221 m, by Drude Uranium Mines Limited (MNR, 1976 SMDR 000352)/

In 1968, Newlund Mines Limited drilled 11 holes, totalling 648.3 m, in the north half of lot 16, concession III, for the owner, H. G. Greene (ODM, 1968 Drill Log Reports 11, 25).

References Cited:
Ministry of Natural Resources. 1976, SMDR 000352.
Ontario Department of Mines. 1968, Drill Log Reports 11,25.
Satterly, J. 1956, pg. 164.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/9 U10.
Hewitt, D. F. 1967a, pg. 55,65.
Hewitt, D. F. 1967b, pg. 59.
Lang et al. 1962, pg. 255.
Ontario Geological Survey. 1983b.

Name:
Drude (Mississagua Lake) Occurrence

Mineral Inventory Map No.:
115

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This occurrence is located within a small granitic body that intrudes a metasedimentary belt. The sedimentary rocks are bounded to the north and south by the Anstruther and Burleigh granite gneiss masses, respectively.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Drude (Mississagua Lake) occurrence is located within concession III, the north half of lot 21, Cavendish Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444352 N, 781820 E

Access:
From Buckhorn, travel 19 km north on Highway 507. The site is located 2.4 km east of the highway.

Property Status:
Leased EO 38141 (Claim Map M.72). Zoning: hazard land, wilderness, recreational and residential (Bylaw 78-43); aggregate and mining protection, recreational and residential (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Mineralization: The radioactive mineralization is located within granite pegmatite and leucogranite bodies. Magnetite, some of which is rimmed by a golden-yellow mineral, is associated with the granitic bodies. Geiger readings gave 1x to 2x Bg. One drill hole intersected granite, limestone, and biotite gneiss (Satterly, 1956 pg. 164).

History:
Exploration consists of 3 drill holes, totalling 440.4 m, and stripping by Drude Uranium Mines Limited, in 1955 (MNR, 1976 SMDR 000353).

References Cited:
Ministry of Natural Resources. 1976, SMDR 000353.
Satterly, J. 1956, pg. 164.

Additional References:

Department of Energy, Mines and Resources. 1970, NMI Card 31D/9 U9.
Lang et al. 1962, pg. 255.
Ontario Geological Survey. 1983b.

Name:
United Macfie Occurrence

Mineral Inventory Map No.:
116

Commodity:
Uranium

Accessory Minerals:
Magnetite, martite, titanite

Rock Association:
This occurrence is found within a metasedimentary belt composed predominantly of crystalline limestone and paragneiss. This belt is intruded by dikes and sills of granite, granite pegmatite, and leucogranite.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The United Macfie occurrence is located within concession IV, the south half of lots 6 and 7 and the north half of lot 8, Cavendish Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444050 N, 782350 E (4.8 km to the southwest of the occurrence)

Access:
From Buckhorn, travel 16 km north on Highway 507. The site is located 3.2 km west of this point.

Property Status:
Crown land; concession IV, south half of lot 6, E036896 (Claim Map M.72). Zoning: hazard land, wilderness (Bylaw 78-43); hazard land, rural and forest area, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The United Macfie occurrence is bounded to the northeast and southeast by the Anstruther and Burleigh granite gneiss masses, respectively.

Mineralization: Satterly (1956 pg. 166) describes the radioactive mineralization on this property as follows: the mineralization is located within the leucogranite, granite pegmatite, and pegmatite dikes and bodies that cut the country rocks. In the north half of lot 8, concession IV three bodies of pink leucogranite with pegmatitic patches have been found to be radioactive These bodies are 5 to 61 m wide and 75 to 155 long. They strike north and cut a fine-grained, dark biotite paragneiss. Geiger readings over these bodies averaged 2x Bg with one spot-high of 22x. At the spot-high location, the following accessory minerals were noted: allanite, magnetite, martite, titanite, black uranothorite, and rarely, biotite, garnet, and tourmoline.

Other uranium bearing granitic bodies were diamond drilled within the south half of lots 6 and 7, concession IV.

Size and Grade: Drill assays gave the following results: the best assay was 0.036% U308/0.6 m, the range of assays was 0.003% U308/0.8 m to 0.036% U308/0.6 m and the average was 0.017% U308/0.6 m (ODM, 1956 Drill Log Report 21).

History:
In 1956, exploration was carried out by Macfie Explorations Limited. Pits, and 21 drill holes, totalling 1524.3 m, were put down (Satterly, 1956 pg. 166). In 1968, the property was optioned to Louvicourt Goldfields Corporation, who conducted a magnetometer and scintillometer survey during that year (MNR, 1976 SMDR 000360).

References Cited:
Ministry of Natural Resources. 1976, SMDR 000360.
Ontario Department of Mines. 1956, Drill Log Report 21.
Satterly, J. 1956, pg. 166.

Additional References:
Hewitt, D. F. 1967a, pg. 55,65.
Hewitt, D. F. 1967b, pg. 61.
Lang et al. 1962, pg. 255.
Ontario Geological Survey. 1983b.

Name:
Ganymede Occurrence

Mineral Inventory Map No.:
117

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This occurrence is located within a metasedimentary belt composed of paragneiss and crystalline limestone. The belt has been intruded by dikes and bodies of leucogranite and granite pegmatite, and lies immediately west of the western margin of the Anstruther granite gneiss batholith.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Ganymede occurrence is located within concession VI, the south half of lot 11, Cavendish Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444358 N, 782132 E

Access:
From Buckhorn, travel north on Highway 507 for 20 km. The site is located 3.2 km west of the highway.

Property Status:
Crown land (Claim Map M.72). Zoning: hazard land, wilderness (Bylaw 78-43); hazard land, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Mineralization: Uranium mineralization was identified in drill hole 5, which was put down in marble and paragneiss cut by dikes of granite and granite pegmatite. Granite pegmatite was intersected for 24 m from 1 m to 25 m, and for 4.4 m, from 33 to 38 m. Geiger readings were 1x to 3x Bg on the pegmatite with a spot-high of 20x were uranothorite was noted (Satterly, 1956 pg. 165).

History:
In 1955, diamond-drilling was carried out on 2 claims, with 4 holes, totalling 416.7 m, being drilled on the north half of lot 11, concession V1, and 3 holes, totalling 408.7 m, drilled on the south half of lot 11, concession VI (Satterly, 1956 pg. 165).

References Cited:
Satterly, J. 1956, pg. 165.

Additional References:

Department of Energy, Mines and Resources. 1970, NMI Card 31D/9 U14.
Lang et al. 1962, pg. 255.
Ministry of Natural Resources. 1976, SMDR 000355.
Ontario Geological Survey. 1983b.

Name:
Cromwell Occurrence

Mineral Inventory Map No.:
118

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
The occurence is located within a metasedimentary belt composed of biotite paragneiss and crystalline limestone, intruded by dikes and bodies of leucogranite and granite pegmatite.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Cromwell occurrence is located within concession VI, lot 13, and concession V, the north half of lot 14, Cavendish Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444410 N, 782136 E

Access:
From Buckhorn, travel north on highway 507 to the hamlet of Catchacoma. The occurrence lies 1.6 km west of this point. Access is provided by bush roads.

Property Status:
Crown Land (Claim Map M.72). Zoning: wilderness, hazard land (Bylaw 78-43); hazard land, rural and forest area, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The Cromwell occurrence lies immediately west of the Anstruther granite gneiss batholith. Country rocks are Late Precambrian in age.

Mineralization: On lot 13, concession VI, the uranium mineralization is located within leucogranite or pegmatitic leucogranite zones. The main zone has been traced for 152.4 m. Geiger readings over the leucogranite average 8x Bg, with spot-highs of 12x to 13x Bg. In many cases these spot-highs are found at concentrations of hematized magnetite (Satterly, 1956 pg. 162).

On the north half of lot 14, concession V, uranium mineralization is found in a granite pegmatite dike with exposed widths of 4.0, 7.0 and 11.3 m, and an exposed length of 32.6 m. It is typically, coarse, segregated granite pegmatite with buff to pink potash feldspar sections 0.2 to 0.9 m in width, white to grey quartz, with a negligible amount of biotite (in thin books) in sections up to 0.3 m. Trenches indicate a middle zone in the dike 0.3 to 1.8

m wide. Geiger readings on the normal pegmatite were 2x to 6x Bg, and on the middle zone 12x to 46x Bg (Satterly, 1956 pg. 162).

History:
In 1955, work on the occurrences in lot 13, concession VI, consisted of 11 trenches and 14 drill holes, totalling 1126.5 m, and in the north half of lot 14, concession V, strippings and 8 trenches were worked (Satterly, 1956 pg. 162).

References Cited:
Satterly, J. 1956, pg. 162.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/9 U11.
Ferguson, S. A. 1971, pg. 51.
Hewitt, D. F. 1967a, pg. 55, 65.
Hewitt, D. F. 1967b, pg. 59 .
Lang et al. 1962, pg. 255.
Ministry of Natural Resources. 1978, SMDR 000351.
Ontario Geological Survey. 1983b.

Name:
Cavendish Mine

Mineral Inventory Map No.:
119

Commodity:
Uranium

Accessory Minerals:
Titanite

Rock Association:
Mineralization is located within a metasedimentary belt composed mainly of crystalline limestone intruded by granite, granite gneiss and pegmatite.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Cavendish Uranium and Mining Company Limited prospect is located on concessions VI to IX, lots 14 to 17, Cavendish Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444500 N, 782120 E

Access:
From Buckhorn, travel north on Highway 507 for 25.6 km. The main mine is located 1 km west of this point.

Property Status:
Leased (Claim Map M.72). Zoning: wilderness, recreational residential (Bylaw 78-43); recreational dwelling area, rural and forest area, hazard land, aggregate and mining protection (Official Plan).

