Ontario
Division of Mines

ANNUAL REPORT

of the

REGIONAL AND RESIDENT GEOLOGISTS

1975

Edited by

C.R.Kustra

MISCELLANEOUS PAPER 64

1976

MINISTRY OF NATURAL RESOURCES

Publications of the Ontario Division of Mines
and price list
are obtainable through the
Ontario Ministry of Natural Resources, Map Unit, Public Service Centre
Queen's Park, Toronto, Ontario
and
The Ontario Government Bookstore,
880 Bay Street, Toronto, Ontario

Orders for publications should be accompanied by cheque,
or money order, payable to Treasurer of Ontario.

Innes, D.G.
1976: 1975 Report of the Sudbury Resident Geologist; p.101-116 *in* Annual Report of the Regional and Resident Geologists, 1975, edited by C.R. Kustra, Ontario Div. Mines, MP64, 146p.

1000-300-76-U of T

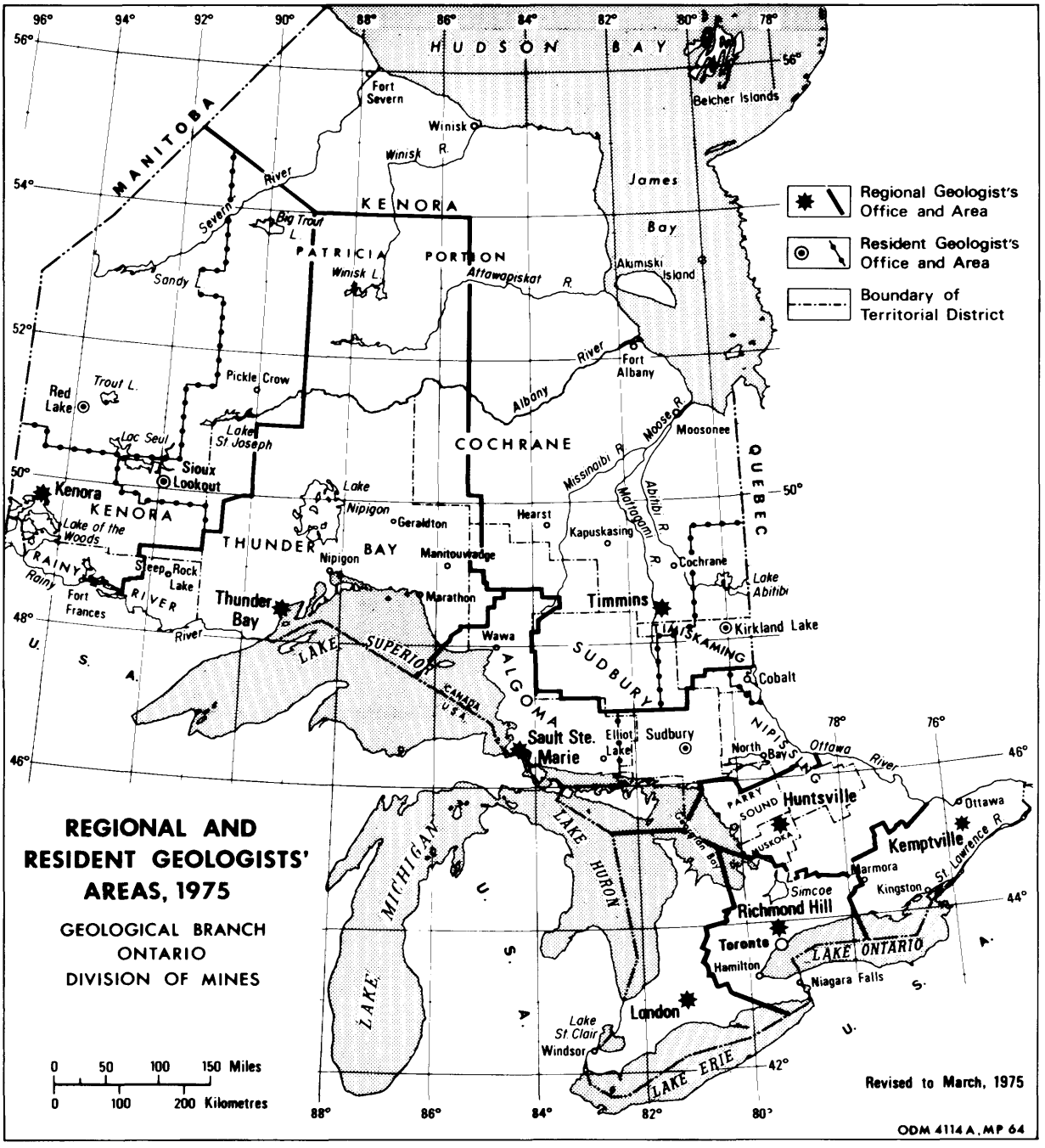
PREFACE

This report summarizes the activities of Regional and Resident Geologists for the year 1975. It is also an account of mining and exploration activities in Ontario, and is prepared from geoscience information collected and filed in 1975. For the convenience of the reader, listings of new additions to the records, including reports of government survey and university sponsored projects are provided.

Regional and Resident Geologists are located in various centres of the Province to provide geoscience information and advice to the public on the geology and mineral deposits of Ontario. As part of the government resource management organization in the field, they provide geoscience input into strategic land use planning.

Each Regional and Resident Geologist maintains a library of published and unpublished reports including publications of the Ontario Division of Mines and other government agencies, records of exploration activity submitted for assessment work credit, company prospectuses and reports from the files of the Ontario Securities Commission, reports of property visits made by the Regional or Resident Geologist and other staff geologists, and information received directly from companies and individuals. In addition, most offices contain microfiche copies of the Ontario Index of Geoscience Data, 1971. Duplicate copies of work submitted for assessment credit may also be examined in the Assessment Files Research Office, Room 1606 of the Whitney Block, Parliament Buildings, Toronto. Regional and Resident Geologists and their records are available for consultation without charge.

Staff changes during 1975 are recorded in the introductory remarks of each section. At the time of publication of this report further staff changes have occurred. U.J. Vagners resigned in January, 1976 as Regional Geologist of the Central Region and W.W. Valliant resigned in February, 1976 as Acting Resident Geologist of the Red Lake office.



REGIONAL GEOLOGISTS' OFFICES		ADDRESS	TELEPHONE
Northwestern Region	- R.C. Beard	808 Robertson St., Kenora, P9N 3X7	(807) 468-3111
North Central Region	- K.G. Fenwick	435 James St. S., Box 5000, Thunder Bay, P7B 3C1	(807) 475-1331
Northern Region	- Dr. W.O. Karvinen	60 Wilson Ave., Timmins, P4N 3W2	(705) 267-1401
Northeastern Region	- Dr. P.E. Giblin	Box 1900, Sault Ste. Marie, P6A 5N9	(705) 942-1414
Algonquin Region	- J.R. Trusler	Box 9000, Huntsville, POA 1KO	(705) 789-9611
Eastern Region	- Dr. M.A. Klugman	South Boundary Road, Kemptville, KOG 1JO	(613) 258-3413
Central Region	- Dr. U.J. Vagners	10670 Yonge St., Richmond Hill, L4C 3C9	(416) 884-9203
Southwestern Region	- R.G. Bryant	1106 Dearness Drive, London, N6E 1N9	(519) 681-5350

RESIDENT GEOLOGISTS' OFFICES			
Red Lake	- W. Valliant(Acting)	Ontario Govt. Bldg., Box 860, Red Lake, POV 2MO	(807) 727-2252
Sioux Lookout	- P.A. Palonen	Box 1089, Sioux Lookout, POV 2TO	(807) 737-1291
Kirkland Lake	- H.L. Lovell	4 Government Rd. E., Kirkland Lake, P2N 1A2	(705) 567-5242
Sudbury	- D.G. Innes	1112 The Kingsway, Sudbury, P3B 2E5	(705) 566-2580

TABLE OF CONTENTS

Page

NORTHWESTERN REGION
1975 Report of Northwestern Regional Geologist and Kenora Resident Geologist 1
1975 Report of Red Lake Resident Geologist 17
1975 Report of Sioux Lookout Resident Geologist 29

NORTH CENTRAL REGION
1975 Report of North Central Regional Geologist 39

NORTHERN REGION
1975 Report of Northern Regional Geologist and Timmins Resident Geologist 55
1975 Report of Kirkland Lake Resident Geologist 73

NORTHEASTERN REGION
1975 Report of Northeastern Regional Geologist and Sault Ste. Marie Resident Geologist 91
1975 Report of Sudbury Resident Geologist 101

ALGONQUIN REGION
1975 Report of Algonquin Regional Geologist 117

EASTERN REGION
1975 Report of Eastern Regional Geologist 125

CENTRAL REGION
1975 Report of Central Regional Geologist 135

SOUTHWESTERN REGION
1975 Report of Southwestern Regional Geologist 141

1975 REPORT

of the

NORTHWESTERN REGIONAL GEOLOGIST

and

KENORA RESIDENT GEOLOGIST

by

R.C. Beard and W.R. Scott

CONTENTS

Page

Introduction . . . 3
Regional Geologist's Activities . . . 3
Mining Activity . . . 4
Exploration Activity . . . 4
  Base-Metal Exploration . . . 4
  Uranium Exploration . . . 4
  Gold Exploration . . . 4
Recommendations for Exploration . . . 4
Property Examinations . . . 5
  L. Pidgeon (Gold Occurrence) . . . 6
  Uranium Occurrences . . . 6
  Belacoma Mines Limited Prospect . . . 6
Geological Reconnaissance . . . 6
  Felsic Porphyry Bodies of Questionable Origin . . . 6
  Mine Centre Area . . . 7
Sand and Gravel . . . 9
Access Roads . . . 9
Geological Branch Activities . . . 9
Research by Other Organizations . . . 9
ODM Maps and Reports Issued by the Geological Branch in 1975 . . . 9
Other Ontario Ministry of Natural Resources Publications Issued in 1975 . . . 10
Recent Publications and References . . . 10

TABLES

1—Exploration Activity in 1975 . . . 12
2—Assessment Work Received in 1975 . . . 14

FIGURE

1—Resident Geologist's District . . . 2

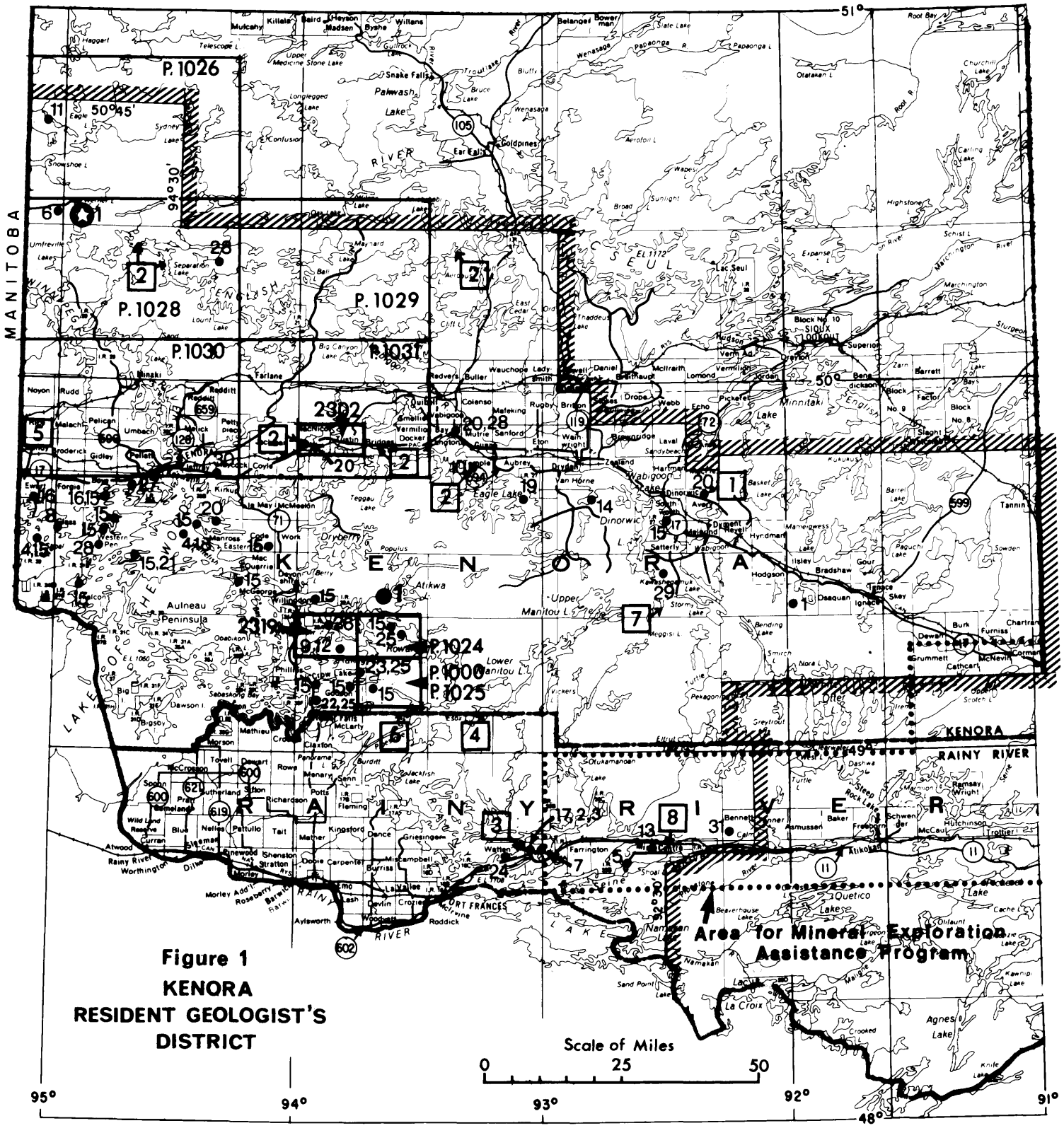


Figure 1
KENORA
RESIDENT GEOLOGIST'S
DISTRICT

EXPLANATION

- ● Producing Mine
  1. Maybrun Mines Ltd. Au, Cu (on standby in 1975)
- ✪ Operating Mill
  1. Consolidated Canadian Faraday Ltd. (Ore from Dumbarton Mine in Manitoba) Ni, Cu
- ● Exploration Activity (Keyed to Table 1)
- [3] Properties or Areas Described in Report (Keyed to Text of Report).
- —— New Maps and/or Reports (ODM) with number
  P - Preliminary Map
  2302 - Coloured Geological Map
- ▨ Boundary of Resident Geologist's District

1975 REPORT

of the

NORTHWESTERN REGIONAL GEOLOGIST

and

KENORA RESIDENT GEOLOGIST

by

R.C. Beard[1] and W.R. Scott[2]

INTRODUCTION

The Regional Geologist's office for Northwestern Ontario, located in Kenora, is staffed by R.C. Beard (Regional Geologist), W.R. Scott (Geological Assistant), and B. Stockham (Secretary). During the summer months, two technicians were retained, one under the "Experience '75" program, to revise and index the assessment files. J.C. Davies, field geologist with the Precambrian Geology Section of the Ontario Division of Mines, worked out of the Kenora office for several months prior to his departure for Africa.

REGIONAL GEOLOGIST'S ACTIVITIES

During 1975, several of the operating mines and mining properties under development in the Northwestern Region were visited. These included the Griffith Mine near Ear Falls, the mill of Consolidated Canadian Faraday Limited at Werner Lake, Union Miniere Explorations and Mining Corporation Limited's Thierry mine under development near Pickel Lake, and the Maybrun mine (Maybrun Mines Limited) east of Sioux Narrows. In addition to these, seven past-producing gold and copper mines were visited as well as 21 other mineral properties, which are listed in a later section of this report.

Mineral potential studies were prepared by the staff for Ministry land-use plans covering the Lake of the Woods planning area, the Rainy Lake planning area, the Tri-Municipal (Kenora–Keewatin–Jaffray Melick) planning area, and the Aulneau Peninsula, as well as several areas being considered for wilderness parks or park reserves. The identification of areas of high mineral potential is especially critical for the latter, where large tracts of land could be withdrawn from exploration.

In an endeavor to meet the public demand for cottage lots in the region, the Ministry is preparing development plans for a number of lakes which are being considered for both regular and remote cottaging development. Although only small parcels of land are involved and withdrawal of mining rights is not a problem, mineral potential evaluations were prepared for these plans to identify possible future conflicts between recreational and mining activities.

An aggregate-potential study of the Lake of the Woods planning area was undertaken in the latter part of the year, as part of the planning process for the Ministry's Lake of the Woods Land Use Plan.

A number of compilation studies were undertaken by the Kenora geological staff, including: i) a compilation of all known uranium occurrences in the Kenora Mining Division, listing name, location, and short summary of geology and type and amount of work carried out on the property, accompanied by a location map, ii) a compilation outlining areas of known ultramafic rocks having potential for soapstone deposits, iii) a listing of all known shafts and mine workings in the Tri-Municipal area, and iv) a listing of past-producing mines, with information on the amount and type of ore mined, in the Kenora Mining Division. Most of this compilation work was carried out by W.R. Scott, Geological Assistant. Several of these compilations are to be placed on Open File in the near future.

An updating and revision of the Kenora assessment files was commenced in 1975. The Kenora area has had a colourful mining history dating back to the late 1800s, but much of the data contained in the files is old and was obtained from a number of sources. The present filing system includes cross-indexing of data by location, company name, and commodity. Index map overlays, showing the geographic location of all data in the files are being prepared and are keyed to an accompanying list indicating the file number, company name, commodity, and year and type of work performed.

[1]Regional Geologist, Ontario Ministry of Natural Resources, Provincial Building, 808 Robertson Street, Kenora, P9N 3X7.

[2]Regional Geologist's Assistant.

Copies of these maps and lists will be available at the Kenora Regional Geologist's office, as they are completed.

Lectures and field trips on geology and mining were given by W.R. Scott (Geological Assistant) to a number of Junior Ranger camps and other student groups during the spring and summer.

Some reconnaissance geological mapping was carried out by the authors in a number of areas, in order to update the Kenora–Fort Frances Sheet of the Geological Compilation Series (Davies and Pryslak 1967) and to outline favourable areas for mineral exploration.

Short visits were made to five of the field parties of the Precambrian Geology Section mapping in the Northwestern Region.

MINING ACTIVITY

No production was reported from the Kenora Mining Division in 1975. The Maybrun Mines Limited property, leased to Sheridan Geophysics Limited and located near Atikwa Lake east of Sioux Narrows, continued throughout the year on a standby basis only, awaiting improvements in metal prices. However, some exploratory surface drilling was carried out on previously known gold zones located to the north of the main pit area.

The mill of Consolidated Canadian Faraday Limited at Werner Lake continued milling copper-nickel ore trucked in from the Dumbarton mine in Manitoba.

EXPLORATION ACTIVITY

Mineral exploration continued as a fair pace in the Kenora Mining Division in 1975, although not at quite the same level as the previous year. Claims recorded in 1975 numbered 1677 compared with 2653 recorded in 1974, a decrease of 37 percent. This decrease in claim staking is offset somewhat by the amount of assessment work filed, which increased slightly. In 1975, 57,234 days of assessment credit was recorded, up 3 percent from the 55,732 days recorded in 1974.

Base-Metal Exploration

Much of the total activity noted above was a result of the continuation of integrated base-metal programs initiated by major companies in previous years, although some new programs were started as well. Companies active in the area included Hudson Bay Exploration and Development Company Limited, Hudson Bay Oil and Gas Company Limited, Sherritt Gordon Mines Limited, The International Nickel Company of Canada Limited, Kerr Addison Mines Limited, Noranda Exploration Company Limited, Amoco Canada Petroleum Company Limited, The Hanna Mining Company Limited, and Newmont Mining Corporation of Canada Limited.

The Shoal Lake–Lake of the Woods–Kakagi Lake metavolcanic belt continued to receive the most intensive effort during the year, with a number of companies carrying out extensive programs, especially ground geophysics and diamond drilling. Results in this area have not been too encouraging to date, and only pyrite and graphite have been "discovered".

Other areas which received attention were the Wabigoon area and the Boyer Lake area south of Dinorwic, the Raleigh Lake area west of Ignace, the Werner Lake, Bee Lake, and Oak Lake–Separation Lake metavolcanic belts north of Kenora, the Otukamamoan area northwest of Mine Centre, the Rowan Lake area east of Sioux Narrows, the Lawrence Lake area east of Rowan Lake, and the Mine Centre area.

Uranium Exploration

Uranium exploration accounted for part of the exploration activity in 1975. Most of these programs are still in the early stages, largely consisting of reconnaissance surveys and examination and testing of previously known occurrences, although some airborne radiometric surveys and detailed ground surveys were undertaken.

The northern metasedimentary section of the English River Subprovince and the Tustin–Bridges metavolcanic belt west of Vermilion Bay, received the most attention. Most of the previously known occurrences have now been restaked and a number of new occurrences discovered. Several new uranium discoveries were reported within the Wabigoon Subprovince.

Gold Exploration

Interest in gold exploration decreased somewhat, obviously a result of lower and unstable gold prices. Few of the major companies showed much interest in gold properties in the Kenora District. In fact, one major program, in the Dogpaw Lake area, was terminated during the year. Old gold prospects continue to be restaked by individuals as they come open but only a few of the properties have been optioned, and then usually by smaller mining companies.

RECOMMENDATIONS FOR EXPLORATION

i) The Watten–Halkirk Townships area east of Fort Frances is an area noted for its extensive base-metal mineralization. Significant occurrences of copper, copper-nickel, copper-zinc, and molybdenum have been discovered, and extensive work has been carried out on a number of the properties by both individuals and companies.

What is believed to be a magnetic, mafic tuff unit containing copper, nickel, and zinc, is currently being

tested on the properties of G. Armstrong (Pocket Pond prospect) and Belacoma Mines Limited, and is of special interest. There appear to be similarities between the geological environment here and the Trout Bay area west of Red Lake where Cochenour Willans Gold Mines Limited has outlined significant deposits of both copper-zinc-silver and copper-nickel mineralization (Canadian Mines Handbook 1974-1975, p.80).

There is no record of any recent effort in the Fort Frances area to tie all the geology and mineralization together and to formulate a good working hypothesis on the origin of the mineralization, as a guide to future exploration. Therefore, a detailed geological-geochemical study of the area, with comparisons with similar environments elsewhere, would seem to be warranted.

Exploration of the above-mentioned magnetic unit in Halkirk Township should be continued and an attempt made to identify similar lithologic units elsewhere in the area.

ii) There is evidence to suggest that the four felsic porphyry bodies described below are at least partially of extrusive origin and that the more rhyolitic and fragmental phases represent rhyolite domes developed at volcanic centres. The probability is good of finding exhalative, base-metal, sulphide deposits of the proximal type, as well as gold mineralization, in or adjacent to these and other similar porphyries. No work has been recorded on the Esox Lake porphyry and this area difinitely warrants further investigation. Numerous other small "porphyry plugs" surrounded by metavolcanics may be of similar origin and should also be considered. Several of the more obvious include those at Furlonge Lake west of Esox Lake; Robinson Lake in Phillips Township; near Finland in Potts Township; Mather Island, Lake of the Woods, south of Kenora; north of Boyer Lake south of Dinorwic; Wapus Lake south of Dogpaw Lake; and Western Peninsula of Lake of the Woods.

iii) On the assumption that the pegmatitic uranium occurrences within and along the boundaries of the English River Subprovince are a result of anatexis of uranium-rich metasediments, as postulated, a search for the source beds within the Subprovince should perhaps be considered. The joint Ontario Division of Mines—Geological Survey of Canada reconnaissance, airborne, gamma-ray spectrometer survey flown in late 1975 in the Ignace—Sioux Lookout area, for release early in 1976, will hopefully indicate broad regional trends and might reveal specific metasedimentary units with anomalous radioactivity.

PROPERTY EXAMINATIONS

A total of 28 properties or mineral deposits, including several past-producing mines as well as two rock quarries, were examined during the year. These included the following:

Past Producing Mines

Gold:
- Champion mine, Haycock Township
- Sultana mine, Sultana Island, Lake of the Woods
- Wendigo mine, Manross Township
- Kenricia mine, west of Kenora
- Olive mine, Mine Centre area
- Redeemer mine, south of Dryden

Copper:
- Port Arthur mine, Mine Centre Area

Prospects and Occurrences

Gold:
- L. Pidgeon occurrence, Avery Township
- Roseman vein occurrence, Jaffray—Haycock Townships
- Barber Lake occurrence, Mine Centre area

Uranium:
- Byberg occurrence, MacNicol Township
- F.O.B. Mining and Exploration Limited occurrence, Temple Township
- Tudale Exploration Limited occurrence, Umfreville Lake area
- Davidson occurrence, Umfreville Lake area
- Aerobus Lake occurrence, west of Perrault Falls
- Fairservice occurrence, Bridges Township

Base-Metals:
- Cochenour Willans Gold Mines Limited, Trout Bay prospect (Cu, Zn, Ni), west of Red Lake
- Belacoma Mines Limited prospect (Cu, Ni), east of Fort Frances
- K. McTavish occurrence (Cu, Ni), east of Fort Frances
- G. Armstrong's Pocket Pond prospect (Cu, Zn, Ni), east of Fort Frances
- L. Pidgeon (The Hanna Mining Company option) occurrence (Zn), Mine Centre area
- J. Harrison's Beaverpond occurrence (Cu, Ni), south of Dryden
- Alcock—Green Bay prospect (Cu), High Lake area
- Evenlode prospect (Cu, Mo), High Lake area
- E. Allie (native Cu) occurrence, Lake of the Woods

Soapstone:
- Coste Island occurrence, Lake of the Woods

Rock Quarries

- Hawk Lake (crushed rock), east of Kenora
- Vermilion Bay (building stone)

L. Pidgeon (Gold Occurrence)

This occurrence (property visit 1 on Figure 1), located approximately 10 km (6 miles) east of Dinorwic, was discovered by L. Pidgeon in late 1974 following logging operations by Dryden Paper Company. Grab samples from a number of trenches put down on the showing and assayed by Kerr Addison Mines Limited, reportedly ran consistantly over 0.5 ounces gold per ton and one sample containing visible gold assayed around 2 ounces gold per ton. The property was optioned by Kerr Addison Mines Limited which in 1975 carried out geological mapping, a magnetometer survey, surface sampling, and put down four diamond-drill holes. Results from the diamond drilling reportedly failed to confirm the high gold assays obtained at surface (Kerr Addison Mines Limited, personal communication).

The area is underlain by a sequence of mafic to intermediate flows and tuffs. Some conformable felsic porphyry units are also present. The gold mineralization is contained in a conformable quartz-carbonate zone which is highly distorted and brecciated, and contains conspicuous pyrite. The pyrite mineralization, in places, persists into the surrounding mafic rocks. The quartz is cherty looking and is vaguely but irregularly layered locally. Much of the carbonate is reddish-brown iron carbonate.

Rather than representing a tectonically fractured quartz-carbonate "vein", as postulated by others, the author suggests that this sulphide-rich quartz-iron carbonate zone represents a volcanogenic chemical sediment, brecciated by slumping during deposition, and that the gold is syngenetic in origin.

Uranium Occurrences

Six radioactive occurrences, listed above, were examined (property visit 2 on Figure 1) in 1975. All of these occurrences were notable for their similarity. All were of the "pegmatite" type, occurring in granitic rocks. Most of the radioactivity noted was associated with pegmatitic phases of the granitic rocks; most of the pegmatitic phases, and consequently the radioactive zones, were very irregular and erratic. With few exceptions, mineralized zones were either adjacent to or in proximity to layers or xenoliths of highly metamorphosed, partially assimilated, biotitic sedimentary rocks. The radioactive minerals, often accompanied by yellow uranophane staining, are suspected to be largely uraninite.

Of special significance is the strong association of the radioactivity with partially assimilated metasediments. This suggests that the original concentration of radioactive minerals may have been a result of sedimentary processes and that the uranium was then further concentrated and remobilized in the pegmatitic phases during anatexis of the metasediments.

Grab samples, collected by the ODM staff from the various properties visited, assayed (by Mineral Research Branch, Ontario Division of Mines), as follows:

Byberg occurrence: 0.038 percent U_3O_8
F.O.B. Mining Company occurrence: 0.083 percent and 0.005 percent U_3O_8
Tudale Exploration Limited occurrence: 0.002 percent and 0.006 percent U_3O_8
Davidson occurrence: 0.05 percent, 0.03 percent, and 0.006 percent U_3O_8
Aerobus Lake occurrence: 0.03 percent and 0.006 percent U_3O_8
Fairservice occurrence: 0.051 percent and 0.025 percent U_3O_8

Belacoma Mines Limited Prospect

This prospect (property visit 3 on Figure 1) is located near Nickel Lake Station, Halkirk Township, east of Fort Frances. Copper-nickel mineralization has been investigated for a number of years, and previous work has included trenching, geophysical surveys, and diamond drilling by a number of companies and individuals. Work by Belacoma Mines Limited since 1972 consisted of trenching and diamond drilling which has revealed additional zones of mineralization.

Pyrrhotite and chalcopyrite mineralization occurs largely as small blebs, disseminated grains, and fracture fillings in a dark, very magnetic, mafic unit. This unit has been described as a mafic tuff by workers in the area. A thick sequence of metasediments lies to the west of the tuff unit, and mafic flows and coarse-grained mafic intrusions (?) lie to the east. The dark magnetic tuff unit is foliated but generally non-layered and is composed largely of hornblende and magnetite.

The drilling has also intersected lighter coloured more siliceous, layered metasediments or felsic tuffs, including some jasper, within the mafic tuff unit. Minor sphalerite and molybdenite were also observed in the drill core. Grab samples recently obtained from trenches at the south end of the claim group reportedly ran 0.89 percent copper and 0.50 percent nickel.

The Belacoma Mines Limited property adjoins G. Armstrong's Pocket Pond prospect to the northwest. Diamond drilling on the Pocket Pond property in 1975 also reportedly intersected significant base-metal mineralization in what appears to be the same stratigraphic unit (G. Armstrong, personal communication).

GEOLOGICAL RECONNAISSANCE

Felsic Porphyry Bodies of Questionable Origin

Several small- to medium-sized felsic porphyry bodies, believed to be of volcanic or subvolcanic origin, were examined in an attempt to determine their economic potential and to confirm their origin. The porphyry bodies visited were the Esox Lake body southwest

of Lower Manitou Lake, the Dash Lake body in the Pipestone Lake area, the Washeibemaga Lake body in the Upper Manitou-Stormy Lakes area, and the High Lake porphyry west of Kenora.

The Esox Lake body (visit 4 on Figure 1) was mapped by J.E. Thompson (1934) as quartz porphyry of Algoman age, with an implied intrusive origin. The current reconnaissance confirmed the body to be quartz porphyry, consisting of small- to medium-sized quartz phenocrysts in a fine-grained matrix of potash feldspar and quartz. The rock rarely has a typical granitic texture; rather it has a distinct rhyolitic appearance, often exhibiting what appears to be vague flow banding, and containing few mafic minerals. Some sections are, however, more intermediate in composition, have a distinct foliated to layered appearance resembling intermediate tuff, and in places contain conspicuous disseminated pyrite.

One outcrop, opposite the small island near the centre of Esox Lake, contains stretched fragments of porphyry in a fine-grained, foliated and porphyritic matrix, probably representing a volcanic fragmental or agglomeratic unit.

Also of special interest is a narrow horizon of volcanogenic chemical and clastic metasediments, located on the north side of the mouth of Mirror Bay. This narrow unit of metasediments is exposed for approximately 100 m (300 feet) along the shore of the peninsula and is situated well within the interior of the porphyritic body. Very prominent is a narrow, irregularly layered very rusty horizon consisting of cherty quartz, feldspar, and sericite. This unit contains up to 10 percent pyrite.

In contact with this volcanogenic chemical metasediment to the south is an apparently narrow, brecciated conglomerate unit, which has a fresh appearance. It is composed of sub-angular, poorly sorted clasts locally cemented by carbonate, ranging in composition from slaty metasediment to porphyry and in size up to 25 cm (6 inches).

The porphyry body is in contact to the north with a sequence of mafic to intermediate pillowed flows, tuffs, and well-bedded argillaceous metasediments.

At the east end of *High Lake*, west of Kenora, two mineral showings (visit 5 on Figure 1) in felsic porphyry were examined. The host rock at both these prospects is a very siliceous quartz porphyry consisting of small- to medium-sized phenocrysts of quartz in a fine-grained rhyolitic matrix. The porphyritic appearance varies from place to place. Some structures resemble flow layering.

On the former Evenlode Mines Limited prospect at the east end of High Lake, pyrite, chalcopyrite, and molybdenite are finely disseminated in porphyry and heavily concentrated in a highly sheared sericitic zone within the porphyry. This mineralized sericite zone, which has been traced for about 500 m (1600 feet) by drilling and trenching, contains irregular masses and stringers of quartz, and the sulphides, especially pyrite, are more concentrated in these siliceous sections.

On the old Alcock prospect, located about 450 m (1500 feet) north of the east end of High Lake, "porphyry-type" copper mineralization, carrying significant gold values, has been exposed by trenching over a large area. The sulphides are mostly disseminated in the porphyritic host rock but also are locally concentrated along narrow fractures. Mineralization was seldom associated with quartz veining in the outcrops examined although drill logs on file at the Kenora Regional Geologist's office indicate that such an association is not uncommon. In the area of the main showing, the porphyry is shown by Davies (1965) as being in contact with a large tongue of mafic metavolcanics to the south. The actual contact between the porphyry and the metavolcanic-metasedimentary sequence is exposed in one of the trenches where the porphyry is in contact with a band of magnetite-chert iron formation. Intrusive relationships were not evident. Some irregular rusty sulphide stringers or zones up to a metre in width, can be traced for lengths of over 6 m (20 feet) through the porphyry. These sulphide concentrations are subparallel to the porphyry-iron formation contact and appear to be syngenetic concentrations.

Both the *Dash Lake porphyry* (visit 6 on Figure 1) and the *Washeibemaga Lake porphyry* (visit 7 on Figure 1) are rhyolitic in part, and both contain some very fragmental sections.

Although parts of the above porphyry "plutons" may be true sub-volcanic intrusions, it is suggested that the porphyries may represent, in part, rhyolitic domes, made up of rhyolite flows, but including some associated felsic pyroclastics and proximal volcanogenic chemical sedimentary rocks. As such they offer excellent exploration targets, both for stratabound, exhalative-type base-metal deposits and for porphyry-type copper and gold deposits.

Mine Centre Area

Geological reconnaissance and several prospect examinations in the Mine Centre area in early 1975 revealed the presence of copper-zinc mineralization associated with what is believed to be highly sheared felsic pyroclastic rocks. This was in an area shown simply as mafic metavolcanics and metasediments on available geological maps (Davies and Pryslak 1967; Tanton 1936). On this basis, coupled with the fact that a mining company had recently initiated a major exploration program in the area, a reconnaissance geological mapping program of the area between Mine Centre and Glenorchy (visit 8 on Figure 1) was undertaken by W.R. Scott.

This mapping revealed several rather significant features. Firstly, felsic metavolcanics are much more extensive throughout the area than previously noted, and secondly, the presence of stratabound sulphides indicates a geological environment favorable for stratabound volcanogenic bast-metal deposits.

The south part of the map-area is underlain by the

Seine Conglomerate, whereas the western and northern part of the area, between the Seine Conglomerate and the Turtle River, is underlain by a mixed sequence of felsic to mafic metavolcanic tuffs, flows, and minor agglomerate, with one volcanic conglomerate section. The contact between the metavolcanics and granite to the north lies north of the Turtle River and was not located in the current mapping.

The Seine "Series" to the south is predominantly a polymictic conglomerate consisting of large, well rounded pebbles and boulders of volcanic, granitic, and argillaceous rocks set in a dark, fine-grained greywacke matrix. A narrow unit of conglomerate, interbedded or folded within the metavolcanics in the western part of the area, is distinctively different in character from the southern unit. It consists of clasts of quartz pebbles, and some clasts of jasper and argillite, set in a finely bedded, felsic matrix.

Although there are some more mafic units, the metavolcanics of the area are predominantly felsic to intermediate in composition. They are highly variable, being light grey, massive, aphanitic rhyolite flows near the northwest corner of the area and near Glenorchy, whereas to the south they are white to pale green, highly foliated sericitic tuffs with conspicuous quartz eyes and carbonate content. In general, the metavolcanics are more felsic to the north.

Some thicker massive to pillowed mafic flows outcrop near the western margin of the area. However, the mafic rocks are more commonly dark green chloritic tuff which forms discontinuous beds from 5 cm up to 5 m (several inches to 10 or 20 feet) in width.

Zinc, copper and iron sulphide mineralization, with occasional high silver values, is found in sheared sericitic felsic tuff at the L. Pidgeon occurrence (Kerr Addison Mines Limited option). This showing is located south of Highway 11 about 3 km (1¾ miles) east of the Mine Centre turnoff. The base-metal mineralization, which is discontinuous over 1800 m (6,000 feet) of strike length, was previously reported by King (1970). Recent trenching has revealed additional mineralization north of Highway 11, along strike. A grab sample from this zone assayed 19.0 percent zinc, 0.13 percent copper, and 0.06 percent lead (assay by Mineral Research Branch, Ontario Division of Mines). Geophysical surveys, geological mapping, and diamond drilling were carried out on the Pidgeon property by Kerr Addison Mines Limited in 1969.

Copper mineralization has also been noted in a quartz vein in very dense, cherty rhyolite approximately 0.8 km (½ mile) west of the Pidgeon occurrence. A grab sample of coarse chalcopyrite and pyrite disseminated throughout "bull" quartz assayed 0.43 percent copper and 0.01 ounces gold per ton (assay by Mineral Research Branch, Ontario Division of Mines). This mineralization occurs in a different stratigraphic horizon and in a different type of host rock than the Pidgeon occurrence.

About 11 km (7 miles) to the west of the Pidgeon property is the old Port Arthur copper mine which produced over 196 000 kg (431,000 pounds) of copper in 1916 (Regional Geologist's files: "Stratmat Limited", Ontario Ministry of Natural Resources, Kenora). The copper-zinc mineralization at this property is similar to that to the east, occurring in sericite and chlorite schists. Although some of the more mafic schists show remnant amygdaloidal structures, indicating an extrusive origin, well-bedded, pale felsic units have also been noted on the property and observed on the rock dumps.

SAND AND GRAVEL

A study of the sand and gravel potential of the Lake of the Woods planning area was carried out in 1975. This study, which is not an inventory in that it lacks quantitive data, was largely restricted to areas accessible by road. Areas of probable sand and gravel deposits have been outlined on a series of basemaps at a scale of 1 inch to 2 miles (1:126,720), which are to be placed on Open File for public use in the Kenora Regional Geologist's office in the near future.

ACCESS ROADS

No work was carried out in 1975 on the southern part of the Manitou Access Road, under construction between the Fort Frances area and Dryden. This section is open to about mile 46 (74 km) near Eagle Rock Lake. Parts of the northern section were upgraded in 1975.

Near Mine Centre, the Turtle River Access Road has been extended to about 19 km (12 miles) north of Highway 11, to Otter Rapids.

A paper company access road is under construction from the Manitou Access Road near Winkle Lake to Cedar Narrows of the Manitou River, providing access to Esox Lake.

GEOLOGICAL BRANCH ACTIVITIES

Geological mapping by the Precambrian Geology Section was carried out in three areas within the Kenora District during 1975. G. Edwards continued mapping in the Kakagi—Pipestone Lakes area east of Nestor Falls, completing the Pipestone Lake (South) map-area. In the Manitou Lakes area south of Dryden, C. Blackburn completed the Boyer—Meggisi Lakes map-area. Operation Kenora—Ear Falls, a helicopter-supported reconnaissance mapping project led by F. Breaks and W. Bond, was continued in the English River Subprovince in the area east of the Red Lake Road.

A joint federal-provincial, reconnaissance, airborne, gamma-ray spectrometer survey, at a 5 km (3 mile) line spacing, covering NTS quadrangles 52G and 52J, was flown in the Ignace—Sioux Lookout area.

RESEARCH BY OTHER ORGANIZATIONS

Geoscience research projects by The Centre for Pre-

cambrian Studies at the University of Manitoba were continued in the Kenora Mining Division in 1975, as follows.

1. Seismic studies, including a common depth point reflection survey across the Sioux Narrows "greenstone" belt to the east of the Aulneau Dome, were carried out, in an attempt to delimit the dip and depth extent of the near-vertical boundaries of the belt.

2. Gravity surveys of the Lake of the Woods area were extended to the west to include Shoal Lake. The survey now encompasses the area from the eastern margin of the Aulneau Dome, through the Western Peninsula to the Ontario–Manitoba border.

3. Geological studies of the stratigraphy and geochemical relations of the volcanic sequences in the Kakagi Lake, Manitou–Stormy Lakes, and eastern Lake of the Woods areas were continued by M. Morrice.

4. Field mapping in the Eastern Peninsula and Whitefish Bay regions, Lake of the Woods, was carried out by B. Brown, to investigate the geometry and sequence of deformation of the volcanics and intrusives, with special emphasis on the role of pluton emplacement.

5. Geological studies in the Separation Lake metavolcanic belt were started by G. Beakhouse, to compare it to other Archean volcanic piles and to attempt to determine its position within the "standard" Archean volcanic sequence.

6. Geological studies of the volcanic stratigraphy in the Wiley Bay, Lake of the Woods area were initiated by D. Carr.

7. Mineralization studies within the High Lake Stock were completed by J. Pedora.

Geological studies were also carried out in the area by graduate students from McMaster University in 1975, as follows.

1. C. Gower carried out detailed geological mapping of gneissic and intrusive rocks around Black Sturgeon Lake northeast of Kenora (Ph.D. thesis project).

2. C. Westerman took part in Operation Kenora–Ear Falls of the Ontario Division of Mines, relating his reconnaissance mapping throughout the English River Subprovince to his thesis area around Cliff Lake and Cedar Lake, north of Vermilion Bay (Ph.D. thesis project).

3. F. Longstaff continued geological research, including oxygen isotope work and geochronology, on a number of high level intrusion and English River gneissic bodies (Ph.D. thesis project).

4. D. Birk also continued research work, especially isotopic dating, on several high level intrusions including the Esox Lake, Uphill Lake, Burditt Lake, and Flora Lake stocks (Ph.D. thesis project).

5. M. Wolff undertook a feasability study on isotopic dating of the ultramafic rocks at Kakagi Lake (M.Sc. thesis project).

ODM MAPS AND REPORTS ISSUED BY THE GEOLOGICAL BRANCH IN 1975

P.970 Uranium and Thorium Deposits of Ontario, West Central Sheet, Districts of Kenora (Patricia Portion), Thunder Bay, Algoma and Cochrane. Compilation by James A. Robertson 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1000 Pipestone Lake Area (Northern Half), District of Kenora (52 F/4E). Geology by G.R. Edwards and assistants, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1024 Rowan Lake Area, District of Kenora (52 F/5E); Kenora Data Series. Compilation by R.C. Beard and G. Garratt, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1025 Pipestone Lake Area, District of Kenora (52 F/4E); Kenora Data Series. Compilation by R.C. Beard and G. Garratt, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1026 Operation Kenora–Sydney Lake, Eagle–Sydney Lakes Sheet, District of Kenora (52 L/9W, 10, 11E, 14E, 15, 16W). Geology by F.W. Breaks, W.D. Bond, G.H. McWilliams, C.F. Gower and Denver Stone, and other assistants, 1974. Scale 1 inch to 1 mile or 1:63,360.

P.1028 Operation Kenora–Sydney Lake, Umfreville–Separation Lakes Sheet, District of Kenora (52 L/1W, 2, 3E, 6E, 7, 8W). Geology by F.W. Breaks, W.D. Bond, C.F. Gower, D. Findlay and Denver Stone and other assistants, 1974. Scale:1 inch to 1 mile or 1:63,360.

P.1029 Operation Kenora–Sydney Lake, Oak–Indian Lakes Sheet, District of Kenora (52 K/4, 5; 52 L/1E, 8E). Geology by F.W. Breaks, W.D. Bond, G.H. McWilliams, C.F. Gower and D. Findlay and other assistants, 1974. Scale 1 inch to 1 mile or 1:63,360.

P.1030 Operation Kenora–Sydney Lake, Kenora–Minaki Sheet, District of Kenora (52 E/16E; 52 F/13; 52 K/4; 52 L/1E). Geology by F.W. Breaks, W.D. Bond, G.H. McWilliams, C.F. Gower and other assistants, 1974. Scale 1 inch to 1 mile or 1:63,360.

P.1031 Operation Kenora–Sydney Lake, Gordon–Big Canyon Lakes Sheet, District of Kenora (52 E/14E, 15; 52 L/1W, 2, 3E). Geology by F.W. Breaks, W.D. Bond, G.H. McWilliams, C.F. Gower and other assistants, 1974. Scale 1 inch to 1 mile or 1:63,360.

P.1041 Iron Deposits of Ontario, West Central Sheet, Districts of Kenora (Patricia Portion), Thunder Bay, Algoma and Cochrane. Compilation by H.D. Meyn and James A. Robertson 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1061 Nickel Deposits of Ontario, West Central Sheet, Districts of Kenora (Patricia Portion), Thunder Bay, Algoma and Cochrane; Mineral Deposits Series. Compilation by M. Jost. Scale 1 inch to 16 miles or 1:1,013,760.

Map 2302 MacNicol and Tustin Townships, Kenora District (52 E/16, 52 F/13). Geology by A.P. Pryslak and assistants, 1967. Scale 1 inch to ½ mile or 1:31,680.

Map 2319 Cedartree Lake, District of Kenora (52 F/5). Geology by J.F. Davies, J.A. Morin and assistants, 1971. Scale 1 inch to ½ mile or 1:31,680.

OFR5126 Index to Exploration Reports Filed in 1974 (1) Assessment Work Reports (2) Reports Received Under Ontario's Mineral Exploration Assistance Program (MEAP). Compiled by Geoscience Data Centre, 1975.

OFR5134 Clay and Shale Deposits of Ontario; by G.R. Guillet; approx. 265p., 28 tables, 39 figures, 2 maps.

OFR5147 Mineral Exploration Assistance Program (MEAP), Fiscal Year 1974-75, by S.A. Ferguson, F.G. Da Silva and S.C. Sun; 73p., 2 figures, 7 appendices.

OFR5150 Preliminary Township and NTS Index to Ontario Geoscience Reports and Maps, 1975, 1201p. (microfiche only).

IMR33 Reprint A Guide to Site Development and Rehabilitation of Pits and Quarries by Anthony M. Bauer; 62p. including photographs and figures.

MP60 Annual Report of the Regional and Resident Geologists, 1974. Edited by E.G. Pye, Director, Geological Branch, 241p.

MP61 Mineral Deposit Studies, Mineral Potential Evaluation and Regional Planning in Ontario; by James A. Robertson, 42p.

MP63 Summary of Field Work, 1975, by the Geological Branch. Edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, 158p.

OTHER ONTARIO MINISTRY OF NATURAL RESOURCES PUBLICATIONS ISSUED IN 1975

MPBP 1 The Impact of Taxation and Environmental Controls on the Ontario Mining Industry by G. Anders, W.P. Gram and S.C. Maurice; 197p. Published by the Mineral Resources Branch.

1974 Review Ontario Mineral Review 1974, 124p.

RECENT PUBLICATIONS AND REFERENCES

Azis, A., Barry, G.S. and Haugh, I.
1972: The Undiscovered Mineral Endowment of the Canadian Shield in Manitoba, A Federal–Provincial Co-operative Study; Mineral Bulletin MR 124, Mineral Resources Branch, Canada Department of Energy, Mines and Resources, 42p.

Centre for Precambrian Studies
1974: 1974 Annual Report; Centre for Precambrian Studies, University of Manitoba, Winnipeg, 253p.

Coker, W.B. and Nichol, I.
1975: The Relation of Lake Sediment Geochemistry to Mineralization in the Northwest Ontario Region of the Canadian Shield; Econ. Geol., Vol.70, p.202-219.

Davies, J.C.
1965: Ewart–Forgie Area, Kenora District; Ontario Dept. Mines, Map 2069, scale 1 inch to ½ mile. Geology 1961-1962.

Davies, J.C. and Pryslak, A.P.
1967: Kenora–Fort Frances Sheet, Kenora, Rainy River Districts; Ontario Dept. Mines, Map 2115, Geol. Comp. Series, scale 1 inch to 4 miles. Compilation 1963-1965.

Geological Survey of Canada
1975: Uranium Exploration '75; Paper 75-26, presented to Prospectors and Developers 43rd Annual Convention, Toronto, 1975, 71p.

Goodman, R.J. and Johnson, R.
1975: Canadian Iron Ore Industry Statistics, 1973-74; Canada Department of Energy, Mines and Resources, MR144, 39p.

Hall, D.H.
1974: Long-Wavelength Aeromagnetic Anomalies and Deep Crustal Magnetization in Manitoba and Northwestern Ontario, Canada; J. Geophys., Vol.40, p.403-430.

Hsu, Mao-Yang
1971: Analysis of Strain, Shape and Orientation of the Deformed Pebbles in the Seine River Area, Ontario; unpublished MSc. Thesis, McMaster University, Hamilton, Ontario, 179p. (Copy of Introduction, Geologic Setting and Conclusions in Regional Geologist's files, Ontario Ministry of Natural Resources, Kenora).

King, H.L.
1970: Kenora District; p.27-48 *in* Annual Report of Resident Geologists' Section, Geological Branch, 1969, Part 1, Ontario Dept. Mines, MP33, 67p.

Lang, A.H., Griffith, J.W. and Steacy, H.R.
1962: Canadian Deposits of Uranium and Thorium; Geol. Surv. Canada, Econ. Geol. Ser. No. 16, 2nd ed. (published 1962). Approx. 320p.

Manitoba Department of Mines, Resources and Environmental Management
1975: Summary of Geological Field Work 1975; Mineral Resources Division, Exploration and Geological Survey Branch, Geological Paper 2/75, 44p.

McRitchie, W.D. and Weber, W. (ed.)
1971: Geology and Geophysics of the Rice Lake Region, Southeastern Manitoba (Project Pioneer); Maps and Figures to accompany Manitoba Department of Mines and Natural Resources Publication 71-1.

Mining Association of Canada
1975: Mining. What It Means to Canada; Mining Assoc. Canada, booklet, 64p.

1975: Facts and Figures; Mining Assoc. Canada, pamphlet, 48p.

Ministry of the Environment of Ontario
1973: Effluent Guidelines and Receiving Water Quality Objectives for the Mining Industry in Ontario; Guideline summary, 7p.

Moorbath, S.
1975: Evolution of Precambrian Crust from Strontium Isotopic Evidence; Nature, Vol. 254, p.395-397.

Tanton, T.L.
1936: Mine Centre Area, Rainy River District, Ontario; Geol. Surv. Canada, Map 334A, scale 1 inch to ½ mile. Geology 1934.

Thomson, J.E.
1934: Geology of Straw–Manitou Lakes Area; Ontario Dept. Mines, Vol.43, pt.4, 32p. Accompanied by Map 43a, scale 1 inch to 1 mile.

Table 1 Exploration Activity in 1975

The following is a list of individuals and companies known to be engaged in exploration within the Kenora Mining Division in 1975, and the type of work undertaken in each case. The numbers correspond to the numbered areas on Figure 1.

	Individual or Company	Type of Work
1.	Amoco Canada Petroleum Co. Ltd.	Ground follow-up of airborne geophysical surveys in the Raleigh Lake area.
2.	Belacoma Mines Ltd.	Geological mapping, ground geophysical surveys, and diamond drilling in Halkirk Twp.
3.	Border Cities Ready Mix Cement Ltd.	Trenching and diamond drilling in Halkirk & Watten Twps.
4.	Canadian Nickel Co. Ltd.	Ground follow-up of airborne geophysical surveys in the Shoal Lake-Lake of the Woods and Vermilion Bay areas.
5.	Cone, R., Sr.	Trenching in the Grassy Lake area.
6.	Consolidated Canadian Faraday Ltd.	Ground geophysical survey in the Reynar Lake & Werner Lake areas.
7.	Cousineau, L.	Stripping and trenching in Halkirk and Farrington Twps.
8.	Doborzynski, Z.	Ground geophysical surveys in the Shoal Lake area. (Imperial Oil Option)
9.	Falconbridge Nickel Mines Ltd.	Diamond drilling in the Dogpaw Lake area.
10.	F.O.B. Mining & Exploration Ltd.	Trenching in Temple Twp.
11.	Gambit Explorations Ltd.	Diamond drilling in the Rickaby Lake area.
12.	Goldray Mines Ltd.	Diamond drilling in the Dogpaw Lake area. (Falconbridge Option)
13.	Hanna Mining Co., The	Geological mapping and ground geophysical surveys in the Grassy Lake, Little Turtle Lake, Reed Lake, and Wild Potato Lake areas.
14.	Harrison, J.	Diamond drilling in the Contact Bay area.
15.	Hudson Bay Exploration & Development Co. Ltd.	Ground geophysical surveys in the Brooks Lake, Clearwater Bay, Dogpaw Lake, Godson Twp., Heronry Lake, Lobstick Bay, MacQuarrie Twp. & Code Twp., Rowan Lake, Turtlepond Lake, Whitefish Bay & Manross Twp., Aulneau Peninsula, Long Point Island, Wiley Bay, Willingdon Twp.; Turam EM surveys in the Butler Lake and Turtlepond Lake areas; and diamond drilling in the Echo Bay & Boys Twp., MacQuarrie Twp. & Code Twp., Monument Bay, Shoal Lake, Whitefish Bay & Manross Twp., and Wiley Bay areas.

	Individual or Company	Type of Work
16.	Hudson Bay Oil & Gas Co. Ltd.	Ground follow-up in Shoal Lake, Echo Bay & Boys Twp., and Ewart Twp. & Indian Bay areas.
17.	Hupchuk, M.	Stripping and trenching in Halkirk Twp.
18.	Imperial Oil Ltd.	Diamond drilling south of Kenora.
19.	Kamlo Gold Mines Ltd.	Diamond drilling in the Buchan Bay area.
20.	Kerr Addison Mines Ltd.	Ground radiometric surveys, geological mapping, and diamond drilling in MacNicol and Langton Twps.; geological mapping, geophysical surveys, and diamond drilling in Avery Twp. and the Pipestone Peninsula area; reconnaissance and ground follow-up of airborne radiometric surveys between Vermilion Bay and Sioux Lookout.
21.	Kuryliw, C.	Ground geophysical survey in the Wiley Bay area.
22.	Martin, F.	Diamond drilling in the Heronry Lake area. (Noranda Option)
23.	Martin, R.	Diamond drilling in the Brooks Lake area. (Noranda Option)
24.	McTavish, K.	Trenching in Watten Twp.
25.	Noranda Exploration Co. Ltd.	Ground geophysical surveys in the Heronry Lake, Brooks Lake, and Rowan Lake areas.
26.	Pango Gold Mines Ltd.	Diamond drilling in the Dogpaw Lake area.
27.	Rosenblat, R.	Ground geophysical surveys in the Clearwater Bay area. (Aumac Option)
28.	Sherritt Gordon Mines Ltd.	Ground follow-up of airborne geophysical surveys in the Separation Lake-Oak Lake, Western Peninsula, Lawrence Lake, and Vermilion Bay areas.
29.	Underwood McLellan & Associates Ltd.	Ground geophysical surveys in the Kawashegamuk Lake, Tabor Lake, Boyer Lake, and Turtlepond Lake areas; diamond drilling in the Kawashegamuk Lake, Tabor Lake, and Boyer Lake areas. (Newmont Option)
30.	Willow Lake Mines Ltd.	Geological surveys and sampling in Jaffray, Haycock, and Kirkup Twps. (Rosenblat Option)
31.	Yeoman Mining Exploration Ltd.	Ground geophysical surveys in the Reed Lake and Bennett Twp. areas. (International Chemalloy Inc. Option)

Table 2 Assessment Work Received in 1975

Abbreviations

Air	- Airborne	Geol	- Geological Survey	Pros	- Prospectus
Assess	- Assessment Work	Geochem	- Geochemical Survey	Rad	- Radiometric Survey
Au	- Gold	IP	- Induced Polarization Survey	Res	- Resistivity Survey
BM	- Basemetals	Mag	- Magnetometer Survey	SA	- Sampling
5 DDH (620)	- 5 Diamond drill holes totalling 620'	MEAP	- Mineral Expl. Assistance Program Report	Tr	- Trenching
EM	- Electromagnetic Survey			U	- Uranium

Location	NTS	File Name	Commodity Sought	Type of Report	Type of Work Performed	Year	Toronto File No.
Aulneau Peninsula	52E/8 NW	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	EM	1975	2.1839
Balmoral Lake	52G/5 SW	Geophysical Engineering Ltd.	BM	Assess	Geochem	1974	
Beadle Lake	52C/13 NW	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	1 DDH (272)	1973	
Bennett Twp.	52C/16 SW	Yeoman Mining Exploration Ltd.	Au	MEAP	EM, Mag	1975	2.1813 63.3250 MEAP A-5
Boyer Lake	52F/7 NE	Regan, F.		Assess	4 DDH (412)	1974	
		Underwood McLellan & Associates Ltd.	BM BM BM	Assess Assess Assess	EM, Mag 1 DDH (302) 1 DDH (292)	1974 1974 1975	
Bridges Twp.	52F/13 SE	Imperial Oil Ltd.	U	Assess	Geol	1974	2.1665
Brooks Lake	52F/4 NE	Martin, R.	Au	Assess	7 DDH (2016)	1975	
		Noranda Exploration Co. Ltd.	Au	Assess	EM, Mag	1975	2.1740
Buchan Bay	52F/11 NE	Kamlo Gold Mines Ltd.	BM	Assess	EM, Mag, IP 7 DDH (1063)	1974 1975	2.1518
Butler Lake	52F/10 NE	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	EM Surveys	1975	2.1769 2.1744
Clearwater Bay	52E/10 NE	Aumac Explorations Ltd.	Au	Pros.	EM, Mag	1975	63.3319
		Hudson Bay Exploration & Development Co. Ltd.	BM BM	Assess Assess	EM 7 DDH (2104)	1975 1974	2.1701
		Rosenblat, R.	Au	Assess	EM, Mag	1974/75	2.1792
Code & MacQuarrie Twps.	52E/9 NE	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	7 DDH (754)	1975	
Contact Bay	52F/10 NW	Nichro Mines Ltd.	BM	Assess	2 DDH (304)	1974	
Docker Twp.	52F/13 SE	Imperial Oil Ltd.	U	Assess	Geol	1974	2.1665
Dogpaw Lake	52F/5 SW	Falconbridge Nickel Mines Ltd.	BM	Assess	3 DDH (1347)	1975	
		Goldray Mines Ltd.	BM	Assess	1 DDH (801)	1975	
		Martin, J.	Au	Assess	Tr	1974	
		Pango Gold Mines Ltd.	Au	Assess	2 DDH (1000)	1975	
Echo Bay & Boys Twp.	52E/10 NW	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	2 DDH (674)	1975	
		Hudson Bay Oil & Gas Co. Ltd.	BM	Assess	Air EM & Mag	1974	2.1572
Ewart Twp. & Indian Bay	52E/11 NE	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	2 DDH (956)	1974	
		Hudson Bay Oil & Gas Co. Ltd.	BM	Assess	Air EM & Mag	1974	2.1572
Godson Twp.	52F/4 NW	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	EM	1975	2.1767
Gordon Lake & Smellie Twp.	52F/13 NE	MacLeod, J.		Assess	Tr	1974	
Grassy Lake	52C/10 NE	Ciglen Investments Ltd.	Au	Assess	4 DDH (2008)	1974	
		Cone, R., Sr.	Au	Assess	Tr	1975	
Halkirk Twp.	52C/11 NE	Belacoma Mines Ltd.	BM	Assess	5 DDH (430)	1975	
		Border Cities Ready Mix Cement Ltd.	BM BM	Assess Assess	3 DDH (1605) Tr	1975 1975	
		Hupchuk, M.	BM	Assess	Tr	1975	

Location	NTS	File Name	Commodity Sought	Type of Report	Type of Work Performed	Year	Toronto File No.
Halkirk & Farrington Twps.	52C/11 NE	Cousineau, L.	BM	Assess	Tr	1974	
Harper Lake	52F/7 NW	Regan, F.		Assess	2 DDH (205)	1974	
Heronry Lake	52F/4 NW	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	EM	1975	2.1766
		Martin, F.	Au	Assess	1 DDH (332)	1975	
		Noranda Exploration Co. Ltd.	Au	Assess	EM, Mag	1975	2.1740
Jaffray, Haycock, & Kirkup Twp.	52E/9 NW	Willow Lake Mines Ltd.	Au	Pros	EM, Mag, SA	1975	
Kawashegamuk Lake	52F/8 NW	Underwood McLellan & Associates Ltd.		Assess	EM, Mag 2 DDH (503)	1974 1975	
Little Turtle Lake	52C/15 SE	Ciglen Investments Ltd.	Au	Assess	4 DDH (806)	1974	
Lobstick Bay	52F/5 NW	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	EM	1975	2.1765
Long Point Island	52E/8 NE	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	EM	1975	2.1839
MacQuarrie Twp.	52E/9 SE	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	EM Surveys 7 DDH (754)	1975 1975	2.1730 2.1764
Monument Bay	52E/7 NW	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	7 DDH (2244)	1975	
Napanee Lake	52F/3 NE	Noranda Exploration Co. Ltd.	BM	Assess	EM, Mag	1974	2.1634
Reed Lake	52C/16 SW	Yeoman Mining Exploration Ltd.	Au	MEAP	EM, Mag	1975	MEAP A-5
Rickaby Lake	52L/11 NE	Gambit Explorations Ltd.	BM	Assess	8 DDH (1036)	1974	
Rowan Lake	52F/5 SE	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	EM	1975	2.1843
		Noranda Exploration Co. Ltd.	BM	Assess	EM, Mag EM, Mag	1974 1975	2.1635 2.1739
		Regan, F.		Assess	2 DDH (205)	1974	
Shoal Lake	52E/10 SW	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	9 DDH (3216)	1975	
		Hudson Bay Oil & Gas Ltd.	BM	Assess	Air EM, Mag	1974	2.1572
Snook Lake	52L/2 NE	Sherritt Gordon Mines Ltd.	BM	Assess	8 DDH (992)	1974	
Snowshoe Bay	52E/11 SE	Hudson Bay Oil & Gas Ltd.	BM	Assess	Air EM, Mag	1974	2.1572
Tabor Lake	52F/9 SW	Underwood McLellan & Associates Ltd.	BM BM	Assess Assess	EM, Mag 1 DDH (300)	1974 1974	
Turtlepond Lake	52F/10 SE	Hudson Bay Exploration & Development Co. Ltd.	BM	Assess	EM Surveys	1974	2.1754 2.1769
		Underwood McLellan & Associates Ltd.		Assess	EM, Mag	1974	
Turtlepond Lake & Satterly Twp.	52F/10 SE	Underwood McLellan & Associates Ltd.	BM	Assess	1 DDH (349)	1974	
Vista Lake	52F/3 SE	Noranda Exploration Co. Ltd.	BM	Assess	EM, Mag	1974	2.1633 2.1636
Watten Twp.	52C/11 NE	Border Cities Ready Mix Cement Ltd.	BM	Assess	Tr	1975	
		Duggan, S.	BM	Assess	2 DDH (640)	1974	
		McTavish, J.	BM	Assess	EM, Mag, Geol	1972	2.1695
		McTavish, K.	BM	Assess	Tr	1972	
Whitefish Bay & Manross Twp.	52E/9 SW	Hudson Bay Exploration & Development Co. Ltd.	BM BM	Assess Assess	EM Surveys 3 DDH (611)	1975 1975	2.1770 2.1839
Wiley Bay	52E/10 SE	Hudson Bay Exploration & Development Co. Ltd.	BM BM	Assess Assess	EM 2 DDH (566)	1975 1975	2.1768

1975 REPORT

of the

RED LAKE RESIDENT GEOLOGIST

by

W. Valliant

CONTENTS

Page

Introduction 20
Resident Geologist's Activities 20
Mining Activity 20
Exploration Activity 21
Mineral Exploration Assistance Program 21
Geological Branch Activities 21
Research by Other Agencies 21
ODM Maps and Reports Issued by the Geological Branch in 1975 22
Other Ontario Ministry of Natural Resources Publications Issued in 1975 23
Recent Publications and References 23

TABLES

1—Exploration Activity in 1975 24
2—Assessment Work and Other Information Received in 1975 26

FIGURES

1,2—Red Lake Resident Geologist's District 18,19

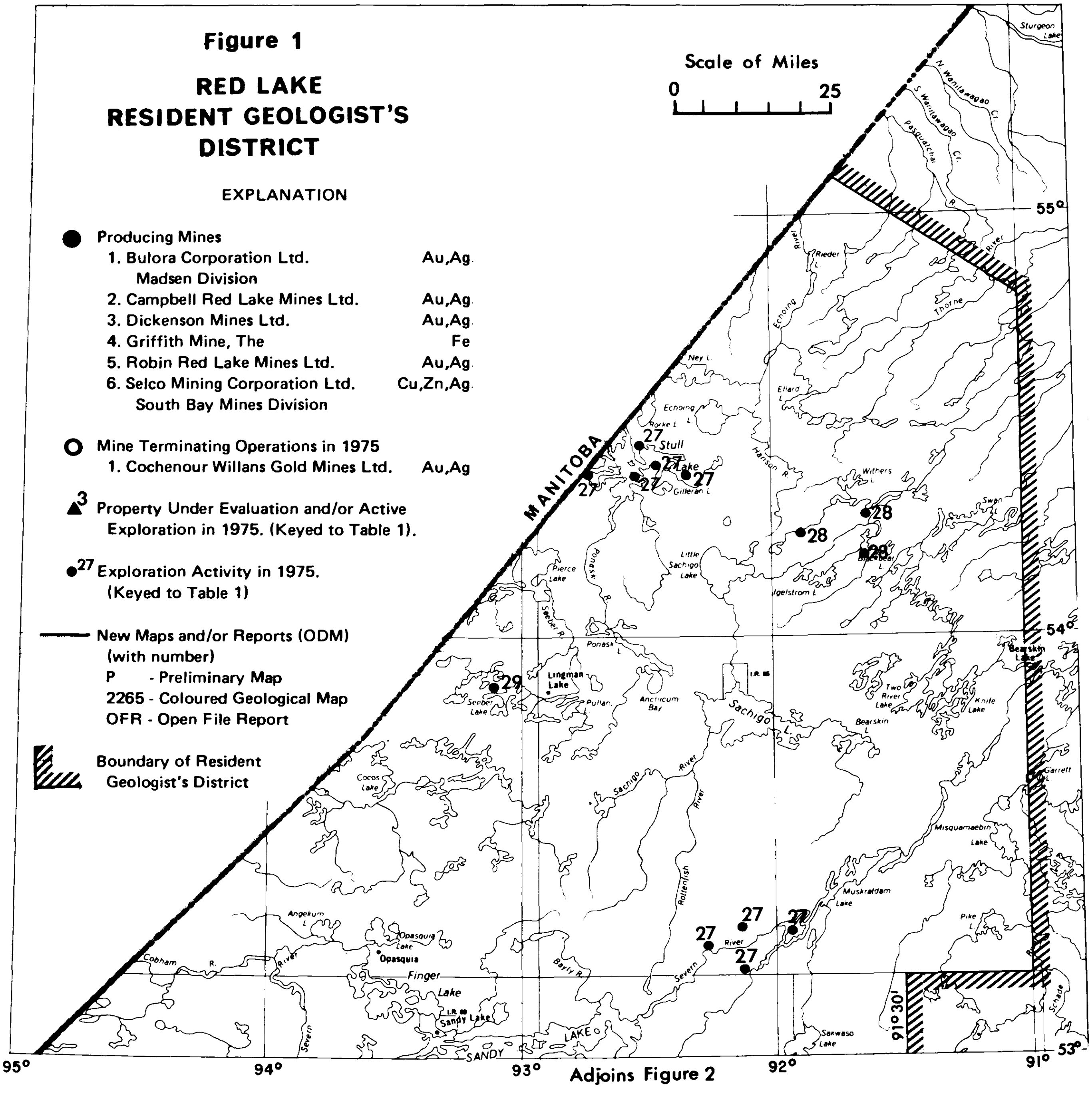


Figure 1
RED LAKE RESIDENT GEOLOGIST'S DISTRICT

Adjoins Figure 2

Adjoins Figure 1

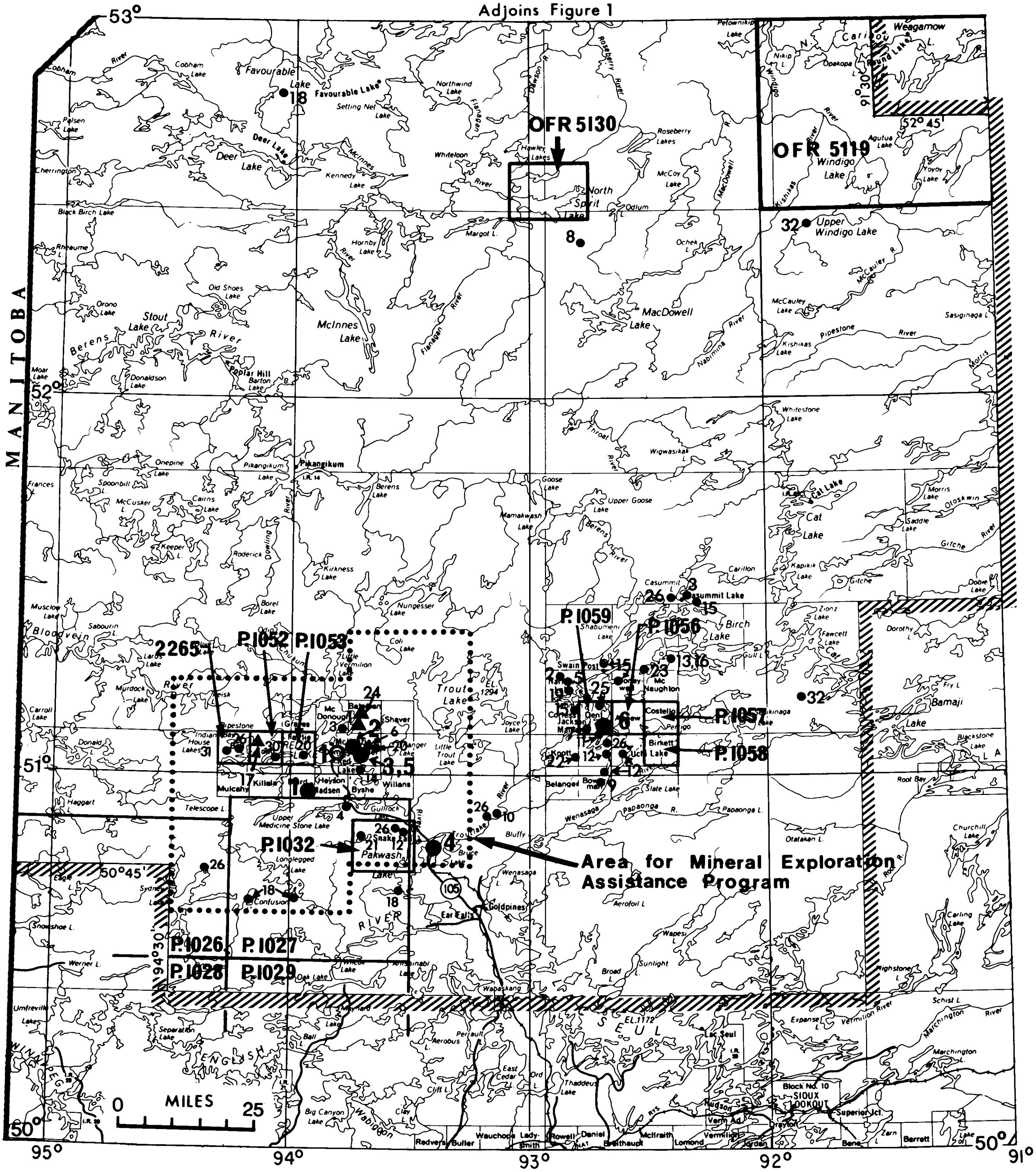


Figure 2

1975 REPORT

of the

RED LAKE RESIDENT GEOLOGIST

by

W. Valliant[1]

INTRODUCTION

Presently the Red Lake Resident Geologist's office is staffed by the author, as Acting Resident Geologist, and C.M. Uhrina as secretary. A.P. Pryslak (former Resident Geologist) resigned his position April 26. D. Georgiou, university student, was employed during the summer months under the "Students Working on Resources Development" program.

