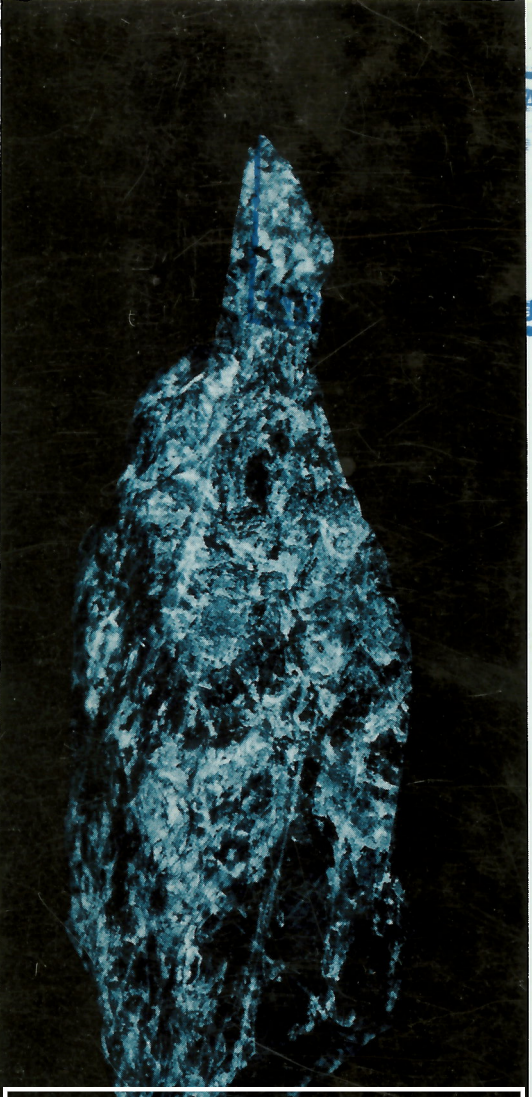

GEOLOGICAL SURVEY OF CANADA · 1842 ·

Rock and Mineral Collecting in Canada

Ann P. Sabina

Volume III

New Brunswick
Nova Scotia
Prince Edward Island
Newfoundland

Rock and Mineral Collecting in Canada

Volume III

NEW BRUNSWICK
NOVA SCOTIA
PRINCE EDWARD ISLAND
NEWFOUNDLAND

Ann P. Sabina

MISCELLANEOUS REPORT 8

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Cover—Labradorite from St. Paul Island, Labrador.

Mineral specimens illustrated in the text are from the National Mineral Collection

INTRODUCTION

In recent years mineral collecting has captured the interest of an increasingly large group of amateur mineralogists or 'rockhounds'. This publication has been prepared to assist them by providing a list of known mineral occurrences which are believed to be of particular interest. Included are localities which have been known to furnish material suitable for the lapidary arts and those which have yielded unusual or especially fine specimens.

Each mineral occurrence is followed by a brief description of the deposit together with precise location and how to reach it; in some cases, a map indicating the locality is included. Where there are several occurrences within a reasonably short distance, they are grouped into convenient collecting areas.

In most cases, the only map required to reach the collecting sites is a road map. For those who wish to use a topographical map, the name and number (National Topographic Series) of the appropriate map or maps are indicated for each collecting area. Unless otherwise stated, these maps are issued by the Surveys and Mapping Branch, Department of Energy, Mines and Resources, Ottawa.

The subject matter of this publication is based on information derived from published reports, from personal visits to localities, and from discussions with geologists, mineralogists and collectors. Wherever possible these sources have been

acknowledged in the text. The assistance rendered by many colleagues in the Geological Survey is gratefully acknowledged. In particular, the author wishes to thank Dr. D. D. Hogarth, Department of Geology, University of Ottawa, for providing much information on collecting sites in Ontario and Quebec, and Mr. D. J. Wells of the Lapidary, Rock and Mineral Society of British Columbia for supplying a number of the map locations for British Columbia.

A Note on Canadian Gems

Although this country has never been regarded as a source of gem minerals, it has produced many popular ornamental stones of which perhaps the best known are labradorite and sodalite. The former is so typical of this country that it has been referred to as the 'gem of Canada'. Its potential as a gemstone was recognized soon after its discovery in 1770 on an island off the coast of Labrador. Today labradorite is quarried from a locality near the original occurrence. Sodalite from Princess Quarry at Bancroft, Ontario at one time had a considerable vogue for interior decorative work, but is now used mainly for jewelry.

Other minerals in this category are: jade (nephrite) from British Columbia; peristerite and amazonite from Ontario and Quebec; perthite and rose quartz from Ontario; and agate, chalcedony and jasper from various localities in British Columbia, Ontario and Nova Scotia. These minerals provide much of the material for amateur gem-cutters today.

Exploitation of Canada's mineral resources for ornamental purposes is now largely in the hands of the amateur collector

and gem-cutter. The extent to which this has become an industry is indicated by the rise in the number of commercial outlets for the sale of mineral and rock specimens, hand-crafted jewelry and *objets d'art*, and lapidary equipment. Whereas at one time such specialty shops were mainly in tourist areas, they may now be found in a number of cities and towns in nearly every province.

Becoming Acquainted with Minerals

Although it is possible to learn about rocks and minerals without the benefit of a formal course in the geological sciences, the advantages gained by taking a short course in geology or mineralogy should be seriously considered. Courses on prospecting, elementary mineralogy, general geology, etc. are offered in various centres by Provincial Government agencies, by Universities and other interested groups.

For additional reading, the amateur mineralogist or novice may choose from a number of books written specially for him; a list of such publications is given in Appendix I. A necessary supplement to reading is the practical knowledge gained by handling actual specimens and by studying rocks and minerals in their natural surroundings, in mines, quarries and outcrops.

Because many collectors enjoy the association of others having similar interests, they form organized groups or clubs to study and to collect rocks and minerals. One advantage of joining such a group is that it usually has a field leader who is acquainted with local deposits and collecting areas. A list of amateur mineral clubs is given in Appendix II.

Where to Look

Quarries, mine workings (pits, trenches, etc.), and mine dumps are usually good places to search for minerals, also road and railway cuts; rock exposures along cliffs and along the shores of sea, lake and stream; land-slide areas in the mountains; and beaches and stream beds. Shafts and tunnels in old abandoned mines are often unsafe and should only be visited with extreme caution.

Permission should be sought before entering a mine, quarry or other private property; in active mining areas arrangements for the visit should be made with the operators well in advance.

Tools and General Equipment

Outdoor clothing such as worn for hiking and hunting is suitable for mineral excursions. Shoes or boots should be of a type to furnish a good secure grip on rocks, and should be sufficiently comfortable for long hikes. You may require heavier clothing or an extra sweater when visiting some mines where the temperature remains fairly low even on a warm day.

Safety goggles, such as those worn by skiers, should be worn when chipping rock or trimming specimens.

Insect repellent is essential when collecting in some areas, particularly in the spring and early summer.

The essential tool for removing specimens is the geological hammer. A chisel-edged hammer is useful for trimming and shaping specimens; the pointed pick type is useful for prying

loose rock and for removing moss and overburden, though for this purpose some may prefer a prospector's grub-hoe or a shovel. A two-pound hammer is suitable for most purposes. Where delicate crystals are to be preserved in a specimen, fewer blows with a heavier hammer and a chisel may lessen the possibility of shattering. A rock chisel is necessary for separating specimens from larger rock masses. To pry apart large slabs of rock, a wrecking bar should be used. Other equipment might include a gold-pan, an ultra-violet lamp and a Geiger counter.

Most collectors bring a few aids to assist in identification of minerals in the field. The most important are a small hand lens with magnification of about 10X and some means of testing for hardness, such as a pocket knife. Other items which are often useful are a magnet, a streak plate, and a vial containing dilute hydrochloric acid. If you wish to make a record of the occurrence, include a notebook and pencil and a camera.

Care of Specimens

Trim your specimens to a reasonable size as you collect them, wrap them individually in newspaper or tissue and take them home in cloth sample bags. These can easily be made or purchased from a supplier. Careful packing will prevent disappointments; take special care with crystals, as they are so easily ruined in transit. It is a good idea to put field labels giving locality information with each collection as it is wrapped. Details are easily forgotten on a busy collecting trip. Wash the specimens with detergent and water when you get

home; do not use stiff brushes on soft minerals. A few minerals dissolve in water and should be washed with alcohol. Label the specimens before final storage; if you use open cardboard trays, labels can go with the specimens. Some collectors paint a small area of white enamel on the specimen and write an index number on it with black ink. This number can be recorded in a book or card file with the name, locality and any other information you may wish to keep.

As your collection grows you may want to arrange it in a systematic manner. Many collections are organized according to Dana's system of mineralogy (see Bibliography). Simpler arrangements could be made based on locality, crystal structure or any other method you might care to devise.

Collecting in Canada

Within reason there are few restrictions on amateur rock and mineral collecting by Canadians or visitors in Canada. The rights of mine and property owners should be observed at all times. There are regulations concerning the removal of natural history specimens from the National Parks. For further information, write to the Superintendent of the park concerned or to the Director, National Parks Branch, Department of Indian Affairs and Northern Development, Ottawa, Canada.

Mineral and Rock Sets

To assist the amateur mineralogist and student in identifying and recognizing rocks and minerals, the Geological Survey

of Canada makes available three sets of specimens. The sets consist of: (1) 35 common minerals at two dollars per set; (2) 35 rock chips at two dollars per set; (3) 120 specimens representing the raw materials of Canada's mineral industry at twenty-five dollars. These sets can be shipped only to addresses in Canada; orders should be sent to the Director, Geological Survey of Canada, Ottawa.

ABBREVIATIONS USED IN REFERENCES

Am. J. Sci.—The American Journal of Science.

Am. Mineralogist—The American Mineralogist (Mineralogical Society of America.)

B.C. Dept. Mines, Bull.—British Columbia Department of Mines, Bulletin.

Bull. C.I.M.M.—The Canadian Mining and Metallurgical Bulletin. (Canadian Institute of Mining and Metallurgy).

Bull. Mus. Comp. Zool., Harvard Coll., Geol. Ser.—Bulletin of the Museum of Comparative Zoology, Harvard College, Geological Series.

Can. Field Naturalist—The Canadian Field Naturalist.

Can. Min. Ind.—The Canadian Mineral Industry, Department of Mines and Technical Surveys.

Can. Mining J.—The Canadian Mining Journal.

Can. Mining Rev.—The Canadian Mining Review.

Can. Rockhound—The Canadian Rockhound, Bulletin of the Lapidary and Mineral Society of British Columbia.

Dept. Geol., Princeton Univ.—Department of Geology, Princeton University, Princeton, New Jersey.

Dept. Geol. Sci., McGill Univ.—Department of Geological Sciences, McGill University, Montreal.

B.C. Min. Mines, Ann. Rept.—Annual Report of the Minister of Mines, British Columbia.

Bull. G.S.A.—Bulletin of the Geological Society of America.

Dept. Geol., Univ. West. Ont.—Department of Geology, University of Western Ontario, London, Ontario.

Econ. Geol.—Economic Geology and the Bulletin of the Society of Economic Geologists.

Gems and Precious Stones of N. Amer.—Gems and Precious Stones of North America by G. F. Kunz (The Scientific Publishing Company, New York, 1890).

Gemstones of N. Amer.—Gemstones of North America by John Sinkankas (D. Van Nostrand Company, Inc., 1959).

Geol. Can. Indust. Min. Dep.—The Geology of Canadian Industrial Mineral Deposits, 6th Commonwealth Mining and Metallurgical Congress, 1957.

GSC, Ann. Rept. (New Ser.)—Geological Survey of Canada, Annual Report, New Series.

GSC, Bull.—Geological Survey of Canada, Bulletin.

GSC, Internat. Geol. Congr. Guide Books—Geological Survey of Canada, Guide Books for the 12th International Geological Congress.

GSC, Mem.—Geological Survey of Canada, Memoir.

GSC, Min. Res. Bull.—Geological Survey of Canada, Mineral Resources Bulletin.

GSC, Mus., Bull. Geol. Ser.—Geological Survey of Canada, Museum Bulletin, Geological Series.

GSC, Paper—Geological Survey of Canada, Paper.

GSC, Rept. Prog.—Geological Survey of Canada, Report of Progress.

GSC, Sum. Rept.—Geological Survey of Canada, Summary Report.

Guidebook, G.S.A. and G.A.C.—Geological Society of America and Geological Association of Canada Guidebook for Field Trips in Ontario (1953).

J. Can. Mining Inst.—The Journal of the Canadian Mining Institute.

J. Gemm.—The Journal of Gemmology and Proceedings of the Gemmological Association of Great Britain.

Lapidary J.—The Lapidary Journal.

Man. Dept. Mines—The Manitoba Department of Mines and Natural Resources, Mines Branch Publication.

Mem. Am. Acad. Arts, Sci.—Memoirs of the American Academy of Arts and Sciences (Boston).

Mineral Collecting, E. Ont.—Mineral Collecting in Eastern Ontario by Beecher B. Woods and Lance B. Woods (Private publication).

Mining Ind. Que.—The Mining Industry of the Province of Quebec.

Mines Br., Mem. Ser.—Department of Mines and Technical Surveys, Mines Branch, Memorandum Series.

Mines Br., Pub.—Department of Mines and Technical Surveys, Mines Branch Publication.

Mines Br. Rept.—Department of Mines and Technical Surveys, Mines Branch Report.

Mines Br. Sum. Rept.—Department of Mines and Technical Surveys, Mines Branch Summary Report.

N.B. Dept. Lands, Mines, Mining Sec.—New Brunswick Department of Lands and Mines, Mining Section.

Nfld. Dept. Mines, Res., Bull.—Newfoundland Department of Mines and Resources, Geological Section, Bulletin.

Nfld. Geol. Surv., Bull.—Newfoundland Geological Survey, Bulletin.

Nfld. Geol. Surv., Inf. Circ.—Province of Newfoundland, Department of Mines and Resources, Information Circular.

N.S. Dept. Mines, Ann. Rept.—Province of Nova Scotia, Department of Mines, Annual Report on Mines.

N.S. Dept. Mines, Mem.—Province of Nova Scotia, Department of Mines, Memoir.

N.S. Dept. Mines, Min. Geol. Guidebook—Nova Scotia Department of Mines, Mineral and Geological Guidebook.

Ont. Bur. Mines, Ann. Rept.—Ontario Bureau of Mines, Annual Report.

Ont. Dept. Mines, Ann. Rept.—Ontario Department of Mines, Annual Report.

Ont. Dept. Mines, Indust. Min. Circ.—Ontario Department of Mines, Industrial Mineral Circular.

Ottawa Field Naturalist—Transactions of the Ottawa Field-Naturalists' Club.

P.E.I. Dept. Ind. Nat. Res.—Department of Industry and Natural Resources, Province of Prince Edward Island.

Precambrian—Precambrian Mining in Canada, Journal of the Manitoba Chamber of Mines.

Proc. Geol. Assoc. Can.—Proceedings of the Geological Association of Canada.

Quart. Bull. Lap. Soc. B.C.—Quarterly Bulletin of the Lapidary, Rock and Mineral Society of British Columbia.

Que. Bur. Mines, Ann. Rept.—Annual Report of the Quebec Bureau of Mines.

Que. Dept. Mines, Geol. Rept.—Department of Mines, Province of Quebec, Geological Surveys Branch, Geological Report.

Que. Dept. Mines, Prel. Rept.—Department of Mines, Province of Quebec, Geological Surveys Branch, Preliminary Report.

Queen's Univ., Dept. Geol.—Queen's University, Department of Geology.

Sask. Dept. Min. Res.—Department of Mineral Resources, Mines Branch, Geology Division, Province of Saskatchewan.

Trans. C.I.M.M.—Transactions of the Canadian Institute of Mining and Metallurgy.

Trans. Mining Soc. N.S.—Transactions of the Mining Society of Nova Scotia.

Trans. Roy. Soc. Can.—Transactions of the Royal Society of Canada.

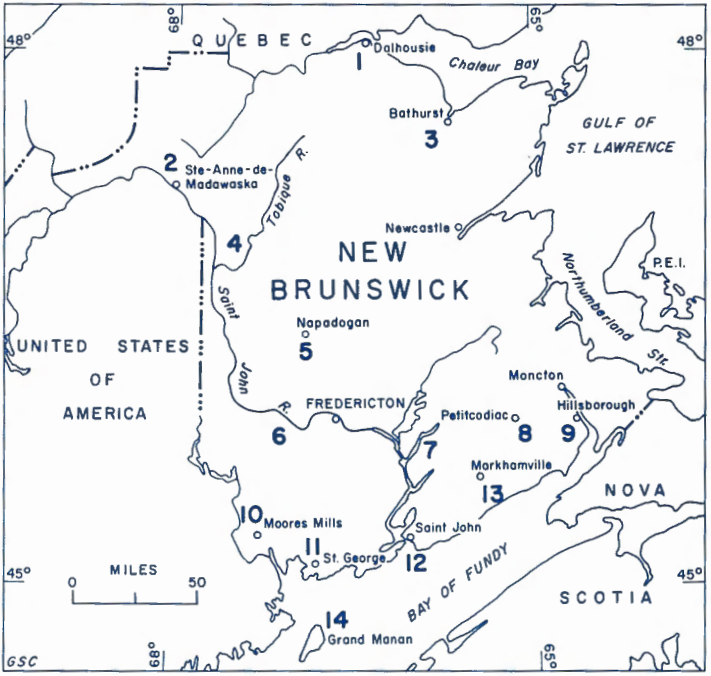
U.B.C., Dept. Geol.—University of British Columbia, Department of Geology.

Univ. Toronto, Dept. Geol.—University of Toronto, Department of Geology.

Univ. Toronto Studies, Geol. Ser.—University of Toronto Studies, Geological Series.

Western Homes—Western Homes and Living (The Mitchell Press Ltd., Vancouver).

NEW BRUNSWICK



ROCK AND MINERAL COLLECTING AREAS, NEW BRUNSWICK

1. Dalhousie Area
2. Ste. Anne de Madawaska
3. Bathurst Area
4. Tobique River
5. Napadogan
6. Lake George
7. Washademoak Lake
8. Petitcodiac
9. Hillsborough Area
10. St. Stephen Area
11. St. George
12. St. John
13. Markhamville
14. Grand Manan Island

1. DALHOUSIE AREA

(21 O/10 Upsalquitch Forks; 22 B/1 W Escuminac)

Agate, Zeolite

Agates, chalcedony, amethyst and zeolites occur in the trap rocks in the vicinity of Dalhousie, and in a large area along the Upsalquitch River about 7 miles above the forks.

References:
Ells, R. W: GSC, Rept. Prog., 1879-81, p. 39D.
Kunz, G. F.: GSC, Ann. Rept. (New Ser.), vol. 3, 1887-88, p. 71S.

2. STE. ANNE DE MADAWASKA

(21 N/1 E Ste. Anne de Madawaska)

Vivianite

Small quantities of vivianite occur in clay beds along the bank of the St. John River at a locality 4 miles above Grand River and about 2 miles from Ste. Anne de Madawaska village.

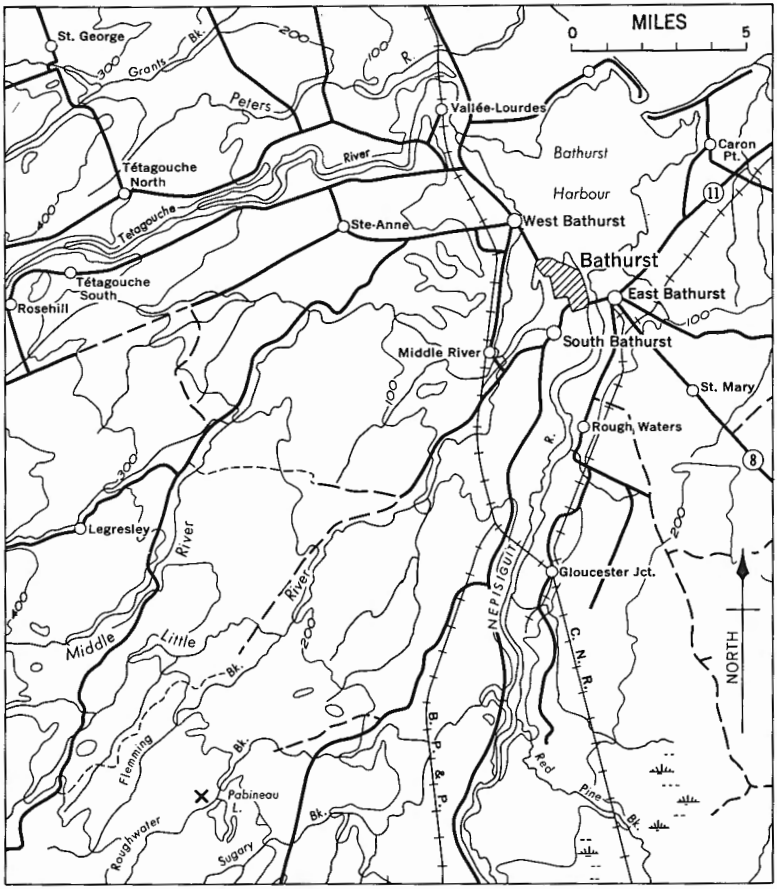
Reference:
Bailey, L. W.: GSC, Ann. Rept. (New Ser.), vol. 10, 1897, p. 18M.