Commodity Status:
Prospect

Geological Description:
The main, or south showings, located on lots 14 and 15, concession VII, lie within flat lying pegmatite dikes which strike north and dip flatly east. The dikes intrude paragneiss that are well banded amphibolite- biotite gneiss, dip from 25 to 40 degrees W, and form the walls of the uranium- bearing pegmatites, which dip from 15 to 30 degrees E. The pegmatite dikes are from 6.1 m to 12.2 m thick and are composed of pink feldspar crystals with graphic intergrowths of quartz. Uranium values are closely associated with areas of small feldspar crystals or zones of brecciation. Localization of the uranium minerals also appears to have been assisted by areas of minor faulting and, in places, slight shearing (Satterly, 1956 pg. 160-161).

the north showings are located within a pink, granite pegmatite, exposed for 39.6 m. Geiger readings were mainly 5x to 18x Bg (Satterly, 1956 pg. 161).

Size and Grade: The lowest estimate of reserves at the main workings are as follows: available ore above 21.3 m level estimated at 45,000 tonnes and

graded 0.110% U308 (chemical); ore indicated by drilling to 91.4 m down-dip from surface estimated at 272,300.0 tonnes and graded 0.094% U308 (chemical); possible ore indicated by drilling to 182.9 m down-dip estimated 77,000 tonnes at 0.094% U308 (chemical). The total tonnage is 395,000 tonnes at an average grade of 0.096% U308 (chemical) (MNR, 1976 SMDR 000350).

History:
A detailed history of this prospect is found in the NMI Card 31D/9, 16 U3 (DEMR, 1981).

The north showing was explored by Cavendish Uranium and Mining Limited in 1954. A 12 diamond drill hole program, totalling 1317 m was carried out.

The main showing was uncovered during 1954. In 1955, a vertical two-compartment shaft was sunk to a depth of 26.8 m, and a level established at 21.3 m; 243.8 m of drifting, 121.9 m of crosscuts and 22.9 m of raises were completed on this occurrence by the end of 1956. Diamond drill holes (totalling 15996.5 m) within an area 121.9 m wide and 335.3 m long, northwest and southeast of the shaft, have cut a number of ore grade sections.

In March, 1957, Cavendish was amalgamated with Rare Earth Mining Company Limited to form Amalgamated Rare Earth Mines Limited.

In September, 1967, a work option was granted to Asarco Exploration Company of Canada Limited who continued exploration. During the last quarter of 1967, they drilled 13 vertical holes to depths of 22.3 to 151.3 m, from 121.9 to 243.8 m apart over an area 609.6 by 365.8 m.Asarco relinquished their option at the end of 1967. In 1973, the property was optioned by Imperial Oil, Limited, who conducted geological mapping and diamond drilling in 1975. In 1979, Amalgamated Rare Earth changed its name to Rare Earth Resources Limited.

References Cited:
Department of Energy, Mines and Resources. 1981, NMI Card 31D/9, 16, U3.
Ministry of Natural Resources. 1976, SMDR 000350.
Satterly, J. 1956, pg. 160-161.

Additional References:
Ferguson, S. A. 1971, pg. 51.
Hewitt, D. F. 1967a, pg. 141.
Lang, A. H. 1952a, pg. 141.
Rowe, R. B. 1958, pg. 92.
Satterly, J. and Hewitt, D. F. 1955, pg. 59-60.

Name:
Asarco Occurrence

Mineral Inventory Map No.:
120

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This occurrence lies within a metasedimentary belt composed of predominantly crystalline limestone. The belt has been intruded by dikes and sills of granite, granite pegmatite and migmatite and is bounded to the northeast and southeast by the Anstruther and Burleigh granite gneiss masses.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Asarco occurrence is located within concession VII, the south half of lot 10, Cavendish Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444436 N, 782212 E

Access:
From Buckhorn, travel north on Highway 507 for 25.2 km. The site is located approximately 3 km west of this point.

Property Status:
Crown land (Claim Map M.72). Zoning: wilderness, hazard land (Bylaw 78-43); hazard land, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Mineralization: The radioactive mineralization is located within a large pegmatite zone. Strong radioactivity was detected over an area more than 91 m long by 15 m wide at the surface, but drill holes encountered only low uranium values. The zone, known as the "Green pegmatite", is exposed for a strike length of 853.4 m with a horizontal width of 24 m to 396 m, but no other areas of strong radioactivity have been located within it (ODM, 1967 File 63.2324).

Size and Grade: Uranium values compiled from drill log analyses range from 0.009% U308 over 3.0 m (holes 2-5, 2-6) to 0.017% U308 over 3.0 m (hole 2-1) (ODM, 1967 File 63.2324).

History:
In 1967, geological, scintillometer and magnetic surveys, and 3 drill holes, totalling 142.6 m, were carried out by Asarco Exploration Company of Canada

Limited (MNR, 1978 SMDR 000348).

References Cited:
Ministry of Natural Resources. 1978, SMDR 000348.
Ontario Department of Mines. 1967, File 63.2324.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/9 U23.
Ontario Geological Survey. 1983b.

Name:
Briar Court (D.J.Smith) Occurrence

Mineral Inventory Map No.:
121

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
The property is located within a metasedimentary belt composed of crystalline limestone and paragneiss, intruded by dikes and sills of granite and granite pegmatite, and is bounded to the east by the Anstruther granite gneiss mass.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Briar Court occurrence is located within concession IX, the north half of lot 15 and concession X, the south half of lot 15, Cavendish Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444630 N, 782250 E (The eastern most point of Picard Lake)

Access:
From Burleigh Falls, travel west on Highway 36 to its junction with Highway 507. Continue north on Highway 507 for 20 km.

Property Status:
Concession IX, the north half of lot 15 - leased EO 414460; concession X, the south half of lot 15 - patented, surface rights only (Claim Map M.72). Zoning: wilderness, hazard land (Bylaw 78-43); aggregate and mining protection, rural and forest area, hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Mineralization: Uranium mineralization is found within pronounced ridges of syenite and granite which extend east-west across the property. The west end of the ridge is truncated by a north trending fault escarpment that bisects the lots.

The radioactive mineralization is associated with a fault fracture pattern along the margins of the granite and syenitic bodies that intrude the metasediments. A considerable amount of magnetite is found related to the radioactive zones. The radioactive mineral has been identified as uranothorite (Lang et al, 1962 pg. 255).

Size and Grade: Samples taken by D.J. Smith from the north half of lot 15, concession IX, assayed 0.55%, 0.11%, 0.22%, and 0.41% U308 (radiometric) (Lang, 1952a p. 141).

The Briar Court trench samples gave the following results: the channel sample assayed 0.03% U308 (chemical) and 0.07% U308 (radiometric) across 1.5 m, and 3 chip samples assayed 0.12% U308 (chemical) and 0.18% U308 (radiometric), 0.02% U308 (chemical and radiometric), and 0.04% U308 (chemical) and 0.07% U308 (radiometric), respectively (MNR, 1976 SMDR 000349)."The average of the sampling of some of the showings in the discovery area indicates about (0.66 kg) of contained uranium oxide in the rock per (tonne) underlying the trenches blasted." This area indicates radioactive contents in the range of 4500 tonnes per 0.3 vertical meter of the intrusive (MNR, 1976 SMDR 000349).

The U/Th ratio appears to be about 5:1 (ODM, 1968 File 63.2421).

"A dip needle survey followed by electromagnetic surveying outlined a strong north striking conductor having a length of (456 m), still open to the north, with widths of from (15.2 to 18.2 m)." Four grab samples returned assays of from 0.11% to 1.04% copper (Northern Miner. August 8, 1968 pg. 61).

History:
In 1951, sampling was carried out within the north half of lot 15, concession IX, by D. J. Smith, who owned the property. In 1957, H. G. Green acquired the north half of lot 15, concession IX, and the south half of lot 15, concession X. At this time he carried out trenching and geological mapping. In 1968, the property was optioned to Briar Court Mines Limited who conducted scintillometer and electromagnetic surveys, pitting and trenching, and 3 drill holes, totalling 121.6 m, were put down. In 1974, ownership belonged to N. Hibbart (the south half of lot 15, concession X) and R. W. Drude (the north half of lot 15, concession IX) (MNR, 1976 SMDR 000349).

References Cited:
Lang, A. H. 1952a, pg. 141.
Lang et al. 1962, pg. 255.
Ministry of Natural Resources. 1976, SMDR 000349.
Northern Miner. 1968, Vol. 54, No. 20, August 8, pg. 61.
Ontario Department of Mines. 1968, File 63.2421.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI
Cards 31D/16 U61, 31D/16 U7.
Hewitt, D. F. 1967a, pg. 55.
Hewitt, D. F. 1967b, pg. 61.
Ontario Geological Survey. 1983b.
Satterly, J. 1956, pg. 162-163.

Name:
Drude (Higgins Lake) Occurrence

Mineral Inventory Map No.:
122

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This occurrence is located within and on the western margin of the Anstruther granite batholith, that intrudes a predominantly crystalline limestone and paragneiss metasedimentary belt.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Drude (Higgins Lake) occurrence is located within concession IX, lot 16, Cavendish Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444630 N, 782250 E

Access:
From Buckhorn, travel 27.1 km north on Highway 507. The site is located at this point.

Property Status:
EO 7692, EO 7693 (Claim Map M.72). Zoning: wilderness (Bylaw 78-43); aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Mineralization: A description of the radioactive mineralization on this property is given by Satterly (1956 pg. 163). In concession IX, on the south half of lot 16, the radioactive mineralization is found within a granite pegmatite mass that has an exposed width of 33.5 m, with the west side being in contact with diopside rock. The contact strikes 150 degrees and dips vertically. Geiger readings on the whole mass were 1x to 3x Bg with spot - highs up to 10x Bg. At the best reading, allanite, zircon, and accessory magnetite were noted. No other radioactive minerals were found.

In the north half of lot 16, concession IX the radioactive mineralization is located within a red to deep brick-red leucogranite with pegmatitic patches. Radioactive minerals noted were allanite and black grains of uranothorite. Small crystals of zircon were found, along with coarse magnetite. Geiger readings were 5x to 30x Bg with a spot-high of 50x Bg.

Size and Grade: Drill log assay (hole 7) in concession IX, the north half of

lot 16, gave a reading of 0.09% U308/0.2 m (ODM, 1955 Drill Log Report 15).