RESIDENT GEOLOGIST'S ACTIVITIES

Consultation with prospectors, mining and exploration personnel and the general public continues to be the most actively solicited service of the Red Lake office. The past two years have seen an increasing amount of consultation with other units of the Ministry.

At the request of the Division of Lands, mineral potential evaluations were prepared for five areas in the district. Three similar reports were prepared for the Parks Division. The purpose of these reports is to insure a minimum of conflict between mineral development and development of other natural resources.

Short visits were made to three producing mines in the district, to one mine terminating operations, to two properties under evaluation and to several active and inactive properties.

Field parties of the Precambrian Geology Section and the Geophysics/Geochemistry Section of the Ontario Division of Mines, working in the Red Lake District, were visited. A short lecture and demonstration on introductory geology was given to one group of Junior Rangers at Pakwash Provincial Park.

Two Data Series maps were published in 1975. Eight additional Data Series maps of areas in the Birch–Uchi Lake metavolcanic-metasedimentary belt have been prepared for future publication.

MINING ACTIVITY

Bulora Corporation Limited continued mining operations at their Madsen Division property. Ore below the 25th level, previously classified as probable ore, is now classified as proven. The potential mill rate at the mine has been increased by greater than 25 percent. These two factors have increased the tonnage mined and milled while maintaining the average ore grade and reserves of developed ore (mine staff, personal communication).

Campbell Red Lake Mines Limited continued production at approximately 800 tons per day in 1975, although the ore grade was slightly lower than in past years. Lower grade ore from the upper levels is being mined while gold prices remain relatively high. This will insure economic recovery in the event that precious metal prices drop (mine staff, personal communication).

Figures are not yet available for 1975 production from Dickenson Mines Limited or Robin Red Lake Mines Limited; however, no significant changes are expected from figures released over the past few years.

The Griffith Mine milled 5,188,000 tons of crude ore in 1975 from which 1,449,000 tons of pellets were produced. There is sufficient ore in the pit areas to maintain output at the mine at present plant capacity until 2005 (mine staff, personal communication).

Selco Mining Corporation Limited continued operations at the South Bay Zn-Cu-Ag mine in Dent Township. Exploration is being carried out on the new No. 12 orebody located below the 900-foot level (275 m). Copper-silver concentrate produced at the mine is shipped to the Noranda Mines Limited smelter in Quebec while zinc concentrate is shipped to Europe (mine staff, personal communication; Canadian Mines Handbook 1975-76).

Cochenour Willans Gold Mines Limited, after extensive surface and underground diamond drilling, began mining and milling a 21,000-ton bulk sample from the Wilmar Granodiorite Zone. The average grade of 0.085 ounces Au and 0.14 ounces Ag per ton obtained from this mill test was too low to justify putting the zone into production. Mining continued on the higher grade East Breccia Zone until late in the year when sharply rising operating costs forced the mine to shut down (mine staff, personal communication).

[1]Acting Resident Geologist, Ontario Ministry of Natural Resources, Government Building, Red Lake, P0V 2M0.

EXPLORATION ACTIVITY

Mineral exploration activity remained at approximately the same level as in 1974. A total of 1368 claims were recorded, compared with 1339 in 1974. Assessment work credits (in days) decreased by 22.5 percent from 1974. However, several extensive projects were conducted on patented claims and would not be included in assessment figures. In addition, a significant amount of reconnaissance work was performed which resulted in neither claim staking nor submission of assessment work.

Because of relatively high prices of gold, several exploration programs were initiated or continued in 1975. Sabina Industries Limited continued diamond drilling on the McFinleyMines Limited property in Bateman Township. Abino Gold Mines Limited initiated a diamond drilling program in Bateman Township. In Todd Township, Mount Jamie Mines (Quebec) Limited dewatered the shaft and sampled ore dumps and underground workings of the New Dimension Resources Limited past-producer. Dome Exploration (Canada) Limited has examined properties in Balmer Township which have been idle for several years.

Selco Mining Corporation Limited established an exploration office in Red Lake and initiated a multiyear program designed to assess the base-metal potential of the Red Lake area.

At least four exploration programs were initiated in the Dixie Lake area south of Red Lake. Two of these were confined to reconnaissance mapping while only one company performed diamond drilling.

Uranium exploration was limited and was restricted to reconnaissance mapping in two areas.

Table 1 gives a brief summary of mineral exploration activities known to have been carried out in the Red Lake Resident Geologist's District. Locations appear on Figures 1 and 2.

MINERAL EXPLORATION ASSISTANCE PROGRAM

Red Lake was designated as one of the areas eligible for the Provincial Government's Mineral Exploration Assistance Program (MEAP) in 1975. Four contracts were approved under the 1975-76 program, compared to nine in 1974-75. A summary of 1974-75 MEAP activities appears in OFR 5147 (*see* "ODM Maps and Reports Issued by the Geological Branch in 1975").

GEOLOGICAL BRANCH ACTIVITIES

Staff from the Precambrian Geology Section carried out four projects in the Red Lake area. J. Wood carried out detailed mapping in the North Spirit Lake–MacDowell Lake metavolcanic-metasedimentary belt, specifically in the Mattson–MacDowell Lakes area. G.W. Johns and P.C. Thurston continued detailed mapping in the Birch–Uchi Lakes metavolcanic-metasedimentary belt, covering Honeywell and McNaughton Townships. P.C. Thurston conducted preliminary reconnaissance mapping in the Birch–Uchi Lakes metavolcanic-metasedimentary belt as part of a synoptic project in the Confederation Lakes area. F.W. Breaks, W.D. Bond, N. Harris and C. Westerman continued the Kenora–Ear Falls reconnaissance mapping program of the English River Subprovince, the north part of which lies in the Red Lake District.

The Geophysics/Geochemistry Section conducted two projects in the area during 1975. R.B. Barlow, V.K. Gupta and D.R. Wadge conducted a gravity survey covering approximately 13 000 km^2 (5,000 square miles) in the Birch–Uchi–Confederation Lakes area. L.G. Closs and A.C. Colvine carried out a geological and geochemical survey over part of the Birch–Uchi Lakes metavolcanic-metasedimentary belt.

A.C. Colvine, Mineral Deposits Section, spent several weeks in the Red Lake area examining base-metal deposits as part of a continuing project.

Summary reports of Geological Branch projects appear in MP63 (*see* "ODM Maps and Reports Issued by the Geological Branch in 1975").

RESEARCH BY OTHER AGENCIES

The Centre for Precambrian Studies of the University of Manitoba carried out the following research projects in the Red Lake district during the 1975 field season.

1. P.S. Buck continued an investigation of a felsic-intermediate volcanic sequence in the Setting Net Lake area, about 210 km (130 miles) north of Red Lake.

2. In the Favourable Lake area, approximately 235 km (145 miles) north of Red Lake, M. Raudsepp continued geological studies of a metagabbro sill complex.

3. L.D. Ayres continued mapping in the Setting Net Lake area. The program included resampling of part of the Setting Net Lake Stock for petrographic analysis.

4. D. Findlay began geological mapping in the Lang Lake area, 175 km (110 miles) northeast of Red Lake.

Field work for one M.Sc. thesis and three B.Sc. theses was conducted during 1975 under supervision of Ministry personnel:

1. D. Stone (University of Toronto) investigated parts of the Sydney Lake Cataclastic Zone, south of Red Lake.

2. S. Savory (University of Western Ontario) carried out geological investigations on a eutaxitic rhyolite at Woman Lake, in the west central portion of the Birch–Uchi Lakes metavolcanic-metasedimentary belt.

3. D. Makepeace (Carleton University) studied a small granodiorite body intrusive into migmatite in the Aerofoil Lake area, about 80 km (50 miles) southeast of Red Lake.

4. T. Carter (University of Western Ontairo) carried out geological mapping of a conglomerate unit in the North Spirit Lake–MacDowell Lake metavolcanic-metasedimentary belt.

ODM MAPS AND REPORTS ISSUED BY THE GEOLOGICAL BRANCH IN 1975

P.969 Uranium and Thorium Deposits of Ontario, Northwestern Sheet, District of Kenora (Patricia Portion). Compilation by James A. Robertson 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.970 Uranium and Thorium Deposits of Ontario, West Central Sheet, Districts of Kenora (Patricia Portion), Thunder Bay, Algoma and Cochrane. Compilation by James A. Robertson 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1026 Operation Kenora–Sydney Lake, Eagle–Sydney Lakes Sheet, District of Kenora (52 L/9W, 10, 11E, 14E, 15, 16W). Geology by F.W. Breaks, W.D. Bond, G.H. McWilliams, C.F. Gower and Denver Stone, and other assistants, 1974. Scale 1 inch to 1 mile or 1:63,360.

P.1027 Operation Kenora–Sydney Lake, Pakwash–Longlegged Lakes Sheet, District of Kenora (52 L/9E, 16E; 52 K/12, 13). Geology by F.W. Breaks, W.D. Bond, G.H. McWilliams, C.F. Gower and Denver Stone and other assistants, 1974. Scale: 1 inch to 1 mile or 1:63,360.

P.1028 Operation Kenora–Sydney Lake, Umfreville–Separation Lakes Sheet, District of Kenora (52 L/1W, 2, 3E, 6E, 7, 8W). Geology by F.W. Breaks, W.D. Bond, C.F. Gower, D. Findlay and Denver Stone and other assistants, 1974. Scale:1 inch to 1 mile or 1:63,360.

P.1029 Operation Kenora–Sydney Lake, Oak–Indian Lakes Sheet, District of Kenora (52 K/4, 5; 52 L/1E, 8E). Geology by F.W. Breaks, W.D. Bond, G.H. McWilliams, C.F. Gower and D. Findlay and other assistants, 1974. Scale 1 inch to 1 mile or 1:63,360.

P.1032 Dixie Lake Area, District of Kenora (52 K/13); Red Lake Data Series. Compiled by A.P. Pryslak and W.W. Valliant, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1040 Iron Deposits of Ontario, Northwestern Sheet, District of Kenora (Patricia Portion). Compilation by H.D. Meyn and James A. Robertson, 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1041 Iron Deposits of Ontario, West Central Sheet, Districts of Kenora (Patricia Portion), Thunder Bay, Algoma and Cochrane. Compilation by H.D. Meyn and James A. Robertson 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1052 Todd Township, District of Kenora (Patricia Portion) (52 M/1E). Geology by R.A. Riley and assistants 1971. Scale 1 inch to 1,000 feet or 1:12,000.

P.1053 Fairlie Township, District of Kenora (Patricia Portion) (52 M/1E; 52 N/4W). Geology by R.A. Riley and assistants 1971. Scale 1 inch to 1,000 feet or 12:000.

P.1056 Agnew Township, District of Kenora (Patricia Portion) (52 N/2E). Geology by P.C. Thurston, W. Waychison, R. Falls and D.F. Baker 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1057 Costello Township, District of Kenora (Patricia Portion) (52 N/1W, 2E). Geology by P.C. Thurston, W. Waychison, R. Falls and D.F. Baker 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1058 Birkett Township, District of Kenora (Patricia Portion) (52 N/1W, 2E). Geology by P.C. Thurston, W. Waychison, R. Falls and D.F. Baker 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1059 Dent Township, District of Kenora (Patricia Portion) (52 N/2); Red Lake Data Series. Compilation by A.P. Pryslak and W.W. Valliant 1975. Scale 1 inch to ¼ mile or 1:15,840.

P.1060 Nickel Deposits of Ontario, Northwestern Sheet, District of Kenora (Patricia Portion); Mineral Deposits Series. Compilation by M. Jost 1974, 1975. Scale 1 inch to 16 miles or 1:1,013,760.

P.1061 Nickel Deposits of Ontario, West Central Sheet, Districts of Kenora (Patricia Portion), Thunder Bay, Algoma and Cochrane; Mineral Deposits Series. Compilation by M. Jost. Scale 1 inch to 16 miles or 1:1,013,760.

Map 2265 Ball Township, Kenora District (52 M/1). Geology by R.A. Riley and assistants, 1970, 1971. Scale 1 inch to 1,000 feet or 1:12,000.

OFR5119 Operation Winisk Lake, District of Kenora (Patricia Portion) (43D, 43E, 53A, 53B, 53H) by P.C. Thurston, R.P. Sage and G.M. Siragusa; 333p., 11 figures, 18 tables, 53 photos, 6 maps.

OFR5126 Index to Exploration Reports Filed in 1974 (1) Assessment Work Reports (2) Reports Received Under Ontario's Mineral Exploration Assistance Program (MEAP). Compiled by Geoscience Data Centre, 1975.

OFR5130 Geology of the North Spirit Lake, District of Kenora (Patricia Portion) (53 C/6E, 7W, 10W, 11E); by J. Wood; 141p., 1 table, 7 figures, 14 photos, and 2 maps.

OFR5134 Clay and Shale Deposits of Ontario; by G.R. Guillet; approx. 265p., 28 tables, 39 figures, 2 maps.

OFR5147 Mineral Exploration Assistance Program (MEAP), Fiscal Year 1974-75, by S.A. Ferguson, F.G. Da Silva and S.C. Sun; 73p., 2 figures, 7 appendices.

OFR5150 Preliminary Township and NTS Index to Ontario Geoscience Reports and Maps, 1975, 1201p. (microfiche only).

MP60 Annual Report of the Regional and Resident Geologists, 1974. Edited by E.G. Pye, Director, Geological Branch, 241p.

MP61 Mineral Deposit Studies, Mineral Potential Evaluation and Regional Planning in Ontario; by James A. Robertson, 42p.

MP63 Summary of Field Work, 1975, by the Geological Branch. Edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, 158p.

OTHER ONTARIO MINISTRY OF NATURAL RESOURCES PUBLICATIONS ISSUED IN 1975

MPBP 1 The Impact of Taxation and Environmental Controls on the Ontario Mining Industry by G. Anders, W.P. Gram and S.C. Maurice; 197p. Published by the Mineral Resources Branch.

1974 Review Ontario Mineral Review 1974, 124p.

RECENT PUBLICATIONS AND REFERENCES

Asbury, B.C.
1975: The South Bay Mine—A Structural Study of a Deformed Volcanogenic Massive Sulphide Deposit; Unpublished M.Sc. Thesis, University of Toronto.

Baker, D.F.
1975: The Geology of the Hill—Sloan—Tivy Quartz Horizon, District of Kenora, Patricia Portion, Ontario; Unpublished B.Sc. Thesis, University of Waterloo, 1975 (Copy of manuscript in Resident Geologist files, Ontario Ministry of Natural Resources, Red Lake).

Centre for Precambrian Studies
1974: 1974 Annual Report of the Centre for Precambrian Studies, part 2—Research; University of Manitoba, Winnipeg, 253p.

Gibb, R.A.
1975: Collision Tectonics in the Canadian Shield?; Earth Planet. Sci. Letters, Vol.27, p.378-382.

Table 1 Exploration Activity in 1975

Red Lake Resident Geologist's District

	INDIVIDUAL OR COMPANY	ACTIVITY
1.	Abino Gold Mines Ltd.	Diamond drilling in Bateman Tp.
2.	All Canadian Mining and Explorations Ltd.	Stripping and trenching in Skinner Tp.
3.	Cochenour Willans Gold Mines Ltd.	Diamond drilling and bulk sampling on Wilmar prospect, Dome Tp.; diamond drilling in Casummit Lake area (Kostynuk Option); diamond drilling in McDonough Tp.
4.	Claremont Mines Ltd.	Diamond drilling in Heyson Tp.
5.	Consolidated Shunsby Mines Ltd.	Stripping, trenching and diamond drilling in Skinner Tp. (W. Hermiston Zn-Ag occurrence)
6.	Dome Exploration (Canada) Ltd.	Ground Mag and EM, geology and diamond drilling in Balmer Tp.
7.	Frank, Raymond	Trenching in Dent Tp.
8.	Hermiston, W.	Stripping and prospecting in Makataiamik Lake area.
9.	Hollinger Mines Ltd.	Diamond drilling in Bowerman Tp.
10.	Hudson Bay Exploration and Development Co. Ltd.	Diamond drilling in the Karas Lake area.
11.	Huston, C.D.	Ground Mag and EM and trenching in Dent and Mitchell Tp.
12.	Kerr Addison Mines Ltd.	Ground Mag, EM, geology and diamond drilling in Bowerman, Mitchell and Earngey Tp. and Dixie Lake area.
13.	Koezur, K.	Prospecting in Superstition Lake area.
14.	Laddie Gold Mines Ltd.	Diamond drilling in Balmer Tp.
15.	McIntyre Mines Ltd.	Trenching and sampling in Birch Lake area; prospecting and geophysics in Honeywell Tp., Corless Tp. and Shabumeni Lake area.
16.	Mid-North Engineering Services Limited	Stripping and trenching in Satterly Lake area.
17.	Mt. Jamie Mines (Quebec) Ltd.	Dewatering shaft and underground sampling in Todd Tp. (New Dimension Resources Ltd. Option)

	INDIVIDUAL OR COMPANY	ACTIVITY
18.	Noranda Explorations Ltd.	Reconnaissance geology in Pakwash-Longlegged Lakes, North Spirit Lake and Favourable Lake area; trenching in Favourable Lake area.
19.	Northmark Gold Mines Ltd.	Ground Mag and EM and diamond drilling in Skinner Tp. (former Dunkin mine)
20.	Peterson, C.W.	Stripping and diamond drilling in Balmer Tp., prospecting in Fairlie Tp.
21.	Phelps Dodge Corp. of Canada Limited	Reconnaissance geology in Dixie Lake area.
22.	Powley, M.	Diamond drilling in Knott Tp. (G. Hemming Au occurrence)
23.	Ronda Copper Mines Ltd.	Geology and IP in Honeywell and McNaughton Tp. and Grace Lake area.
24.	Sabina Industries Ltd.	Diamond drilling on the McFinley Red Lake Gold Mines Ltd. prospect, Bateman Tp.
25.	St. Joseph Explorations Ltd.	Geology and EM on former Hudson-Patricia property, Dent Tp.
26.	Selco Mining Corp. Ltd.	Airborne geophysics, geology in Casummit Lake, Dixie Lake and Pipestone Bay areas; ground geophysics in Troutlake River area; diamond drilling in Mitchell Tp., Ball Tp. and Sydney Lake area.
27.	Serem Ltd.	Ground geophysics, geology and diamond drilling in Muskrat Dam Lake area; prospecting in Stull Lake area.
28.	Sherritt Gordon Mines Ltd.	Ground geophysics and diamond drilling in Francois Lake, Hanson River, Matthews Lake and Winters Lake area.
29.	Silveroc Mines Ltd.	Diamond drilling in Vanderbrink Lake area.
30.	Soltermann, R.H.	Prospecting and trenching in Todd Tp.
31.	Stupack, Wm.	Diamond drilling in Ball Tp.
32.	Union Miniere Exploration and Mining Corporation	Diamond drilling in Ferdinand Lake and Shinbone Lake area.

Table 2 Assessment Work and Other Information Received in 1975

Red Lake Resident Geologist's District

Abbreviations

Asses.	-	Assessment Work	IP	-	Induced Polarization
AEM	-	Airborne Electromagnetic Survey	Mag	-	Magnetometer Survey
BM	-	Base Metals	Pros.	-	Prospectus
DD(2) 217'	-	2 diamond drill holes totalling 217 feet	sTr	-	Stripping
EM	-	Electromagnetic survey	Tr	-	Trenching
GL	-	Geological Survey	VLF	-	Very low frequency electromagnetic survey

CLAIM MAP AREA	NTS	RECORDER HOLDER (OPTIONER)	TYPE OF DATA / YEAR PERFORMED	TYPE OF REPORT	METALS SOUGHT	RED LAKE FILE NO.	TORONTO FILE NO.
Baird Tp.	52K/13	Aiken Russet Red Lake Mines Limited	GL/1974 Summary of Exploration/1975	MEAP	Au	Baird Tp.	MEAP RL-29
Baird, Fairlie, Heyson Tp.	52K/13 52N/4	Parvus Mines Limited	GL/1974	Pros.		Baird Tp.	
Ball Tp.	52M/1	Stupack, William	DD(2) 217'/1975	Asses.		Ball Tp.	
Balmer Tp.	52N/4	Dome Exploration (Canada) Ltd.	Mag, EM/1975	Asses.	Au	Balmer Tp.	2.1793; 2.1821
		Peterson, C.W.	sTr, Tr/1974 DD(8) 2057'/1974 DD(1) 215'/1974	MEAP + Asses.	Au	Balmer Tp.	MEAP RL-30
Balmer, Bateman Tp.		Redcon Gold Mines Ltd.	GL/1974	Pros.	BM, Au	Balmer Tp.	
Bateman Tp.		Abino Gold Mines Ltd.		Pros.	Au, Ag	Bateman Tp.	
		McFinley Mines Ltd. (Sabina Industries Ltd. Option)	GL, Mag/1974	MEAP	Au, Ag	Bateman Tp.	MEAP RL-32
Bowerman Tp.	52N/2	Kerr Addison Mines Ltd.	DD(1) 318'/1975	Asses.	BM	Bowerman Tp.	
Casummit Lake	52N/8	Cochenour Willans Gold Mines Limited (Kostynuk Option)	DD(11) 4072'/1975	Asses.	Au	52N/SE	
Dent Tp.	52N/2	Frank, R.	sTr, Tr/1974-75	Asses.	BM	Dent Tp.	
Dent Tp. (Goodall Tp.)	52N/2	St. Joseph Exploration Ltd.	Mag, VLF/1975	Asses.	BM	Dent Tp.	2.1785
Dent Tp. (Mitchell Tp.)	52N/2	Huston, C.D.	sTr, Tr/1975	Asses.	BM	Dent Tp.	2.1939
Dixie Lake	52K/13	Kerr Addison Mines Ltd.	DD(3) 1004'/1975	Asses.	BM	52K/NW	2.1836
Dome Tp.	52N/4	Cochenour Willans Gold Mines Limited	Mag, VLF/1974	Asses.	Au	Dome Tp.	2.1683
Ferdinand Lake	52O/4	Union Miniere Expl. & Mining Corp. (UMEX)	DD(3) 644'/1975	Asses.	BM	52O/SW	
Francois Lake	53J/4	Sherritt Gordon Mines Ltd.	Mag, EM/1975 DD(1) 260'/1975	Asses.	BM	53J/SW	
Hanson River	53J/5	Sherritt Gordon Mines Ltd.	Mag, EM/1975 DD(2) 781'/1975 DD(3) 1305'/1975	Asses.	BM	53J/SW	
Heyson Tp.	52K/13	Claremont Mines Ltd.	Mag, EM, GL/1974 DD(3) 809'/1975	MEAP + Pros.	Cu, Ni, Au	Heyson Tp.	MEAP RL-36 2.1570 2.1630
Honeywell, McNaughton & Shabumeni Lake	52N/7	Ronda Copper Mines Ltd.	GL/1975 IP/1975	Pros. + Asses.	Au	Honeywell Tp.	2.1771

CLAIM MAP AREA	NTS	RECORDER HOLDER (OPTIONER)	TYPE OF DATA	YEAR PERFORMED	TYPE OF REPORT	METALS SOUGHT	RED LAKE FILE NO.	TORONTO FILE NO.
Karas Lake	52K/11	Hudson Bay Exploration and Development Co. Ltd.	DD(1) 267'/1973 DD(1) 235'/1973		Asses.	Zn, Cu	52K/NW	
Matthews Lake	53J/5	Sherritt Gordon Mines Ltd.	EM/1974 DD(4) 2244'/1974 DD(8) 2557'/1974 DD(5) 1670'/1975		Asses.	BM	53J/SW	
McDonough Tp.	52N/4	Cochenour Willans Gold Mines Ltd.	DD(5) 1412'/1975		Asses.		McDonough Tp.	
Mitchell Tp.	52N/2	Kerr Addison Mines Limited	DD(1) 262'/1975		Asses.	BM	Mitchell Tp.	
		Selco Mining Corp. Ltd.	DD(2) 401'/1975 DD(2) 819'/1975		Asses.	BM	Mitchell Tp.	
Satterly Lake	52N/8	Mid-North Engineering Services Limited	sTr, Tr/1975		Asses.		52N/SE	
Setting Net Lake	53C/13	Dickenson Mines Ltd.	sTr, Tr/1974		Asses.	Fe	53C/NW	
		Noranda Exploration Co. Ltd.	GL/1972 DD(2) 611'/1973 DD(1) 272'/1973					2.1697; 2.1748
Shinbone Lake	53B/5	Union Miniere Exploration and Mining Corp. Ltd. (UMEX)	DD(1) 200'/1974		Asses.	BM	53B/SW	
Skinner Tp.	52N/7	Alcock, G.	Tr/1975		Asses.	Au	Skinner Tp.	
		Bertram, A.	sTr, Tr/1974 sTr, Tr/1975		Asses.	Au	Skinner Tp.	
		Northmark Gold Mines Ltd.	sTr, Tr/1974 Mag, VLF/1974 DD(3) 265'/1974 DD(6) 533'/1975		Asses.	Au, Ag Cu	Skinner Tp.	
Sydney-Rainfall-Telescope Lakes	52L/9	Selco Mining Corp. Limited	AEM, GL, HEM/1974 DD(7) 1034'/1974		MEAP	BM	52L/NE	MEAP RL-35
Sydney Lake	52L/9	Selco Mining Corp. Limited	DD(1) 731'/1975		MEAP	BM	52L/NE	MEAP RL-38
Todd Tp.	52M/1	Cochenour Willans Gold Mines Limited	Mag, HEM/1974		Asses.		Todd Tp.	2.1891
		Soltermann, R.H.	Tr/1975		Asses.		Todd Tp.	
Vanderbrink Lake	53F/14	Silveroc Mines Ltd.	DD(1) 346'/1975		Asses.		53F/NW	
West of Kippen Lake	53F/8	Serem Ltd.	DD(4) 2200'/1974		Asses.	BM	53F/SE	
Winters Lake	53J/4	Sherritt Gordon Mines Ltd.	EM/1975 DD(12) 7549'/1974 DD(6) 3219'/1975		Asses.	BM	53J/SW	

1975 REPORT

of the

SIOUX LOOKOUT RESIDENT GEOLOGIST

by

P.A. Palonen and A.A. Speed

CONTENTS

Page

Introduction 32
Mining Activity 32
Recommendations for Exploration 32
Geological Branch Activities 33
Research by Other Agencies 33
ODM Maps and Reports Issued by the Geological Branch in 1975 34
Other Ontario Ministry of Natural Resources Publications Issued in 1975 35
References 35

TABLES

1—Exploration Activity in 1975 36
2—Assessment Work and Other Information Received in 1975 37

FIGURES

1,2—Sioux Lookout Resident Geologist's District 30,31

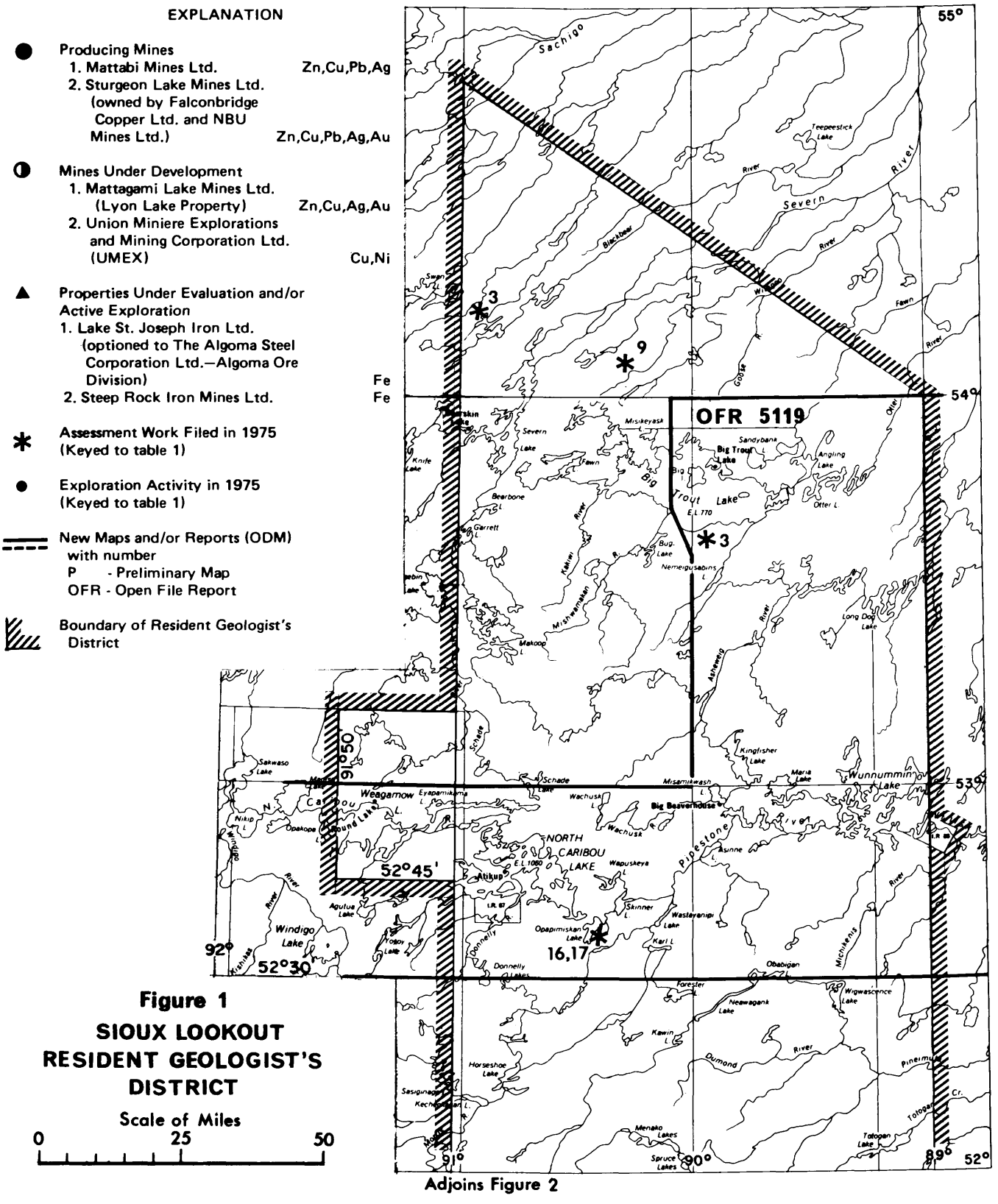


Figure 1

SIOUX LOOKOUT RESIDENT GEOLOGIST'S DISTRICT

Adjoins Figure 1

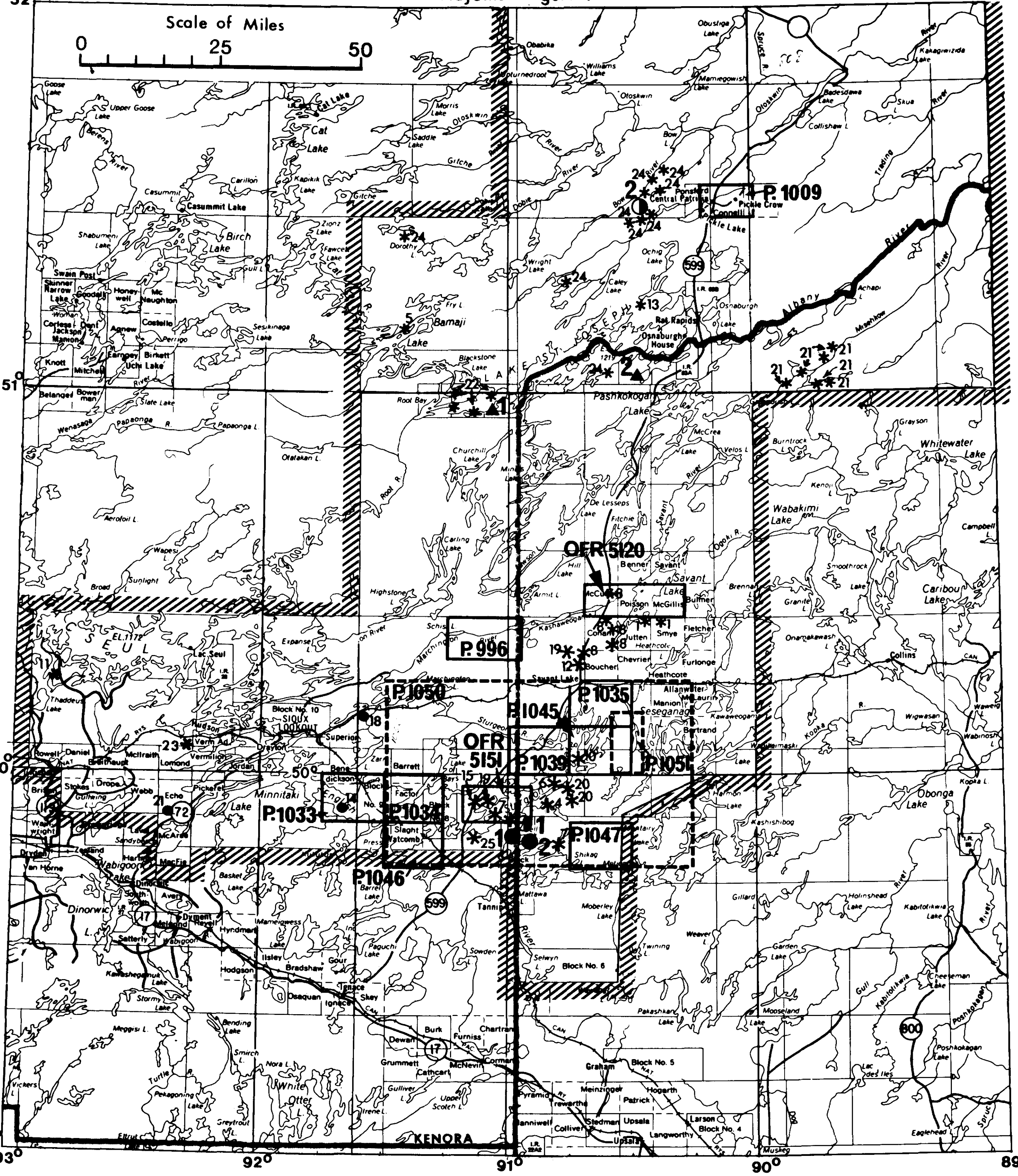


Figure 2

1975 REPORT

of the

SIOUX LOOKOUT RESIDENT GEOLOGIST

by

P.A. Palonen[1] and A.A. Speed[2]

INTRODUCTION

Exploration in the Patricia Mining Division sustained a constant level of activity between 1974 and 1975. Number of claims staked in 1975 (1019) represents little increase from the number (1011) recorded in 1974. In comparison to staking, about twice as many claims (2489) were cancelled in 1975 by the Mining Recorders Office. The high number of cancellations appears to result from declining interest in the area, owing to lack of follow-up discoveries of base metals in either Pickle Lake or Sturgeon Lake areas.

New mining exploration initiatives based on geophysical surveys and geological compilation appear to be concentrating work in the Minnitaki Lake and Savant Lake areas. Interest has been stimulated by publication of detailed Ontario Division of Mines geological maps in the Savant Lake area. Assessment data for most of the Savant Lake area have also been compiled and are available as the Sioux Lookout Data Series preliminary maps (*see* "ODM Maps and Reports Issued by the Geological Branch in 1975").

MINING ACTIVITY

Union Miniere Explorations and Mining Corporation Limited continued preparations for mining the chalcopyrite deposit at the Thierry mine near Pickle Lake. With stations previously established at the 600, 1,200 and 1,600 foot levels (183, 366, and 488 m), about 1200 m (4,000 feet) of lateral drifting parallel to the ore body has been completed on each of the 600 and 1,200 foot levels (183 and 488 m). Milling operations are scheduled to commence in the middle of 1976 at a rate of 4,000 tons per day. A decline ramp, for use in the production stage, has been completed to the 400-foot level (120 m) and is expected to reach the 600-foot level (183 m) by March. Ore from the upper part of the deposit will be produced from an open pit, and the first bench is already established. Waste rock is currently being removed and the ore stockpiled for milling. Current published reserves are 12.5 million metric tonnes at 1.7 percent copper (The Northern Miner, Apr. 3, 1975).

Mattabi Mines Limited is currently operating its open pit at a depth of 120 m (400 feet). Cut-off for the open pit is expected to be at 215 m (700 feet) where the present ore body thins significantly. A decline ramp has been constructed for a length of 1200 m (4,000 feet) at a slope of 20 degrees. By 1979, the proposed production from underground will begin to replace depleted open pit reserves.

The Lyon Lake Division of Mattagami Lake Mines Limited is in the process of sinking a production shaft to approximately the 700-foot level (210 m). Stations have been cut at the 200, 400 and 600-foot levels (61, 122 and 183 m). Ore will be trucked to the Mattabi Mines Limited mill for concentration.

Sturgeon Lake Mines Limited continued production of copper-lead-zinc ore at a rate of 1,500 tons per day, from an open pit on the south shore of Sturgeon Lake. No major additions to the initial ore body of 2,172,000 tons (The Northern Miner, June 19, 1975) have been reported. Work in the open pit has reached a depth of 50 m (160 feet). Zonation is more developed at depth in the vertical ore body with chalcopyrite concentrated in the south zone and sphalerite in the north.

RECOMMENDATIONS FOR EXPLORATION

Detailed mapping in the Farrington–Houghton Lakes areas (Trusler 1975; Bond 1974) has revealed occurrences of copper, lead and zinc mineralization in an easterly trending metavolcanic belt. The Marchington Road extending north from Sioux Lookout to join Hwy 599 approximately 10 km (6 miles) north of the town of Savant Lake is nearing completion. The Marchington Road traverses about 24 km (15 miles) of this metavolcanic belt providing access to a large new area. Considerable exploration remains to be done in this area. The existence of felsic intrusive and extrusive rocks in Conant and Boucher Townships has been confirmed by

[1]Resident Geologist, Ontario Ministry of Natural Resources, 18½ 4th Avenue North, Sioux Lookout, P0V 2T0.

[2]Resident Geologist's Assistant.

recent detailed mapping by W.D. Bond (1973) and N.F. Trowell (1975).

Drilling by Geophysical Engineering Limited near the north end of Handy Lake (*see* Table 2) has revealed several narrow intersections of massive and disseminated sulphides consisting dominantly of chalcopyrite and sphalerite. Data Series maps showing geophysical anomalies and known diamond drill hole locations have been recently published (*see* "ODM Maps and Reports Issued by the Geological Branch in 1975") or are in press. Much drilling is necessary to test geophysical anomalies in this area for sulphide deposits of economic volume.

During field mapping in McAree Township (Palonen and Speed 1975) several bands of coarse felsic pyroclastic rocks were found to strike southwestward through the northeast corner of the township. These felsic rocks are intercalated with mafic metavolcanic flows on the north and metasedimentary greywacke beds on the south. Very little base-metal exploration has previously been reported from this area for three reasons: *i)* the pyroclastics have previously been mapped in detail only in Echo Township at their northern extremity; *ii)* the area is overlain by varved clay and silty glacial outwash providing little rock outcrop; and *iii)* until recently much of the area was blanketed by claims staked in connection with a gold showing presently held by Goldlund Mines Limited. The favourable rock types and lack of previous exploration make these felsic pyroclastic rocks an encouraging area for geophysical exploration.

GEOLOGICAL BRANCH ACTIVITIES

A helicopter supported, reconnaissance geological survey, Operation Kenora–Ear Falls, was conducted under the direction of F.W. Breaks and W.D. Bond (Precambrian Geology Section) in the Lac Seul area. Preliminary maps resulting from this operation are expected in the near future. Two programs were in progress in the Sturgeon Lake area. Detailed geological mapping of Boucher and Chevrier Townships has been completed by N.F.Trowell of the Precambrian Geology Section. A synoptic survey of the Sturgeon Lake metavolcanic belt, initiated by Trowell in 1975, will be continued in 1976. Detailed mapping in the Sandybeach Lake area by the authors is continuing. The mapping of McAree Township has been completed.

RESEARCH BY OTHER AGENCIES

Thirteen students were known to be working on thesis projects in the Sioux Lookout area in conjunction with various university programs. Many of the projects were undertaken by students while working on Geological Branch field parties. The doctoral study of magnetite iron formation in the Savant Lake area by Shegelski was funded by the Superior Geotraverse Project of the University of Toronto. Following is a list of projects undertaken, level of study and university attended. Only the general nature and area of the study are given.

Doctoral Theses

Page, R.
Stratigraphy and structure of volcanic rocks around a proposed vent area at Minnitaki Lake; McMaster University.

Shegelski, R.
Geochemistry of the magnetite iron formation at Savant Lake; University of Toronto.

Masters Theses

Beggs, D.
Petrology and geochemistry of the metavolcanics north of Sturgeon Lake; University of Toronto.

Bulmer, W.
Study of the mixed clastic and volcanic sedimentary unit, Boucher Township; University of Western Ontario.

Cooke, B.
Study of the volcanic clastic sequence, Harold Lake, Boucher Township; Queen's University.

Funk, G.
Study of the Savant Lake conglomerate; Trent University.

Mathews, S.
Nature of the Contact of the English River gneiss belt and the Kenora volcanic belt; Queen's University.

Stone, D.
Study of a cataclastic zone in the English River gneiss belt in the Packwash–Sydney Lakes area; University of Toronto.

Urqhart, T.
High resolution magnetometer survey, Lac Seul; University of Toronto.

Bachelors Theses

Gagnon, J.
Structure of volcanic rocks at Harris Lake, Boucher Township; University of Ottawa.

Gordanier, W.
Geochemistry of a carbonate breccia unit in Northwestern Ontario; University of Ottawa.

Makepeace, D.
Study of a small granitic pluton, Aerofoil Lake; Queen's University.

Panagapko, D.
Study of an ultramafic intrusion at Conifer–Sumach Lakes; Carleton University.

ODM MAPS AND REPORTS ISSUED BY THE GEOLOGICAL BRANCH IN 1975

P.969 Uranium and Thorium Deposits of Ontario, Northwestern Sheet, District of Kenora (Patricia Portion). Compilation by James A. Robertson 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.970 Uranium and Thorium Deposits of Ontario, West Central Sheet, Districts of Kenora (Patricia Portion), Thunder Bay, Algoma and Cochrane. Compilation by James A. Robertson 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.996 Farrington Lake Area, Districts of Kenora and Thunder Bay (52 J/6E, 7W). Geology by J.R. Trusler and assistants, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1009 Crow River Area, District of Kenora (Patricia Portion) (52 O/8E, 9E; 52 P/5W, 12W). Geology and compilation by E.G. Pye and assistant, 1951. Scale 1 inch to 1,000 feet or 1:12,000.

P.1033 Smock Lake Area, District of Kenora (52 G/13E); Sioux Lookout Data Series. Compilation by P.A. Palonen and A.A. Speed, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1034 Wyatt Lake Area, District of Kenora (52 G/14W); Sioux Lookout Data Series. Compiled by P.A. Palonen, and A.A. Speed, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1035 Beckington Lake Area, District of Kenora (52 J/2E); Sioux Lookout Data Series. Compilation by P.A. Palonen and A.A. Speed, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1039 Fourbay Lake Area, District of Thunder Bay (52 J/2E); Sioux Lookout Data Series. Compilation by P.A. Palonen and A.A. Speed, 1975. Scale 1 inch to ¼ mile or 1:15,840.

P.1040 Iron Deposits of Ontario, Northwestern Sheet, District of Kenora (Patricia Portion). Compilation by H.D. Meyn and James A. Robertson, 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1041 Iron Deposits of Ontario, West Central Sheet, Districts of Kenora (Patricia Portion), Thunder Bay, Algoma and Cochrane. Compilation by H.D. Meyn and James A. Robertson 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1045 Squaw Lake Area, District of Thunder Bay (52 J/2E); Sioux Lookout Data Series. Compilation by P.A. Palonen and A.A. Speed 1975. Scale 1 inch to ¼ mile or 1:15,840.

P.1046 Press Lake Area, District of Kenora (52 G/14W); Sioux Lookout Data Series. Compilation by P.A. Palonen and A.A. Speed 1975. Scale 1 inch to ¼ mile or 1:15,840.

P.1047 Dunne Lake Area, District of Thunder Bay (52 G/15E); Sioux Lookout Data Series. Compilation by P.A. Palonen and A.A. Speed, 1975. Scale 1 inch to ¼ mile or 1:15,840.

P.1050 Bouguer Gravity Map of the Sturgeon Lake Area, Districts of Kenora and Thunder Bay (52 G/14, 15, 16W; 52 J/1W, 2, 3). Survey and compilation by R.B. Barlow, D.R. Wadge and T.H. Dusanowskyj 1974. Scale 1 inch to 1 mile or 1:63,360.

P.1051 Ground Vertical Field Magnetics of the Sturgeon Lake Area, Squaw–Vista–Vanessa Lakes Sheet, District of Thunder Bay (52 J/1W, 2E). Survey and compilation by R.B. Barlow and assistants, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1060 Nickel Deposits of Ontario, Northwestern Sheet, District of Kenora (Patricia Portion); Mineral Deposits Series. Compilation by M. Jost 1974, 1975. Scale 1 inch to 16 miles or 1:1,013,760.

P.1061 Nickel Deposits of Ontario, West Central Sheet, Districts of Kenora (Patricia Portion), Thunder Bay, Algoma and Cochrane; Mineral Deposits Series. Compilation by M. Jost. Scale 1 inch to 16 miles or 1:1,013,760.

OFR5119 Operation Winisk Lake, District of Kenora (Patricia Portion) (43D, 43E, 53A, 53B, 53H) by P.C. Thurston, R.P. Sage and G.M. Siragusa; 333p., 11 figures, 18 tables, 53 photos, 6 maps.

OFR5120 Geology of McCubbin, Poisson and McGillis Townships (Savant Lake Area), District of Thunder Bay (52 J/7, 8). Geology by W.D. Bond, 1971; 168p., 3 figures, 5 tables, 19 photos, 3 maps.

OFR5126 Index to Exploration Reports Filed in 1974 (1) Assessment Work Reports (2) Reports

Received Under Ontario's Mineral Exploration Assistance Program (MEAP). Compiled by Geoscience Data Centre, 1975.

OFR5134 Clay and Shale Deposits of Ontario; by G.R. Guillet; approx. 265p., 28 tables, 39 figures, 2 maps.

OFR5147 Mineral Exploration Assistance Program (MEAP), Fiscal Year 1974-75, by S.A. Ferguson, F.G. Da Silva and S.C. Sun; 73p., 2 figures, 7 appendices.

OFR5150 Preliminary Township and NTS Index to Ontario Geoscience Reports and Maps, 1975, 1201p. (microfiche only).

OFR5151 Magnetic Interpretation of the Southern Part of the Sturgeon Lake Area, Districts of Kenora and Thunder Bay (52 G/14, 15E) by R.B. Barlow; 66p., 23 figures, 2 tables, 2 maps.

MP60 Annual Report of the Regional and Resident Geologists, 1974. Edited by E.G. Pye, Director, Geological Branch, 241p.

MP61 Mineral Deposit Studies, Mineral Potential Evaluation and Regional Planning in Ontario; by James A. Robertson, 42p.

MP63 Summary of Field Work, 1975, by the Geological Branch. Edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, 158p.

OTHER ONTARIO MINISTRY OF NATURAL RESOURCES PUBLICATIONS ISSUED IN 1975

MPBP 1 The Impact of Taxation and Environmental Controls on the Ontario Mining Industry by G. Anders, W.P. Gram and S.C. Maurice; 197p. Published by the Mineral Resources Branch.

1974 Review Ontario Mineral Review 1974, 124p.

REFERENCES

Bond, W.D.
1973: Conant Township, District of Thunder Bay; Ontario Div. Mines, Prelim. Map P.803, Geol. Ser., scale 1 inch to ¼ mile. Geology 1972.

1974: Houghton–Hough Lakes Area, District of Thunder Bay; Ontario Div. Mines, Prelim. Map P.933, Geol. Ser., scale 1 inch to ¼ mile. Geology 1973.

Palonen, P.A. and Speed, A.A.
1975: Sandybeach Lake Area, District of Kenora, Patricia Portion; p.98-99 *in* Summary of Field Work, 1975, by the Geological Branch, ed. V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, Ontario Div. Mines, MP63, 158p.

Trowell, N.F.
1975: Sturgeon Lake–Chevrier Township Area, District of Thunder Bay; p.34-38 *in* Summary of Field Work, 1975, by the Geological Branch, ed. V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, Ontario Div. Mines, MP63, 158p.

Trusler, J.R.
1975: Farrington Lake Area, District of Kenora; Ontario Div. Mines, Prelim. Map P.996, Geol. Ser., scale 1 inch to ¼ mile or 1:15,840. Geology 1974.

Table 1 Exploration Activity in 1975

The following is a list of individuals and mining companies engaged in exploration in the Sioux Lookout Resident Geologist's district in 1975, and the type of work done in each case. The numbers correspond to the numbered areas on Figures 1 and 2.

	Individual or Company	Type of Work
1.	Amalgamated Rare Earth Mines Ltd.	Diamond drilling in Jutten and Smye Townships.
2.	Amax Explorations, Inc.	Diamond drilling in the Six Mile Lake area.
3.	Canadian Nickel Company Ltd.	Diamond drilling in the Beardy Creek, Nemeigusabins Lake areas.
4.	Darex Limited	Ground induced polarization survey in the Six Mile Lake area.
5.	Dome Exploration (Canada) Ltd.	Ground electromagnetic and magnetometer survey in the Fry Lake area.
6.	Ducharme, J.P., Lingman, C. and Lytle, J.K.	Ground electromagnetic and magnetometer survey in the Six Mile Lake area.
7.	Falconbridge Nickel Mines Ltd.	Diamond drilling in the Bell Lake area. Ground magnetometer survey in the Penassi Lake area.
8.	Geophysical Engineering Ltd.	Diamond drilling in the Evans Lake and Grebe Lake areas.
9.	Great Plains Development Company of Canada Ltd.	Diamond drilling in the Derniere Lake and North of Masikesk Lake areas.
10.	Green, L.W.	Rock trenching and stripping in the Squaw Lake area.
11.	Guilbeault, R.	Rock trenching ans stripping in the Glider Lake area.
12.	Hadley, E.W.	Stripping in the Evans Lake area.
13.	Little Long Lac Gold Mines Ltd.	Diamond drilling in the Matapesatakun Bay area.
14.	Mattagami Lake Mines Ltd.	Rock geochemistry in the Smock Lake area.
15.	Murgor Explorations Ltd.	Diamond drilling in the Penassi lake area.
16.	Musselwhite, A.L.	Diamond drilling in the Zeemel Lake area.
17.	Musselwhite, W.H.	Diamond drilling in the Zeemel Lake area.
18.	New Insco Mines Ltd.	Diamond drilling in the Sharron Lake area.
19.	Noranda Exploration Company Ltd.	Ground electromagnetic and magnetometer survey in the Evans Lake and Penassi Lake areas.
20.	Rio Tinto Canadian Exploration Ltd. (Riocanex)	Diamond drilling and ground electromagnetic and magnetomer survey in the Six Mile Lake area.
21.	Selco Mining Corporation Ltd.	Ground magnetometer survey in the Lowry and August Lake areas.
22.	The Algoma Steel Corporation Ltd.-Algoma Ore Division	Diamond drilling in the Carling Island and Trist Lake areas.
23.	Thompson, W.M.	Rock trenching and stripping in the Whipper Lake area.
24.	Union Minere Explorations and Mining Corporation Ltd.	Diamond drilling in the Drum Lake, Kapkichi Lake, Wright Lake and Meen Lake areas.
25.	Wilkinson, Donald	Rock trenching in the Valora Lake area.