3. BATHURST AREA

(21 O/8 E California Lake; 21 P/12 E, W Bathurst)

Molybdenite Mine

Green beryl crystals occur with quartz and molybdenite in granite at former molybdenite workings near Pabineau Lake. The crystals measure up to 3 inches long and ¼ inch in diameter. Molybdenite occurs in flakes and crystals. Topaz crystals are reported from the deposit.



Collecting locality . . ×

PABINEAU LAKE AREA: Molybdenite mine.

The deposit was worked briefly for molybdenite in 1933 and 1939. It lies about ½ mile northwest of Pabineau (Pigeon) Lake, and about 10 miles southwest of Bathurst.

Proceed south from Bathurst along the Little River road for a distance of 5 miles to Carrol's farm. The motor road ends here. Follow the portage route for 2½ miles to the point where it crosses the Little River. Just south of this point, a trail leads east to the pits, a distance of about 3½ miles.

References:

Alcock, F. J.: GSC, Mem. 227, 1941, pp. 39-40.

Wright, W. J.: N.B. Dept. Lands, Mines, Mining Sec., Paper 40-1, 1940, p. 3.

Tetagouche Falls, Manganese

Manganite and pyrolusite occur as veinlets up to ½ inch thick in quartz and in red argillite. Concretions measuring up to ½ inch by 4 inches are composed of black amorphous manganese oxides and of white manganese silicate (possibly rhodonite). Numerous pits and trenches expose the deposit along both banks of the Tetagouche River above and below the falls. From Highway 11 at a point 2 miles north of Bathurst, proceed along the South Tetagouche road for 7.2 miles; turn right and proceed 0.1 mile to the falls.

Reference:

Wright, W. J.: N.B. Dept. Lands, Mines, Mining Sec., Paper 50-3, 1950, pp. 18-19.

Heath Steele Mines Limited

The orebody consists of arsenopyrite, magnetite, pyrite, pyrrhotite, sphalerite, chalcopyrite, galena, tennantite-tetrahedrite, bismuthinite, marcasite, hematite, graphite, chalcocite, covellite, and some native silver. The minerals are associated with quartz, chlorite and carbonate in porphyry and sericitic schist. The mine is being worked for lead, zinc and copper; it was opened in 1957. Access is by a 35-mile road leading northwest from Newcastle.

74279—2½

Reference:
Dechow, E.: Econ. Geol., vol. 55, 1960, pp. 539-556.

4. TOBIQUE RIVER AREA

(21 J/14 W Plaster Rock)

Gypsum

Fibrous and granular gypsum in shades of grey, red, green and white, occurs in the vicinity of Plaster Rock. The formation, consisting of gypsum interbedded with shale, is exposed in steep cliffs on the south side of Tobique River both up and down the river from the town. A similar outcrop extends along the Wapskehegan River for a distance of 4 miles from its junction with the Tobique River, 1 mile below Plaster Rock. A few quarries have been worked in the area.

Reference:
Cole, L. H.: Mines Br., Pub. No. 714, 1930, p. 22.

Agate, Jasper

Agates, chalcedony, jasper and carnelian are reported to occur in the gravels of the Tobique River.

Reference:
Kunz, G. F.: GSC, Ann. Rept. (New Ser.), vol. 3, 1887-88, pp. 71S, 72S.

5. NAPADOGAN AREA

(21 J/10 W Hayesville)

Burnt Hill Tungsten Mine

A number of minerals are associated with this deposit. The ore is wolframite. It occurs as individual thin-bladed crystals up to 2 inches across, and as clusters of crystals in veins with quartz. The cleavage faces gleam like mica, but the weathered surfaces are earthy brown.

Cassiterite is associated with the wolframite. Topaz and quartz are the most abundant minerals. The former is massive or in aggregates of prismatic crystals with individuals up to 1 inch across. Colours range from white, straw-yellow, yellow, smoky, dull green to aquamarine. Some gem quality topaz has been found. Crystals of topaz and of quartz line vugs in quartz veins; the crystals are often coated with small black cassiterite crystals measuring up to ¼ inch across. The quartz crystals reach dimensions of ¾ inch by 1 to 2 inches. Beryl occurs as pale green radiating crystals with individuals commonly ¼ inch wide and 2 inches long. Both crystalline and massive apatite are present; some of it fluoresces deep yellow. Massive and crystalline fluorite occurs in a variety of colours including pink, purple, blue, white, yellow and green. Sometimes two different colours are present in the same crystal. Some are coated with pyrite and prochlorite. The pink fluorite (chlorophane) fluoresces bright green. Crystals of prochlorite commonly form around beryl and topaz crystals. Other minerals associated with the deposit are arsenopyrite, molybdenite, galena, native bismuth, calcite, sphalerite, chalcopyrite, and pyrrhotite. The country rocks consist of schists, phyllites, quartzites and quartz-biotite rocks.

The deposit was discovered in 1868 and was staked for molybdenite in 1908. It was worked briefly for wolframite in 1915-16 by Acadia Tungsten Mines Limited after which it was inactive until 1953 when Burnt Hill Tungsten Mines Limited resumed operations.

The mine lies near the junction of Burnt Hill Brook and the Southwest Miramichi River, on the north slope of a hill which rises 650 feet above the south bank of the river. It is 10 miles northeast of Napadogan. Access to the mine is by a very rough road of about 16 miles which leads north from Maple Grove.

References:

Victor, Iris: Econ. Geol., vol. 52, No. 2, 1957, pp. 149-168.

Wright, W. J.: N. B. Dept. Mines, Lands, Mining Sec., Paper 40-2, 1940, pp. 2-3, 7.

6. LAKE GEORGE

(21 G/14 E Canterbury)

Lake George Antimony Mine

Fine specimens of native antimony have been obtained from the old mine near Lake George. The native antimony is associated with stibnite in quartz veins which measure up to 6 feet in width. Stibnite is in veinlets or in masses up to 15 inches across. Kermesite, senarmonite and cervantite are associated with the ore. The country rocks are slate and quartzite.

The deposit was discovered in 1863 and was worked intermittently until World War I. It is situated north of Lake George village. Leave Highway No. 2 at a point 3½ miles west of Longs Creek and proceed south for a distance of 3 miles to Lake George village. Take the sawmill road leading northwest from the village and follow the road for about ¼ mile. The mine is near the road and can be seen from it.

Reference:

Wilson, A. W. G.: Mines Br., Pub. No. 421, 1915, pp. 29-32.

7. WASHADEMOAK LAKE AREA

(21 G Fredericton; 21 H Amherst)

Agate, Jasper

Agate, chalcedony, carnelian and jasper occur in irregular layers and concretionary masses in red sandstone and shale on the shores of Washademoak Lake. The chalcedonic quartz is particularly abundant

between Belyea and Taft coves where it forms nodules and layers measuring up to 2 feet thick. Colours range from white, cream, pink to dark red.

Carnelian, chalcedony, hornstone, jasper and quartz crystals are reported from the Washademoak River, on the southeast side of a small cove, a few miles above the mouth of the river.

References:

Marsh, O. C.: Am. J. Sci., 2nd Ser., vol. 35, No. 104, 1863, p. 213.
Parks, Wm. A.: Mines Br., Pub. No. 203, 1914, p. 213.

Zeolite

Zeolites, including reddish heulandite occur in cavities in amygdaloidal rocks at Hampstead.

Reference:

Bailey, L. W. and Matthew, G. F.: GSC, Rept. Prog. 1870-71, p. 239.

8. PETITCODIAC

(21 H/14 E Petitcodiac)

Selenite

Selenite is especially abundant in the gypsum outcrops along Fawcett Brook, about 2½ miles northwest of Petitcodiac Station. The gypsum is grey to white, granular or massive. The fibrous variety is common. Selenite crystals are scattered throughout the deposit, and a vein of coarse selenite, about 8 feet wide, traverses the massive gypsum.

References:

Bailey, L. W.: GSC, Ann. Rept. (New Ser.), vol. 10, 1897, p. 99M.
Cole, L. H.: Mines Br., Pub. No. 714, 1930, p. 24.

9. HILLSBOROUGH AREA

(21 H/10 E Alma; 21 H/15 Hillsborough; 21 H/16 W Amherst)

Hillsborough, Gypsum

Most of the gypsum is of the massive crystalline variety in shades of white to grey and, less commonly, pink. Transparent colourless to grey selenite crystals are often present. The gypsum beds overlie beds of anhydrite and crystalline limestone.

Material suitable for decorative purposes has been obtained from the old Sayres quarry. Included in this group are: fine-grained pink and white mottled gypsum; colourless to white alabaster; fine-grained bluish anhydrite traversed by seams and stringers of white gypsum; crenulated gypsum consisting of white and grey crumpled bands. The rare mineral inyoite was found as well-developed, white translucent crystals in veins and cavities with selenite in greyish-white massive gypsum at the Whitehead quarry.

The deposits have furnished material for plaster and wallboard since 1847. The quarries, now operated by the Canadian Gypsum Company Limited, are situated about 2 miles southwest of Hillsborough. The active quarries are not accessible for collecting; numerous road-cuts in the area furnish representative specimens.

References:

Cole, L. H.: Mines Br., Pub. No. 714, 1930, pp. 25-29.
Parks, W. A.: Mines. Br., Pub. No. 203, 1914, pp. 193-196.
Poitevin, E. and Ellsworth, H. V.: GSC, Mus. Bull. No. 32, Geol. Ser. 39, 1921, pp. 1-2.
Zaskalicky, M. F.: Geol. Can. Indust. Min. Dep., 1957, pp. 120-121.

New Horton Copper Mine

Chalcocite, the most abundant mineral, occurs as intergrowths with fibres of fossil plants and as veins and specks in grey sandstone. Covellite, azurite and chalcopyrite are associated with it, and malachite is conspicuous on weathered specimens.

The deposit was explored in 1898 and was then known as the Vernon mine. It was worked again in about 1930. It is on the west side of the Albert-New Horton road at a point 5½ miles south of Albert.

Reference:
Wright, W. J.: N.B. Dept. Lands, Mines, Mines Br., Paper 51-2, 1951, pp. 4-15.

Albertite Mine

Albertite associated with shale is found in an abandoned mine 1 mile northwest of Albert Mines' village from which it is accessible by a gravel road.

Lumsden Mine

Chalcopyrite, tennantite, sphalerite, galena and pyrite occur in a quartz-carbonate gangue in chlorite and talcose schist. Access is by the Crooked Creek road leading northwest from Albert for about 11 miles; the last 2 miles of the road may be impassable to automobiles with low clearance.

Reference:
Norman, G. W. H.: GSC, Map 647A, 1941.

"Pink Rocks" Gypsum

White to pink and grey massive gypsum is associated with anhydrite in the exposures along the shores of the southwestern peninsula of Westmorland County. The peninsula juts out into Chignecto Bay and terminates at Cape Maringouin. The locality is known locally as "Pink Rocks" because of the pink colour of the gypsum beds. It is 13 miles by road south of Dorchester (via Dorchester Cape); the last 2 miles of the road is inaccessible to motor vehicles.

Reference:
Cole, L. H.: Mines Br., Pub. No. 714, 1930, pp. 24-25.

10. ST. STEPHEN AREA

(21 G/6 E, W Rolling Dam; 21 G/7 W McDougall Lake)

Staurolite

The mica schists in the vicinity of Moores Mills carry large crystals of staurolite associated with small, dark red garnet crystals. Andalusite occurs as pale flesh-red crystals measuring up to ½ inch in diameter and 2 inches long in schists near the staurolite-garnet-mica schists. Black tourmaline crystals occur in quartz veins cutting the mica schists.

Mica schists containing staurolite crystals outcrop at the following localities: southeast of Basswood Ridge; on the east side of Moore Lake; east of Gallop Stream; along the road, west of Central Tower Hill; along the road, near Lower Tower Hill. The positions of the outcrops are indicated on the map.

References:

Bailey, L. W. and Matthew, G. F.: GSC, Rept. Prog. 1870-71, pp. 239-240.
MacKenzie, G. S.: N.B. Dept. Lands, Mines, Mining Sec., 1940, pp. 7-12.

St. Stephen Nickel Mine

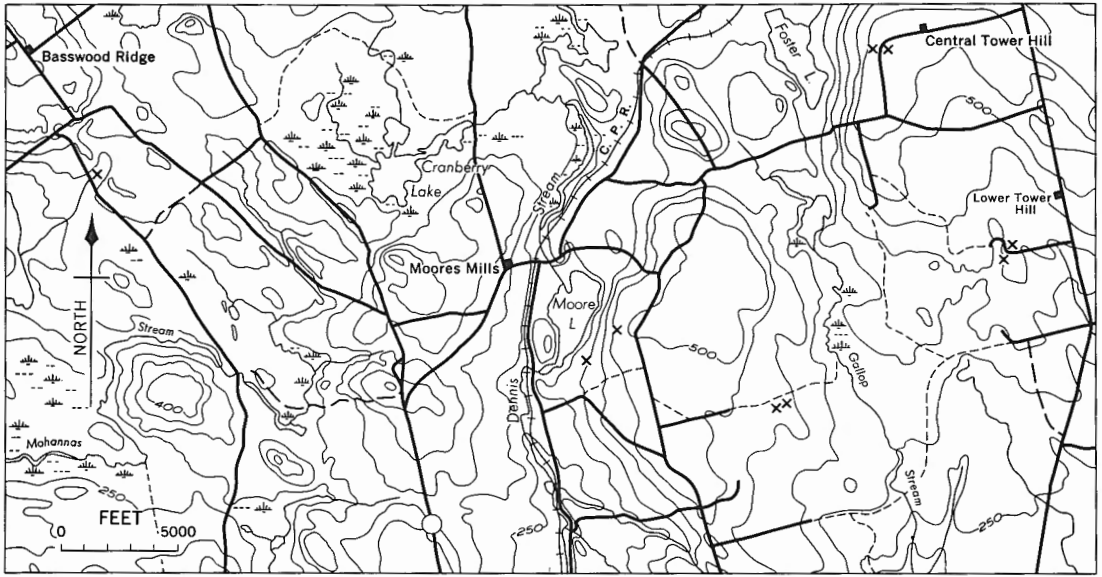
The ore mineral, pyrrhotite, occurs with chalcopyrite in massive form and as disseminations in gabbro. The mine was opened in about 1930; it is not active at present. From the junction of Highways No. 1 and No. 3, proceed 0.8 mile north along Highway No. 3; turn left onto Hall road, continuing for 0.8 mile; turn right and continue for 0.3 mile to a fork; follow the left fork for 0.4 mile to the mine.

Reference:

MacKenzie, G. S.: N.B. Dept. Lands, Mines, Mining Sec., 1940, pp. 26-27.

Mount Pleasant Mines Limited

The ore occurs in veinlets or as disseminations in volcanic rocks including porphyry, breccia and silicified tuff. It consists of: wolframite, cassiterite, arsenopyrite, and molybdenite with small amounts of native bismuth in fluorite-topaz greisen; cassiterite aggregates, occasionally



MOORES MILLS AREA: Staurolite.

with arsenopyrite, stannite and chalcopyrite in a quartz-fluorite gangue; cassiterite with stannite, sphalerite, chalcopyrite, arsenopyrite, pyrite, marcasite, pyrrhotite, tetrahedrite-tennantite, galena and glaucodot in a gangue of quartz, chlorite, fluorite and siderite; sphalerite, galena and siderite in a quartz-fluorite gangue. The fluorite in the gangue is green, colourless or purple. Well-formed, transparent blue fluorite crystals are found in kaolin.

The mine, opened in 1962, is reached via the Rollingdam-Pleasant Ridge-Pomeroy bridge road. The mine office is at St. Andrews.

Reference:

Hosking, K. F. G.: Precambrian, vol. 36, No. 4, 1963, pp. 20-29.

11. ST. GEORGE AREA

(21 G/2 W St. George; 21 G/3 E St. Stephen)

'Black Granite' Quarry

A fine- to medium-grained diorite consisting mainly of labradorite and augite, with smaller amounts of hornblende and magnetite is exposed at a quarry northwest of Bocabec Bay. The rock takes an excellent polish and has been used as a monumental stone. It is commercially known as a 'black granite'.

The quarry is on the side of a hill, north of Stein Lake. It is accessible by a 2-mile road north from Highway No. 1 at a point 4¾ miles west of the bridge at Bocabec village. The quarry is on the east side of the road and up the hillside.

Reference:

Parks, Wm. A.: Mines Br., Pub. No. 203, 1914, pp. 145-149.

Native Copper

Native copper and tetrahedrite have been found in pockets in the trap rocks at Clark Point in Passamaquoddy Bay, south of St. George.

Reference:
Bailey, L. W.: GSC, Ann. Rept. (New Ser.), vol. X, 1897, p. 24M.

Granite Quarry

Red granite, used locally for monument and building stone, is exposed in an old quarry at the side of a hill north of St. George. To reach it, proceed north for 1.4 miles from Highway No. 1 (at the intersection of the Deer Island ferry road in St. George) to a fork; continue along the right fork for 1.6 miles to the quarry.

Galena

Masses of pure galena, as large as a barrel, are reported to occur in a vein on a small island in the Magaguadavic River, ½ mile below the town of St. George.

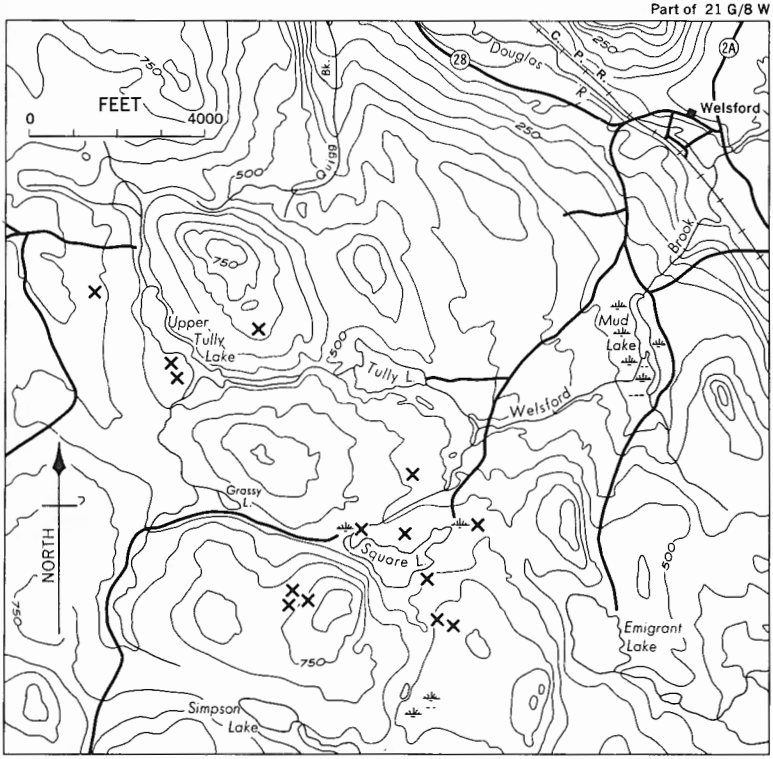
Reference:
Bailey, L. W.: GSC, Ann. Rept. (New Ser.), vol. X, 1899, p. 34M.