History:
A scintillometer and geological survey was completed in 1955 (ODM, 1955 File 63.727). Exploration in 1955 consisted of trenching, 4 diamond drill holes totalling 591.6 m, and some drill holes. Work was done by Drude Uranium Mines Limited (Satterly, 1956 pg. 162).

In 1976 and 1977, R. W. Drude resumed exploration on concession IX, the north half of lot 15. Geophysical surveys, as well as sketches and assays were done (Trusler and Villard, 1978 pg. 107).

References Cited:
Ontario Department of Mines. 1955, File 63.727.
Ontario Department of Mines. 1955, Drill Log Report 15.
Satterly, J. 1956, pg. 162-163.
Trusler, J. R. and Villard, D. J. 1978, pg. 100-108.

Additional References:
Hewitt, D. F. 1967a, pg. 55,65.
Hewitt, D. F. 1967b, pg. 60.
Ministry of Natural Resources. 1976, SMDR 000358.
Ontario Geological Survey. 1983b.

Name:
Ansil (Pencil Creek) Occurrence

Mineral Inventory Map No.:
123

Commodity:
Uranium

Accessory Minerals:
Molybdenite

Rock Association:
This occurrence is located within a metasedimentary belt close to the contact with the west central boundary of the Anstruther granite gneiss mass.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Ansil occurrence is located within concession X, the north half of lot 19, and concession XI, the north half of lot 21, Cavendish Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444728 N, 782034 E

Access:
From Buckhorn, travel north on Highway 507 for 25 km. The site is located 1.6 km to the east of this point.

Property Status:
Crown land (Claim Map M.72). Zoning: wilderness, hazard land (Bylaw 78-43); hazard land, aggregate and mining protection, rural and forest area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Mineralization: Radioactive mineralization within the north half of lot 19, concession X, is located within granite pegmatite dikes, sills, or masses that are 3 to 18 m across and have exposed lengths up to 30.5 m. The pegmatites cut granitized biotite gneiss, and hornblende gneiss that strike 350 degrees to 20 degrees, and dip 40 to 70 degrees W. Geiger readings were 3x to 30x Bg with one spot-high of 50x Bg on a patch rich in coarse accessory magnetite.

The main radioactive mineralization within the north half of lot 21, concession XI, is contained in a mass of leucogranite or granite pegmatite with an exposed length of 61 m, and a width of 7 to 22 m. the country rock is biotite or hornblende gneiss which strikes 12 degrees and dips vertically. Geiger readins on the leucogranite and pegmatite mass were 1x to 5x Bg with a spot-high reading of 90x Bg (Satterly, 1956 pg. 167).

History:
In 1955, an exploration program of stripping and trenching was carried out on

these properties by Silanco Mining and Refining Company Limited, which changed it name, in 1957, to Ansil Mines Limited (MNR, 1976 SMDR 000347). In 1969, magnetometer and scintillometer surveys, and 3 drill holes, totalling 229.2 m, were carried out by Louvicourt Goldfields Corporation (DEMR, 1970 NMI Card 31D/16 U62).

References Cited:

Department of Energy, Mines and Resources. 1970, NMI Card 31D/16 U62.
Ministry of Natural Resources. 1976, SMDR 000347.
Satterly, J. 1956, pg. 167.

Additional References:

Department of Energy, Mines and Resources. 1970, NMI Card 31D/9 U15.
Hewitt, D. F. 1967a, pg. 55,65.
Hewitt, D. F. 1967b, pg. 58.
Lang et al. 1962, pg. 256.
Ontario Geological Survey. 1983b.

Name:
Drude (Picard Lake) Occurrence

Mineral Inventory Map No.:
124

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This occurrence is located within a granitic body that intrudes a metasedimentary belt. This belt, composed of predominantly crystalline limestone, is to the west of the Anstruther granite gneiss mass.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Drude (Picard Lake) occurrence is located within concession XI, the south half of lot 14, Cavendish Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444650 N, 782210 E

Access:
From Buckhorn, travel north on Highway 507 for approximately 29 km. The site is located 0.8 km west of this point.

Property Status:
EO 7325 (Claim Map M.72). Zoning: wilderness (Bylaw 78-43); recreational dwelling area, rural and forest area, hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Mineralization: The radioactive mineralization is located within a granitic mass, which is made up of pink leucogranite, granite pegmatite, and graphic granite. The granite mass is exposed over a length of 259.1 m and a width of 76.2 m. The southern contact with interbedded marble and amphibolite strikes 75 degrees and dips 50 degrees SE. The metasediments strike north and dip 70 degrees W. Geiger counts were 2x-5x Bg, the lowest readings, 2x-4x Bg, being along the south contact where quartz is more abundant.

A trench, 61 m north of the south contact, gave geiger readings of 4x-10x Bg with spot-highs of 40x Bg. At the spot-highs magnetite, allanite, and uranothorite, were noted, along with hornblende crystals which measured between 0.6 and 16 cm in length and were scattered erratically through the rock. A little purple fluorite was noted with hornblende or elsewhere as a rare accessory. Much of the quartz is black (Satterly, 1956 pg. 163).

History:

In 1955, scintillometer and geological surveys (ODM, 1956 File 63.727), 2 drill holes, totalling 328.9 m, trenching, and bulldozing were carried out by Drude Uranium Mines Limited.

References Cited:

Ontario Department of Mines. 1956, File 63.727.
Satterly, J. 1956, pg. 163.

Additional References:

Department of Energy, Mines and Resources. 1970, NMI Card 31D/16 U35.
Hewitt, D. F. 1967a, pg. 55.
Hewitt, D. F. 1967b. pg. 60.
Lang et al. 1962, pg. 255.
Ministry of Natural Resources. 1976, SMDR 000354.
Ontario Geological Survey. 1983b.

Name:
Kelbee Prospect

Mineral Inventory Map No.:
125

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This prospect is located within and on the northwestern margin of the Anstruther granite batholith. The occurrence is underlain by amphibolite marble, granite gneiss, and hybrid granite gneiss cut by granite and granite pegmatite bodies.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Kelbee prospect is located within concession XIV, the south half of lot 24 and lot 25, Cavendish Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444840 N, 782040 E (1.1 km south-southwest of the site).

Access:
From Buckhorn, travel north on Highway 507 for 30 km. The site is located 3.6 km east of this point.

Property Status:
Crown land (Claim Map M.72). Zoning: wilderness, hazard land (Bylaw 78-43); hazard land, aggregate and mining protection (Official Plan).

Commodity Status:
Prospect

Geological Description:
Mineralization: This prospect consists of two showings referred to as the south showing and the north showing, both of which are described by Satterly (1956 pg. 165-166). The uranium mineralization in the south showing (the south half of lot 24, concession XIV) is located within small lenticular bodies of leucogranite and leucogranite pegmatite situated in an outcrop area of gybrid granite gneiss. The granite gneiss strikes 20 degrees and dips 60 to 85 W. The largest pegmatite mass, on the south showing, was a lenticular body with an exposed length of 61 m, and a maximum width of 9.1 m. Geiger readings were erratic, ranging from 2x to 10x Bg with spot-highs of 20x to 34x Bg. The following minerals were noted; uranophane, allanite, uranothorite, and magnetite. The more radioactive areas showed small fracturing or crushing.

The uranium mineralization in the north showing (the north half of lot 25, concession XIV) is located within an irregular shaped body and one small mass

of leucogranite and graphic granite, and leucogranite pegmatite. The host rock is a hybrid granite gneiss, striking 20 to 35 degrees east and dipping vertically to 65 degrees W. The irregular shaped granite body is about 138 m long and 6 to 37 m wide. Geiger readings were 2x to 6x Bg with spot-highs of 10x and 60x Bg. The following minerals were noted in the radioactive leucogranite and graphic granite; uranothorite (orange or reddish-brown), uranophane, allanite, zircon,uraninite, and magnetite.

Size and Grade: Diamond drill assays (chemical) gave the following results: the north half of lot 25, concession XIV ranged from 0.02% U308/6.1 m to 0.025% U308/0.3 m; the south half of lot 25, concession XIV assayed 0.02% U308/1 m to 0.039% U308/1.3 m; and the south half of lot 24, concession XIV ranged from 0.009% U308/0.9 m to 0.044% U308/0.9 m (ODM, 1956 Drill Log Report 23).

History:
Between 1955-1956, Kelbee Rare Metals Corporation Limited performed the following work: trenching, 914.4 m of bulldozing, and diamond drilling. Twenty-two holes were put down on the north half of lot 25, concession XIV, totalling 1648.1 m and 7 holes, totalling 473.7 m, were put down on the south half of lot 25, concession XIV. On the south half of lot 24, concession XIV, 5 holes, totalling 345.6 m, were drilled (MNR, 1976 SMDR 000356). In 1979, Mountview Explorations Inc. put down 5 drill holes, totalling 282.9 m, on lots 23 to 25, concession XIV (Villard, 1979 pg. 121).

References Cited:
Ministry of Natural Resources. 1976, SMDR 000356.
Ontario Department of Mines. 1956, Drill Log Report 23.
Satterly, J. 1956, pg. 165-166.
Villard, D. J. 1979, pg. 121.

Additional References:
Hewitt, D. F. 1967a, pg. 55,65.
Hewitt, D. F. 1967b, pg. 60.
Lang et al. 1962, pg. 256.
Ontario Geological Survey. 1983b.

Name:
Ricban Occurrence

Mineral Inventory Map No.:
126

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This occurrence is located within the metasedimentary belt that is bounded by the Anstruther granite gneiss mass to the west, and the Loon Lake granite mass to the southeast. The country rocks consist of crystalline limestone, amphibolite, gabbro, biotite granite gneiss and pegmatite.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Ricban occurrence is located within concession XI, the south half of lot 11, on the west side of Clyesdale Lake, Chandos Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444921 N, 780154 E

Access:
From Apsley, travel 8.5 km northeast on Highway 620. The occurrence is located on the north side of the Highway, adjacent of Clyesdale Lake.