Table 2 Assessment Work and Other Information Received in 1975

PATRICIA MINING DIVISION

SYMBOLS AND ABBREVIATIONS

Au - gold
Zn - zinc
Ag - silver
Cu - copper
Pb - lead
Fe - iron
py - pyrite
po - pyrrhotite
cp - chalcopyrite
sp - sphalerite
mag - magnetite
hem - hematite
gal - galena
gf - graphite or graphitic tuff/argillite
tr - trace amounts
sTr - soil trenching or stripping
rTr - rock trenching

DD 2-1000 - Diamond drilling 2 holes 1000 feet total
Asses. - Assessment
AEM - Airborne electromagnetic survey
AM - Airborne magnetic survey
GC - Ground geochemical survey
Geol - Geological survey
IP - Induced Polarization
Mag - Ground magnetometer survey
EM - Ground electromagnetic survey
VEM - Vertical loop survey
HEM - Horizontal loop survey
VLF - Very Low Frequency survey
VHEM - Combined vertical-horizontal loop survey
MEAP - Mineral Exploration Assistance Program
SMF - Statement of Material Facts
OSC - Ontario Securities Commission
GC - Ground geochemical survey

Township or Claim Map Area	N. T. S.	File Name	Commodity Found	Type of Report	Type of Work Performed	Date of Work	Toronto File No.
Beardy Creek	53 H/12 NW	Canadian Nickel Co.Ltd.	mag, hem	Asses.	DD 1-1500	1975	
Bell Lake	52 G/15 SW	Falconbridge Nickel Mines Ltd.	py, po, cp, sp	Asses.	DD 1-503	1975	
Carling Island	52 O/2 SE	The Algoma Steel Corp. Ltd.	Fe	Asses.	DD 1-150	1974	
Drum Lake	52 O/3 NE	UMEX	py, po, mag	Asses.	DD 2-430	1974	
Evans Lake	52 J/7 SE	Geophysical Engineering Ltd.	py, po,gal,Ag, cp, Cu, Pb,Au	Asses.	DD 5-2098	1975	
	52 J/7 SE	Hadley, E. W.		Asses.	sTr	1975	
	52 J/7 SE	Noranda Explor. Co. Ltd.		Asses.	VLF & Mag	1974	2.1805
Fry Lake	52 O/3 NW	Dome Explor. (Canada) Ltd.		Asses.	VLF & Mag	1974	2.1705
Grebe Lake	52 J/7 NE	Geophysical Engineering Ltd.	py, po, cp	Asses.	DD 3-975	1975	
Glider Lake	52 K/7 SW	Guilbeault, R.		Asses.	rTr, sTr	1975	
Jutten & Smye Townships	52 J/8 NW	Amalgamated Rare Earth Mines Ltd.	po, py, gal, cp(tr)	Asses.	DD 6-852.5	1975	
Kapkichi Lake	52 O/8 NW	UMEX	py, po, cp	Asses.	DD 9-3780.5	1975	
Lowry & August Lakes	52 P/4 SW 52 P/4 SE	Selco Mining Corp. Ltd.		Asses.	Mag	1975	2.1738 & 2.1797
Matapesatakun Creek	52 O/2 NE	Little Long Lac Gold Mines Ltd.	py, po	Asses.	DD 1-147	1975	
Meen Lake	52 O/6 NW	UMEX	py, po	Asses.	DD 1-193	1974	
Nemeigusabins Lake	53 H/12 SW	Canadian Nickel Co. Ltd.	po, py	Asses.	DD 4-2720	1973-74	
North of Masikesk Lake & Derniere Lake	53 J/1 SW 53 J/2 NW	Great Plains Dev. Co. Ltd.	po, py,cp	Asses.	DD 4-2000	1975	

Township or Claim Map Area	N. T. S.	File Name	Commodity Found	Type of Report	Type of Work Performed	Date of Work	Toronto File No.
Penassi Lake	52 G/14 NE	Falconbridge Nickel Mines Ltd.		Asses.	Mag	1975	2.1802
	52 G/14 NE	Murgor Explor. Ltd.	py, gf	Asses.	DD 2-280	1975	
	52 G/14 NE	Noranda Expl. Co. Ltd.		Asses.	VLF & Mag	1975	
Six Mile Lake	52 G/15 NW	Amax Explor.Inc.	py. po,cp(tr)	Asses.	DD 7-2553	1974-75	
	52 G/15 NW	Darex Ltd.		Asses.	IP & Mag	1975	2.1794
	52 G/15 NW	Ducharme, J.P, Lytle, J. K. & Lingman, C.		Asses.	VLF & Mag	1974	2.1586
	52 G/15 NW	Norlex Mines Ltd.		OSC	SMF	1975	
	52 G/15 NW	Rio Tinto (Canadian) Explor. Ltd.		Asses.	VLF & Mag	1974	2.1574
	52 G/15 NW	Rio Tinto (Canadian) Explor. Ltd.	py. po,cp	Asses.	DD 2-994	1975	
Squaw Lake	52 J/2 SE	Green, L. W.		Asses.	rTr, sTr	1974	
Trist Lake	52 J/14NE	The Algoma Steel Corporation Ltd.	Fe, mag, hem	Asses.	DD 8-4570.5	1975	
Valora Lake	52 G/14SE	Wilkinson, Donald		Asses.	rTr	1975	
Whipper Lake	52 K/1 SW	Thompson, W. M.		Asses.	sTr, rTr	1974	
Wright Lake	52 O/7 SW	UMEX	py,po, cp(tr) sp(tr)	Asses.	DD 1-400	1975	
Zeemel Lake	53 B/9 SW	Musselwhite, A. L.	py,po,cp,Fe, mag	Asses.	DD 4-1050	1974	
	53 B/9 SW	Musselwhite, A. L.	py,po, mag, cp(tr)	Asses.	DD 9-1587.2	1975	
	53 B/9 SW	Musselwhite, W. H.	py,po, mag, gal(tr),cp(tr)	Asses.	DD 3-630.2	1975	

1975 REPORT

of the

NORTH CENTRAL REGIONAL GEOLOGIST

by

K.G. Fenwick and J.F. Scott

CONTENTS

Page

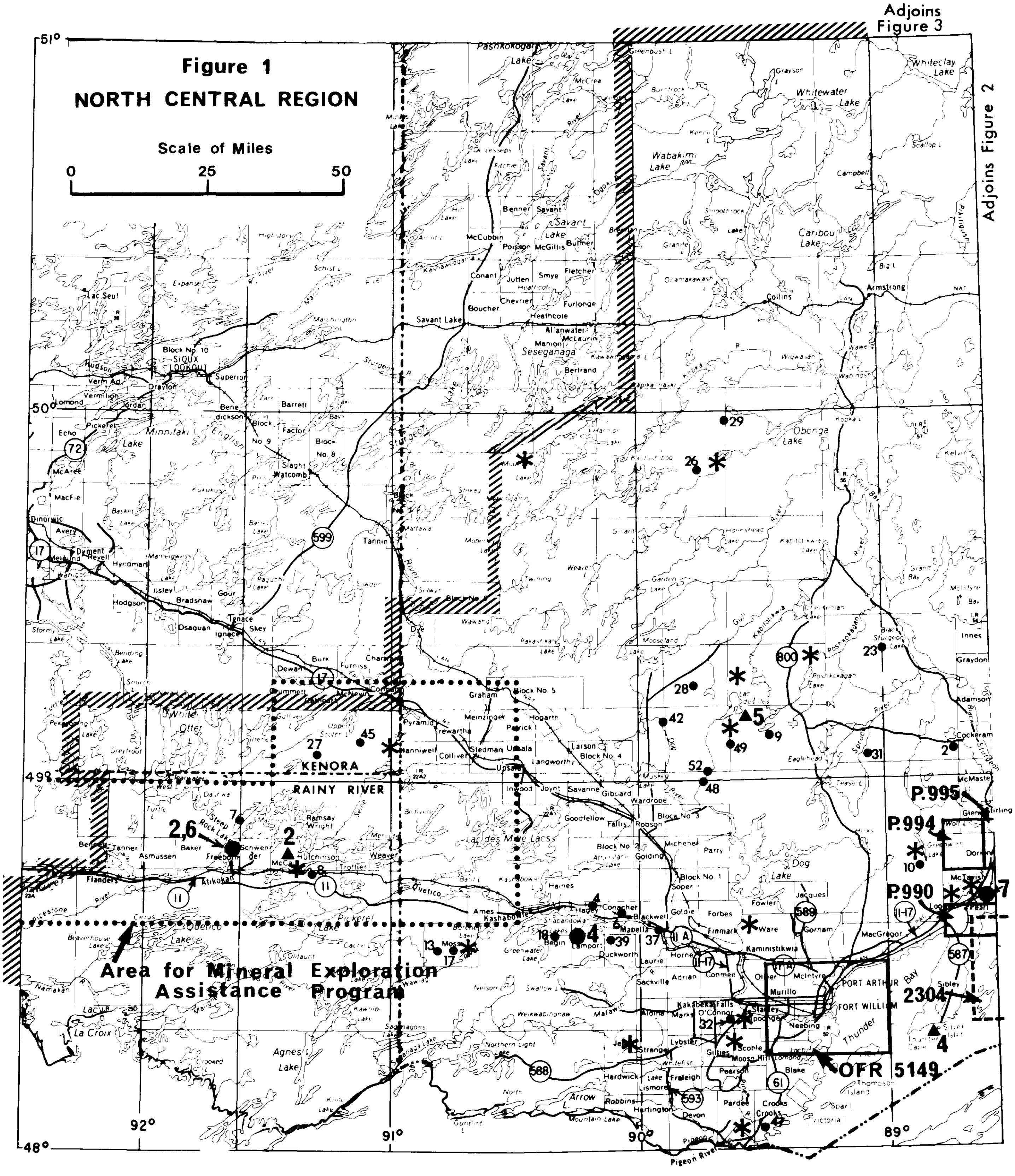
Introduction 43
Regional Geologist's Activities 43
Mining and Exploration Activity 43
Recommendations for Exploration 45
  Barite 45
  Uranium 45
  Amethyst 45
  Base Metals 46
Mineral Exploration Assistance Program 46
Geological Branch Activities 46
Research and Mapping by Other Agencies 46
Publications Recently Filed with Regional Geologist 46
Unpublished Theses Received in 1975 48
ODM Maps and Reports Issued by the Geological Branch in 1975 48
Other Ontario Ministry of Natural Resources Publications Issued in 1975 49
References 49

TABLES

1—Summary of Mining Operations, 1975 44
2—Exploration Activity in 1975 51
3—Assessment Work and Other Information Received in 1975 53

FIGURES

1,2,3—North Central Region 40,41,42



New Maps and(or) Reports with numbers (ODM)

2310 - Coloured Geological Map

OFR - Open File Report

P - Preliminary Report

GR - Geological Report

Boundary of North Central Region

* Assessment Work Filed in 1975 (Keyed to Table 3)

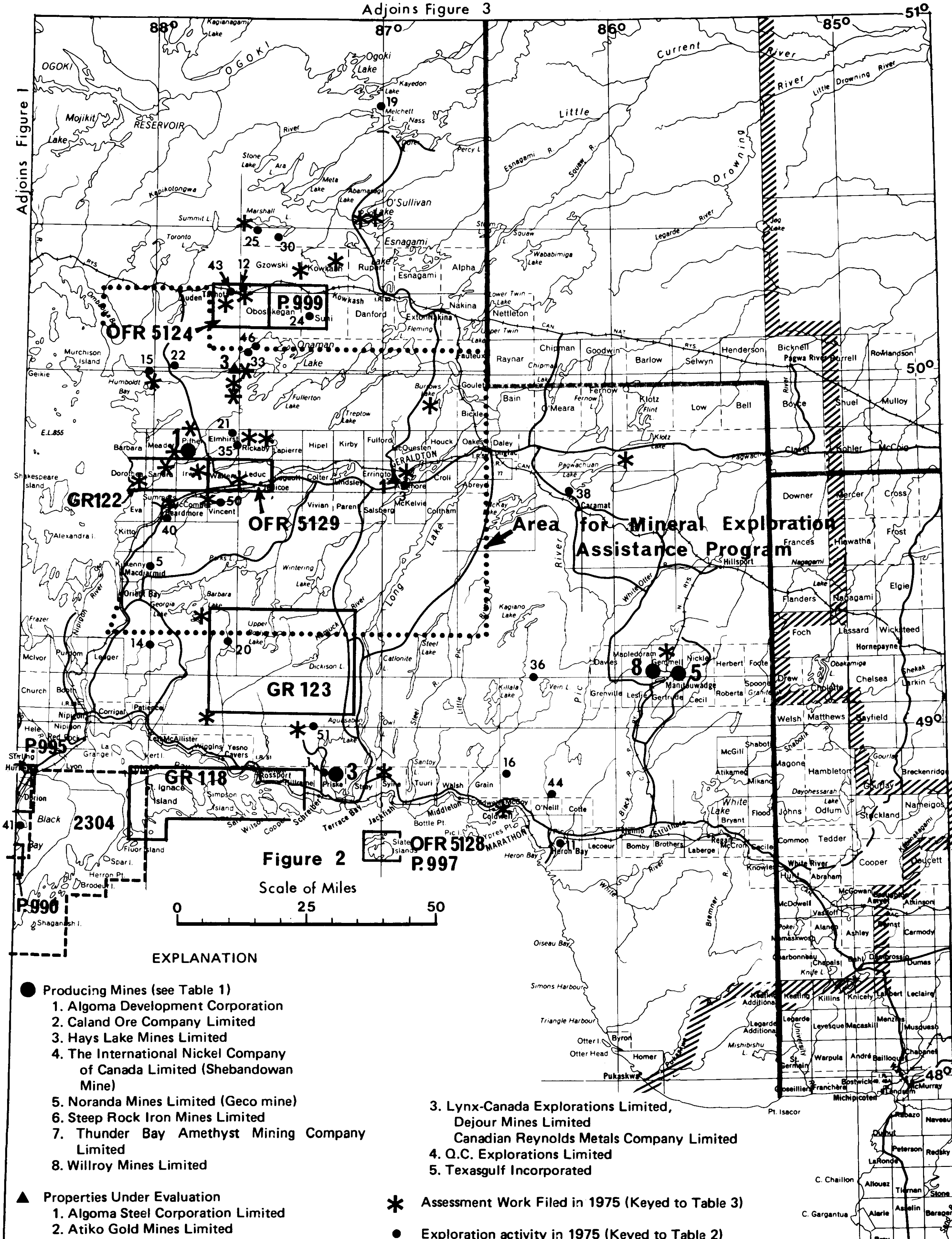


Figure 2

EXPLANATION

● Producing Mines (see Table 1)
1. Algoma Development Corporation
2. Caland Ore Company Limited
3. Hays Lake Mines Limited
4. The International Nickel Company of Canada Limited (Shebandowan Mine)
5. Noranda Mines Limited (Geco mine)
6. Steep Rock Iron Mines Limited
7. Thunder Bay Amethyst Mining Company Limited
8. Willroy Mines Limited

▲ Properties Under Evaluation
1. Algoma Steel Corporation Limited
2. Atiko Gold Mines Limited
3. Lynx-Canada Explorations Limited, Dejour Mines Limited, Canadian Reynolds Metals Company Limited
4. Q.C. Explorations Limited
5. Texasgulf Incorporated

* Assessment Work Filed in 1975 (Keyed to Table 3)

• Exploration activity in 1975 (Keyed to Table 2)

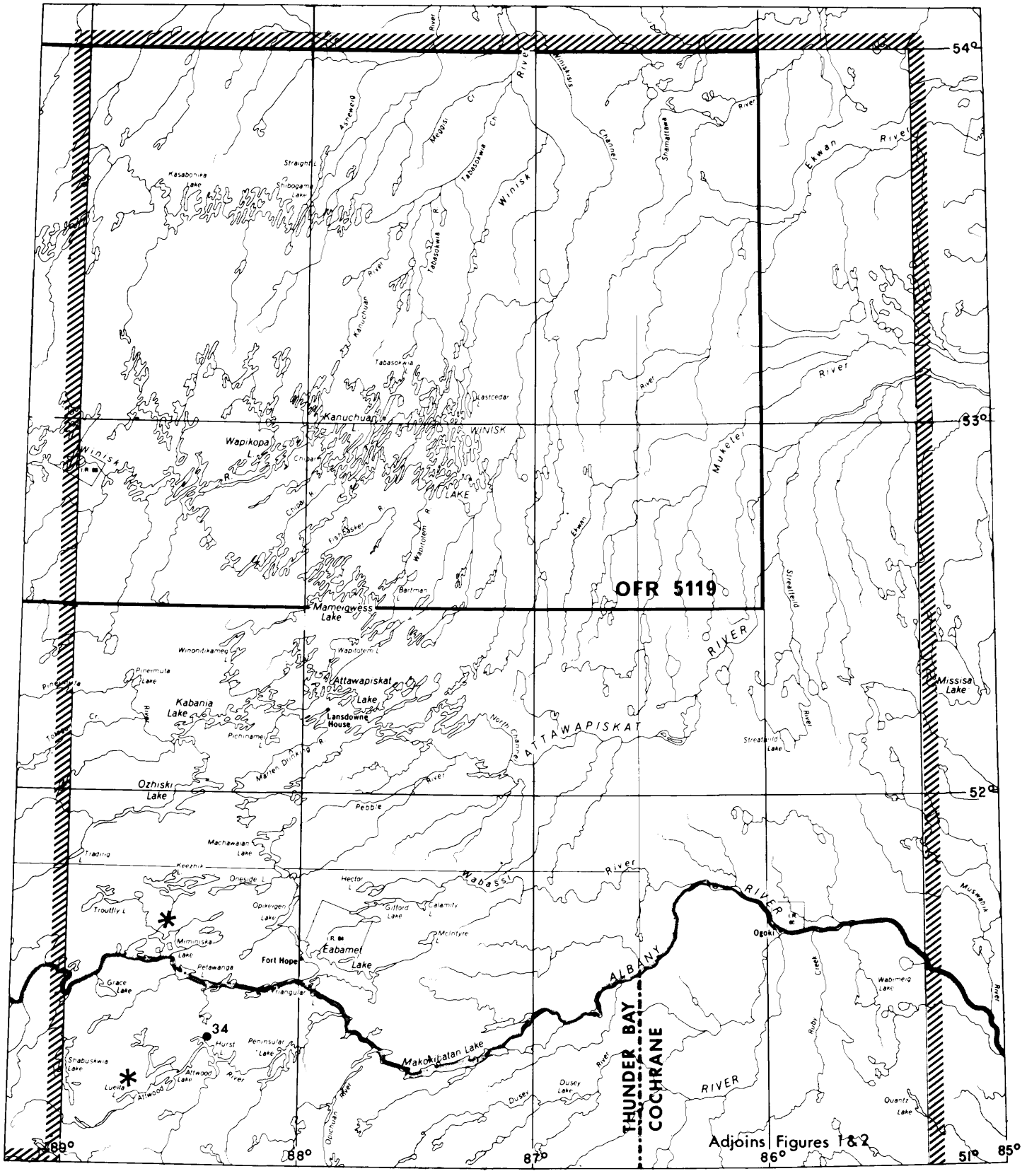


Figure 3

NORTH CENTRAL REGION

Scale of Miles

0 25 50

EXPLANATION

- New Maps and(or) Reports with numbers (ODM)
  - 2310 - Coloured Geological Map
  - OFR - Open File Report
  - P - Preliminary Report
  - GR - Geological Report
- Boundary of North Central Region
- * Assessment Work Filed in 1975 (Keyed to Table 3)
- ● Exploration activity in 1975 (Keyed to Table 2)

1975 REPORT

of the

NORTH CENTRAL REGIONAL GEOLOGIST

by

K.G. Fenwick[1] and J.F. Scott[2]

INTRODUCTION

The Regional Geologist's office is staffed by K.G. Fenwick, Regional Geologist, J.F. Scott, Geological Assistant, J.K. Mason, Geological Assistant, and I. Balcombe, Secretary. W.H. McIlwaine, field geologist with the Precambrian Geology Section of the Geological Branch resigned in August.

In 1975, the number of claims staked in the Thunder Bay Mining Division remained approximately the same as 1974. At that time an increase in claim staking had been witnessed for the first time in four years. Staking activity in 1975 was maintained at this level by renewed interest in the platinum-palladium bearing gabbroic rocks in the Lac des Iles area and the discovery of a new copper-gold-silver occurrence near Onaman Lake (R. Poutanen, Mining Recorder, Thunder Bay, personal communication).

Assessment work (Figures 1, 2, 3 and Table 3) and exploration activity (Figures 1, 2, 3 and Table 2) were widespread throughout the region with the Geraldton–Beardmore area receiving the most attention. Activity in this area was definitely encouraged by the Provincial Government's Mineral Exploration Assistance Program.

In the North Central Region, eight mines continued producing during 1975 (*see* Table 1). Of these, two were small gold recovery properties in operation only during the summer months (*see* Mining and Exploration Activity).

REGIONAL GEOLOGIST'S ACTIVITIES

Consultation on various aspects of the geology, mineral potential and exploration activities in the North Central Region, was carried out with prospectors, mining company personnel, university staff, Geological Survey of Canada's staff and Ministry personnel. Visits were made to two field parties of the Geological Branch during the field season. Familiarization tours of the operations of the Shebandowan Mine, Algoma Development Corporation mine and the Thunder Bay Amethyst mine were undertaken. A brief examination was made of four properties under development and twelve inactive properties.

The office staff is becoming increasingly involved in strategic land-use planning, by providing reports on the geology and geomorphology of Provincial Parks, and commenting on park master plans, proposed land reserves and park reserves, environment assessment plans and lake development plans.

During the summer of 1975, two students employed under the "Students Working on Resource Development" program of "Experience 75" completed a survey of the old silver mines on the mainland in the Thunder Bay area, and assembled a report which provides an accurate road log to the mine sites and information on their history, geology and production. An unedited preliminary copy of this report can be viewed in the Regional Geologist's office.

MINING AND EXPLORATION ACTIVITY

Eight mines operated in 1975. Operations are summarized in Table 1.

In May of 1975, Dominion Foundries and Steel Limited (DOFASCO) agreed to purchase from Anaconda Iron Ore (Ontario) Limited, an iron property in the Skibi Lake area, located 48 km (30 miles) north of Nakina. This property consists of two distinct zones of iron formation, the Briarcliffe–Melchett Lake zone with widths up to 150 m (500 feet) and the Two Mile Lake zone which extends along strike for up to 0.8 km (½ mile) and may attain widths up to 78 m (260 feet).

It has been estimated that there are 335,000,000 tons of iron ore (90 million gross tons of iron ore pellets) suitable for open pit mining. DOFASCO President Frank H. Sherman stated "the acquistion is part of a policy to assure DOFASCO of adequate future supplies of iron ore from company-owned sources". No decision has been made as to when the property may be brought

[1]Regional Geologist, Ontario Ministry of Natural Resources, Ontario Government Building, 435 James St. S., Box 5,000, Thunder Bay, P7C 5G6.

[2]Regional Geologist's Assistant.

TABLE 1 SUMMARY OF MINING OPERATIONS, 1975

NAME	LOCATION	PRODUCT
Algoma Development Corp.	Pifher Tp.	Au,Cu
Caland Ore Co. Ltd.	Atikokan	Fe
Hays Lake Mine Ltd.	Terrace Bay area	Au
The Intl. Nickel Co. of Canada Ltd. (Shebandowan Mine)	Shebandowan Lake	Cu,Ni,Pt
Noranda Mines Ltd. (Geco mine)	Manitouwadge	Cu,Zn,Ag,Pb
Steep Rock Iron Mines Ltd.	Atikokan	Fe
Thunder Bay Amethyst M'g. Co. Ltd.	McTavish Tp.	Amethyst, amethystine building stone
Willroy Mines Ltd.	Manitouwadge	Cu,Zn,Pb,Ag

into production (The Northern Miner, May 22, 1975, p.24).

In March of 1975, Steep Rock Iron Mines Limited indicated that it intended to embark on a heavy stripping program to extend the life of its Atikokan operation to 1983 (The Northern Miner, Mar. 27, 1975, p.3). Recently it was reported that Steep Rock Iron Mines Limited has done little more than break even in the nine-month period to September 30, 1975. President F.R. Jones stated that the company is having to reassess the future of its Atikokan operation following the extremely expensive strike settlement. A decision affecting operations beyond 1979 must be made in the very near future (The Northern Miner, Nov. 27, 1975, p.26).

The Caland Ore Company Limited in Atikokan disclosed that it now intends to extend its open pit mining operation to the end of 1979. At that time, it is expected that there will be sufficient fine ore in stockpile to continue the pelletizing phase of the operations until 1981 (The Hard Hat, Jan. 1975, p.1).

Bonnacord Explorations Limited has optioned 39 claims from Band-Ore Gold Mines Limited in Conacher Township, north of Lower Shebandowan Lake. Prior to 1952, 11 340 m (37,204 feet) of diamond drilling indicated 687,499 tons which averaged 0.265 ounces gold per ton to a 150 m (500-foot) depth. Bonnacord Explorations Limited planned a feasibility study of the property in 1975.

Rickaby Mines Limited has a 50 claim copper-silver-gold property in Rickaby Township. Exploration, this year, was limited to diamond drilling and some stripping and trenching. Six diamond-drill holes, for a total length of 790 m (2,600 feet) were drilled on the property since July of 1975. A new zone, parallel to the present one, was intersected by the drilling. One 3 m (10 feet) section assayed 2.11 percent copper (W. Miron, President, Rickaby Mines Limited, personal communication). Rickaby Mines Limited's main interest this past summer was a new gold-silver showing located in the northeast corner of Elmhirst Township. Heavily mineralized quartz-bearing shear zones and fracture zones occur in a feldspar porphyry (*see* ODM Map P.801, Mackasey and Wallace 1973) and contain good values of gold and silver. A channel sample across 1.8 m (6 feet) averaged 0.19 ounces gold per ton and 2.3 ounces silver per ton (W. Miron, personal communication, 1975). This showing was briefly visited by the authors this summer and a grab sample assayed 0.70 ounces gold per ton and 6.68 ounces silver per ton (assay by Mineral Research Branch, Ontario Division Mines). Sphalerite and covellite were also identified by the Mineral Research Branch. Work to date on this new showing consists of stripping and trenching to expose the bedrock and zones of mineralization. A RADEM survey is planned for the property. It is hoped that this survey will delineate mineralized fracture and shear zones.

Thunder Bay Amethyst Mining Company Limited started operations this year in mid-April. The owners estimated that approximately 20,000 people visited the mine during the summer of 1975 (R. Hartviksen, personal communication). A dramatic increase in the demand for amethyst occurred after the Government of Ontario announced on May 15, 1975, that amethyst was to be the Provincial Gemstone. Approximately 6,000 tons of amethystine material with an estimated value of $125,000 were extracted from the mine (R. Hartviksen, personal communication, 1975). In 1974, only 1,000 tons of material were mined.

Algoma Development Corporation, a privately owned company, produced gold and a copper concentrate from a small operation in Pifher Township. The property is worked on a seasonal basis during the summer months. Although all production still comes from the main open cut, exploratory work this summer outlined two or three new "ore shoots" (S. Cowan, personal communications, 1975). Ore reserves are not known but enough ore exists to continue operations for several years. Eighty tons of hand-picked ore was milled during the summer or 1975. Estimated grade of this ore was 2.5 ounces gold per ton. The copper concentrate (27 percent copper) was shipped to Noranda for processing. The property has not been diamond drilled. The inclined shaft on the property is not in use. There is no new equipment on the property, but the purchase of a cyclone classifier is contemplated (S. Cowan, personal communication).

In December of 1973, the Algoma Steel Corporation Limited exercised its option to lease 39 claims and licenses of occupation belonging to Little Long Lac Mines Limited in the Geraldton area. Considerable work has since outlined a magnetite-hematite deposit 2700 m (9,000 feet) long and 180 to 360 m (600 to 1,200 feet) wide with a soluble iron content of approximately 24 percent. This represents about 325,000,000 tons of open pit ore to a depth of 300 m (1,000 feet) (The Northern Miner, Jan. 3, 1974, p.1). Additional drilling was carried

out during the winter of 1975, and 1,000 tons of ore was taken out for test purposes (The Northern Miner, Apr. 17, 1975, p.2).

Q.C. Explorations Limited has acquired an option to purchase the Silver Islet mine from the heirs of the Cross estate in Thunder Bay, Ontario. The mine, located on a small island in Lake Superior 1.2 km (¾ mile) offshore from Sibley Peninsula, was operated between 1872 and 1882. During that time a production of 2.6 million ounces of silver was reported (The Northern Miner, Mar. 30, 1975, p.25). A geochemical survey (lake bottom sampling) and bulk sampling program was completed during the spring and summer of 1975. E.P. McDonough, the consulting engineer, recommended salvaging approximately 90,000 tons of material discarded in mining the two Bonanza veins during previous operations and containing from 6.0 million to 9.5 million ounces silver (The Northern Miner, Nov. 20, 1975, p.1).

Since October 1974, the copper-nickel property of Great Lakes Nickel Limited in Pardee Township has been maintained on a standby basis.

On May 8th, 1975, Boston Bay Mines Limited optioned, to Texasgulf Incorporated, its property covering the old copper-nickel-palladium-platinum showings of Gunnex Limited, south of Lac des Iles. Recent diamond drilling by Texasgulf Incorporated indicated a zone of platinum-group-metal mineralization 900 m (3,000 feet) long and 150 m (500 feet) deep. The zone, open at both ends and at depth, varies in width, averaging between 30 and 45 m (100 to 150 feet). The average grade within this zone is uncertain until more work is completed. It ranges from more than 0.10 ounces platinum-group metals per ton to over 0.20 ounces per ton in substantial sections (The Northern Miner, Nov. 6, 1975, p.2). Three drills will continue to operate throughout the winter of 1976.

Bayard Resources Limited plans to reactivate the Sapawe Gold Mining Limited's property 24 km (15 miles) east of Atikokan, through an affiliate, Atiko Gold Mines Limited. Magnetometer and detailed geological surveys were carried out during the summers of 1974 and 1975. The company plans to dewater the shaft (305 m or 1,015 feet deep) by spring of 1976 (personal communication 1975).

In the summer of 1975, two prospectors working for a grub-stake syndicate managed by Lynx-Canada Explorations Limited, found some high grade, copper-bearing float with significant silver values in the Onaman Lake area (*see* Figure 3). Follow-up drilling (21 holes) located a mineralized zone (No. 1) in excess of 300 m (1,000 feet) long of which a 60 m (200 feet) long, central portion is considered to be mineable at the present. This central portion has an average width of 4.6 m (15 feet) (Lynx-Canada Explorations Limited, personal communication, 1975). Hole 18 returned a 4.3 m (14.1 foot) section assaying 3.8 percent copper, 2.99 ounces silver per ton and 0.06 ounces gold per ton (The Northern Miner, Nov. 13, 1975, p. 19). A new copper-silver zone (No. 2) was located 490 m (1,600 feet) north of the original showing, under 1.5 m (5 feet) of overburden. The zone has been exposed for 25 m (80 feet) along strike, and is mineralized across widths up to 20 m (60 feet) (The Northern Miner, Oct. 23, 1975, p.15). Six diamond-drill holes have been completed on this zone and have indicated greater widths than the No. 1 zone but lower grade (The Northern Miner, Dec. 11, 1975, p.7).

RECOMMENDATIONS FOR EXPLORATION

Barite

Barite appears to be in short supply in Canada. The dominant use of barite is as a weighting agent in oil- and gas-well drilling muds: with the continuing acceleration in oil exploration activity throughout the world, demand for barite should continue strongly during 1976. The authors suggest that the barite occurrences on Spar, McKellar, Thompson and Jarvis Islands in Lake Superior be re-examined. K. Dawson of the Geological Survey of Canada (written communication, 1975) states that the occurrences of coarse barite at the east end of the Dorion mine (Dorion Township) and in the Bishop mine (Glen Township), farther east on the same structure, deserve investigation.

Uranium

The possibility of an economic uranium deposit in the sedimentary rocks of the Sibley Group should not be overlooked. The Pass Lake Formation, as well as sections of the basal conglomerate that contain high percentages of granitic cobbles, should be investigated (K.H. Poulsen, Lakehead University, personal communication, 1975). In 1947, T.L. Tanton recorded that specimens of nodules from the Sibley Group, near Nipigon, were radioactive (Tanton 1948).

V. Rizicka of the Geological Survey of Canada (personal communication, 1975) noted a significant amount of radioactivity in the galena in the Enterprise mine in McTavish Township. An investigation of the old lead-zinc mines in McTavish and Dorion Townships is warranted. These deposits occur in sedimentary rocks of the Sibley Group near the contact with Early Precambrian rocks.

R.P. Sage (1975, p.64-66) of the Geological Branch mapped the Prairie Lake carbonatite-alkalic complex, northwest of Marathon. His report includes advice on prospecting for uranium in this complex.

Amethyst

The area bounded by the north shore of Lake Superior and Latitude 49°15'N and Longitudes 87°30'W and 88°00'W should be prospected for amethyst. Several excellent deposits are known to exist

in the area. Special attention should be directed to the fault systems. Systematic prospecting of the fault valleys and a close examination of the glacial till is warranted.

Base Metals

The assemblage of felsic to intermediate metavolcanics that occurs north of the City of Thunder Bay, extending from the Kaministikwia River to east of Wildgoose Creek, should be prospected for base metals (Kustra 1973). Several occurrences of sulphides are known to occur in these rocks. One grab sample, taken from a location on Highway 102 near Mud Lake, and assayed by the Mineral Research Branch, Ontario Division of Mines, was found to contain 0.24 percent copper, 0.87 percent zinc, 0.12 ounces silver per ton and 0.005 ounces gold per ton. This occurrence is situated near the rhyolite-andesite contact and deserves to be investigated. The metavolcanics are thickest in the area between Town Lake and the Kaministikwia River.

The area from Willet Lake to Deeds Lake and north to Marshall Lake warrants continued base metal exploration. The Marshall Lake Group appears to have a higher percentage of pyroclastic and flow rocks of intermediate to felsic composition than was previously believed. S.E. Amukun (1975, p.53-57) suggests that the area 1500 m (5,000 feet) north of the central part of Willet Lake is a favorable geological target for base metal concentration.

A syenitic batholith in the Terrace Bay area deserves to be prospected for copper, molybdenum and gold. Several quartz veins containing visible chalcopyrite and molybdenite were located by the junior author along the Aguasabon River. One grab sample was found by the Mineral Research Branch, Ontario Division of Mines, to contain 0.30 percent molybdenum, 0.64 percent copper, 0.01 ounces gold per ton and trace silver. P.E. Hopkins (1921, p.1-26) suggested a link between the occurrence of gold mineralization in the Schreiber-Terrace Bay to this syenitic intrusion.

MINERAL EXPLORATION ASSISTANCE PROGRAM

The Ontario Government's incentive program of mineral exploration assistance to designated regions continued in the Geraldton-Beardmore area for the fifth consecutive year and in the Atikokan area for the second year.

In the 1974-75 fiscal year, five contracts in the Atikokan area and thirteen contracts in the Beardmore–Geraldton area were let. Figures 2 and 3 outline the boundaries of the areas that now qualify for exploration assistance in the North Central Region.

GEOLOGICAL BRANCH ACTIVITIES

Four geological mapping projects, directed by the Precambrian Geology Section, and one geochemical survey, directed by the Geophysics/Geochemistry Section, were carried out in the North Central Region in 1975.

Trottier and Weaver Townships, located 30 km (20 miles) east of Atikokan, were mapped in detail by J. Pirie. H. Wallace completed a two-year detailed mapping project of the Miminiska Lake area, located 105 km (65 miles) east of Pickle Lake and 145 km (90 miles) north of Lake Nipigon. The Willet Lake area, 18 km (12 miles) northeast of the village of Auden and 80 km (50 miles) northwest of the town of Geraldton, was mapped in detail by S.E. Amukun. R.P. Sage, in a project to map and evaluate the known carbonatite-alkalic complexes within the Province, examined the Chipman Lake area, the Killala Lake complex and the Prairie Lake complex in 1975.

Brief descriptions of these projects are given in MP63 (*see* list of ODM publications).

A week-long mineral education course was held in November at Thunder Bay by E.B. Freeman of the Geoscience Information Office, Geoservices Section.

RESEARCH AND MAPPING BY OTHER AGENCIES

L. Babcock, of the Institute of Mineral Research, Michigan Technological University, Houghton, Michigan, is conducting a laboratory study on ore samples from the Silver Islet mine.

McMaster University has been given permission to undertake a study of the Texasgulf Incorporated property at Lac des Iles. A corelation of sulphur with the platinum-group metals will be attempted.

The Geological Survey of Canada is radiometrically dating the metavolcanics and metasediments in the Steep Rock Lake area. It is believed that these rocks are probably Proterozoic in age (J.M. Franklin, personal communication).

H.C. Halls of the Department of Geology, University of Toronto, collected specimens from the Red Rock Formation of the Sibley Group for paleomagnetic study.

Carleton University, Ottawa, has permission from The International Nickel Company of Canada Limited for a graduate student to do a M.Sc. thesis project on the genesis of the ore at the Shebandowan Mine.

PUBLICATIONS RECENTLY FILED WITH REGIONAL GEOLOGIST

Armstrong, H.S.
1960: Marbles in the "Archean" of the Southern Canadian Shield; 21st. session Int. Geol. Congress, Copenhagen, pt.9, p.7-20.

Bass, M.N.
1961: Regional Tectonics of Part of the Canadian Shield; Jour. Geol., Vol.69, p.668-702.

Berry, M.J. and West, G.F.
1966: A Time Interpretation of the First-Arrival Data of the 1963 Lake Superior Experiment; p.166-180 *in* The Earth Beneath the Continents, edited by J.S. Steinhart and T.J. Smith, American Geophysics Union, Geophysics Mono. 10, 663p.

Beutner, E.L.
1972: Discussions: The Iron Formation Syndrome; Econ. Geol., Vol.67, p.254-255.

Brown, L.F.
1974: Critical Role for Geologists in Resource and Environmental Management; American Assoc. of Petrol. Geol. Bull., Vol.58, No.9, p.1771-1780.

Chamberlin, R.T.
1937: Studies For Students: Shifting Orogenic Belts of the Southern Canadian Shield; Jour. Geol., Vol.45, p.663-681.

Coker, W.R. and Nichol, I.
1975: The Relation of Lake Sediment Geochemistry to Mineralization in the Northwest Ontario Region of the Canadian Shield; Econ. Geol., Vol.70, p.202-218.

Floran, R.J. and Papike, J.J.
1975: Petrology of Low-Grade Rocks of the Gunflint Iron Formation, Ontario—Minnesota; Geol. Soc. America, Vol.86, No.9, p.1169-1190.

Franklin, J.M., Kasarda, J. and Poulsen, K.H.
1975: Petrology and Chemistry of the Alteration Zone of the Mattabi Massive Sulphide Deposit; Econ. Geol., Vol.70, p.63-79.

Goodwin, A.M.
1973: Archaean Volcanogenic Iron-Formation of the Canadian Shield; p.23-34 *in* Genesis of Precambrian Iron and Manganese Deposits, Proc. Kiev Symp., 1970, (Earth Sciences, 9).

1974: The Superior Geotraverse Project; Geoscience Canada, Vol.1, No.3, p.21-29.

1974: Precambrian Belts, Plumes and Shield Development; American Jour. Sci., Vol.274, p.987-1028.

Gross, G.A.
1972: Primary Features in Cherty Iron Formations; Sediment. Geol., Vol.7, p.241-261.

1973: The Depositional Environment of Principal Types of Precambrian Iron-Formations; p.15-21 *in* Genesis of Precambrian Iron and Manganese Deposits, Proc. Kiev Symp., 1970, (Earth Sciences 9).

Hanson, G.N.
1975: $^{40}Ar/^{39}Ar$ Spectrum Ages on Logan Intrusions, a Lower Keweenawan Flow, and Mafic Dikes in Northeastern Minnesota-Northwestern Ontario; Canadian Jour. Earth Sci., Vol.12, p.821-835.

Hicks, H.S.
1949: Geology of the Iron Deposits of Steep Rock Iron Mines Ltd; (A paper presented at the 2nd District 4 annual meeting, CIMM, Fort William, Ont. and in Regional Geologist's files, Ontario Ministry of Natural Resources, Thunder Bay), p.8-10.

Hood, P.J.
1975: Mineral Exploration: 1974 Developments; Canadian Mining Jour., Vol.96, No.2, p.191-229.

Jolly, W.T.
1974: Regional Metamorphic Zonation as an Aid in Study of Archean Terrains: Abitibi Region, Ontario; Canadian Mineralogist, Vol.12, p.499-508.

Mereu, R.F.
1966: A Polarization Study of P Head Waves from the Lake Superior Experiment; p.205-217, *in* The Earth Beneath the Continents, edited by J.S. Steinhart and T.J. Smith, American Geophysics Union, Geophysics Mono. 10, 663p.

Naldrett, A.J. and Sangster, D.F.
1975: An Issue Devoted to Canadian Mineral Deposits; Econ. Geol., Vol.70, No.1, p.1-3.

Ruzicka, V.
1975: New Sources of Uranium; Canadian Mining Jour., Vol.96, p.41-44.

Simmons, E.C., Lindsley, D.H. and Papike, J.J.
1974: Phase Relations and Crystallization Sequence in a Contact-Metamorphosed Rock from the Gunflint Iron Formation, Minnesota; J. Petrol., Vol.15, Pt.3, p.539-565.

Smith, T.J., Steinhart, J.S. and Aldrich, L.T.
1966: Crustal Structure Under Lake Superior; p.181-197 *in* The Earth Beneath the Continents, edited by J.S. Steinhart and T.J. Smith, American Geophysics Union, Geophysics Mono. 10, 663p.

Steacy, H.R.
1974: Our Beautiful, Little Known Gemstones; Canadian Geog. Jour., Vol.89, No.6, p.4-13.

Steinhart, J.S. and Smith, T.J.
1966: Time Terms and Structure in Western Lake

Superior Region; p.198-204 *in* The Earth Beneath the Continents, edited by J.S. Steinhart and T.J. Smith, American Geophysics Union, Geophysics Mono. 10, 663p.

Wold, R.J. and Ostenso, N.A.
1966: Aeromagnetic, Gravity, and Sub-Bottom Profiling Studies in Western Lake Superior; p.66-94 *in* The Earth Beneath the Continents, edited by J.S. Steinhart and T.J. Smith, American Geophysics Union, Geophysics Mono. 10, 663p.

UNPUBLISHED THESES RECEIVED IN 1975

Chown, E.H.M.
1955: The Geology of the Willroy Property, Manitouwadge Lake, Ontario; M.Sc. Thesis, 79p., Queen's University, Kingston, Ontario.

Kasarda, J.
1973: Wall-Rock Alteration and Trace Element Geochemistry of the Footwall Rocks of the Mattabi Deposit, Sturgeon Lake Area, Ontario: B.Sc. Thesis, 103p., Lakehead University, Thunder Bay, Ontario.

Mason, J.K.
1975: Quaternary Sedimentology and Stratigraphy of Western Thunder Bay; B.Sc. Thesis, 56p., Lakehead University, Thunder Bay, Ontario.

Sebesta, P.
1970: Morphological Mapping of Modern and Raised Shoreline on the North Shore of Thunder Bay, Lake Superior; B.A. Thesis, 57p., Lakehead University, Thunder Bay, Ontario.

Sibthorpe, R.A.
1973: Canadian Archean Greenstone Belts: Evolution and Metallogeny; B.Sc. Thesis, 66p., Erindale College, University of Toronto, Toronto, Ontario.

Warren, T.E.
1963: Determination of Mineralogical Compositions in Ores of the Steep Rock Types; B.Sc. Thesis, 32p., Queen's University, Kingston, Ontario.

Wegenast, W.G.
1954: Foot-Wall Rocks of the Steep Rock Group; M.Sc. Thesis, 79p., Queen's University, Kingston, Ontario.

Yardley, D.H.
1947: The Geology of an Area at Kashabowie, Ontario, and the Coutchiching Problem; M.Sc. Thesis, 37p., Queen's University, Kingston, Ontario.

ODM MAPS AND REPORTS ISSUED BY THE GEOLOGICAL BRANCH IN 1975

P.969 Uranium and Thorium Deposits of Ontario, Northwestern Sheet, District of Kenora (Patricia Portion). Compilation by James A. Robertson 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.970 Uranium and Thorium Deposits of Ontario, West Central Sheet, Districts of Kenora (Patricia Portion), Thunder Bay, Algoma and Cochrane. Compilation by James A. Robertson 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.990 McTavish Township (Southern Half), District of Thunder Bay (52 A/10). Geology by W.H. McIlwaine and assistants, 1971, 1972. Scale 1 inch to ¼ mile or 1:15,840.

P.994 Dorion–Wolf Lake Area (Western Part), District of Thunder Bay (52 A/10, 15). Geology by W.H. McIlwaine and L.A. Tihor, 1972. Scale 1 inch to ¼ mile or 1:15,840.

P.995 Dorion–Wolf Area (Eastern Part), District of Thunder Bay (52 A/10, 15,16). Geology by W.H. McIlwaine and L.A. Tihor, 1972. Scale 1 inch to ¼ mile or 1:15,840.

P.997 Slate Islands, District of Thunder Bay (42 D/10W, 11E).Geology and compilation by R.P. Sage, K. Treacher, D. Meloche and D. Bathe, 1974. Scale 1 inch to 660 feet or 1:7,920; also 1 inch to ¼ mile or 1:15,840.

P.999 Gledhill Lake Area, District of Thunder Bay (42 L3/W). Geology by S.E. Amukun, H. Gibson and assistants 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1040 Iron Deposits of Ontario, Northwestern Sheet, District of Kenora (Patricia Portion). Compilation by H.D. Meyn and James A. Robertson, 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1041 Iron Deposits of Ontario, West Central Sheet, Districts of Kenora (Patricia Portion), Thunder Bay, Algoma and Cochrane. Com-

pilation by H.D. Meyn and James A. Robertson 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1060 Nickel Deposits of Ontario, Northwestern Sheet, District of Kenora (Patricia Portion); Mineral Deposits Series. Compilation by M. Jost 1974, 1975. Scale 1 inch to 16 miles or 1:1,013,760.

P.1061 Nickel Deposits of Ontario, West Central Sheet, Districts of Kenora (Patricia Portion), Thunder Bay, Algoma and Cochrane; Mineral Deposits Series. Compilation by M. Jost. Scale 1 inch to 16 miles or 1:1,013,760.

Map 2304 Black Bay Peninsula, Thunder Bay District (52 A/7, 8, 9, 10; 51 A/16). Geology by W.H. McIlwaine, H. Wallace and assistants, 1970. Scale 1 inch to 1 mile or 1:63,360.

GR118 Geology of St. Ignace Island and Adjacent Islands, District of Thunder Bay; (42 D/11, 12, 13, 14; 52 A/9, 16); by J.F. Giguere, 35p. Accompanied by Map 2285.

GR122 Geology of Dorothea, Sandra and Irwin Townships, District of Thunder Bay (42 E/12, 13; 52 H/9, 16); by W.O. Mackasey, 81p. Accompanied by Map 2294.

GR123 Geology of the Dickison Lake Area, District of Thunder Bay (42 E/3, 4, 5, 6); by M.W. Carter, 28p. Accompanied by Map 2293.

OFR5119 Operation Winisk Lake, District of Kenora (Patricia Portion) (43D, 43E, 53A, 53B, 53H) by P.C. Thurston, R.P. Sage and G.M. Siragusa; 333p., 11 figures, 18 tables, 53 photos, 6 maps.

OFR5124 Geology of the Tashota Area, District of Thunder Bay (42 L/4E). Geology by S.E. Amukun, 1974; 164p., 15 tables, 22 figures, 15 photos, 1 map.

OFR5126 Index to Exploration Reports Filed in 1974 (1) Assessment Work Reports (2) Reports Received Under Ontario's Mineral Exploration Assistance Program (MEAP). Compiled by Geoscience Data Centre, 1975.

OFR 5128 A Reconnaissance Stream Sediment Geochemistry Survey of the Slate Islands, District of Thunder Bay (41 D/10W, 11E). Geochemistry by L.G. Closs from the collection of R.P. Sage, 1974; 84p., 3 tables, 20 figures.

OFR5129 Geology of Walters and Leduc Townships, District of Thunder Bay (42 E/11, 12, 13, 14). Geology by W.O. Mackasey, 1968; 115p., 3 tables, 1 figure, 27 photos, 2 maps.

OFR5134 Clay and Shale Deposits of Ontario; by G.R. Guillet; approx. 265p., 28 tables, 39 figures, 2 maps.

OFR5147 Mineral Exploration Assistance Program (MEAP), Fiscal Year 1974-75, by S.A. Ferguson, F.G. Da Silva and S.C. Sun; 73p., 2 figures, 7 appendices.

OFR5149 Quaternary Geology of the City of Thunder Bay and Vicinity, District of Thunder Bay (52 A/6) by G.J. Burwasser; 141p., 5 tables, 16 photos, 1 map, 3 appendices.

OFR5150 Preliminary Township and NTS Index to Ontario Geoscience Reports and Maps, 1975, 1201p. (microfiche only).

MP60 Annual Report of the Regional and Resident Geologists, 1974. Edited by E.G. Pye, Director, Geological Branch, 241p.

MP61 Mineral Deposit Studies, Mineral Potential Evaluation and Regional Planning in Ontario; by James A. Robertson, 42p.

MP63 Summary of Field Work, 1975, by the Geological Branch. Edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, 158p.

Mineral brochure Amethyst, Gemstone of the North; *brochure.*

OTHER ONTARIO MINISTRY OF NATURAL RESOURCES PUBLICATIONS ISSUED IN 1975

MPBP 1 The Impact of Taxation and Environmental Controls on the Ontario Mining Industry by G. Anders, W.P. Gram and S.C. Maurice; 197p. Published by the Mineral Resources Branch.

1974 Review Ontario Mineral Review 1974, 124p.

REFERENCES

Amukun, S.E.
1975: Willet Lake Area, District of Thunder Bay, p.53-57 *in* Summary of Field Work, 1975, by the Geological Branch, edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, Ontario Div. Mines, MP63, 158p.

Hopkins, P.E.
1921: Schreiber–Duck Lake Area; Ontario Dept. Mines, Vol.30, pt.4, p.1-26 (published 1922). Accompanied by Map No.30a, scale 1 inch to 2 miles.

Kustra, C.R.
1973: Thunder Bay District; p.139-156 *in* Annual Report of Resident Geologists' Section, Geological Branch, 1972, edited by E.G. Pye, Ontario Division of Mines, MP54, 180p.

Mackasey, W.O. and Wallace, H.
1973: Elmhirst Township, District of Thunder Bay; Ontario Div. Mines, Prelim. Map P.801, Geol. Ser., Scale 1 inch to ¼ mile. Geology 1972.

Tanton, T.L.
1948: Radioactive Nodules in Sediments of the Sibley Series, Nipigon, Ontario; Trans. Royal Soc. Canada, Vol.42, Series 3, Sect.4, p.69-75.

Table 2 Exploration Activity in 1975

Number on Figure	Individual or Company	Activity
1	W. Acker	Stripping, trenching
2	Algoma Steel Corporation Limited	Linecutting, geochemical survey
3	Algoma Steel Corporation Limited	Diamond Drilling, metallurgical test work
4	J. Anderson	Diamond Drilling
5	Big Nama Creek Mines Limited	Metallurgical test work
6	Bonnacord Exploration Limited (optioned from Band-Ore Gold Mines Limited)	Feasibility study
7	Canadian Nickel Company Limited	Airborne and ground geophysical survey
8	A.E. Carruthers	Stripping
9	Consolidated Beaumont Resources	Exploration work
10	Consolidated Monarch Metal Mines Limited (optioned from MW Resources Limited)	Prospecting with spectrometer, trenching
11	Conwest Exploration Company Limited	Airborne geophysical survey
12	J.F.M. Croteau (deceased)	Diamond Drilling, magnetometer survey, geological survey
13	D. Davis (Nicro Mines Limited)	Diamond Drilling
14	J. Donner (Bird River Mines Company Limited	Trenching, assaying
15	Duval International Corporation	Diamond Drilling
16	D. Fairbairn	Block staking, trenching
17	Falconbridge Nickel Mines Limited	Geochemical survey, Diamond Drilling geological and geophysical survey
18	Falconbridge Nickel Mines Limited	Geological survey
19	Falconbridge Nickel Mines Limited	Geological survey, trenching
20	T. Galarneau	Quarrying
21	D. Galley (Rickaby Mines Limited)	Trenching, stripping, assaying
22	Geophysical Engineering Limited	Exploration work
23	D. Hobischuk	Blasting,trenching
24	Icon Syndicate (1974)	Prospecting
25	Imperial Oil Limited (Optioned from Giant Gripp Mines Inc.)	Exploration work
26	Kerr Addison Mines Limited	Geophysical survey
27	Kerr Addison Mines Limited	Magnetometer survey
28	B. Lee, J. Kondrat, W. Ranta, K. Kuhner (optioned from B. Lee, deceased)	Exploration work, block staking
29	B. Lee (deceased)	Block staking
30	Mattagami Lake Mines Limited	Diamond Drilling, geological survey
31	W.L. McAteer	Trenching
32	E.P. McDonough	Diamond Drilling
33	Muscocho Exploration Limited	Geophysical survey
34	New Jersey Zinc Exploration Co. (Canada) Ltd.	Geological survey, airborne geophysical survey.
35	New Metalore Mining Company Limited	Diamond Drilling
36	Noranda Exploration Company Limited	Exploration work
37	Noranda Exploration Company Limited	Geophysical survey, linecutting
38	Pagwachuan Explorations	Stripping
39	M. Penziwol	Diamond Drilling
40	J. Petrick (deceased)	Trenching
41	W. Ranta	Diamond Drilling , bulldozing

Number on	Individual or Company	Activity
42	Rio Tinto Canadian Exploration Limited	Exploration work
43	C. Ross	Exploration work
44	Shell Canada Limited	Airborne Geophysical survey, geological survey
45	Sherritt Gordon Mines Limited	Ground geophysical survey, Diamond Drilling
46	R.D. Skogsberg	Trenching, geological survey
47	J. Strickland	Diamond Drilling
48	Texasgulf Inc. (optioned from W. Forsgren and J. Ternowesky)	Airborne and ground geophysical surveys
49	Texasgulf Inc.	Airborne geophysical survey, geological survey.
50	Tombill Mines Limited	Diamond Drilling
51	Tundra Gold Mines Limited (Optioned from A. Caplan)	Diamond Drilling
52	White Star Copper Mines Limited	Geophysical survey, Diamond Drilling

Table 3 Assessment Work and Other Information Received in 1975

Abbreviations

DD-3-1907' - Diamond drilling, 3 holes, 1907' total
EM - Electromagnetic survey
GC - Geochemical survey
GL - Geological survey
Gr - Gravity survey
HEM - Horizontal loop EM
IP - Induced polarization
Mag - Magnetometer survey
MEAP - Mineral Exploration Assistance Program
OSC - Ontario Securities Commission
rtr - Rock trenching
Str - Soil trenching or stripping
Tr - Trenching
VEM - Vertical loop EM
VLF - Very low frequency EM

Name of Company or Individual	Township Name Claim Map Area	N.T.S.	Year Work Done	Type of Report	Type of Assessment Work	Commodity Found	Toronto File
Amax Exploration, Inc.	Whitebirch Lake (M2944)	52H13/SW	Feb.-Mar. 1973	Geophysical	Mag., EM		2.1710
Atiko Gold Mines Ltd.	McCaul Twp. (M2382)	52B14/SW	Aug.-Sept. 1974	Geological MEAP-A-3 Geophysical	GL. Mag.	Au	
Blanchette, Edward	Whitefin Lake (M 2646)	52H3/SW	Mar. 1975	Manual	Tr.		
Bosvik, T.	Ramsay Lake (M38)	42F5/NW	June-Aug. (1974)	Manual	Tr.		
Bowles, Syd.	Whitefin Lake (M2646)	52H3/SW	June-Aug. (1975)	Manual	Tr.		
Campbell, Robert	Gorham Twp. (M1733)	52A11/SW	Aug.-Sept. (1974)	Manual	Tr.		
Canadian Nickel Co. Ltd.	Leduc Twp. (M1794)	42E12/NE	Sept.-Oct. (1974)	Diamond Drilling	DDH-8-1,657'	Au	
Canadian Nickel Co. Ltd.	Leduc Twp. (M1794) Walters Twp. (M1977)	42E12/NE	Sept.-Feb. (1975)	MEAP GB-51	GL; DD.	Au	
Chevron Standard Ltd.	McCoy Twp. (Twp. 77) (M1861) Coldwell Twp (Twp. 78) (M1921)	42D16/SW			Benefication		2.1878
Clark, D.C.	Irwin Twp. (1760) Walters Twp. (M1917)	42E12/NW	Oct. 1974	Diamond Drilling, Stripping (bulldozing)	DD.9-438' Str.	Au	
Coldstream Mines Ltd.	Gzowski Twp. (M1939) Kowkash Twp. (1623)	42L6/SW	Feb.-Mar. 1970	Geophysical	Mag.		
Consolidated Louanna Gold Mines Ltd.	O'Sullivan Lake (M 1415)	42L6/NE	Oct. 1973	Geological	Consulants Rept. OSC	Au	

Name of Company or Individual	Township Name Claim Map Area	N.T.S.	Year Work Done	Type of Report	Type of Assessment Work	Commodity Found	Toronto File
Consolidated Shunsby Mines Ltd.	Greenwich Lake (M2621)	52A15/SW	Feb.-Mar. 1975	Diamond Drilling, Assays	DD-6-1,330'	U	
Craskie Mines Ltd.	Vincent Twp. (M1914)	42E12/NE	Aug. 1974	Diamond Drilling	DD-3-2,013'	Au	
Croteau,J.F.M.	Gzowski Twp. (1939)	42L4/NE	July-Aug. 1974	Manual, Mechanical	Tr., Mech.	Au	
Dean, John R.	Metcalfe Lake (M1408)	42L4/NE	May-Aug. 1975	Manual	Tr. str.	Au	
Duval International Corp.	Martin Lake (M1839)	42E13/NW	Feb. 1975	Geophysical	Mag.		2.1757
Falconbridge Nickel Mines Ltd.	Moss Twp. (M1826)	52B10/SE	Dec. 1974	Diamond Drilling	DD.-4-1,535'	Au	
Getty Mines Ltd.	Attwood Lake (M1638)	52P2/NE	Nov. 1973, 1974	Geophysical, Diamond Drilling	EM, Mag, DD-3-1,907'	Ni,Cu	2.1487
Geophysical Engineering Ltd.	Heaven Lake (M2908)	52H5/SE	Nov.-Dec. 1974	Diamond Drilling	DD-2-562'		
Geophysical Engineering Ltd.	Castlewood Lake (M1850)	42E13/NW	Aug.-Sept. 1975	Diamond Drilling	DD.-1-787'		
Geophysical Engineering Ltd.	Sandra Twp. (M1880)	52H9/NE	Sept. 1975	Diamond Drilling	DD.-1-205'		
Gold Ridge Mines Ltd.	Summers Twp. (M1905)	42E12/NW	June-Aug. 1975	Diamond Drilling	DD.-8-2,021' GL., GC	Au	
Goldsearch Ltd.	Hanniwell Twp. (M2598)	52G2/SW	April 1975	Geophysical			2.1795
Hanna Mining Co.	Wabikon Lake (M2906)	52H6/SW	July 1974 Feb. 1975	Geophysical, Geological, Diamond Drilling	VEM,VLF,EM,Mag.	Au	
Johnston, T.A.	Dawson Rd. Lots (M1692)	52A12/NW	May 1975	Manual	rTr	Au	
Lynx-Canada Explorations Ltd.	Irwin Twp. (M1760)	42E12/NW	June 1974	MEAP (GB-50) geophysical geological power stripping Diamond Drilling	Mag GL DD	Au	
Lynx-Canada Explorations Ltd.	Pifher Twp. (M1863)	42E13/SW	Sept. 1974	Geophysical	I.P.	Cu	
MacGregor,R.A.	Syine Twp. (Twp. 82) (M1930)	42D15/SW	July-Sept. 1974	Geophysical	VLF-EM, Mag.	Au	2.1102
McDermott, J.	Summit Lake (M1406)	42L5/NW	Aug.-Sept. 1974	Diamond Drilling	DD-10-1,796'	Cu,Zn	
Mattagami Lake Mines Ltd.	O'Sullivan Lake (M1415)	42L6/NE	Jan-April 1974	Geophysical	HEM, Mag,VLF-EM		
Mattagami Lake Mines Ltd.	Kowkash Twp. (M1623)	42L6/SW	Sept.-Oct. 1975	Diamond Drilling	DD-4-1,508'		
Meakin, W.H.	Mountairy Lake (M1665)	52G16/NW	July-Aug. 1975	Diamond Drilling	DD-8-1,060'		
Midland Nickel Corp. Ltd.	Pardee Twp. (M1856)	52A4/SE	Oct. 1974	geophysical	Gr.	Cu,Ni	2.1654
Mid-North Engineering Services Ltd.	Pays Plat Lake (M2522) Rope Lake (M2525)	42D14/NW	Sept.-Oct. 1975	Diamond Drilling	DD.-5-1,333'		
Noranda Mines Ltd. (Geco Division)	Rabbitskin Lake (M2387)	42F4/NW	Jan-May 1975	Diamond Drilling, geological	DD-7-5,168'		
Noranda Exploration Ltd.	S. Onaman River (M1850)	42L3/NW		MEAP-48 Geological Geophysical	GL; IP. VLF-EM.	Cu,Zn,Pb	
Noranda Exploration Ltd.	Isobel Lake (M3073)	42E15		Geophysical	IP, Mag	Mo	

Name of Company or Individual	Township Name Claim Map Area	N.T.S.	Year Work Done	Type of Report	Type of Assessment Work	Commodity Found	Toronto File
Noranda Exploration Ltd.	Ashmore Twp (M1636)	42E10/NW	April-May 1975	Diamond Drilling	DD-2-626'	Au	
Noyes, G.	McTavish Twp. (M1812)	52A10/NE	June 1975	Mechanical	rTr	Amethyst	
Otto, Harold, D.	Klotz Lake (M2868)	42F12/NW	Aug.-Oct. 1975	Power Stripping Diamond Drilling	DD.-2-757' rTr.		
Otto, H.H.	Klotz Lake M2868)	42F12/NW	Sept.-Nov. 1974	Power Stripping	rTr.,		
Petrick, John	Pifher Twp (M1863)	42E13/SW	April-May 1975	Manual	rTr	Cu	
Phelps Dodge Corp. of Canada Ltd.	Wabikon Lake (M2906)	52H6/SW	Sept.- 1975	Diamond Drilling	DD.-4-1,585'	Cu,Zn,Ag	
Raleigh Minerals Ltd.	Paipoonge Twp. (M1854)	52A5/SE	May 1975	Diamond Drilling	DD.-5-225'	Zn,Pb,Ag	
Redden, J.W.	Gillies Twp. (M1928) Scoble Twp. (M1884)	52A5/SE	July 1974	geophysical	Mag.		
Rickaby Mines Ltd.	Rickaby Twp. (M1873)	42E13/SE	May-Aug. 1974	Diamond Drilling	DD-14-6,434		
Rodgers, B.	Jean Twp. (M1765)	52B1/NE	July-Dec. 1974	Manual	rTr.		
Shawmin Exploration Ltd.	Martin Lake (M1834)	42E13/NW	May 1973	Diamond Drilling	DD.-4-520'	Pb,Zn,Cu	
Staines, Leon B	McCaul Twp. (M2382)	52B14/SW	March 1975	Diamond Drilling	DD.-2-219'	Au	
Ternowesky, John	Ware Twp. (1919)	52A12/SE	Aug. 1973	Diamond Drilling	DD.-1-174'		
Texasgulf Inc.	Lac des Iles (M1788)	52H4/NE	May-June 1975 July-Aug. 1975	Diamond Drilling Airborne Geophysical	DD.-5-2,509'	Cu,Ni,Pt,Pd	
Thorsteinson, D.	Barbara Lake (M2505)	42E5/SE	June 1972	Trenching	rTr	Amethyst	
Thorsteinson, D.	Gravel River (M1735)	42E4/SE	June 1974	Trenching	rTr	Amethyst	
Thunder Bay Amethyst Mining Company Ltd.	McTavish Twp. (M1812)	52A10/NE	May 1975 Sept.-Oct. 1975	Trenching, Diamond Drilling	DD-4-1,101'	Amethyst	
Tyson, J.J.	Dorothea Twp. (1702) Sandra Twp. (M1880)	52H9/NE	Aug.-Nov. 1971	Geochemical, Geological, Geophysical			
Wenzoski,J.	Martin Lake (M1839) Pifher Twp. (M1863)	42E13/NW	May-June 1975	Manual	rTr		
Ymir Mining & Exploration Ltd.	Nesting Lake M2329)	52P10/NW	June 1974	Manual	rTr	Au	2.1715

1975 REPORT

of the

NORTHERN REGIONAL GEOLOGIST

and

TIMMINS RESIDENT GEOLOGIST

by

W.O. Karvinen and D.S. Hunt

CONTENTS

Page

Introduction 62
Regional Geologist's Activities 62
Operating Mines 62
Mine Under Development 62
Exploration Activity 63
  Gold Exploration 63
  Base Metal Exploration 63
  Industrial Minerals 63
Geological Branch Activities 64
Research by Other Organizations 64
ODM Maps and Reports Issued by the Geological Branch in 1975 64
Other Ontario Ministry of Natural Resources Publications Issued in 1975 65
Maps and Reports Issued by the Geological Survey of Canada in 1975 65
Other Publications Filed with Regional Geologist, 1975 66
References 66