12. ST. JOHN AREA

(21 G/1 E Musquash; 21 G/8 E, W St. John; 21 G/9 E Hampstead; 21 H/4 W Cape Spencer; 21 H/5 E, W Loch Lomond)

Square Lake, Tungsten

Topaz, wolframite and molybdenite occur in quartz veins and in greenish greisen in the vicinity of Tully and Square lakes. Crystals of wolframite and molybdenite are found in the quartz veins. Other minerals associated with the deposit include bismuthinite, native bismuth, specularite, arsenopyrite, pyrrhotite, chalcopyrite, pyrite, galena and green fluorite. The deposit is exposed by several small pits. Topaz has been reported from the openings located to the southeast and



ST. JOHN AREA: Square Lake tungsten deposits.

southwest of Square Lake, and in pits on the west shore of Upper Tully Lake, and in the pit east of Upper Tully Lake. In the pit which lies farthest south from the southeastern end of Square Lake, zoned quartz crystals in colours grading from white to shades of yellow, were found in association with amber fluorite, topaz, specularite and molybdenite in granite.

The deposit lies about 2 miles south of Welsford, to which it is connected by a rough road. The positions of the pits are shown on the map.

Reference:

Wright, W. J.: N.B. Dept. Lands, Mines, Mining Sec. Paper 40-3, 1949.

Agates, Jasper

Agates, amethyst, chalcedony, carnelian and jasper have been reported in the lavas on the west side of Little Dipper Harbour which is immediately west of Chance Harbour, and at Darling Lake. Jasper occurs along the north shore of Belleisle Bay.

References:

Kunz, G. F.: GSC, Ann. Rept. (New Ser.), vol. III, 1887-88, pp. 71S, 72S.
Sinkankas, J.: Gemstones of N. Amer., p. 319.

Zoisite

Pink zoisite occurs in veins with hornblende asbestos and epidote along the shoreline outcrops at Sheldon Point. The zoisite is in fibrous masses. Deep red calcite is found in veins at the same locality. Sheldon Point is on the west side of St. John Harbour, just below Dutch Cove.

Reference:

Bailey, L. W. and Matthew, G. F.: GSC, Rept. Prog., 1870-71, pp. 227, 238, 240.

Snowflake Lime Limited Quarry

Deep green massive serpentine is associated with grey limestone. The quarry is at the northeast end of St. John, 1.2 miles north along

Somerset Street from Highway No. 2 (at junction of Somerset and Barker streets). The company office is at St. John.

Specularite

Bluish specular hematite occurs in veins up to 1 inch wide in sedimentary and volcanic rocks exposed along the coast from Cape Spencer past West Beach to Black River.

Reference:
Alcock, F. J.: GSC Mem. 216, 1938, p. 48.

Calcite, Gypsum

Large rhombohedrons of calcite fill crevices in the conglomerates at Goose Creek, near Martin Head, and fibrous gypsum occurs in greyish white massive gypsum and in beds of marl along the shore at Martin Head.

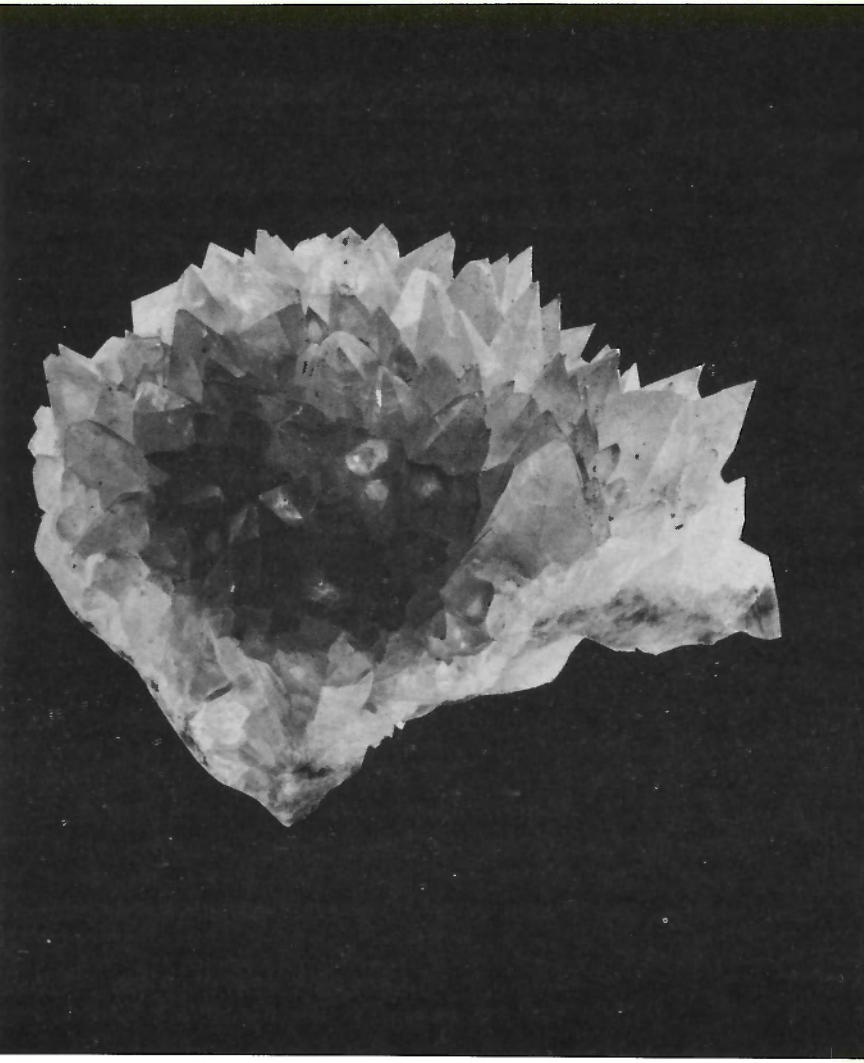
References:
Bailey, L. W. and Matthew, G. F.: GSC, Rept. Prog. 1870-71, p. 237.
Cole, L. H.: Mines Br., Pub. No. 714, 1930, p. 23.

Quaco Head, Manganese, Fossils

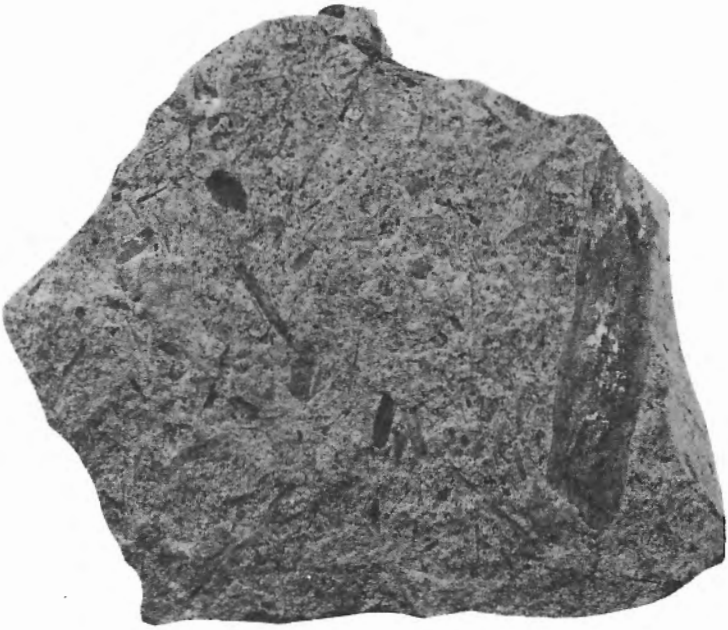
Psilomelane, pyrolusite, manganite, barite and calcite were found as nodular masses up to 2 inches across, and as small veins in conglomerate and limestone along the foot of a shoreline cliff in a small bay about ¼ mile north of the Quaco Head lighthouse. The deposit was worked at intervals between 1870 and 1889. It is about 2½ miles south of St. Martins village.

Fossil tree trunks are reported to occur along the contact of sandstone and trap at Quaco Head.

References:
Alcock, F. J.: GSC, Mem. 216, 1940, pp. 48-49.
Gesner, A.: Geological Survey of New Brunswick, 2nd Rept., 1840, p. 15.



Calcite crystals (dogtooth spar) on barite from Five Islands, locality 8, New Brunswick.



Copper-bearing fossil plants in sandstone from the New Horton mine, locality 9, New Brunswick.

Crenulated gypsum from Hillsborough, locality 9, New Brunswick. The specimen on the right has been faulted.

Scolecite in basalt, Seven Days Work, Grand Manan, locality 14, New Brunswick.

Fluorite crystals from the Mount Pleasant mine, locality 10, New Brunswick.

13. MARKHAMVILLE

(21 H/11 Waterford)

Markhamville Manganese Mine

Beautiful crystals of pearl-spar (dolomite) were found with calcite, barite, goethite and pyrolusite at the old Markhamville manganese mine. Crystalline and massive pyrolusite is associated with calcite veins which cut grey, pink or buff limestone. Other minerals found at the deposit are manganite, hausmannite, bornite, and hematite.

Manganese was discovered at this property in 1862; it was worked intermittently until 1895. The workings consisted of many open-pits and underground passages. The mine is on the property of Mr. H. Scott in Markhamville village, 9 miles south of Sussex.

References:

Bailey, L. W. and Matthew, G. F.: GSC, Rept. Prog., 1870-71, p. 237.
Hanson, G.: GSC, Econ. Geol. Ser., No. 12, 1932, pp. 87-90.

14. GRAND MANAN ISLAND

(21 B/10 Grand Manan; 21 B/15 E, W Campobello)

A number of minerals occur in the rocks exposed along the shores of Grand Manan Island. On the west side of the island, basalt rocks containing amygdules filled with quartz, calcite and agates, form cliffs 400 feet high. Chalcedony, agates, amethyst and jasper have been found in the basalt rocks between Northern Head and Dark Harbour. Several varieties of zeolites, including stilbite, heulandite, natrolite, scolecite, analcite and apophyllite, occur in cavities in the trap rocks along the western shore of the island, and along the east side from Whale Cove to Northern Head. Scattered nodules and irregular stringers or patches of native copper are associated with the same rocks; they are especially abundant in the vicinity of Southwest Head in the southern part of the

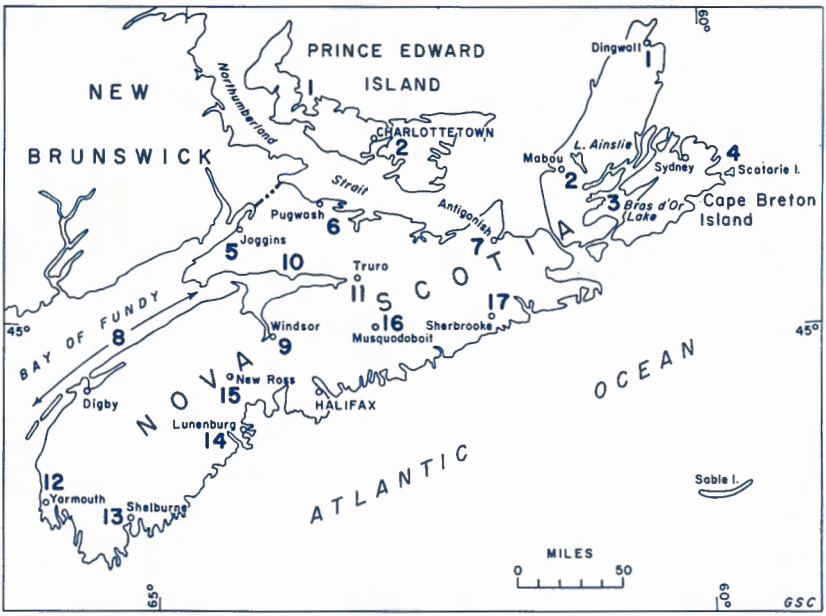
island. Semi-opal, heulandite, laumontite and stilbite have been reported from Whale Cove. Barite occurs in veins, 1 to 4 feet wide, cutting limestone north of the Swallow Tail light, near North Head.

The only road leading to the west side of the island is the Castalia-Dark Harbour road. Southwest Head, Northern Head, and Whale Cove are accessible by good paved or gravel roads.

References:

Alcock, F. J.: GSC, Map 965A, 1946.
Bailey, L. W. and Matthew, G. F.: GSC, Rept. Prog. 1870-71, pp. 237, 239.
Bailey, L. W.: GSC, Ann. Rept. (New Ser.), vol. 10, 1897, pp. 19-20M.
Kunz, G. F.: GSC, Ann. Rept. (New Ser.), vol. 3, 1887-88, p. 73S.
Marsh, O. C.: Am. J. Sci., 2nd Ser., vol. 35, No. 104, 1863, p. 212.

NOVA SCOTIA
and
PRINCE EDWARD ISLAND



ROCK AND MINERAL COLLECTING AREAS, NOVA SCOTIA AND PRINCE EDWARD ISLAND

Nova Scotia

1. Dingwall, Cape Breton Island
2. Mabou Harbour–Lake Ainslie area, Cape Breton Island
3. Bras d'Or Lake area, Cape Breton Island
4. Scatarie Island
5. Joggins
6. Pugwash
7. Antigonish
8. Bay of Fundy
9. Windsor
10. Five Islands
11. Truro
12. Yarmouth
13. Shelburne
14. Lunenburg
15. New Ross
16. Musquodoboit–Moose River
17. Sherbrooke

Prince Edward Island

1. George Island
2. Orwell Point

NOVA SCOTIA

1. DINGWALL, CAPE BRETON ISLAND

(11 K/16 W Dingwall)

North Gypsum Quarry

Howlite and ulexite were found in gypsum along the north face of the west side of the North quarry. The howlite occurred as nodules measuring 1 to 6 centimetres across. The nodules were partly replaced by yellowish-brown calcite, leaving white howlite only in the core. A few small crystals of howlite in association with calcite were noted in cavities. The ulexite formed shiny white irregular patches along joint planes. Anhydrite occurs with gypsum in dark limestone.

The quarry, formerly operated by the National Gypsum Company, is situated approximately ½ mile south of the village of Dingwall.

Reference:

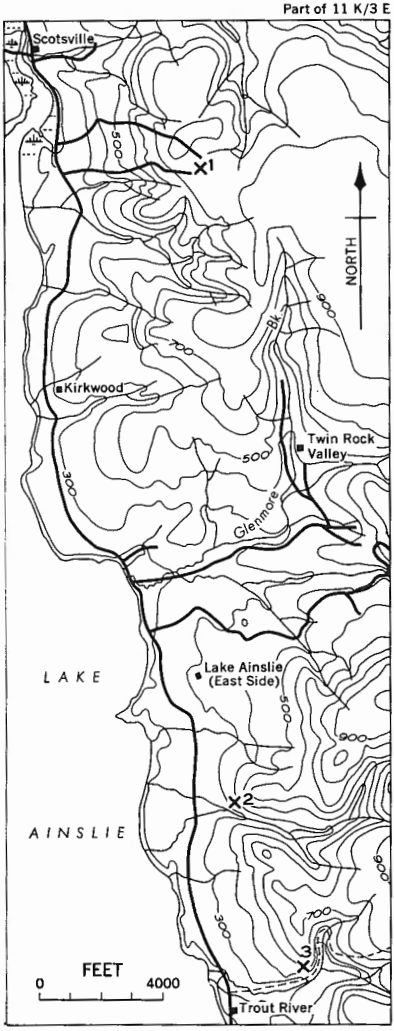
Goodman, N. R.: N. S. Dept. Mines, Mem. No. 1, 1952, pp. 13-15, 48.

2. MABOU HARBOUR-LAKE AINSLIE AREA, CAPE BRETON ISLAND

(11 K/3 W Lake Ainslie; 11 K/4 E Port Hood)

Selenite

Selenite crystals measuring ½ inch or more in diameter are reported to occur in a fine-grained gypsum matrix exposed along the shore north of Mabou Harbour and at Hood Island. Large rosettes of selenite, an inch or more across occur in gypsum exposures between Coal Mine Point and Finlay Point and north toward Cape Mabou. In the cove between Beaton and Green points, about ½ mile from the latter, selenite was observed in the form of coarse-grained aggregates.



LAKE AINSLIE AREA, CAPE BRETON:
1. Scotsville mine;
2. East Lake Ainslie deposit;
3. Trout River mine.

Gypsum is exposed along the north and west sides of Hood Island. Some large crystals of selenite are reported from the exposures along the northern shores of the island.

Reference:

Norman, G. W. H.: GSC, Mem. 177, 1935, pp. 72-74.

Lake Ainslie, Barite

Barite was formerly worked at three localities on the east side of Lake Ainslie. Mining operations commenced in 1894 at the Trout River deposit, followed by activity on the East Lake Ainslie (1903) and Scotsville (1905) deposits. The mines have been idle since World War I. The East Lake Ainslie mine was the scene of most of the activity, while the Scotsville deposit yielded the best quality barite.

The barite ore is greyish, pinkish or white and is usually associated with fluorite or calcite in veins cutting red rhyolite. It occurs as crystalline masses which are particularly coarse at the Trout River mine. At this deposit, large-bladed crystals are associated with coarsely crystalline calcite and with pale green fluorite, the latter often filling interstices between drusy barite crystals.

The locations of the deposits are as follows:

Scotsville Mine—The pits are on top of a ridge overlooking the head of the northeast arm of Lake Ainslie at a point 1 mile from the lake and ½ mile north of Cobb Brook.

East Lake Ainslie deposit—The deposit lies on the northwest side of Burnt Hill and north of a brook. Three properties have been worked: the McMillan, near the summit; the McDougal, halfway down the slope; the Campbell, near the foot. The deposit is about 500 yards east of the Scotsville-Trout River road, at a point ¾ mile south of East Side Lake Ainslie village.

Trout River Mine—The workings consist of pits and open-cuts on the south slope of a ridge, east of Trout River village.

References:

Norman, G. W. H.: GSC, Mem. 177, 1935, pp. 66-67.

Spence, H. S.: Mines Br., Pub. No. 570, 1922, pp. 23-29.

3. BRAS D'OR LAKE AREA, CAPE BRETON ISLAND

(11 F/14 E Whycocomagh; 11 F/15 E, W Grand Narrows; 11 K/1 W Sydney; 11 K/8 W Bras d'Or)

Marble Mountain, Limestone Quarry

Some of the crystalline limestone at this quarry is reported to be suitable for ornamental purposes, including pure white marble, a blue and white clouded marble and a salmon or flesh-coloured variegated variety. Some of the minerals reported from the quarry are olivine, serpentine, quartz and lime silicates.

The quarry is at Marble Mountain village, near the shore of the West Bay of Bras d'Or Lake.

References:

Guernsey, T. D.: GSC, Sum. Rept., pt. C, pp. 77-79.
Parks, W. A.: Mines Br., Pub. No. 203, 1914, pp. 175-180.

Steatite

Massive cream-coloured steatite occurs in veins measuring up to 12 inches wide in dolomite; small pits expose the deposit on the north side of Bridgend Brook in the vicinity of Fraser's mill near Whycocomagh, and on the south side of the brook at Soapstone mine, about 3½ miles west of Whycocomagh.

Reference:

Spence, H. S.: Mines Br., Pub. No. 803, 1940, p. 101.

Little Narrows, Gypsum

The gypsum is commonly the compact white variety associated with dark limestone and sometimes with blue-grey anhydrite. In some of the quarries it is mottled by brown limestone. At the Magazine quarry, the gypsum beds contain crystals of clear, dark-coloured gypsum, interbedded with dark fossiliferous limestone beds. At the other quarries in the area the gypsum is mostly the white or mottled variety and is associated with anhydrite.

The quarries are southeast of Little Narrows village. The quarry road leaves the main road leading east from Little Narrows at a point 1½ miles from the village. The first quarry reached is the Magazine quarry, on the east side of the road; the Thompson quarry is about 1,000 feet south and on the west side of the road; other quarries are about 3,000 feet farther south.

The only active deposits are those operated by the Little Narrows Gypsum Company Limited.

References:

Goodman, N. R.: N. S. Dept. Mines, Mem. No. 1, 1952, pp. 21-26.
Reeves, J. E.: Can. Min. Ind., Rev. 36, 1959, p. 5.

Iona, Danburite

A rare occurrence of danburite has been reported from anhydrite-limestone exposures in cliffs along the shore of Bras d'Or Lake approximately 2 miles southwest of Iona. The danburite occurs as small nodules disseminated through anhydrite rock, and in anhydrite veins. In the latter, it is white and resembles unglazed porcelain; it forms botryoidal masses several inches across.

The anhydrite rock is composed mostly of dark grey, fine-grained anhydrite with thin beds and irregular patches of dark limestone. White gypsum occurs at the western end of the exposure.

Reference:

Goodman, N. R.: N.S. Dept. Mines, Mem. No. 1, 1952, pp. 28-29.