Property Status:
Crown Land (Claim Map M.73). Zoning: open space (Bylaw 524-H- 82); recreational dwelling area, rural and forest area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Mineralization: Uranium mineralization occurs within a brick red pegmatite. The mineralization was found only in one drill core sample, between the 9 m and the 11 m depth, and assayed 0.004% U308. Radioactivity of 0.03 MR/HR was associated with the core (ODM, 1958 Drill Log Report 10).

History:
In 1958, 2 drill holes totalling 221 m were put down by Ricban Mines Limited (MNR, 1975 SMDR 000362).

References Cited:
Ministry of Natural Resources. 1975, SMDR 000362.
Ontario Department of Mines. 1958, Drill Log Report 10.

Additional References:
Department of Energy, Mines and Resources. 1971, NMI

Card 31D/16 U34.
Ontario Geological Survey. 1986 (unpublished).

Name:
Bunker Hill Extension Mines Occurrence

Mineral Inventory Map No.:
127

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
Pegmatite stringers carrying uranium mineralization are reported to crosscut the biotite paragneiss which is the regional country rock in the immediate area.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Bunker Hill Extension occurrence lies within concession XV, lots 1 and 2, in the northwestern part of Chandos Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
445100 N, 780400 E

Access:
From Apsley, travel north on Highway 28 for 10.4 km. The property is located 1.2 km east of the highway.

Property Status:
Crown Land (Claim Map M.73). Zoning: hazard land, open space (Bylaw 524-H-82); hazard land, rural and forest area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
This property has been examined by J. Satterly and the following description is taken from his report (Satterly, 1956 pg. 170): The property is underlain by biotite paragneiss striking northeast and dipping about 50 degrees. Drill hole logs record intersections of pegmatite stringers all under 0.3 m in thickness except for one 35.6 cm dikelet. No radioactivity was recorded.

History:
In 1954, 4 drill holes, totalling 612.3 m, were put down on this claim by Bunker Hill Extension Mines Limited (Satterly, 1956 pg. 170).

References Cited:
Satterly, J. 1956, pg. 170.

Additional References:
Ontario Geological Survey. 1986 (unpublished).
Shaw, D. M. 1962, pg. 27.

Name:
Consolidated Uranium Occurrence

Mineral Inventory Map No.:
128

Commodity:
Uranium

Accessory Minerals:
Magnetite, fluorite, cellanite

Rock Association:
This occurrence lies within the metasedimentary belt to the northeast of the Anstruther granite gneiss mass. The country rocks consist of biotite-hornblende gneiss, amphibolite, pegmatite dikes, granite pegmatite and leucogranite.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The occurrence consists of several showings and is located within concession XVI, the south half of lot 9, Chandos Township, approximately 12.8 km northeast of Apsley.

NTS Map No.:
31D/16

UTM Grid Coordinates:
445140 N, 780348 E

Access:
From Apsley, travel north on Highway 28 for 12.8 km. The occurrence lies approximately 3 km east of Highway 28.

Property Status:
Crown Land (Claim Map M.73). Zoning: extractive industrial holding, hazard land (Bylaw 524-H-82); rural and forest area, hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The occurrence is made up of a series of parallel, radioactive pegmatite dikes. Four separate showings have been recognized within these dikes, a description of three of these showings follows.

The number 1 showing has an exposed length of 15.2 m with an average width of 3 m. The exposed rock is red leucogranite and granite pegmatite with accessory magnetite, allanite, and orange grains of uranothorite in magnetite or in biotite flakes.

The number 2 showing, 45.7 m west of number 1, has been explored by a stripping 21.3 m long and has an average width of 3.7 m. A brick-red granite pegmatite dike is exposed cutting a biotite-hornblende gneiss. The dike strikes about 300 degrees, has been traced for 61 m, and is 1.5 m to 3.7 m in width.

The number 4 showing, 61 m north of number 2, has been exposed by stripping. It is a pink, fine-grained leucogranite dike which contains irregular patches of granite pegmatite, and inclusions of fine-grained hornblende. The dike is exposed for a length of 48.8 m. The country rock is amphibolite. Low geiger readings were recorded on the granite, mainly 2x Bg with a high of 3x Bg (Satterly, 1956 pg. 170).No information is available on the number 3 showing.

Size and Grade: Hole number 1, in the number 1 showing, cut 3.7 m of radioactive pegmatite, which returned 0.2 kg U308/tonne between 0 and 2.9 m, and 0.6 kg between 2.9 and 3.7 m (N. M. Sept. 16, 1954).

A chip sample from a trench, in the number 2 showing, gave 0.9 kg (0.1%) U308/tonne across a width of 1.2 m. A second sample gave 0.5 kg (0.05%) U308/tonne across 2.5 m (Northern Miner. Oct. 7, 1954).

History:
In 1954 the property was owned by Consolidated Uranium Corporation Limited, who conducted a geiger counter survey, stripping, and trenching, and put down 7 shallow drill holes.

In 1975 ownership belonged to G.G. Riznek of Quebec (MNR, 1975 SMDR 000361).

References Cited:
Ministry of Natural Resources. 1975, SMDR 000361.
Northern Miner. 1954, October 7.
Northern Miner. 1956, September 16.
Satterly, J. 1956, pg. 170.

Additional References:
Hewitt, D. F. 1967a, pg. 55,65.
Hewitt, D. F. 1967b, pg. 61-62.
Martin, W. 1983, pg. 277.
Department of Energy, Mines and Resources. 1970, NMI Card 31D/16 U68.
Ontario Geological Survey, 1986 (unpublished).
Satterly, J. 1977, pg. 402.
Shaw, D. M. 1962, pg. 27.

Name:
C. A. McWilliams Occurrence

Mineral Inventory Map No.:
129

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This occurrence is located within a metasedimentary belt that is composed mainly of crystalline limestone. The belt is intruded by dikes and sills of granite, syenite and granite pegmatite and is bounded to the southeast and west by Burleigh and Glamorgan granite gneiss masses, respectively.

Classification:
Metasomatic: skarn type deposit.

Location:
The occurrence is located within concession VIII, the south half of lot 27, Galway Township, to the southwest of Loom Lake.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444350 N, 782744 E

Access:
From Buckhorn, travel north on Highway 36 for 6 km to Highway 507. Continue north on Highway 507 for 9 km to township road. Travel west on township road for approximately 13 km. The occurrence lies 1 km west of the road, just south of Loom Creek.

Property Status:
Patented (Claim Map M.94). Zoning: rural, hazard land (Bylaw 78-43); hazard land, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The occurrence consists of radioactive minerals associated with a marble and biotite-rich marble zone. The marble strikes 15 to 50 degrees and dips 65 degrees SE. Geiger readings were erratic and ranged from 2x to less than 10x Bg, averaging 7x Bg. a spot-high of 70x Bg was recorded. The higher geiger readings were obtained over the biotite-rich sections (Satterly, 1956 pg. 172).

Size and Grade: A grab sample taken at a point read 40x Bg, in the most southerly trench of disintegrated marble with abundant biotite. It assayed 0.15% U308 (radiometric) and 0.15% U308 (chemical) (Satterly, 1956 pg. 172).

History:
In 1956, Newkirk Mining Corporation, Limited, conducted an exploration program

of 12 strippings and trenches (Satterly, 1956 pg. 172). A geiger survey was also carried out by Jack Satterly (MNR, 1975 SMDR 000366).

References Cited:

Ministry of Natural Resources. 1975, SMDR 000366.
Satterly, J. 1956, pg. 172.

Additional References:

Department of Energy, Mines and Resources. 1970, NMI Card 31D/9 U12.
Lang et al. 1962, pg. 26.
Ontario Geological Survey. 1983a.

Name:
C. A. McWilliams Loom Lake Occurrence

Mineral Inventory Map No.:
130

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This occurrence is located within a granitic body that intrudes a mostly crystalline limestone metasedimentary belt. This belt is bounded to the southeast by the Burleigh granite gneiss mass, and to the west by the Glamorgan granite gneiss mass.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Loom Lake occurrence is located within concession IX, the south half of lots 30 and 31, on the southeast shore of Loom Lake, Galway Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444432 N, 782810 E

Access:
From Buckhorn, travel north on Highway 36 for 6 km to Highway 507, then north on Highway 507 for 9 km to township road. Follow this road northwest for approximately 14 km. The occurrence lies approximately 1 km northeast of this road.

Property Status:
Crown land (Claim Map M.94). Zoning: rural (Bylaw 78-43); rural and forest area, hazard land, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
Country rocks on this occurrence consist of syenite, biotite syenite gneiss and crystalline limestone, which strike 45 to 55 degrees and dip 65 degrees SE.

Mineralization: The occurrence consists of uraninite mineralization within leucosyenite or biotite syenite gneisses. These are exposed over a length of 213.4 m. Geiger readings were mostly low, with highs being erratic in distribution. Readings were 3x to 30x Bg. Better readings were obtained over biotite-rich bands in the syenite gneiss.

Size and Grade: Assays of diamond drill core ranged from 0.001% U308/1.5 m to 0.0019% U308/1.5 m (ODM, 1956 Drill Log Report 17). A grab sample from a trench within the south half of lot 30, concession IX, gave a reading of 30x

Bg and assayed 0.04% U308 (radiometric) (Satterly, 1956 pg. 172). 172).

History:
C. A. McWilliams optioned this property to Newkirk Mining Corporation, Limited, in 1956. At this time 6 trenches and 7 drill holes, totalling 486.8 m, were put down, also, Satterly performed a geiger counter survey. In 1973, ownership changed to W. B. Strachan of Toronto (MNR, 1975 SMDR 000367).

References Cited:
Ministry of Natural Resources. 1975, SMDR 000367.
Ontario Department of Mines. 1956, Drill Log Report 17.
Satterly, J. 1956, pg. 172.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/9 U13.
Hewitt, D. F. 1967b, pg. 63.
Lang et al. 1962, pg. 261.
Ontario Geological Survey. 1983a.

