# CHAPTER 2.

## BUILDING STONE QUARRY AND OCCURRENCE DESCRIPTIONS

**Commercial Stone Name: BRECCIA, RED AND GREEN**
**County: CAPE BRETON**
**Property Name: SCATARIE ISLAND OCCURRENCE**

**NTS**: 11J/04
**Longitude**: 59° 40′00″
**Latitude**: 46° 20′00″
**Sample Number**: 86-01-28 Box 3
**Date**: September 24, 1986
**Property Status**: Undeveloped
**Geological Rock Name**: Felsite breccia
**Possible Uses**: Decorative chips

**Location Description**: Outcrops are located on the western side of Tin Cove west to Ragged Rocks Cove on the southern side of Scatarie Island and on the northern shore between Western Point Cove and Savage Cove (Fig 2).

**Production History**: None

**Colour**: Fresh red and green; weathered dark green and red; variable

**Grain Size**: Medium to coarse; variable
**Texture**: Breccia; variable
**Fabric**: No
**Bedding**: Strike 140°, Dip 41° NE; thickness range 5-20 m in sediments
**Jointing**: Irregular; intensive
**Potential Quarry Block Size**: 12 m x 1 m x 20 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Mineralogy**: The mineralogy is well described by Parks (1914). He stated, "The matrix of all these stones consists of a hard volcanic glass in which minute crystals have been developed by secondary crystallization (devitrification). Scattered through the glassy matrix are larger crystals of orthoclase and some quartz still in a good state of preservation. The colour of this matrix varies from a very light tint to a deep purplish red or to vivid green. The rock is