Fossil Trees

A bed of fossil trees is exposed on the north shore of Boularderie Island at a locality about one mile southwest of Point Aconi. This occurrence is similar to the Joggins occurrence except that the trees are not as large; they are about 5 feet high and about 18 inches in diameter.

Reference:

Personal communication: M. J. Copeland.

George River

Serpentine, talc, mica, tremolite, graphite, galena, hematite, magnetite and other minerals occur in a band of crystalline limestone and dolomite exposed in the gorge of the George River, a short distance above the railway at Scotch Lake station.

Reference:

Parks, W. A.: Mines Br., Pub. No. 203, 1914, p. 181.

Scotch Lake Limestone Quarry

Crystalline limestone was formerly quarried for flux at Scotch Lake by the Dominion Coal and Steel Company. Two types of marble have been described: one is a fine-grained white matrix with pink and green clouds and veins; the other is a medium-grained white marble containing dots of yellow serpentine. A beautiful banded serpentine, varying in colour from bright yellow to olive-green and bluish green occurs at the quarry.

From the turn-off to George River on Highway 5, proceed south-west for 6¼ miles; turn right and continue ¼ mile to the quarry.

Reference:

Parks, W. A.: Mines Br., Pub. No. 203, 1914, pp. 181-182.

Eskasoni, Marble

Marble specimens from Eskasoni were exhibited at the Paris Exhibition of 1900 where they were awarded diplomas. The marbles take a very good polish and include: (1) a medium- to fine-grained crystalline limestone having a finely clouded white and blue appearance with green lines and dots throughout; (2) a medium- to fine-grained crystalline limestone interbanded with yellow serpentine; (3) a marble composed of a fine-grained, light sea-green matrix clouded and banded with pink and darker green; (4) similar to (3) but with a whiter base and yellow, lavender and green clouds.

The deposit has been exposed by trenches and pits, now mostly overgrown, at the top of a hill which rises 600 feet above Bras d'Or Lake (East Bay), near Eskasoni. At the time the openings were made, the property was held by Messrs. Bown and Harrington of Eskasoni.

Reference:

Parks, W. A.: Mines Br., Pub. No. 203, 1914, pp. 183-185.

Placer Gold

Gold has been recovered from alluvium in the northeast branch of the Margaree River, from the Middle River and from L'Abime Brook. At about 1867, mining operations were conducted in the vicinity of McLennan's bridge in the Middle River.

Reference:

Malcolm, W.: GSC, Mem. 156, 1929, pp. 221-222, 228.

4. SCATARIE ISLAND

(11 J/4 E, W Glace Bay)

Ornamental Rock (Felsite Breccia)

A very beautiful felsite breccia is exposed along the north shore of Scatarie Island, eastward from the western light. A polished block is on display at the Provincial Museum in Halifax.

The breccias are of two varieties differing mainly in the predominant colour of the matrix; one is deep red, the other is green. Both varieties contain small angular and sub-rounded pebbles in a variety of bright colours. Their beauty is sometimes enhanced by blotches of milk-white quartz.

Reference:

Parks, W. A.: Mines Br., Pub. No. 203, 1914, pp. 203-205.

5. JOGGINS

(21 H/9 W River Hebert)

Fossil Trees

Fossil trees occur in cliffs along the shoreline above and below Joggins. The rocks containing them are interbedded shales and sandstones with occasional coal seams; the trees stand vertically to the strata. These fossil trees are sandstone casts showing none of the original structure. Sometimes small amphibians can be found preserved in their roots. The trees reach a height of about 35 feet and a diameter of about 24 inches. A fossil tree exhibit from this locality is on display at the National Museum of Canada at Ottawa.

The fossil trees occur most abundantly at Coalmine Point, about 1,500 feet north of the wharf at Joggins. The trees are exposed for a distance of about ⅔ mile north of the point.

Reference:

Personal communication: M. J. Copeland.

6. PUGWASH

(11 E/13 E Pugwash)

Carboniferous Limestone Quarry

Peculiar concretions composed of dense, reddish brown limestone occur in a red shaly matrix at this abandoned quarry. The concretions, up to 2 inches across, are partly or completely filled with colourless calcite crystals. Crystals of calcite and dolomite also line vugs in the grey and blue-grey limestone.

The quarry is on the northeast side of Dewar's Hill about 200 yards west of Pugwash Inner Harbour and was operated by the Nova Scotia Government (Highways and Agriculture departments). It is 3 miles by road southwest of Pugwash. Leave Highway No. 6 at a point 1¾ miles

west of the bridge at Pugwash, and proceed south for a distance of 1.4 miles. The openings are on both sides of the road.

Reference:
Goudge, M. F.: Mines Br., Pub. No. 742, 1934, pp. 51-55.

7. ANTIGONISH HARBOUR

(11 F/12 W Antigonish)

Gypsum

Beds of gypsum in contact with limestone are exposed at several places along the shores of Antigonish, Pomquet and Tracadie harbours. On the coast, north of Ogden Pond, a highly contorted gypsum and a dark limestone form cliffs. The gypsum occurs as orange selenite, white fibrous gypsum veins, or as gypsum porphyroblasts. In the cliffs at Monk Head, white fibrous gypsum occurs in veins traversing white to dark grey gypsum.

Massive gypsum has been quarried on the west side of Antigonish Harbour. It varies from a mottled cream-white to grey-white and, in some places, is pure white. The quarry, now abandoned, is ½ mile west of the Antigonish-Crystal Cliffs highway, 1¾ miles north of the bridge over the North River.

References:
Goodman, N. R.: N. S. Dept. Mines, Mem. No. 1, 1952, pp. 37-40.
Cole, L. H.: Mines Br., Pub. No. 714, 1930, p. 14.

8. BAY OF FUNDY

(21 A Annapolis; 21 B East Port; 21 H Amherst)

The Bay of Fundy region, for a long time regarded as a mineral collector's paradise, furnishes some of the best collecting localities to be found anywhere in Canada. The basalt rocks which form most of the

shoreline from Brier Island to Cape Blomidon and part of the shoreline from Cape d'Or to Five Islands, contain a number of different minerals, but are particularly noted for the abundance and variety of the quartz family minerals and the zeolites. These minerals occupy amygdaloidal cavities or fill veins in the rock; sometimes they are found in boulders or as pebbles along the beaches. Good specimens can be found in almost any part of the shoreline where the basalt rocks are exposed. As a guide to the type of minerals the collector may encounter, brief descriptions are given of those localities which in the past have yielded an abundance of fine specimens.

Most of the collecting can be done by walking along the shoreline at low tide; however, at some of the places in the vicinity of Cape Split and Cape Blomidon, a boat is the easiest means of access. Boat trips may be arranged at Parrsboro for the Cape Blomidon area and for Two Islands, and at Five Islands village for the Five Islands. The best time of year to collect is in the late spring after fresh rock fragments have been released by the winter frost action.

Some of the localities are as follows:

Brier Island—Native copper and red jasper.

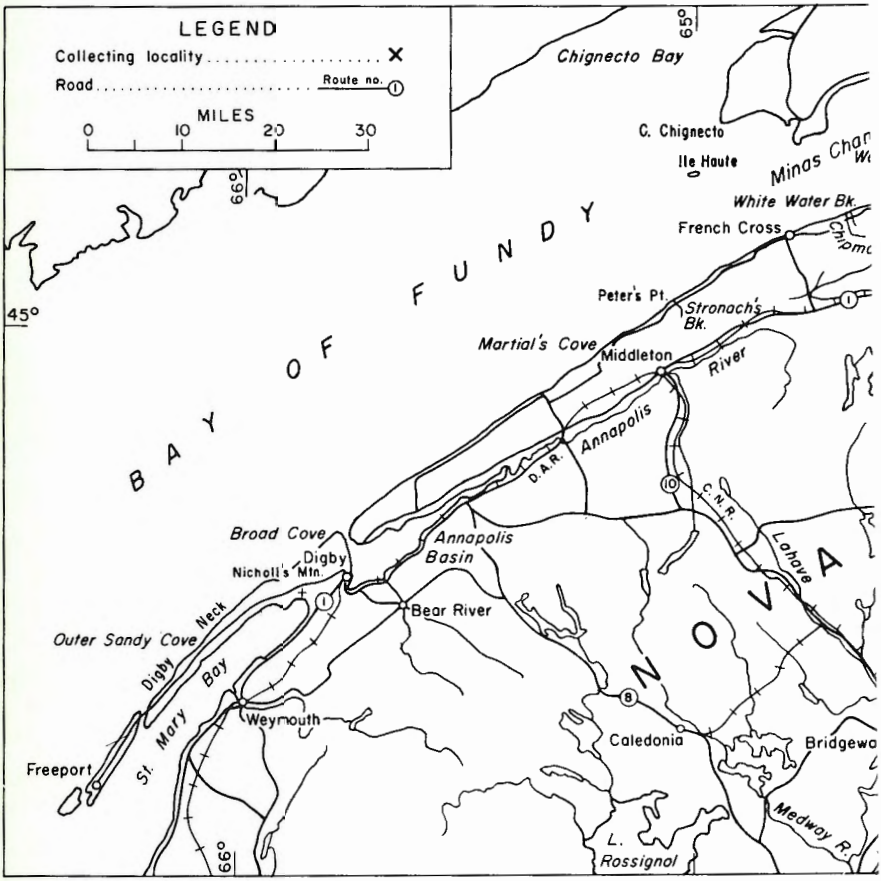
Long Island—Leek-green chlorite in radiating laminae filling cavities, and veins of red jasper in the basalt at the northeastern point of the island.

Petit Passage—Loose boulders containing crystals of rock crystal; agate in veins along the cliffs.

Mink Cove—Red, yellow, and banded jasper in veins up to 1 foot wide; crystals of quartz, amethyst and chabazite lining cavities in jasper veins.

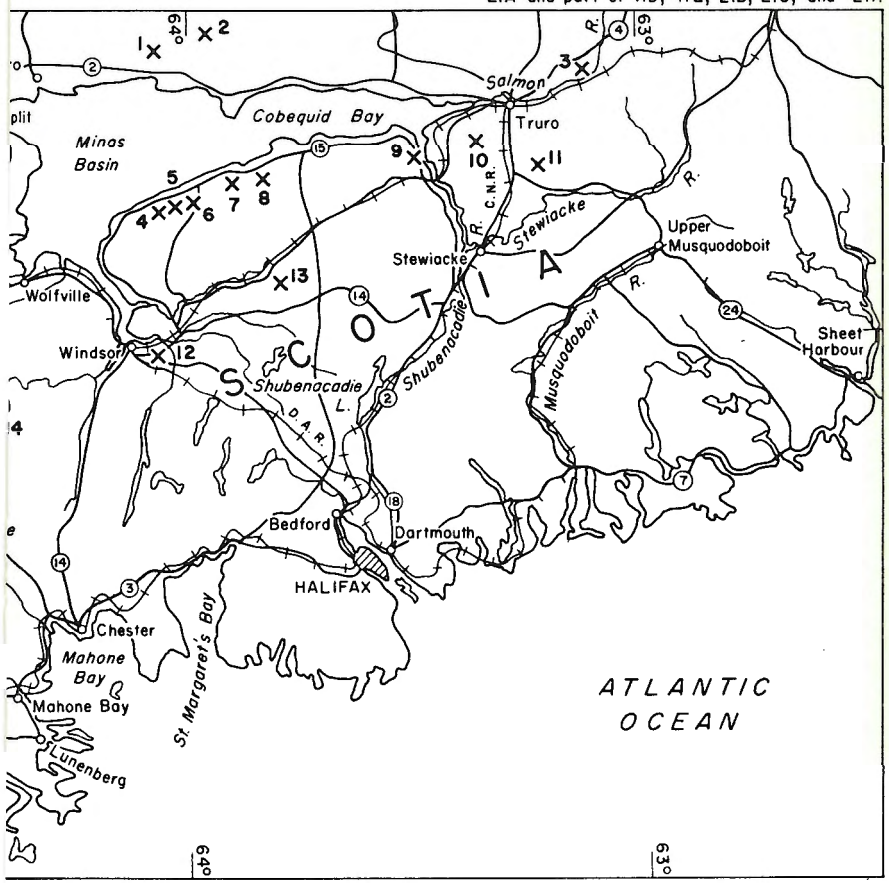
Sandy Cove—Nodules and geodes containing quartz crystals, specularite, chabazite and chalcedony; colourless, transparent crystals of laumontite associated with calcite and specularite. Calcite from this locality is reported to be phosphorescent. Excellent, museum-type specimens of specularite were obtained from a place 1 mile to the east of the cove.

Outer Sandy Cove—Jasper, quartz, amethyst and agate in large veins.



BAY OF FUNDY AREA: 1. Duncan mine; 2. West Economy River, specularite; 3. East Mountain mine; 4. Magnet Cove mine; 5. Stephens mine; 6. Walton gypsum deposits; 7. Tennycape mine; 8. Faulkner mine; 9. Stephens gypsum deposit; 10. Shell-limestone quarry; 11. Brookfield barite mine; 12. Windsor gypsum deposits; 13. West Gore antimony mine; 14. Dean Chapter Lake manganese mines; 15. New Ross pegmatite deposit.

21A and part of 11D, 11E, 21B, 21G, and 21H



Trout Cove—Translucent blue chalcedony; jasper and carnelian; agate in veins measuring up to 3 inches wide.

Titus Hill, at the base, near the shore of St. Mary's Bay—Large masses of red jasper, sometimes banded, and containing cavities lined with quartz crystals.

Waterford, at the old Johnson iron mine—This mine was worked prior to 1895 for magnetite. The host rock is basalt similar to the rock forming the shoreline. Specimens obtained from the deposit include: stilbite of unusual forms and colours associated with crystals of heulandite; rock crystal individually and in clusters; magnetite in octahedral crystals. Loose blocks consisting chiefly of agate, chalcedony and jasper in trap rock were found on the hillsides near the Johnson mine.

Rossway, at Nicholl's mine (4 miles east of the Johnson mine)—This deposit was formerly worked for magnetite, and is reported to have yielded some very beautiful specimens, including: geodes containing amethyst crystals, or amethyst in association with calcite and zeolites; rock crystal in doubly-terminated individual crystals, and in clusters of crystals, some of which are opaque and pure white; magnetite crystals; red and yellow jasper; agate and stilbite.

Nicholl's Mountain, south side—Amethyst and magnetite.

Williams Brook, near its source—Milky quartz veins containing cavities lined with heulandite, stilbite, cacholong and quartz crystals. This brook flows southeastward into St. Mary's Bay.

St. Mary's Bay beach—Geodes and nodules containing rock crystal and amethyst crystals; agate pebbles.

Gulliver Cove—White stilbite; quartz crystals, jasper; agate; chalcedony.

Broad Cove—Thomsonite.

Prim Point, near the lighthouse—Chalcedony; jasper; agate.

Digby Gut—Thomsonite associated with analcite, or more rarely, with natrolite.

Granville—Carnelian.

Annapolis River, in the vicinity of Paradise Brook—Granite boulders containing large crystals of smoky quartz were found embedded in the alluvium of the river banks; one crystal weighed 100 pounds.

North Mountains—Amethyst; bloodstone (rare); quartz; thomsonite; mesolite.

Chute Cove (at Hampton)—Heulandite; analcite; natrolite; heliotrope; apophyllite (very fine specimens); mordenite (as beach pebbles).

St. Croix Cove—Chabazite; heulandite.

Martial's Cove—Colourless and reddish transparent heulandite crystals in veins; analcite, green-tinted or with a malachite coating; chabazite.

Hanly (Hadley) Mountain.—Deep green to black chlorite; heulandite.

Gate's Mountain—Globular masses of thomsonite associated with stilbite, analcite and natrolite; mesolite, magnetite. This 'mountain' lies near Hanly mountain; both rise to about 300 feet above the water level.

Port George—Faroelite (variety of thomsonite); laumontite; mesolite; stilbite; apophyllite containing gyrolite.

Margaretsville—Apophyllite; gyrolite; stilbite; epistilbite; scolecite; native copper; mordenite. In a bluff ½ mile east of Margaretsville, crystals of laumontite were found in association with natrolite.

Peter's Point, west side of Stronach's Brook—Laumontite associated with calcite crystals; very fine specimens of greenish white apophyllite; stilbite; heulandite; natrolite; analcite; jasper veins containing cavities lined with heulandite; geodes lined with chalcedony and heulandite; native copper. Laumontite is reported to be abundant at this locality.

Morden—Mordenite; stilbite; apophyllite. The mineral mordenite derives its name from this place which was one of the original localities, the other one being Margaretsville.

Long Point—Heulandite; laumontite; stilbite.

French Cross—Colourless, transparent heulandite associated with stilbite and analcite in jasper veins; and lining botryoidal chalcedony and geodiferous quartz; laumontite; mesotype.

Black Rock—Centrallasite; cerinite (gyrolite?); dog-tooth spar; cyanolite (gyrolite ?). Prehnite and stilbite were noted at a locality a few miles east of Black Rock. In the reddish basalt midway between Murray Brook and Black Rock, specimens of mordenite in finely radiated fibrous masses (up to 1 inch in diameter) were obtained.

Mesolite from the Bay of Fundy, locality 8, Nova Scotia.

Chipman Brook to White Water Brook—Mordenite as beach pebbles.
Halls Harbour—Stilbite; mordenite pebbles; sphaerostilbite (variety thomsonite).
Woodworth Cove—Agate; chalcedony; jasper; rutile.
Scots (Scotsman) Bay—Rutilated quartz; agate including very fine specimens of moss agate; chalcedony; mesolite; natrolite.
Cape Split to Cape Blomidon—The shoreline between these two capes is one of the most prolific and popular collecting areas in the Bay of Fundy region. About midway between the capes, lies Amethyst Cove which has yielded some of the finest quality amethyst specimens in Nova Scotia. Exceptionally large geodes containing rock crystal were found at Cape Split. Other minerals reported to occur in the area are: Apophyllite (sometimes in geodes with amethyst), analcite, natrolite, steeleite (variety of mordenite), chabazite, gmelinite, heulandite, laumontite, mesolite, stilbite, thomsonite (sometimes red banded with green), faroelite, louisite, quartz crystals, jasper, hornstone, blue chalcedony, bloodstone, carnelian, agate (including moss agate) calcite crystals, white gypsum (fibrous and granular), selenite, specularite, magnetite crystals, native copper, psilomelane and malachite.
Isle Haute, south side—Analcite; apophyllite; heulandite; mesolite; natrolite; stilbite; calcite crystals.
Cape d'Or—Laumontite; apophyllite; chabazite; analcite, sometimes coated with malachite; faroelite; mesolite; natrolite; native copper; obsidian; cuprite (rare); vivianite (rare); calcite crystals; red and yellow jasper.
Horseshoe Cove—Analcite; stilbite; calcite crystals; red and yellow jasper pebbles.
Spencer Island—Specularite crystals and crystal aggregates; clear quartz crystals; ribbon jasper.
Cape Sharp—Deep violet amethyst in geodes and vugs.
Partridge Island—Flesh-red to straw-yellow stilbite with calcite in veins; colourless to orange-yellow chabazite; analcite; heulandite; apophyllite; amethyst (for which the island was particularly noted); agate; cat's eye chalcedony (rare); wax-yellow opal nodules (rare); cacholong; jasper, green apatite crystals; gypsum; calcite crystals; hematite and magnetite.

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Clarke Head—Dark green prehnite; hematite. Calcite, gypsum, heulandite and pyrite were noted along the shoreline from Clarke Head to Swan Creek.

Swan Creek—Chabazite crystals; analcite crystals with native copper inclusions; moss agate.

Wasson Bluff, east side—Analcite, apophyllite (rare); chabazite (acadialite); heulandite; natrolite; calcite; gypsum; siliceous sinter.

Two Islands (The Brothers)—Gmelinite; analcite, chabazite; heulandite; stilbite; heliotrope; moss agate; calcite; native copper.

McKay Head—Cherry-red and violet siliceous sinter replacing amethyst and rock crystal; analcite; heulandite; calcite.

Pinnacle Island (at western end of the Five Islands group)—Analcite; chabazite; natrolite; siliceous sinter; calcite.

References:

Bailey, L. W.: GSC, Ann. Rept. (New Ser.), vol. 9, 1896, pp. 144-147M.
Field, D. S. M.: J. Gemm., vol. 1, No. 5, 1948, pp. 20-30.
Jackson, C. T. and Alger, F.: Mem. Am. Acad. Arts, Sci., vol. 1, 1833, pp. 217-330.
Robinson, A. H. A.: Mines Br., Pub. No. 579, 1922, p. 45.
Walker, T. L. and Parsons, A. L.: Univ. Toronto, Geol. Ser., No. 16, 1923, pp. 10-12.
N. S. Dept. Mines, Min. and Geol. Guidebook, 1948, pp. 127-132.