Name:
Coballoy Prospect

Mineral Inventory Map No.:
131

Commodity:
Uranium

Accessory Minerals:
Titanite

Rock Association:
Radioactive mineralization distributed within sills and dikes in granite and granite pegmatite.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Coballoy prospect is located within concession X, lots 23 and 25, on the southwest shore of Crystal Lake, Galway Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444440 N, 782910 E

Access:
From Bobcaygeon, travel north on Highway 649 to Highway 121, then north on Highway 121 for 2.8 km to Union Creek. Proceed east on township road for 9.2 km, then follow a trail road along Crystal Lake for 1.3 km to a bridge. The occurrence lies 250 m to the west on Nogies Creek.

Property Status:
Concession X, lot 23 - patented, surface rights only; concession X, lot 25 - patented (Claim Map M.94). Zoning; rural, hazard land, recreational residential, open space (Bylaw 78-43); recreational dwelling area, hazard land (Official Plan).

Commodity Status:
Prospect

Geological Description:
The Coballoy prospect is found within a metasedimentary belt that is composed mainly of crystalline limestone. The belt is intruded by dikes and sills of granite, granite pegmatite and migmatite, and is bounded to the east by the Anstruther-Burleigh granite gneiss masses, and to the west by the Glamorgan granite gneiss mass.

Mineralization: Radioactive mineralization is distributed erratically within dikes, sills or bodies of granite and granite pegmatite which strike northeast and dip 45 to 55 degrees SE.

These granitic bodies intrude crystalline limestone and, to a lesser extent amphibolite. In the areas of greater radioactivity, the quartz is black and the feldspar is stained a deep red or purplish-red colour. The following are

descriptions of the three main sills taken from Satterly (1956 pg. 173):

Number 1 sill, located in lot 25, concession X, is a lenticular body containing a number of lenses or narrow bands of marble. The body is about 335 m long, with a maximum width of 91.4 m, and striking 35 degrees. The foot wall dips 45 degrees SE, and the hanging wall 50 degrees SE. Geiger readings, taken in a pit within the sill, were 4x to 12x Bg with spot-highs of 15x to 40x Bg.Number 2 sill is on lots 23 and 25, concession x. This lenticular mass has a length of 548.6 m, and a maximum width of 61 to 122 m, including a lends of marble about 30 m wide. The body strikes 40 degrees and dips 45 degrees SE. Geiger readings were 4x to 12x Bg with spot-highs up to 40 Bg.

Number 3 sill, located on lots 23 and 25, concession X, is poorly exposed, with scattered exposures indicating a narrow sill possibly 305 m in length and 15.2 m wide. It strikes 45 degrees and dips 45 degrees SE. Geiger readings were 5x to 12x Bg with spot-highs up to 120x Bg.

Size and Grade: Two composite grab samples of the granitic rocks returned the following results: 0.02% and 0.01% U308 (radiometric) (Satterly, 1971 pg. 75).

History:
Between 1954 and 1955, Silver Crater Mines Limited held this property under option. In 1954, 10 diamond drill holes, totalling 586.1 m, were put down on the property and an additional 11 holes were drilled in 1955, totalling 415.7 m. A scintillometer survey was also performed. Within this time, a total of 52 pits or trenches were developed on the property (MNR, 1976 SMDR 000365).

Between 1956 and 1957, the property was held under option by Coballoy Mines and Refiners Limited. This company sank an adit (driven 340 degrees) for a distance of 91.4 m with two drifts totalling 39.6 m (MNR, 1976 SMDR 000365).

In 1970, Swiss Oils of Canada Limited conducted scintillometer and geological surveys on their property to the north. Part of the surveys covered lot 23, concession X (ODM, 1970 File No. 2.249).

References Cited:
Ministry of Natural Resources. 1976, SMDR 000365.
Ontario Department of Mines. 1970, File 2.249.
Satterly, J. 1956, pg. 172.
Satterly, J. 1971a, pg. 75.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/9 U8.
Field, D. J. 1958, pg. 150.
Hewitt, D. F. 1967a, pg. 55.
Hewitt, D. F. 1967b, pg. 62-63.
Lang et al. 1962, pg. 261.
Ontario Geological Survey. 1983a.

Name:
W. Blott Occurrence

Mineral Inventory Map No.:
132

Commodity:
Uranium

Accessory Minerals:
Titanite, molybdenite

Rock Association:
Radioactive mineralization in lenticular zones (bodies) of pegmatite.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Blott occurrence is located within concession XI, lot 23 and 24, on the north shore of Crystal Lake, Galway Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444432 N, 787706 E

Access:
From Bobcaygeon, travel north on Highway 649 to Highway 121, then north on Highway 121 for 5 km. Travel east on township road for 7 km to Mount Irwin. Proceed north from here for 1.2 km on township road, then east for 2.7 kms. At this point travel south onto a trail road, then east to its terminus (approximately 4.5 km).

Property Status:
Patented, surface rights only (Claim Map M.94). Zoning: wilderness, hazard land, rural, recreational residential (Bylaw 78-43); recreational dwelling area, hazard land, rural and forest area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The Blott occurrence is located within a metasedimentary belt that is composed predominantly of marble. The belt is intruded by dikes and sills of granite, granite pegmatite and migmatite and is bounded to the east by the Anstruther-Burleigh granite gneiss masses, and to the west by the Glamorgan granite gneiss mass.

Mineralization: The radioactive mineralization is located within a number of lenticular bodies (zones) of pegmatite that are exposed from the shore of Crystal Lake for 426.7 m, to the north.

The pegmatite bodies intrude marble with interbeds of biotite paragneiss and amphibolite. These rocks strike 18 degrees and dip mostly to the east near 45 degrees E. At least five lenticular pegmatite bodies, ranging from 1 to 45.7 m in thickness, were exposed in a section about 213 m wide.

Most of the pegmatite is a pink leucogranite pegmatite, with certain parts giving a geiger reading of 4x to 8x Bg. The pegmatite, on the west side of the section, is a coarse yellow-brown pyroxene granite pegmatite giving a geiger reading of 15x to 25x Bg, with spot-highs of 40x to 75x Bg.Size and Grade: Channel samples gave the following data: pegmatite body (zone) no. 1 assayed 0.094% U308 (radiometric equivalent)/4.9 m and 0.216% U308 (radiometric equivalent)/3.7 m. Pegmatite body (zone) no. 2 assayed 0.125% U308 (chemical)/38.1 m (MNR, 1976 SMDR 000364).

Drill core analyses gave the following results: The average assay was 0.09% U308 and 0.03% ThO2 with the best samples assaying 0.25% U308 over 0.5 m, 0.09% U308 over 1.5 m and 0.12% ThO2 over 0.5 m (ODM, 1955 Drill Log Report 14).

History:
In 1953 this property was owned by W. Blott. During 1954 and 1955, 20 trenches, 3 strippings, totalling 487.7 m, and 6 drill holes, totalling 64.9 m, were put down (Gibson, 1974 pg. 119). Later in 1955, the property was optioned to Kenmac Chibougamau Mines Limited, of Montreal, who drilled another 11 holes, totalling 999.7 m (Gibson, 1974 pg. 119). In 1968, the Swiss Oils of Canada Limited drilled 4 holes, totalling 135 m.

References Cited:
Gibson, S. 1974, pg. 119.
Ministry of Natural Resources. 1976, SMDR 000364.
Ontario Department of Mines. 1955, Drill Log Report 14.

Additional References:
Hewitt, D. F. 1967a, pg. 55.
Hewitt, D. F. 1967b, pg. 62.
Lang et al. 1962, pg. 261.
Department of Energy, Mines and Resources. 1970, NMI Card 31D/9 U19.
Ontario Geological Survey. 1983a.
Pye, E. G. 1979, pg. 16.
Satterly, J. 1956, pg. 171.
Satterly, J. and Hewitt, D. F. 1955, pg. 61.

Name:
Nesbit-Labine Occurrence

Mineral Inventory Map No.:
133

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
Radioactive mineralization in pegmatitic dikes with localized concentrations of pyroxene.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Nesbit-Labine occurrence is located within concession XII, lot 25, which is to the west of Clear Bay, in Galway Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444526 N, 782922 E

Access:
From Bobcaygeon, travel north on Highway 649 to Highway 121, then north on Highway 121 for 5 km to township road. Travel east on this road for 7 km to Mount Irwin, then north for 1.2 km. At this point, proceed south on a trail road, then east for a total of approximately 3 km. The occurrence lies to the east of the trail road.

Property Status:
Patented, surface rights only (Claim Map M.94). Zoning: wilderness, hazard land (Bylaw 78-43); rural and forest area, hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
This occurrence is found on the contact of the granitic body that intrudes a mostly crystalline limestone sedimentary belt. This belt is bounded to the east by the Anstruther granite gneiss mass, and to the west by the Glamorgan granite gneiss mass. The country rocks consist of granite gneiss, pegmatite, biotite schists and crystalline limestone.

The occurrence consists of radioactive pegmatite dikes, which strike from 10 to 30 degrees and dip from 25 to 50 degrees E. This is conformable to the regional strike. The widest dike has an average exposed width of 45.7 m and a dip of 30 degrees S. The true width of the dike is approximately 23 m. Locally within the pegmatites, there are small radioactive crystals, possibly uranothorite (ODM, 1955 File 63A.251).

Mineralization: Radioactive mineralization is not consistent across the full

Name:
Nesbit-Labine Occurrence

Mineral Inventory Map No.:
133

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
Radioactive mineralization in pegmatitic dikes with localized concentrations of pyroxene.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Nesbit-Labine occurrence is located within concession XII, lot 25, which is to the west of Clear Bay, in Galway Township.

NTS Map No.:
31D/16

UTM Grid Coordinates:
444526 N, 782922 E

Access:
From Bobcaygeon, travel north on Highway 649 to Highway 121, then north on Highway 121 for 5 km to township road. Travel east on this road for 7 km to Mount Irwin, then north for 1.2 km. At this point, proceed south on a trail road, then east for a total of approximately 3 km. The occurrence lies to the east of the trail road.