TABLES

1—Exploration Activity in 1975 67
2—Assessment Work and Other Information Received
  Dec. 1, 1974 to Nov. 30, 1975 68

FIGURES

1,2,3,4,5—Timmins Resident Geologist's District 56,57,58,59,60
Index to Figures 3,4,5 61

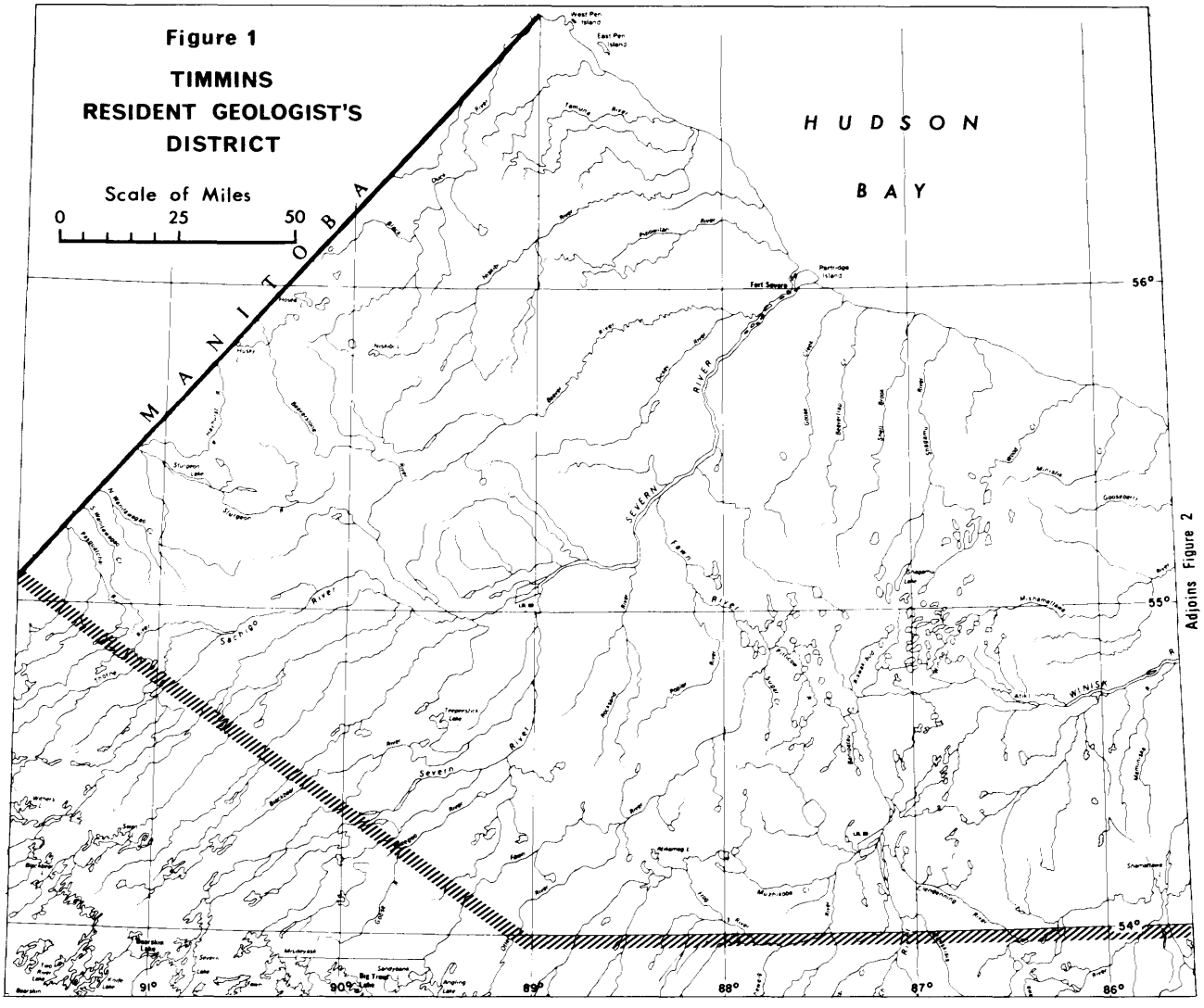


Figure 1
TIMMINS
RESIDENT GEOLOGIST'S
DISTRICT
Scale of Miles
0
25
50
MANITOBA
HUDSON
BAY
Fort Severn
SEVERN
RIVER
WINISK
56°
55°
54°
91°
90°
89°
88°
87°
86°
Adjoins Figure 2

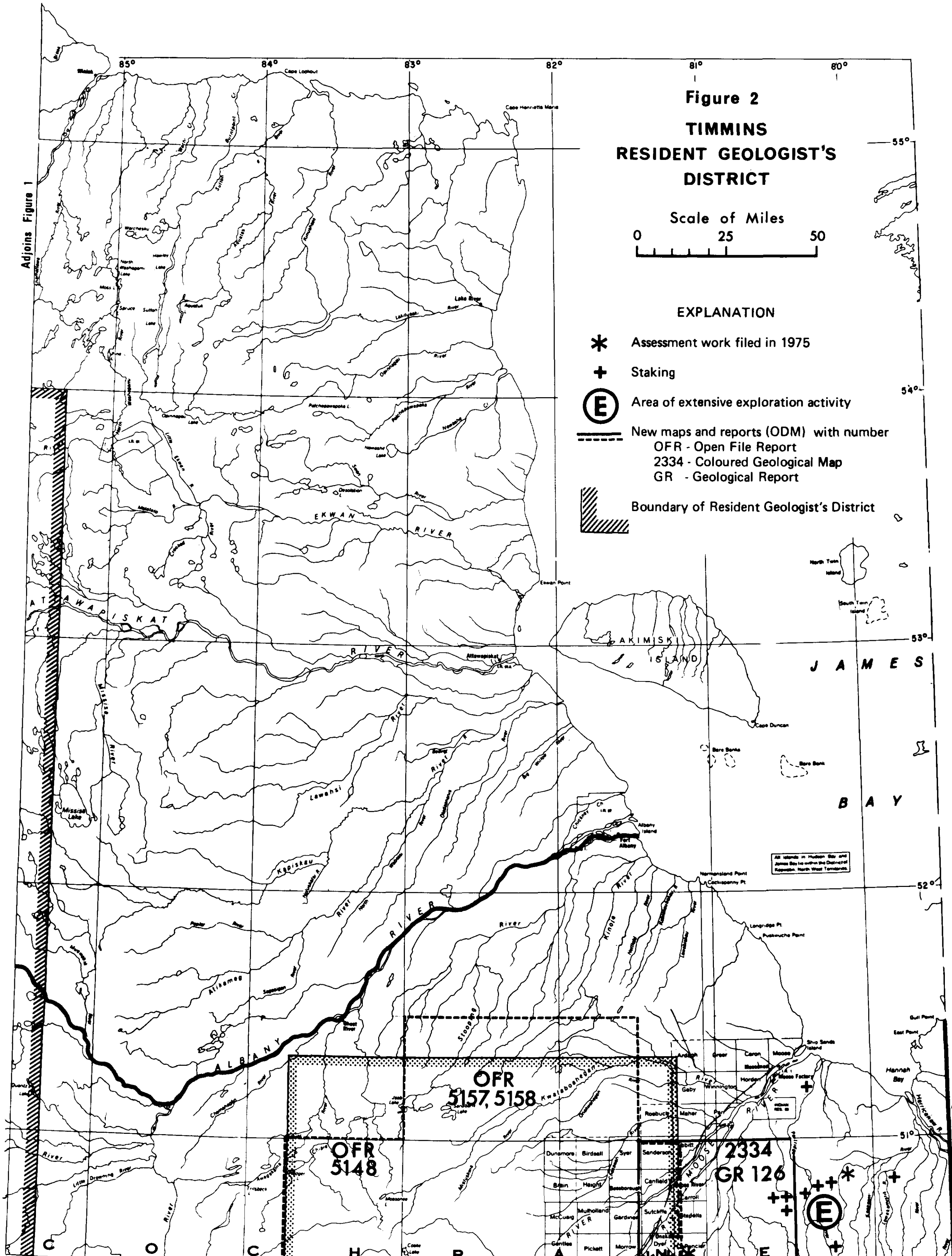


Figure 2
TIMMINS
RESIDENT GEOLOGIST'S
DISTRICT
Scale of Miles
0
25
50
EXPLANATION
Assessment work filed in 1975
Staking
Area of extensive exploration activity
New maps and reports (ODM) with number
OFR - Open File Report
2334 - Coloured Geological Map
GR - Geological Report
Boundary of Resident Geologist's District
Adjoins Figure 1
Adjoins Figures 3 and 4
85°
84°
83°
82°
81°
80°
55°
54°
53°
52°
51°
ATTAWAPISKAT
RIVER
EKWAN
RIVER
AKIMISKI
ISLAND
JAMES
BAY
ALBANY
RIVER
OFR
5157, 5158
OFR
5148
2334
GR 126
QUEBEC
COCHRANE

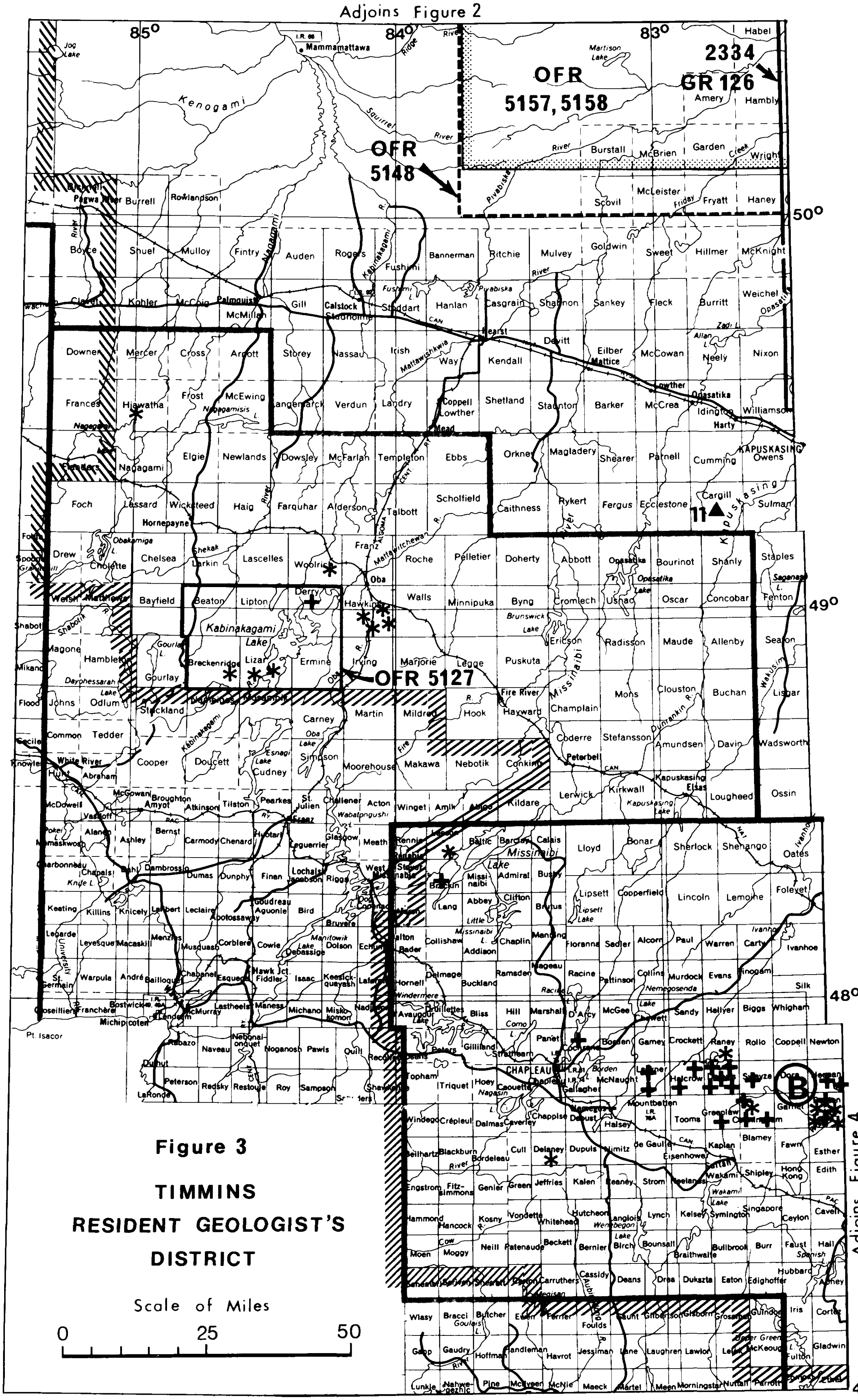


Figure 3

TIMMINS RESIDENT GEOLOGIST'S DISTRICT

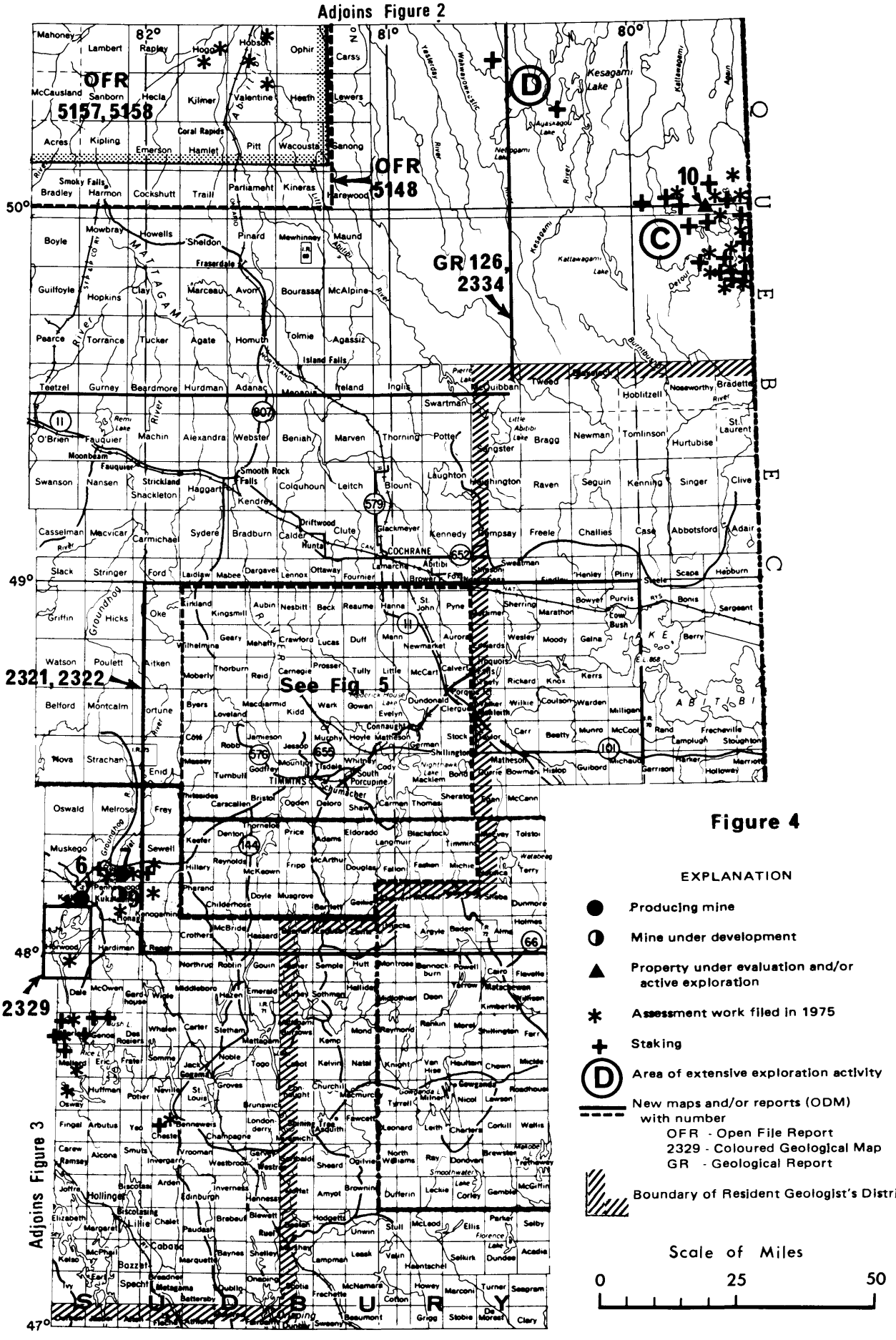


Figure 4

EXPLANATION

- Producing mine
- Mine under development
- Property under evaluation and/or active exploration
- Assessment work filed in 1975
- Staking
- Area of extensive exploration activity
- New maps and/or reports (ODM) with number
  - OFR - Open File Report
  - 2329 - Coloured Geological Map
  - GR - Geological Report
- Boundary of Resident Geologist's District

Scale of Miles

0 25 50

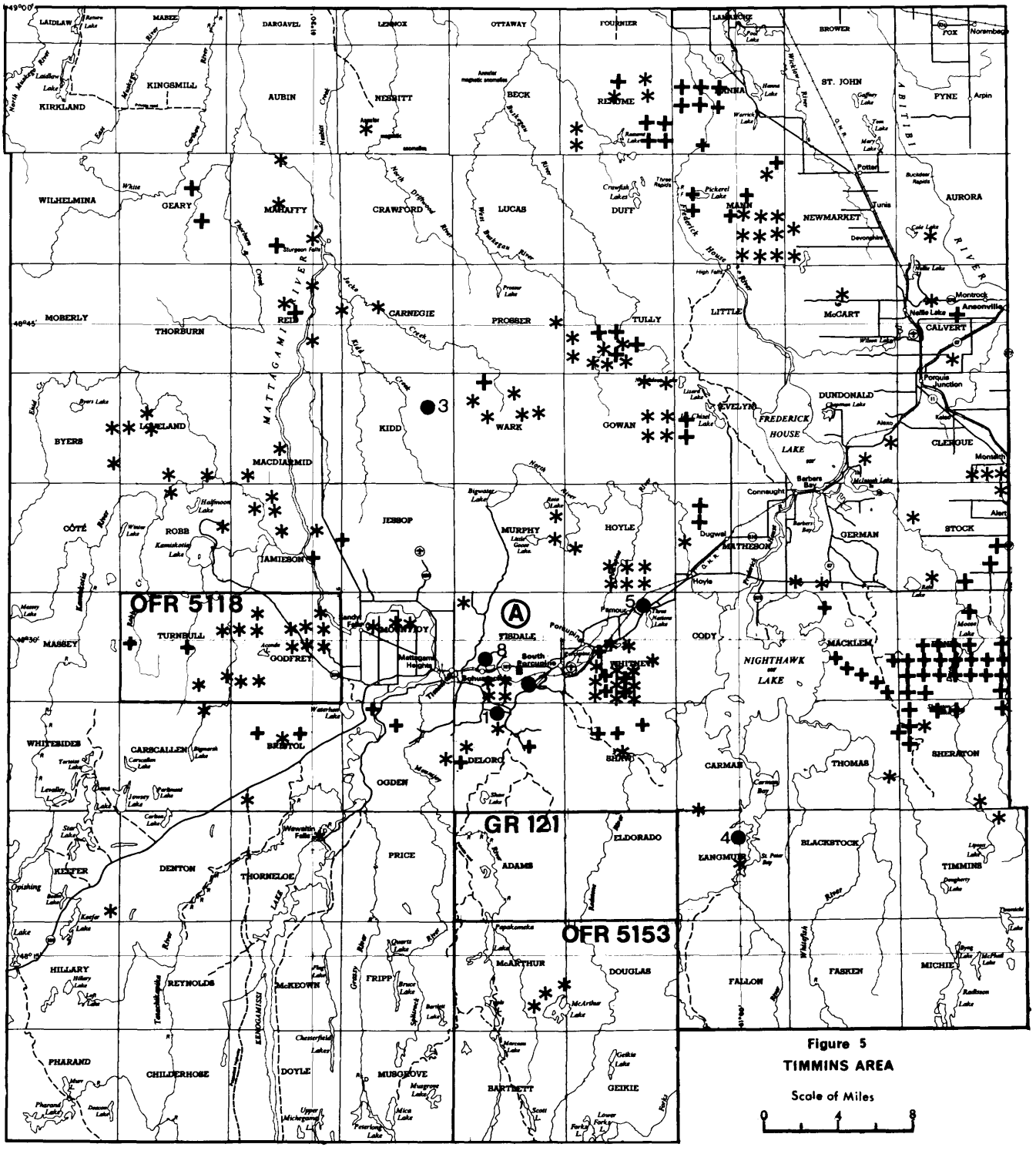


Figure 5
TIMMINS AREA

Scale of Miles

0 4 8

EXPLANATION

- ● Producing mine
- ✱ Assessment work filed in 1975
- \+ Staking
- Ⓐ Area of extensive exploration activity
- —— New maps and/or reports (ODM) with number
  - OFR - Open File Report
  - GR - Geological Report

INDEX TO FIGURES 3,4,5

Producing Mines 1975

1. Aunor mine (Pamour Porcupine Mines Ltd.) . . . . . Au,Ag
2. Dome mine (Texasgulf Can. Ltd.) . . . . . Au,Ag
3. Kidd Creek mine (Texasgulf Can. Ltd.) . . . . . Cu,Zn,Ag,Pb,Cd,Sn
4. Langmuir mine (Noranda Mines Ltd., The International Nickel Co. of Can. Ltd.) . . . . . Ni
5. Pamour mine (Pamour Porcupine Mines Ltd.) . . . . . Au,Ag
6. New Joburke mine (Noranda Explor. L., New Joburke Explorations Ltd.) . . . . . Au
7. Reeves mine (Canadian Johns-Manville Co. Ltd.) . . . . . Asb
8. Schumacher Division (Pamour Porcupine Mines Ltd.) . . . . . Au,Ag,Cu

Mines Under Development

9. Penhorwood mine (Canadian Johns-Manville Co. Ltd.) . . . . . talc

Properties Under Evaluation and/or Active Exploration

10. Amoco Canada Petroleum Co. Ltd.—Sunday L. area; area west of Sunday L.; Atkinson L. area; Hopper L. area; Lower Detour L. area. . . . . Au,Cu
11. Intl. Minerals & Chem. Corp. (Canada) Ltd.—Cargill, Cumming & Ecclestone Twps. . . . . Phosphate

1975 REPORT

of the

NORTHERN REGIONAL GEOLOGIST

and

TIMMINS RESIDENT GEOLOGIST

by

W.O. Karvinen[1] and D.S. Hunt[2]

INTRODUCTION

Despite the low level of exploration activity, two major discoveries were recorded in 1975. In March, Amoco Canada Petroleum Company Limited announced the discovery of a major gold prospect near Sunday Lake (50°00'N; 79°45'W) and in August, International Minerals and Chemical Corporation (Canada) Limited reported an important phosphate find near Kapuskasing. Staking activity, resulting from these discoveries accounted for part of the increase in claims recorded over that of last year (4,162 in 1975 *versus* 3,456 in 1974).

REGIONAL GEOLOGIST'S ACTIVITIES

Staff at the Timmins office included: W.O. Karvinen, Regional Geologist; D.S. Hunt, Geological Assistant; and K. Burke, Secretary.

In addition to normal office and field duties, staff members were involved in the following projects:

1. Detailed mapping of Walker, Clergue and Dundonald Townships as well as a compilation of the geology of the Porquis Junction area by W.O. Karvinen (1975, p.104).
2. Investigation of sand and gravel deposits, Pamour Sheet (NTS 42 A/11 E & W) by D.S. Hunt.

Projects planned for 1976 include:

1. Completion of Porquis Junction compilation.
2. Detailed mapping of Whitney Township.
3. Structural analysis of Tisdale and Whitney Townships.
4. Compilation of data on modified Data Series maps.

OPERATING MINES

Mines in operation (*see* Figures 3, 4 and 5) during 1975 in the Timmins Resident Geologist's District were: the Dome (Dome Mines Limited), Pamour, Aunor (both Pamour Porcupine Mines Limited) and New Joburke (Noranda Exploration Company Limited–New Joburke Explorations Limited) gold mines; the Schumacher Division (Pamour Porcupine Mines Limited) copper-gold mine; the Kidd Creek (Texasgulf Canada Limited) copper-zinc-silver mine; the Langmuir (Noranda Mines Limited–The International Nickel Company of Canada Limited) nickel mine; and the Reeves (Canadian Johns-Manville Company Limited) asbestos mine.

Because of the low price of gold, operations at the New Joburke mine were suspended in late November. Early in February, the Reeves asbestos mine terminated operations because of uncontrollable dust conditions in the mill. No work was conducted during the year on the Quebec Sturgeon River Mines Limited gold property in Stock Township where a shaft was sunk to bedrock in late 1974.

MINE UNDER DEVELOPMENT

Only one mine (*see* Figure 4) is at present under development for production. This is the Penhorwood talc mine in Penhorwood Township, owned by Canadian Johns-Manville Company Limited. Commencement of operations is planned for 1976.

---

[1]Regional Geologist, Ontario Ministry of Natural Resources, 60 Wilson Ave., Timmins, P4N 3W2.

[2]Regional Geologist's Assistant.

EXPLORATION ACTIVITY

Exploration for all metals was down from recent years. Areas (*see* Figures 2, 3, 4 and 5) where most activity was concentrated include:

A. within a 65 km (40 miles) radius of Timmins;
B. Swayze Belt east of Chapleau;
C. Detour Lake area;
D. Kesagami Lake area;
E. Partridge River belt.

Discovery of phosphate in Cargill Township, southwest of Kapuskasing, renewed interest in the carbonatite-alkalic complexes of the Kapuskasing subprovince.

Gold Exploration

Waning gold prices during 1975 curtailed most exploration and re-evaluation of known gold prospects in the area and no grass roots exploration programs for gold were carried out.

Despite the limited exploration, a significant gold discovery was made late in 1974 by Amoco Canada Petroleum Company Limited near Sunday Lake (50°00'N, 79845'W) about 130 km (80 miles) northeast of Cochrane and about 10 km (6 miles) from the Quebec border. Base metals had been the main target of Amoco's extensive exploration program in that area, however, intersections of silicified, sulphide-bearing rocks encountered while testing an electromagnetic conductor returned good values in gold. This initiated an intensive drilling program. With the use of four drills, approximately 30 500 m (100,000 feet) of drilling had been completed by early December, 1975.

The mineralized zone is located about 7 km (4½ miles) west of Sunday Lake. It trends ENE and dips steeply. Information released to date indicates an irregular zone, ranging in width from 1 m to 45 m (a few feet to 150 feet) wide and up to 900 m (3,000 feet) long to a depth of about 150 m (500 feet) (The Northern Miner, June 19, 1975, p.1, 8, 20). Although values of over 1 ounce gold per ton have been encountered over short intersections, the average grade appears to be about 0.20 ounces gold per ton (The Northern Miner, June 19, 1975). Other metals present include copper and silver. Overburden varies from 8 to 80 m (25 to 125 feet) thick.

The ore zone occurs in an area previously believed to be underlain by granitic rocks but the work by Amoco Canada Petroleum Company Limited indicates the mineralization to be in a sequence of mafic metavolcanics which are part of the main "greenstone" belt in the area.

Drilling was terminated in early December and results are being evaluated. A limited program is planned for the property in 1976 (Amoco Canada Petroleum Company Limited, personal communication).

Exploration of gold prospects in the Timmins area was confined mainly to programs carried out by Pamour Porcupine Mines Limited in Cody, Macklem, Deloro and Tisdale Townships and by Hollinger Mines Limited in German Township. Frankfield Exploration Limited continued assessment of their gold prospect in Tully Township (*see* Karvinen and Hunt 1975, p.105).

The discovery by Rengold Mines Limited of significant gold prospects in Stover Township south of the Renabie gold mine near Missanabie during the latter part of the summer renewed prospecting activity in that area (*see* "1975 Report of Northeastern Regional Geologist and Sault Ste. Marie Resident Geologist", *this volume*).

Base Metal Exploration

No significant base-metal discoveries were made in 1975. Regional exploration programs were carried out in the north mainly in poorly-exposed "greenstone" belts in the Detour Lake, Kesagami Lake and Partridge River areas. Activities involved mostly airborne and ground geophysics. The only major drilling was done by Amoco Canada Petroleum Company Limited.

No major exploration programs were conducted in the Timmins area or the Swayze belt. Most work was in the form of ground geophysics, but some test holes were drilled. A few companies carried out overburden drilling (*see* Table 1).

Industrial Minerals

Interest in the carbonatite-alkalic complexes of the Kapuskasing Structural Zone was renewed with the announcement by International Minerals and Chemical Corporation (Canada) Limited of a significant phosphate discovery in Cargill Township, about 29 km (18 miles) southwest of Kapuskasing. The deposit is of the residual type and appears to be confined mainly to an area over the Cargill carbonatite-alkalic complex. The main ore mineral is apatite which occurs as a residual concentrate in the soils formed by the weathering of the underlying carbonatite.

Since drilling began in early summer, over 150 holes have been completed using reverse-circulation overburden drills. Much work remains to be done and plans are to continue the program through the winter.

Dex Limited, a private company based in Timmins, has commenced work on their pegmatite deposit in Steele Township, about 88 km (55 miles) east of Cochrane in the Larder Lake Mining Division. The pegmatite is complexly zoned and consists predominantly of potassic and sodic feldspars, quartz, muscovite and spodumene (Lumbers 1962). The company plans to recover the feldspars and mica and possibly quartz. To date, two ore zones have been delineated by trenching and drilling. During the fall of 1975, a 4 km (2½ miles) long road was being built to the property.

Ralph Allerston, a Timmins-based prospector, has worked periodically for the past several years on a talc-

magnesite deposit in Whitney Township, about 3 km (2 miles) southeast of South Porcupine. The accumulated work including trenching, bulk sampling and limited diamond drilling indicates that a substantial tonnage of talc-magnesite exists on the property. A feasibility study by one company of the material indicates high quality talc and magnesite with very few deleterious components (R. Allerston, personal communication). The proximity to a population centre and railway, large potential tonnage and good quality material makes this deposit significant, particularly in the light of increasing world demands for ceramic material.

GEOLOGICAL BRANCH ACTIVITIES

Two Geological Branch parties were engaged in mapping in the Timmins Resident Geologist's district. D.R. Pyke conducted synoptic mapping in the Timmins–Matachewan area and R. Sage spent part of the summer mapping the Clay–Howells carbonatite-alkalic complex north of Kapuskasing.

RESEARCH BY OTHER ORGANIZATIONS

D. Fisher, a Ph.D. candidate at the University of Toronto, is currently studying the volcanic stratigraphy of the Kamiskotia area.

ODM MAPS AND REPORTS ISSUED BY THE GEOLOGICAL BRANCH IN 1975

P.971 Uranium and Thorium Deposits of Ontario, East Central Sheet, Districts of Thunder Bay, Algoma, Cochrane, Sudbury, Timiskaming and Nipissing. Compilation by James A. Robertson, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1040 Iron Deposits of Ontario, Northwestern Sheet, District of Kenora (Patricia Portion). Compilation by H.D. Meyn and James A. Robertson, 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1042 Iron Deposits of Ontario, Northeastern Sheet, Districts of Kenora (Patricia Portion), Thunder Bay and Cochrane. Compilation by H.D. Meyn, and James A. Robertson 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1043 Iron Deposits of Ontario, East Central Sheet, Districts of Thunder Bay, Algoma, Cochrane, Sudbury, Timiskaming and Nipissing. Compilation by H.D. Meyn and James A. Robertson 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1060 Nickel Deposits of Ontario, Northwestern Sheet, District of Kenora (Patricia Portion); Mineral Deposits Series. Compilation by M. Jost 1974, 1975. Scale 1 inch to 16 miles or 1:1,013,760.

P.1061 Nickel Deposits of Ontario, West Central Sheet, Districts of Kenora (Patricia Portion), Thunder Bay, Algoma and Cochrane; Mineral Deposits Series. Compilation by M. Jost. Scale 1 inch to 16 miles or 1:1,013,760.

P.1062 Nickel Deposits of Ontario, East Central Sheet, Districts of Thunder Bay, Algoma, Cochrane, Sudbury, Timiskaming and Nipissing; Mineral Deposits Series. Compilation by M. Jost 1974, 1975. Scale 1 inch to 16 miles or 1:1,013,760.

Map 2321 Bouguer Gravity, Timmins–Matheson, Cochrane, Timiskaming and Sudbury Districts (42 A) Gravity survey by R.S. Middleton, 1970, 1971. Regional geology by D.R. Pyke, L.D. Ayres and D.G. Innes; Map 2205, 1973. Scale 1:250,000.

Map 2322 Interpretation of Bouguer Gravity, Timmins–Matheson, Cochrane, Timiskaming and Sudbury Districts (42 A). Gravity survey by R.S. Middleton, 1970, 1971. Regional geology by D.R. Pyke, L.D. Ayres and D.G. Innes, Map 2205, 1973. Scale 1:250,000.

Map 2329 Horwood Lake, Sudbury District (41 O/16; 42 B/1). Geology by F.W. Breaks and assistants, 1971. Scale 1 inch to ½ mile or 1:31,680.

Map 2334 Heavy Mineral Indicators, Moose River Basin, James Bay Lowlands (42 G, H, I, J, O, P). Geological data compiled by W.J. Wolfe and H.A. Lee, 1973, Scale 1 inch to 4 miles or 1:253,440.

GR121 Geology of Adams and Eldorado Townships, District of Cochrane (42 A/6); by D.R. Pyke, 51p. Accompanied by Map 2274.

GR126 Heavy Mineral Indicators in Alluvial and Esker Gravels of the Moose River Basin, James Bay Lowlands, District of Cochrane (42 G, H, I, J, O, P); by W.J. Wolfe, H.A. Lee and W.D. Hicks, 60p. Accompanied by Map 2334.

GR127 Gravity Control Network in the Timmins, Matheson and Cobalt Areas, Districts of Cochrane and Timiskaming (42 /B); by R.S. Middleton, 94p.

OFR5118 Magnetic, Petrochemical and Geological Survey of Turnbull and Godfrey Townships, District of Cochrane (41 A/5, 6E, 11W, 12) by R.S. Middleton, 1974; approx. 286p., 15 tables, 63 figures, 21 photos, 13 charts.

OFR5119 Operation Winisk Lake, District of Kenora (Patricia Portion) (43D, 43E, 53A, 53B, 53H) by P.C. Thurston, R.P. Sage and G.M. Siragusa; 333p., 11 figures, 18 tables, 53 photos, 6 maps.

OFR5126 Index to Exploration Reports Filed in 1974 (1) Assessment Work Reports (2) Reports Received Under Ontario's Mineral Exploration Assistance Program (MEAP). Compiled by Geoscience Data Centre, 1975.

OFR5127 Geology of the Kabinakagami Lake Area, District of Algoma (42 C/15, 16; 42 F/1, 2). Geology by G.M. Siragusa, 1972; 78p., 2 tables, 3 figures, 7 photos, 3 maps.

OFR5134 Clay and Shale Deposits of Ontario; by G.R. Guillet; approx. 265p., 28 tables, 39 figures, 2 maps.

OFR5147 Mineral Exploration Assistance Program (MEAP), Fiscal Year 1974-75, by S.A. Ferguson, F.G. Da Silva and S.C. Sun; 73p., 2 figures, 7 appendices.

OFR5148 Part 1 Preliminary Report on the Geology and Lignite Deposits of the Cretaceous Basin, James Bay Lowlands, Ontario by D.P. Rogers, J.S. Hancock, S.A. Ferguson, W.O. Karvinen, and P. Beck; 157p., 5 tables, 8 figures, 1 photo, 5 appendices, 6 maps.

OFR5148 Part 2 Report on Refraction Seismic and Resistivity Surveys in the James Bay Lowlands Cretaceous Basin for the Ontario Ministry Natural Resources, Division of Mines, Geological Branch by M. Utard, Geoterrex Limited; 47p., 1 figure, 6 plates, 10 charts.

OFR5150 Preliminary Township and NTS Index to Ontario Geoscience Reports and Maps, 1975, 1201p. (microfiche only).

OFR5153 Geology of the Redstone River Area, District of Timiskaming (42 A/3, 6), by D.R. Pyke; approx. 138p., 7 tables, 11 photos, 11 figures and 4 maps.

OFR5156 Gold Deposits of Ontario Part 2, Districts of Muskoka, Nipissing, Parry Sound, Sudbury, Timiskaming, part of Cochrane and Southern Ontario, by J.B. Gordon, H.L. Lovell and Jan de Grijs; approx. 700p., various figures and tables.

OFR5157 Economic Geology of the Cretaceous Deposits, Moose River Basin Ontario (42 I/4, 5, 6, 11, 12, 13; 42 J) by M.A. Vos; approx. 35p., 7 figures, 2 tables.

OFR5158 Geology and Mineral Deposits of the Moose River Basin, James Bay Lowlands, Preliminary Report (42 I/4, 5, 6, 11, 12, 13; 42 J) by P.G. Telford, M. A. Vos and C. Norris, approx. 100p., 2 figures, various tables.

MP60 Annual Report of the Regional and Resident Geologists, 1974. Edited by E.G. Pye, Director, Geological Branch, 241p.

MP61 Mineral Deposit Studies, Mineral Potential Evaluation and Regional Planning in Ontario; by James A. Robertson, 42p.

MP62 On the Relationship of Gold Mineralization and Ultramafic Volcanic Rocks in the Timmins Area, Northeastern Ontario (42 A/6, 11); by D.R. Pyke, 23p.

MP63 Summary of Field Work, 1975, by the Geological Branch. Edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, 158p.

OTHER ONTARIO MINISTRY OF NATURAL RESOURCES PUBLICATIONS ISSUED IN 1975

MPBP 1 The Impact of Taxation and Environmental Controls on the Ontario Mining Industry by G. Anders, W.P. Gram and S.C. Maurice; 197p. Published by the Mineral Resources Branch.

1974 Review Ontario Mineral Review 1974, 124p.

MAPS AND REPORTS ISSUED BY THE GEOLOGICAL SURVEY OF CANADA IN 1975

Cumming, L.M.
1975: Ordovician Strata of the Hudson Bay Lowlands; Geol. Surv. Canada, Paper 74-28, 93p.

Mulligan, R.
1975: Geology of Canadian Tin Occurrences; Geol. Surv. Canada, Econ. Geol. Report No. 28.

Norris, A.W. and Sanford, B.V.
1974: Geological Map of Devonian Rocks in the Moose River Basin; Geol. Surv. Canada.

Scale 1:500,000. To accompany Memoir 379.

1974: Station Locality Map of Devonian Rocks in the Moose River Basin; Geol. Surv. Canada. Scale 1:500,000. To accompany Memoir 379.

Proudfoot, D.A., Skinner, R.G. and Shilts, W.W.
1975: Contamination in Overburden Samples Obtained by the Rotary, Dual-Tube Drilling Technique; Geol. Surv. Canada, Open File 277, 15p.

OTHER PUBLICATIONS FILED WITH REGIONAL GEOLOGIST, 1975

Anhaeusser, C.R., Fritze, K., Fyfe, W.S. and Gill, R.C.O.
1975: Gold in "Primitive" Archaean Volcanics; Chem. Geol., Vol.16, p.129-135.

Hammond, A.L.
1975: Minerals and Plate Tectonics (II): Seawater and Ore Formation; Science, Vol.189, p.868-869, 915, 917.

Jolly, W.T.
1975: Subdivision of the Archean Lavas of the Abitibi Area, Canada, From Fe-Mg-Ni-Cr Relations; Earth Planet. Sci. Letters, Vol.27, p.200-210.

Palacky, G.J.
1975: Interpretation of INPUT AEM Measurements in Areas of Conductive Overburden; Geophysics, Vol.40, p.490-502.

Shilts, W.W.
1975: Principles of Geochemical Exploration for Sulphide Deposits Using Shallow Samples of Glacial Drift; CIM Bull., May 1975, p.73-80.

Walker, R.R. and Mannard, G.W.
1974: Geology of the Kidd Creek Mine– A Progress Report; CIM Bull., Dec. 1974, p.41-57.

REFERENCES

Brown, M.R.
1975: Amoco Gold Discovery Looks Major (article); The Northern Miner, June 19, 1975, p.1, 8, 20.

Karvinen, W.O.
1975: Porquis Junction Area, District of Cochrane; p.104-106 *in* Summary of Field Work, 1975, by the Geological Branch, edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, Ontario Div. Mines, MP63, 158p.

Karvinen, W.O. and Hunt, D.S.
1975: 1974 Report of the Northern Regional Geologist and Timmins Resident Geologist; p.89-115 *in* Annual Report of the Regional and Resident Geologists, 1974, E.G. Pye ed., Ontario Div. Mines, MP60, 241p.

Lumbers, S.B.
1962: Steele, Bonis and Scapa Townships; Ontario Dept. Mines, GR8, 50p.

Table 1 Exploration Activity in 1975

Company or Individual	Type of Work**	Location
Alamo Petroleum Ltd.	EM	Gowan Twp.
Allerston, R.	EM, DD	Dundonald, Bristol, Hoyle Twp.
Amax Exploration Inc.	DD	Nova Twp.
Amoco Canada Petroleum Co. Ltd.*	Geophysics, DD	Sunday L. Area, Area West of Sunday L., Atkinson L. Area, Hopper L. Area, Lower Detour L. Area
Canadian Johns-Manville Co. Ltd.	DD	Reeves Twp.
Canadian Nickel Co. Ltd.	DD	Hoyle, Jamieson Twp.
Canadian Occidental Petroleum Ltd.	EM, Mag	Lucas Twp.
Carlson, H.D.	EM	Clergue Twp.
Conwest Exploration Co. Ltd.	EM, Mag, DD	Carscallen, Godfrey, Turnbull, Byers, Loveland Twp., Partridge R. Area
Cominco Ltd.	EM, Mag, OVDD, DD	Loveland, Byers, Sheraton Twp.

Company or Individual	Type of Work**	Location
Cordilleran Engineering Ltd.	EM, Mag, DD	Cunningham
Dowe, T.K.	EM	Langmuir Twp.
Falconbridge Nickel Mines Ltd.	EM, Mag, DD	Calvert Twp.
George, P.T.	EM	Prosser Twp.
Geoterrex Ltd.	Geophysics	Gowan Twp.
Gonzales, H.	EM	Murphy Twp.
Goshawk Mines Ltd.	Mag, DD	Ogden Twp.
Grandora Explors. Ltd.	DD	Cunningham Twp.
Harvey, F.	DD	Deloro Twp.
Hill, L.E.	DD	Thomas Twp.
Hollinger Mines Ltd.	EM, Mag, DD	Mann, German, Loveland Twp.
Hudson Bay Explorations Dev. Co. Ltd.	EM	Atkinson L. Area, Lower Detour L. Area
Humphries, L.	DD	Stock Twp.
Intl. Minerals & Chem. Corp. (Canada) Ltd.*	Airborne Mag & Radiometric, OVDD, DD	Cargill, Cumming, Ecclestone Twp.
Jacomo Mines Ltd.	DD	Thorneloe Twp.
Kraft, J.E.	EM, Mag	Carman, Langmuir Twp.
Magi Gold Mines Ltd.	DD	Hawkins Twp.
McIntosh, G.	EM	Hoyle Twp.
McKinnon, D.	DD	Nesbitt Twp.
Newman, R.	Mag, EM	Cunningham Twp.
Newmont M'G Corp. of Canada Ltd.	DD	Reid Twp.
New Jersey Zinc Explor. Co. (Canada) Ltd.	EM, Mag	Area West of Atick R.
Noranda Explor. Co. Ltd.	EM, Mag	Godfrey, Turnbull, McArthur, Benton, Carnegie, Dupuis, Clergue, Keith, Mallard, Marion, Osway, Horwood Twp.; Area West of Sunday L., Sunday L. Area, Hopper L. Area, Lower Detour L. Area
Northim Mines Inc.	DD	Tisdale Twp.
Nudulama Mines Ltd.	IP, Geol. DD	Brackin, Leeson Twp.
Pamour Porcupine Mines Ltd.	DD	Langmuir, Cody, Tisdale Twp.
Phelps Dodge Corp. of Canada Ltd.	EM, Mag, DD	Reid, Mahaffy, Geary, Jamieson, Jessop, Macdiarmid Twp.
Questmont Mines Ltd.	EM, OVDD, DD	Tully Twp.
Rio Tinto Canadian Explor. Ltd. (Riocanex)	EM, Mag, DD	Hawkins, Lizar, Breckenridge Twp.
Robison Mines Ltd.	EM, Mag, OVDD	Loveland, Macdiarmid, Jamieson, Robb Twp.
Rosario Mining Explorations Ltd.	DD	Gowan Twp.
Sicintine Mines Ltd.	DD	Cunningham Twp.
Smith, R.	EM	Prosser Twp.
Texasgulf Canada Ltd.	EM, Mag, DD	Gowan, Hoyle, Wark, Godfrey, Prosser Twp.

* See index to Figures 3, 4 & 5.
** Abbreviations given in Table 2.

Table 2 Assessment Work and Other Information Received Dec. 1, 1974 to Nov. 30, 1975

Porcupine Mining Division

Abbreviations

A	- Airborne	Mag	- Magnetometer		
Asses	- Assessment work	OVDH	- Overburden drilling		
BGC	- Biogeochemistry	Pros	- Prospectus		
DDS-610'	- Diamond drilling, 5 holes totalling 609'	Res	- Resistivity		
EM	- Electromagnetic	Scint	- Scintillometer		
GC	- Geochemical	Seis	- Seismic		
GL	- Geological	sTr	- Soil trenching or stripping		
Gr	- Gravity	Tr	- Trenching		
HEM	- Horizontal loop EM	VEM	- Vertical loop EM		
IP	- Induced polarization	VLF	- Very low frequency EM		

Commodities

Ag - silver	mag - magnetite
asb - asbestos	Mn - manganese
asp - arsenopyrite	mo - molybdenite
Au - gold	Ni - nickel
cp - chalcopyrite	Pb - lead
Cr - chromium	po - pyrrhotite
Cu - copper	py - pyrite
IF - iron formation	sp - sphalerite
lig - lignite	Zn - zinc

Location	NTS	Ownership	Commodity	Type of Report	Type of Work Performed	Year	Toronto File No.	Timmins File No.
Atik R., Area West of		New Jersey Zinc Explor.Co.(Can.) Ltd.		Asses.	HEM, Gr, Mag, Seis, Elevation	1974	2.1719	T-1674
Atkinson L. Area	32 E/13	Amoco Canada Petroleum Co. Ltd.	po, py, Au	Asses.	DD 1-609'	1975		T-1689
Atkinson L. Area	32 E/13	Amoco Canada Petroleum Co. Ltd.	Zn	Asses.	DD 1-388'	1975		T-1690
Atkinson L. Area	32 E/13	Amoco Canada Petroleum Co. Ltd.	py, po, Zn, asp, Au, Ag. Cu	Asses.	DD 7-3968'	1974 1975		T-1691
Atkinson L. Area & Lower Detour L.Area	32 E/13	Amoco Canada Petroleum Co. Ltd.	cp, Zn, py, po	Asses.	DD 6-3178.7'	1974 1975		T-1684
Aurora Twp.	42 A/15 SW	Pekarik, R.S., P.O.Box 466, Shalimar, Fla. U.S.A.		Asses.	Mag.	1974	2.1676	T-1523
Benton Twp.	41 O/9	Noranda Explor. Co. Ltd.		Asses.	Mag. HEM	1974-1975	2.1867	T-2300
Benton Twp.	41 O/9	Noranda Explor. Co. Ltd.		Asses.	Mag. HEM	1974-1975	2.1869	T-2301
Benton Twp.	41 O/9	Noranda Explor. Co. Ltd.		Asses.	Mag., VEM	1974-1975	2.1866	T-2302
Benton Twp.	41 O/9	Noranda Explor. Co. Ltd.		Asses.	Mag., VEM	1975	2.1885	T-2305
Benton Twp.	41 O/9	Noranda Explor. Co. Ltd.		Asses.	Mag., VEM	1974-1975	2.1786	T-2306
Brackin & Leeson Twp.	42 B/SW	Nudulama Mines Ltd.		Asses.	Tr. D.D. 4-645'	1974,		T-2232
Breckenridge, Hawkins & Lizar Twp.	42 C/15 42 C/16	Rio Tinto Canadian Explor.Ltd. (Riocanex)	po, cp, Ni	Asses.	Mag., HEM, D.D. 2-902'	1974, 1975	2.1707	T-1667
Bristol Twp.	42 A/5 NE	Allerston,R., 322 Elm St. N., Timmins, Ont; & Lockett,H.I., 629 Pine St.N., Timmins	py, cp	Asses.	D.D. 2-1052.8' Tr., sTr.	1973, 1974		T-1610
Bristol Twp.	42 A/5 NE	Campsall, C.R., 26 Pine St. S., Timmins, Ont.		Asses.	Mag., VLF	1974	2.1629	T-1654
Bristol Twp.	42 A/5 NE	Thomas, H., 53 Main Ave.,Timmins		Asses.	DD., sTr.	1975		T-1647
Byers Twp.	42 A/12 NE	Cominco Ltd.	po, Cu,Ni	Asses.	GL DD 6-1636'	1972, 1973	2.1538	T-16
Calvert Twp.		Ethier, M.A., 82 Dymond Cresc., Box 42, New Liskeard, Ont.	Zn	Asses.	EM, Mag., OVDH 6-708.5'	1974	2.1600	T-1653
Calvert Twp.	42 A/15 SW	Falconbridge Nickel Mines Ltd.	py,po, cp, Zn	Asses.	Mag., VEM, D.D. 3-1609'	1974, 1975	2.1742	T-1664
Carman & Langmuir Twp.	42 A/6 NE	Allerston, R., 322 Elm St.N., Timmins, Ont.	Cu, Ag., Au	Asses.	GL	1961		T-771

Location	NTS	Ownership	Commodity	Type of Report	Type of Work Performed	Year	Toronto File No.	Timmins File No.
Carman & Langmuir Twp.	42 A/6 SE	Noranda Explor. Co. Ltd.		Asses.	Mag., VEM, HEM	1974	2.1710	T-1660
Carnegie & Reid Twp.	42 A/12 42 A/13	Newmont Mining Corp. of Canada Ltd.		Asses.	IP, Res.	1974	2.1711	T-40
Carnegie Twp.	42 A/14	Noranda Explor. Co. Ltd.		Asses.	Mag.	1975	2.1808	T-1677
Carscallen, Godfrey & Turnbull Twp.	42 A/5 NE	Conwest Exploration Co. Ltd.	py,cp, Au, Ag, po	Asses.	DD 5-2033.2'	1975		T-1658
Chester Twp.	42 P/12 SW	Viewpoint Explors. Ltd.		Pros.		1974		T-2036
Clergue Twp.	42 A/10 NE	Carlson, H.D., 110 Martin St., P.O. Box 183, Porcupine,Ont.		Asses	VLF	1975	2.1816	T-1644
Clergue & Stock Twp.	42 A/10E	Mulliette,M., Suite 201, 95 King St.E., Toronto, Ont; Bell,D.R., 672 Melrose Blvd.,Timmins,Ont.		Asses	Mag., VEM	1974	2.1535	T-1648
Clergue Twp.	42 A/10	Noranda Explor. Co. Ltd.		Asses.	Mag.	1974, 1975	2.1809	T-1679
Cunningham Twp.	41 O/10NE	Cons Shunsby Mines Ltd.		Asses.	Tr.	1975		T-2050
Deloro Twp.	42 A/6 NW	Harvey,F.,27 Maple St.S.,Timmins		Asses.	D.D.2-501'	1975		T-1663
Deloro Twp.	42 A/6 NW	Pamour Porcupine Mines Ltd.	py, IF	Asses.	D.D. 2-435'	1974		T-1623
DePencier,Dyer, Hobson, Hogg & Valentine Twp.	42 I/3 42 I/4 42 I/5 42 I/6	Aquitaine Co. of Can.Ltd.	lig., anhydrite	Asses.	D.D. 12-6160' GC	1974		T-1581
Douglas & McArthur Twp.	42 A/3 NE	Sargent,P., 424 Patricia Blvd., Timmins, Ont.		Asses.	Tr	1974, 1975		T-1635
Dundonald Twp.	42 A/10 NW	Allerston,R., 322 Elm St. N., Timmins, Ont.		Asses.	DD 1-528'	1975		T-1662
Dundonald Twp.	42 A/10 NW	Falconbridge Nickel Mines Ltd.		Asses.	sTr.	1974		T-417
Dupuis Twp.	41 O/11	Noranda Explor. Co. Ltd.		Asses.	Mag.	1974	2.1775	T-2298
Dyer,DePencier, Hobson, Hogg & Valentine Twp.	42 I/3 42 I/4 42 I/5 42 I/6	Aquitaine Co. of Can. Ltd.		Asses.	DD 12-6160' GC	1974		T-1581
German Twp.	42 A/10 SW	Hollinger Mines Ltd.	py, cp	Asses.	Mag., VLF, DD 1-1438'	1974, 1975	2.1677	T-1627
Godfrey, Carscallen & Turnbull Twp.	42 A/5 NE	Conwest Exploration Co. Ltd.	py, cp, Au, Ag, po	Asses.	DD 5-2033.2'	1975		T-1658
Godfrey Twp.	42 A/6 NW 42 A/5 NE	Hollinger Mines Ltd.		Asses.	DD 2-1359' Mag, EM	1970, 1974	2.1550	T-1460
Godfrey & Turnbull Twp.	42 A/5 NE	Noranda Explor. Co. Ltd.		Asses.	Mag., HEM	1974	2.1727	T-1668
Godfrey & Turnbull Twp.	42 A/12 SE	Noranda Explor. Co. Ltd.		Asses.	Mag., HEM	1974, 1975	2.1745	T-1669
Godfrey Twp.	42 A/12 SE	Noranda Explor. Co. Ltd.		Asses.	Mag., HEM	1974	2.1726	T-1671
Godfrey Twp.	42 A/12 SE	Texasgulf Canada Ltd.		Asses.	Mag., HEM	1974, 1975	2.1828	T-1680
Gowan Twp.		Texasgulf Canada Ltd.		Asses.	Mag.	1974, 1975	2.1798	T-1675
Hawkins Twp.	42 C/16 42 F/1	Magi Gold Mines Ltd.		Asses.	DD 3-909'	1974		T-2223
Hawkins, Breckenridge & Lizar Twp.	42 C/15 42 C/16	Rio Tinto Canadian Explor. Ltd. (Riocanex)	po, cp, Ni	Asses.	Mag., HEM, DD 2-902'	1974, 1975	2.1707	T-1667
Hiawatha & Lizar Twp.	42 C/15	Primrock Mining & Expl.Co.Ltd.		Pros.		1973		T-2239
Hobson, DePencier, Dyer, Hogg & Valentine Twp.	42 I/3 42 I/4 42 I/5 42 I/6	Aquitaine Co. of Can.Ltd.	lig., anhydrite	Asses.	DD 12-6160' GC	1974		T-1581
Hogg, DePencier, Dyer, Hobson & Valentine Twp.	42 I/3 42 I/4 42 I/5 42 I/6	Aquitaine Co. of Can. Ltd.	lig., anhydrite	Asses.	DD 12-6160' GC	1974		T-1581
Hopper L. Area	32 E/13	Amoco Canada Petroleum Co.Ltd.	py, Zn, po	Asses.	DD 2-1213'	1974		T-1685

Location	NTS	Ownership	Commodity	Type of Report	Type of Work Performed	Year	Toronto File No.	Timmins File No.
Horwood Twp.	42 B/1 SW	Noranda Explor. Co. Ltd.		Asses.	VEM	1974, 1975	2.1685	T-2125
Hoyle & Murphy Twp.	42 A/11 SE	Allerston,R., 322 Elm St. N., Timmins, Ontario. McIntosh,G., 137 Balsam St.S., Timmins, Ontario. Gonzales, H., 156 Columbus Ave., Timmins, Ontario.		Asses.	Mag.	1974	2.1701	T-643
Hoyle Twp.		Canadian Nickel Co. Ltd.		Asses.	DD 1-801'	1975		T-1321
Jamieson Twp.	42 A/11 SW	Canadian Nickel Co. Ltd.	py	Asses.	DD 1-633'	1974		T-1534
Jamieson, Loveland, Macdiarmid & Robb Twp.	42 A/12E	Cominco Ltd.	Zn	Asses.	OVDH 36-3814.5'	1973, 1974		T-1621
Keefer Twp.	42 A/5 SE	Galata,E., 12 Legume Rd., Weston, Ont., M9M 1Z5.		Asses.	sTr.	1974		T-1556
Keith Twp.	42 B/1 NW	Noranda Explor. Co. Ltd.		Asses.	VLF, Mag.	1974	2.1548	T-1646
Keith Twp.	42 B/1 NW	Noranda Explor. Co. Ltd.		Asses.	Mag., VLEM	1974	2.1584	T-1649
Kenogaming Twp.	42 A/4 NW	Amoco Canada Petroleum Co. Ltd.		Asses.	Mag.	1974	2.1666	T-1678
Kenogaming, Penhorwood, Reeves & Sewell Twp.		Cameron,D.G., 8 Thomson St., Barrie, Ont.		Asses.	sTr.	1974		T-1661
Langmuir & Carman Twp.	42 A/6 NE	Allerston,R., 322 Elm St.N., Timmins, Ont.	Cu, Ag, Au	Asses.	GL	1961		T-771
Langmuir & Carman Twp.	42 A/6 SE	Noranda Explor. Co. Ltd.		Asses.	Mag., VEM, HEM	1974	2.1710	T-1660
Langmuir Twp.	42 A/6 SE	Pamour Porcupine Mines Ltd.		Asses.	DD 1-404'	1975		T-1673
Leeson Twp.	42 B/SW	Nudulama Mines Ltd.		Asses.	DD 6-933' I.P.	1974, 1975	2.1773	T-2232
Lizar Twp.	52 C/15 52 C/16	Neoscope Expl. Ltd.		Asses.	AMag. A.Scint.	1954	63.543	T-2285
Lizar Twp.	42 C/15 42 C/16	Primrock Mining & Expl. Ltd.		Asses. Pros.	Mag., VLF	1973, 1974	2.1509	T-2239
Lizar, Breckenridge & Hawkins Twp.	42 C/15 42 C/16	Rio Tinto Canadian Explor. Ltd. (Riocanex)	po, cp, Ni	Asses.	Mag., HEM DD 2-902'	1974, 1975	2.1707	T-1667
Loveland Twp.	42 A/12 NE	Bombay Explors. Inc.		Asses.	DD 1-150'	1974		T-167
Loveland, Jamieson, Macdiarmid & Robb Twp.	42 A/12E	Cominco Ltd.	Zn	Asses.	OVDH 36-3814.5'	1973, 1974		T-1621
Loveland Twp.	42 A/12 NE	Hollinger Mines Ltd.	cp, po	Asses.	DD 1-1614'	1975		T-1591
Loveland Twp.	42 A/12 NE	Noranda Explor. Co. Ltd.		Asses.	Mag., HEM	1974	2.1603	T-1596
Lower Detour L. Area & Atkinson L. Area	32 E/13	Amoco Canada Petroleum Co. Ltd.	cp, Zn, py, po	Asses.	DD 6-3178.7'	1974, 1975		T-1684
Lower Detour L. Area & Sunday L. Area	32 E/13	Amoco Canada Petroleum Co. Ltd.	po, py, cp	Asses.	DD 2-772'	1974, 1975		T-1692
Lower Detour L. Area	32 E/4	Noranda Explor. Co. Ltd.		Asses.	Mag., VEM	1974, 1975	2.1831	T-1682
Lower Detour L.Area	32 E/13	Noranda Explor. Co. Ltd.		Asses.	Mag., VEM	1974, 1975	2.1912	T-1683
Macdiarmid, Jamieson, Loveland & Robb Twp.	42 A/12E	Cominco Ltd.	Zn	Asses.	OVDH 36-3814.5'	1973, 1974		T-1621
Mahaffy Twp.	42 A/13 SE	Asarco Exploration Co. of Can. Ltd.	Pb, Zn, Cu, py	Asses.	OVDH 28-5127'	1974	2.1490	T-1634
Mahaffy & Reid Twp.	2 A/14 SW	Phelps Dodge Corp. of Can. Ltd.	py	Asses.	DD 2-1052.5'	1975		T-1676
Mallard Twp.	41 O/9	Noranda Explor. Co. Ltd.		Asses.	Mag., HEM	1974, 1975	2.1868	T-2304
Mann Twp.	42 A/15 SW	Hollinger Mines Ltd.	po, cp, py, mag.	Asses.	VLF, GL, Mag., DD 4-2045'	1974, 1975	2.1704 2.1691	T-1656
Mann & Newmarket Twp.	42 A/15 SW	International Mogul Mines Ltd.		Asses.	VEM, Mag., GL	1973	2.1391	T-1629
Marion Twp.	41 O/9 NE	Noranda Explor. Co. Ltd.		Asses.	Mag., VEM	1975	2.1870	T-2299