9. WINDSOR AREA

(11 E/4 W Kennetcook; 11 E/5 W Bass River; 21 H/1 E Wolfville; 21 A/16 E Windsor)

Windsor, Gypsum

The most extensive gypsum deposits in the province are near Windsor. The gypsum is commonly the compact, massive, mottled cream-white or grey-white variety and is associated with anhydrite. Selenite as colourless to grey transparent crystals is embedded in the massive gypsum. Among the less common minerals reported from the deposits

are howlite, ulexite, cryptomorphite (ginorite), mirabilite and halite. The country rocks consist of shale and limestone.

The quarries at Wentworth and at Miller Creek are operated by the Fundy Gypsum Company Limited. For safety reasons, collecting is restricted to the inactive quarries. Representative specimens may be obtained from numerous road-cuts in the area, or from the Meadow quarry (Fundy Gypsum Company Limited) which is on the east side of the Meadow road at a point 0.3 mile south of its junction with Highway No. 15 which in turn is 1 mile east of the junction of Highways No. 1 and No. 15.

Cliff on St. Croix River

A stalactitic gypsum specimen was found in the southern end of the cliff which forms the east bank of the river about a mile north of Newport. The centre of the specimen is deep red due to iron-staining but the outside is colourless. It was located in a rock composed of light grey anhydrite mottled by dark limestone.

References:

Cole, L. H.: Mines Br., Pub. No. 714, 1930, pp. 16-20.
Goodman, N. R.: N. S. Dept. Mines, Mem. No. 1, 1952, pp. 42-44.
Hoffmann, G. S.: GSC, Ann. Rept. (New Ser.), vol. 4, 1888-89, pp. 38T, 63T, 64T.
Parks, W. A.: Mines Br., Pub. No. 203, 1914, pp. 196-197.
Reeves, J. E.: Can. Min. Ind., Rev. 36, 1959, p. 5.

Danburite

White danburite occurs as nodular aggregates in anhydrite in cliffs on the south shore of Minas Basin at White Head, Cheverie. The cliffs are composed of gypsum, light grey anhydrite and dark grey to black limestone. Lenticular calcite-anhydrite veins containing a small amount of purple fluorite cut the limestone beds.

Reference:

Goodman, N. R.: N.S. Dept. Mines, Mem. No. 1, 1952, pp. 44-45.

Cheverie, Pyrolusite, Calcite

Crystalline pyrolusite and manganite are associated with calcite in cavities and in veins measuring up to 4 inches wide in calcareous breccia exposed in the cliffs along the shore of Minas Basin at Cheverie. The calcite is commonly in long crystals perpendicular to the walls of the veins.

Reference:
Hanson, G.: GSC, Econ. Geol. Ser., No. 12, 1932, p. 51.

Fluorescent Calcite

Specimens of fluorescent calcite may be found in the rock exposed along the shores of Minas Basin from Cheverie to Walton. The calcite occurs as crystals in carboniferous conglomerate and as fine-grained matrix cementing pebbles in the conglomerate. It fluoresces a brilliant 'hot pink'.

Reference:
Personal communication: R. W. Boyle.

Magnet Cove, Barite Mine

This quarry has been in operation since 1941 and is the largest producer of ground barite in Canada. The barite is massive and fine grained; it varies from pinkish to reddish, or white to creamy coloured and includes grey-banded and mottled varieties. Some of the grey colouring may be due to the inclusion of bitumen or petroleum. White to yellowish barite exhibiting good prismatic crystal habit occurs near a sulphide zone; the crystal faces measure up to ½ inch in length. The sulphide zone includes pyrite, galena (some crystals), chalcopyrite, tennantite (some crystals), sphalerite (occasional crystals), proustite, gersdorffite and argentite. Other minerals reported from the deposit are hematite, siderite, dolomite, calcite, chlorite, pyrolusite, psilomelane, manganite and chalcocite. The country rocks consist of sedimentary rocks of the Horton and Windsor groups.

The deposit is operated by Magnet Cove Barium Corporation Limited and is about 2½ miles southwest of Walton. Access is by a gravel road, 1¼ miles long southwest from Highway No. 15 at a point 1 mile west of the bridge over the Walton River. Arrangements to visit the property should be made by writing to the company prior to the visit.

Reference:
Boyle, R. W.: Can. Mining J., vol. 83, No. 4, 1962, pp. 104-109.

Stephens Manganese Mine

Coarse crystals of calcite have been found lining fractures in limestone at the No. 8 shaft of the old Stephens mine. Good specimens of calcite crystal aggregates coated with crystalline pyrolusite (about ¼ inch thick) or with earthy pyrolusite were obtained from near the bottom of No. 8 shaft. This shaft and open-cut were at the eastern end of the workings, the second from the end. The openings and dumps are now overgrown. This deposit was worked intermittently from 1870 to 1907. It is 3,200 feet southwest of the bridge over the Walton River. Proceed west along Highway No. 15 for a distance of 0.4 mile from the bridge; turn left (south) and continue 0.2 mile. Take trail on right side of road and proceed about 600 yards to the dumps.

Reference:
Weeks, L. J.: GSC, Mem. 245, 1948, pp. 71-74.

Walton, Gypsum

Selenite, alabaster and satin spar are among the varieties of gypsum reported from the gypsum deposits in the vicinity of Walton. Other more common varieties include an impure, compact, scaly or granular variety, and an impure earthy or sandy type (gypsite). The gypsum beds are associated with dark grey anhydrite and limestone.

Quarrying has been conducted along the crest of a line of low, rounded hills to the east of Walton. The first quarry to be opened, the North quarry, lies about ¼ mile east of Walton (on the north side of the road). Later three other quarries were opened as mining operations

moved progressively east; they are known as the New quarry (immediately southeast of North Mountain and about ¾ mile east of Walton), the Phineas Mountain quarry (about 3,000 feet southeast of the New quarry), and Fry's Mountain quarry (about 1 mile east of the Phineas Mountain quarry). The only active quarries are the North and the Fry's Mountain; they are operated by National Gypsum (Canada) Limited.

References:

Goodman, N. R.: N.S. Dept. Mines, Mem. No. 1, 1952, pp. 45-46.
Stevenson, I. M.: GSC, Mem. 302, 1959, pp. 66-69.

Tennycape Manganese Mine

The pyrolusite from this deposit has been described as being "the most beautifully crystallized pyrolusite found in America" (Jennison, 1898). It occurs with minor amounts of manganite and psilomelane in association with calcite, barite, selenite and botryoidal masses of limonite. The ore forms lenses and blebs in limestone conglomerate, or fills fractures in shaly limestone.

The mine was opened in 1882 and became the province's largest producer of manganese ore in the period from 1880 to 1900. The workings consisted of a number of pits, shafts and open-cuts. The mine is reached by a road, about 1 mile long, which leads south from Highway No. 15 at a point 0.6 mile west of the highway bridge over the Tennycape River.

References:

Hanson, G.: GSC, Econ. Geol. Ser., No. 12, 1932, pp. 41-44.
Jennison, W. F.: J. Can. Mining Inst., vol. 3, 1898, p. 169.
Weeks, L. J.: GSC, Mem. 245, 1948, pp. 64-68.

Tennycape, Calcite, Manganese Minerals

Calcite crystals, some coated with hair-like manganite crystals, occupy vugs in sedimentary rocks exposed in the sea cliffs along the western shore of the Tennycape estuary. Magnetite, pyrolusite and psilomelane

occur as small pebble-like masses and as fine crystalline aggregates in the rocks. This locality is accessible only at low tide.

Reference:
Hanson, G.: GSC, Econ. Geol. Ser., No. 12, 1932, pp. 40-41.

Faulkner Manganese Mine

Among the notable specimens obtained from this mine are: pyrolusite crystals up to 1 inch long in association with dog-tooth spar in vugs, and well-crystallized manganite. They were found in the limestone rock in the dumps. Pyrolusite also occurs as earthy fillings in limestone conglomerate.

The deposit was worked in 1887 and again in 1907. It lies on the south slope of a ridge southwest of Minasville. To reach it, leave Highway No. 15 at Minasville and follow the road leading southwest (it approximately parallels the highway). This road is about 2 miles long. At the end of it a very poor wood road leads south about ¼ mile to the mine.

Reference:
Weeks, L. I.: GSC, Mem. 245, 1948, pp. 68-69.

West Gore, Antimony Mine

Native antimony and stibnite occur with gold, sphalerite and pyrite in fissure veins cutting black slate. White valentinite and orange kermesite form coatings on the ore.

The deposit was discovered in about 1880 and was worked at various periods from 1883 to 1939. During World War I it was the chief antimony producer in Canada. It is about a mile west of West Gore village. Proceed west from West Gore along the West Gore-Clarksville road for a distance of about ¼ mile to a fork; take the left fork continuing 0.6 mile to a junction; turn left (south) and proceed about 300 yards. The mine is on the right side of the road.

References:
Askwith, W. R.: Trans. Min. Soc. N.S., vol. 6, 1901, pp. 80-86.
Stevenson, I. M.: GSC, Mem. 302, 1959, pp. 42, 57-60.

Placer Gold

Gold has been reported from three of the rivers in the area: from the Avon River near Windsor, and from the Meander and Little Meander rivers.

References:
Malcolm, W.: GSC, Mem. 156, 1929, pp. 221, 222.
Stevenson, I. M.: GSC, Mem. 302, 1959, p. 54.

10. FIVE ISLANDS AREA

(11 E/5 W Bass River; 21 H/8 E Five Islands)

North River, Marble

A fine-grained white and greenish marble containing serpentine is reported to occur in the valley of the North River, 2 miles from its mouth at the village of Lower Five Islands.

Reference:
Goudge, M. F.: Mines Br., Pub. No. 742, p. 43, 1934.

Duncan Mine, Barite

This property, also known as the Eureka or Bass River mine was formerly worked for barite which occurs as masses of coarse tabular crystals, or as well-developed crystals lining cavities. The colour is commonly white, but may be stained reddish. The barite was found in association with calcite crystals and minor pyrite, chalcopyrite and specularite as veins and masses in slate and limestone.

The deposit was worked from 1866 to 1876 and briefly in 1908. The workings are on the slopes forming the banks of the Five Islands River, at a point 2 miles north of the village of Five Islands. The pits on the west bank are a little to the north of those on the east bank. The property is reached by a road (the Old Duncan road) which leads north along the Five Islands River from the village.

References:
Poole, H. S.: GSC, Min. Res. Bull. 953, 1904, pp. 15-16.
Spence, H. S.: Mines Br., Pub. No. 570, 1922, pp. 30-32.

West Economy River, Specularite

Specularite occurs in veinlets up to ½ inch wide in volcanic and sedimentary rocks on the west bank of the West Economy River at a point about ¼ mile above its junction with the Economy River. Some prospecting has been done on the deposit. It is about 7 miles north of Economy Village.

Reference:
Weeks, L. J.: GSC, Mem. 245, 1948, p. 61.

11. TRURO AREA

(11 E/6 E, W Truro)

Stephens, Gypsum

Fibrous gypsum occurs in veins measuring up to 18 inches wide in rock exposures extending for about 650 feet along the west bank of the Shubenacadie River. It is associated with a compact white gypsum in blue-red marls. The occurrence is about 200 yards east of Highway No. 15 at a point 17½ miles north of the junction of Highways No. 15 and No. 2 at Shubenacadie.

Reference:
Stevenson, I. M.: GSC, Mem. 297, 1958, p. 89.

Dolomitic Shell Limestone

An occurrence of the rare, dolomitic shell limestone has been reported from the area. The limestone is composed almost entirely of shells replaced by black, crystalline dolomite and cemented with the same material. Crystals of red calcite and of dolomite coat the cavities between and inside the shells. Some of the limestone consists of small

crinoid stems replaced by black crystalline dolomite and held together with a fine-grained dolomitic cement.

The deposit is exposed in a ridge near the roadside west of Hilden village. A small quarry was opened years ago. To reach it, leave Highway No. 2 at Hilden and proceed west for a distance of 3.2 miles. The quarry is on the west side of the road. Several small outcrops expose the limestone on the east side of the road. A similar deposit was worked near Admiral Rock.

References:

Goudge, M. F.: Mines Br., Pub. No. 742, 1934, pp. 44-45.
Stevenson, I. M.: GSC, Mem. 297, 1958, p. 100.

East Mountain Manganese Mine

Nodular pyrolusite and minor manganite occurs in limestone conglomerate. The deposit, discovered in 1897, was worked intermittently until 1941. It is 6½ miles northeast of Truro.

Leave Highway No. 4 at a point 4.4 miles east of its junction with Highway No. 11 at Truro and proceed south for 0.8 mile to a fork; take the left fork for 0.2 mile to Mrs. Daniel McMasters' farm where the deposit is located.

Reference:

Stevenson, I. M.: GSC, Mem. 297, 1958, pp. 104-108.

Brookfield, Barite

Coarsely crystalline pure white barite and brown siderite occur in fine-grained grey and red Horton shales. Some of the shales are brecciated and are cemented with these minerals. The barite has an excellent orthorhombic cleavage; the siderite has a well-developed rhombohedral cleavage.

The mine was worked sometime before 1891 and at various times between 1944 and 1951. It is on the slope of a hill overlooking Little River, about 2½ miles northeast of Brookfield and is reached as follows: leave Highway No. 2 at Brookfield and proceed east 0.9 mile; turn left (north) onto a gravel road and continue 1.8 miles to a fork; take the

left fork for 0.2 mile to another fork; take the left fork for 0.4 mile to the mine.

Reference:
Stevenson, I. M.: GSC, Mem. 297, 1958, pp. 71-76.

12. YARMOUTH AREA

(21 A/4 W Wentworth Lake; 21 O/16 E Yarmouth)

Chegoggin, Garnet

Crystals of garnet, about ¼ inch across, occur in biotite-hornblende schist in an overgrown pit located behind the silica quarry near Chegoggin Point. Leave Highway No. 1 at the Yarmouth horse fountain and proceed west 1.6 miles; turn left onto a gravel road continuing for 0.6 mile to a fork; follow the right fork for 1.7 miles to the old silica quarry on the right side of the road.

Reference:
Faribault, E. R.: GSC, Sum. Rept., 1919, pt. F, pp. 15-17.

Cream Pot Mine

Native gold has been found with arsenopyrite and galena in a quartz vein cutting green slate. The workings are now caved and overgrown but the vein can be observed along the shoreline cliff at low tide. The mine was worked intermittently from 1868 to 1903. It derived its name from the white foam produced by the churning of salt water waves against the indentations along the cliff where the vein is exposed.
To reach it, leave Highway No. 1 at the Yarmouth horse fountain and proceed west 1.6 miles to the junction of the gravel road; turn left and continue 0.6 mile to a fork; follow the right fork for 1 mile to a crossroad; turn right and proceed 1.8 miles to a fork; take the left fork for 0.6 mile to a farm where the deposit is located.

Reference:
Faribault, E. R.: GSC, Sum. Rept., 1919, pt. F, pp. 18-20.

Kemptville Gold Mine

The gold occurs in quartz veins cutting quartzite, slate and schist. The ore was discovered in 1881 and was worked at intervals until 1915. The mine is on the south side of Crawley Lake about a mile northwest of Kemptville. The mine road leads west from the Kemptville-North Kemptville road at a point 0.5 mile north of Kemptville.

Reference:

Faribault, E. R.: GSC, Sum. Rept., 1919, pt. F, pp. 10-14.

13. SHELBURNE AREA

(20 P/6 W Boccaro; 20 P/11 E, W Lockeport; 20 P/14 E, W Shelburne; 20 P/15 E, W Port Mouton)

Port La Tour, Staurolite

Staurolite crystals and andalusite nodules are abundant in grey micaceous quartzite along the shore of Port La Tour harbour, south of Port La Tour village.

Reference:

Bailey, L. W.: GSC, Ann. Rept. (New Ser.), vol. 9, 1896, p. 59M.

Shelburne Harbour, Staurolite, Andalusite

Good prismatic and rhombic crystals of staurolite occur in light grey mica schists exposed along the west shore of Shelburne Harbour from Roseway southward to East Point, and on the east side at the wharf south of Sandy Point. The crystals are, in places, over an inch long and are sometimes twinned. They are associated with pink to mauve andalusite prisms up to an inch and a half across. At Negro Island (also known as Cape Negro Island) they occur with the staurolite and andalusite.

Spherulitic stilbite from Scots Bay, locality 8, Nova Scotia.

Pyrolusite from Tennycape mine, Tennycape, locality 9, Nova Scotia.

The shoreline at these points is accessible by roads branching from the main roads in the area.

Reference:
Bailey, L. W.: GSC, Ann. Rept. (New Ser.), vol. 9, 1896, pp. 57-59M.

Jordan Falls, Staurolite

Well-formed crystals of staurolite measuring up to ¼ inch or more, occur in the gneisses which extend from Jordan Falls to Jordan Bay. Both rhombic and hexagonal forms are found. The best locality is at Jordan Falls where the staurolite is associated with andalusite and small red garnets.

Reference:
Bailey, L. W.: GSC, Ann. Rept. (New Ser.), vol. IX, 1896, p. 56M.

Jordan Falls, Beryl

Pale green beryl, as small crystals or clusters of crystals and as small masses, occurs with minor tourmaline and molybdenite in a quartz vein which has been exposed by stripping and trenching. The quartz is glassy and partly rose-coloured.

The occurrence is to the east of the Jordan River and north of Jordan Falls. To reach it, proceed north from Jordan Falls along the road paralleling the east bank of the Jordan River. At a point 3.1 miles north of the bridge at Jordan Falls, leave the road and walk east ½ mile to the occurrence.

Reference:
Mulligan, R.: GSC, Paper 60-21, 1960, p. 36.

Port Hebert, Beryl

Numerous beryl crystals, measuring 1 inch or more across, are reported to occur in quartz-muscovite stringers cutting granite-pegmatite boulders at Sandy Cove, east of Port Hebert. One boulder about ¼ mile northeast of Sandy Cove showed 15 crystals in a surface of about 6 square feet.

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Reference:
Mulligan, R.: GSC, Paper 60-21, 1960, p. 37.

Port Mouton, Beryl

Pale green to white beryl crystals and crystal aggregates measuring up to 2 inches across and 2 to 3 inches long are found in a pegmatite exposure on a point on the west shore of the southern part of Mouton Island. Garnets about 1 inch or more across are associated with the beryl. The pegmatite is composed of pink perthitic feldspar (some of which forms rectangular prisms up to 6 inches across), white feldspar, dark grey laminated quartz, and muscovite. The pegmatite cuts biotite granite.

Reference:
Mulligan, R.: GSC, Paper 60-21, 1960, p. 37.

Other Beryl Occurrences

Beryl-bearing pegmatites have been reported from several localities including the coast from Western Head to Sandy Cove; the west shore of Port Hebert Harbour; Summerville Beach (boulders); the shore at Hunts Point; and along the Roseway River.

References:
Mulligan, R.: GSC, Paper 60-21, 1960, pp. 37-38.
Wright, J. D. and Odale, H. R.: Can. Mining J., vol. 81, No. 4, 1960, pp. 87-90.

14. LUNENBURG AREA

(21 A/8 W Lunenburg)

Indian Path, Mine

Scheelite occurs as honey-coloured clots and patches in milky quartz veins which cut fine-grained slates and coarse-grained greywackes. The scheelite varies in size from small specks to lumps weighing several pounds. It is the only tungsten mineral present in the deposit.

The property was first prospected for gold, but was not opened until 1926 after the discovery of scheelite-bearing veins. It has been idle since 1942.

The mine is at Indian Path village, 4 miles southwest of Lunenburg. It is accessible by a motor road. Leave Highway No. 3 at a point 1¼ miles west of Lunenburg and proceed south along Highway No. 32 for 3.6 miles, then turn right onto the Indian Path road and continue 0.4 mile to the junction of the mine road on the right. The old dumps are about ¼ mile from this point.

References:

Charlick, R.: N.S. Dept. Mines, Ann. Rept., 1941, pp. 130-135.
Little, H. W.: GSC, Econ. Geol. Ser., No. 17, 1959, pp. 195-196.