Property Status:
Patented, surface rights only (Claim Map M.94). Zoning: wilderness, hazard land (Bylaw 78-43); rural and forest area, hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
This occurrence is found on the contact of the granitic body that intrudes a mostly crystalline limestone sedimentary belt. This belt is bounded to the east by the Anstruther granite gneiss mass, and to the west by the Glamorgan granite gneiss mass. The country rocks consist of granite gneiss, pegmatite, biotite schists and crystalline limestone.

The occurrence consists of radioactive pegmatite dikes, which strike from 10 to 30 degrees and dip from 25 to 50 degrees E. This is conformable to the regional strike. The widest dike has an average exposed width of 45.7 m and a dip of 30 degrees S. The true width of the dike is approximately 23 m. Locally within the pegmatites, there are small radioactive crystals, possibly uranothorite (ODM, 1955 File 63A.251).

Mineralization: Radioactive mineralization is not consistent across the full

width of the dikes, but is limited to the footwall and hanging wall contact zones.

The highest scintillometer reading obtained over the pegmatites was 700 c.p.s.

History:
In 1955, geological and scintollometer surveys were carried out by Nesbit-Labine Uranium Mines Limited (ODM, 1955 File 63A .251).

In 1976, A. J. Troop performed geological and geophysical surveys on lots 24 and 26, concession XII (Trusler and Villard, 1978a pg. 107).

References Cited:
Ontario Department of Mines. 1955, File 63A.251.
Trusler, J. R. and Villard, D. J. 1978a, pg. 107.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/6 U69.
Ministry of Natural Resources. 1975, SMDR 000368.
Ontario Geological Survey. 1983a.

Name:
J. Tait Occurrence

Mineral Inventory Map No.:
134

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
This occurrence is located within a small granite and granite pegmatite ridge that intrudes a predominantly crystalline limestone sedimentary belt. The belt is bounded to the east and west by the Anstruther and Glamorgan granite gneiss masses; respectively.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Tait occurrence is located within concession XIII, lot 7, Galway Township.

NTS Map No.:
31D/15

UTM Grid Coordinates:
444458 N, 783500 E

Access:
From Bobycaygeon, travel north on Highway 649 to Highway 121, then no th on Highway 121 for 5 km to a township road. Travel east on this road for 3.6 km. The occurrence lies on the south side of this road immediately east of Union Creek.

Property Status:
Patented (Claim Map M.94). Zoning: hazard land, rural (Bylaw 78-43); rural and forest area, hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The country rocks consist of granite, granite pegmatite and crystalline limestone.

The granite and granite pegmatite ridge is about 46 m wide and 229 m long. Geiger readings on most of the ridge range from 1500 to 3000 c.p.m. and average 2000 c.p.m., with spot-highs of 3000 c.p.m. and 20 000 c.p.m. The background count on the marble is 500 c.p.m. (Satterly, 1971a pg. 77-78).

Size and Grade: Two grab samples were analyzed by Satterly (1971a) with the following results: sample 1 had a geiger reading of 20 000 c.p.m. (40x Bg) and assayed 0.11% U308 (radiometric) and 0.11% U308 (chemical). Sample 2 had a geiger reading of 2500 to 3000 c.p.m. (6x) and assayed 0.02% U308 (radiometric). The analyses and geiger readings indicate that the ridge of granite and granite pegmatite contains about 0.02% U308.

History:
In 1957, trenching was done by J. Tait and J. Satterly did some trenching and a geiger counter survey (MNR, 1975 SMDR 000369).

References Cited:
Ministry of Natural Resources. 1975, SMDR 000369.
Satterly, J. 1971a, pg. 77-78.

Additional References:
Hewitt, D. F. 1967a, pg. 55.
Department of Energy, Mines and Resources. 1970, NMI Card 31D/10 U1.
Ontario Geological Survey. 1983a.
Satterly, J. 1977, pg. 419.

Name:
Belra Occurrence

Mineral Inventory Map No.:
135

Commodity:
Uranium

Accessory Minerals:
Molybdenite

Rock Association:
This occurrence is found within a granitic body that intrudes a predominantly crystalline limestone sedimentary belt. Country rocks consist of hybrid granite gneiss, granite, migmatite, granite pegmatite and crystalline limestone.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Belra occurrence is located within concession XV, the south half of lot 24, Galway Township, approximately 10.5 km east of Kinmount.

NTS Map No.:
31D/5

UTM Grid Coordinates:
444718 N, 783154 E

Access:
From Bobcaygeon, travel north on Highway 649 to its junction with Highway 121 (Bobcaygeon Road). Continue north on Highway 121 for 5 km to township road running east for 7 km to Mount Irwin. Proceed north, then east for 1.6 km. Here a trail road leads north for 3 km to the occurrence. The site is on the west side of the road.

Property Status:
Crown Land (Claim Map M. 94). Zoning: wilderness (Bylaw 78- 43); sensitive area, rural and forest area, hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
The Belra occurrence is bounded to the east by the Anstruther granite gneiss mass, and to the west by the Glamorgan granite gneiss mass.

The occurrence consists of two anomalous radioactive areas located over coarse- grained granite pegmatite. Examination of these northeast trending pegmatites reveals spotty radioactivity with no direct evidence of shearing or fracturing associated with the radiometric highs. Two samples of the fresh pegmatite did not yield an appreciable uranium content; which indicates that the higher level of radioactivity is due to the K20 content (ODM, 1968 File 63.2337).

Disseminated flakes of molybdenite were noted within the granite pegmatite.

History:
In 1968, a reconnaissance scintillometer survey was carried out, and two pits were put down by Belra Explorations Limited (MNR, 1975 SMDR 000363).

References Cited:
Ministry of Natural Resources. 1975, SMDR 000363.
Ontario Department of Mines. 1968, File 63.2337.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/15 U5.
Ontario Geological Survey. 1983a.

Name:
Weber-Schriebel Occurrence

Mineral Inventory Map No.:
136

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
The occurrence is located within the Burleigh granite gneiss mass. Country rocks consist of granite gneiss, pegmatitic granite and pegmatite.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Weber-Schriebel occurrence is located within concession I, the northwest quarter of lot 19, and concession II, the northeast quarter of lot 19, Harvey Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
443900 N, 781730 E

Access:
From Burleigh Falls, travel northwest on Highway 36 for approximately 7 km. Access to the site, from this point, is by bush roads.

Property Status:
Crown Land (Claim Map M.101). Zoning: wilderness, hazard land (Bylaw 1979-9); aggregate and mining protection, rural and forest area, hazard land (Official Plan).

Commodity Status:
Occurrence

Geological Description:
This occurrence is made up of radioactive pegmatite and granite pegmatite bodies. The radioactivity over these rocks ranged from 800 to 2000 c.p.m. Drill hole records showed some allanite at depths of 41 to 47 m. No other information is available (MNR, 1975 SMDR 001098).

History:
In 1956, M. Hartley of Peterborough, Ontario owned this property and later transferred the ownership to Van. B. Weber. During the year, 5 diamond drill holes, totalling 470.6 m, were put down by A. E. Tyson. Radiometric readings of the cores were taken (ODM, 1956 Drill Log Report 11).

The Claims were allowed to lapse and the ground was open in 1975 (DEMR, 1979 NMI Card 31D/9 U17).

References Cited:

Department of Energy, Mines and Resources. 1979, NMI Card 31D/9 U17.
Ministry of Natural Resources. 1975, SMDR 001098.
Ontario Department of Mines. 1956, Drill Log Report 11.

Additional References:
Morton, R. L. 1983, pg. 40.

Name:
Glenn Explorations Occurrence

Mineral Inventory Map No.:
137

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
The claim group lies on the northwest side of the "Burleigh Granite gneiss".

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The group of claims is located within concessions I to III, lots 30 to 32, in the northeasterly part of Harvey Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
444160 N, 781800 E

Access:
From Buckhorn, travel north on Highway 507 for approximately 17 km. The property is located about 4 km east of the highway between Mississauga and Cold Lake.

Property Status:
Crown Land (Claim Map M.101). Zoning: wilderness, hazard land, recreational residential (Bylaw 1979-9); recreational dwelling area, hazard land, rural and forest area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
From south to north across the property, the rocks become progressively more biotitic and amphibolitic. On the south side of the property the rock is red, fairly fine-grained granite which grades to metasedimentary gneiss towards the north.

East to northeast trending pegmatite dikes are common throughout the claim area, but are less numerous in the massive granitic gneisses. The dikes are usually narrow in width and irregularly shaped.

Mineralization: Nearly all the pegmatite dikes are weakly radioactive. Those showing the best radioactivity have produced erratic values of up to 0.04% U308 (DEMR, 1981 NMI Card 31D/9 U4).

History:
Glenn Explorations Limited obtained an option on this group, and conducted a geological and acintillometer survey during November and December, 1967.

Trenching was also done on several radioactive anomalies, and 4 diamond drill holes, totalling 342.9 m, were put down on several of the trenches. The option on the property was dropped early in 1968 because tests indicated only low radioactivity was present (DEMR, 1981 NMI Card 31D/9 U4).

References Cited:

Department of Energy, Mines and Resources. 1981, NMI Card 31D/9 U4.

Additional References:

Lang et al. 1962, pg. 263.
Ministry of Natural Resources. 1975, SMDR 001150.
Morton, R. L. 1983, pg. 40.

Name:
Roy Kennedy (Cavendish Option) Occurrence

Mineral Inventory Map No.:
138

Commodity:
Uranium

Accessory Minerals:
Magnetite, pyrite

Rock Association:
Radioactive medium-grained leucogranite pegmatite cuts granitized hornblend-biotite gneiss.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
This occurrence is located within concession XII, lot 18, Harvey Township.

NTS Map No.:
31D/9

UTM Grid Coordinates:
443457 N, 782608 E

Access:
From Buckhorn, travel north on Highway 36 for approximately 14 km, then south on a cottage access road for 2 km. Proceed east on the cottage road for 2.5 km. The occurrence lies 750 m north of this point.

Property Status:
Patented - surface rights only (Claim Map M.101). Zoning: hazard land, rural (Bylaw 1979-9); hazard land, rural and forest area (Official Plan).