Location	NTS	Ownership	Commodity	Type of Report	Type of Work Performed	Year	Toronto File No.	Timmins File No.
Marion Twp.	41 O/16	Noranda Explor. Co. Ltd.		Asses.	Mag., VEM	1975	2.1871	T-2307
Marion Twp.	41 O/16	Noranda Explor. Co. Ltd.		Asses.	Mag., VEM	1974	2.1872	T-2308
Marion Twp.	41 O/16	Noranda Explor. Co. Ltd.		Asses.	Mag., VEM	1974	2.1873	T-2309
Matheson Twp.	42 A/11 SE	Texasgulf Canada Ltd.		Asses.	DD 1-650'	1975		T-1584
McArthur Twp.	42 A/3 NE	Abitibi Asbestos Mining Co.	asb, po	Asses.	DD 7-2052'	1974		T-47
McArthur Twp.	42 A/3 NE	Noranda Explor. Co. Ltd.		Asses.	Mag., HEM	1974, 1975	2.1733	T-1670
McArthur & Douglas Twp.	42 A/3 NE	Sargent,P., 424 Patricia Blvd., Timmins, Ont.		Asses.	Tr.	1974, 1975		T-1635
McCart Twp.	42 A/15 SW	Jessup,M., 466 Smith St., Iroquois Falls, Ont.		Asses.	Tr.	1974, 1975		T-1543
Mountjoy Twp.	42 A/6 NW 42 A/11 SW	Kerr Addison Mines Ltd.	Au, Zn, Cu, Ag,py, asp, mo	Asses.	OVDH 86-6008' DD 13-7172' Mag, GC	1974		T-1650
Murphy & Hoyle Twp.	42 A/11 SE	Allerston,R.,322 ElmSt.N., Timmins, Ont. McIntosh,G., 137 Balsam St.S., Timmins, Ont. Gonzales,H., 156 Columbus Ave., Timmins, Ontario.		Asses.	Mag.	1974	2.1701	T-643
Nesbitt Twp.	42 A/14 NW	McKinnon,D., 827 Lakeshore Dr., North Bay	Cu	Asses.	DD 2-1000'	1975		T-1681
Newmarket & Mann Twp.	42 A/15 SW	International Mogul Mines Ltd.		Asses.	VEM, Mag, GL	1973	2.1391	T-1629
Ogden Twp.	42 A/6 NW	Goshawk Mines Ltd.		Pros. Asses.	DD 1-404'	1975		T-1665
Osway Twp.	41 O/9	Noranda Explor.Co. Ltd.		Asses.	Mag., HEM	1974 1975	2.1874	T-2303
Parnell Twp.	42 G/7 NW	Castonguay, A., Opasatika, Ont.		Asses.	sTr.	1974 1975		T-1512
Penhorwood, Kenogaming,Reeves & Sewell Twp.		Cameron,D.G., 8 Thomson Street, Barrie, Ont.		Asses.	sTr.	1974		T-1661
Penhorwood & Reeves Twp.		Canadian Johns-Manville Co. Ltd.	talc, mag.	Asses.	BGC DD 6-731'	1974 1975	2.1566	T-506
Prosser & Tully Twp.	42 A/11 NE	Intex Mining Co. Ltd.		Prosp		1974, 1975		T-1637
Prosser Twp.	42 A/11 NE	Texasgulf Canada Ltd.		Asses.	Mag.	1974	2.1732	T-1672
Raney Twp.	41 O/15 NW	J-Dex Expl. Ltd.		Asses.	IP, Mag., GC	1973	2.1612	T-2180
Reaume Twp.	42 A/14 NE	Falconbridge Nickel Mines Ltd.		Asses.	Mag., EM	1974	2.1628	T-1655
Reaume Twp.	42 A/14 NE	Hibbard,M., Cedar Hill,Connaught, Ontario.		Asses.	DD	1973		T-1659
Reeves, Kenogaming, Penhorwood & Sewell Twp.		Cameron, D.G., 8 Thomson Street, Barrie, Ont.		Asses.	sTr.	1974		T-1661
Reeves & Penhorwood Twp.		Canadian Johns-Manville Co.Ltd.	talc, mag.	Asses.	BGG DD 6-731'	1974, 1975	2.1566	T-506
Reid Twp.	42 A/11 SW 42 A/12 42 A/13	Newmont Mining Corp. of Canada Ltd.	Cu, Zn, Ni, Ag, po, py	Asses.	CS DD 10-7025' IP, Res.	1974	2.1711	T-40
Reid & Mahaffy Twp.	42 A/14 SW	Phelps Dodge Corp. of Can.Ltd.	py	Asses.	DD 2-1052.5'	1975		T-1676
Robb, Jamieson, Loveland & Macdiarmid Twp.	42 A/12 E	Cominco Ltd.	Zn	Asses.	OVDH 36-3814.5'	1973, 1974		T-1621
Sewell, Kenogaming, Penhorwood & Reeves Twp.		Cameron,D.G., 8 Thomson St., Barrie, Ont.		Asses.	sTr.	1974		T-1661
Shaw Twp.	42 A/6 NE	Pfeifer, F., P.O. Box 382, South Porcupine, Ont.		Asses.	Tr.	1975		T-214
Sheraton Twp.	42 A/7 N	Cominco Ltd.	py, cp, sp	Asses.	DD 2-797' EM	1973, 1974	2.1718	T-650

Location	NTS	Ownership	Commodity	Type of Report	Type of Work Performed	Year	Toronto File No.	Timmins File No.
Sheraton & Timmins Twp.		Dolan,L., P.O. Box 87, Schumacher, Ontario.	Au	Asses.	sTr.	1974		T-1652
Stock & Clergue Twp.	42 A/10 E	Mulliette,M., Suite 201, 95 King St.E., Toronto, Ont. Bell,D.R., 672 Melrose Blvd., Timmins, Ont.		Asses.	Mag., VEM	1974	2.1535	T-1648
Stock Twp.	42 A/10	Noranda Explor.Co. Ltd.		Asses.	Mag.	1974	2.1583	T-1651
Stock Twp.	42 A/10 SW	Quebec Sturgeon River Mines Ltd.		Asses.	DD 2-463.5'	1974		T-1611
Sunday L. Area	32 L	Amoco Canada Petroleum Co. Ltd.	po, py, Cu	Asses.	DD 3-1619'	1974		T-1687
Sunday L. Area	32 L	Amoco Canada Petroleum Co. Ltd.	po, Cu, Au, Ag, Ni	Asses.	DD 7-5362.7'	1974, 1975		T-1692
Sunday L. Area & Lower Detour L. Area	32 E/13	Amoco Canada Petroleum Co.Ltd.	po, py, cp	Asses.	DD 2-772'	1974, 1975		T-1692
Sunday L., Area West of	32 L/4	Amoco Canada Petroleum Co. Ltd.	Au, py, po	Asses.	DD 2-709'	1974		T-1686
Thomas Twp.	42 A/7 NW	Hill,L.E., 122 Helen Avenue, P.O. Box 1022, South Porcupine, Ont.		Asses.	sTr. D.D. 2-359'	1974, 1975		T-1557
Thorneloe Twp.	42 A/6 SW	Jacomo Mines Ltd.		Asses.	OVDH 3 DD 4-1040'	1974, 1975		T-1631
Timmins & Sheraton Twp.		Dolan,L., P. O. Box 87, Schumacher, Ont.	Au	Asses.	sTr.	1974		T-1652
Tisdale Twp.	42 A/11 SW	Kavula, A., 70 Ellsworth Avenue, Waterbury, Conn., U.S.A.		Asses.	Mag., VEM	1974	2.1545	T-1642
Tisdale Twp.	42 A/6 NW	Lepic,A., 55 Emile Ave.,Timmins		Asses.	sTr.	1975		T-1582
Tisdale Twp.	42 A/6 NW	Noranda Explor.Co. Ltd.		Asses.	Mag., VLF, VEM DD 1-123' GL	1974, 1975	2.1664 2.1923	T-1657
Tisdale Twp.	42 A/6 NW	Northim Mines Inc.		Prosp.		1975		T-1666
Tully & Prosser Twp.	42 A/11 NE	Intex Mining Co. Ltd.		Prosp.		1974, 1975		T-1637
Tully Twp.	42 A/11 NE	Questmont Mines Ltd.	Ni, Cr, Mn, Pb, py, Au	Asses.	DD 3-825' OVDH 8-1598' Mag, VEM	1973, 1974	2.1674 2.1736	T-1517
Turnbull, Carscallen & Godfrey Twp.	42 A/5 NE	Conwest Exploration Co.Ltd.	py,cp, Au, Ag, po	Asses.	DD 5-2033.2'	1975		T-1658
Turnbull & Godfrey Twp.	42 A/5 NE	Noranda Explor.Co. Ltd.		Asses.	Mag., HEM	1974	2.1727	T-1668
Turnbull & Godfrey Twp.	42 A/12 SE	Noranda Explor.Co. Ltd.		Asses.	Mag., HEM	1974, 1975	2.1745	T-1669
Valentine,DePencier, Dyer, Hobson & Hogg Twp.	42 I/3 42 I/4 42 I/5 42 I/6	Aquitaine Co. of Can.Ltd.	lig, anhydrite	Asses.	DD 12-6160' GC	1974		T-1581
Wark Twp.	42 A/11 NE	McIntyre Mines Ltd.		Asses.	VEM, Mag.	1974	2.1620 2.1621 2.1619 2.1622	T-1626
Wark Twp.	42 A/11 NE	Texasgulf Canada Ltd.		Asses.	DD 1-570'	1975		T-461
Whitney Twp.	42 A/6 NE	Allerston,R., 322 Elm St.N., Timmins, Ont.		Asses.	Tr, sTr.	1973, 1974, 1975		T-1052
Whitney Twp.	42 A/11 SE	Summit Gold Mines Inc.	Au, py,po	Asses.	DD 6-2327'	1974		T-1571
Woolrich Twp.		Johannson,E.A.V., 683 Regent St.S., Sudbury, Ont.		Asses.	sTr.	1974		T-2287

1975 REPORT

of the

KIRKLAND LAKE RESIDENT GEOLOGIST

by

H.L. Lovell, F.R. Ploeger and G.P. B. Grabowski

CONTENTS

Page

Introduction 77
Resident Geologist's Activities 77
Mining Activity 77
  Cobalt Area 77
  Gowganda–Elk Lake Area 77
  Matachewan Area 77
  Holtyre–Matheson Area 78
  Kirkland Lake–Larder Lake Area 78
Sand and Gravel 78
Property Examinations 78
Geological Branch Activities 79
Research by Other Agencies 79
ODM Maps and Reports Issued by the Geological Branch in 1975 79
Other Ontario Ministry of Natural Resources Publications Issued in 1975 82
ODM-GSC Maps Issued in 1975 82
Recent Publications and References 82

TABLE

1–Assessment Work and Other Exploration Information Received in 1975 83

FIGURES

1,2–Kirkland Lake Resident Geologist's District 74,76
Index to Figure 1 75

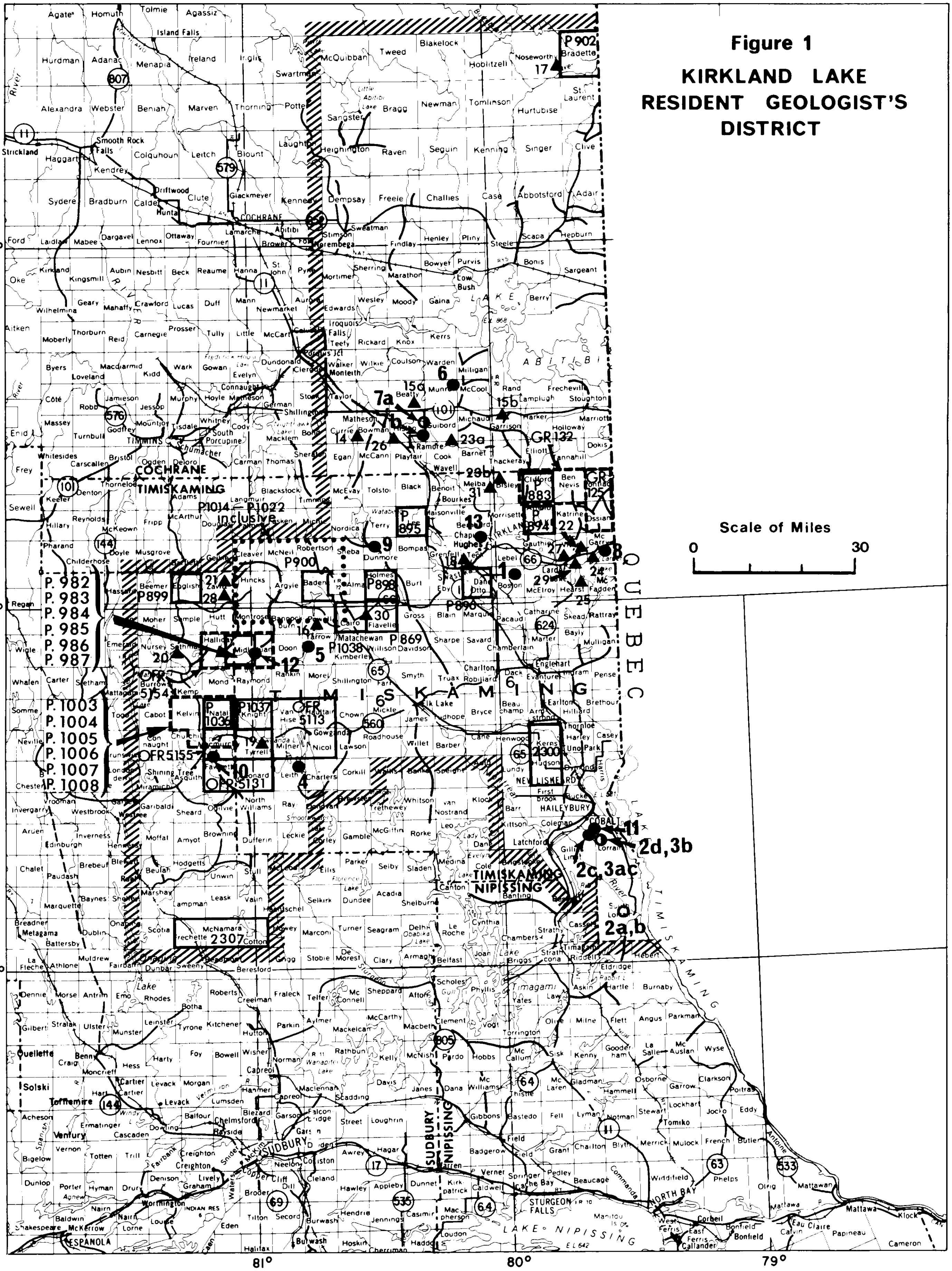


Figure 1

KIRKLAND LAKE RESIDENT GEOLOGIST'S DISTRICT

Mines

Mine	Status	Commodity	Township
1. Adams Mine (Dominion Foundries & Steel Ltd.)	●	Fe	Boston
2. Agnico-Eagle Mines Ltd.			
a) Exploration Frontier mine	○	Ag,Co	South Lorrain
b) Trout Lake mine	○	Ag,Co	South Lorrain
c) Coniagas-Trethewey mine	●	Ag,Co	Coleman
d) Beaver-Timiskaming mine	◑	Ag,Co	Coleman
3. Canadaka Mines Ltd.			
a) Conisil mine	●	Ag,Co,Ni	Coleman
b) Glen Lake mine	◑	Ag,Co	Coleman
c) University No. 3 mine	●	Ag,Co,Ni	Coleman
4. Devon Resources Ltd.	●	Ag,Co	Leith
5. Extender Minerals of Canada Ltd.	●	ba	Yarrow
6. Hedman Mines Ltd.	●	asb	Munro
7. Hollinger Mines Ltd.			
a) New Kelore mine	◑	Au	Hislop
b) Ross mine	●	Au,Cu	Hislop
8. Kerr Addison Mines Ltd.	●	Au	McGarry
9. Ministry of Natural Resources	●	peat	Dunmore
10. Shining Tree Mines Ltd.—former Caswell Lake (Westree) property	●	Ag,Au	Macmurchy
11. Teck Corporation Ltd.—Silverfields mine	●	Ag,Co	Coleman
12. United Asbestos, Inc.—Midlothian mine	●	asb	Midlothian
13. Willroy Mines Ltd.—Macassa mine (also Tegren and Minerals Properties)	●	Au	Teck

Properties Under Evaluation and/or Active Exploration

Name	Commodity	Township
14. Asarco Explor. Co. of Canada Ltd.—The Intl. Nickel Co. of Canada Ltd.—Brascan Resources Ltd. (Tillex Syndicate)	Cu,Au	Currie, Bowman
15a. Canadian Johns-Manville Co. Ltd.	asb	Beatty
15b. Canadian Johns-Manville Co. Ltd.	asb	Garrison
16. Copper Lake Explorations Ltd.	Au,Cu	Powell
17. Dome Exploration (Canada) Ltd.	Cu,Zn,Au	Noseworthy, Bradette
18. Gateford Mines Ltd.	Au	Teck
19. Getty Mines Ltd. (former Welsh—Mac Mines property)	Au	Tyrrell
20. Granges Exploration (Canada) AB (Sirola property)	Au	Sothman
21. Gulf Minerals Canada Ltd.	Au	Zavitz
22. Hanna Mining Co. Ltd., The (Amalgamated Larder Mines Ltd. property)	Au	McVittie
23a. Here Fault Copper Ltd.	Au	Cook, Guibord
23b. Here Fault Copper Ltd. (Tamminen, Sullivan, Mathias option)	Au	Melba
24. Kerr Addison Mines Ltd. (former Sheldon Larder (Armistice) property).	Au	McGarry
25. Northern Homestake Mines Ltd. (former Martin—Bird property)	Au	Hearst
26. Pamour Porcupine Mines Ltd. (Canadian Arrow Mines property)	Au	Hislop
27. Phelps-Dodge Corp. of Canada Ltd. (Grasset Lake property)	Au	McVittie
28. Rio Algom Ltd. (former Pan-Ore property)	Au	Zavitz
29. Sudbury Contact Mines Ltd. (former Laguerre mine property)	Au	Hearst
30. Texasgulf, Inc.	Cu,Au,Mo	Cairo, Flavelle
31. Westfield Minerals Ltd.	Au	Bisley

Explanation

● Producing mine

◑ Mine under development

○ Mine closing in 1975

▲ Property under development and/or active exploration

New maps and(or) reports (ODM) with number

- P - Preliminary Map
- OFR - Open File Report
- GR - Geological Report
- Map 2300 - Coloured Geological Map

Boundary of Resident Geologist's District

Metal and Mineral Reference

- Ag – Silver
- Au – Gold
- Co – Cobalt
- Cu – Copper
- Fe – Iron
- Mo – Molybdenum
- Ni – Nickel
- asb – Asbestos
- ba – Barite

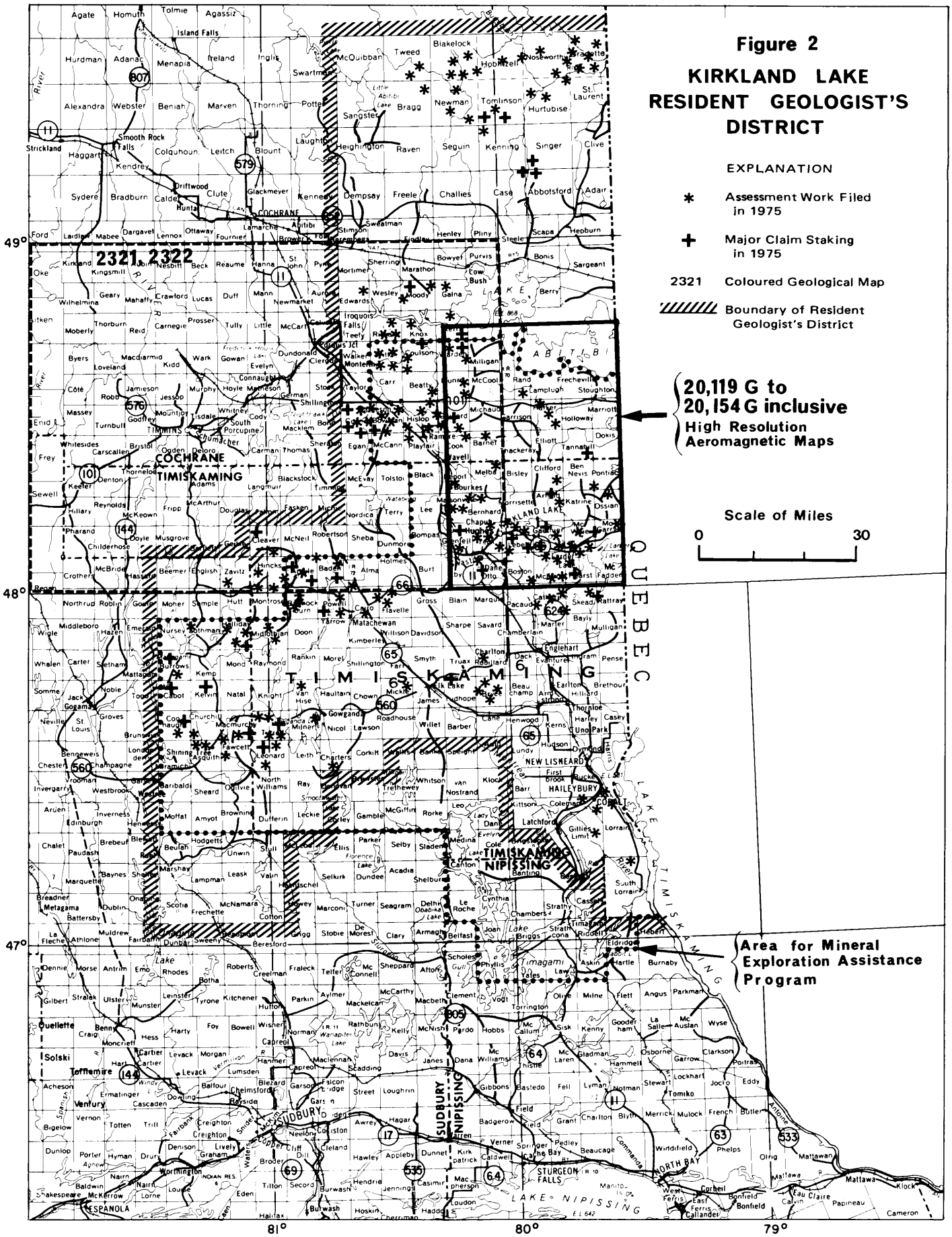


Figure 2
KIRKLAND LAKE RESIDENT GEOLOGIST'S DISTRICT
EXPLANATION
Assessment Work Filed in 1975
Major Claim Staking in 1975
2321 Coloured Geological Map
Boundary of Resident Geologist's District
20,119 G to 20,154 G inclusive High Resolution Aeromagnetic Maps
Scale of Miles
0
30
Area for Mineral Exploration Assistance Program
2321 2322
COCHRANE
TIMISKAMING
TIMMINS
KIRKLAND LAKE
NEW LISKEARD
HAILEYBURY
TIMISKAMING NIPISSING
SUDBURY
SUDBURY NIPISSING
STURGEON FALLS
NORTH BAY
ESPANOLA
QUEBEC
ONTARIO
LAKE TIMISKAMING
LAKE NIPISSING
49°
48°
47°
81°
80°
79°

1975 REPORT

of the

KIRKLAND LAKE RESIDENT GEOLOGIST

by

H.L. Lovell[1], F.R. Ploeger[2] and G.P.B. Grabowski[2]

INTRODUCTION

Exploration activity declined in 1975, partly in response to the 25 percent decline in the price of gold coincident with rapidly inflating costs. In the Larder Lake Mining Division sector of the Kirkland Lake Resident Geologist's district, 2,916 claims were recorded in 1975 compared to 4,827 in 1974, and 5,010 claims were cancelled. In the Cobalt part of the Kirkland Lake Resident Geologist's district, covered by the Sudbury Mining Division, an additional 32 claims were staked.

Ten mines were in production during 1975, producing gold, silver, cobalt, iron and asbestos. In addition, sand, gravel, peat and limestone were quarried. A new asbestos mine, owned by United Asbestos Incorporated, and located 32 km (20 miles) west of Matachewan, began production in 1975. The construction of Canadian Smelting and Refining (1974) Limited's new silver refinery was completed in 1975.

RESIDENT GEOLOGIST'S ACTIVITIES

In 1975 the staff consisted of the Resident Geologist and assistant, a part-time secretary, two college students during the summer, and a geologist and two prospectors for short periods of time to assist with field and office work.

Duties consisted of the following: gathering and filing mineral exploration data, and geological information from sources such as scientific journals, university theses and newspapers; technical discussions with geologists and prospectors concerning exploration possibilities and procedures; visits to mines and properties; conducting Canadian and foreign university, college, exploration and government personnel on geological tours of the Cobalt and Kirkland Lake areas; composing monthly and annual reports; contributing advice and data concerning Ministry of Natural Resources and official municipal usage of land; attending technical meetings and field trips; completing the mapping of Bayly Township south of Larder Lake; completing Data Series Maps for eight townships; and providing information on the local geology to students, tourists and rockhounds.

MINING ACTIVITY

Cobalt Area

Agnico-Eagle Mines Limited suspended mining operations at the Trout Lake mine in South Lorrain Township, when reserves became low, and began mining silver ore underground on the Coniagas-Trethewey claims in Cobalt.

Canadaka Mines Limited's mill (on the Bailey property) burned down during 1975 and a new mill and tailings disposal site are being constructed south of Kerr Lake. Extensive exploration has been carried out underground in the Conisil workings as well as on surface holdings of Canadaka in the Cobalt area. Canadian Smelting and Refining (1974) Limited, controlled by Canadaka, completed construction of a new silver refinery in Cobalt during 1975.

Gowganda–Elk Lake Area

Devon Resources Limited renovated the mill at the former Rusty Lake silver mine and began processing jig table concentrates from the former operation.

Matachewan Area

United Asbestos Incorporated began production during the summer of 1975 and is expected to reach normal mining and milling rates in 1976. This mining activity has rejuvenated the community of Matachewan; a new subdivision has been partly built and Matachewan has been organized into an Improvement District.

[1]Resident Geologist, Ontario Ministry of Natural Resources, 4 Government Road East, Kirkland Lake, P2N 1A2.

[2]Resident Geologist's Assistant.

Extender Minerals of Canada Limited mined and milled barite during the summer season.

Granges Exploration (Canada) AB has drilled more than 70 holes in an extensive multi-year program following geophysical surveys west of Matachewan.

Holtyre–Matheson Area

Gold ore at New Kelore Mines Limited property is to be mined via the Ross mine of Hollinger Mines Limited. Access will be gained by driving more than 1.5 km (1 mile) on the 750-foot level (229 m) from the Ross shaft to the ore at New Kelore. Trackless equipment will be used.

Kirkland Lake–Larder Lake Area

Kerr Addison Mines Limited advanced about 100 m (several hundred feet) in a 0.8 km (½ mile) long drive on its 3,850-foot level (1173 m). The drive is directed towards an area below the Armistice shaft of Sheldon–Larder Mines Limited, where deep wire-line drilling obtained appreciable gold intersections at about 520, 760 and 900 m (1,700, 2,500 and 3,000 feet). Flat holes will be drilled at intervals southward from the drive, to test the interpolated favourable horizons.

Sudbury Contact Mines Limited dewatered the Laguerre shaft at Larder Lake and carried out an extensive exploration program underground.

SAND AND GRAVEL

A total of 1 519 630 m^3 (1,924,700 cubic yards) of sand and gravel were authorized to be removed from Crown Land on permits issued by the Larder Lake Mining Division Recorder's office. This does not include material in the Cobalt area (Sudbury Mining Division), or permits issued to Ministries of the Ontario Government.

PROPERTY EXAMINATIONS

Pamour Porcupine Mines Limited test milled about 10,000 tons from the property of Canadian Arrow Mines Limited south of Matheson. The ore was removed from a surface rock trench by the use of a jumbo drill, a rubber-tired scoop tram to muck and a truck contracted occasionally to haul the ore to the Pamour mill east of Timmins. The walls of the 17 degree decline ramp contained an average of 0.085 ounces gold per ton. The waste dump from a former operation consists mainly of greenish-black barren magnetic basalt with some serpentine, cut by a few quartz-carbonate stringers containing small amounts of pink feldspar and epidote. The host rock consists of a pink and white feldspar bearing syenite, and a red granitic phase containing quartz veins and disseminated pyrite.

The claims of *T.H. Becker et al.* north of the Canadian Arrow Mines Limited property contain interbedded fine- to medium-grained massive basalt, black fine-grained magnetic basalt with some pillowed flow tops, dark-red hard trachyandesite flows with amygdaloidal flow tops, and a few layers of banded trachyte tuffs. Grey syenite porphyry dikes are present, causing pink feldspathic-quartz-pyrite alteration in the country rocks. Gold up to more than 0.33 ounces per ton is associated with disseminated pyrite in fine-grained, pale grey altered trachyte below amygdaloidal flow tops.

A *botryoidal hematite* ("Alaska black diamond") deposit in Yarrow Township has been tested periodically since discovered several decades ago. Where the microscopic fractures in the hematite are spaced at least 1 cm apart, the material is of commerical grade, suitable for manufacture into semi-precious stones for jewelry. In previous tests of shipments to Germany, highly polished articles of jewelry were made from this hematite. The deposit is located 2.4 km (1½ miles) south of a road, suitable only for four-wheel drive vehicles, from Matachewan to the new electric power transmission line to the United Asbestos Incorporated mine. The deposit consists of a specular and botryoidal hematite-bearing quartz vein striking east, cutting pink to brown arkose of the Coleman Member of the Cobalt Group. The botryoidal hematite forms a layer generally less than 3 cm thick on massive hematite and on quartz gangue, including the quartz between angular breccia fragments of arkose. Some of the specular hematite is slickensided and may have been formed as a result of fault movements within massive hematite. Several narrow quartz-hematite veins cut the arkose parallel to and north of the main vein.

The *Dane copper mine*, a past producer 3 km (2 miles) south of Kirkland Lake has mineralization of two types. At the western shaft are numerous chalcopyrite blebs and malachite-filled fractures in white quartz veins cutting schistose mafic tuff and massive basalt. The basalt has a fairly soft, rough, rusty weathered surface. Interbedded with the basalt are lenses of banded magnetite-chert iron formation. At the eastern shaft, stringers and lenses of chalcopyrite, up to 0.5 m (1½ feet) wide, occur in contorted greenish black schistose mafic volcanic rocks, and in banded magnetite-chert and sulphide-chert iron formation. Pyrite occurs as disseminated grains and stringers in the mafic schist, and also in massive amphibolitized basalt and magnetite-chert iron formation. Chalcopyrite is also present in pink feldspar-bearing quartz-carbonate veins. The mafic volcanic rocks have been altered by the Lebel Township syenitic stock, and have mineralogical compositions characteristic of the epidote-garnet amphibolite facies of contact metamorphism. The mafic volcanic rocks are intruded by small, irregular syenitic and mica lamprophyre dikes.

Grasset Lake Mines Limited drilled four short holes on a recently discovered surface showing of visible native gold in quartz-veined sericitic grey and green carbonate rock and chlorite schist. Gold values were obtained where fine-grained pyrite is widespread along sheared zones.

D. Lowe prospected the former Mitchell-Hearst Gold Mines Limited property 3 km (2 miles) south of Larder Lake village, discovering intermittent visible gold along a strike length of 90 m (300 feet) and a width of 2.5 m (8 feet). Stripping by bulldozing has been done, as well as rock work. The gold is in carbonate rock containing green chrome mica. The gold-bearing carbonate rock is interbanded with dark fine-grained basalt and pyroxenite, and with whitish plagioclase-rich fragmental rhyodacite. Many of the fragments are angular, and some are almost 30 cm (1 foot) in diameter. Where gossans have been blasted to expose fresh rock, or the weathered surface has been stripped of soil, pyrrhotite and pyrite with small blebs of chalcopyrite are found to be present in the matrix between fragments.

The *D. Duffy* claims, 3 km (2 miles) south of the town of Kirkland Lake, contain extensive areas of green carbonate rocks interbedded with banded magnetite-sulphide-chert iron formation and basalt. Quartz stockworks containing a little disseminated pyrite have been opened up by rock trenching. Gold assays are reported to be low to moderate (D. Duffy, personal communication). The carbonate rock formation strikes east and is about 30 m (100 feet) wide. It contains chlorite slips, and shows deep rusty weathering along fractures. The widest exposure of white quartz is 20 m (60 feet) in diameter. Pits in gossan areas expose sugary greyish white recrystallized chert with sparse bands of magnetite and lenses and stringers of pyrite. The chert is cut by quartz veins.

GEOLOGICAL BRANCH ACTIVITIES

Geological mapping was carried out in the Matheson–Iroquois Falls area by W.O. Karvinen, in the Matachewan area by D.R. Pyke, and in the Shining Tree area (Cabot and Kelvin Townships) by M.W. Carter.

In April, maps of an airborne electromagnetic-magnetic survey covering Cleaver, McNeil, Robertson, Hincks, Argyle, and Baden Townships, and parts of Sheba, Alma, Cairo, Montrose, Bannockburn, and Powell Townships were released. The Barringer/Questor Mark VI INPUT survey was flown by Questor Surveys Limited for the Ontario Government.

RESEARCH BY OTHER AGENCIES

Stratigraphic studies were carried out in the Matachewan area by R.H. Ridler and age determinations of granitic rocks using zircons were made by M.J. Frarey, both of the Geological Survey of Canada.

Thesis projects were undertaken by P. Coad and A. Hartlein of the University of Toronto on the former Potter copper mine in Munro Township and on the Silverfields mine, Cobalt, respectively; by L. Tihor and R.S. Hyde of McMaster University on carbonate rocks and on Timiskaming Group sedimentary rocks, respectively, of the Kirkland–Larder Lakes area; and by D. Gamble of Laurentian University on trace elements in the wall rocks of the Macassa gold mine, Kirkland Lake.

ODM MAPS AND REPORTS ISSUED BY THE GEOLOGICAL BRANCH IN 1975

P.869 (Revised)	Flavelle Township, District of Timiskaming (41 P/15, 16; 42 A/1, 2); Kirkland Lake Data Series. Compilation by H.L. Lovell, E.D. Frey and F. Ploeger, 1972, 1973, 1975. Scale: 1 inch to ¼ mile or 1:15,840.
P.883	Clifford Township, District of Cochrane (32 D/5W); Kirkland Lake Data Series. Compilation by H.L. Lovell, Jan de Grijs, and F. Ploeger, 1973, 1975. Scale: 1 inch to ¼ mile or 1:15,840.
P.894	Arnold Township, District of Timiskaming (32 D/4W, 5W); Kirkland Lake Data Series. Compilation by H.L. Lovell, Jan de Grijs and F. Ploeger, 1973, 1975. Scale: 1 inch to ¼ mile or 1:15,840.
P.895	Lee Township, District of Timiskaming (42 A/8W, 42 A/1W); Kirkland Lake Data Series. Compiled by H.L. Lovell and Jan de Grijs, 1972, 1973. Scale 1 inch to ¼ mile or 1:15,840.
P.896	Otto Township, District of Timiskaming (42 A/8W, 2E); Kirkland Lake Data Series. Compiled by H.L. Lovell and Jan de Grijs, 1972, 1973. Scale 1 inch to ¼ mile or 1:15,840.
P.898	Holmes Township, District of Timiskaming (42 A/1W, 42 A/2E); Kirkland Lake Data Series. Compiled by H.L. Lovell and Jan de Grijs, 1972, 1973. Scale 1 inch to ¼ mile or 1:15,840.
P.899	English Township, District of Sudbury (42 A/3); Kirkland Lake Data Series. Compiled by H.L. Lovell and Jan de Grijs, 1972, 1973. Scale 1 inch to ¼ mile or 1:15,840.
P.900	Baden Township, District of Timiskaming (42 A/2); Kirkland Lake Data Series. Com-

piled by H.L. Lovell and Jan de Grijs, 1972, 1973. Scale 1 inch to ¼ mile or 1:15,840.

P.902 Bradette Township, District of Cochrane (32 E/5E, 12E); Kirkland Lake Data Series. Compiled by H.L. Lovell and Jan de Grijs, 1972, 1973. Scale 1 inch to ¼ mile or 1:15,840.

P.971 Uranium and Thorium Deposits of Ontario, East Central Sheet, Districts of Thunder Bay, Algoma, Cochrane, Sudbury, Timiskaming and Nipissing. Compilation by James A. Robertson, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.982 Geochemical Distribution of Zinc in Metavolcanics and Mafic Intrusions in Parts of Halliday and Midlothian Townships, Districts of Sudbury and Timiskaming (41 (41 P/14E, 41 P/15W). Geochemical field work by L.G. Closs and assistants, 1973. Geochemical compilation by L.G. Closs, 1973, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.983 Geochemical Distribution of Nickel in Metavolcanics and Mafic Intrusions in Parts of Halliday and Midlothian Townships, Districts of Sudbury and Timiskaming (41 (41 P/14E, 41 P/15W). Geochemical field work by L.G. Closs and assistants, 1973. Geochemical compilation by L.G. Closs, 1973, 1974. Scale: 1 inch to ¼ mile or 1:15,840.

P.984 Geochemical Distribution of Copper in Metavolcanics and Mafic Intrusions in parts of Halliday and Midlothian, Townships, Districts of Sudbury and Timiskaming (41 P/14E, 41 P/15W). Geochemical field work by L.G. Closs and assistants, 1973. Geochemical compilation by L.G. Closs, 1973, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.985 Geochemical Distribution of Iron in Metavolcanics and Mafic Intrusions in Parts of Halliday and Midlothian Townships, Districts of Sudbury and Timiskaming (41 (41 P/14E, 41 P/15W). Geochemical field work by L.G. Closs and assistants, 1973. Geochemical compilation by L.G. Closs 1973, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.986 Geochemical Distribution of Silica in Metavolcanics and Mafic Intrusions in Parts of Halliday and Midlothian Townships, Districts of Sudbury and Timiskaming (41 P/14E, 41 P/15W). Geochemical field work by L.G. Closs and assistants, 1973. Geochemical compilation by L.G. Closs 1973, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.987 Geochemical Distribution of Mercury in Metavolcanics and Mafic Intrusions in Parts of Halliday and Midlothian Townships, Districts of Sudbury and Timiskaming (41 P/14E, 41 P/15W). Geochemical field work by L.G. Closs and assistants, 1973. Geochemical compilation by L.G. Closs, 1973, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1003 Geochemical Distribution of Zinc in 'B' Horizon Soils and Till Components in Parts of Kelvin, Natal, Churchill and Macmurchy Townships, District of Sudbury (41 P/11E, 14E). Field work by L.G. Closs and assistants, 1973. Scale 1 inch to ½ mile or 1:31,680.

P.1004 Geochemical Distribution of Nickel in 'B' Horizon Soils and Till Components in Parts of Kelvin, Natal, Churchill and Macmurchy Townships, District of Sudbury (41 P/11E, 14E). Field work by L.G. Closs and assistants, 1973. Scale 1 inch to ½ mile or 1:31,680.

P.1005 Geochemical Distribution of Cobalt in 'B' Horizon Soils and Till Components in Parts of Kelvin, Natal, Churchill and Macmurchy Townships, District of Sudbury (14 P/11E, 14E). Field work by L.G. Closs and assistants, 1973. Scale 1 inch to ½ mile or 1:31,680.

P.1006 Geochemical Distribution of Copper in 'B' Horizon Soils and Till Components in Parts of Kelvin, Natal, Churchill and Macmurchy Townships, District of Sudbury (41 P/11E, 14E). Field work by L.G. Closs and assistants, 1973. Scale 1 inch to ½ mile or 1:31,680.

P.1007 Geochemical Distribution of Chromium in 'B' Horizon Soils and Till Components in Parts of Kelvin, Natal, Churchilll and Macmurchy Townships, District of Sudbury (41 P/11E, 14E). Field work by L.G. Closs and assistants, 1973. Scale 1 inch to ½ mile or 1:31,680.

P.1008 Geochemical Distribution of Manganese in 'B' Horizon Soils and Till Components in Parts of Kelvin, Natal, Churchill and Macmurchy Townships, District of Sudbury (41 P/11E, 14E). Field work by L.G. Closs

and assistants, 1973. Scale 1 inch to ½ mile or 1:31,680.

P.1014 to P.1022 inclusive — Airborne Electromagnetic (INPUT) and Total Intensity Magnetic Survey, Cleaver, McNeil, Robertson, Hincks, Argyle, and Baden Townships and Parts of Montrose, Bannockburn, Powell, Sheba, Alma and Cairo Townships, District of Timiskaming; by Questor Surveys Limited for the Ontario Division of Mines, Geophysical Ser. Compilation Nov. 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1036 — Natal Township, District of Sudbury (42 P/11E, 14E). Geology by M.W. Carter and assistants, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1037 — Knight Township, District of Timiskaming (41 P/10W, 11E, 14E, 15W). Geology by M.W. Carter and assistants, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1038 — Cairo Township, District of Timiskaming (41 P/15, 42 A/2); Kirkland Lake Data Series. Compilation by H.L. Lovell, E.D. Frey and F. Ploeger, 1972, 1973, 1975. Scale 1 inch to ¼ mile or 1:15,840.

P.1043 — Iron Deposits of Ontario, East Central Sheet, Districts of Thunder Bay, Algoma, Cochrane, Sudbury, Timiskaming and Nipissing. Compilation by H.D. Meyn and James A. Robertson 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1062 — Nickel Deposits of Ontario, East Central Sheet, Districts of Thunder Bay, Algoma, Cochrane, Sudbury, Timiskaming and Nipissing; Mineral Deposits Series. Compilation by M. Jost 1974, 1975. Scale 1 inch to 16 miles or 1:1,013,760.

Map 2300 — Kerns and Hudson Townships, Timiskaming District (31 M/5, 31 M/12). Geology by H.L. Lovell, E.D. Frey and assistants, 1970. Scale 1 inch to ½ mile or 1:31,680.

Map 2307 — Frechette, McNamara, and Cotton Townships, Sudbury District (41 P/2, 41 P/3). Geology by H.D. Meyn and assistants, 1971. Scale 1 inch to ½ mile or 1:31,680.

Map 2321 — Bouguer Gravity, Timmins–Matheson, Cochrane, Timiskaming and Sudbury Districts (42 A) Gravity survey by R.S. Middleton, 1970, 1971. Regional geology by D.R. Pyke, L.D. Ayres and D.G. Innes; Map 2205, 1973. Scale 1:250,000.

Map 2322 — Interpretation of Bouguer Gravity, Timmins–Matheson, Cochrane, Timiskaming and Sudbury Districts (42 A). Gravity survey by R.S. Middleton, 1970, 1971. Regional geology by D.R. Pyke, L.D. Ayres and D.G. Innes, Map 2205, 1973. Scale 1:250,000.

GR125 — Geology of Pontiac and Ossian Townships, Districts of Cochrane and Timiskaming (32 D/4, 5); by L.S. Jensen, 41p. Accompanied by Map 2296.

GR127 — Gravity Control Network in the Timmins, Matheson and Cobalt Areas, Districts of Cochrane and Timiskaming (42 /B); by R.S. Middleton, 94p.

GR132 — Geology of Clifford and Ben Nevis Townships, District of Cochrane (32 D/5); by L.S. Jensen, 55p. Accompanied by Map 2283.

OFR5113 — Geology of the Gowganda–Miller Lake Silver Area, District of Timiskaming (41 P/10). Geology by W.H. McIlwaine and assistants, 1966, 1967, 1968; 280p., 28 tables, 12 photos, 23 figures.

OFR5126 — Index to Exploration Reports Filed in 1974 (1) Assessment Work Reports (2) Reports Received Under Ontario's Mineral Exploration Assistance Program (MEAP). Compiled by Geoscience Data Centre, 1975.

OFR5131 — Geology of Fawcett and Leonard Townships, Districts of Sudbury and Timiskaming (41 P/10W, 11E, 7W, 6E); by M.W. Carter; 124p., 4 tables, 1 figure, 15 photos and 2 maps.

OFR5134 — Clay and Shale Deposits of Ontario; by G.R. Guillet; approx. 265p., 28 tables, 39 figures, 2 maps.

OFR5147 — Mineral Exploration Assistance Program (MEAP), Fiscal Year 1974-75, by S.A. Ferguson, F.G. Da Silva and S.C. Sun; 73p., 2 figures, 7 appendices.

OFR5150 — Preliminary Township and NTS Index to Ontario Geoscience Reports and Maps, 1975, 1201p. (microfiche only).

OFR5153 — Geology of the Redstone River Area, District of Timiskaming (42 A/3, 6), by D.R. Pyke; approx. 138p., 7 tables, 11 photos, 11 figures and 4 maps.

OFR5154 — Exploration Geochemistry–Quaternary Geology Investigations in Parts of Halliday, Midlothian, Kelvin, Natal, Churchill and Macmurchy Townships, Districts of Sudbury

and Timiskaming (41 P/11, 14E) by L.G. Closs and E.V. Sado; 117p., 24 fig., 11 tables.

OFR5155 Geology of Macmurchy and Tyrrell Townships, Districts of Sudbury and Timiskaming (41 P/10W, 11E) by M.W. Carter, 130p., 1 figure, 3 tables, 15 photos and 4 maps.

OFR5156 Gold Deposits of Ontario Part 2, Districts of Muskoka, Nipissing, Parry Sound, Sudbury, Timiskaming, part of Cochrane and Southern Ontario, by J.B. Gordon, H.L. Lovell and Jan de Grijs; approx. 700p., various figures and tables.

MP60 Annual Report of the Regional and Resident Geologists, 1974. Edited by E.G. Pye, Director, Geological Branch, 241p.

MP61 Mineral Deposit Studies, Mineral Potential Evaluation and Regional Planning in Ontario; by James A. Robertson, 42p.

MP62 On the Relationship of Gold Mineralization and Ultramafic Volcanic Rocks in the Timmins Area, Northeastern Ontario (42 A/6, 11); by D.R. Pyke, 23p.

MP63 Summary of Field Work, 1975, by the Geological Branch. Edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, 158p.

OTHER ONTARIO MINISTRY OF NATURAL RESOURCES PUBLICATIONS ISSUED IN 1975

MPBP 1 The Impact of Taxation and Environmental Controls on the Ontario Mining Industry by G. Anders, W.P. Gram and S.C. Maurice; 197p. Published by the Mineral Resources Branch.

1974 Review Ontario Mineral Review 1974, 124p.

ODM-GSC MAPS ISSUED IN 1975

High Resolution Aeromagnetic Maps Geophysical Series (High Resolution Aeromagnetic) Districts of Cochrane and Timiskaming, Ontario, a small part of Quebec. Between Latitudes 48°00' and 48°45'N and Longitudes 79°30' and 80°15'W, 36 maps at scale 1:25,000, Nos. 20,119G to 20,154G.

RECENT PUBLICATIONS AND REFERENCES

Fleet, M.E. and MacRae, N.D.
1975: A Spinifex Rock from Munro Township, Ontario; Canadian J. Earth Sci., Vol.12, p.928-939.

Green, N.L.
1975: Archean Glomeroporphyritic Basalts; Canadian J. Earth Sci., Vol.12, p.1770-1784.

Hammond, A.L.
1975: Minerals and Plate Tectonics: A Conceptual Revolution; Science, Vol.189, Sep. 1975, p.779-781.

Kutina, J. and Fabbri, A.G.
1972: Relationship of Structural Lineaments and Mineral Occurrences in the Abitibi Area of the Canadian Shield; Geol. Surv. Canada, Paper 71-9, 36p.

Naldrett, A.J. and Arndt, N.T.
1975: Association of Nickel Sulphides with Rocks of Volcanic Origin Suggests New Exploration Targets (Munro Tp.); The Northern Miner, March 6, 1975, p.39-40.

Pearce, T.H. and Birkett, T.C.
1975: Archean Metavolcanic Rocks from Thackeray Township, Ont., Canadian Mineral., Vol.12, p.509-519.

Ploeger, F.R.
1973: Kuroko-Type Deposits: Description and Genetic Model; Unpublished B. Sc. thesis, Queen's University, Kingston, 63p.

Pullaiah, G. and Irving, E.
1975: Paleomagnetism of the Contact Aureole and Late Dikes of the Otto Stock, Ontario, and Its Application to Early Proterozoic Apparent Polar Wandering; Canadian J. Earth Sci., Vol.12, p.1609-1618.

Symons, D.T.A.
1975: Huronian Glaciation and Polar Wander from the Gowganda Formation; Geology, June 1975, p.303-306.

Symons, D.T.A. and Londry, J.W.
1975: Tectonic Results from Paleomagnetism of the Aphebian Nipissing Diabase at Gowganda, Ontario; Canadian J. Earth Sci., Vol.12, p.940-948.

Wanless, R.K. and Eade, K.E.
1975: Geochronology of Archean and Proterozoic Rocks in the Southern District of Keewatin; Canadian J. Earth Sci., Vol.12, p.95-114.

Table 1 Assessment Work and Other Exploration Information Received in 1975

Kirkland Lake Resident Geologist's District

Abbreviations

A - Airborne
Asses - Assessment Work
DDH - Diamond drilling
EM - Electromagnetic
GC - Geochemical
GL - Geological
HEM - Horizontal loop EM
IP - Induced polarization
Mag - Magnetometer
MEAP - Mineral Exploration Assistance Program
OSC - Ontario Securities Commission
Pros - Prospectus
Res - Resistivity
rTr - Rock trenching
sTr - Soil trenching or stripping
VEM - Vertical loop EM
VLF - Very low frequency EM
Ug - Underground

Township	Name of Property File	Commodity Found	Type of Report	Type of Work Performed and Date of Work	Toronto File Number(s)
Aime	Wilson, Kenneth			rTr sketch, Jun 1975	
Argyle	Ecstall Mining Limited		Asses.	HEM (1" = 200') (2), Aug. 1974; Mag (1" = 200'), Aug. 1974 & rept. by J. A. Slankis, Dec. 1974	2.1672
	New Kelore Mines Limited	Au	Asses MEAP (CG.88)	DDH 75-1 to 75-4, Apr.-May 1975; core samples A5199 to A5239; VLFEM , Mag (1" = 200') & rept. by S. S. Szetu, Dec. 1974; Mag (1" = 100'), GL (1" = 200'), compilation (1" = 200') & rept by S. S. Szetu, Jan. 1975	2.1667 2.1692
Arnold	Gunsinger, M., & Mathias, Isaac			sTr sketch, Jun. 1974	
	Schlegel, Marion E.			sTr sketch, Jul. 1975	
Asquith	Noranda Exploration Company Limited "Colbert-Torchia Option"	Au	Asses.	GL (1" = 200'), Nov. 1974 & rept by Robert J. Fraser, Mar. 1974	2.1602
	Pope, Alex R.			sTr sketch, Jul. 1974	
	Vintage Mines Limited	Au	Asses.	GL (1" = 200') & rept. by J. D. McCannell, Oct. 1974	2.1623
	Saville, Albert			sTr sketch, Apr.-May, Jul. 1975	
	Cons. Midvale Explorations Limited (formerly Midvale Explorations Limited		Pros.	prospectus, Apr. 1975	
	Tri-Bridge Consolidated Gold Mines Limited also Churchill Tp.			DDH T-1 to T-5, & loc. (1" = 200'), Jun.-Jul. 1975	
Baden	Larche, J., & Rousseau, A.			rTr sketch, Jul-Oct. 1974	
	Ronda Copper Mines Limited		Pros.	prospectus, Jun. 1974	
Baden	August Porcupine Gold Mines Limited		Asses.	rTr sketch (1" = 100'), May 1975	
	Manitou Lake Gold Mining Co. Ltd.		Pros.	prospectus, Jul. 1975	
Bannockburn	The Hanna Mining Company "Road Group"		Asses.	DDH "Road" No. 1, 2, Oct. 1974, & loc. (1" = 200'), Nov. 1974; GL, HEM, Mag (1" = 200'), & repts. by B. L. Hodgins, Dec. 1974	2.1687
	Sunisloe, George			sTr sketches Oct. 1974, & May 1975	
	Quevillon, Gerald			DDH 1 to 3, & loc. Sep.-Oct. 1975; rTr sketch Oct. 1975	
Barnet	Bugow, Richard			rTr sketch (not to scale), Oct.-Nov. 1973; rTr sketch (not to scale) Jun. 1975	
Beatty	Canadian Johns-Manville Company Limited also Hislop Tp.	Mo, Cu		DDH BB 74-1, BB 74-2, & loc., Jun. 1974; XN, Sep. 1974;	
Ben Nevis	Amax Exploration, Incorporated also Katrine, & Pontiac Tp.	Zn, Pb	Asses.	DDH TX-102-73, TX-106-73, & loc. (1" = 400'), Apr.-May 1973	
Benoit	Mathan Explorations Incorporated	Au	Asses.	DDH M74-9 to M74-11, Nov.-Dec. 1974, & loc. (1" = 500'), Jan. 1975; brief rept. by H. G. Harper, Jan. 1975; EM (2), Mag (2) (1" = 100'), & rept. by H. G. Harper, Sep. 1974	
Bernhardt	Haas-Warner Mining Limited (see also Deloye, E. C.; Kirana Kirkland Gold) also Lebel, Morrisette, Teck Tp.	Au	Pros.	prospectus Jan. 1975	
	Consolidated Beaumont Resources "Rivers, E. J. claims" (Pathfinder Resources Ltd. also Maisonville Tp	Au	Asses.	DDH 74-1 to 74-8, Jul.-Sep. 1974, & loc. (1" = 200'), Sep. 1975	
Blakelock	Noranda Exploration Company, Limited		Asses.	Mag (4), VEM (4), Mag-EM (1) (1" = 400') & repts. by W. F. Graham, Nov. 1974	2.1658 2.1659 2.1660
Boston	Planet Gold Mines Limited "Diversified Gold Mines Ltd. option"	Au	MEAP (KL58)	rTr plan & assays (1" = 10'), Jul. 1974, GL (1" = 200'), & (1" = 20'), Jun. 1974, & rept. by Chris von Hessert, Aug. 1974; assay results, Aug. 1974	

Township	Name of Property File	Commodity Found	Type of Report	Type of Work Performed and Date of Work	Toronto File Number(s)
Bowman	Driftex Limited	Cu	Asses.	HEM (1" = 100'), EM (1" = 200'), sulphide showing (1" = 100') & rept. by W. E. Brereton, Apr. 1974	2.1652
	Duncan R. Derry Limited "Group 1, 2, 3, & 7 also Currie Tp.		Asses.	Mag (1" = 200') (5) & rept by I. S. Thompson, Dec. 1974; Mag (1" = 200') (Bowman) & rept by I. S. Thompson, Mar. 1975; Mag (1" = 200') (Bowman) & rept. by I. S. Thompson, Apr. 1975	2.1678 2.1682 2.1746 2.1784
Bradette	Dome Exploration (Canada) Limited also Hurtubise & Noseworthy Tp.	Cu, Zn		DDH 59-1, 59-2, 59-2A, 59-3 to 59-9, 59-12, 59-13, 59-14A, Feb.-Mar. 1974 & loc. (1" = 200'), May 1974; DDH 59-10, 59-11 & loc. (1" = 200'), (1" = ¼ mi.), Feb. 1974;	
	Noranda Exploration Company Ltd.		Asses.	Mag, VEM (1" = 400'), Mag & VEM (1" = 400') & repts. by W. F. Graham, Nov. 1974; Mag, VEM (1" = 400') & rept. by W. F. Graham, Apr. 1975	2.1565 2.1661 2.1638 2.1761
Bragg	Noranda Exploration Company Ltd. "Group 3-73" also Newman Tp.		Asses.	Mag, VEM (1" = 400') & rept. by W. F. Graham, Nov. 1974	2.1640
Bryce	Briscoe, Edward A.			DDH 1 & loc. sketch, Jan. 1975	
	Consolidated Imperial Minerals Ltd.	Au	MEAP (CG.74)	DDH 74-1 to 6, loc. (1" = 50') & rept by L. J. Cunningham, Jul. 1974; VLF-EM (5) (1" = 200'), Jul. 1974 & rept. by L. J. Cunningham, Sep. 1974	
	Libby, J. B. "Decaire claim Group"	Au	Asses.	Mag (2) (1" = 200'), geol (1" = 200'), VLF-EM (no map) & rept. by W. G. Wahl, Sep. 1974; assay results Aug. 1974	2.1577
	Nielsen, Julius	Au, Ag	Asses.	rTr sketches & assay, Oct. 1974	2.1860
Bucke	Consolidated Professor Mines, Ltd. also Gillies Limit & Lorrain Tp.		Pros.	prospectus, Jun. 1974	
Burrows	Dowa Mining Company Limited "DesRosiers, David F. claims"	Cu		DDH 1, 1A, Aug.-Sep. 1974 & loc. (1" = 1320'), Oct. 1974	
Cairo	Ecstall Mining Limited		Asses.	Mag (1" = 200') & rept. by J. A. Slankis, Feb. 1975	2.1721
	Byberg, Andrew			rTr sketch, Jul-Aug., Oct.-Nov. 1974	
	Ecstall Mining Limited also Flavelle Tp.		Asses.	rTr sketch(1" = 600'), Oct. 1974; Mag (1" = 200'), Nov. 1974 & rept. by J. A. Slankis, Jan. 1975	2.1679
	Welsh, George			rTr sketch Aug. 1974	
	Sunisloe, George (see also North Expo Mines Ltd.) (Rosmar Corp.)			rTr sketch, Sep. 1975	
Catharine	MacGregor, Robert A. also Skead Tp.		Asses.	VLF-EM (1" = 200') & rept. by R. A. MacGregor, Sep. 1974	2.1581
	Warren Exploration Limited also Pacaud & Teck Tp.	Cu	Pros. Donation Asses.	prospectus, Aug. 1974; repts. by J. A. Pollock, Feb. 1975 Mag, VLF-EM (1" = 100') Jan. 1975 & repts. by L. J. Cunningham, Jul. & Feb. 1975.	
	Moncrieff Uranium Mines Ltd. "French, J. N. claims"		MEAP (KL54)	corres. by R. I. Benner, Jan. & Sep. 1974; loc & GL (1" = ¼ mi.), Nov. 1973; assays May-Oct. 1974; DDH loc & rTr combined (1" = 20') Oct. 1974	
	Newman, Roy G.		Asses.	DDH 1, Nov. 1974 & loc (1" = 100')	
	Niemi, Walter			sTr, rTr sketches (1" = 165') May-Jun. 1975	
	Walsh, William H.			rTr & loc (not to scale) Jun. 1975	
Charters	Shartner, Gustave (Grouse Syndicate) also Donovan & Leith Tp.		Asses.	rTr sketches (1" = 10') & GL (1" = 200') Oct. 1974	
Churchill	Noranda Exploration Co. Ltd. "Colbert-Torchia Option"			see under Asquith Tp.	
	Pacesetter Mines Limited "Shlesinger, H. claims"	Au	Asses. Pros.	DDH PA-1 to PA-8, Sep.-Oct. 1974 & loc (1" = 200'); XN's PA-1 to PA-4, Oct. 1974 & drill plan (1" = 20') Nov. 1974; prospectus Jul. 1974; corres. by J. D. McCannell Jan. 1975; EM, Mag (combined) (1" = 200') & rept. by J. D. McCannell, Apr. 1975	2.1803
Churchill (contd.)	Tri-Bridge Consolidated Gold Mines Ltd. also Asquith Tp.			see under Asquith Tp.	
Cleaver	Boissoneault, J.			rTr sketch, Oct. 1974	
	Rousseau, R.			rTr sketch, Oct. 1974	
Clifford	Hunter, Dougal Arthur			sTr sketch, Jun.-Aug. 1974	

Township	Name of Property File	Commodity Found	Type of Report	Type of Work Performed and Date of Work	Toronto File Number(s)
Coleman	Burton, Douglas "Green Lake"	Cu	Asses.	DDH 73-91-2 loc sketch (1" = 200'), XN (1" = 100') Jan. 1974 (2); DDH 91-75-3 & loc (1" = 200') Apr. 1975, XN (1" = 50') Mar-Apr. 1975	
	Cam Mines Limited		Pros.	prospectus, Jul. 1975	
	Ophir Mines Development Co. of Ontario Ltd.	Ag	Asses.	DDH 73-95-1 & loc (4" = 1 mi.) Jun. 1974; XN (1" = 1200') Jun. 1974	
Connaught	Amalgamated Rare Earth Mines Ltd. "Mid-North Engineering Services Ltd."	Au	Asses.	DDH AC74-3 (revised) Mar. 1974; assay results Mar. 1974	
	Goldhurst Resources Inc.		Pros.	prospectus Oct. 1974	
Cook	New Kelore Mines Limited also Guibord Tp.	Au	MEAP (KL71)	EM & GL (1" = 100') Nov. 1974 & rept. by D. Speirs, Jan. 1975; DDH NK175, NK275, loc (1" = 200'), sample sketch (1" = 208), XN's (1" = 20') Jun.-Jul. 1975; corres. H. G. Harper, Jun. 1975	2.1693
Coulson	Kennedy, William			sTr sketch, Apr., Jun., Sep. 1974	
	McIntyre Mines Limited		Asses.	HEM, Mag (1" = 200') & rept by Norman R. Paterson, Sep. 1974	2.1589
Currie	Duncan R. Derry Limited		Asses.	Mag (1" = 200') (3) & rept. by I. S. Thompson, Dec. 1974	2.1656 2.1657
Edwards	Great Bear Silver Mines Limited	Cu	Asses.	rept. by J. T. Meagher, Oct. 1974; DDH 74-1 to 74-4, Aug.-Sep. 1974 & loc. (1" = ½ mi.)	
Fawcett	Gold Belle Mines Limited also MacMurchy Tp.	Cu, Au	Pros., OSC, Asses.	prospectus, with rept. by J. D. McCannell, Aug. 1974; Mag, EM (1" = 200') & rept. by J. D. McCannell, Feb. 1975	2.1752
	Hiview Gold Mines Limited	Au	Pros., OSC, Asses.	prospectus, with rept. by J. F. Jerome, Jul. 1974; Mag, VLF-EM (1" = 200') & rept. by J. G. Willars, Feb. 1975; DDH 75-1 to 75-4, loc & XN DDH 75-4 (1" = 40'), Jun.-Aug. 1975	2.1716
Flavelle	Ecstall Mining Limited			see under Cairo Tp.	
	Welsh, George S.			rTr sketch Apr.- ul. 1975	
Gaine	Texasgulf Canada Ltd.		Asses.	DDH G-42-1 & loc (1" = 400') Mar. 1975	
Gauthier	Custance, Jack Robert			rTr sketch, Jul.-Oct. 1974	
	Mayfair Mines Limited		Asses.	VLF-EM (1" = 200') & rept. by Douglas Burton, Sep. 1974	2.1614
	McCullough, Edward William also McVittie Tp.			rTr, sTr sketch, Sep.-Oct. 1974 & Jun.-Jul. 1975	
Gillies Limit	Consolidated Professor Mines, Ltd. also Bucke & Lorrain Tp.			see under Bucke Tp.	
	Hodden-Grey Inc.	Ag	Pros.	prospectus, Jul. 1974	
	Home, K. P.			rTr sketch, May 1975; sTr sketch, Aug. 1975	
	Teck Corporation Limited "Silverfields Division"; "West Group" "Scheak-Bradley opt"; "August Johnson opt" (Keevil Mining Group)	Ag	Asses.	VEM, Mag, GL, SP (1" = 400') Sep. 1974 & rept. by E. F. Lalonde & J. T. Neelands, Oct. 1974	2.1599
	Quevillon, Gerald			rTr sketch (not to scale) Jun. 1975	
Grenfell	Newore Developments Limited		Asses.	Mag, EM (1" = 200') & rept. by H. G. Harper, Jan. 1975	2.1703
Guibord	Buga, Lillian			sTr sketch, Jun.-Jul. 1974	
	New Kelore Mines Limited also Cook Tp.			see under Cook Tp.	
	Hollinger Mines Ltd. "Berrigan" (see also Hollinger Consolidated Gold Mines, "Ross Mine")		Asses.	HEM, Mag (1" = 200') & rept. by P. Bateman, Apr. 1975	2.1780
Halliday	Salo, Arvo		MEAP (CG.71)	Mag (1" = 400') & rept. by K. H. Darke, Oct. 1974; EM (1" = 400') Jun. 1974	2.1606
	Dowa Mining Company Limited "Clayton, R. H.; DesRosiers, David F. claims"		MEAP (CG.82)	DDH 1, Aug. 1974 & loc (1" = 1320') Oct 1974; XN DH 1 & rept by R. H. Clayton, Nov. 1974	
	Larche, J., & Rousseau, A. (optioned by Canadian Arrow Mines Ltd.; Glen Copper Mines Ltd.; Newmont Mining Corporation of Canada Ltd.; Teck Corporation) also Midlothian Tp.	Zn, Cu	MEAP (CG.87)	DDH 74-1 to 74-3, Jan.-Feb. 1974 & loc (1" = 400'), GL (3) (1" = 5'), GL (1" = 100') & rept by J. R. Goodwin Feb. 1975	