Blockhouse Gold Mine

The gold-bearing quartz vein traverses dark grey slate of the Goldenville Formation; small specks of galena and pyrite occur in the quartz and the slate. The mine was worked at intervals from 1885 to 1902 and again in the 1930's. To reach it, proceed west along Highway No. 3A for 2.7 miles from its junction with Highway No. 3 at Mahone Bay, then turn left (south) onto a country road for 0.4 mile to the junction of the mine road on the left. The mine is about 200 yards in.

Reference:

Malcolm, W.: GSC, Mem. 20-E, 1912, pp. 119-120.

Placer Gold

In the period 1861-62, gold was recovered from the gravels along the seashore at The Ovens Natural Park, south of Lunenburg.

Reference:

Malcolm, W.: GSC, Mem. 156, 1929, p. 222.

74279—5½

15. NEW ROSS AREA

(21 A/9 W Chester; 21 A/10 E New Germany; 21 A/16 W Windsor)

New Ross, Pegmatite

A pegmatite at the Reeves farm was first worked in 1906 for quartz crystals, and later for tin. Quartz crystals measuring up to 27 inches long and 10 inches across have been recovered from the deposit. Some large crystals may still be found along the edges of the pit. Among the minerals recorded from the deposit are: amblygonite (bluish), lepidolite, beryl (green crystals), quartz crystals, smoky quartz, fluorite (purple), topaz, sodalite, tourmaline, monazite, columbite-tantalite, cassiterite, scheelite, wolframite, durangite, zinnwaldite and manganapatite.

The deposit is exposed by a pit, now water-filled. It is about 3 miles west of New Ross. Leave the New Ross-Dalhousie road 3 miles west of New Ross and proceed south ½ mile to the Reeves farm. The pit is on the west side of the road and about 200 yards from it.

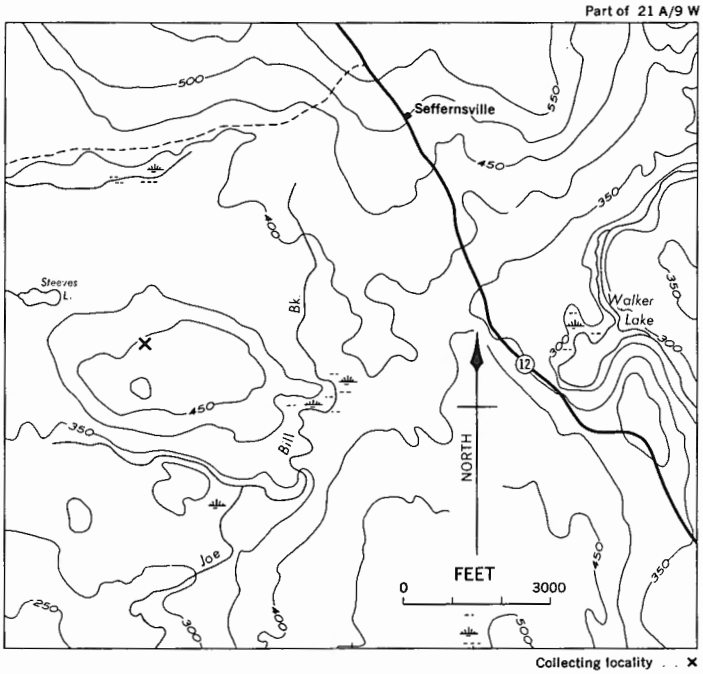
References:

Douglas, G. W. and Campbell, C. O.: N.S. Dept. Mines, Ann. Rept., 1941, p. 111.
Ellsworth, H. V.: GSC, Econ. Geol. Ser., No. 11, 1932, pp. 255-256.
Mulligan, R.: GSC, Paper 60-21, 1960, p. 37.

Dean Chapter Lake, Manganese Mines

Three former manganese mines are located south of Dean Chapter Lake, and about 7 miles by rough road from New Ross. The first deposit was discovered in this area in 1891; the properties were worked intermittently from that date until about 1930. The three mines are known as the Old (Cain or Lower) mine, the New (Upper) mine, and the International Manganese and Chemical Company mine.

The ore, consisting of pyrolusite, manganite and psilomelane, occurs with calcite, barite and iron oxides in fissure veins in granite. Some of



NEW ROSS AREA: 1. Smoky quartz.

the pyrolusite was in fine crystals or clusters of crystals. Botryoidal forms of manganese oxides were encountered at the Old and New mines. Pyrolusite, mostly well-crystallized, was the principal ore at the New mine, while massive manganite was the chief ore at the Old mine. Pseudomorphs of pyrolusite after calcite were found at the International Manganese and Chemical mine. Much of the calcite at this mine is black, due to the content of manganese.

To reach the mines, proceed north from New Ross to Mill Road post office. From here continue north for a distance of 4¾ miles to the first mine (International Manganese and Chemical) on the west side of the road and about 200 yards from it; continue north for about 0.2 mile to the Old mine on the east side of the road; proceed another 1.7 miles to the New mine on the west side of the road.

Reference:
Hanson, G.: GSC, Econ. Geol. Ser., No. 12, 1932, pp. 53-62.

Seffernsville, Smoky Quartz

Large well-formed crystals of smoky quartz were found in association with tourmaline and feathery masses of lepidolite in a quartz-feldspar dyke cutting coarse biotite-granite near Seffernsville. The quartz crystals are a deep smoky colour, almost black, and are reported to be about the finest found in Canada. Because of their flawless nature, they would make excellent cairngorm stones.

The deposit is exposed by two small pits near the top of the north side of a fairly high hill, about 1¼ miles southwest of Seffernsville. The pits are about 50 feet apart. The best smoky quartz crystals came from the eastern pit. The eastern end of Steeves Lake is about 700 yards northwest of the occurrence.

Reference:
Ellsworth, H. W.: GSC, Econ. Geol. Ser., No. 11, 1932, pp. 256-257.

16. MUSQUODOBOIT-MOOSE RIVER AREA

(11 D/14 E Musquodoboit; 11 D/15 W Tangier)

Dunbrack, Galena

Coarsely crystalline galena showing good cleavage faces occurs in masses at this property. It is associated with chalcocite and malachite or chrysocolla in granite. The gangue consists of white, pink or smoky quartz and dense opalescent silica. Small vugs are lined with quartz

crystals or malachite, or with malachite over quartz. Large crystals of quartz and of calcite have been found in the vein.
The deposit was worked in 1910 and again in 1916. It lies west of Caribou (South Meadow) Lake and on the west side of the Musquodoboit Harbour-Meaghers Grant road at a point 3¼ miles from Musquodoboit Harbour village.

Reference:
Alcock, F. J.: GSC, Econ. Geol. Ser., No. 8, 1930, pp. 61-63.

Moose River, Tungsten Mine

Yellow-orange to whitish grey, medium-grained scheelite occurs in veins with dolomite, quartz, arsenopyrite, sericite, feldspar and tourmaline. It shows distinct cleavage and is often intergrown with quartz. The tourmaline is in black needles about ½ inch long. The country rocks are quartzite and slate.
The deposit was worked intermittently from 1908 to 1919. The mine workings lie on both sides of Stillwater Brook, west of the village of Moose River Mines. The mine is reached by a direct road, 2½ miles long, which leads west from this village.

References:
Douglas, G. W.: N.S. Dept. Mines, Ann. Rept., 1939, pt. 2, pp. 31-32.
Little, H. W.: GSC, Econ. Geol. Ser., No. 17, 1959, pp. 198-199.

Moose River, Gold Mine

Scheelite occurs as lenticular masses, the size of a hen's egg, in the auriferous veins at this former gold mine. The veins, composed of ferruginous calcite, quartz, pyrite and arsenopyrite, cut slate and quartzite.
The mine is at the village of Moose River Mines.

References:
Little, H. W.: GSC, Econ. Geol. Ser., No. 17, 1959, p. 199.
Malcolm, W.: GSC, Mem. 156, 1929, pp. 134-135.

Placer Gold

The gravels at Tangier Harbour were worked for gold in 1861 and in 1862.

Reference:
Malcolm, W.: GSC, Mem. 156, 1929, p. 222.

17. SHERBROOKE AREA

(11 E/1 E Liscomb)

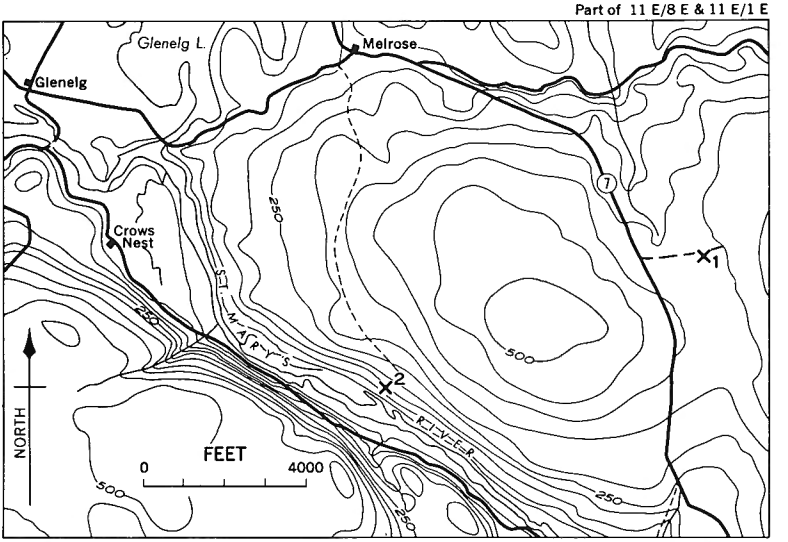
Cochrane Hill and Crows Nest, Gold Mines

Fine crystals of staurolite, andalusite, garnet and mica reportedly occur in the schistose country rocks in the immediate vicinity of the Cochrane Hill and Crows Nest gold mines. Unfortunately, the report gives no indication as to the size of the crystals or the abundance.

Gold occurs in association with arsenopyrite, pyrrhotite, pyrite, galena, sphalerite and chalcopyrite in quartz veins penetrating slates.

Exploration for gold began in 1868 and development was carried out at intervals until 1927. The Cochrane Hill and Crows Nest mines did not become important producers.

The mines, about 1½ miles apart, are 10 miles north of Sherbrooke. To reach the Cochrane Hill mine, proceed south from Melrose along Highway No. 7 for 1¾ miles; turn left (east) onto a side road which leads directly to the mine, a distance of less than ½ mile. The Crows Nest mine lies on the southwest slope of a ridge forming the east bank of St. Mary's River. It is directly opposite the island which is about 1¼ miles south of the bridge on the Glenelg-Melrose road. Access to the mine was via a direct road, 1½ miles long, which led south from Melrose.



SHERBROOKE AREA: 1. Cochrane Hill mine; 2. Crows Nest mine.

References:
Hurst, M. E.: GSC, Econ. Geol. Ser., No. 4, 1927, p. 141.
Malcolm, W.: GSC, Mem. 156, 1929, pp. 73-75.

Placer Gold

Gold was found along the sea-shore at Wine and Isaac Harbours.

Reference:
Malcolm, W.: GSC, Mem. 156, 1929, p. 222.

PRINCE EDWARD ISLAND

1. GEORGE (HOG) ISLAND

(11 L/1 E, W Malpeque)

Celadonite

An emerald-green mineral believed to be celadonite occurs in patches in a fine-grained olivine dolerite dyke which intrudes red sandstone at George Island, Malpeque Bay. The dolerite rock forms the shoreline on the southeastern extremity of the island.

Reference:
Milligan, G. C.: P.E.I. Dept. Ind. Nat. Res., 1949, pp. 11-12, 33-34.

Saponite

Saponite fills amygdules in trap rock on the northeast coast of Hog Island.

Reference:
Johnston, R. A. A.: GSC, Mem. 74, 1915, p. 197.

2. ORWELL BAY

(11 L/2 W Montague)

Gallows Point, Hematite

Hematite occurs in beds up to 6 inches thick interstratified with sandstone and shale at Gallows Point, Orwell Bay.

Reference:
Milligan, G. C.: P.E.I. Dept. Ind. Nat. Res., 1949, p. 7.

NEWFOUNDLAND

ROCK AND MINERAL COLLECTING AREAS, NEWFOUNDLAND

1. Southwestern Labrador
2. North West River
3. Labrador Coast
4. White Bay area
5. Notre Dame Bay
6. Bonne Bay
7. Corner Brook
8. St. George's Bay
9. Cinq Cerf Bay
10. St. Lawrence
11. La Manche–Thornlea
12. Conception Bay
13. Catalina Harbour


UNGAVA BAY
MILES
0 100
LABRADOR SEA
NEWFOUNDLAND
Nain
Schefferville
COAST OF LABRADOR
Michikamau L.
L. Melville
Goose Bay
Little Mecatina R.
QUEBEC
Anticosti Island
ST. LAWRENCE R.
GULF OF ST. LAWRENCE
Notre Dame B.
Grand L.
ISLAND OF NEWFOUNDLAND
ST. JOHN'S
Cabot Str.
NEW BRUNSWICK
P.E.I.
GSC
1
2
3
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1. SOUTHWESTERN LABRADOR

(23 I Michikamau; 23 SE Ashuanipi; 23 NE Dyke Lake)

Jasper

Jasper is reported to occur at several localities in southwestern Labrador. Large blocks banded with magnetite were found in exposures at the outlet of the Menihek Lakes, near the outlet of Dyke Lake, along the shore of the northeast bay of Astray Lake (about 2 miles from its head), and on a low hill situated near the middle of the northern bay of Astray Lake. A jasper conglomerate composed of small jasper pebbles cemented with white quartz is associated with the banded jasper near the outlet of Dyke Lake. This rock, when polished, would make a striking ornamental stone.

Reference:

Low, A. P.: GSC, Ann. Rept. (New Ser.), vol. 8, 1895, pp. 285-286L, 289L.

Labradorite

Labradorite showing iridescent play of colour in shades of green, blue and bronze-yellow, occurs in large crystals (up to 9 inches by 6 inches) in purplish anorthosite exposed along the shores of some lakes and rivers in the area. The play of colour is well displayed in the wet rock and it can sometimes be recognized while travelling by boat along the shoreline.

The labradorite-bearing rock is exposed along the northeast shore of Michikamau Lake for a distance of about 20 miles; on the small islands at the head of the rapids in the upper part of the Romaine River, about 2 miles below the portage creek from Lake Atikonak; on the islands in Lake Ossokmanuan; and along the shores of the Romaine River above the Burnt Lakes.

Reference:

Low, A. P.: GSC, Ann. Rept. (New Ser.), vol. 8, 1895, pp. 201L, 229-230L. 235L, 289L.

2. NORTH WEST RIVER AREA

(12 SW North West River)

Lake Melville, Labradorite

Labradorite occurs in boulders along the south shore of Lake Melville, west of Long Point at the foot of the mountains. It is believed the boulders originated in the mountains to the south. This material is not as fine in quality as the labradorite from Taber Island.

Reference:

Kindle, E. M.: GSC, Mem. 141, 1924, p. 69.

Seal Lake, Native Copper

Copper minerals occur in association with red slates and diabase along a 24-mile-stretch extending from west of Adeline Lake to near the east end of Seal Lake. Native copper, chalcopyrite and bornite occur at a number of showings in the district. The best native copper occurrence is at the Main Showing, an exposure on the steep hillside slope (about 100 feet high) which rises from the south shore of Seal Lake about 1 mile from the west end of the lake. This area has been stripped. Native copper occurs as stringers, small blebs and nuggets in a shear zone in slate near its contact with diabase. It is found in quartz-carbonate stringers or in slate. It forms solid plates up to 1 inch thick, solid irregularly shaped nodules weighing several pounds, and hackly masses containing quartz and carbonate up to a foot wide and 20 feet long. Some of the nodules measure 4 by 24 by 36 inches. The native copper is erratically distributed along the zone. In the diabase it is associated with chalcopyrite and chalcocite in seams.

Seal Lake lies about 70 miles from the Labrador Coast and about 80 miles from North West River. It is accessible by air or by water from North West River. By canoe, it is a journey of about one week; the route is up Grand Lake from North West River and then along the Naskaupi River into the east end of Seal Lake.

References:

Brummer, J. J. and Mann, E. L.: Bull. GSA., vol. 72, 1961, pp. 1361-1381.
Evans, E. L.: Proc. Geol. Assoc. Can., vol. 5, 1952, pp. 111-116.

3. LABRADOR COAST

(13 SE, 3 SW Battle Harbour-Cartwright; 14 SW Nain-Nutak)

Cod Island, Jasper

Beautiful jasper is associated with the lava flows along the shores of Anchorstock Harbour on the southwest side of Cod (Agualik) Island. Vugs in the lavas contain gypsum, quartz and carbonates. Cod Island is situated off the coast of Labrador, about 40 miles southeast of Hebron.

Reference:

Douglas, G. V.: GSC, Paper 53-1, 1953, pp. 45-47.

Labradorite

Labradorite, sometimes referred to as the "Gem of Canada" was originally found in 1770 by Wolfe, a Moravian missionary, who obtained specimens from Paul (St. Paul's) Island off the east coast of Labrador near Nain. The name of the mineral is derived from the locality.

Labradorite is the chief constituent of the anorthosite rocks which occur along the east coast of Labrador and in the nearby islands in an area extending from Paul Island to Port Manvers, about 35 miles north. On Paul Island it is found in the vicinity of Ford Harbour and in the area a few miles to the west.

The finest labradorite is reported to come from a quarry situated on the south side of Taber (Napotulagatsuk) Island, south of Nain. The

material is of gem quality and it exhibits a brilliant play of colour in shades of blue, green, bronze-yellow and copper-red. It is often coarsely crystalline with cleavage surfaces measuring a foot or more. The quarry, known as the Grenfell quarry, is now being operated by British Newfoundland Exploration Limited.

Iridescent labradorite is reported to occur at St. Michaels Bay and in some of the adjacent islands, also along the southeastern coast of Labrador, and in the islands in the Strait of Belle Isle.

References:

Daly, R. A.: Bull. Mus. Comp. Zool., Harvard Coll., vol. 38, Geol. Ser., vol. 5, No. 5, 1902, pp. 216-218.

Kranck, E. H.: Nfld. Geol. Surv., Bull. 19, 1939, p. 33.

Mawdsley, J. B.: Can. Field Naturalist, vol. 43, 1929, p. 6.

4. WHITE BAY AREA

(12 H/15 E, W Jackson's Arm)

Marble

Some of the crystalline limestone deposits in the White Bay area include beautiful marbles which could be utilized for ornamental purposes. One of these is a marble having a massive, light-coloured matrix traversed by numerous irregular red and orange veinlets. It takes a good polish and is reported to resemble some of the Italian Sienna marbles. It is exposed on a cliff about 1 mile up Doucer's Brook, Sops Arm.

A coarse-grained white marble occurs at White Point, and a variegated pink, white and grey marble occurs at Bear Cove.

There are no roads leading to these occurrences. The nearest road is the private road joining Hampden to the Trans-Canada Highway. Hampden is about 15 miles south of Sops Arm, and about 25 miles south of Bear Cove.

Reference:
Carr, G. F.: Mines Br., Pub. No. 855, 1958, pp. 104-105.

5. NOTRE DAME BAY AREA

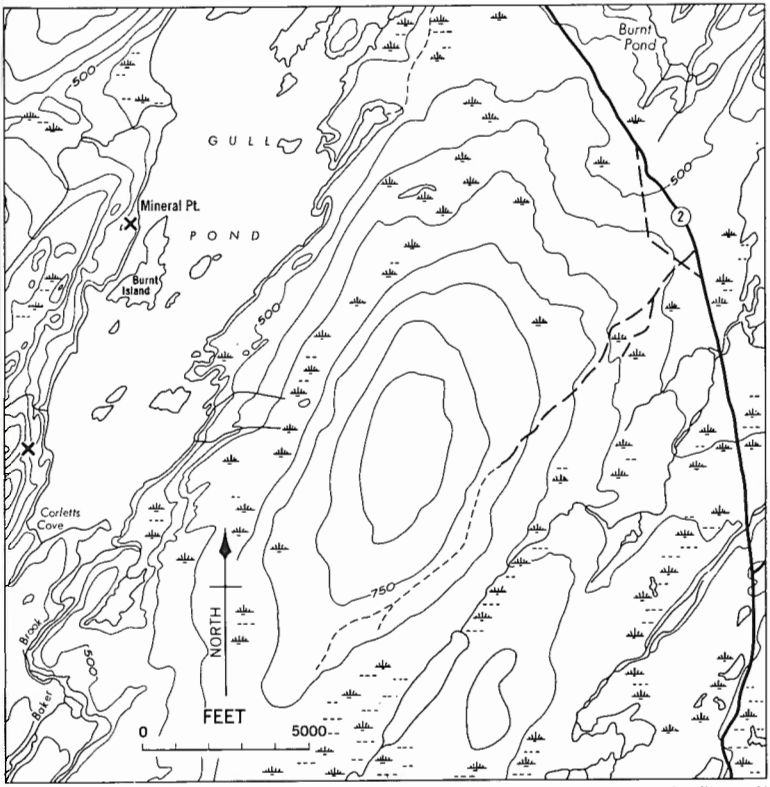
(2 E/6 E Point Leamington; 2 E/10 W Twillingate; 2 E/11 E, W Exploits; 12 H/1 E Gull Pond)

Gull Pond, Copper

The deposit has been prospected in two places near the west shore of Gull Pond: at Mineral Point and near Corlett's Cove. The deposit occurs in rocks which are particularly rich in cordierite; they include a cordierite-schist, a cordierite-anthophyllite rock, and a biotite cordierite rock. In the schist nearest the shaft at Mineral Point, the largest of the oval cordierite crystals measured nearly ¾ by ½ inch; crystals measuring 1 by ½ inch were found near the Southwest shaft at Corlett's Cove. Associated with the sulphides (chalcopyrite, pyrrhotite and pyrite) in the cordierite-rich rocks are biotite, quartz, magnetite, chlorite, actinolite, and tremolite. The country rocks consist of andesite flows and tuffs with interbedded silicified tuffs and cherts.