Commodity Status:
Occurrence

Geological Description:
This occurrence is in a belt of late Precambrian metavolcanic and metasedimentary rocks. Locally, the area is underlain by biotite, muscovite, quartz-plagioclase-biotite schist and gneiss, minor wacke, siltstone and conglomerate (DEMR, 1981 NMI Card 31D/9 U5). There are two surface showings which are described by Satterly (1956 pg. 176): at the main showing, east to west stripping (1.2 m by 6.1 m long) exposed shattered medium -grained leucogranite pegmatite with scattered altered pyroxene and abundant coarse magnetite. Average geiger readings were about 40x Bg with a spot-high of 50x Bg above background.

At the second showing, a dike of leucogranite pegmatite, trending 280 degrees, was exposed. Geiger readings varied from 3x to 17x Bg and averaged 5x or less above background.

History:
During 1954 to 1955, Cavendish Uranium and Mining Company Limited held an option on the ground and explored the main showing by surface work, geiger

counter survey and 13 diamond drill holes. In 1975, the occurrence was reportedly owned by Albert Hopkins, of Toronto, Ontario (DEMR, 1981 NMI Card 31D/9 U5).

References Cited:

Department of Energy, Mines and Resources. 1981, NMI Card 31D/9 U5.
Satterly, J. 1956, pg. 176.

Additional References:

Hewitt, D. F. 1967a, pg. 55.
Hewitt, D. F. 1967b, pg. 63-64.
Lang et al. 1962, pg. 263.
Ministry of Natural Resources. 1975, SMDR 000372.
Morton, R. L. 1983, pg. 42.

Name:
Big Nell Occurrence

Mineral Inventory Map No.:
140

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
The occurrence is located within a small granite gneiss body southwest of the Anstruther granite gneiss mass. Country rocks consist of hybrid granite gneiss, granite pegmatite and migmatite overlain by Paleozoic limestone.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Big Nell occurrence is located within concession XVI, the northwest part of lot 26, Harvey Township, approximately 8 km northeast of Bobcaygon.

NTS Map No.:
31D/10

UTM Grid Coordinates:
443647 N, 783019 E

Access:
From Bobcaygeon, travel northeast on highway 36 for approximately 6 km, then north on secondary road for 1.2 km. Proceed east along another road and continue for 2.1 km to the site.

Property Status:
Patented (Claim Map M.101). Zoning: wilderness, hazard land (Bylaw 1979-9); hazard land, rural and forest area, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
This occurrence is described in detail by Satterly 1956, pg. 175). The occurrence consists of a radioactive zone which contains 3 separate dikes. These dikes are made of leucogranite pegmatite and strike northeast. They are up to 61 m in length, and are less than 0.3 to 9.1 m in width, with the average being less than 3 m.

Geiger readings over the dikes range from 2x to 12x Bg, with spot highs of 60x to 90x Bg. More radioactive parts of the dikes appear to be associated with abundant magnetite or are highly shattered.

Th/U ratios indicate uranothorite as the source of radioactivity.

Size and Grade: The north dike has a length of 166.1 m and a grade of 0.138% U308 across an average width of 2.4 m. The centre dike, with a length of 125

m, graded 0.127% U308 across 2.3 m, and the south dike with a length of 67.1 m, graded 0.108% U308 across 2.3 m.

An overall average of the surface sampling gives a total combined length of 359.7 m averaging 0.129% U308 across an average width of 2.3 m. Assays are by chemical methods, with individual sections ranging up to 0.33% U308 across 0.9 m (Northern Miner. Oct. 10, 1957).

History:
In 1956, this property was owned by Roy Kennedy, who carried out some stripping and trenching. In 1957, the property was optioned to Big Nell Mines Limited, and a scintillometer survey of the area was carried out, as well as stripping and trenching (7 trenches totalling 121.9 m in length). During the same year a geiger survey of the dikes was done by J. Satterly (MNR, 1975 SMDR 000370).

References Cited:
Ministry of Natural Resources. 1975, SMDR 000370.
Northern Miner. 1957, October 10.
Satterly, J. 1956, pg. 175.

Additional References:
Department of Energy, Mines and Resources. 1970 NMI Card 31D/10 U2.
Hewitt, D. F. 1967a, pg. 55.
Hewitt, D. F. 1967b, pg. 79-80.
Morton, R. L. 1983, pg. 41.
Satterly, J. 1977, pg. 402.
Satterly, J. and Hewitt, D. F. 1955, pg. 62.

Name:
L. Cadesky Occurrence

Mineral Inventory Map No.:
141

Commodity:
Uranium

Accessory Minerals:
Hematitized magnetite

Rock Association:
The property lies within a small granite gneiss body to the southwest of the Anstruther granite gneiss mass. The country rocks consist of hybrid granite gneiss, granite pegmatite and migmatite, locally overlain by Paleozoic limestone.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Cadesky occurrence is located within concession XVI, the west half of lot 26, Harvey Township.

NTS Map No.:
31D/10

UTM Grid Coordinates:
443612 N, 783054 E

Access:
From Bobcaygeon, travel north on Highway 36 for approximately 6 km to the hamlet of Nogies Creek. The occurrence is located roughly 4 km north on the hamlet.

Property Status:
Patented (Claim Map M.101). Zoning: wilderness, hazard land (Bylaw 1979-9); hazard land, rural and forest area, aggregate and mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
A description of this property may be found in Satterly, J. and Hewitt, D. F. (1955 pg. 61-62). Near the bank of Nogies Creek a stripping exposed 9.1 m of a granite pegmatite dike which measured 1.8 m in width. The dike cuts grey biotite granite gneiss. The pink to brick-red leuco-granite pegmatite contains coarse hematitized magnetite in masses or clots from 0.6 to 7.6 cm across. Geiger readings vary between 10 to 30 (5M), but where magnetite is abundant (9.1 m from the creek bank) readings of 10 to 40 (10M) were obtained, with a spot-high of 15 (50M).

Nine meters north of the creek, the dike bends west as a flat sheet (with an exposed thickness of 0.6 m) for a distance of 2.4 m before continuing north as a 1.2 m dike. Magnetite is present in the footwall zone, and gives a geiger reading of 30 (10M). A small trench, 2.4 m north of this point, is 6.1 m

long. The dike exposed at the west end, thins to 0.5 m in width.

On the south side of the creek, pegmatite is exposed and a reading of 30 (10M) was obtained. The dike is also exposed 24 m south of the creek where it measured 2.1 m in width. This section gave 30 (1M) with a spot-high, rich in magnetite, reading 20 (5M). Across the road, the dike trends west and is exposed for 10.7 m. There is some mineral segregation here. The centre of the dike, rich in white to rose quartz, reads 20 to 30 (1M) with a spot-high of 20(5M) on the south contact.

History:
In 1956, a program of trenching and stripping was carried out by L. Cadesky on this property (Morton, 1983 pg. 41).

References Cited:
Morton, R. L. 1983, pg. 41-42.
Satterly, J. and Hewitt, D. F. 1955, pg 61-62.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/10 U5.
Ministry of Natural Resources. 1975, SMDR 000371.
Satterly, J. 1956, pg. 174.

Name:
Grey Wolf (Nogies Creek) Occurrence

Mineral Inventory Map No.:
142

Commodity:
Uranium

Accessory Minerals:
Magnetite

Rock Association:
The occurrence is located within a granitic body that intrudes the metasedimentary belt to the west of the Burleigh granite gneiss mass. The country rocks consist of granite gneiss, migmatite, granite pegmatite, amphibolite and marble.

Classification:
Uranium mineralization in pegmatite dikes and sills of epigenetic origin.

Location:
The Grey Wolf occurrence is located within concession XVI, the west half of lot 29, Harvey Township.

NTS Map No.:
31D/10

UTM Grid Coordinates:
443730 N, 783114 E

Access:
From Bobcaygeon, proceed north on Highway 649 for 6 km, then north on secondary road for 5.6 km. The occurrence is located 3.7 km to the east of the road.

Property Status:
Sanctuary, withdrawn from staking (Claim Map M.101). Zoning: wilderness, hazard land (Bylaw 1979-9); aggregate mining protection (Official Plan).

Commodity Status:
Occurrence

Geological Description:
This occurrence is made up of a radioactive gneissic band within a granite gneiss sill that intrudes amphibolite and marble. The radioactive band measures from 0.2 m to 1.2 m in thickness, with an average width of less than 0.3 m. It strikes 40 degrees and dips 45 degrees SE, and is reported to have been traced for 243.8 m. The sill strikes about 45 degrees.

Geiger readings on the band measured 1x to 3x Bg. The radioactive gneissic band is a fine- to medium-grained, hematite stained, quartz-rich chlorite-pyroxene granite gneiss. Geiger readings over this rock ranged from 3x to 12x Bg, with a spot-high of 30x Bg. These spot-highs occur where streaks of magnetite were present (Satterly, 1956 pg. 174-175).

Size and Grade: Two grab samples produced the following results: 0.05% U308 (radiometric) and 0.028% U308 (chemical), associated with a geiger reading of

6x Bg, and 0.13% U308 (radiometric) and 0.076% U308 (chemical), associated with a geiger reading of 13x Bg (Satterly, 1956 pg. 174-175).

History:
In 1955, this property was optioned by Grey Wolf Exploration Company Limited, who carried out some stripping and pitting. A geiger survey was done, in the same year, by J. Satterly (MNR, 1975 SMDR 000374).

References Cited:
Ministry of Natural Resources. 1975, SMDR 000374.
Satterly, J. 1956, pg. 174-175.

Additional References:
Department of Energy, Mines and Resources. 1970, NMI Card 31D/10 U3.
Morton, R. L. 1983, pg. 42-43.

Name/Location:
Blott Property - Anstruther; lots 8-10, conc. I

Mineral Inventory Map No.:
143

NTS Ref:
31D/16

Commodity:
Uranium

Description of Deposit/Notes:
Uranium mineralization is found at this location in massive, fine- to coarse-grained granite migmatite and pegmatitic granite sills and dikes.