Township	Name of Property File	Commodity Found	Type of Report	Type of Work Performed and Date of Work	Toronto File Number(s)
Harker	Canadian Johns-Manville Company Ltd.	Zn, Cu	Asses.	DDH 74-1, Jan.-Feb. 1974, loc (1" = 1000') & XN (1" = 1000') Dec. 1974	
	Driftex Limited	Au	Asses.	Mag, VLF-EM (1" = 200') Oct. 1974 & rept by W. E. Brereton, Nov. 1974	2.1696
	Hansen, A.		Asses.	DDH 1 to 4 & loc, Oct. 1974	
Hearst	Lowe, David (Vitro Minerals opt; Stairs proposed opt; i.e. Amax opt) also McElroy Tp.			see McElroy Tp.	
	Lowe, D.			rTr sketch, May-Jun. & Jun.-Aug. 1974	
Hearst (contd.)	MacGregor, Robert A. also Catharine, McElroy & McVittie Tp.			see under Catharine Tp.	
	MacGregor, Robert A. also McVittie Tp.		Asses.	Mag (1" = 200') & rept. by R. A. MacGregor, May 1975	2.1799
Hincks	The Hanna Mining Company Ltd. "Boundary Group" also Montrose Tp.		Asses.	DDH B-1, B-2, Oct. 1974 & loc (1" = 200'), Nov. 1974; GL, Mag, HEM (1" = 200') Oct.-Dec. 1974 & repts. by B. L. Hodgins, Dec. 1974	2.1686
	Falconbridge Nickel Mines Limited "North & South Groups"		Asses.	VEM (1" = 200'), Mag (1" = 200'), detailed VEM & Mag (1" = 200') & rept. by R. J. Bradshaw, Oct. 1974	2.1607
	Pan-Ore Gold Mines Limited also Zavitz Tp.		Asses.	DDH PO-1 to PO-3, Mar.-Jun. 1975	
	Sunisloe, George			rTr sketch (not to scale) May 1975	
Hislop	Canadian Johns-Manville Co. Ltd. also Beatty Tp.			see under Beatty Tp.	
	Gunnex Limited	Au	MEAP (KL53)	DDH G-1 to G-32, Jun.-Sep. 1974, loc (1" = 20'), XN's (9) (1" = 20') & rept by W. F. Dix, Jan. 1975	
	Nevada Explorations Co.	Au		DDH 74-18, 74-21, 74-22, 74-23, Jul. 1974 & loc (1" = 50'); DDH 74-24 to 74-30, Jul.-Sep. 1974 & XN's (1" = 50') & rept. by Tom Gledhill, Feb. 1975	
	Hollinger Mines Limited "Hislop #1 Group" "old Bush, Guertin & Rysack claims"	Au	Asses.	GL (1" = 200') & rept. by P. J. Bateman, Feb. 1975	2.1724
	Young-Davidson Mines Ltd.		Asses.	DDH YH 75-1, loc (1" = 100'), XN (1" = 50'), Sep. 1975	
Hobiltzell	Noranda Exploration Company Limited (Group 1-73, 3-73)		Asses.	VEM, Mag (1" = 400') Group 1-73 & rept. by W. F. Graham, Nov. 1974; VEM, Mag (1" = 400') Group 3-73 & rept. by W. F. Graham, Nov. 1974	2.1641 2.1662
	Noranda Exploration Company Limited (Group 2-73) also Noseworthy Tp.		Asses.	VEM, Mag (1" = 400') & rept. by W. F. Graham, Nov. 1974	2.1658
Hurtubise	Dome Exploration (Canada) Limited also Bradette & Noseworthy Tp.			see under Bradette Tp	
	Noranda Exploration Company Limited also Noseworthy Tp.		Asses.	HEM, Mag (1" = 40') & rept. by Wayne E. Lunt, Nov. 1974	2.1646
	Noranda Exploration Company Limited "Group 2-73, 3-73"		Asses.	VEM, Mag (1" = 40') Group 2-73; Mag, VEM (1" = 40') Group 3-73 & repts by W. F. Graham, Nov. 1974	2.1637 2.1663
Katrine	Amax Exploration, Incorporated also Ben Nevis & Pontiac Tp.			see under Ben Nevis Tp.	
Kenning	Noranda Exploration Company Limited also Tomlinson Tp.		Asses.	HEM, Mag (1" = 400'), Mar. 1974 & rept. by Wayne E. Lunt, Nov. 1974	2.1648
Kerrs	Imperial Oil Limited		Asses.	Mag, HEM (1" = 200'), detailed HEM line profiles (1" = 200'), & rept. by R. A. Bell, Sep. 1974	2.1758
Knox	McIntyre Mines Limited "Knox 1 property		Asses.	Mag, HEM & rept. by Norman R. Paterson, Sep. 1974	2.1592
Lebel	Deloye, E. C.			sTr sketch, Oct.-Nov. 1974; sTr sketch, Jul.-Sep. 1975	
	Labine, M. J.			sTr sketch, Sep.-Nov. 1974	
	Chorzepa, Emil also Morrisette Tp.	Au	Asses.	rTr sketches, Apr.-Nov. 1974; assay results & loc (1" = 100') 1972-73	2.1627

Township	Name of Property File	Commodity Found	Type of Report	Type of Work Performed and Date of Work	Toronto File Number(s)
Lebel (contd.)	Federal Kirkland Mining Company Limited also Teck Tp.		Donation	prospectus Sep. 1927	
	S.I.S. Resources Corporation (see also Continental Kirkland & Continental Mines Ltd.)		Pros., OSC, Asses.	prospectus, Jul. 1974, literature Oct. 1974; DDH S75-1, S75-2, Jan.-Feb. 1975 & loc (1" = 200'), rept. by H. G. Harper Feb. 1975; Mag, VLF-EM (1" = 200') & rept by H. G. Harper, Dec. 1974	
	Stewart, A.		Asses.	DDH 74-1 & loc (not to scale), Oct. 1974	
	Tamminen, Toivo J.			rTr sketch, Jul-Sep. 1974	
	Haas-Warner Mining Limited also Bernhardt, Morrisette, Teck Tp.		Pros.	prospectus Jan. 1975; rTr & loc (not to scale) May-Jun. 1975	
	Saint Joseph Kirkland Gold Mines, Limited (see also Trout Creek Gold Mining Company, Limited; Sahtram Gold Mines, Ltd.) also Teck Tp.		Donation	GL rept by W. Gerrie, Feb. 1948	
Leith	Shartner, Gustave (Grouse Syndicate) also Charters & Donovan Tp.			see under Charters Tp.	
Leonard	United Reef Petroleums Limited	Ag	MEAP (CG.75)	GL (1" = 100') & rept. by J. L. Tindale, Oct. 1974; GL (1" = 100') & rept. by J. L. Tindale, Apr. 1974; corres. by R.A.Knutson, Jan. 1975; DDH N-75-1, N-75-2 N-75-3, Jan.-Mar. 1975 & loc (1" = 100') Mar. 1975; loc (1" = 100') & XN DDH N-75-1 (1" = 40') Jan. 1975; XN's DDH URX-71-1 to 71-6 (1" = 10') Oct. 1974	2.1624
	Waddington, G. E.	Cu	Asses.	GL (1" = 400') & rept. by G. E. Waddington, May 1975	2.1810
Lorrain	McAllister, R. C.		Asses.	DDH 45-74-1, Nov. 1974 & loc (1" = 50'), XN (1" = 10'), Dec. 1974; rTr sketch (1" = 50'), Sep. 1974; assay results Sep. 1974	
	Consolidated Professor Mines, Limited also Bucke & Gillies Limit			see under Bucke Tp.	
Malsonville	Ecstall Mining Limited		Asses.	HEM, Mag (1" = 200') Aug. 1974 & rept. by J. A. Slankis, Oct. 1974; HEM, Mag (1" = 200') & rept. by J. A. Slankis, Dec. 1974	2.1611 2.1673
	Consolidated Beaumont Resources "Rivers, E. J. claims" "Pathfinder Resources Ltd." also Bernhardt Tp.			see under Bernhardt Tp.	
	Wolfe Lake Mines, Limited (Lakeland Gold Mines Ltd.)	Au	Donation	rept. by Hedley Roy, Jan. 1975	
Melba	Here Fault Copper Limited "Sullivan, T.; Tamminen, T. V.; Tagliamonte, F. P.; Mathias, Alex	Cu, Zn	Asses.	DDH HF74-1 to HF74-5, loc & XN's, Jun.-Jul. 1974; land surv. (1" = 400') by P. A. Blackburn, May 1975	
Michaud	O'Donnell, John			sTr sketch, Jun.-Sep. 1974	
Mickle	Welsh Silver Mines Limited			rTr sketch, May-Jun. 1975	
Midlothian	Larche, J. (The Hanna Mining Company Limited option)		Asses.	DDH M-74-1 to M-74-6, Apr.-May 1974 & loc (1" = 200'), Jun. 1974; assay results Apr.-May 1974 & DDH rept.by N.Hogg, Jun. 1974	
	Northim Mines Limited "Collins, Donald D. property"	Cu	Pros., OSC Asses.	HEM (1" = 200'), GL (1" = 400') & rept. by K. H. Darke, Aug. 1974; prospectus Apr. 1975; rept. by K. H. Darke Dec. 1974; DDH NM-1 & loc (1" = 200'), Jun. 1975	2.1546
	Larche, J. & Rousseau, A. (optioned by Canadian Arrow Mines Ltd.; Glen Copper Mines Ltd.; Newmont Mining Corporation of Canada Ltd.; Teck Corporation) also Hallilday Tp.			see under Hallilday Tp.	
Milner	Shartner, Gustave (partly Maraigo & partly Chimo)		Asses.	plan & sect of adit and surf pit (1" = 20') (no date); Ug plan, sections of adit & raise (1" = 20') (no date)	
Montrose	The Hanna Mining Company Ltd. "Boundary Group" also Hincks Tp.			see Hincks Tp.	
	Golden Bounty Mining Company Limited "Sokoloff, T. claims"	Au	Pros.	prospectus, May 1975	
Moody	Texasgulf Canada Limited		Asses.	DDH M-55-1, M-55-2 & loc (1" = 400'), Feb.-Mar. 1975; DDH M-42-1, M-42-2 & loc (1" = 400'), Jan.-Feb. 1975	

Township	Name of Property File	Commodity Found	Type of Report	Type of Work Performed and Date of Work	Toronto File Number(s)
Morrisette	Chorzepa, Emil also Lebel Tp.			see under Lebel Tp.	
	Haas-Warner Mining Limited also Bernhardt, Lebel, Teck Tp.		Pros.	prospectus Jan. 1975; sTr loc (not to scale Jun.-Jul. 1975	
Munro	Lee Geo-Indicators Limited "Lee, Hulbert A. claims" also McCool Tp.		Asses.	GC (1" = 400') & rept. by H. A. Lee, Nov. 1974	2.1625
	McIntyre Mines Limited		Asses.	HEM, VLF-EM, Mag (1" = 200') Aug.-Sep. 1974 & rept. by Norman R. Paterson, Sep. 1974 (Munro I & II)	
cCool	Lee Geo-Indicators Ltd. "Lee, Hulbert A. claims" also Munro Tp.			see Munro Tp.	
McElroy	Lowe, David (Vitro Minerals opt; Stairs proposed opt; i.e. Amax opt) also Hearst Tp.			sTr sketch Mar.-May 1974	
	Friedrich, Karl U.			rTr sketch, May 1975	
	MacGregor, Robert A. also Catharine, Hearst & McVittie Tp.			see under Catharine Tp.	
McEvay	Gervais, L.		Donation	corres. by Leon Sylvestre, Jun. 1955	
McGarry	Walker, James		Asses.	DDH6, Jul. 1975	
MacMurchy	Mayflower Gold Mines Limited "Groups 1, 2, 3"		Asses.	GC (1" = 400') (4) & rept. by H. H. Sutherland, Aug. 1974	2.1560
	Gold Belle Mines Limited also MacMurchy Tp.			see under Fawcett Tp.	
McVittie	Cunningham, L. J. "Diamond-Pancake Group"	Au	Asses	VLF-EM (1" = 400') & rept. by Douglas Burton, Oct. 1974	2.1613
	Shartner, Gustave			rTr sketch, Oct.-Nov. 1974	
	Greer, Delmer H.			rTr sketch, May-Jun. 1974	
	Bustraen, Michel	Au	Asses.	DDH 14, May 1975; rTr sketch (not to scale) May 1975; DDH 15-17 & loc Jun.-Jul. 1975	
	McCullough, Edward William also Gauthier Tp.			see under Gauthier Tp.	
	MacGregor, Robert A. also Catharine, Hearst & McElroy Tp.			see under Catharine Tp.	
	MacGregor, Robert A. also Hearst Tp.			see under Hearst Tp.	
Newman	Noranda Exploration Company Limited "Group 3-73" also Bragg Tp		Asses.	see under Bragg Tp.	2.1640
	Noranda Exploration Company Limited "Group 1-73, 2-73, and 4-73"		Asses	HEM, Mag (1" = 400'), HEM, Mag (1" = 400') & repts. by W. E. Lunt, Nov. 1974; VEM, Mag (1" = 400') & rept. by W. F. Graham, Apr. 1975	2.1762 2.1645
Noseworthy	Dome Exploration (Canada) Limited also Bradette & Hurtubise Tp.			see under Bradette Tp.	
	Noranda Exploration Company Limited also Hurtubise Tp.			see under Hurtubise Tp.	
	Noranda Exploration Company Limited also Hoblitzell Tp.			see under Hoblitzell Tp.	
	Noranda Exploration Company Limited "Group 1-73, 2-73"		Asses.	Mag (2), HEM (2) (1" = 400') & repts by W. W. Lunt, Nov. 1974	2.1644
Nursey	Dowa Mining Company Ltd. "Edlestone Lake property" "Clayton, R. H.; DesRosiers, David F.; Armand, Aube claims" also Sothman Tp.		MEAP (CG.81)	DDH 3, Sep. 1974 & loc (1" = 1320'), XN (1" = 40'), Oct. 1974; VEM (1" = 200'), Nov. 1974 & rept. by R. H. Clayton, Nov. 1974	
Ossian	Minedel Mines Limited		Asses.	A-Mag (1" - 660') & rept. by P. G. Lacombe, Apr. 1975	2.1790
Otto	Gateford Mines Limited (see also Kirkland Golden Gate Mines Ltd.) (Crescent Kirkland Gold Mines Ltd.) Golden Gate Mining Ltd.; Kirkland Gateway Mines Ltd.; (Gateway Gold Mines Ltd.) (Swastika Mines Ltd.) (Lucky Cross Gold Mines Ltd.) (Lucky Cross Leasing Syndicate)		Asses.	DDH G74-3 Sep. 1974 & loc (1" = 200'); DDH 74-A2, Dec. 1974 & loc (1" = 1320'); DDH G74-1A & loc (1" = 200'), Dec. 1974; DDH 75-A3 to A5 & loc (1" = 200') Jan. 1975; DDH G74-1 to 4; G74-6; G74-8 to 12; G74-14, Aug.-Dec. 1974 & loc (1" = 200')	

Township	Name of Property File	Commodity Found	Type of Report	Type of Work Performed and Date of Work	Toronto File Number(s)
Pacaud	Warren Explorations Limited also Catharine & Teck Tp.			see under Catharine Tp.	
Playfair	Canadian Arrow Mines Limited		Asses.	rTr sketch Sep. 1974	
	Ferguson, John D. & Kakish, J. "K & F property" (FIN Resources Inc.)		Pros.	prospectus, Jul. 1975	
Pontiac	Amax Exploration Incorporated also Ben Nevis & Katrine Tp.			see under Ben Nevis Tp.	
Powell	Campbell, Donald			rTr sketches, Oct.-Dec. 1974	
	Gold Acres Mines Limited	Au	Asses.	Mag, IP & Res interpretation (" = 200') Aug. 1974 & rept. by F. L. Jagodits, Sep. 1974; GL (1" = ½ mi.), loc (1" = ½ mi.) Sep. 1973	2.1573
	Welsh, George Stanley (Majestic Construction Limited option)	Cu,Au	Asses.	DDH 74-1 to 6, GL (1" = 200') & rept by Jack C. Willars, Nov. 1974	2.1385
Rand	Canadian Johns-Manville Company Limited		Asses. MEAP (KL55)	DDH RJ-1, May-Jun. 1974, XN (1" = 50') Sep. 1974, loc (1" = 1320'), Sep. 1974; assay results, Apr.-Jun. 1974; Mag (1" = 200') (3), loc (1" = 1320') & rept. by P. A. R. Brown & F. J. Evelegh, Oct. 1974; VEM (1" = 200') (2), VEM (1" = 20'), GL (1" = 200') & rept. by P. A. R. Brown & F. J. Evelegh, Sep. 1974	2.1593
Rickard	McIntyre Mines Limited "Rickard II (West); Rickard II (East); Rickard III"		Asses.	Mag, HEM (1" = 200') & rept. by Norman R. Paterson, Sep. 1974	2.1588
Robertson	New Metalore Mining Company Limited		Donation	VEM (2) (1" = 200') & rept by Leo Brossard & T. Koutomzine, Mar. 1955	
Robillard	MacDonald, Norman William		Asses.	DDH 1, May-Jun. 1974	
Skead	MacGregor, Robert A. also Catharine Tp.		Asses.	Mag (1" = 200') (2); VLF-EM (1" = 200') (2) & repts by R. A. MacGregor, Jan.-Feb. 1975; VLF-EM (1" = 200') & rept. by R. A. MacGregor, Oct. 1974	2.1700 2.1708 2.1610
	Kozdas, Anton		OLS	land surv (1" = 500') by P. A. Blackburn, May 1975; sTr sketch May 1975	
Sothman	Dowa Mining Company Limited "Edleston Lake property" "Clayton, R. H.; DesRosiers, David F.; Armand, Aube claims" also Nursey Tp.		Asses.	DDH 4, Sep. 1974 & loc (1" = 1320') Oct. 1974, XN (1" = 40'), Oct. 1974 see also under Nursey Tp.	
South Lorrain	Aurum Gold Mines Limited		Pros.	prospectus, Mar. 1974; Mag (1" = 200') (no date)	
Teck	Gateford Mines Limited (see also Kirkland Golden Gate Mines Ltd.; Crescent Kirkland Gold Mines Ltd.; Golden Gate Mining Ltd.; Kirkland Gateway Mines Ltd.; Gateway Gold Mines Ltd.; Swastika Mines Ltd.; Lucky Cross Gold Mines Ltd.; Lucky Cross Leasing Syndicate) also Otto Tp.			see under Otto Tp.	
	Lynx-Canada Explorations Limited "Winnie Lake prospect"; "Hurd, D. F. claims" (see also Winnie Lake Mining Co. Ltd.)	Cu, Zn	Asses. MEAP (KL.60)	DDH WL1 to WL3, Jun.-Jul. 1974, XN's (1" = 100'), Sep. 1974; DDH locations on GL plan (1" = 200'), Sep. 1974; Mag, VLF and HEM, GC, loc (1" = 100'), Dec. 1973 & rept. by V. C. Papertzian ; rept. by G. F. Archibald, Nov. 1974	2.1376
	Spark Gold Mines Limited "Welsh claims" (see also Casakirk Gold Mines Ltd. & Barnette Legris claims)		Pros., Asses., OSC	sTr sketch (not to scale), Aug. 1974; loc plan (1" = 1000') Jan. 1975; 2950' level plan Macassa (1" = 400'); DDH station, north Casakirk x-cut (1" = 10'), Jan. 1975; rept. by J. H. Harling, Jan. 1975; prospectus May 1974 with rept by W. J. Riddell, Mar. 1974; rTr sketch, Sep. 1975	
	Lormac Explorations Incorporated	Au		GL (1" = 200'), GC (1" = 100'), Oct. 1974 & repts by Micheal Ogden, Dec. 1974 & feb. 1975	2.1669
	Federal Kirkland Mining Company Limited also Lebel Tp.			see under Lebel Tp.	
	Warren Explorations Limited also Catharine & Pacaud Tp.			see under Catharine Tp.	
	Warren Explorations Limited	Au		rept. by L. J. Cunningham, Mar. 1974	
	Haas-Warner Mining Limited also Bernhardt, Lebel, Morrisette Tp.			see under Bernhardt Tp	
	Deloye, Ernest C.			rTr sketch, Aug.-Sep. 1975	

Township	Name of Property File	Commodity Found	Type of Report	Type of Work Performed and Date of Work	Toronto File Number(s)
Teck (contd.)	Kerr Addison Mines Limited "Duffy, Dennis claims"	Au	Asses.	DDH 1 - 4 & loc (no scale) Jul.-Aug. 1974; GL (1" = 50') (2); (1" = 200') (2), Mag (1" = 200'), rTr, SA & rept. by G.Hinse, Oct. 1974	2.1601
	Hurd, Donald F.			rTr sketch, Jul. 1975	
	Saint Joseph Kirkland Gold Mines, Limited also Lebel Tp.			see under Lebel Tp.	
Tomlinson	Noranda Exploration Company Limited also Kenning Tp.			see under Kenning Tp.	
	Noranda Exploration Company Limited		Asses.	Mag, HEM (1" = 400') Mar. 1974 & rept. by Wayne E. Lunt, Nov. 1974	2.1647
Tweed	Noranda Exploration Company Limited (Group 1-73, 2-73)		Asses.	VEM, Mag (1" = 400') Group 1-73, Mar. 1974 & rept. by W. F. Graham, VEM, Mag (1" = 400') Group 2-73, Feb. 1975 & rept. by F. J. Fraser, Jan. 1975	2.1639 2.1684
Tyrrell	Bay Roc Mining Company Limited	Au	Asses.	GL (1" = 200'), Aug. 1974 & rept. by James D. McCannell, Sep. 1974	
	Sloane Mining Company Limited "Sokoloff, T. claims"	Au	Asses.	GL (1" = 200'), Aug. 1974 & rept. by James D. McCannell, Oct. 1974	2.1597
	Getty Mines Limited "Juby property"	Au	Asses.	GL (1" = 400') (3), Feb. 1975; GL (1" = 50') (2), Jul. 1974; GC (1" = 50') (4), Feb. 1975; GE (1" = 400') (3), Feb. 1975 & rept by M. V. white, Jul. 1974; DDH J751 to J759, loc (1" = 400'), XN's (1" = 50'), May-Jun. 1975	2.1558
	Monpre Iron Mines Limited	Au		DDH 75-1, Jul-Aug. 1975 & XN (1" = 40'), Aug. 1975	
	Pope, Alex R.			rTr sketch, Sep. 1975	
Van Hise	Baxted, George		Asses.	Mag (1" = 200') (2), Oct. 1974 & rept. by D. F. Aitkens, Nov. 1974	2.1670
Warden	Canaan Explorers Limited		Pros., Asses.	prospectus, Jun. 1974; Mag, HEM, GL (1" = 400'), Sep. 1974 & rept. by J. R. Boissoneault, Oct. 1974	2.1681
	Imperial Oil Limited		Asses.	HEM, Mag (1" = 200') & rept. by R. A. Bell, Jul. 1974; detailed EM line profiles (1" = 200'), Jul. 1974	2.1759
Wilkie	McIntyre Mines Limited "Wilkie II & Wilkie V properties"		Asses.	Mag, HEM (Wilkie II) (1" = 200'); Mag, EM (Wilkie V) (1" = 200') & rept. by Norman R. Paterson, Sep. 1974	2.1590
	Imperial Oil Limited		Asses.	HEM (2), Mag (2) (1" = 200'), detailed HEM line profiles (1" = 200') & repts by R. A. Bell, Jul. 1974	2.1760 2.1777
Yarrow	Extender Minerals of Canada, Limited			rTr sketch, Sep.-Dec. 1974	
Zavitz	Pan-Ore Gold Mines Limited also Hincks Tp.			see under Hincks Tp.	
	Vantage Mines Ltd.	Au	Pros. Asses.	prospectus, May 1974; DDH 1, XN (1" = 200'), loc (1" = 400'); Mag, VLF-EM, GL (1" = 400'), Oct. 1974 & rept by J. R. Boissoneault, Nov. 1974	2.1675

1975 REPORT

of the

NORTHEASTERN REGIONAL GEOLOGIST

and

SAULT STE. MARIE RESIDENT GEOLOGIST

by

P.E. Giblin

CONTENTS

Page

Introduction 93
Regional Geologist's Activities 93
Mining and Development Operations 93
Exploration Activities 94
Geological Branch Activities 94
ODM Maps and Reports Issued by the Geological Branch in 1975 94
Other Ontario Ministry of Natural Resources Publications Issued in 1975 95
Recent Publications 95

TABLES

1—Exploration Activity in 1975 97
2—Assessment Work and Other Information Received in 1975 98

FIGURE

1—Sault Ste. Marie Resident Geologist's District 92

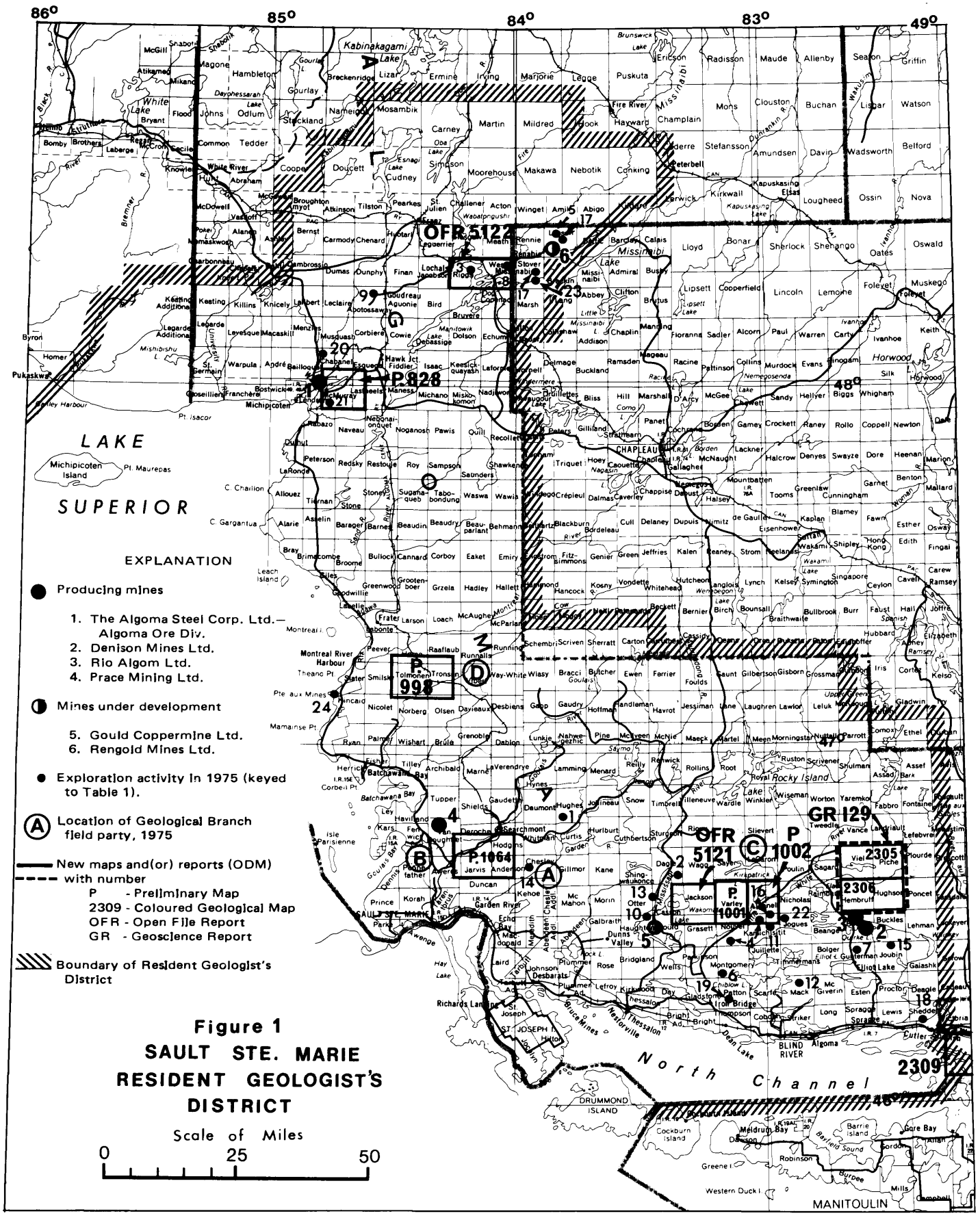


Figure 1
SAULT STE. MARIE RESIDENT GEOLOGIST'S DISTRICT

1975 REPORT

of the

NORTHEASTERN REGIONAL GEOLOGIST

and

SAULT STE. MARIE RESIDENT GEOLOGIST

by

P.E. Giblin[1]

INTRODUCTION

Exploration activity continued at a relatively low level. The most active area was the Renabie area, where Rengold Mines Limited, continued preparations to put the former Renabie mine into production and, in the course of exploration work, discovered two previously unknown gold occurrences. A modest amount of exploration for uranium was carried out in the Elliot Lake–Keelor Lake Area; and exploration programs directed towards base-metal deposits were carried out in the Wawa, Pointe Aux Mines, Searchmont, and Iron Bridge areas.

Staff in the Sault Ste. Marie office consists of G. Nivins (Secretary), E.J. Leahy (Geological Assistant), G. Bennett (Geologist, Precambrian Geology Section), and the author.

REGIONAL GEOLOGIST'S ACTIVITIES

The author examined several prospects, carried out field mapping near Sault Ste. Marie, and participated in a variety of land-use studies. E.J. Leahy completed a compilation of drill-hole data for the Sault Ste. Marie urban area, and has prepared maps illustrating bedrock topography and drift thickness. The writer continued compilation of drill-hole data related to uranium exploration in the Elliot Lake–Sault Ste. Marie area.

[1]Regional Geologist, Ontario Ministry of Natural Resources, Box 1900, Sault Ste. Marie, P6A 5N9.

MINING AND DEVELOPMENT OPERATIONS

The Algoma Steel Corporation, Limited–Algoma Ore Division continued production of iron ore at Wawa. Approximately 2 million gross tons of sinter were produced.

Denison Mines Limited and Rio Algom Limited continued production of uranium oxide at Elliot Lake. Both companies are currently engaged in major expansion programs, designed to increase daily milling capacity from 6,000 tons per day to 7,100 tons per day by the end of 1976 in the case of Denison Mines Limited; and from 4,500 tons per day to 7,000 tons per day by 1978 in that of Rio Algom Limited (The Northern Miner, Nov. 6, p.1; Nov. 13, p.1, 1975).

Prace Mining Limited resumed the company's seasonal mining operation on its silver-lead deposit located in VanKoughnet Township, 30 km (20 miles) north of Sault Ste. Marie. A small tonnage of hand-cobbed argentiferous galena was stock-piled during the year.

Rengold Mines Limited continued underground development and plant rehabilitation at the Renabie mine, a former gold producer. Production is expected to begin early in 1976 at an initial rate of 300 tons per day (The Northern Miner, Oct. 30, 1975, p.1).

Approximately 100,000 tons of aggregate were shipped by both rail and barge, from a pit near Thessalon owned by the Ministry of Transportation and Communications to points in southern Ontario for use in highway construction (Ministry of Transportation and Communications, personal communication).

Silver Spring Mines Limited, in a joint venture with Canadian Reserve Oil and Gas Limited, continued rehabilitation of the former Cannon Mines Limited mill located 30 km (20 miles) north of Blind River. During the summer, Canadian Reserve assumed management of the project. Short adits were driven on two copper occurrences, the former Destorado (Master Metals Corp-

oration (Mining) occurrence in Montgomery Township, and on the former Pathfinder occurrence in Kamichisitit Township. Rehabilitation of the mill and mining operations were suspended before the end of the year.

Gould Coppermine Limited began rehabilitation of the company's mill, located in Gould Township, 30 km (20 miles) north of Thessalon. Projected mill capacity is about 50 tons per day.

EXPLORATION ACTIVITIES

The recently revived interest in gold deposits resulted in renewed exploration for gold by several companies and individuals in the Renabie–Missanabie area, making this area the most active part of the District (*see* Figure 1 and Table 1). The Coniagas Mines Limited, Nudulama Mines Limited, and Rengold Mines Limited carried out exploration work in Leeson and Stover Townships. In the course of prospecting, H. Kenty of Rengold Mines Limited discovered two new gold occurrences located in southeastern Stover Township. The discovery led to considerable staking activity in the area.

The second most active part of the District was the Keelor Lake area, centred about 29 km (18 miles) northwest of Elliot Lake. Raylloyd Mines and Explorations Limited drilled several deep holes in Jogues Township on a uranium prospect. Recently Imperial Oil Limited began a program of deep drilling for uranium in Kamichisitit Township on property optioned from Consolidated Morrison Explorations Limited.

Late in 1975 Ontario Hydro and Shell Canada Limited announced plans for a uranium exploration joint venture, in which $7 million will be spent during the next five years in the Sault Ste. Marie–Sudbury region and in the Northwest Territories (The Northern Miner, Oct. 30, 1975, p.1).

Small-scale base-metal exploration programs were carried out in the Wawa, Point Aux Mines, Searchmont, and Iron Bridge areas.

Exploration activities are summarized in Table 1. Numbers in the table refer to locations shown on Figure 1.

GEOLOGICAL BRANCH ACTIVITIES

E.B. Freeman conducted a mineral exploration course at Elliot Lake and several earth science courses at Junior Ranger camps.

Four geological mapping projects were carried out, as listed below.

G. Bennett carried out mapping in Duncan and Chesley Townships, located 24 km (15 miles) northeast of Sault Ste. Marie (A on Figure 1).

P.E. Giblin and E.J. Leahy continued mapping in the Goulais River area, 16 km (10 miles) north of Sault Ste. Marie (B on Figure 1).

K.M. Siemiatkowska mapped the Kirkpatrick Lake area, 56 km (35 miles) north of Blind River (C on Figure 1).

G.M. Siragusa continued mapping in the Batchawana–Pangis area, 72 km (45 miles) north of Sault Ste. Marie (D on Figure 1).

Areas covered by maps and reports published by the Ontario Division of Mines are shown on Figure 1.

ODM MAPS AND REPORTS ISSUED BY THE GEOLOGICAL BRANCH IN 1975

P.828 McMurray Township (formerly Township 29, Range 23) and Parts of Surrounding Townships, District of Algoma (41 N/15, 42 C/12). Geology and compilation by R.J. Rupert, 1970 to 1972. Scale: 1 inch to ¼ mile or 1:15,840.

P.971 Uranium and Thorium Deposits of Ontario, East Central Sheet, Districts of Thunder Bay, Algoma, Cochrane, Sudbury, Timiskaming and Nipissing. Compilation by James A. Robertson, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.998 Batchawana–Pangis Area (Western Half) District of Algoma (41 N/1). Geology by G.M. Siragusa and assistants, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1001 Endikai Lake Area (Western Half), District of Algoma (41 J/11E). Geology by K.M. Siemiatkowska, Eric Grunsky and B.R. Berger and assistants, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1002 Endikai Lake Area (Eastern Half), District of Algoma (41 J/10W, 11E). Geology by K.M. Siemiatkowska, Eric Grunsky and B.R. Berger and assistants, 1974. Scale 1 inch to ¼ mile or 1:15,840.

P.1043 Iron Deposits of Ontario, East Central Sheet, Districts of Thunder Bay, Algoma, Cochrane, Sudbury, Timiskaming and Nipissing. Compilation by H.D. Meyn and James A. Robertson 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1062 Nickel Deposits of Ontario, East Central Sheet, Districts of Thunder Bay, Algoma, Cochrane, Sudbury, Timiskaming and Nipissing; Mineral Deposits Series. Compilation by M. Jost 1974, 1975. Scale 1 inch to 16 miles or 1:1,013,760.

P.1064 Jarvis Lake–Garden River Area, District of Algoma (41 K/9E). Geology by G. Bennett, R.D. Hillier, F. Nentwick and G.M. Pucovsky 1974. Scale 1 inch to ¼ mile or 1:15,840.

Map 2305 Viel and Piche Townships (formerly Townships U and Q, respectively), Algoma District (41 J/9, 41 J/10). Geology by J. Wood and assistants, 1967. Scale 1 inch to ½ mile or 1:31,680.

Map 2306 Hembruff and Hughson Townships, Algoma District (41 J/9, 41 J/10). Geology by J. Wood and assistants, 1968. Scale 1 inch to ½ mile or 1:31,680.

Map 2309 Part of Indian Reserve No. 5 and Offshore Islands, Algoma and Manitoulin Districts (41 J/1). Geology by J.A. Robertson, W. McCrindle and assistants, 1966. Scale 1 inch to ½ mile or 1:31,680.

GR129 Geology of the Rawhide Lake Area, District of Algoma (41 J/9, 10); by J. Wood, 67p. Accompanied by Map 2305 and 2306.

OFR5121 Geology of the Wakomata Lake Area (East Half), District of Algoma (41 J/11). Geology by K.M. Siemiatkowska, 1974; 73p., 8 tables, 9 figures, 12 photos, 1 map.

OFR5122 Geology of West and Riggs Townships (formerly Townships 46 and 47), District of Algoma (42 C/8E) by P. Srivastava and G. Bennett, 1973; 128p., 3 figures, 5 tables, 5 photos, 2 maps.

OFR5125 Geochemistry of Lake Sediments in the Elliot Lake Region, District of Algoma; by L.G. Closs; 49p., 9 tables, 8 figures, 6 appendices.

OFR5126 Index to Exploration Reports Filed in 1974 (1) Assessment Work Reports (2) Reports Received Under Ontario's Mineral Exploration Assistance Program (MEAP). Compiled by Geoscience Data Centre, 1975.

OFR5134 Clay and Shale Deposits of Ontario; by G.R. Guillet; approx. 265p., 28 tables, 39 figures, 2 maps.

OFR5147 Mineral Exploration Assistance Program (MEAP), Fiscal Year 1974-75, by S.A. Ferguson, F.G. Da Silva and S.C. Sun; 73p., 2 figures, 7 appendices.

OFR5150 Preliminary Township and NTS Index to Ontario Geoscience Reports and Maps, 1975, 1201p. (microfiche only).

OFR5156 Gold Deposits of Ontario Part 2, Districts of Muskoka, Nipissing, Parry Sound, Sudbury, Timiskaming, part of Cochrane and Southern Ontario, by J.B. Gordon, H.L. Lovell and Jan de Grijs; approx. 700p., various figures and tables.

MP60 Annual Report of the Regional and Resident Geologists, 1974. Edited by E.G. Pye, Director, Geological Branch, 241p.

MP61 Mineral Deposit Studies, Mineral Potential Evaluation and Regional Planning in Ontario; by James A. Robertson, 42p.

MP63 Summary of Field Work, 1975, by the Geological Branch. Edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, 158p.

OTHER ONTARIO MINISTRY OF NATURAL RESOURCES PUBLICATIONS ISSUED IN 1975

MPBP 1 The Impact of Taxation and Environmental Controls on the Ontario Mining Industry by G. Anders, W.P. Gram and S.C. Maurice; 197p. Published by the Mineral Resources Branch.

1974 Review Ontario Mineral Review 1974, 124p.

RECENT PUBLICATIONS

Annells, R.N.
1974: Keweenawan Volcanic Rocks of Michipicoten Island, Lake Superior, Ontario. An Eruptive Centre of Proterozoic Age; Geol. Surv. Canada, Bull. 218, 141p. Accompanied by Map 1353A. Scale 1:50,000.

Chandler, F.W.
1975: Lower Huronian Sandstones; Correlation Problems and Uranium; Morin Township Area, Ontario; Canadian J. Earth Sci., Vol.12, p.237-251.

Darnley, A.G., Ruzicka, V., Dyck, W., Cameron, E.M., Richardson, K.A. and Williams, R.M.
1975: Uranium Exploration '75; Geol. Surv. Canada, Paper 75-26, p.49-54.

Giblin, P.E. and Nivins, G.
1975: Second Supplement to the Bibliography of Current Research on the Geology of the Lake Superior Region: May 1974–May 1975; 21st Ann. Inst. Lake Superior Geology, May 1975, Marquette, Michigan, 19p.

Heinrich, E.W.
1975: Hydrothermal Alteration of the Mississagi Conglomeratic Quartzite, Pronto Mine, Blind River, Ontario (*Abstract*); p.20, *in* Prog., Abstr., Field Guides for 21st Ann. Inst. Lake Superior Geol., May 1975, Marquette, Michigan, 261p.

Long, D.G.F.
1975: Revision of Huronian Stratigraphy: The Mississagi–Bruce and Serpent–Gowganda Boundary Problems (*Abstract*); p.810, *in* Abstracts With Programs, Geol. Soc. America, Vol.7, No.6.

Morris, W.A., Palmer, H.C. and Carmichael, C.M.
1975: Palaeomagnetism of Huronian Argillites (*Abstract*); p.826, *in* Abstracts With Programs, Geol. Soc. America, Vol.7, No.6.

Richardson, K.A., Holman, P.B. and Elliott, B.E.
1975: Airborne Radioactivity Survey, Blind River, Ontario, 41J; Geol. Surv. Canada, Open File 262: 7 maps. Scale 1:250,000; 33 profiles.

Richardson, K.A., Killeen, P.G. and Charbonneau, B.W.
1975: Results of a Reconnaissance Type Airborne Gamma-Ray Spectrometer Survey of the Blind River–Elliot Lake Area, Ontario, 41J; p.133-135 *in* Report of Activities, April to October 1974, Geol. Surv. Canada, Paper 75-1, Part A.

Saarnisto, Matti
1975: Stratigraphical Studies on the Shoreline Displacement of Lake Superior; Canadian J. Earth Sci., Vol.12, p.300-319.

Symons, D.T.A.
1975: Huronian Glaciation and Polar Wander From the Gowganda Formation, Ontario; Geology, Vol.3, No.6, June 1975, p.303-306.

Symons, D.T.A. and O'Leary, R.J.
1975: Paleomagnetism of the Thessalon Volcanics and Huronian Polar Wander (*Abstract*); p.867, *in* Abstracts With Programs, Geol. Soc. America, Vol.7, No.6.

Van Schmus, W.R.
1975: On the Age of the Sudbury Dike Swarm; Canadian J. Earth Sci., Vol.12, p.1690-1692.

Wanless, R.K., Stevens, R.D., Lachance, G.R. and Delabio, R.N.D.
1974: Age Determinations and Geological Studies, K-Ar Isotopic Ages, Report 12; Geol. Surv. Canada, Paper 74-2, 40p.

Table 1 Exploration Activity in 1975

The following is a list of individuals and companies known to be engaged in exploration within the Sault Ste. Marie Mining Division in 1975, and the type of work undertaken in each case. The list also includes work by two companies (1 and 8 in list) carried out late in 1974 and not previously reported. The numbers correspond to the numbered areas on Figure 1.

	Company or Individual	Activities
1.	Asarco Exploration Co. of Canada, Ltd.	Drilling, Hughes Township.
2.	Barcis, A.	Trenching on copper occurrence, Dagle Township.
3.	Campbell, R.	Trenching, Riggs Township.
4.	Canadian Reserve Oil and Gas Ltd.	Underground exploration, adits and drifting on copper occurrences, Montgomery and Kamichisitit Townships.
5.	Coniagas Mines Ltd., The	Trenching, Leeson Township.
6.	Corbold Creek Developments Ind.	Drilling on copper occurrence, Montgomery Township.
7.	Denison Mines Ltd.	Drilling, uranium prospect.
8.	Dome Exploration(Canada) Ltd.	Airborne electromagnetic and magnetic surveys, Stover and West Townships.
9.	Ego Mines Ltd.	Drilling on copper-gold occurrence, Abotossaway Township.
10.	Ghering, E.	Trenching, Haughton Township.
11.	Imperial Oil Ltd.	Drilling, uranium prospect, Kamichisitit Township.
12.	Kintu Uranium Ltd.	Drilling, uranium prospect, Mack Township.
13.	McKee, R.	Trenching on copper occurrence, Casson Township.
14.	Middle River Mines Ltd.	Drilling on copper occurrence, Chesley Township.
15.	North American Nuclear Ltd.	Airborne VLF and magnetomter surveys, portions of Gaiashk, Joubin, Buckles, and Gunterman Townships.
16.	North Summit Explorations Ltd.	Drilling, Kamichisitit Township.
17.	Nudulama Mines ltd.	IP survey, trenching, drilling, gold prospects, Leeson and Stover Townships.
18.	Pelky, R.	Trenching, Shedden Township.
19.	Pellerin, U.	Trenching, Patton Township.
20.	Phelps Dodge Corp. of Canada Ltd.	Drilling, Chabanel and Bailloquet Townships.
21.	Pursides Gold Mines Ltd.	Underground drilling, McMurray Township.
22.	Raylloyd Mines & Explorations Ltd.	Drilling, uranium prospect, Jogues Township.
23.	Rengold Mines Ltd.	Trenching and drilling pn gold prospect, Stover Township.
24.	Streamside Mines Inc.	Drilling, copper prospect, Slater Township.

Table 2 Assessment Work and Other Information Received in 1975

Sault Ste. Marie Mining Division

Abbreviations

A	- Airborne	IP	- Induced Polarization
CS	- Core Samples	Mag	- Magnetometer
D	- Donated by Company or Individual	Pros	- Prospectus
DDH	- Diamond Drill Hole	RA	- Radioactive, Radiometric
DN	- Dip Needle Survey	SA	- Assaying
EM	- Electromagnetic	Tr	- Trenching
G	- Ground	U	- Underground Development
GL	- Geological	VLF	- Very Low Frequency

Township or Claim Map Area	File Name	Commodity Sought	Type of Report	Type of Work Performed	Date of Work	Toronto File No.	Local File No.
Abotossaway	Ego Mines Ltd.	Cu,Au	Assess.	Tr	1974		SSM-700
	Superior Acid & Iron Ltd.		D	GL	1970		SSM-1772
Bailloquet	Phelps Dodge Corp. of Canada Ltd.		Assess.	3 DDH (596')	1974-75		SSM-1771
Buckles	North American Nuclear Ltd.		Assess.	AVLF & Mag	1974-75	2.1649 2.1783	SSM-1792
Casson	McKee, Reuben		Assess.	Tr	1975		SSM-1309
Chabanel	Phelps Dodge Corp. of Canada Ltd.		Assess.	3 DDH (596')	1974-75		SSM-1771
Chesley	Middle River Mines Ltd.	Cu,Au Cu,Au	OSC, Pros. Assess.	GL 3 DDH (1003')	1974 1975		SSM-1773
Corbeil Pt. I.R.#15E	Indian Affairs Branch			GL	1975		SSM-1800
Dagle	Barcis, Andrew		Assess.	Tr	1975		SSM-1131
Davieaux	New Hiawatha Gold Mines Ltd.	Au	OSC, Pros.	GL	1974		SSM-1776
Gaiashk	North American Nuclear Ltd.		Assess.	AVLF & Mag	1974-75	2.1649 2.1783	SSM-1792
Goulais Pt. I.R.#15A	Indian Affairs Branch			GL	1975		SSM-1802
Gros Cap I.R.#49&49A	Indian Affairs Branch		D	GL	1975		SSM-1799
Gunterman	Denison Mines Ltd.		Assess.	2 DDH (2537.3') CS	1975		SSM-1678
	North American Nuclear Ltd.		Assess.	AVLF & Mag	1975	2.1649 2.1783	SSM-1792
Haughton	Ghering, E.		Assess.	Tr	1975		SSM-1794
Hodgins	Koseba Property			SA	1975		SSM-1766
Hughes	Asarco Exploration Co. of Canada Ltd.		Assess. D	4 DDH (1103') Map - DDH Loc. & 2 Topo	1974 1974		SSM-1697
Jogues	Raylloyd Mines & Explorations Ltd.		Assess.	2 DDH (3550')	1974-75		SSM-1767
Joubin	Consolidated Morrison Explorations Ltd.	U_3O_8	Assess.	AMag & ARA	1974	2.1671	SSM-1777
	North American Nuclear Ltd.		Assess.	AVLF & Mag	1975	2.1649 2.1783	SSM-1792
Kamichisitit	Garrelts, J. E.		Assess.	Tr, U	1975		SSM-1709
	North Summit Explorations Ltd.	Cu,Ni,Ag	Assess.	1 DDH (102.5')	1975		SSM-747
Lastheels	Consolidated Morrison Explorations Ltd.	U_3O_8	Assess.	AMag & ARA	1974	2.1671	SSM-1777
LeCaron	Canadian Johns-Manville Co. Ltd.		D	GL	1968		SSM-1442

Township or Claim Map Area	File Name	Commodity Sought	Type of Report	Type of Work Performed	Date of Work	Toronto File No.	Local File No.
Leeson	Coniagas Mines Ltd., The	Au	Assess.	16 DDH (2819.4') Tr	1974-75		SSM-1726
	Nudulama Mines Ltd.		Assess. Assess.	6 DDH (933') Tr IP	1975 1975	 2.1773	SSM-1798
	Rengold Mines Ltd.	Au	OSC	Pros.	1974		SSM-1768
Mack	Kintu Uranium Ltd.		Assess.	3 DDH (1349')	1975		SSM-1712
McMahon	Gulf Minerals Canada Ltd.		D	1 DDH (1598')	1971		SSM-1626
McMurray	Consolidated Morrison Explorations Ltd.	U_3O_8	Assess.	AMag & ARA	1974	2.1671	SSM-1777
Missanabie I.R.#62	Indian Affairs Branch		D	GL	1975		SSM-1805
Montgomery	Corbold Creek Developments Inc.	Cu Cu Cu	Assess. Assess. Assess. OSC	10 DDH (1104') GMag GEM Pros.	1975 1974 1974 1974	 2.1631 2.1694	SSM-1765 SSM-1765 SSM-1765 SSM-1765
Otter	McKee, Reuben		Assess.	Tr	1975		SSM-1309
Patton	Corbold Creek Developments Inc.	Cu	Assess. OSC	GMag Pros.	1974 1974	2.1631	SSM-1765 SSM-1765
	Pellerin, U.		Assess.	Tr	1975		SSM-1695
Plummer & Plummer Add'l.	Bannockburn Exploration & Mining Co. Ltd.	Cu	D	CS	1962		SSM-1236
Rabazo	Clement, Clifford		Assess.	Tr	1974		SSM-1764
Raimbault	Consolidated Morrison Explorations Ltd.	U_3O_8	Assess.	AMag & ARA	1974	2.1671	SSM-1777
Rankin Loc. I.R.#15D	Indian Affairs Branch			GL	1975		SSM-1801
Rennie	Rengold Mines Ltd.	Au	OSC	Pros.	1974		SSM-1768
Riggs	Campbell, Robert		Assess.	Tr	1975		SSM-1735
Rose	Southport Mines Ltd.	 Cu	OSC	Pros., GL 6 DDH (807')	1975 1971-72		SSM-1788
Ryan	Haugeneder, J.		D	DN	1961		SSM-684
Sayer	Canadian Johns-Manville Co. Ltd.		D	GL	1968		SSM-1442
Shedden	Pelky, Robert J.		Assess. Assess.	2 DDH (267') Tr	1974 1975		SSM-1797
Slater	Streamside Mines Inc.	Cu	OSC Assess.	Pros.,GL 1 DDH (407')	1974 1975		SSM-1775
Slievert	Canadian Johns-Manville Co. Ltd.		D	GL	1968		SSM-1442
Stover	Dome Exploration (Canada) Ltd.		Assess.	AMag	1974	2.1725	SSM-1770
	Nudulama Mines Ltd.		Assess.	8 DDH (1124')	1975		SSM-1795
	Rengold Mines Ltd.		Assess.	1 DDH (106')	1975		SSM-1804
West	Dome Exploration (Canada) Ltd.		Assess.	AMag	1974	2.1725	SSM-1770

1975 REPORT

of the

SUDBURY RESIDENT GEOLOGIST

by

D.G. Innes and R.L. Debicki

CONTENTS

Page

Introduction 106
Mining Activity 106
Exploration Activity 107
Recommendations for Exploration 107
Geological Branch Activities 107
Research by Other Agencies 107
ODM Maps and Reports Issued by the Geological Branch in 1975 108
Other Ontario Ministry of Natural Resources Publications Issued in 1975 109
Publications Issued by the Geological Survey of Canada in 1975 109
Publications and References 109

TABLES

1—Exploration Activity in 1975 112
2—Assessment Work and Other Information Received in 1975 114

FIGURES

1,2,3—Sudbury Resident Geologist's District 102,104,105
Index to Figures 1,2,3 103

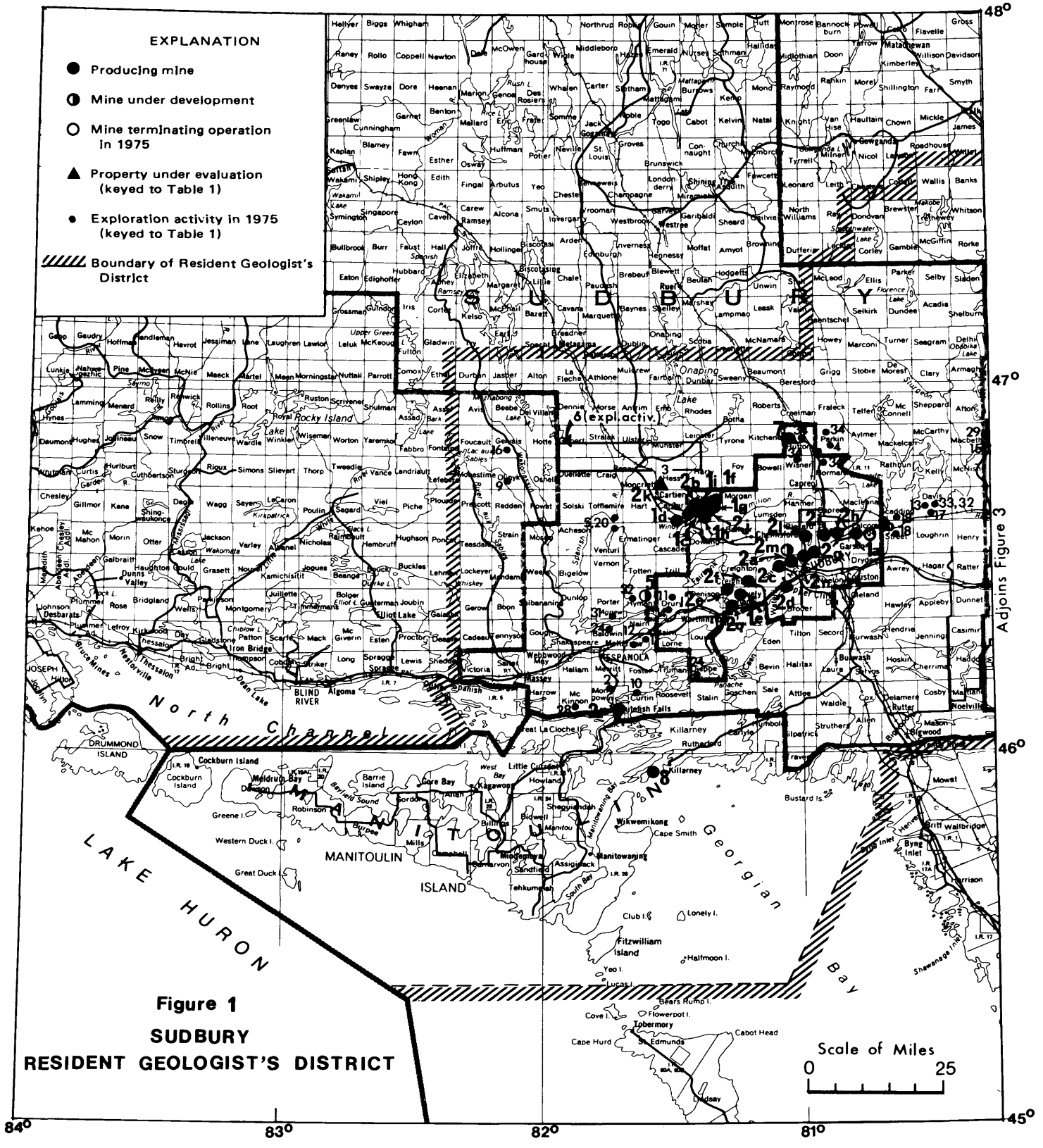


Figure 1

SUDBURY

RESIDENT GEOLOGIST'S DISTRICT

INDEX TO FIGURES 1, 2 and 3

MINE	STATUS
1. Falconbridge Nickel Mines Limited	
1a. Falconbridge Mine	●
1b. Falconbridge East Mine	○
1c. Fecunis Lake Mine	●
1d. Hardy Open Pit	●
1e. Lockerby Mine	●
1f. Longvack South Mine	●
1g. North Mine	●
1h. Onaping Mine	●
1i. Strathcona Mine	●
2. International Nickel Company of Canada Limited, The.	
2a. Clarabelle No. 2 Pit	●
2b. Coleman Mine	●
2c. Copper Cliff North Mine	●
2d. Copper Cliff South Mine	●
2e. Crean Hill Mine	●
2f. Creighton Mine	●
2g. Frood Mine	●
2h. Garson Mine	●
2i. Kirkwood Mine	●
2j. Levack Mine	●
2k. Levack West Mine	●
2l. Little Stobie Mine	●
2m. Murray Mine	◑
2n. Stobie Mine	●
2o. Victoria Mine	●
2p. Lawson Quarry	●
3. Sherman Mine (Dominion Foundries and Steel Limited and Tetapaga Mining Company Limited) (see Fig. 3)	●
4. Kanichee Mine (Kanichee Mining Incorporated) (see Fig. 3)	●
5. Agnew Lake Mine (Kerr Addison Mines Limited)	◑
6. Erana Mine (Erana Mines Limited) (see Fig. 3)	●
7. Moose Mountain Mine (National Steel Corporation of Canada Limited)	●
8. Indusmin Limited	●
9. G.M. Mote	●
10. McLarens Bay Stone Quarry (see Fig. 3)	●
11. J. Haberer (see Fig. 3)	●

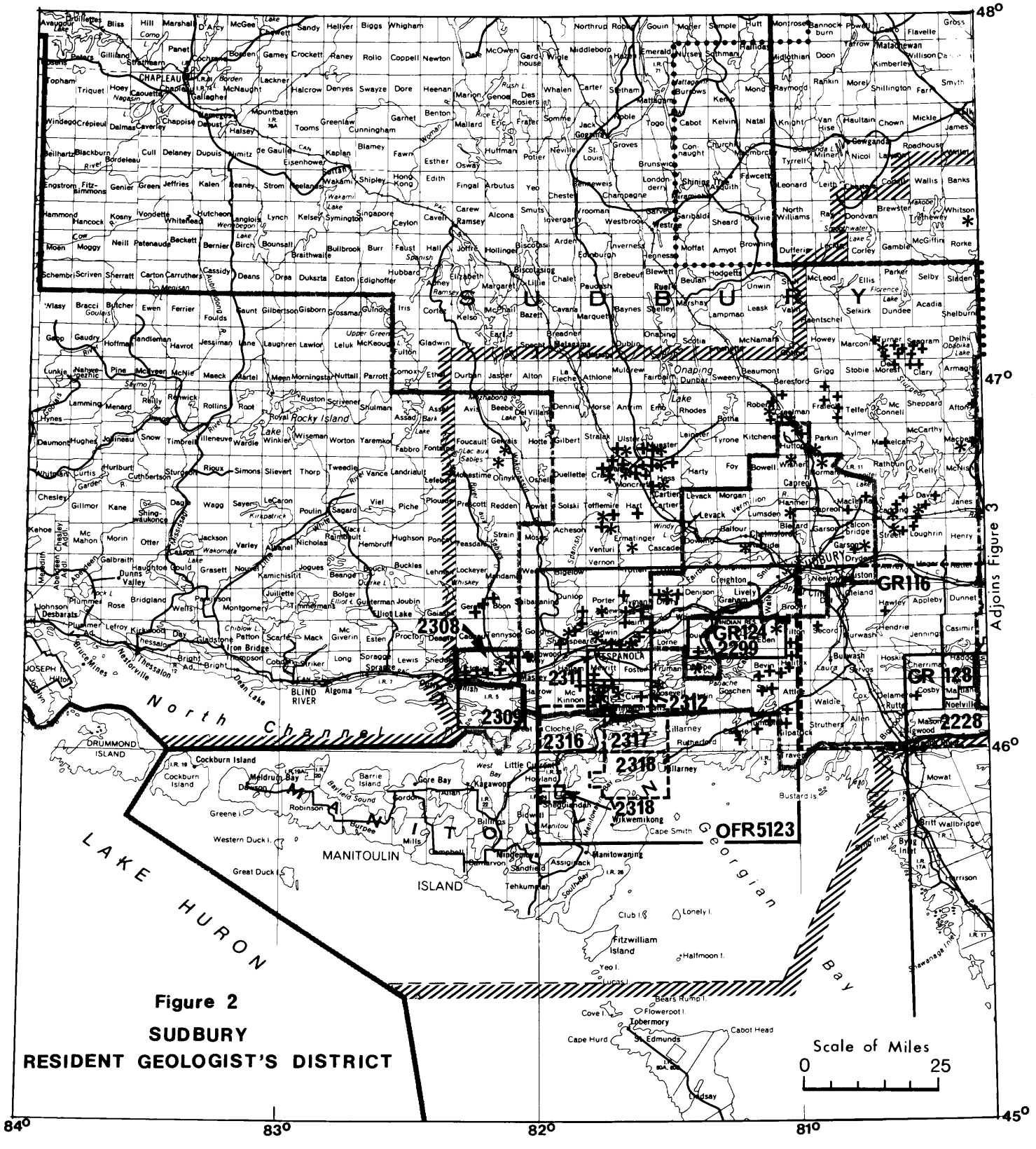


Figure 2

SUDBURY

RESIDENT GEOLOGIST'S DISTRICT

EXPLANATION

- Producing mine
- Property under evaluation (keyed to Table 1)
- Assessment work filed in 1975
- Staking in 1975
- Exploration activity in 1975 (keyed to Table 1)

- New maps and/or reports (ODM)
- OFR - Open File Reports
- 2316 - Coloured Geological Maps
- GR - Geological Report
- Boundary of Resident Geoloigst's Report

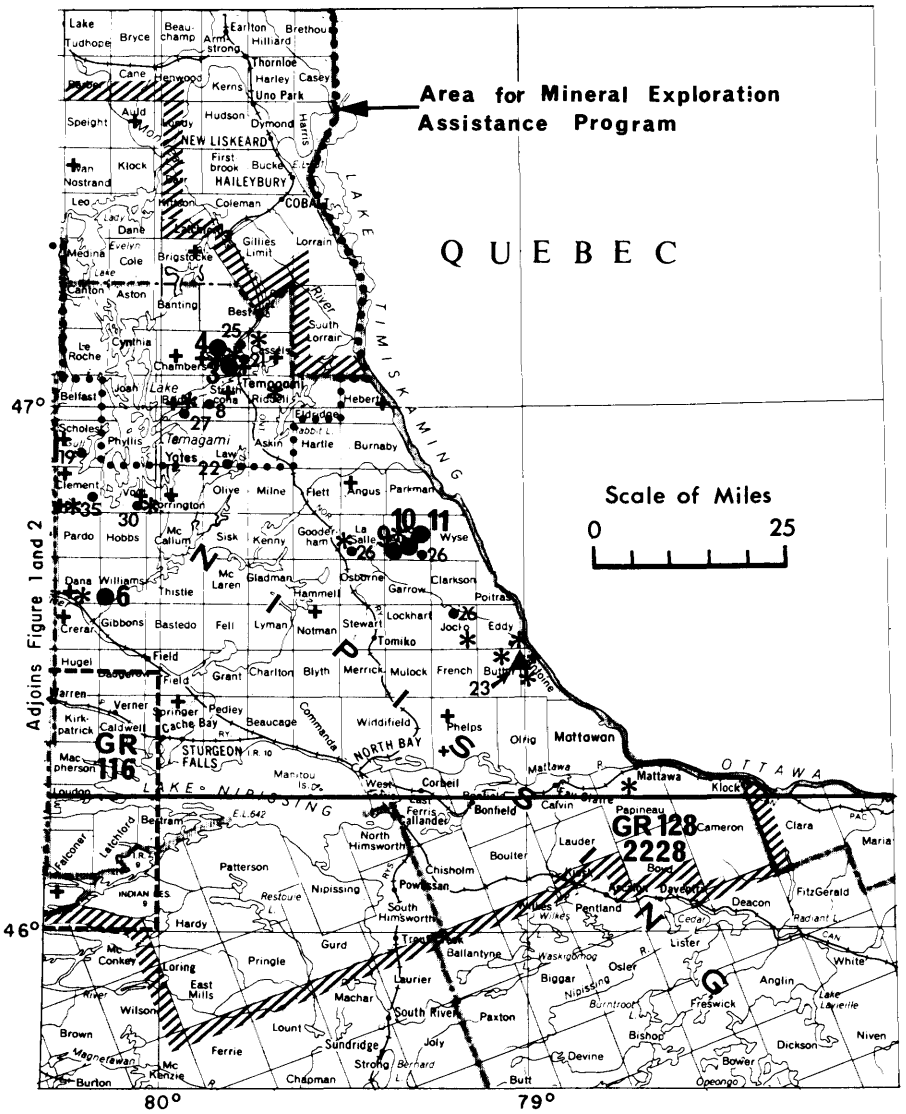


Figure 3

SUDBURY RESIDENT GEOLOGIST'S DISTRICT

1975 REPORT

of the

SUDBURY RESIDENT GEOLOGIST

by

D.G. Innes[1] and R.L. Debicki[2]

INTRODUCTION

Exploration activity during 1975 was chiefly directed towards uranium mineralization in the Massey-Agnew Lake area, the Killarney-Burwash area, and the areas underlain by Huronian lithologies northeast of Sudbury. Many known gold (with associated base metals) deposits associated with the Nipissing Diabase were re-evaluated. Base metal exploration was carried out in the Temagami, Benny-Cartier and Espanola-Massey areas.