The deposit, which never reached the production stage, lies on the west side of Highway No. 2 about midway between South Brook and Badger, and about 16 miles south of Halls Bay. The Southwest shaft lies on the west side of Corlett's Cove (south end of Gull Pond) about 300 yards from the shore, and about 1¼ miles south of Mineral Point which is midway between the north and south ends of the pond. A motor road, about 3½ miles long, leaves Highway No. 2 at a point about 3 miles south of the northern end of Gull Pond and leads southwest ending about 1½ miles east of the southern end of Gull Pond.

Part of 12 H/1 E



GULL POND AREA: Copper.

74279—6½

References:

Snelgrove, A. K., revised by D. M. Baird: Nfld. Geol. Surv., Inf. Circ. 4, 1953, pp 46-47.
Stoiber, R. E.: Nfld. Geol. Surv., Bull. 20, 1940, pp. 41-45.

Fortune Harbour, Copper ('Gray Copper Mine')

Bright green epidote and bright red jasper are associated with pillow lavas at this mine which is known locally as the Gray Copper mine. The jasper often fills interstices between the pillows, while the epidote occurs as thin veinlets cutting the jasper and as veins in the ore zone. The jasper-epidote rock may prove to be an interesting ornamental stone. The ore mineral chalcocite is associated with small amounts of specularite and malachite (as small radiating masses of crystals) in calcite veins which penetrate breccia zones in the pillow lava. The veins are up to 1 inch wide. Some of the chalcocite shows good cleavage.

The mine, which was worked only for a short time, is situated just south of Northwest Arm of Fortune Harbour. It lies near the marsh from which a small stream flows into Fortune Harbour about 100 yards west of Deepwater Point.

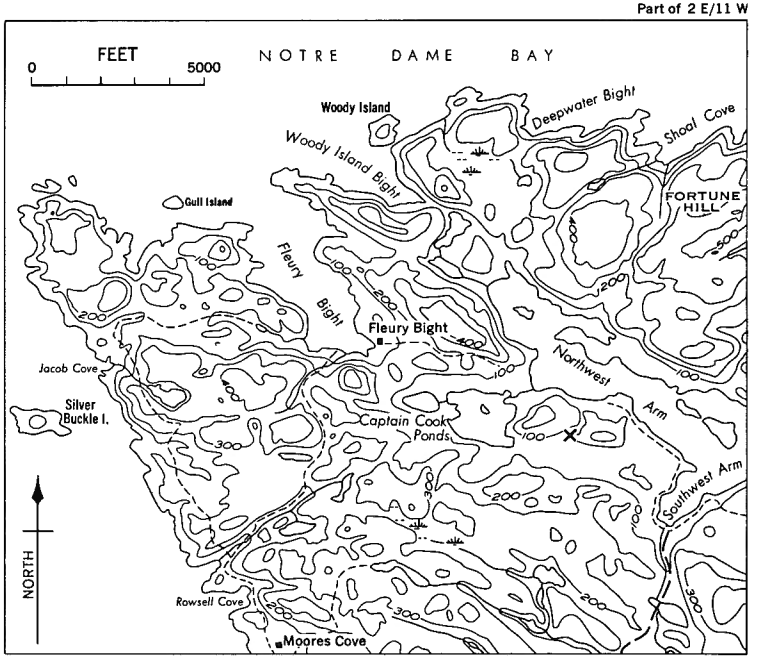
Reference:

Heyl, G. R.: Nfld. Dept. Mines, Res., Geol. Sec., Bull. 3, 1936, pp. 50-52.

Pond Island, Bismuth

Bismuthinite occurs as acicular crystals (up to 1 inch long), as thin prismatic crystals, or as masses in association with steel-grey tetrahedrite, dark grey to black sphalerite, pyrite and chalcopyrite in veins up to 6 inches wide, cutting granodiorite. The tetrahedrite is massive and occurs as poorly-formed tetrahedrons occupying vugs. The principal gangue mineral is quartz which often forms terminated crystals. The veins, the largest of which measures 6 inches wide, outcrop on the northeast corner of the island, within a few feet of the shore. A few test pits have been sunk.

Part of 2 E/11 W



FORTUNE HARBOUR AREA: Copper.

Pond Island lies in the Bay of Exploits, about 1 mile west of Long Island.

Reference:

Heyl, G. R.: Nfld. Dept. Mines, Res., Geol. Sec., Bull. 3, 1936, pp 37-38.

Mortons Harbour, Antimony Mine

Stibnite showing a well-developed bladed form occurs as large compact masses with galena, sphalerite, chalcopyrite, arsenopyrite, and pyrite in veins cutting rhyolite. The principal gangue minerals are calcite and quartz. Kermesite often coats the ore, and may occur rarely as pseudomorphs after stibnite.

Work commenced in 1889 and was continued intermittently until World War I. The mine is on the west side of Mortons Harbour, about 1,200 feet east of the bottom of Frost Cove. The opening, made into a hill slope, can be seen when entering the harbour. Mortons Harbour is about 7 miles southwest of Twillingate.

Reference:

Heyl, G. R.: Nfld. Dept. Mines, Res., Geol. Sec., Bull. 3, 1936, pp. 39-44.

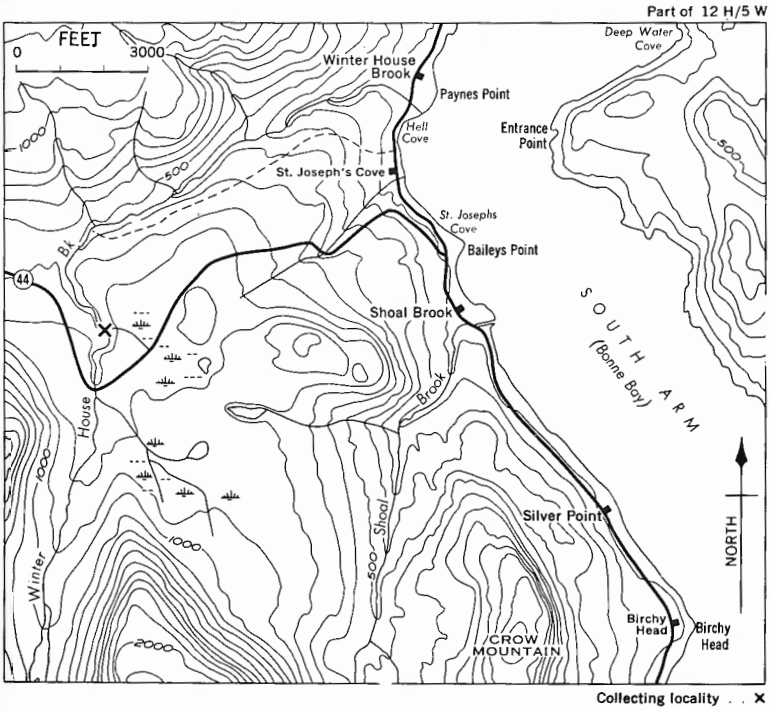
6. BONNE BAY AREA

(12 H/5 W Lomond)

Xonotlite

Pink xonotlite occurs as massive aggregates and as fibrous masses in veins cutting altered sedimentary rocks. The veins are up to 3 inches wide and several feet long. On the weathered surface, the mineral alters to chalky white. The fresh material could be used as an ornamental stone; a high polish produces a delicate pink, somewhat translucent surface.

At Winter House Brook, near the headwaters, the xonotlite occurs in a 4- to 5-foot layer of calcium-bearing rocks which marks the faulted contact between serpentinite and shales. The occurrence is on the slope which forms the east bank of Winter House Brook, just north of the junction with a stream flowing from the east. To reach it, walk



BONNE BAY AREA: Xonotlite.

north along the brook for a distance of about 600 yards from the highway (No. 44) bridge which crosses the brook at a point 1.9 miles from the junction of Highways 44 and 45 at Shoal Brook village.

Reference:

Smith, C. H.: GSC, Mem. 290, 1958, pp. 49-50.

7. CORNER BROOK AREA

(12 A/13 Corner Brook)

Dormston Quarry

Black crystallized nodular limestone occurs in this quarry. When polished it takes on a bluish cast producing an attractive ornamental stone. The Memorial Hospital at Corner Brook was partly constructed with this stone.

The quarry, situated ½ mile southeast of Corner Brook, is worked by Bowater Newfoundland Pulp and Paper Mills Limited.

References:

Carr, G. F.: Mines Br., Pub. No. 855, 1958, p. 101.
Walthier, T. N.: Nfld. Geol. Surv., Bull. 35, 1949, pp. 44-46.

Limestone Junction, Marble Quarry

Beautiful, white, pink and cream-coloured marbles occur at this quarry. They are compact and uniformly crystalline and could be fashioned into attractive ornamental objects.

The quarry, now inactive, lies on the south side of the Humber River approximately 5½ miles east of Corner Brook. The Trans-Canada Highway passes nearby.

Reference:

Walthier, T. N.: Nfld. Geol. Surv., Bull. 35, 1949, pp. 46-47.

8. ST. GEORGE'S BAY AREA

(12 B Stephenville)

Port au Port, Native Copper

Native copper occurs along the shore of Port au Port Bay about 11 miles north of the village of Port au Port and at another locality near the village. The first occurrence is just north of the mouth of the Little

River which enters the bay about ¼ mile north of the mouth of Fox Island River. The copper commonly occurs as well-formed crystals in small calcite veins which may reach a width of 1 inch, but are usually smaller. The largest piece of copper found measured 1 by ¼ by ¼ inch. Some of the larger veins have a banded appearance due to the uneven distribution of copper in them. Quartz, heulandite, and radiating masses of aragonite are associated with the copper-calcite veins which cut the Humber Arm volcanics. The deposit extends for about 1 mile along the shore of the Bay.

The other occurrence of native copper is on the isthmus at Port au Port; it is associated with the trap rocks of the area.

References:

Marsh, O. C.: Am. J. Sci., 2nd Ser., vol. 35, No. 104, 1863, p. 218.
Walthier, T. N.: Nfld. Geol. Surv., Bull. 35, 1949, p. 80.

Celestite

Celestite in a variety of forms occurs with aragonite and barite in limestone at a locality approximately 3,000 feet southwest of the church at Boswarlos. In colour, it is blue or white. The deposit, known as the Ronan deposit, is exposed by several pits and trenches on the west side of Hooper's Brook, ½ mile south of its mouth.

A similar deposit is exposed at Gillams Cove, ½ mile west of Aguathuna. The exposure is at the northern end of a small brook valley and extends inward from the mouth of the brook. The deposit has been trenched. Boulders of bluish celestite occur as float as much as 600 feet from the mouth of the brook.

Reference:

Johnson, H.: GSC, Bull. 27, 1954, pp. 1, 10-15.

Romaines Brook, Barite

Well-formed transparent, colourless crystals of barite occur with quartz in vuggy veins cutting quartzite on the east bank of Romaines (Kippens) Brook, 2 miles from its mouth. The crystals measure up to 1 inch in diameter.

Reference:
Walthier, T. N.: Nfld. Geol. Surv., Bull. 35, 1949, p. 80.

Oxback Pond, Beryl

Beryl is reported to occur with tourmaline, zircon, uraninite, gummite and magnetite in a pegmatite exposure at a sharp bend in Highway No. 47 south of Oxback Pond (about 9 miles west of Stephenville Crossing). Large biotite plates occur in the pegmatite.

Reference:
Mulligan, R.: GSC, Paper 60-21, 1960, p. 38.

Gypsum

Gypsum outcrops at a number of places in the St. George's Bay area. It is usually pure white or grey, but may also be black, red or yellow. The sugary variety is most common; it sometimes contains masses of coarsely crystalline selenite having cleavage plates as much as a foot in diameter. The crystalline variety occurs as veins and as thin tabular masses. Rocks associated with the deposits include siltstones, sandstones, and shales.

Outcrops have been noted at:

Romaines Brook—in cliffs at its mouth.

Flat Bay—mostly white gypsum; it is quarried 1 mile east of Flat Bay.

Coal Brook—pure white, fine-grained gypsum in cliffs on both sides of the brook about 4,500 feet above its mouth. Coal Brook is a tributary of Flat Bay Brook. The occurrence is approximately 3½ miles southeast of St. George's.

Sheep Brook—pure white or light grey gypsum with anhydrite in cliffs 1 mile above its mouth. The occurrence is about 4 miles southeast of St. George's.

Rattling Brook—pink and white gypsum at the mouth of the brook near Heatherton.

Plaster Cove—nearly transparent white, yellowish and grey alabaster-like gypsum associated with the more common sugary variety. Massive selenite occurs just north of the main occurrence. Plaster Cove is

situated immediately north of Ship Cove, and about 7 miles southwest of St. David's.

Reference:
Snelgrove, A. K., revised by D. M. Baird: Nfld. Geol. Surv., Inf. Circ. 4, 1953, pp. 123-127.

9. CINQ CERF BAY AREA

(11 O/9 E La Poile)

Garnet, Beryl

Well-formed trapezohedrons of deep red to brown garnets occur with black tourmaline, black allanite, small euhedral crystals of titanite, magnetite and pyrite in granite pegmatite exposures on the following islands: Harbour Island, Three Islands, Norman Rock, Western Head and Cinq Cerf islands. Some of the garnet is of an attractive red colour. Beryl, as crystals up to ¾ inch across, was found in only one of the pegmatites, this being on Western Head. The largest pegmatite dyke is at Norman Rock where it measures 36 feet wide; the others are about 15 feet wide. The garnet- and beryl-bearing dykes are composed chiefly of orthoclase, microcline, albite and quartz.
The Cinq Cerf Bay area is on the southern coast of Newfoundland, about 50 miles east of Port aux Basques.

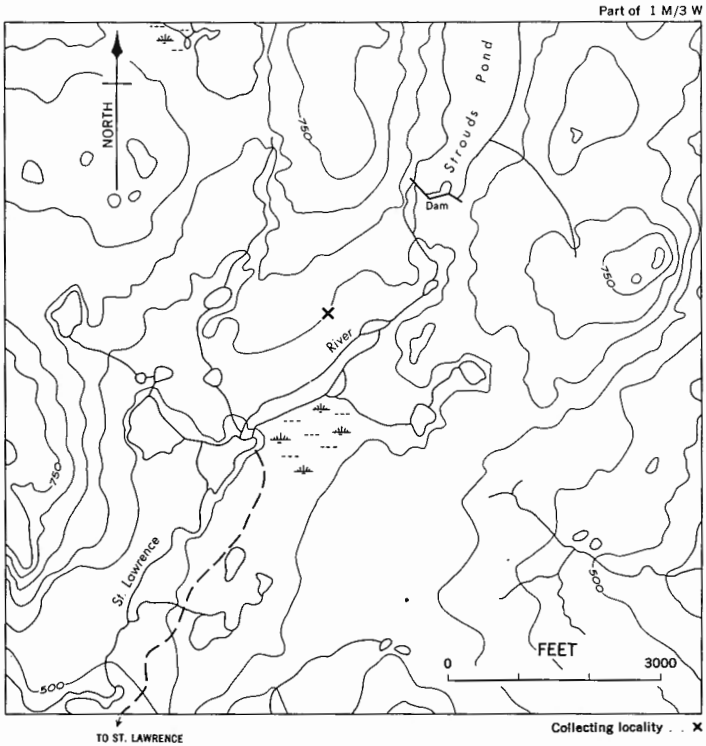
Reference:
Cooper, J. R.: GSC, Mem. 276, 1954, pp. 27-28.

10. ST. LAWRENCE AREA

(1 L/14 W St. Lawrence; 1 M/3 W Marystown)

St. Lawrence, Fluorite

Fluorite deposits on southern Burin Peninsula are responsible for almost the entire production of fluorite in Canada. They occur extensively between Little Lawn Harbour and St. Lawrence Harbour.



ST. LAWRENCE AREA: Dumortierite.

Fluorite occurs as veins in granite and rhyolite porphyry. It forms coarse crystals or colloform masses, often in vugs; much of it is banded, some of this variety being in the form of nodules. The colours include yellow, red, grey, blue, purple, green, pink and white. Sometimes two colours are represented in the same crystal producing a striking

specimen. The predominant crystal form is the cube, ranging in size from less than an inch to 18 inches along an edge. Of less common occurrence is the octahedron, usually of a green colour; it is the only crystalline variety to fluoresce (blue). Fluorescent crystal specimens were found in the Chambers Cove, Grebes Nest and Mine Cove veins. A pale green colloform variety from the Director mine was found to fluoresce blue, while the coarsely crystalline calcite from the same vein had a rose-coloured fluorescence.

Associated minerals are quartz (as terminated crystals coating vuggy fluorite crystals), white or pink calcite (interbanded with fluorite, or as crystals coating fluorite crystals), white or pink barite (as coarse crystals or platy masses intergrown with or coating fluorite crystals), pyrite, galena, sphalerite, chalcopyrite, and less commonly, chalcocite, hematite, covellite, malachite, chrysocolla, azurite, and manganese minerals.

The deposit was discovered in 1839 and has been worked since 1870. The current operators are Newfoundland Fluorspar Limited (Director and Tarefare mines) and St. Lawrence Corporation of Newfoundland, Limited (No. 3, No. 2, Iron Springs mines). The mines lie a few miles to the west and southwest of the village of St. Lawrence to which they are connected by road.

References:

Carr, G. F.: Mines Br., Pub. No. 855, 1958, pp. 56-64.
Van Alstine, R. E.: Nfld. Geol. Surv., Bull. 23, 1948, pp. 24-41.

Dumortierite

Light blue dumortierite is found as grains, patches, and veins up to 1 inch wide in association with pyrophyllite in rhyolite at a locality 7 miles northeast of St. Lawrence.

The occurrence is about $\frac{1}{8}$ mile west of the St. Lawrence River at a point approximately $\frac{1}{2}$ mile south of its junction with Strouds Hill

Pond. A trail, approximately 6½ miles long leads north from Highway No. 14 at a point about 1 mile west of St. Lawrence settlement to within ½ mile of the occurrence.

Reference:

Van Alstine, R. E.: Nfld. Geol. Surv., Bull. 23, 1948, p. 43.

11. LA MANCHE-THORNLEA AREA

(1 N/12 E, W Dildo)

La Manche, Lead Mine

The galena ore occurs in a vein consisting chiefly of coarse white and purple calcite with small amounts of sphalerite, chalcopyrite, quartz and barite. The galena occurs as radiating crystal aggregates measuring several inches in diameter, and as scattered grains. The vein is characterized by numerous vugs, one of which measured over 40 feet in length. The vugs are lined with calcite (sometimes coated with chalcopyrite crystals), quartz or barite.

The deposit was discovered in the 1840's and was worked from 1857 to 1873 and again in 1890. The mine is near the eastern shore of La Manche Bay, Placentia Bay area. It is connected by a 1-mile road to the Trans-Canada Highway at a point 3 miles north of the railway crossing at Upshall.

References:

McCartney, W. D.: GSC, Map 13-1956.

Snelgrove, A. K., revised by D. M. Baird: Nfld. Geol. Surv., Inf. Circ. 4, 1953, pp. 79-81.