Work/Type/Year:
Stripping and trenching were done on this property in 1976 to 1978 (Trusler and Villard, 1978b pg. 114, 115). In 1979, 2 drill holes, totalling 74.7 m, were put down, and 4 holes, totalling 566.6 m, were drilled in 1980 (Logan and Meyn, 1981 pg. 125). All of the work was done by William Blott.

References:
Logan, W. J. and Meyn, H. D. 1981, pg. 125.
Trusler, J. R. and Villard, D. J. 1978b, pg. 114, 115.
Villard, D. J. 1979, pg. 121.

Name/Location:
Cavendish; lots 11-16, conc. III-VI

Mineral Inventory Map No.:
144

NTS Ref:
31D/9

Commodity:
Uranium

Description of Deposit/Notes:
The uranium mineralization occurs in a swarm of massive, fine- to coarse-grained granitic pegmatitic sills and dikes. The dikes intrude the regional rock which are foliated fine to coarse grained fragmental metavolcanics.

Drill core is available for viewing at the Bancroft Core Library.

Work/Type/Year:
Between 1968 and 1969, an airborne radiometric survey, a ground magnetic survey, stripping and trenching were done by Quebec Uranium Mining Corporation. Five diamond drill holes, totalling 458.3 m, were also part of the exploration program (DEMR, 1970 NMI Card 31D/9 U16).

References:
Department of Energy, Mines and Resources. 1970, NMI Card 31 D/9 U16.

Name/Location:
A. J. Thiffault - Cavendish; lots 10-15, conc. VIII-XII

Mineral Inventory Map No.:
145

NTS Ref:
31D/16

Commodity:
Uranium

Description of Deposit/Notes:
The claims are underlain by biotite paragneiss, crystalline limestone, and granite. The metasediments strike north to northeast (Satterly, 1956 pg. 169).

Work/Type/Year:
In December 1955, airborne scintillometer and magnetometer surveys of the property were completed (Satterly, 1956 pg. 169).

References:
Satterly, J. 1956, pg. 169.

Name/Location:
K. S. Read - Cavendish; lot 4, conc. X

Mineral Inventory Map No.:
146

NTS Ref:
31D/16

Commodity:
Uranium

Description of Deposit/Notes:
Uranium mineralization is found at this location in massive, fine- to coarse-grained pegmatite, pegmatitic granite sills and dikes.

Work/Type/Year:
No work has been reported on this property.

References:
Lang et al. 1962, pg. 255.

Name/Location:
T. C. Michie Occurrence - Cavendish; north half of lots 8 and 9, conc. XVIII

Mineral Inventory Map No.:
147

NTS Ref:
31D/16

Commodity:
Uranium

Description of Deposit/Notes:
A limited geological description of this property is produced by Satterly (1956 pg. 167). "The property is underlain by marble, granite gneiss, and paragneiss. These rocks strike northeast."

A drill hole log records granite gneiss, biotite paragneiss, and two 0.9 m intersections of granite pegmatite (ODM, File 130931)

Work/Type/Year:
A scintillometer survey of the property was completed in June, 1955, for Camar Metals Corporation, and in November, 1955, one hole, totalling 62.9 m, was drilled on the property for Cardicore Uranium Corporation (ODM, File 130931). Eleven trenches were put down on two claims (Satterly, 1956 pg 166- 167).

References:
Satterly, J. 1956, pg. 166-167.

Name/Location:
Tetra Uranium Mines - Chandos; lot 9, conc. XVIII

Mineral Inventory Map No.:
148

NTS Ref:
31D/16

Commodity:
Uranium

Description of Deposit/Notes:
Uranium bearing granitic pegmatite sills concentrated in highly folded metavolcanics and metasediments.

Work/Type/Year:
Trenching showed 6.1 m of leucogranite pegmatite with geiger readings of 2x-8x Bg.

References:
Ministry of Natural Resources. 1977, SMDR 000197.
Ontario Geological Survey. 1986 (unpublished).
Satterly, J. 1956, pg. 75-76.
Satterly, J. 1977, pg. 102.

Name/Location:
M. Cziraky Occurrence - Galway; lot 18, conc. I; Cavendish; lot 3, conc. IX

Mineral Inventory Map No.:
149a, 149b

NTS Ref:
31D/9

Commodity:
Uranium

Description of Deposit/Notes:
Bright (1981) mapped two northeasterly trending pegmatite veins in the north part of lots 9 and 10, conc. III of Cavendish Township. These pegmatite veins are presumably within the area of exploration to which Lang et al (1952a pg. 255) refer. There is no description provided by these authors apart from a simple listing of its occurrence.

The Galway occurrence is presumably located along a metasediment-granite gneiss contact (Hewitt and Satterly, 1957). There is no geological information which describes this specific occurrence. As in the case of the Cziraky occurrence, Lang et at (1952a pg. 255) include it under "other occurrences".

Work/Type/Year:
No extensive exploration or development work has been reported at these locations.

References:
Bright, E. G. 1981, OGS Map P.2421.
Lang et al. 1952a, pg. 255.

Name/Location:
F. Payce - Galway; lot 40, conc. I

Mineral Inventory Map No.:
150

NTS Ref:
31D/9

Commodity:
Uranium

Description of Deposit/Notes:
Granitic.

Work/Type/Year:
No reference was found in recording development work on this property.

References:
Lang et al. 1952, pg 261.

Name/Location:
Harvey; lot 1-2, conc. I; lots 31-32, conc. VIII

Mineral Inventory Map No.:
151

NTS Ref:
31D/09

Commodity:
Uranium

Description of Deposit/Notes:
Although there are no available references to the geology of this specific site, Morton (1983) mapped a small unit of pegmatitic granite in lots 31 and 32, conc. VIII, on the southwest shore of a small lake. The pegmatitic granite is part of a northeast trending belt of early mafic intrusives.

Work/Type/Year:
It is reported that Drude Uranium Mines Limited conducted a geophysical survey and a geological mapping program on this site in 1955. (Morton, 1983 pg. 40), the results of which are unknown. There are no further references to this site in available literature.

References:
Morton, R. M. 1983, pg. 40.

Name/Location:
Harvey; lot 26, conc. XVII

Mineral Inventory Map No.:
152

NTS Ref:
31D/10

Commodity:
Uranium

Description of Deposit/Notes:
This occurrence is located next to the L. Cadesky occurrence. For a geological description of this property, refer to that of the L. Cadesky occurrence.

Work/Type/Year:
No reference to development work on this property was found in the available literature.

References:
Lang et al. 1962, pg. 263.

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The references in the following pages included both references cited in the text and additional references which pertain specifically to the occurrence described.

The following information was used in this report, and are acknowledged in complete reference form within the text: assessment files, claim maps, zoning by-laws, official plans, National Mineral Inventory Cards, Source Mineral Deposit Records, unpublished reports, newspaper articles, and personal communication.

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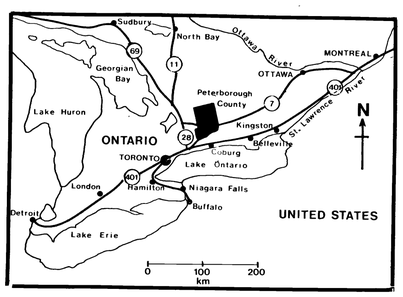
LOCATION MAP



PETERBOROUGH COUNTY TOWNSHIPS

LEGEND

PHANEROZOIC
CENOZOIC
QUATERNARY
PLEISTOCENE AND RECENT
Sand, gravel, clay, peat

UNCONFORMITY

PALEOZOIC
ORDOVICIAN

8 — 8 Includes unsubdivided portions of:
Lindsay Formation; nodular limestone, shale
Verulam Formation; biocalcarenite, limestone, shale
Bobcaygeon Formation; calcarenite, limestone
Gull River Formation; limestone, dolostone
Shadow Lake Formation; sandstone, siltstone, shale

UNCONFORMITY

PRECAMBRIAN[a]
LATE PRECAMBRIAN
FELSIC TO INTERMEDIATE INTRUSIVE ROCKS

7 — 7 Granite, granite gneiss, granite pegmatite
Hybrid granite gneiss, migmatite

ALKALIC INTRUSIVE ROCKS

6 — 6 Nepheline syenite (gneissic to foliated)

5 — 5 Nepheline gneiss, nepheline pegmatite

EARLY MAFIC INTRUSIVE ROCKS

4 — 4 Diorite, gabbro, anorthosite, quartz diorite (tonalite), metagabbro, ortho-amphibolite

GRENVILLE SUPERGROUP
METASEDIMENTS
Clastic Metasediments: Unsubdivided

3 — 3 Quartzose metasediments, paragneiss, metaconglomerate, para-amphibolite argillaceous sandstone, dolomitic shale

Calcareous Metasediments; Unsubdivided

2 — 2 Marble, dolomitic marble: May contain diopside, tremolite; garnet, phlogopite
Brucite, [b] interbedded quartzite; (marl, limestone, dolomite)
Calcareous gneiss: Calcsilicate schist and gneiss, calcsilicate marble, skarn

METAVOLCANICS

Mafic to intermediate metavolcanics

1 — 1 Orthoamphibolite; hornblende amphibolite, biottic amphibolite; chlorite schist; massive, pillowed, foliated, layered vesicular and fragmental flows, tuffs, and agglomerates; mafic (greenstone) and intermediate (basalt, andesite, dacite)

NOTE: [a]Order in legend does not imply stratigraphic or geochronological order

SYMBOLS

- Geological boundary; approximate
- Anticline, syncline
- Lineament or fault
- River, creek, stream
- Property location, reference number

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1985: Location map, with permission from A.G. Brunger/Heritage Peterborough

CREDITS

Geological compilation by A. Menard
Cartography by B. McLachlan

KINGS HIGHWAY 7
SECONDARY HIGHWAY 620
COUNTY ROAD 50
OTHER ROAD
RAILWAY

MINERAL RESOURCES OF PETERBOROUGH COUNTY

1986

0 1 2 3 kms
SCALE

COUNTY BOUNDARY
TOWNSHIP BOUNDARY
PROV. PARK BOUNDARY
C ERVATION AREA
CITY, TOWN, VILLAGE