Staff in the Sudbury office consists of Y.M. Paquette (Secretary), R.L. Debicki (Geological Assistant), and the author.

MINING ACTIVITY

Nickel, copper, platinum group metals, gold, silver, cobalt, selenium and tellurium are produced from the nickel-copper ores in the Sudbury area. The International Nickel Company of Canada Limited continued production from the Garson, Kirkwood, Creighton, Crean Hill, Levack West, Levack, Coleman, Little Stobie, Frood-Stobie, Clarabelle No.2 Pit, Copper Cliff North, Copper Cliff South, and Victoria mines. Sulphur used to manufacture sulphuric acid and other chemicals, and iron ore were also produced by The International Nickel Company of Canada Limited. Falconbridge Nickel Mines Limited continued production from the Falconbridge, Falconbridge East, Onaping, Fecunis Lake, Strathcona, Longvack South, Hardy Open Pit, North and Lockerby mines.

The Murray and Totten mines were maintained on a standby basis, and development operations were carried out at the Murray Open Pit during 1975, by The International Nickel Company of Canada Limited. Falconbridge Nickel Mines Limited deferred development operations at the Fraser mine in November, 1975. The East Falconbridge mine was put on standby maintenance on December 1, 1975 and production is to be curtailed at the Onaping, Fecunis Lake, and Longvack South mines in January, 1976. In addition, the smaller of two blast furnaces at the Falconbridge smelter is to be shut down by the end of 1975.

Canadian Industries Limited continued production of liquid SO_2 and H_2SO_4 at its Sudbury facilities during 1975.

National Steel Corporation of Canada Limited continued production of iron ore pellets from its plant in Hutton Township, 40 km (25 miles) north of Sudbury. During 1975, extraction of iron ore from No.3 Pit was terminated and temporarily suspended from No.10 Pit. Development work was carried out on No.11 Pit, northwest of the present operations.

Silica for smelter flux was produced from the Lawson quarry in Curtin Township by The International Nickel Company of Canada Limited. Indusmin Limited mined quartzite for use in the flint glass and ceramic industries from a quarry on Badgeley Island in Lake Huron.

G.M. Mote, McLarens Bay Stone Quarry and J. Haberer, continued production of building stone (muscovitic quartzite) in La Salle and McAuslan Townships 48 km (30 miles) north of North Bay. Erana Mines Limited continued production of building stone ("Black Granite", quartz and feldspar) in Crerar, Dana and McWilliams Townships, 64 km (40 miles) northeast of Sudbury.

Dominion Foundries and Steel Limited and Tetapaga Mining Company Limited, continued production of iron ore pellets during 1975, from their jointly owned Sherman Mine at Temagami.

The Kanichee Mining Incorporated copper-nickel-platinum mine located 7 km (4 miles) northwest of Temagami continued production during 1975.

Development operations initiated during 1974 at the Geneva mine property (lead-zinc-copper) in Hess Township and at the Alexander property (copper) in May Township by Devon Resources Limited, were suspended during 1975.

The experimental uranium leaching program continued at the Kerr Addison Mines Limited, Agnew Lake mine in Hyman Township. This program involves the processing of 100,000 tons of ore. Leaching of a surface stockpile (development ore) was initiated in June 1975 and underground "in situ" leaching commenced in

[1] Resident Geologist, Ontario Ministry of Natural Resources, 1112 The Kingsway, Sudbury, P3B 2E5.

[2] Geological Assistant.

September 1975. Agnew Lake mine reserves have been estimated to be 2,500,000 tons averaging 2.10 lbs U_3O_8 per ton plus 4,400,000 tons averaging 1.53 lbs U_3O_8 per ton. An additional 1,400,000 tons averaging 2.27 lbs U_3O_8 per ton is available on the adjoining property of Kerr Addison Mines Limited (The Northern Miner, October 16, 1975).

Sudbury Metals Company has leased the Falconbridge Nickel Mines Limited iron ore pellet plant until 1980 (The Northern Miner, Dec. 4, 1975). Sudbury Metals Company will use the Allis-Chalmers Canada Limited direct reduction system for refining iron-oxide pellets. Pellets supplied by The International Nickel Company of Canada Limited will be processed by the Sudbury Metals Company plant at a planned rate of 1,200 tons per day to produce metallized iron pellets (92 percent iron).

EXPLORATION ACTIVITY

The International Nickel Company of Canada Limited and Falconbridge Nickel Mines Limited continued exploration for nickel-copper deposits in areas underlain by the Nickel Irruptive in the Sudbury area.

Several exploration programs were carried out in other parts of the district by numerous companies and individuals and are summarized in Table 2; the locations are shown on Figure 1.

Increasing export potentials and domestic demand, resulting in higher prices for uranium, have encouraged many exploration companies and individuals to re-examine known uranium deposits and to explore for new deposits. In this regard, areas underlain by basal Huronian lithologies west and northeast of Sudbury were major exploration targets in the search for uranium during 1975. Several major uranium exploration programs in the Huronian were initiated late in 1975 and are to continue in 1976. Uranium exploration is also being carried out in the Grenville Province in the Killarney-Burwash area south of Sudbury, and in the North Bay-Thorne area east of Sudbury.

Exploration programs for base metal mineralization associated with Early Precambrian metavolcanic-metasedimentary belts in the Benny-Cartier and Temagami areas, continued during 1975. Middle Precambrian metavolcanics and metasediments in May, Hallam, Baldwin, Drury and Denison Townships were actively explored for copper mineralization.

Continued high gold prices encouraged exploration of previously known gold and gold-copper deposits associated with the Nipissing Diabase and Huronian metasediments. Most exploration in this regard was in the Mongowin and Curtin Townships area, and in Nairn Township and Davis Township.

Potential sources of sand, gravel, building stone, and clay were actively explored for during 1975.

RECOMMENDATIONS FOR EXPLORATION

Areas underlain by basal Huronian lithologies should be extensively explored for uranium mineralization. Areas underlain by muscovitic quartzose gneiss in the North Bay-Mattawa-Thorne area should be explored for uranium-gold mineralization.

Continued base metal exploration is warranted in the Temagami, Benny and Sudbury metavolcanic-metasedimentary belts.

Exploration for shale deposits suitable for the ceramic industry on Manitoulin Island is warranted. Shales of the Cabot Head, Georgian Bay and Whitby Formations hold the best possibilities. Increasing demands for sand, gravel and industrial minerals suggest that exploration for these commodities is warranted.

GEOLOGICAL BRANCH ACTIVITIES

Personnel from the Geoscience Information Office, Geoservices Section, conducted numerous earth science courses at Junior Ranger Camps in the District.

B.O. Dressler of the Precambrian Geology Section completed geological mapping in the Onaping-Venetian Lakes area, 60 km (35 miles) northwest of Sudbury. The area includes Emo, Rhodes, and Botha Townships.

K.M. Siemiatkowska of the Precambrian Geology Section carried out detailed geological mapping in the Webbwood-White Mountain area, 77 km (45 miles) southwest of Sudbury. Parts of Hallam, Harrow, May, and McKinnon Townships were examined.

M.A. Vos of the Mineral Deposits Section carried out geological investigations of silica resources in the McGregor Bay-Killarney area and on Manitoulin Island.

RESEARCH BY OTHER AGENCIES

Dutch, S.
: The Structure of the Creighton Granite, Sudbury, Ontario. Ph.D. Thesis, Columbia University.

McKinistry, B.
: Structural Studies in the Timber Lake Area, Butler Township. M.Sc. Thesis, Carleton University.

Palmer, C.
: Paleomagnetic Studies of the Olivine Diabase in the Sudbury—Lake Panache Area. Staff research, University of Western Ontario.

Scott, D.S.
: Described a new mineral from the Sudbury nickel-copper ores. Argentiferous pentlandite $(Fe, Ni)_{8-x}Ag_{1-x}S_8$. Staff research, University of Toronto.

Semkin, R.G.
A Limnogeochemical Study of Sudbury Area Lakes. M.Sc. Thesis, McMaster University.

During 1975, a geodetic survey was carried out in the Sudbury area by surveyors from the Geodetic Survey, Canada Department of Energy, Mines and Resources. The survey established the precise latitude and longitude of 26 additional bench marks between Wanapitei Lake and Espanola.

ODM MAPS AND REPORTS ISSUED BY THE GEOLOGICAL BRANCH IN 1975

P.971 Uranium and Thorium Deposits of Ontario, East Central Sheet, Districts of Thunder Bay, Algoma, Cochrane, Sudbury, Timiskaming and Nipissing. Compilation by James A. Robertson, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.972 Uranium and Thorium Deposits of Ontario, Southern Sheet, Southern Ontario and District of Nipissing. Compilation by James A. Robertson. Scale 1 inch to 16 miles or 1:1,013,760.

P.1043 Iron Deposits of Ontario, East Central Sheet, Districts of Thunder Bay, Algoma, Cochrane, Sudbury, Timiskaming and Nipissing. Compilation by H.D. Meyn and James A. Robertson 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1044 Iron Deposits of Ontario, Southern Sheet, Southern Ontario and District of Nipissing. Compilation by H.D. Meyn and James A. Robertson 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1062 Nickel Deposits of Ontario, East Central Sheet, Districts of Thunder Bay, Algoma, Cochrane, Sudbury, Timiskaming and Nipissing; Mineral Deposits Series. Compilation by M. Jost 1974, 1975. Scale 1 inch to 16 miles or 1:1,013,760.

P.1063 Nickel Deposits of Ontario, Southern Sheet, District of Nipissing and Southern Ontario; Mineral Deposits Series. Compilation by M. Jost 1974, 1975. Scale 1 inch to 16 miles or 1:1,013,760.

Map 2228 Physiography of the Georgian Bay–Ottawa Valley Area, Southern Ontario Physiography by L.J. Chapman and D.F. Putnam. Scale 1 inch to 4 miles or 1:253,440.

Map 2299 Louise–Eden Area, Sudbury District (41 I/6). Geology by K.D. Card, K. Siemiatkowska and assistants 1968-1970. Scale 1 inch to ½ mile or 1:31,680.

Map 2308 Victoria and Salter Townships, Sudbury District (41 J/1, 41 J/8). Geology by J.A. Robertson and assistants, 1966. Scale 1 inch to ½ mile or 1:31,680.

Map 2309 Part of Indian Reserve No. 5 and Offshore Islands, Algoma and Manitoulin Districts (41 J/1). Geology by J.A. Robertson, W. McCrindle and assistants, 1966. Scale 1 inch to ½ mile or 1:31,680.

Map 2311 Merritt and Foster Townships, Sudbury District (41 I/4, 5). Geology of Merritt Township by K.D. Card, C.E. Blackburn and assistants, 1965. Geology of Foster Township by K.D. Card and assistants, 1966. Scale 1 inch to ½ mile or 1:31,680.

Map 2312 Mongowin and Curtin Townships, Sudbury District (41 I/4). Geology by K.D. Card and assistants, 1966. Scale 1 inch to ½ mile or 1:31,680.

Map 2316 Bay of Islands, North Channel Lake Huron, Sudbury and Manitoulin Districts (41 I/4). Geology by K.D. Card and assistants, 1967, 1968. Scale 1 inch to ½ mile or 1:31,680.

Map 2317 McGregor Bay, North Channel of Lake Huron, Sudbury and Manitoulin Districts (41 I/4). Geology by K.D. Card and assistants, 1967, 1968. Scale 1 inch to ½ mile or 1:31,680.

Map 2318 Badgeley Point, Manitoulin District (41 H/13). Geology by K.D. Card and assistants, 1967, 1968. Scale 1 inch to ½ mile or 1:31,680.

GR116 Geology of the Burwash Area, Districts of Nipissing, Parry Sound and Sudbury (41 I/SE); by S.B. Lumbers, 160p. Accompanied by Map 2271.

GR124 Geology of the Louise–Eden Area, District of Sudbury (41 I/6); by K.D. Card, P.A. Palonen, and K.M. Siemiatkowska, 66p. Accompanied by Map 2299.

GR128 The Physiography of the Georgian Bay–Ottawa Valley Area of Southern Ontario (31 C, D, E, F, K, L; 41 A, H, J); by L.J. Chapman, 33p. Accompanied by Map 2228.

OFR5123 Geology of the Panache Lake Area, Districts of Sudbury and Manitoulin (42 H/13,4; 42 I/3, 4, 5, 6) by K.D. Card; 409p., 15 tables, 35 figures, 44 photos, and 2 maps.

OFR5126 Index to Exploration Reports Filed in 1974 (1) Assessment Work Reports (2) Reports Received Under Ontario's Mineral Exploration Assistance Program (MEAP). Compiled by Geoscience Data Centre, 1975.

OFR5134 Clay and Shale Deposits of Ontario; by G.R. Guillet; approx. 265p., 28 tables, 39 figures, 2 maps.

OFR5147 Mineral Exploration Assistance Program (MEAP), Fiscal Year 1974-75, by S.A. Ferguson, F.G. Da Silva and S.C. Sun; 73p., 2 figures, 7 appendices.

OFR5150 Preliminary Township and NTS Index to Ontario Geoscience Reports and Maps, 1975, 1201p. (microfiche only).

OFR5156 Gold Deposits of Ontario Part 2, Districts of Muskoka, Nipissing, Parry Sound, Sudbury, Timiskaming, part of Cochrane and Southern Ontario, by J.B. Gordon, H.L. Lovell and Jan de Grijs; approx. 700p., various figures and tables.

MP60 Annual Report of the Regional and Resident Geologists, 1974. Edited by E.G. Pye, Director, Geological Branch, 241p.

MP61 Mineral Deposit Studies, Mineral Potential Evaluation and Regional Planning in Ontario; by James A. Robertson, 42p.

MP63 Summary of Field Work, 1975, by the Geological Branch. Edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, 158p.

OTHER ONTARIO MINISTRY OF NATURAL RESOURCES PUBLICATIONS ISSUED IN 1975

MPBP 1 The Impact of Taxation and Environmental Controls on the Ontario Mining Industry by G. Anders, W.P. Gram and S.C. Maurice; 197p. Published by the Mineral Resources Branch.

1974 Review Ontario Mineral Review 1974, 124p.

PUBLICATIONS ISSUED BY THE GEOLOGICAL SURVEY OF CANADA IN 1975

Index 2 Geophysical Series, Index to Map Sheets, Aeromagnetic Surveys to April, 1974.

OFR300 Selected Bibliography on the Geology of Canadian Deposits and Occurrences of Uranium and Thorium Compiled by D.M. Garneau.

PUBLICATIONS AND REFERENCES

Arnold, R.G., and Malik, O.P.
1975: The NiS-S System above 980°C—A Revision; Econ. Geol., Vol.70, No.1, p.176-182.

Beales, F.W., and Lozej, G.P.
1975: Sudbury Basin Sediments and the Meteorite Impact Theory for the Origin of the Sudbury Structure; Canadian J. Earth Sci., Vol.12, No.4, p.629-635.

Beamish, R.J.
1974: Loss of Fish Populations from Unexploited Remote Lakes in Ontario, Canada as a Consequence of Atmospheric Fallout of Acid; Water Research, Vol.8, p.85-95.

Beamish, R.J. *et al.*
1974: Long-term Acidification of a Lake and Resulting Effects on Fishes; Ambio, Vol. 3, No.6.

Beamish, R.J. and Harvey, H.H.
1972: Acidification of the La Cloche Mountain Lakes, Ontario, and Resulting Fish Mortalities; J. Fish. Res. Bd. Canada, Vol.29, p.1131-1143.

Bennett, G.
1975: A Petrogenetic Model for Lamprophyres of the Northeast Temagami area, Ontario; p.721 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ont. May, 1975.

Brown, R.L., Chappell, J.F., Moore, J.M. Jr., and Thompson, P.H.
1975: An Ensimatic Island Arc and Ocean Closure in the Grenville Province of Southeast Ontario, Canada; Geoscience Canada, Vol.2, No.3, p.141-144.

Cabri, L.J.
1975: The Mineralogy of the Platinum-group Elements from the Copper-Nickel Deposits of the Sudbury Area, Ontario; p.5 *in* Program and Abstracts, Soc. of Ec. Geol., International Platinum Symposium, Denver, Colo., Oct. 16-18, 1975.

Campbell, D.G., Farm, D., and Gladysz, C.V.
1974: Grade Control using Neutron Activation Analyses at Sherman Mine; CIM Trans., 1974, p.316-322.

Chandler, F.W.
1975: Lower Huronian Sandstones, Correlation Problems, and Uranium, Morin Township Area, Ontario; Canadian J. Earth Sci., Vol.12, No.2, p.237-251.

Chappell, J.F.
1975: Subduction and Continental Collision in the Grenville Province of Southeastern Ontario; p.733 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Condie, K.C.
1975: Geochemistry of Proterozoic Volcanic Rocks from the Grenville Province, Eastern Ontario; p.739 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Dell, C.I.
1975: Pyrite Concretions in Sediment from South Bay, Lake Huron. Canadian J. Earth Sci., Vol. 12, No. 6, p.1077-1083.

Deverell, J. and the Latin American Working Group
1975: Falconbridge: Portrait of a Canadian Mining Multinational; Toronto, James Lorimer.

Dimroth, E.
1975: Carbon and Sulfur in Precambrian Sedimentary Rocks: Evidence for Atmospheric Oxygen; p.747 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Everitt, R.
1975: Character and Distribution of the Sudbury Breccia South of the Sudbury Basin with Emphasis on Selected Areas in McKim and Neelon Townships; unpublished B.Sc. Thesis, Laurentian University, Sudbury, Ontario.

Fletcher, I.R. and Farquhar, R.M.
1975: Evolution of the Lead Isotopic Composition of Lead-Zinc Sulphides in the Grenville Province; p.757 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Gibbons, R.W.
1975: Controlled Shock Experiments on Pyroxene and Plagioclase; p.763 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Grawbarger, D.
1975: Paleoecology of an Upper Ordovician Biostrome on Eastern Manitoulin Island; unpublished B.Sc. Thesis, Laurentian University, Sudbury, Ontario.

Gray, J.T. and Roussel, D.
1975: Methods Used in the Establishment of an Erosion Hazard Zone Along the Vermilion River in the Sudbury Basin, Northern Ontario; p.765 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Harris, B.
1975: The Effects of an Imposed Voltage on the Solubility of Sulphides; unpublished B.Sc. Thesis, Laurentian University, Sudbury, Ontario.

Hausen, D.M.
1975: Petrologic Significance of Reversible Reaction Between Pyrite and Pyrrhotite in SO_2; p.776 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Hawke, D.
1975: The Kanichee Layered Intrusion: Petrology and Geochemistry; p.777 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

1975: Petrology, Geochemistry, and Mineralization of a Layered Mafic Intrusion at the Kanichee Mine, Temagami, Ontario; unpublished M.Sc. Thesis, Laurentian University, Sudbury, Ontario.

International Nickel Company of Canada Ltd., The
1974: Inco Develops Method for Semi-Continuous Casting of Copper Slabs; Mining Magazine, August 1974, p.110-111.

Irving, E., and Lapointe, P.L.
1975: Paleomagnetism of Precambrian Rocks of Laurentia; Geoscience Canada, Vol.2, No.2, p.90-98.

Long, D.G.F.
1975: Revision of Huronian Stratigraphy: The Mississagi-Bruce and Serpent-Gowganda Boundary Problems; p.810 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Malik, Om. P. and Watkinson, D.H.
1975: Role of Metamorphism and Pre-Metamorphic Oxidation in the Genesis of Some Iron-Nickel Sulphides; p.814 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

McAuley, J.
1975: Surface Geology at the Geneva Mine, Benny Greenstone Belt; unpublished B.Sc. Thesis, Laurentian University, Sudbury, Ontario.

McWilliams, M.O. and Dunlop, D.J.
1975: The Grenville Problem Revisited: Paleomagnetic Evidence for a Single North-

American Plate; p.819 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Moore, J.M.
1975: Orogenic Volcanism in the Canadian Proterozoic; p.825 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Morris, W.A., Palmer, H.C. and Carmichael, C.M.
1975: Paleomagnetism of Huronian Argillites; p.826 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Peredery, W.V. and Naldrett, A.J.
1975: Petrology of the Irruptive Rocks, Sudbury, Ontario; Econ. Geol., Vol.70, No.1, p.164-175.

Robertson, D.
1975: Petrology and Geochemistry of Metadiorite Sill Associated with the Temagami Mine Copper Deposit, Temagami, Ontario; unpublished M.Sc. Thesis, Laurentian University, Sudbury, Ontario.

Robertson, D. and James, R.
1975: The Temagami Metadiorite Sill: Petroloy and Geochemistry; p.845 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Rousell, D.H.
1975: The Origin of Foliation and Lineation in the Onaping Formation and the Deformation of the Sudbury Basin; Canadian J. Earth Sci., Vol.12, No.8, p.1379-1395.

Schwarz, E.J.
1974: Magnetic Fabric in Massive Sulphide Deposits; Canadian J. Earth Sci., Vol.11, No.12, p.1669-1675.

Semkin, R.G.
1975: Sediment Geochemistry in Lakes near Sudbury, Ontario; p.845-855 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Sherwin, J.A. and Kozuh, W.J.
1975: Viscosity Ratio of Siltstone to Limestone Determined from Single-Layer Folds from Huronian Age Sediments; p.858 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Siemiatkowska, K.M. and Martin, R.F.
1975: Fenitization of Mississagi Quartzite, Sudbury Area, Ontario; Geol. Soc. America Bull., Vol.86, p.1109-1122.

Smirnov, V.I.
1973: Meteoritnaya Gipoteza Proiskhozdeniya Sadberi (Meteorite Hypothesis Concerning the Origin of the Sudbury Ore Complex); Geol. Rud. Mestorozhd., Vol.15, No.2, p.3-12.

Snyder, W.R. and Kramer, J.R.
1975: S^{34} in Precipitation, Lakes, and Sediments in the Sudbury Area; p.861 *in* Abstracts with Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Symons, D.T.A.
1975: Huronian Glaciation and Polar Wander from the Gowganda Formation, Ontario; Geology, Vol.3, No.6, p.303-306.

Symons, D.T.A. and Condry, J.W.
1975: Tectonic Results from Paleomagnetism of the Aphebian Nipissing Diabase at Gowganda, Ontario; Canadian J. Earth Sci., Vol.12, No.6, p.940-948.

Symons, D.T.A. and O'Leary, R.J.
1975: Paleomagnetism of the Thessalon Volcanics and Huronian Polar Wander; p.867 *in* Abstracts and Programs, GSA-GAC-MAC Annual Meeting, Waterloo, Ontario, May, 1975.

Van Schmus, W.R.
1975: On the Age of the Sudbury Dike Swarm; Canadian J. Earth Sci., Vol.12, No.9, p.1690-1692.

Van Schmus, W.R., Card, K.D. and Harrower, K.L.
1975: Geology and Ages of Buried Precambrian Basement Rocks, Manitoulin Island, Ontario; Canadian J. Earth Sci., Vol.12, No.17, p.1175-1189.

Van Weert, G., Mah, K. and Piret, N.L.
1974: Hydrochlorite Acid Leaching of Nickeliferous Pyrrhotites from the Sudbury District; CIM Trans., 1974, p.63-69.

Young, G.M.
1974: Photogrammetric Survey of the Structural Geology of the Sudbury-McGregor Bay District, Ontario, Canada: A discussion; Geologische Runschau, Band 63, Heft 2.

1975: Geochronology of Archean and Proterozoic Rocks in the Sourthern District of Keewatin: Discussion; Canadian J. Earth Sci., Vol.12, No.7, p.1250-1253.

Table 1 Exploration Activity in 1975

No. on Fig.	Individual or Company	Activity
1	Alanen, Wm.	Diamond drilling on copper-gold prospect in Nairn Township
2	Allard Prospecting Group, The	Trenching on copper-gold occurrence in Mongowin Township
3	Bardswich, L. T.	Diamond drilling, stripping, sampling on iron-copper prospect, Hess Township
4	Barry, H. V.	Trenching in Parkin Township
5	Burns, I., and Larson, H. O.	Diamond drilling, Mag and Rad surveys on carbonatite complex in Venturi and Tofflemire Townships (formerly Townships 107 and 108)
6	Chevron Standard Ltd.	Mag and geochemical surveys on base metal occurrences, Benny area
7	Clark, A. H.	Geological survey on vanadium-titaniferous magnetite occurrence, Papineau Township
8	Copperfields Mining Corp. Ltd.	Mag and EM survey on copper-zinc prospect, Strathcona Township
9	Corrigan, M.	Diamond drilling in Olinyk Township (formerly Township F)
10	Curtin Mines Ltd.	Geological survey on copper-nickel-gold occurrence, Curtin Township
11	Espina Copper Developments Ltd.	Diamond drilling on uranium prospect, Drury Township
12	Golden Sabre Mines Ltd.	Diamond drilling, Mag and EM surveys on copper-nickel occurrence, Nairn Township
13	Grand Valley Mining Company Ltd.	Diamond drilling, geological survey on gold-copper occurrence, Davis Township
14	Grant, J. S.	Diamond drilling on copper occurrence in Drury Township
15	Greene, M. and Associates Ltd.	Mag survey on gold-iron occurrence, Clement and Macbeth Townships
16	Grossan, P.	Diamond drilling in Gervais Township (formerly Township G)
17	Groundstar Resources Ltd.	EM, Rad surveys on copper-gold prospect, Davis Township
18	Gulf Minerals Canada Ltd.	Diamond drilling on gold occurrence, Scadding Township. Diamond drilling in Street Township

No. on Fig.	Individual or Company	Activity
19	Gull Lake Iron Mines Ltd.	Mag survey on iron prospect, Scholes Township
20	International Minerals and Chemical Corporation of Canada Ltd.	Mag, Rad and seismic surveys on carbonatite complex in Tofflemire and Venturi Townships (formerly Townships 108 and 107)
21	International Nickel of Canada Canada Ltd., The	Diamond drilling, Mag, EM and geological surveys on base metals prospect, Strathy Township
22	Keith, J. F.	Trenching on copper occurrence in Olive and Law Townships
23	Kyanite Mining Corp.	Diamond drilling on kyanite prospect in Butler and Antoine Townships
24	Mattagami Lake Mines Ltd.	IP, and Mag, surveys on copper-nickel occurrence, Dieppe Township. Diamond drilling and Mag survey on uranium prospect, Baldwin Township
25	Metalline Resources	Diamond drilling on gold prospect, Strathy Township
26	Mote, G. M.	Stripping and trenching in McAuslan, La Salle and Jocko Townships
27	Niemetz, H.	Diamond drilling on copper-nickel occurrence, Briggs Township
28	Noranda Mines Ltd.	Mag survey on gold-copper-nickel occurrence, McKinnon Township
29	Pelican Mines Ltd.	Diamond drilling and Mag survey on gold-iron occurrence in Macbeth Township
30	Rand Reef Mines Ltd.	Geological survey on uranium-gold occurrence, Vogt Township
31	Rogers, D. R. Ltd.	Diamond drilling on uranium occurrence, Porter Township
32	Rose, E. A.	Geological survey on uranium prospect, Hyman Township. Trenching and stripping on gold prospect in Davis Township.
33	Rose, E. A. and Sylla, N.	Mag, EM surveys, diamond drilling and stripping on gold-copper prospect, Davis Township
34	Sandex Developments Ltd.	Geological, Mag, EM and seismic surveys in Hutton, Norman, Wisner and Parkin Townships
35	Vaillancourt, R. A.	Diamond drilling in Clement Township

Table 2 Assessment Work and Other Information Received in 1975

Abbreviations

A	- Airborne	GL	- Geological survey	RA	- Radiometric survey
Asses	- Assessment Work	GP	- Geophysical survey	SA	- Sampling, assays
DD 5-1800'	- 5 Diamond-drill/holes totalling 1800'	IP	- Induced Polarization	Seis	- Seismic
EM	- Electromagnetic survey	Mag	- Magnetometer survey	Tr	- Trenching
G	- Ground	Pros	- Prospectus		

Township or Claim Map Area	NTS	File Name	Commodity Sought	Type of Report	Type of Work Performed	Date of Work	Toronto File No.
Antoine	31L/NW	Kyanite Mining Corp.	Kyanite	Asses.	DD 3-1464.2'	Oct. 1/75	
Baldwin Ermatinger, Hyman Nairn, Porter, Shakespeare	41I/NW 41I/SW	Consolidated Morrison Explorations Ltd.	U	Asses.	A, GP, Mag, RA	Aug./74	2.1671
Baldwin	41I/NW	Maki, O. T.	U_3O_8	Asses.	Tr	Aug.-Oct. Nov./74	
Baldwin	41I/NW	Mattagami Lake Mines Ltd.	U	Asses.	GP, GMag	Apr.4/75	2.1774
Baldwin	41I/NW	Mattagami Lake Mines Ltd.		Asses.	DD 5-1801.8'	Oct. 30/75	2.1774
Balfour	41I/NW	Burns, I.	Cu, Pb, Zn	Asses.	DD 1-102'	Nov./74	
Briggs	31M/SW	Aladin Minerals Ltd.	Au, Cu	Pros.	GL, DD 10-1996'	Oct./75	63.3334
Briggs	31M/SW	Niemetz, H.	Cu, Au	Asses.	DD 6-729', SA	Aug.-Sept. 1974	
Briggs	31M/SW	Niemetz, H.	Cu	Asses.	DD 2-129.5'	June/75	
Broder	41I/SW	Fielding, M. J.		Asses.	GL	Nov./74	2.1651
Butler & Antoine	31L/NW	Arrowhead Silica Corp.	Kyanite	Asses.	SA	July/73	2.1171
Clement & MacBeth	41I/NE	Greene, M. & Associates Ltd.		Asses.	Mag	Apr./75	2.1806
Clement	41I/NE	Vaillancourt, R. A.	Au	Asses.	DD 1-200'	Aug./75	
Craig, Moncrieff Munster & Ulster	41I/NW	Tex-Sol Explorations Ltd.	base metals	Asses.	G, Mag	Jan. 16/73	2.1189
Curtin	41I/SW	Mattagami Lake Mines Ltd.	Au, Cu, Ni	Asses.	Mag, EM, IP	July/74	2.170
Curtin	41I/SW	Mattagami Lake Mines Ltd.	Cu, Ni	Asses.	DD 3-815'	Nov./74	2.170
Dana	41I/NE	Rivale Industries Ltd.	garnet	Asses.	GL	July/69	63.3314
Davis	41I/NE	Grand Valley Mining Co. Ltd.	Au, Cu	Pros.	EM, Mag	June 12/74	2.1617
Davis	41I/NE	Grand Valley Mining Co. Ltd.	Au	Asses.	EM, Mag	Aug.-Sept. 1974	2.1617
Davis	41I/NE	Grand Valley Mining Co. Ltd.	Au, Ag, Cu	Asses.	GL, SA	Jan./75	2.1753
Davis	41I/NE	Groundstar Resources Ltd.	Cu, Au	Asses.	EM	Jan./75	2.1714
Davis	41I/NE	Rose, E. A.	Au, Cu	Asses.	DD 1-102.5', Tr	June/75	
Davis	41I/NE	Rose, E. A.	Au	Asses.	SA	June/75	
Davis	41I/NE	Rose, E. A.	Au	Asses.	Tr	Aug.-Sept. 1975	
Davis	41I/NE	Rose, E. A. & Sylla, N. F.	Au, Cu	Asses.	DD 7-208', SA	June/74	2.1723
Davis	41I/NE	Rose, E. A. & Sylla, N. F.	Au, Cu	Asses.	GL, SA	Nov.-Dec. 1974	2.1723
Davis	41I/NE	Rose, E. A. & Sylla, N. F.	Cu, Au	Asses.	Mag, EM	Feb.-Mar. 1975	2.1781
Drury		Alanen, Wm.	U_3O_8	Asses.	DD 1-495'	Dec.3/75	
Eddy & Butler	31L/NW	Kyanite Mining Corp.	Kyanite	Asses.	DD 2-678.3'	Nov.12/75	
Eden	41I/SW	Staple Mining Co. Ltd.	Au	Asses.	GEM	Sept.-Oct. 1974	2.1616
Falconbridge	41I/NE	Hodden Grey Inc.	Cu, Ni	Pros.		July 17/74	63.2950
Gervais	41I/NW	Crossan, Pat		Asses.	DD 1-115'	May 5-11 1975	
Hanmer	41I/NE	Canadian Nickel Co. Ltd.	Cu, Ni	Asses.	Mag, EM	June/73	2.1243, 2.1244
Hess	41I/NW	Bardswich, L. J.	Fe, Cu	Asses.	Mag	Nov.18/73	2.1503

Township of Claim Map Area	NTS	File Name	Commodity Sought	Type of Report	Type of Work Performed	Date of Work	Toronto File No.
Hess	41I/NW	Bardswich, L. J.	Fe, Cu	Asses.	Tr	Oct./74	
Hess	41I/NW	Dome Exploration (Canada) Ltd.	U_3O_8	Asses.	A, R, Mag	Dec./74	2.1699
Hess	41I/NW	St. Joseph Explorations Ltd.	base metals	Asses.	G, Mag	May-July 1974	2.1668
Hyman	41I/SW	Rose, E. A.	U_3O_8	Asses.	GL	May/75	2.1800
Indian Reserve, Bear Island		Resident Geologist		GL		Sept.10/75	
Indian Reserve 3		Resident Geologist		GL		Sept.10/75	
Indian Reserve 4		Resident Geologist		GL		Sept.10/75	
Indian Reserve 5		Resident Geologist		GL		Sept.11/75	
Indian Reserve 6		Resident Geologist		GL		Sept.10/75	
Indian Reserve 9		Resident Geologist		GL		Sept.10/75	
Indian Reserve 10		Graham, R. Bruce & Assoc.		GL		Mar./71	
Indian Reserve 11		Graham, R. Bruce & Assoc.		GL		Mar./71	
Indian Reserve 19		Resident Geologist		GL		Sept.10/75	
Indian Reserve 20		Resident Geologist		GL		Sept.11/75	
Indian Reserve 22		Resident Geologist		GL		Sept.11/75	
Indian Reserve 23		Resident Geologist		GL		Sept.11/75	
Indian Reserve 24		Resident Geologist		GL		Sept.15/75	
Indian Reserve 25		Resident Geologist		GL		Sept.15/75	
Indian Reserve 26		Resident Geologist		GL		Sept.16/75	
Indian Reserve 26		Resident Geologist		Oil & gas well logs		Sept.16/75	
Jocko	31L/SW	Mote, M. K.	building stone	Asses.	Tr	July/75	
La Salle	31L/NW	Mote, G. M.	building stone	Asses.	Tr	June/75	
Law	31L/NW	Keith, H. A.		Asses.	Tr	Aug./75	
MacBeth	41I/NE	Pelican Mines Ltd.	Au, Ag, Cu	Asses.	GP, Mag	Dec./74-May/74	2.1756
McAuslan	31L/NW	Haberer, J.		Asses.	Tr	June, July 1974	
McAuslan	31L/NW	Mote, G. M.	stone	Asses.	Tr	Nov./74	2.1609
McAuslan	31L/NW	Mote, G. M.	stone	Asses.	Tr	Feb.12/75	2.1609
McAuslan	31L/NW	Mote, G. M.	building stone	Asses.	Tr	July/75	2.1609
McAuslan	31L/NW	Mote, G. M.	ornament stone	Asses.	Tr	Aug./75	2.1609
McNish	41I/NE	Jerome Explorations Ltd.	Cu, Ag, Au		GL	Feb./72	63.2954
McNish	41I/NE	Jerome Explorations Ltd.	Cu, Ag, Au	Pros.		Feb./72	63.2954
Mongowin	41I/SW	Allard, J. R.	Au, Cu	Asses.	Tr	Nov.10/75	
Nairn	41I/SW	Alanen, Wm.		Asses.	Tr	Apr.-May 1974	
Nairn	41I/SW	Alanen, Wm.	Cu, Ni	Asses.	DD 3-224.5'	Oct.15/75	
Nairn	41I/SW	Alanen, Wm.	Cu, Ni, Au	Asses.	Tr	Oct./75	
Nairn	41I/SW	Golden Sabre Mines Ltd.	Cu, Ni	Pros.		Aug.-Oct. 1974	2.1717
Nairn	41I/SW	Golden Sabre Mines Ltd.	Cu, Ni	Asses.	GL	Aug.-Oct. 1974	2.1717

Township or Claim Map Area	NTS	File Name	Commodity Sought	Type of Report	Type of Work Performed	Date of Work	Toronto File No.
Nairn	41I/SW	Golden Sabre Mines Ltd.	Cu, Ni	Asses.	GP, Mag, EM	Nov.1/74-Jan.30/75	2.1717
Nairn	41I/SW	Golden Sabre Mines Ltd.	Cu, Ni	Asses.	DD 3-1005'	May-Aug. 1975	
Olive	31L/NW	Keith, J. F.		Asses.	Tr	June-Aug. 1975	
Olinyk (F)	41I/NW	Corrigan, M.		Asses.	DD 1-1-8'	June, 1975	
Papineau	31L/SE	Clark, A. H. Jr.	Au	Asses.	Tr	May/74	
Papineau	31L/SE	Clark, A. H. Jr.	Vanadium	Asses.	GP, RA	Oct./74	2.1595
Parkin	41I/NE	Barry, H. V.		Asses.	Tr	Dec./74-Jan./75	
Parkin	41I/NE	Barry, H. V.		Asses.	Tr	Jan.-Feb. 1975	
Parkin, Hutton	41I/NE	Sandex Developments Ltd.		Asses.	GL, seis	1973-74	2.1547
Porter	41I/SW	Rogers, D. R. Ltd.	U	Asses.	DD 1-1803'	Jan.-Mar. 1975	
Porter & Hyman	41I/SW	Amax Exploration, Inc.		Asses.	A, Mag, RA	Aug.30/74	2.1618
Riddell	31M/SW	Vaillancourt, G.		Asses.	Tr	June 29-30 1974	
Roberts	41I/NW	Amax Exploration, Inc.	U	Asses.	GL, RA, SA	Oct.3/75	2.1605
Roosevelt	41I/SW	Bousquet, Lorne	Au	Asses.	Tr	Sept.1-7 1974	
Scadding	41I/NE	Gulf Minerals Canada Ltd.	U_3O_8	Asses.	DD 20-3735'	Aug./74-Oct./74	
Scadding	41I/NE	Gulf Minerals Canada Ltd.	U_3O_8	Asses.	DD 5-1580'	Oct.20/75	
Scholes	41I/NE	Gull Lake Iron Mines Ltd.	Fe	Asses.	GL	May 8/75	
Scholes	41I/NE	Gull Lake Iron Mines Ltd.		Pros.		May 8/75	
Shakespeare	41I/SW	Blue, P. G.	Au	Asses.	Tr	May,June 1974	2.1445
Shakespeare	41I/SW	Blue, P. G.	Au	Asses.	Tr	June,July 1974	2.1653
Shakespeare	41I/SW	Blue, P. G.	Au	Asses.	Sa	Nov./74	
Shakespeare	41I/SW	Rodney Gold Mines Ltd.	Au	Asses.	GL	Dec./73	2.1375
Strathy	31M/SW	Canadian Nickel Co. Ltd.	Cu, Ni, Zn	Asses.	GL, Mag, EM, SA DD 3-1180'	Oct./74-Feb./75	2.1594
Strathy	31M/SW	Canadian Nickel Co. Ltd.	Cu, Ni, Zn	Asses.	DD 1-898'	Jan./75	
Strathy	31M/SW	Gore, J. A.	Au	Asses.	Mag, EM, GL	June-Nov. 1974	2.1632
Strathy	31M/SW	Metalline Resources	Au	Pros.		Feb./75	
Strathy & Cassels	31M/SW	Canadian Nickel Co. Ltd.	Cu, Zn	Asses.	GL	Mar.-Sept. 1974	2.1594
Street	31I/NE	Gulf Minerals Canada Ltd.	U_3O_8	Asses.	DD 4-1754.5'	Nov.3/75	
Venturi (107) & Tofflemire (108)	41I/NW	Burns, I.	vermiculite	Asses.	DD 2-344'	July/75	2.1882
Vogt	41I/NE	Rand Reef Mines Ltd.	Au, U_3O_8	Pros.		May-Oct. 1974	
Vogt	41I/NE	Rand Reef Mines Ltd.	Au	Pros.		May 28/75	
Vogt	41I/NE	Rand Reef Mines Ltd.	Au, U_3O_8	Asses.	GL	May,June 1975	2.1848
Vogt	41I/NE	Rand Reef Mines Ltd.	Au, U_3O_8	Asses.	DD 3-1379'	Nov.20/75	
Whitson	41P/SE	Argentium Silver Mines Ltd.		Asses.	Tr	Jan.-Mar. 1974	

1975 REPORT

of the

ALGONQUIN REGIONAL GEOLOGIST

by

J.R. Trusler

CONTENTS

Page

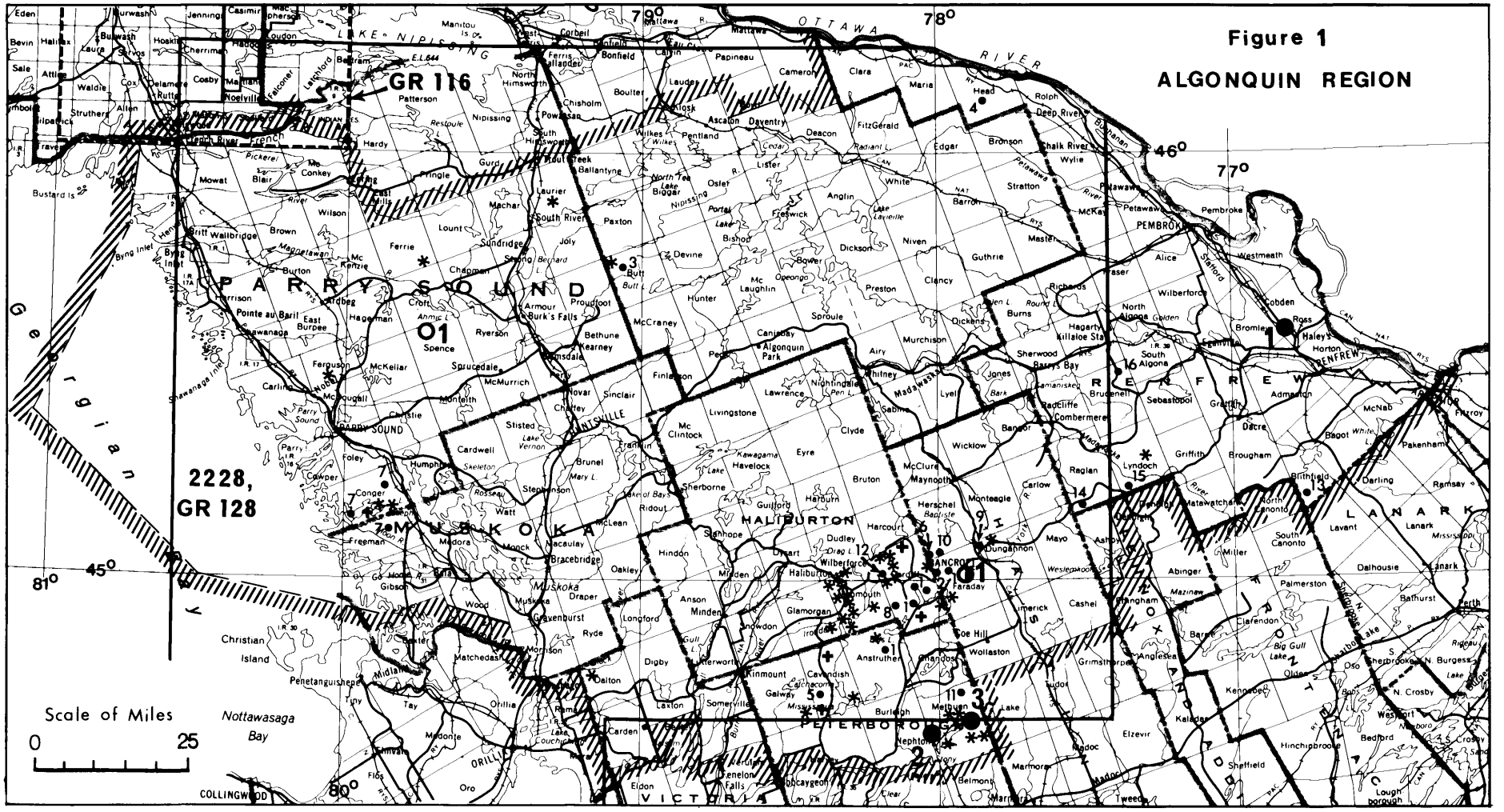
Introduction 119
Regional Geologist's Activities 119
Mining Activity 119
Exploration Activity 119
Recommendations for Exploration 119
Geological Branch Activities 120
Research by Other Agencies 120
ODM Maps and Reports Issued by the Geological Branch in 1975 120
Other Ontario Ministry of Natural Resources Publications Issued in 1975 121
Maps and Reports Issued by the Geological Survey of Canada, 1975 121
Publications Filed with Regional Geologist, 1975 121
References 121

TABLES

1—Exploration Activity in 1975 122
2—Assessment Work and Other Information Received in 1975 123

FIGURE

1—Algonquin Region 118



EXPLANATION

- ● Producing Mines (excepting stone quarries, clay, sand, gravel and silica extractive operations)
  1. Chromasco Ltd. — Mg,Ca,Ti,Sr,Ba,Zr
  2. Indusmin Ltd. — neph.syenite
  3. Sobin Chemicals (Canada) Ltd. — neph.syenite
- ◐ Mine under development
  1. Madawaska Mines Ltd. — U
- ○ Mine terminating operations in 1975
  1. Burcal Industrial Minerals Ltd. — $CaCo_3$
- • Exploration activity (keyed to Table 1)
- ✱ Assessment Work filed in 1975
- \+ Staking
- ——— New ODM maps and/or report with number
  GR - Geological Report
  2228 - Coloured Map
- ////// Boundary of Algonquin Region

1975 REPORT

of the

ALGONQUIN REGIONAL GEOLOGIST

by

J.R. Trusler[1]

INTRODUCTION

This year is the first in which a government geologist was resident in this region. Necessarily, a large amount of his time was accorded to basic inventory of Ministry activities and the general geology of the area.

The favourable market for uranium has contributed to intensified exploration activity in the region, evidenced by increases in numbers of assessment files, notices of work and claim staking.

REGIONAL GEOLOGIST'S ACTIVITIES

Approximately 80 percent of the Regional Geologist's time was allotted to administration, input into land use planning, mineral resource assessment in proposed parks and analysis of mineral collecting potential in the Bancroft area. The remainder of his time was devoted to examination of gravel pits, general field work, visiting Geological Branch and Division of Parks earth-science field parties, field mapping in park reserves and compiling a geoscience library.

MINING ACTIVITY

Burcal Industrial Minerals Limited ceased production of high quality calcium carbonate from marble in Spence Township during the summer of 1975.

Chromasco Limited produces magnesium, calcium, titanium, strontium, barium, and zirconium from high purity dolomitic marble deposits near Haley Station, in Renfrew County. Nepheline syenite is produced from Blue Mountain in Methuen Township by Indusmin Limited, and Sobin Chemicals (Canada) Limited. Production of sodalite from the Princess quarry, and rose quartz and beryl from near Quadeville for mineral collectors continued this year. One clay deposit is being mined by Dochart Brick and Tile Company Limited near Arnprior for the production of tile. Production of structural materials is achieved from 166 pits and quarries in the Algonquin Region.

The Madawaska mine (the former Faraday mine) is presently being dewatered by Madawaska Mines Limited for start up of uranium production in July of 1976.

EXPLORATION ACTIVITY

Staking activity has increased from 371 claims in 1973 to 541 claims in 1974 to 1425 claims in 1975. Total assessment (in man day credits) in the area has also increased, but totals are presently not available.

Attention is presently being focussed on uranium exploration in Cardiff, Monmouth, Conger and Freeman Townships.

RECOMMENDATIONS FOR EXPLORATION

E.G. Bright (1975) suggested that the potentially economic uranium mineralization in pegmatites in Anstruther and Cavendish Townships may be restricted to the lower stratigraphic units of the Grenville Supergroup. Discussions with others suggest that some of the uranium mineralization in Conger and Freeman Townships may also possess an essential stratigraphic control. Should these assumptions prove correct, at least in part, the potential for low grade stratabound uranium deposits in the region would be enhanced considerably.

Recent work within the region notably by graduate students under the direction of W.M. Schwerdtner of the University of Toronto has indicated the existence of several small post-metamorphic mafic to ultramafic intrusions. These rocks are apparently widespread in areal occurrence and have potential for copper-nickel, iron-titanium and trap rock aggregate. Little, if any, attention has been given to these bodies in the past.

The demand for industrial minerals in the region is continually increasing. Despite the abundance of marble in eastern Ontario, a great amount of terrazo aggregate and all calcium carbonate mineral filler is presently im-

[1]Regional Geologist, Ontario Ministry of Natural Resources, Huntsville, P0A 1K0.

ported. The major deficiency of Canadian marbles for terrazo aggregate is apparently colour variation (when compared to Italian marbles for instance). A high purity and whiteness is required for calcium carbonate fillers. The exploration opportunities here should be quite evident.

GEOLOGICAL BRANCH ACTIVITIES

S.B. Lumbers initiated reconnaissance mapping of the Pembroke area and E.G. Bright began a detailed examination of the geology in Cavendish, Anstruther and Galway Townships. S.J. Gibson compiled information for a brochure on mineral collecting in the Bancroft area and continued ground work for a brochure on the geology along Highway 35 in the vicinity of the Leslie M. Frost Natural Resources Centre.

E.B. Freeman instructed at several Junior Ranger Camps within the region.

S.B. Lumbers and W.M. Schwertdner jointly conducted a Geological Branch field trip from Temagami to Madoc through North Bay, Pembroke and Bancroft in late September and early October of 1975.

RESEARCH BY OTHER AGENCIES

The Terrain Sciences Division of the Geological Survey of Canada carried out a program of compilation and mapping of the Leda Clay and other marine deposits in the Ottawa Valley. Recognition of the presence of the Leda Clay is important because of its known instability and the frequency of engineering problems associated with it. The objective of the program is to publish an inventory of clay deposits and landslides of a major part of the Ottawa Valley (Fransham *et al* 1976).

ODM MAPS AND REPORTS ISSUED BY THE GEOLOGICAL BRANCH IN 1975

P.972 Uranium and Thorium Deposits of Ontario, Southern Sheet, Southern Ontario and District of Nipissing. Compilation by James A. Robertson. Scale 1 inch to 16 miles or 1:1,013,760.

P.1044 Iron Deposits of Ontario, Southern Sheet, Southern Ontario and District of Nipissing. Compilation by H.D. Meyn and James A. Robertson 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1063 Nickel Deposits of Ontario, Southern Sheet, District of Nipissing and Southern Ontario; Mineral Deposits Series. Compilation by M. Jost 1974, 1975. Scale 1 inch to 16 miles or 1:1,013,760.

Map 2228 Physiography of the Georgian Bay–Ottawa Valley Area, Southern Ontario Physiography by L.J. Chapman and D.F. Putnam. Scale 1 inch to 4 miles or 1:253,440.

GR116 Geology of the Burwash Area, Districts of Nipissing, Parry Sound and Sudbury (41 I/SE); by S.B. Lumbers, 160p. Accompanied by Map 2271.

GR128 The Physiography of the Georgian Bay–Ottawa Valley Area of Southern Ontario (31 C, D, E, F, K, L; 41 A, H, J); by L.J. Chapman, 33p. Accompanied by Map 2228.

OFR5126 Index to Exploration Reports Filed in 1974 (1) Assessment Work Reports (2) Reports Received Under Ontario's Mineral Exploration Assistance Program (MEAP). Compiled by Geoscience Data Centre, 1975.

OFR5133 Potential Clay and Shale Resources of Central Ontario; by M.A. Vos, 47p., 2 figures, 1 map.

OFR5134 Clay and Shale Deposits of Ontario; by G.R. Guillet; approx. 265p., 28 tables, 39 figures, 2 maps.

OFR5147 Mineral Exploration Assistance Program (MEAP), Fiscal Year 1974-75, by S.A. Ferguson, F.G. Da Silva and S.C. Sun; 73p., 2 figures, 7 appendices.

OFR5150 Preliminary Township and NTS Index to Ontario Geoscience Reports and Maps, 1975, 1201p. (microfiche only).

OFR5156 Gold Deposits of Ontario Part 2, Districts of Muskoka, Nipissing, Parry Sound, Sudbury, Timiskaming, part of Cochrane and Southern Ontario, by J.B. Gordon, H.L. Lovell and Jan de Grijs; approx. 700p., various figures and tables.

MP60 Annual Report of the Regional and Resident Geologists, 1974. Edited by E.G. Pye, Director, Geological Branch, 241p.

MP61 Mineral Deposit Studies, Mineral Potential Evaluation and Regional Planning in Ontario; by James A. Robertson, 42p.

MP63 Summary of Field Work, 1975, by the Geological Branch. Edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, 158p.

Mineral brochure Bancroft Area Minerals; *brochure.*

OTHER ONTARIO MINISTRY OF NATURAL RESOURCES PUBLICATIONS ISSUED IN 1975

MPBP 1 The Impact of Taxation and Environmental Controls on the Ontario Mining Industry by G. Anders, W.P. Gram and S.C. Maurice; 197p. Published by the Mineral Resources Branch.

1974 Review Ontario Mineral Review 1974, 124p.

MAPS AND REPORTS ISSUED BY THE GEOLOGICAL SURVEY OF CANADA, 1975

Garneau, D.M.
1975: Selected Bibliography on the Geology of Canadian Deposits and Occurrences of Uranium and Thorium; Geol. Surv. Canada, O.F. 300.

GSC
1975: Report of Activities of the Geological Survey of Canada, Part A, Paper 76-1A.

Sabina, A.P.
1175: Rocks and Minerals for the Collector: Ottawa to North Bay, Ontario; Hull to Waltham, Quebec; Geol. Surv. Canada, Paper 70-50.

Williams, D.A., Scott, W.J. and Dyck, A.V.
1975: Cavendish Township, Geophysical Test Range; 1973 Diamond Drilling; Geol. Surv. Canada Paper 74-62.

PUBLICATIONS FILED WITH REGIONAL GEOLOGIST, 1975

Grieve, R.A.F. and Gittins, J.
1975: Composition and Formation of Coronas in the Hadlington Gabbro, Ontario, Canada; Canadian J. Earth Sci., Vol.12, p.289-299.

Hayatsu, A. and Palmer, H.C.
1975: K-Ar Isochron Study of the Tudor Gabbro, Grenville Province, Ontario; Earth Planet. Sci. Letters, Vol.25, p.208-212.

Karrow, P.F., Anderson, T.W., Clarke, A.H., Delorme, L.D. and Sreenivasa, M.R.
1975: Stratigraphy, Paleontology, and Age of Lake Algonquin Sediments in Southwestern Ontario, Canada; Quaternary Res., Vol.5, p.45-87.

Lozej, G.P. and Beales, F.W.
1975: The Unmetamorphosed Sedimentary Fill of the Brent Meteorite Crater, Southeastern Ontario; Canadian J. Earth Sci., Vol.12, p.606-629.

Merritt, W.F.
1975: Variation in Trace Element Concentrations Along the Length of the Ottawa River; Canadian J. Earth Sci., Vol.12, p.850-857.

Telford, P.G. (ed.)
1975: Waterloo '75: Field Trips Guidebook—1975 Meetings of GAC, MAC, GSA (North-Central Section); University of Waterloo, Dept. Earth Sciences.

Ueno, H., Irving, E. and McNutt, R.H.
1975: Paleomagnetism of the Whitestone Anorthosite and Diorite, the Grenville Polar Track, and Relative Motions of the Laurentian and Baltic Shields; Canadian J. Earth Sci., Vol.12, p.209-226.

REFERENCES

Bright, E.G.
1975: Cavendish and Anstruther Townships, Peterborough County; p.94-97 *in* Summary of Field Work, 1975 by the Geological Branch, edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, Ontario Div. Mines, MP63, 158p.

Fransham, P.B., Gadd, N.R. and Carr, P.A.
1976: Geological Variability of Marine Deposits, Ottawa—St. Lawrence Lowlands; p.37-41 *in* Report of Activities, Part A, Geol. Surv. Canada, Paper 76-1A, 522p.