Collier Cove, Barite Mine

Well-developed tabular crystals of barite occur in a vein exposed by an open pit. Some of the barite is white, but the salmon-pink variety is the most abundant.

The deposit was worked between 1902 and 1904 by the Colliers Cove Barite Company. The pit is at tide water along the southeast shore of Collier Bay, about 0.8 mile southwest of Collier Point, in Trinity Bay. The best way of reaching it is by boat from Thornlea, 2 miles to the west.

References:

Carr, G. F.: Mines Br., Pub. No. 855, 1958, pp. 20-21.
Snelgrove, A. K., revised by D. M. Baird: Nfld. Geol. Surv., Inf. Circ. 4, 1953, p. 100.

12. CONCEPTION BAY AREA

(1 N/7 W Bay of Bulls; 1 N/14 E Heart's Content; 1 N/10 W St. John's)

Forked Pond, Quartz Crystals

Well-developed crystals of quartz occur with milky quartz in glacial drift on a low ridge near Forked Pond, 7 miles northwest of Adams Cove. The crystals average ½ inch across and 1 inch long, the largest being about 3½ by 2½ by 7 inches.

The deposit is exposed by shallow pits and trenches. It was staked in 1946 by Mr. Clifford Baggs of Adams Cove, on the western shore of Conception Bay.

Reference:

Carr, G. F.: Mines Br., Pub. No. 855, 1958, pp. 122-123.

Manuels, Pyrophyllite

Agalmatolite, a soft, compact, massive material consisting principally of pyrophyllite occurs in the pyrophyllite deposit south of Manuels. The material is similar to that used by the Chinese for carved ornaments. Two specimens of agalmatolite obtained from Foxtrap were sent to England in 1898 as part of the Newfoundland mineral display. The pyrophyllite occurs in a pyrophyllite schist. Some lenses of pure, soft pyrophyllite having a waxy lustre are contained in the schist.

The colour is commonly light greenish yellow, but creamy white, yellow, red, grey, blue, purple, green, pink and white. Sometimes two red and yellow varieties are also present. It is either massive or shows cleavage. In its properties and uses, pyrophyllite is similar to talc. Associated minerals in this deposit are quartz (sometimes as nodules), zoisite, chlorite, pyrite, and sericite.

Development of the deposit began in 1902 with the opening of a quarry at Johnny's Pond. Operations are currently conducted by Newfoundland Minerals Limited. The deposit lies slightly more than 3 miles south of Manuels. It is reached by a road, 2½ miles long, which leads south from Highway No. 2 at a point ¾ mile southwest of Manuels.

References:

Rose, E. R.: GSC, Mem. 265, 1952, pp. 45, 55-56.
Vhay, J. S.: Nfld. Geol. Surv., Bull. 7, 1937, pp. 1, 7, 13-14, 24-26.

13. CATALINA HARBOUR

(2 C/11 E Bonavista)

Pyrite

Large and perfectly formed crystals of pyrite occur in the slates along the shore of Catalina Harbour. The locality is about 11 miles south of Bonavista.

Reference:

Marsh, O. C.: Am. J. Sci., 2nd Ser., vol. 35, 1863, p. 217.

APPENDICES

ADDITIONAL READING

Books on Mineralogy

The list includes basic textbooks on mineralogy of the type used in colleges and universities. They deal with the physical; chemical and crystallographic properties of minerals and with their mode of occurrence.

Berry, L. G. and Mason, B.: *Mineralogy: Concepts, Descriptions, Determinations.* (W. H. Freeman and Company, 1959).

Dennen, Wm. H.: *Principles of Mineralogy.* (Ronald Press Company, 1960).

Ford, W. E.: *Dana's Textbook of Mineralogy.* (John Wiley and Sons, Inc., 1945).

Hurlbut, C. S. Jr.: *Dana's Minerals and How to Study Them.* (John Wiley and Sons, Inc., 3rd ed.).

Krauss, E. H., Hunt, W. F. and Ramsdell, L. S.: *Mineralogy: An Introduction to the Study of Minerals and Crystals.* (McGraw-Hill Book Co. Inc., 1959).

Palache, C., Berman, H. and Frondel, C.: *Dana's System of Mineralogy* volumes I and II (volume III in preparation). (John Wilev and Sons, Inc., 1944, 1951).

Rogers, A. F.: *Introduction to the Study of Minerals.* (McGraw-Hill Book Co. Inc., 1937).

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Books on Minerals and Rocks for the Amateur

These books have been written specifically for the amateur mineralogist. The material is presented in a popular style and the books are usually well-illustrated.

Börner, R.: *Minerals, Rocks and Gemstones.* (Oliver and Boyd, 1962). Translated by W. Mykura.

Dake, H. C.: *The Uranium and Fluorescent Minerals.* (Mineralogist Publishing Company, 1953).

English, L. and Jensen, D. E.: *Getting Acquainted With Minerals.* (McGraw-Hill Book Co. Inc., 1959).

Fenton, C. L. and Fenton, M. A.: *The Rock Book.* (Doubleday, Doran and Co., 1940).

Fritzen, D. K.: *The Rockhunter's Field Manual: A Guide to Identification of Rocks and Minerals.* (D. Van Nostrand Co. Inc., 1960).

Gleason, Sterling: *Ultraviolet Guide to Minerals.* (D. Van Nostrand Co. Inc., 1960).

Graves, H. B. Jr.: *The Mineral Key.* (McGraw-Hill Book Co. Inc., 1947).

Lang, A. H.: *Prospecting in Canada.* (Geological Survey of Canada, Economic Geology Series No. 7, 1956).

Lee, Elsie: *The Exciting World of Rocks and Gems.* (Trend Books Inc., 1959).

Pearl, R. M.: *How to Know the Minerals and Rocks.* (McGraw-Hill Book Co. Inc., 1955).

Pough, F. H.: *A Field Guide to Rocks and Minerals.* (Houghton Mifflin Co., 1957).

Sinkankas, John: *Gemstones and Minerals; How and Where to Find Them.* (D. Van Nostrand Co. Inc., 1961).

Spock, L. E.: *Guide to the Study of Rocks.* (Harper and Brothers, 1962).

Zim, H. S. and Shaffer, P. R.: *Rocks and Minerals.* (Simon and Shuster Inc., 1957).

Books on Gemmology

These publications describe gem minerals, their properties and occurrences. They are written in a popular or semi-technical style.

Dake, H. C., Fleener, F. L. and Wilson, B. H.: *The Quartz Family Minerals: A Handbook for the Collector.* (McGraw-Hill Book Co. Inc., 1938).

Krauss, E. H. and Slawson, C. B.: *Gems and Gem Materials.* (McGraw-Hill Book Co. Inc., 1947).

Leechman, F.: *The Opal Book.* (Ure Smith Ltd., Sydney, 1961).

Parsons, C. J. and Soukup, E. J.: *Gem Materials Data Book.* (Gemac Corporation, Mentone, Calif., 1957).

Pearl, R. M.: *Popular Gemmology.* (Sage Books, Denver, 1958).

Sinkankas, John: *Gemstones of North America.* (D. Van Nostrand Co. Inc., 1959).

Smith, G. F. Herbert: *Gemstones.* (Methuen and Co., 1958).

Walton, Sir James: *Physical Gemmology.* (Sir Isaac Pitman and Sons, Ltd., 1952).

Webster, R.: *Gems: Their Sources, Descriptions and Identification.* (Butterworth & Co. Ltd., 1962).

Lapidary Books

A number of books describing the techniques used in cutting and polishing have recently been published. Various phases of the lapidary art are discussed including cabochon and facet cutting, tumbling, sculpturing and other methods used for the fashioning of rocks and minerals into ornamental objects.

Dake, H. C.: *The Art of Gemcutting.* (Bruce Publishing Company, 1957).

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Quick, L. and Leiper H.: *Gemcraft: How to Cut and Polish Gemstones.* (Chilton Company—Book Division, 1959).

Sinkankas, John: *Gem Cutting: A Lapidary's Manual.* (D. Van Nostrand Co. Inc., 1955).

Sperisen, F. J.: *The Art of the Lapidary.* (Bruce Publishing Co., 1950).

Willems, S. D.: *Gem Cutting.* (Manual Arts Press, 1948).

——— *The Books of Gem Cuts,* Volumes 1 and 2. (M.D.R. Mfg. Co., Inc., Los Angeles).

Rockhound Magazines

A number of periodicals catering to the mineral collecting and lapidary hobby are now in existence. They cover such topics as mineral occurrences, gem-cutting techniques, reports on mineral exhibitions, rock club news, etc.

Canadian Rockhound (The). Published bi-monthly by the Lapidary Rock and Mineral Society of British Columbia, P.O. Box 194, Station A, Vancouver.

Earth Science—Rockhounds' National Magazine. Published bi-monthly by Earth Science Publishing Co. Inc., P.O. Box 1357, Chicago 90, Illinois.

Gems and Minerals. Published monthly by Gems and Minerals, P O. Box 687, Mentone, California.

Lapidary Journal (The). Published monthly by Lapidary Journal, Inc., P.O. Box 2369, San Diego 12, California.

Rocks and Minerals in Canada, Published quarterly. Box 550, Campbellford, Ontario.

Rocks and Minerals. Published bi-monthly by Rocks and Minerals Association, P.O. Box 29, Peekskill, New York.

Gemmological and Mineralogical Journals

These publications are of a technical nature requiring a good background in gemmology or mineralogy.

American Mineralogist (The). Published bi-monthly by the Mineralogical Society of America. U.S. National Museum, Washington 25, D.C.

Canadian Mineralogist (The). Published annually by the Mineralogical Association of Canada, 555 Booth Street, Ottawa.

Gemmologist (The). Published monthly by N.A.G. Press Limited, Finwell House, 26 Finsbury Square, London, E.C. 2, England.

Gems and Gemmology. Published quarterly by the Gemmological Institute of America, 11940 San Vicente Boulevard, Los Angeles 49, California.

Journal of Gemmology (The). Published quarterly by the Gemmological Association of Great Britain, 93/94 Hatton Garden, London, E.C. 1, England.

Mineralogical Magazine. Published quarterly by the Mineralogical Society, 41 Queen's Gate, South Kensington, London, E.C. 3, England.

Mineralogical Record (The), Published bi-monthly. P.O. Box 783, Bowie, Maryland.

AMATEUR MINERAL AND ROCK CLUBS IN CANADA

Alberta

Calgary:	Calgary Rock and Lapidary Club, MacDougal School, 4th Avenue & 7th Street NW.

	Calgary Rockcrafters Club, 2711–3rd Avenue NW.
	Rock and Gem Society of Calgary, 85 Langdon Drive.
Claresholm:	Nanton Rock and Gem Society, Legion Hall.
Edmonton:	Edmonton Lapidary Club, 12038–105th Street.
	Gateway Rockhounds, c/o James Browning, 10632–73rd Avenue.
Grande Prairie:	Grande Prairie Rock & Lapidary Club, c/o Mr. Ray Smuland, 10128–94th Avenue.
Ponoka:	Ponoka Rock & Lapidary Club, Box 313.
Red Deer:	Red Deer Rock & Gem Society, c/o S. S. Townsend, 3821–47th Street.
Rocky Mountain House:	Rocky Rock & Gem Club, c/o J. Gaetz.
Wetaskiwin:	Wetaskiwin Lapidary Club, c/o Dr. M. A. Wade, Spralinow Drive.

British Columbia

Abbotsford:	Fraser Valley Rock & Gem Club, c/o Mrs. C. Hendy, 2366 Hillside Drive.

Barriere:	Barriere & District Rock Club, c/o Mr. Carman Smith.
Boston Bar:	Fraser Canyon Rock Club, c/o Mrs. Irene Giesbrecht, Box 149.
Burnaby:	New Westminster Lapidary Club, c/o Mrs. O. Tansley, #18 7459–13th Avenue.
Courtney:	Courtney Gem & Mineral Club, c/o Mr. J. Gordon, Marsden Road.
Coquitlam:	North Burnaby Rock and Gem Club, c/o Mr. K. Clarke, 943 Gatensbury Street.
Cranbrook:	Kootenay Valley Rockhounds, c/o R. E. Dale, 25–10th Avenue S.
Delta:	The Delta Rockhounds, c/o Mrs. Celia Baker, 1694 Enderby Street.
Duncan:	Cowichan Valley Rockhounds, c/o Mrs. K. Jacques, R.R. 2.
Golden:	Columbia Valley Rock & Fossil Club, c/o Mrs. C. Schiesser, Box 192.
Greenwood:	Greenwood Rock & Antique Club, c/o Alice Wade.
Haney:	Maple Ridge Lapidary Club, Box 142.

Invermere:	Flintstone Rock Club, c/o Mrs. Lucille Campbell, Box 476.
Kamloops:	Greater Kamloops Gem & Mineral Club, c/o Mrs. Doreen Green, 1080–12th Avenue.
	Thompson Valley Rock Club, Box 443.
Kelowna:	The 1120 Rock Club, Box 182.
Keremeos:	South Similkameen Rockhounds, c/o Mrs. V. Lund, R.R. No. 1.
Lillooet:	Lillooet Rock & Gem Club, c/o Rene Chipman.
	Mile 'O' Jade & Rock Club, c/o Mr. W. S. Bouvette.
Mission City:	Mission Valley Rock & Mineral Club, Box 253.
Nanaimo:	Skyline Rock & Mineral Club, c/o Mr. W. Lindsay, 2855 Glenayer.
Nelson:	Kokanee Rockhound Club, c/o Mr. John Hobson.
New Westminster:	Burnaby Gem & Mineral Club, c/o Mrs. C. Blais, 2239–9th Avenue.
North Surrey:	Surrey Rockhound Club, c/o Mrs. W. Williams, 13315–104th Avenue.

North Vancouver:	North Shore Rock & Gem Club, Box 236.
Penticton:	Penticton Geology Club, Box 132.
Pitt Meadows:	Gem-N-I Craftsmen, c/o Mr. H. Sutton, 19625 Lougheed Highway.
Powell River:	Powell River Lapidary Club, Box 153.
Prince George:	Spruce City Rock & Gem Club, c/o Mrs. D. Stanton, 833 Alward.
Prince Rupert:	Lapidary Club of Prince Rupert, c/o Recreation Commission, 424–3rd Avenue W.
Princeton:	Princeton Rock & Mineral Club, c/o Mrs. A. Clarke, Box 68.
Quesnel:	Quesnel Rock Club, c/o Mr. M. Pease, Box 2121.
Richmond:	Richmond Gem & Mineral Club, c/o Mrs. E. Dickie, 611 No. 1 Road.
Saanichton:	Sidney Rock Club, c/o Mrs. H. Seeley, 7033 E. Saanich Road.
Smithers:	Bulkley Valley Rock Club, c/o Mrs. Sally Fuhre.
Sooke:	Juan de Fuca Rockhound Club, Saseenos School.

Terrace:	Terrace Lapidary Club, Box 102.
Vancouver:	Lapidary Club of Vancouver, Box 145, Station A, Vancouver 1.
	Hastings Centre Rockhounds, c/o Mr. R. Murdoch, 3111 East 20th Avenue, Vancouver 12.
	Burnaby Laphounds Club, c/o Mrs. E. Taylor, 5511 Ormidale Street, Vancouver 13.
	Dunbar Lapidary Club, 4747 Dunbar Street, Vancouver 13.
Vernon:	Vernon Lapidary & Mineral Club, Box 14.
Victoria:	Victoria Lapidary & Mineral Club, c/o Mrs. K. Tidy, 3329 Cedar Hill Road.
West Vancouver:	Lapidary Club of West Vancouver, c/o Mrs. Vi Seymour, 970 Burley Drive.

Manitoba

Brandon:	Brandon Gem & Mineral Club, c/o Mrs. James McNee, 624–18th Street.
Winnipeg:	Winnipeg Rock & Mineral Club Inc., Box 1282.

Nova Scotia

Bedford:	Nova Scotia Mineral & Gem Society, c/o E. F. Harrington, Box 137.

Ontario

Bancroft:	Bancroft Mineral Society Limited, Box 691.
Barrie:	Barrie Mineralogical Association, Box 463.
Belleville:	Quinte Gem & Mineral Club, Box 433.
Brampton:	Brampton Rock & Mineral Club, Recreation & Community Centre, 8 Main Street South.
Brantford:	Brantford Lapidary & Mineral Club, c/o Gary Bechtel, 119 Mohawk Street.
	Canadian Micro Mineral Association, Box 503.
Brockville:	Brockville Lapidary & Mineral Club, c/o Jack Hodgson, The Rock Centre, R.R. #4.
Kingston:	The Kingston Lapidary & Mineral Club, P.O. Box 1123.
Kitchener:	K-W Gem & Mineral Club, P.O. Box 841.
Lindsay:	Kawartha Rock & Mineral Club, c/o Dr. Ormerod, 2–35½ Cambridge Street.

London:	London Gem & Mineral Club, Box 4551, Station C.
	London Rock Club 438 Scenic Drive
North Bay:	Nipissing Lapidary & Mineral Club, c/o Mrs. Ruth Ward, 367 Wigston Drive.
Oak Ridges:	Oak Ridges Rock & Gem Association, c/o Bill Dickinson, Box 143.
Oakville:	Gemini Rock Club, c/o William Hosking, 1195 Half Moon Lane.
Oshawa:	Oshawa Rock & Mineral Club, c/o Jack Kauffman, Box 53.
Ottawa:	Ottawa Lapsmiths, c/o Mrs. Margaret O'Connor, Box 69, Cumberland.
	Ottawa Valley Mineral Association, Box 2504, Station D.
Port Arthur:	Thunder Bay Lapidary Club, c/o J. Eby, 31 Knight Street.
St. Catharines:	Niagara Peninsula Geological Society, Box 411.
Sarnia:	Sarnia Rock & Fossil Club, c/o L. G. Ritchie, 1240 Ridgewood Drive.

Sault Ste. Marie:	Sault Ste. Marie Mineral Club, c/o John Hilderly, Black Road.
Scarborough:	East Toronto Rock Club, Jack Henry, Secretary, 24 Norbert Road.
Toronto:	Willowdale Gem & Mineral Club, c/o Cliff Vickery, 4 Brendan Road.
	Walker Mineralogical Club, 100 Queen's Park.
	Gem & Mineral Club of Scarborough, c/o Don Johnstone, 116 Mortimer Avenue.

Quebec

Montreal:	Montreal Gem & Mineral Club, Box 217, Station B.
Quyon:	Pontiac—Gatineau Mineral Club, c/o Mr. E. J. Bradley, R.R. 1.

Saskatchewan

Eastend:	Eastend Rock Club, c/o Mr. Vincent Hanline.
Lloydminster:	Lloydminster Rock & Gem Club, c/o Graeme A. Riome, 4616–49th Avenue.
Regina:	Prairie Rock & Gem Society, Regina Recreation Centre, 2134 Winnipeg Street.

Saskatoon:	Saskatoon Rock & Mineral Society, 816–32nd Street W.
Swift Current:	Cypress Rock & Fossil Club, 235–4th Avenue NE.
	Swift Current Lapidary Club, c/o Mr. Harry Wilson, Box 804.

Yukon

Whitehorse:	Whitehorse Lapidary Club, Box 1131.

ADDRESSES

For Federal Geological Reports and Maps:

The Director,
Geological Survey of Canada,
Department of Energy, Mines and Resources,
601 Booth Street, Ottawa.

For Federal Topographical Maps

*The Director,
Surveys and Mapping Branch,
Department of Energy, Mines and Resources,
615 Booth Street, Ottawa.

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* Prepayment is required for all orders; cheques should be made payable to the Receiver General of Canada. Maps cost 50 cents per sheet.

For Provincial Government Reports and Maps:

Alberta:	Department of Lands and Mines, Edmonton.
British Columbia:	Department of Mines, Victoria.
Manitoba:	Mines Branch, Department of Mines and Natural Resources, Winnipeg.
New Brunswick:	Department of Lands and Mines, Fredericton.
Newfoundland:	Department of Mines and Resources, St. John's.
Nova Scotia:	Department of Mines, Halifax.
Ontario:	Department of Mines and Northern Affairs, Toronto.
Prince Edward Island:	The Deputy Provincial Secretary, Provincial Government Offices, Charlottetown.
Quebec:	Director of Geological Services, Department of Natural Resources, Quebec.
Saskatchewan:	Department of Mineral Resources, Regina.

For Travel Information:

The Canadian Government Travel Bureau,
Department of Industry, Trade and Commerce,
150 Kent Street, Ottawa.

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