Table 1 Exploration Activity in 1975

(Exclusive of Table 2)

No. (On Fig. 1)	Individual or Company	Activity
1	Kerr Addison Mines Ltd.	RA DD
2	Carday Uranium Mines Inc.	RA GL
3	Noranda Exploration Co. Ltd.	VL EM IP
4	J. Desjardins	TR
5	J.R. Wilson (Imperial Oil Ltd.)	RA GL
6	Brascan Resources Ltd.	RA GC GL
7	Mid-North Engineering Services Ltd.	RA
8	A.H. Clark, Golden Giant Mines Ltd.	TR
9	Canadian Nickel Co. Ltd.	RA DD
10	Projex Ltd.	RA TR
11	V.R. Reynolds	
12	Landair Explorations Ltd.	RA
13	K.M. Bouser	TR DD
14	L. Leidke	TR
15	R.J. Crawford	TR
16	M. Little	TR

Table 2 Assessment Work and Other Information Received in 1975

Abbreviations

DD (2-407') - Diamond drilling, 2 holes, 407' total
EM - Electromagnetic
GC - Geochemical
GL - Geological
IP - Induced polarization
RA - Radiometric
STR - Soil trenching or stripping
TR - Trenching

Township	NTS	File Name	Commodity Found	Type of Report	Type of Work	Date of Work	Toronto File No.	Local File No.
Cardiff	31F/4	J.R. Wilson			STR/TR	1974		Cardiff 143
Cardiff (& Faraday)	31E/1	Cam Mines Ltd. (Kerr Addison Mines Ltd.)	U_3O_8	O.S.C. Pros.		1975	63.3312	Cardiff 144
Cardiff	31E/1	E.T. Hogan (Canadian Nickel Co. Ltd.)		D. Log	DD (2-407')	1975		Cardiff 145
Cardiff	31D/16	A.H. Clark			STR/TR	1975		Cardiff 146
Cardiff	31D/16	E.T. Hogan (Canadian Nickel Co. Ltd.)		D. Log	DD (1-124')	1975		Cardiff 147
Cardiff	31E/1	E.T. Hogan (Canadian Nickel Co. Ltd.)		D. Log	DD (3-454')	1975		Cardiff 148
Monmouth	31D/16	R.S. Brooks and W.W. Kennedy (Imperial Oil Ltd.)		GL	RA GL	1974	2.1688	Monmouth 63
Monmouth	31D/16	W.W. Kennedy (Imperial Oil Ltd.)		GL	GL	1974	2.1729	Monmouth 64
Monmouth	31D/16	Imperial Oil Ltd.		GL	GL	1974	2.1749	Monmouth 65
Monmouth	31D/16	T.J. Czuppon			TR	1975		Monmouth 66
Monmouth	31D/16	Imperial Oil Ltd.		GL	GL	1975	2.1893	Monmouth 67
Monmouth	31D/16	T.J. Czuppon			STR	1975		Monmouth 68
Monmouth	31D/16	Imperial Oil Ltd.			TR	1975		Monmouth 69
Monmouth	31D/16	Imperial Oil Ltd.			TR	1975		Monmouth 70
Monmouth	31D/16	Imperial Oil Ltd.			TR	1975		Monmouth 71
Monmouth	31D/16	Imperial Oil Ltd.			TR	1975		Monmouth 72
Monmouth	31D/16	Imperial Oil Ltd.			TR	1975		Monmouth 73
Dungannon	31F/4	Canadian Nickel Co. Ltd.		D. Log	DD (1-101')	1975		Dungannon 18
Faraday	31C/13	J.R. Wilson			TR	1974		Faraday 51
Butt	31E/11	C.D. Gris			RA	1974	2.1517	Butt 4
Conger	31E/4	R. Green	U_3O_8		STR	1974		Conger 3
Conger	31E/4	R. Green	U_3O_8		STR	1974		Conger 4
Ferrie	31E/11	E.T. Jones	Cu		STR/TR	1975		Ferrie 6
Laurier	31E/14	E. Rantala			TR	1975		Laurier 6
Ferguson	41H/9	Tate & Moffat			DD (11-7078')	1956		Ferguson 1
Anstruther	31D/16	Biron Bay Gold Mines Ltd.	Fe	D. Log	DD (17-4942')	1975		Anstruther 46
Cavendish	31D/9	C.W. Archibald	Verm	D. Log	DD (6-199')	1975		Cavendish 54
Galway	31D/9	F. Halas	Ne	D. Log	DD (3-350')	1973		Galway 24
Methuen	31C/12	White, Brown, Egan & Tripp	Fe Ti	D. Log	DD (3-362')	1969		Methuen 18
Methuen	31C/12	Indusmin Ltd.	Ne	D. Log	DD (1-167')	1975		Methuen 19
Methuen	31C/12	Indusmin Ltd.	Ne	D. Log	DD (1-330')	1975		Methuen 20
Methuen	31C/12	Indusmin Ltd.	Ne	D. Log	DD (2-339')	1975		Methuen 21
Methuen	31C/12	Indusmin Ltd.	Ne	D. Log	DD (1-108')	1975		Methuen 22
Methuen	31C/12	White, Brown, Egan & Tripp	Fe Ti	D. Log	DD (1-201')	1975		Methuen 23
Lyndoch	31F/6	J.A. Bryan	Graphite		STR/TR	1975		Lyndoch 6
Lyndoch	31F/6	J.A. Bryan	Graphite	D. Log	DD (1-289')	1975		Lyndoch 7
Dalton	31D/14	R.N. Cloughley & Assoc. Ltd.	Ag	D. Log	DD (4-443')	1975		Dalton 1

1975 REPORT

of the

EASTERN REGIONAL GEOLOGIST

by

A.E. Thurston

CONTENTS

Page

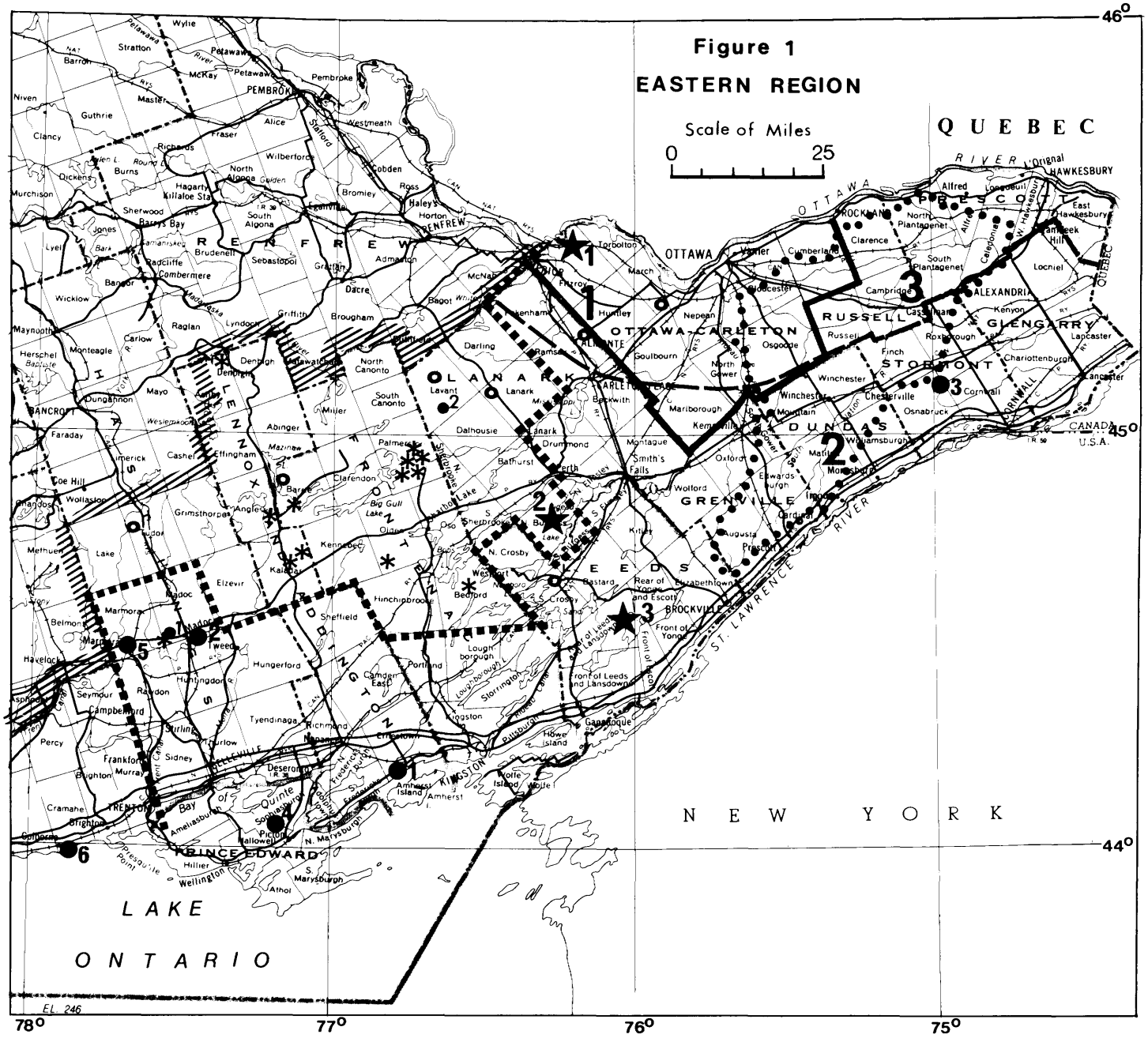
Introduction 128
Regional Geologist's Activities 128
Mining Activity 129
Exploration Activity 129
Recommendations for Exploration 129
Geological Branch Activities 130
Mineral Resources Branch Activities 130
Geological Survey of Canada Activities 130
ODM Maps and Reports Issued by the Geological Branch in 1975 130
Other Ontario Ministry of Natural Resources Publications Issued in 1975 131
References 132

TABLES

1—Exploration Activity in 1975 132
2—Assessment Work and Other Information Received in 1975 133

FIGURES

1,2—Eastern Region 126,127



EXPLANATION

- ● Producing mines (excepting stone quarries, clay, sand, gravel, and silica extractive operation)
  1. Canada Cement Lafarge Ltd. — limestone (cement)
  2. Canada Talc Industries Ltd. — talc
  3. Diamond Peat Moss — peat
  4. Lake Ontario Cement Co. Ltd. — limestone (cement)
  5. Marmoraton Mining Co. — iron
  6. St. Lawrence Cement Co. Ltd., Ogden Point Quarry — limestone (cement)
- ● Exploration activity (keyed to Table 1)
  1. J.W. Hill
  2. Lynx-Canada Explorations Ltd.
- O Exploration activity (no present documentation)
- ✱ Assessment work filed in 1975
- ★ Geological mapping of provincial parks
  1. Fitzroy Provincial Park
  2. Murphys Point Provincial Park
  3. Charleston Lake Provincial Park
- Sensitive clay studies (described in text)
  1. Slope stability study in the Regional Municipality of Ottawa–Carleton
  2. Slope stability study of the South Nation River basin
  3. Landslide dating survey
- ■■■■■■■ Mineral Aggregate Study (Ontario Ministry of Natural Resources)

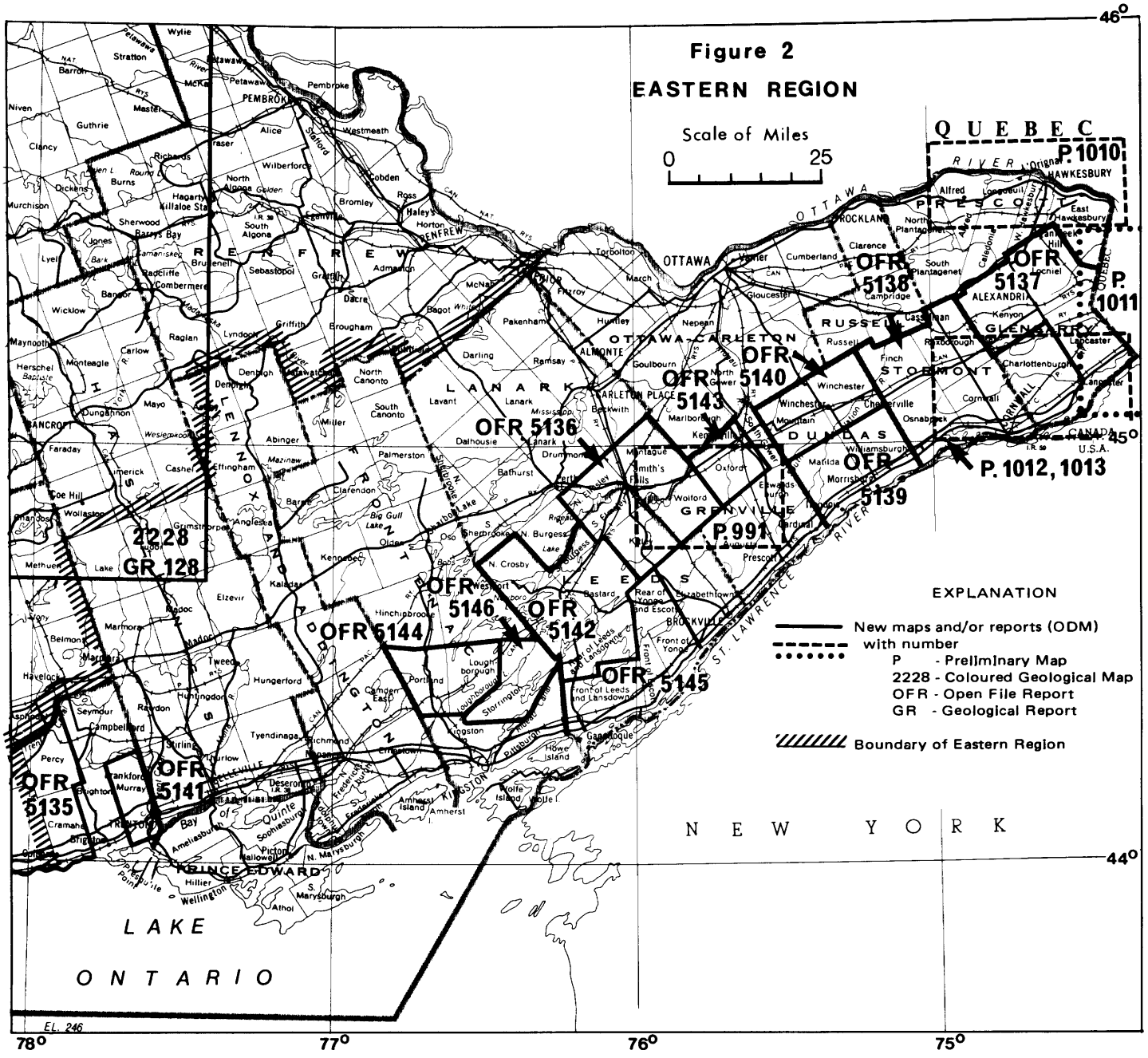


Figure 2
EASTERN REGION
Scale of Miles
0 25
QUEBEC
P. 1010
P. 1011
P. 1012, 1013
P 991
OFR 5135
OFR 5136
OFR 5137
OFR 5139
OFR 5140
OFR 5141
OFR 5142
OFR 5143
OFR 5144
OFR 5145
OFR 5146
2228
GR 128
EXPLANATION
New maps and/or reports (ODM) with number
P - Preliminary Map
2228 - Coloured Geological Map
OFR - Open File Report
GR - Geological Report
Boundary of Eastern Region
LAKE ONTARIO
NEW YORK
CANADA
U.S.A.
46°
45°
44°
78°
77°
76°
75°

1975 REPORT

of the

EASTERN REGIONAL GEOLOGIST

by

A.E. Thurston[1]

INTRODUCTION

The first full year of operation of the Eastern Regional Geologist's office saw the majority of time being spent on engineering geology, particularly in connection with sensitive clay problems, and on aggregate resources.

This office provided geological information to several Ontario Ministries, the Geological Survey of Canada, consulting firms, regional and township planning boards, and individuals of the public.

To assist M.A. Klugman in his duties, A.E. Thurston was hired in February, 1975.

REGIONAL GEOLOGIST'S ACTIVITIES

About 60 percent of the Regional Geologist's time was spent dealing with sensitive clays and their related problems, and he attended a number of seminars on the subject including: mass-wasting symposium at the University of Guelph; Acres Consulting Services Limited in-house seminar on marine clay; and quick clay workshop meeting at McGill University. A talk on the Champlain Sea clays was presented to the Algonquin Regional Management Committee.

The Regional Geologist provided geological consultation regarding the feasibility of plans proposed by municipal planning boards, the Ministry of Housing, the Ministry of Treasury, Economics and Intergovernmental Affairs, conservation authorities, and consulting firms for urban development on sensitive clay areas, besides working in conjunction with other agencies within the Ministry.

During the summer, two slope stability surveys were carried out: one in the Regional Municipality of Ottawa–Carleton, and the other in the South Nation Conservation Authority. This semi-quantitative approach to slope stability mapping is almost unique. Only one other country in the world uses a similar approach.

In keeping with the increasing role of the Regional office to provide geotechnical information for urban development, the Regional Geologist initiated a program, with the co-operation of the local municipalities, the Ministry of Housing, the developers and their consultants, to undertake a comprehensive hydrologic study of a sub-drainage basin. The purpose of such a study, encompassing all of the developers' lands, is to corelate the hydrologic and geotechnical conditions between the separately owned properties. This particular study was of the Bilberry Creek sub-basin, east of Ottawa, and was funded by the Ministry of Housing through the Township of Gloucester. As a result of this study, other such co-operative studies are being undertaken by the municipalities and the developers.

As a result of the liaison with local governments and consulting engineers, several geotechnical engineering studies are now being undertaken in connection with garbage disposal, septic sewage, water supply, construction planning, landfill, and preventative engineering works, by the local authorities.

In addition to co-ordinating the enforcement of the Pits and Quarries Control Act and talking with quarry operators, the Regional Geologist was a member of the steering committee for the Mineral Aggregate Study for part of the Eastern Region. Much of the advice on exploration and assessment in the region was given to potential and current quarry operators.

In an attempt to incorporate geology into park master plans and into their interpretive programs, geological mapping was carried out during the summer for three provincial parks within the Region. Maps of these parks have been drafted and the reports are being written. The Regional Geologist is a member of the Mines/Parks Committee whose aim is to present geology and mining within a park environment.

Geological information provided to the public covered such topics as aggregate, soapstone, gold, base metals, sensitive clays, and silica. Information on aggregate, sensitive clays, mineral potential, and general geology was provided for use within the Ministry as well as for other Ministries and consulting firms.

Other of the Regional Geologist's interests which are in the planning or early working stages include: the possibility of underground mining for aggregate in the

[1]Assistant to M.A. Klugman, Regional Geologist, South Boundary Road, Kemptville, K0G 1J0.

region; liaison with educational groups to promote interest in geology; interpretive sites on various geologic features; landslides; bibliography and reference collection of sensitive clay publications; and a compilation of the geology of the Kingston area.

Various work projects, listed below, were carried out during the summer of 1975 by five seasonal employees and A.E. Thurston, the geological assistant.

Regional Municipality of Ottawa–Carleton Slope Stability Study. The study involved the detailed examination of all unconsolidated slopes in the area. All landslide scars and bank failures were recorded and all slopes greater than 3 m (10 feet) high were surveyed. These data and data of the soils properties, obtained from geotechnical reports previously undertaken in the area, were used to calculate the factor of safety of each site. From these values, the slopes were classified and plotted on 1:25,000 scale base maps. The published maps are to be on a scale of 1:50,000. R.J. Mitchell of Queen's University wrote the computer program for this study. The program was funded by the Planning Department of the Regional Municipality of Ottawa–Carleton.

South Nation River Basin Slope Stability Study. This study is 75 percent complete. Preliminary maps of available data are in preparation. All landslide scars and bank failures were recorded and all slopes greater than 3 m (10 feet) high were surveyed. This program was funded by the South Nation Conservation Authority.

Landslide Dating Survey. The objective of this survey, now completed, was to determine the age of the larger landslides in Eastern Ontario, with a view to ascertaining whether there are any factors which can be related to the frequency of the landslides, such as weather, seismic events, and ground water levels. A subsequent study will attempt to relate these external factors.

Earth Sciences Interpretive Program in the Regional Municipality of Ottawa–Carleton. A systematic examination of all geological sites in the area was undertaken to select those sites which could be preserved and incorporated into an interpretive program in the earth sciences. This program was funded by the Planning Department of the Regional Municipality of Ottawa–Carleton.

Parks Mapping. Geological mapping was carried out in Murphys Point Provincial Park, Charleston Lake Provincial Park, and Fitzroy Provincial Park.

MINING ACTIVITY

No change in status has occurred in any of the mines which were still active at the end of 1974.

There are three operating cement plants in the Eastern Region: Lake Ontario Cement Company Limited at Picton, St. Lawrence Cement Company Limited which operates a quarry at Ogden Point for a plant at Clarkson, and Canada Cement Lafarge Limited at Bath.

At Marmora, 500,000 tons of iron ore pellets per year at 65 percent iron, are produced by the Marmoraton Mining Company, a subsidiary of Bethlehem Steel Corporation.

Canada Talc Industries Limited's mine, located at Madoc, produces 30,000 tons of talc per year.

Peat operations are carried out by Diamond Peat Moss in the United Counties of Stormont, Dundas, and Glengarry.

Other mineral products extracted within the Region include sand and gravel, limestone, trap, sandstone, marble, shale and clay.

EXPLORATION ACTIVITY

Exploration activity increased again in the Eastern Region. The number of claims recorded rose from 175 in 1974 to 288 in 1975.

Drilling was being done in Lavant Township in Lanark County at the close of the year in search of tetrahedrite.

The possibility of producing silica from the Potsdam Formation near Crosby is being investigated.

Exploration and prospecting activities are being undertaken in several other areas for which at this time there is no documentation. Among some of the programs being undertaken are: uranium exploration in March Township and in central Hastings County; activity on several gold properties in the northern parts of Lennox and Addington and Frontenac Counties; base metal exploration, including some diamond drilling, in parts of Lanark and Frontenac Counties; diamond drilling to assess potential crushed stone deposits in Ramsay Township with further work planned in Marlborough Township.

RECOMMENDATIONS FOR EXPLORATION

With renewed interest in gold, the Grenville Province represents a pregnant area for exploration for that metal. Many known occurrences of gold mineralization in the Grenville of the Eastern Region, warrant attention at this time. Better exploration tools and more advanced mining technology make the old shallow mines excellent targets as a focus for more widespread exploration.

The Grenville Province has long been known as a well mineralized area for base metals. With the continually increasing demand for base metals and the growing need for self-sufficiency, the Grenville Province represents a potential producing area that is easily accessible and already has much of the very costly and necessary infrastructure developed. It is of note that there is al-

ready an increasing interest in this area as a source of base metals.

Industrial mineral consumption is also on the increase, and exploration and development of industrial minerals in the Eastern Region has been continuing for some time. The potential of high grade silica from the Potsdam Formation is being explored. With today's economic factors and transport costs, the viability of silica production in the Eastern Region is a very attractive venture. Other minerals such as fluorite, high purity marble and vermiculite, should also be investigated.

The depletion of the magnetite ore-body at Marmora is seen in the not too distant future, and the Marmoraton Mining Company, along with other companies, is examining other occurrences of magnetite in the area.

GEOLOGICAL BRANCH ACTIVITIES

Two field projects were carried out in the Eastern Region by the Geological Branch. In the Clarendon Lake area in the Counties of Frontenac and Lennox and Addington, mapping of the Precambrian geology was continued by J.M. Moore, of Carleton University. This area has been mapped under the direction of Moore between 1961 and 1974.

Q.H.J. Gwyn of the Phanerozoic Geology Section and R.M. Quigley of the University of Western Ontario carried out geotechnical investigations of the Champlain Sea clays in the Hawkesbury area in Prescott County. Eight bore holes were drilled and samples were taken to study the geotechnical properties and the mineralogy of these sensitive clays. A ninth bore hole was drilled near the Ottawa River in the hope of determining a stratigraphic section above bedrock.

MINERAL RESOURCES BRANCH ACTIVITIES

A mineral aggregate study for part of the Eastern Region was prepared by Proctor and Redfern Limited and Gartner Lee Associates Limited. Completed in November, 1975, the study examines the mineral aggregate industry in this area "to determine and relate the requirements of supply and demand in the year 2001, and to consider how these requirements can be met in accordance with sound planning principles, reasonable cost and land usage".

GEOLOGICAL SURVEY OF CANADA ACTIVITIES

S.H. Richard of the Terrain Sciences Division studied quaternary features (1975a; 1975b). This field investigation and mapping of the surficial geology was carried out in both the Morrisburg (NTS 31 B/14) and the Winchester (NTS 31 G/3E) map areas during the summer of 1974.

P.A. Fransham, N.R. Gadd and P.A. Carr, (1976) of the Terrain Sciences Division completed the mapping of the Champlain Sea clays in the Ottawa Valley. The release of these data is scheduled for the near future.

ODM MAPS AND REPORTS ISSUED BY THE GEOLOGICAL BRANCH IN 1975

P.972 Uranium and Thorium Deposits of Ontario, Southern Sheet, Southern Ontario and District of Nipissing. Compilation by James A. Robertson. Scale 1 inch to 16 miles or 1:1,013,760.;

P.991 Quaternary Geology of the Merrickville Area, Southern Ontario (31 B/13). Geology by D.R. Sharpe and assistants, 1974. Scale 1:50,000.

P.1010 Quaternary Geology of the Hawkesbury–Lachute Area, Southern Ontario (31 G/9W; 10). Geology by Q.H.J. Gwyn, J.J.L. Thibault and assistants, 1974. Scale 1:50,000.

P.1011 Quaternary Geology of the Vaudreuil–Huntingdon Area, Southern Ontario (31 (31 G/1W; 8W). Geology by Q.H.J. Gwyn, K. Girard and assistants, 1973, 1974. Scale 1:50,000.

P.1012 Bedrock Topography Series of Cornwall–Huntingdon Area, Southern Ontario (31 G/1W; 8W). Geology by Q.H.J. Gwyn, K. Girard and assistants, 1973, 1974. Scale 1:50,000.

P.1013 Drift Thickness Series of the Cornwall–Huntingdon Area, Southern Ontario (31 (31 G/1W, 2). Prepared by Q.H.J. Gwyn, J.B. Fraser and N. Owen, 1974. Scale 1:50,000.

P.1044 Iron Deposits of Ontario, Southern Sheet, Southern Ontario and District of Nipissing. Compilation by H.D. Meyn and James A. Robertson 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1063 Nickel Deposits of Ontario, Southern Sheet, District of Nipissing and Southern Ontario; Mineral Deposits Series. Compilation by M. Jost 1974, 1975. Scale 1 inch to 16 miles or 1:1,013,760.

Map 2228 Physiography of the Georgian Bay–Ottawa Valley Area, Southern Ontario Physiography by L.J. Chapman and D.F. Putnam. Scale 1 inch to 4 miles or 1:253,440.

GR128 The Physiography of the Georgian Bay–Ottawa Valley Area of Southern Ontario (31 C, D, E, F, K, L; 41 A, H, J); by L.J. Chapman, 33p. Accompanied by Map 2228.

IMR33 Reprint A Guide to Site Development and Rehabilitation of Pits and Quarries by Anthony M. Bauer; 62p. including photographs and figures.

IMR42 Petrography and Utilization of Paleozoic, Middle Ordovician Carbonate Rocks in Southern Ontario; by L. Dolar-Mantuani; 56p.

OFR5126 Index to Exploration Reports Filed in 1974 (1) Assessment Work Reports (2) Reports Received Under Ontario's Mineral Exploration Assistance Program (MEAP). Compiled by Geoscience Data Centre, 1975.

OFR5133 Potential Clay and Shale Resources of Central Ontario; by M.A. Vos, 47p., 2 figures, 1 map.

OFR5134 Clay and Shale Deposits of Ontario; by G.R. Guillet; approx. 265p., 28 tables, 39 figures, 2 maps.

OFR5135 to OFR5146 inclusive are aggregate resource Surveys.

OFR5135 Central Northumberland Planning Area: Alnwick, Percy, Haldimand and Cramahe Townships, Northumberland Co. R.A. Brinsmead, 1972.

OFR5136 Central Rideau Planning Area: Townships of North Elmsley, South Elmsley, Kitley, Montaque and Wolford. Area of Smith Falls, Ontario. R.A. Brinsmead, 1973.

OFR5137 Lancaster, Lochiel and Kenyon Townships, Glengarry Co., R.A. Brinsmead, 1972.

OFR5138 Lower St. Lawrence Planning Area: Finch, Roxborough, Osnabruck, Cornwall and Charlottenburgh Townships. R.A. Brinsmead, 1973.

OFR5139 Matilda and Williamsburg Townships, Dundas Co. M.A. Vos, June 4, 1971.

OFR5140 Mountain and Winchester Townships, Dundas Co. M.A. Vos, May 19, 1971.

OFR5141 Murray Township, Northumberland Co. R.A. Brinsmead and J.R. Trusler, 1973.

OFR 5142 North Leeds Planning Area: North and South Crosby, South Burgess, Bastard and Rear of Leeds and Lansdowne Townships, Leeds Co. R.A. Brinsmead, 1972.

OFR5143 Oxford Township, Grenville Co. R.A. Brinsmead, 1973.

OFR5144 Portland and Loughborough Townships, Frontenac Co. R.A. Brinsmead, 1972.

OFR5145 South Leeds Planning Area: Front of Leeds and Lansdowne, Front of Yonge, Front of Escott and Rear of Yonge and Escott Townships, Leeds Co. J.Z. Frazer, 1974.

OFR5146 Storrington Township, Frontenac Co. D.F. Hewitt, 1971.

OFR5147 Mineral Exploration Assistance Program (MEAP), Fiscal Year 1974-75, by S.A. Ferguson, F.G. Da Silva and S.C. Sun; 73p., 2 figures, 7 appendices.

OFR5150 Preliminary Township and NTS Index to Ontario Geoscience Reports and Maps, 1975, 1201p. (microfiche only).

OFR5156 Gold Deposits of Ontario Part 2, Districts of Muskoka, Nipissing, Parry Sound, Sudbury, Timiskaming, part of Cochrane and Southern Ontario, by J.B. Gordon, H.L. Lovell and Jan de Grijs; approx. 700p., various figures and tables.

MP60 Annual Report of the Regional and Resident Geologists, 1974. Edited by E.G. Pye, Director, Geological Branch, 241p.

MP61 Mineral Deposit Studies, Mineral Potential Evaluation and Regional Planning in Ontario; by James A. Robertson, 42p.

MP63 Summary of Field Work, 1975, by the Geological Branch. Edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, 158p.

OTHER ONTARIO MINISTRY OF NATURAL RESOURCES PUBLICATIONS ISSUED IN 1975

MPBP 1 The Impact of Taxation and Environmental Controls on the Ontario Mining Industry by G. Anders, W.P. Gram and S.C. Maurice; 197p. Published by the Mineral Resources Branch.

1974 Review Ontario Mineral Review 1974, 124p.

Mineral Aggregate Study — Mineral Aggregate Study, Part of the Eastern Ontario Region, prepared for the Ontario Ministry of Natural Resources (Mineral Resources Branch) by Proctor and Redfern Limited and Gartner Lee Associates Limited. Two volumes.

REFERENCES

Fransham, P.B., Gadd, N.R. and Carr, P.A.
1976: Geological Variability of Marine Deposits, Ottawa–St. Lawrence Lowlands; p.37-48 *in* Report of Activities, Part A, Geol. Surv. Canada, Paper 76-1A, 522p.

Richard, S.H.
1975a: Surficial Geology Mapping: Morrisburg–Winchester Area (Parts of 31B,G); p.417-418 *in* Report of Activities, Part A, Geol. Surv. Canada, Paper 75-1A.

1975b: Surficial Geology Mapping; Ottawa Valley Lowlands (Parts of 31G, B, F); p.113-117 *in* Report of Activites, Part B, Geol. Surv. Canada, Paper 75-1B, 333p.

TABLE 1 | EXPLORATION ACTIVITY IN 1975

No. on Fig. 1	Individual or Company	Activity
1	James Warren Hill	Diamond Drilling
2	Lynx–Canada Explorations Limited	Geological Mapping

Table 2 Assessment Work and Other Information Received in 1975

Abbreviations

DDH - Diamond drilling
EM - Electromagnetic
GC - Geochemical
GL - Geological
GP - Geophysical
RA - Radiometric
SA - Sampling, assaying
TR - Trenching

Township	NTS	File Name	Commodity Sought	Type of Report	Type of Work Performed	Date of Work	Toronto File No.	Local File Number.
Anglesea	31C/14	Lyle F. Smith	Sulphides	Assess.	2 DDH	1975		Anglesea 3
Ashby	31F/3W	C.C. Allen (Labrador Mining & Exploration Co. Ltd.)	Garnet	Assess.	SA	1974	2.1489	Ashby 2
Barrie	31C/14	Henry Cook		Assess.	GC	1975	2.1959	Barrie 27
Bedford	31C/10	New Growth Explorations		Assess.	EM	1975		Bedford 11
Kaladar	31C/11	Harry Dowhaluk	Base metals	Assess.	EM	1975	2.1877	Kaladar 8
Kaladar	31C/11	Thomas C. Michie	Sulphides	Assess.	1 DDH	1974		Kaladar 9
Madoc	31C/12	Robert M. Kirkwood		Assess.	SA	1975	2.1735	Madoc 28
Olden	31C/10	Lynx-Canada Explorations Ltd.	Base Metals	Assess.	GL	1975	2.1826	Olden 29
Palmerston	31C/15	Elwood Reid	U	Assess.	RA,TR	1974-1975	2.1927	Palmerston 10
Palmerston	31C/15	Elwood Reid	U	Assess.	RA,TR	1974-1975	2.1928	Palmerston 11
Palmerston	31C/15	D.W. Riddell		Assess.	RA,TR	1975		Palmerston 12
Palmerston	31C/15	Ram Petroleums Ltd.	Tremolite-talc	Assess.	TR	1975		Palmerston 13
Palmerston	31C/15	Lou Golant		Assess.	GP,TR,SA	1975		Palmerston 13

1975 REPORT

of the

CENTRAL REGIONAL GEOLOGIST

by

B.W. Patten

CONTENTS

Page

Introduction 137
Regional Geologist's Activities 137
Expansion of the Pits and Quarries Control Act, 1971 137
Mining Activity 138
Staking and Exploration Activity 138
Geological Branch Activities 138
Geological Survey of Canada Activities 138
ODM Maps and Reports Issued by the Geological Branch in 1975 138
Other Ontario Ministry of Natural Resources Publications Issued in 1975 139

FIGURE

1–Central Region 136

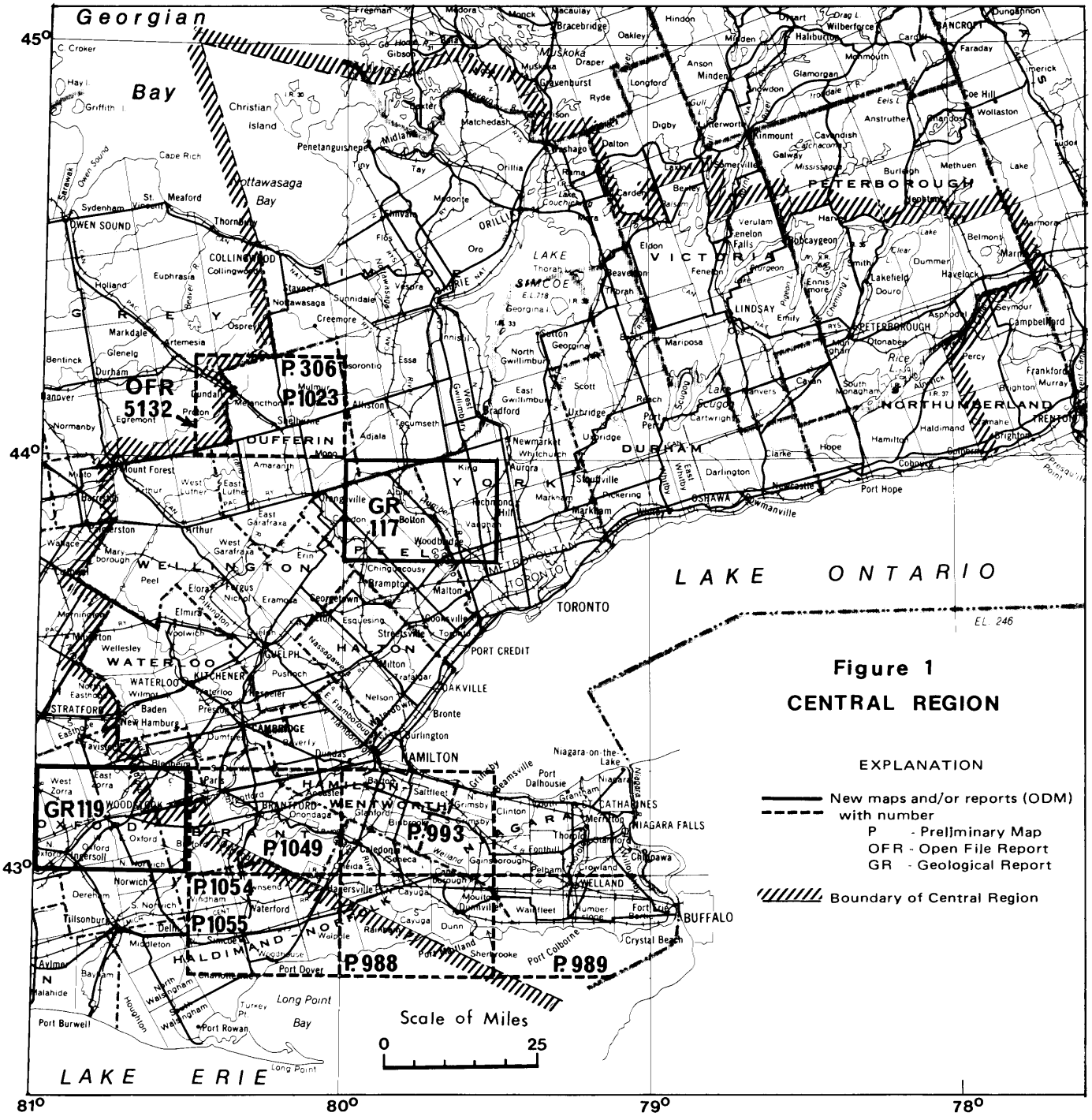


Figure 1

CENTRAL REGION

EXPLANATION

New maps and/or reports (ODM) with number

P - Preliminary Map

OFR - Open File Report

GR - Geological Report

Boundary of Central Region

1975 REPORT

of the

CENTRAL REGIONAL GEOLOGIST

by

B.W. Patten[1]

INTRODUCTION

The Regional Geologist, U.J. Vagners, administered the regional geological program, which provided geoscience information for mineral resource management. In Central Region, mineral resource planning is related mainly to industrial mineral production in a highly developed and populated region.

In January, L.G.D. Thompson began work as Mineral Resources Manager and in June assumed the responsibility of administering the Pits and Quarries Control Act.

Other staff members included B.W. Patten, Geological Assistant and Juanita Marlett, Secretary.

REGIONAL GEOLOGIST'S ACTIVITIES

The main functions of the geological program this past year have been to provide mineral resource information for municipal plans, solve problems in the industrial extractive sector, and reply to public inquiries. Mineral resource surveys were compiled either by the Phanerozoic Geology Section of the Geological Branch or by Central Region. These surveys were incorporated directly into official plans or used to improve mineral resource information produced by the municipalities. Various meetings were attended, accompanied by district staff in order to explain the relative importance of various aggregate and other mineral resources and to attempt to preserve them for present and future use.

This year the regional office supplied much of the information for mineral resources planning for Huronia and Lindsay administrative districts. A similar function was performed by mineral resource personnel in the other districts. Mineral resource information or guidance was also supplied to the Niagara Escarpment Planning Commission and the Simcoe–Georgian Bay Study Group. Other mineral resource planning functions within the Ministry were extended to Parks Branch and to various Conservation Authorities. Comments on the Southern Ontario Strategic Land Use Plan (SOSLUP) were Submitted to the Lands Management Branch as a further mineral resource input.

The regional geological program also was involved in specific extractive industrial concerns, problems or inquiries such as Ontario Municipal Board (OMB) hearings or applications for pits and quarries licences, the Campbellville Gravel Supply Limited rehabilitation problem and an inquiry regarding a peat operation near Luther Marsh.

Quaternary geology of the Lucan map area in the London vicinity was completed for the Ontario Division of Mines by U.J. Vagners and E.V. Sado.

Regional geology staff also attended a sand and gravel seminar, arranged by the Phanerozoic Geology Section of the Geological Branch, as well as a course on a FS-3 portable seismograph by V.K. Gupta of the Geophysics/Geochemistry Section. The latter was supplemented by a further field demonstration for the regional and district staff by L.G.D. Thompson. The seismograph was used primarily in the Cambridge district for determining geotechnical parameters to help evaluate aggregate deposits.

EXPANSION OF THE PITS AND QUARRIES CONTROL ACT, 1971

Under the supervision of the Regional Geologist, the Pits and Quarries Control Act 1971, was administered by L.G.D. Thompson, who organized a system for processing applications for pit and quarry licenses and wayside pit permits. On May 1, 1975, an additional 59 townships plus Metropolitan Toronto were designated under the Pits and Quarries Control Act, 1971, out of a total of 141 newly designated townships in Ontario. This legislation now covers all of Central Region with the exception of Baxter and Wood Townships. All new and existing pit and quarry operations in the newly designated areas must file site plans with the Ministry of Natural Resources providing for pit and quarry rehabilitation and obtain licenses to continue operating.

[1]Regional Geologist's Assistant, Ontario Ministry of Natural Resources, 10670 Yonge St., Richmond Hill, L4C 3C9.

MINING ACTIVITY

In Central Region, over 95 percent of mining production consists of structural materials, making the region the largest producer of such materials in Ontario. Urbanization, particularly in the Toronto–Hamilton–Niagara area, has created a large demand for materials such as building and crushed stone, sand and gravel, clay, shale, and limestone for portland cement and lime.

A comparative value of mineral output from 1971 to 1973 in Central Region follows (information from Mineral Resources Branch, Ontario Division of Mines, 1975):

	1971	1972	1973
Clay Products	$ 25,489,761	$ 28,159,647	$ 30,996,149
Stone & Cement	52,529,507	58,115,597	69,300,140
Sand & Gravel	36,696,458	34,616,598	40,845,083
Lime, Peat Moss, Quartz, Gypsum	6,595,254	5,307,431	5,552,557
Petroleum and Natural Gas	762,765	910,468	868,822
	$122,073,745	$127,109,741	$147,562,751

Clay products, stone and cement, and sand and gravel, represent the bulk of production for Central Region. These materials are obtained from about 470 presently licensed pits and quarries, and about 270 existing properties in the process of being licensed for a total of about 740.

STAKING AND EXPLORATION ACTIVITY

In the northeastern part of Central Region, there is some potential for metallic mineral discovery in the Grenville Province of the Canadian Shield. During 1975, eight claims were staked in the Central Region out of a total of 1713 for the Eastern Ontario Mining Division. In Belmont Township, assessment work has been submitted on four claims which are held in good standing. In Harvey Township, four claims for which no assessment work was submitted were also held in good standing.

GEOLOGICAL BRANCH ACTIVITIES

Mapping projects were carried out by the Phanerozoic Geology Section. In Norfolk and Haldimand Counties P.J. Barnett mapped the Quaternary geology and bedrock topography of the Simcoe map area (NTS 40 I/16). In the same vicinity P.G. Telford mapped the Paleozoic geology of the Galt, Brantford and Simcoe map areas (NTS 40 P/8, 40 P/1, 40 I/16), and the Paleozoic geology of the Niagara Escarpment (to be released as a guidebook). During the latter part of the field season, Q.H.J. Gwyn mapped a portion of the Oak Ridges Moraine located within the Regional Municipality of Durham to outline the distribution of coarse aggregate deposits. The moraine in Durham covers parts of Uxbridge, Reach, Cartwright, Darlington and Clarke Townships.

GEOLOGICAL SURVEY OF CANADA ACTIVITIES

The following projects were recently carried out in Central Region: "Acoustic Profiling and Sediment Coring in Lake Ontario, Lake Erie and Georgian Bay" by T.W. Anderson and C.F.M. Lewis; and "Seismic Refraction Survey, Eastern Niagara Peninsula, Ontario, 30L, M" by G.D. Hobson and R.M. Gagne (*reports in preparation*).

ODM MAPS AND REPORTS ISSUED BY THE GEOLOGICAL BRANCH IN 1975

P.306 (Revised) Bedrock Topography of the Dundalk Area, Southern Ontario (41 A/1). Geological compilation by Q.H.J. Gwyn and J.Z. Frazer, 1975. Scale: 1:50,000.

P.972 Uranium and Thorium Deposits of Ontario, Southern Sheet, Southern Ontario and District of Nipissing. Compilation by James A. Robertson. Scale 1 inch to 16 miles or 1:1,013,760.

P.988 Paleozoic Geology of the Dunnville Area, Southern Ontario (30 L/13). Geology by P.G. Telford and G.A. Tarrant, 1974. Scale 1:50,000.

P.989 Paleozoic Geology of the Welland–Fort Erie Area, Southern Ontario (30 L/14, 30 L/15W). Geology by P.G. Telford and G.A. Tarrant, 1974. Scale 1:50,000.

P.993 Quaternary Geology of the Grimsby Area, Southern Ontario (30 M/4). Geology by B.H. Feenstra and assistants, 1974. Scale 1:50,000.

P.1023 Drift Thickness of the Dundalk Area, Southern Ontario (41 A/1). Geological compilation by Q.H.J. Gwyn and J.Z. Frazer, 1975. Scale 1:50,000.

P.1044 Iron Deposits of Ontario, Southern Sheet, Southern Ontario and District of Nipissing. Compilation by H.D. Meyn and James A. Robertson 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1049 Bedrock Topography of the Brantford Area, Southern Ontario (40 P/1). Compilation by P.F. Karrow and D.J. Sprague 1975. Scale 1:50,000.

P.1054 Quaternary Geology of the Simcoe Area, Southern Ontario (40 I/16). Geology by P.J. Barnett and C.K. Girard 1975 and A.K. Watt 1948, 1949. Scale 1:50,000.

P.1055 Bedrock Topography of the Simcoe Area, Southern Ontario (40 I/16). Compilation by P.J. Barnett and A.J. Ferguson 1975. Scale 1:50,000.

P.1063 Nickel Deposits of Ontario, Southern Sheet, District of Nipissing and Southern Ontario; Mineral Deposits Series. Compilation by M. Jost 1974, 1975. Scale 1 inch to 16 miles or 1:1,013,760.

Map 2228 Physiography of the Georgian Bay—Ottawa Valley Area, Southern Ontario Physiography by L.J. Chapman and D.F. Putnam. Scale 1 inch to 4 miles or 1:253,440.

GR117 Quaternary Geology of the Bolton Area, Southern Ontario (31 M/13); by Owen Lister White, 119p. Accompanied by Maps 2275 and 2276.

GR119 Quaternary Geology of the Woodstock Area, Southern Ontario (40 P/2); by W.R. Cowan, 91p. Accompanied by Maps 2281 and 2282.

GR128 The Physiography of the Georgian Bay—Ottawa Valley Area of Southern Ontario (31 C, D, E, F, K, L; 41 A, H, J); by L.J. Chapman, 33p. Accompanied by Map 2228.

IMR33 Reprint A Guide to Site Development and Rehabilitation of Pits and Quarries by Anthony M. Bauer; 62p. including photographs and figures.

IMR42 Petrography and Utilization of Paleozoic, Middle Ordovician Carbonate Rocks in Southern Ontario; by L. Dolar-Mantuani; 56p.

OFR5126 Index to Exploration Reports Filed in 1974 (1) Assessment Work Reports (2) Reports Received Under Ontario's Mineral Exploration Assistance Program (MEAP). Compiled by Geoscience Data Centre, 1975.

OFR5132 Quaternary Geology of the Dundalk Area, Southern Ontario (41 A/1); by Q.H.J. Gwyn; 138p., 22 tables, 14 figures, 4 maps.

OFR5133 Potential Clay and Shale Resources of Central Ontario; by M.A. Vos, 47p., 2 figures, 1 map.

OFR5134 Clay and Shale Deposits of Ontario; by G.R. Guillet; approx. 265p., 28 tables, 39 figures, 2 maps.

OFR5147 Mineral Exploration Assistance Program (MEAP), Fiscal Year 1974-75, by S.A. Ferguson, F.G. Da Silva and S.C. Sun; 73p., 2 figures, 7 appendices.

OFR5150 Preliminary Township and NTS Index to Ontario Geoscience Reports and Maps, 1975, 1201p. (microfiche only).

OFR5156 Gold Deposits of Ontario Part 2, Districts of Muskoka, Nipissing, Parry Sound, Sudbury, Timiskaming, part of Cochrane and Southern Ontario, by J.B. Gordon, H.L. Lovell and Jan de Grijs; approx. 700p., various figures and tables.

MP60 Annual Report of the Regional and Resident Geologists, 1974. Edited by E.G. Pye, Director, Geological Branch, 241p.

MP61 Mineral Deposit Studies, Mineral Potential Evaluation and Regional Planning in Ontario; by James A. Robertson, 42p.

MP63 Summary of Field Work, 1975, by the Geological Branch. Edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, 158p.

OTHER ONTARIO MINISTRY OF NATURAL RESOURCES PUBLICATIONS ISSUED IN 1975

MPBP 1 The Impact of Taxation and Environmental Controls on the Ontario Mining Industry by G. Anders, W.P. Gram and S.C. Maurice; 197p. Published by the Mineral Resources Branch.

1974 Review Ontario Mineral Review 1974, 124p.

1975 REPORT

of the

SOUTHWESTERN REGIONAL GEOLOGIST

by

R.G. Bryant

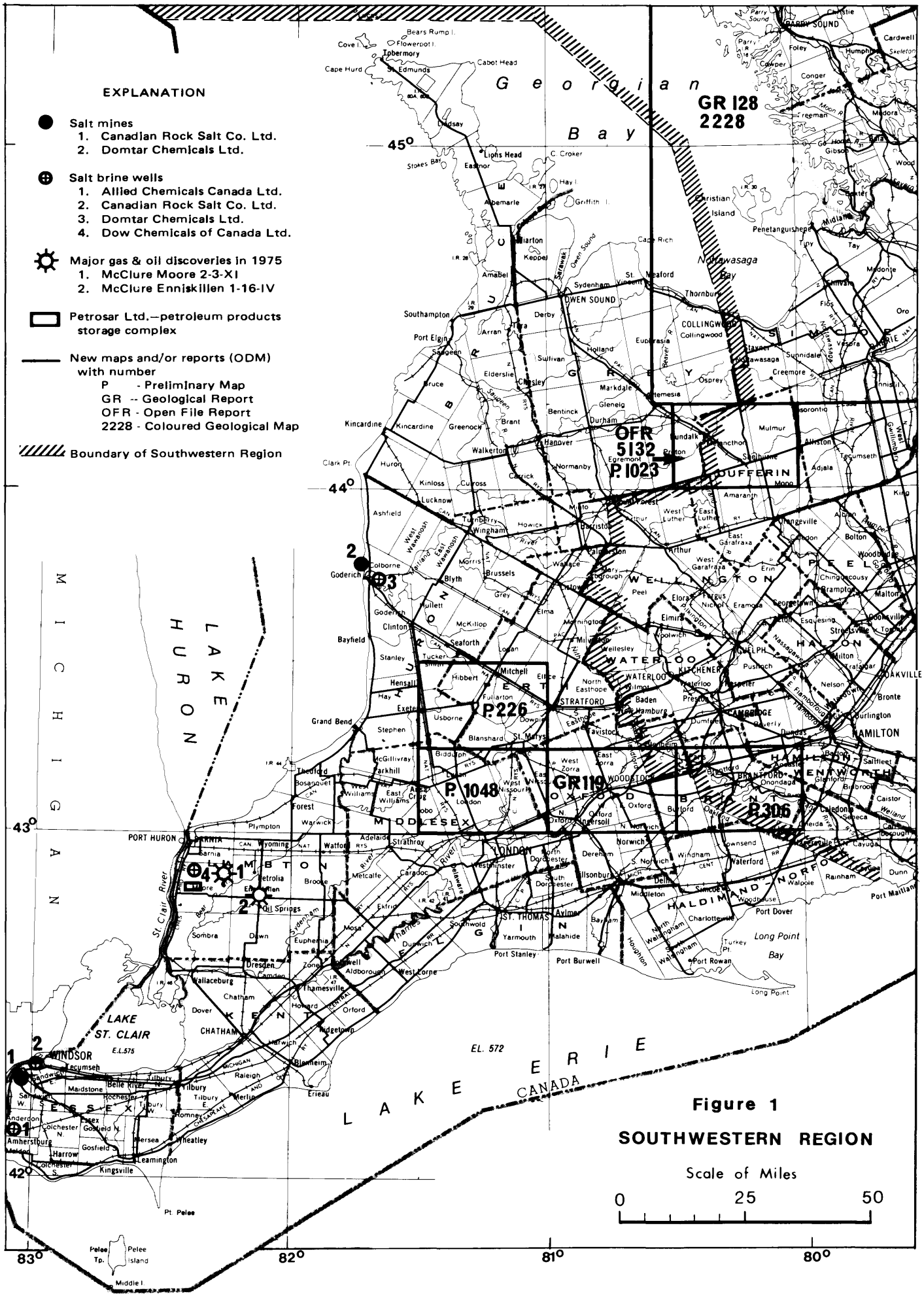
CONTENTS

Page

Introduction 143
Oil and Natural Gas 143
Mining Activity 144
Pits and Quarries 144
Geological Branch Activities 144
ODM Maps and Reports Issued by the Geological Branch in 1975 145
Other Ontario Ministry of Natural Resources Publications Issued in 1975 146

FIGURE

1—Southwestern Region 142


EXPLANATION
Salt mines
1. Canadian Rock Salt Co. Ltd.
2. Domtar Chemicals Ltd.
Salt brine wells
1. Allied Chemicals Canada Ltd.
2. Canadian Rock Salt Co. Ltd.
3. Domtar Chemicals Ltd.
4. Dow Chemicals of Canada Ltd.
Major gas & oil discoveries in 1975
1. McClure Moore 2-3-XI
2. McClure Enniskillen 1-16-IV
Petrosar Ltd.—petroleum products storage complex
New maps and/or reports (ODM) with number
P - Preliminary Map
GR -- Geological Report
OFR - Open File Report
2228 - Coloured Geological Map
Boundary of Southwestern Region
Georgian Bay
GR 128
2228
OFR 5132
P. 1023
P. 226
P. 1048
GR 119
P. 306
LAKE HURON
LAKE ST. CLAIR
LAKE ERIE
CANADA
MICHIGAN
EL. 572
E.L.575
Long Point Bay
Pt. Pelee
Pelee Tp.
Pelee Island
Middle I.
Figure 1
SOUTHWESTERN REGION
Scale of Miles
0
25
50
45°
44°
43°
42°
83°
82°
81°
80°

1975 REPORT

of the

SOUTHWESTERN REGIONAL GEOLOGIST

by

R.G. Bryant[1]

INTRODUCTION

The position ofRegional Geologist for the Southwestern Region is combined with the duties of the Regional Geological Engineer and includes the role of Chief Inspector of Petroleum Resources, responsible for all drilling and production of oil and gas in the Province.

The main functions of this dual role are liaison with the oil and gas industry; enforcement of *The Petroleum Resources Act* and *The Mining Act* with respect to drilling and production of oil and gas (both on land and offshore) in Ontario; and co-ordination and overview of the resource programs with staff at the Petroleum Resources Laboratory, situated in London. This program assists the Ministry to develop proper conservation of oil and gas reserves and to maximize the proper efficiency of production by assisting in research programs and technical projects related to the study of oil and gas reserves, geological interpretations and evaluations of producing and prospective oil and gas fields in Ontario. This leads to eventual publication of geological and engineering reports and maps.

Participation in the management role of the Region is maintained by making recommendations for mineral resources management and strategic land-use planning, ensuring that the optimum utilization and development of mineral resources will be considered.

Technical assistance is provided to the Ontario Energy Board in respect to public hearings by examining all geological, geophysical and engineering documents in support of applications for designation of gas storage boundaries and authorization to inject gas into depleted gas reefs.

Liaison with the Ministry of the Environment is maintained in regards to feasibility studies involving subsurface disposal of liquid waste effluents and produced brine.

All applications for municipal subdivisions in oil and gas producing areas, as forwarded by the Ministry of Housing, are reviewed. This ensures that previously drilled and unplugged wells that could cause serious pollution problems or are a source of concern to property and life are properly located, plugged and abandoned. The inspection staff, through government funding, administer this plugging program on a priority basis.

[1]Regional Geologist, Ontario Ministry of Natural Resources, 1106 Dearness Drive, London, N6E 1N9.

OIL AND NATURAL GAS

In view of the fact that nearly all of the petroleum and natural gas exploration and development in southern Ontario occurs in the Southwestern Region (a minor portion occurs in the extreme west end of the Central Region), the following is a resume of oil and gas developments in southern Ontario.

The production of natural gas in southwestern Ontario increased sharply in 1975 while oil production decreased slightly. A total of approximately 10.8 billion cubic feet of gas and approximately 700,000 barrels of oil were produced.

This represents an increase of 47.95 percent in gas production and a decrease of 5 percent in oil production from 1974. Lake Erie accounted for approximately 50 percent of this gas production.

A total of 163 wells were completed in 1975 for a total footage of 265,641 feet (80 967.3 m), compared to 170 wells (five lost holes are not included although the footage is added in total) for 1974 and a total footage of 276,121 feet (84 161.6 m).

This represents a decrease of approximately 4 percent both in total footage and the number of wells drilled from the previous year.

During the past year, 68 exploratory wells and 69 development wells were drilled, a decrease of 14 percent and an increase of 13 percent respectively over 1974.

An additional 26 wells were completed. These consisted of 3 wells for brine production, 2 wells for subsurface waste disposal, 14 for petroleum products storage, 6 gas storage wells and 1 lost hole. This category decreased 27 percent from last year.

Offshore drilling for natural gas in Lake Erie increased 32 percent from the previous year with 70 wells being completed. This consisted of 43 gas producers and 27 abandonments (including 1 lost hole). Several significant discoveries were made during the year along with a notable development drilling program.

The 43 producers are further classified as 13 exploratory successes out of 31, and 30 development successes out of 38 attempts.

During 1975, essentially all available acreage in Lake Erie remained under disposition for a total of 2,700,200 acres. Of this, 2,523,609 acres were under Licence of Occupation and 176,591 acres were under lease to seven major operators.

Additional lake wells would have been drilled and completed but hydraulic malfunctions in the jack-up system of one of the drilling platforms caused a near sinking. The entire crew was evacuated safely and after very costly repairs, the barge returned to service after being out of commission for some four and a half months. During the year, a new floating type drilling vessel was launched May 12th and was a welcomed addition to the offshore fleet of drilling rigs. This new ship called the "Telesis" is a converted lake freighter, 253 feet long and 44 feet wide. The vessel will work in the west central part of the lake where the water is too deep or where lake bottom conditions are not suitable for jack-up type platforms.

On land, during the year there were two significant reef discoveries in Lambton County, one gas and the other oil and gas.

Additional follow-up drilling has been successful on the gas reef but no further work has taken place on the oil and gas discovery to date.

MINING ACTIVITY

Massive beds of salt of virtually unlimited reserves underlie a broad band of southwestern Ontario extending from Essex County northward to the base of the Bruce Peninsula.

Salt is extracted by conventional underground mining methods at Goderich by the Sifto Salt Division of Domtar Chemicals Limited, and by the Canadian Rock Salt Company Limited near Windsor. There are several salt wells from which the mineral is extracted by a brining operation. Fresh water is pumped into the underground salt bed and the resulting brine is pumped to the surface and evaporated. Table salt is obtained by this method from wells at Goderich and at Windsor. Brine for chemical purposes is extracted by Allied Chemicals Canada Limited from wells at Amherstburg and by the Dow Chemical of Canada Limited from its Sarnia operations.

Shipments of rock salt from the Goderich mine (Domtar Chemicals Limited) totalled 2.3 million tons, while approximately 2 million tons were produced at Windsor (Canadian Rock Salt Company Limited). Labour disputes and a resultant strike for approximately five to six months curtailed production at Windsor.

PITS AND QUARRIES

There are approximately 500 operational sand, gravel and clay pits and quarries in production in southwestern Ontario. Pits provide the unconsolidated sand and gravel, quarries the consolidated stone products that are vital resources for the construction industry.

Increased awareness both by the public and industry of environmental impacts has led to a more critical evaluation of the effects on the landscape of these operations.

The Pits and Quarries Control Act was passed in November, 1971 as an attempt to regulate these operations under a uniform set of standards.

Forty additional townships in the five districts of the Southwestern Region were designated under this Act in 1975, bringing the total number of designated townships to 79.

The Act requires that the operators screen the working operations from public view. An application for a required licence must be accompanied by a detailed site plan which includes a plan for pit development and progressive and ultimate rehabilitation plans. An annual security deposit based on the previous year's production is required to ensure rehabilitation.

GEOLOGICAL BRANCH ACTIVITIES

In 1975, five field projects were carried out by the Phanerozoic Geology Section of the Geological Branch in the Southwestern Region. One Paleozoic geology field party was working in the Niagara Escarpment and the Galt–Brantford–Simcoe areas. Aggregate resource surveys were carried out in 24 townships in southwestern Ontario.

W.R. Cowan initiated mapping the Walkerton Area (41 A/3), Bruce and Grey Counties, and only the northwest part of the area remains to be mapped. No bedrock is quarried at present. Numerous gravel and sand pits are present within the area; however, most are operated on an "as required" basis.

D.R. Sharpe mapped the Durham area (41 A/2), Grey County. It appears there are very large reserves of gravel and the feasibility of large scale operations appears imminent.

B.H. Feenstra has mapped the Markdale area (41 A/7), Grey County. The Quaternary drift has been mapped at a scale of 1:50,000, but the east half at only reconnaissance scale. This area appears rich in surficial ice-contact and outwash gravel and sand deposits in which several pits have been excavated.

A.J. Cooper mapped the Goderich (40 P/12) and Seaforth (40 P/11) areas, Huron and Perth Counties. Mapping was commenced in the summer of 1975, and initial emphasis was placed on road traverses in an effort to make preliminary assessments of the quantity and quality of gravel in the areas. Stratigraphic investigations and more detailed mapping in certain areas will be completed in 1976. Major deposits of salt are mined at

Goderich. Limestones from the Dundee and Detroit River group of formations have been used in the past for the production of portland cement. These operations are only sufficient to meet local needs. Gravel is presently being extracted but not on any large scale. Natural gas has been produced from a Silurian pinnacle reef at Bayfield in Stanley Township. Over 2 billion cubic feet of gas has been produced and less than 5 percent of the remaining recoverable reserves are left in the pool. Operation of the two gas wells is presently suspended.

The Quaternary geology of the Simcoe (40 I/16) area of Norfolk and Haldimand Counties was mapped by P.J. Barnett and C.K. Girard assisted by A.J. Ferguson and E. Janicki. Limestone is being quarried in several localities, such as Hagersville, an area near Port Dover and an area just west of Nanticoke. Several inactive quarries are present near Hagersville, Springvale, Jarvis and Nanticoke. Sand and gravel is being excavated from several different geological units in the Simcoe map-area. Limited drilling for gas production still occurs in this area although this locality has virtually been exhausted for several years.

All of the aforementioned projects are described in more detail in MP63 (*see* "ODM Maps and Reports Issued by the Geological Branch in 1975").

ODM MAPS AND REPORTS ISSUED BY THE GEOLOGICAL BRANCH IN 1975

P.266 (Revised) Bedrock Topography of the St. Marys Area, Southern Ontario (40 P/6). Compilation by P.F. Karrow and A.J. Ferguson, 1974. Scale: 1:50,000.

P.306 (Revised) Bedrock Topography of the Dundalk Area, Southern Ontario (41 A/1). Geological compilation by Q.H.J. Gwyn and J.Z. Frazer, 1975. Scale: 1:50,000.

P.972 Uranium and Thorium Deposits of Ontario, Southern Sheet, Southern Ontario and District of Nipissing. Compilation by James A. Robertson. Scale 1 inch to 16 miles or 1:1,013,760.

P.1023 Drift Thickness of the Dundalk Area, Southern Ontario (41 A/1). Geological compilation by Q.H.J. Gwyn and J.Z. Frazer, 1975. Scale 1:50,000.

P.1044 Iron Deposits of Ontario, Southern Sheet, Southern Ontario and District of Nipissing. Compilation by H.D. Meyn and James A. Robertson 1972, 1973, 1974. Scale 1 inch to 16 miles or 1:1,013,760.

P.1048 Quaternary Geology of the Lucan Area, Southern Ontario (40 P/3). Geology by E.V. Sado, U.J. Vagners and assistants 1971, 1972. Scale 1:50,000.

P.1063 Nickel Deposits of Ontario, Southern Sheet, District of Nipissing and Southern Ontario; Mineral Deposits Series. Compilation by M. Jost 1974, 1975. Scale 1 inch to 16 miles or 1:1,013,760.

Map 2228 Physiography of the Georgian Bay–Ottawa Valley Area, Southern Ontario Physiography by L.J. Chapman and D.F. Putnam. Scale 1 inch to 4 miles or 1:253,440.

GR119 Quaternary Geology of the Woodstock Area, Southern Ontario (40 P/2); by W.R. Cowan, 91p. Accompanied by Maps 2281 and 2282.

GR128 The Physiography of the Georgian Bay–Ottawa Valley Area of Southern Ontario (31 C, D, E, F, K, L; 41 A, H, J); by L.J. Chapman, 33p. Accompanied by Map 2228.

IMR33 Reprint A Guide to Site Development and Rehabilitation of Pits and Quarries by Anthony M. Bauer; 62p. including photographs and figures.

OFR5126 Index to Exploration Reports Filed in 1974 (1) Assessment Work Reports (2) Reports Received Under Ontario's Mineral Exploration Assistance Program (MEAP). Compiled by Geoscience Data Centre, 1975.

OFR5132 Quaternary Geology of the Dundalk Area, Southern Ontario (41 A/1); by Q.H.J. Gwyn; 138p., 22 tables, 14 figures, 4 maps.

OFR5133 Potential Clay and Shale Resources of Central Ontario; by M.A. Vos, 47p., 2 figures, 1 map.

OFR5134 Clay and Shale Deposits of Ontario; by G.R. Guillet; approx. 265p., 28 tables, 39 figures, 2 maps.

OFR5147 Mineral Exploration Assistance Program (MEAP), Fiscal Year 1974-75, by S.A. Ferguson, F.G. Da Silva and S.C. Sun; 73p., 2 figures, 7 appendices.

OFR5150 Preliminary Township and NTS Index to Ontario Geoscience Reports and Maps, 1975, 1201p. (microfiche only).

OFR5156 Gold Deposits of Ontario Part 2, Districts of Muskoka, Nipissing, Parry Sound, Sudbury, Timiskaming, part of Cochrane and Southern Ontario, by J.B. Gordon, H.L. Lovell and Jan de Grijs; approx. 700p., various figures and tables.

MP60 Annual Report of the Regional and Resident Geologists, 1974. Edited by E.G. Pye, Director, Geological Branch, 241p.

MP61 Mineral Deposit Studies, Mineral Potential Evaluation and Regional Planning in Ontario; by James A. Robertson, 42p.

MP63 Summary of Field Work, 1975, by the Geological Branch. Edited by V.G. Milne, D.F. Hewitt, K.D. Card and J.A. Robertson, 158p.

OTHER ONTARIO MINISTRY OF NATURAL RESOURCES PUBLICATIONS ISSUED IN 1975

MPBP 1 The Impact of Taxation and Environmental Controls on the Ontario Mining Industry by G. Anders, W.P. Gram and S.C. Maurice; 197p. Published by the Mineral Resources Branch.

1974 Review Ontario Mineral Review 1974, 124p.

Paper 73-1 Oil and Gas Exploration Drilling and Production Summary, 1973; Petroleum Resources Section, 118p. (published 1975).