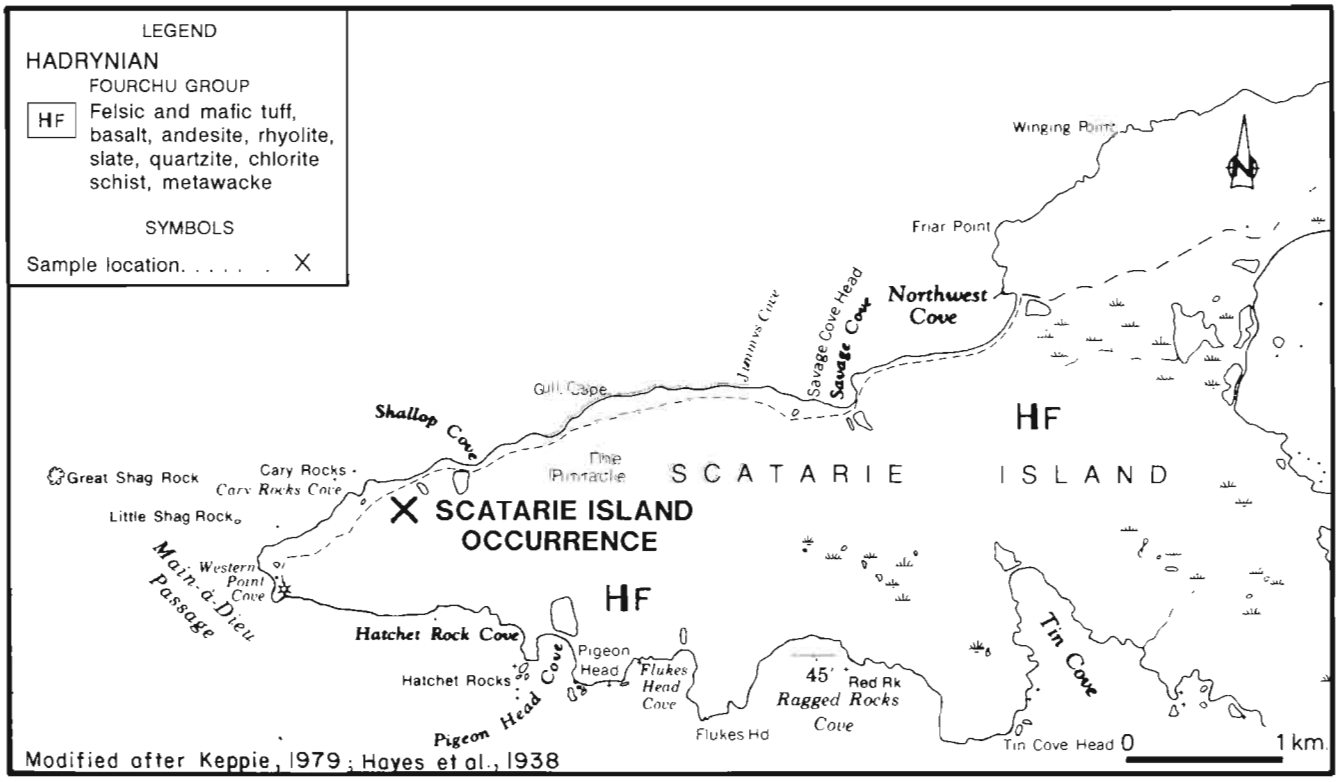



Figure 2. Geological location map for the Scatarie Island occurrence, Cape Breton County (11J/04).

therefore to be regarded as a devitrified rhyolite, and is generally referred to as felsite although this latter term is sometimes applied to dyke rocks having the general chemical nature of granite. Many of the examples collected are therefore red or green felsites of considerable beauty. More striking however are those varieties which have arisen by the breaking up of the original felsites and the cementation of the resulting fragments in fresh flows of lava (felsite breccia). It is evident therefore that two general types of these breccias may occur: red fragments in a green matrix and green fragments in a red matrix. It is also evident that all sorts of fragments may mingle in a single example; in consequence, the actual varieties are almost as many as the pebbles, and are much too numerous to justify a description of each. Typical red and green felsite breccias from Scatari (sic) are shown in Plates XLI and XLII. The considerable beauty of these rocks, in some cases is further enhanced by the occurrence of secondary stringers and blotches of milk white quartz."

**Deleterious Minerals**: Interbedded sediments

**Other Features**: Felsic volcanic breccia is extremely hard due to the high silica content.

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: Parks (1914) ranked the Scatarie Island breccias highly. He stated, "The felsite-breccias, near the west light of Scatari (sic), yield a great variety of bright coloured pebbles, and a polished block is on exhibition at the Provincial Museum, Halifax. But the planes of joints and cleavage, combined with those of bedding, break the rock, and apparently render it unfit for the uses to which, on account of its great beauty, it might otherwise be applied". Immediately at the western light is an unattractive dark grey rock with bands of dull coloured reddish felsite. Proceeding eastward along the northern shore, are handsome felsite-breccias, striking a little north of east and dipping either vertically or at a high angle to the north. In many places the stone is very thinly bedded, but in other parts the width of the individual beds is much greater. The nonbrecciated portions occur in bands sometimes 3 m thick, of a dark chocolate colour, which graduates into a much lighter colour, of no particular beauty, and which weathers more rapidly to a dull white. Interbanded with the felsites are belts of brightly coloured breccias of considerable beauty. While the varieties of these rocks are innumerable, they may be regarded as belonging to two general types: one with a red base and the other with a green base. Besides the variations in colour, the grain of the rock shows transitions from very coarse to very fine. In places, narrow red bands appear which are almost jaspery in colour and hardness. These rocks continue for 1.6 km along the shore and outcrop at intervals beyond Savage Cove. The whole of the coast is strewn with a wonderful profusion of varicoloured pebbles which, when wet, present a most extraordinary display of colour.

On the southwestern end of the coast, the rock first encountered is light in colour and schistose in structure; farther east, light coloured greenish and reddish felsites and felsite-breccias occupy the coast. While constituting beautiful rocks in themselves they are pale and unattractive when compared with the highly coloured examples from the northern shore.

All the rock is thinly bedded and is cut by numerous joints in a north-south direction. In places these joints are so close together that the stone is reduced to small angular fragments. There are, however, many places where much larger material could be obtained, but I think that blocks 0.2 $m^2$ would be the maximum size possible from the surface rock. This coast is exposed to violent storms, so that it is reasonable to believe that surface agents have had much to do with the shattering of the stone. While it would be unwise to hold out any hope for the economic extraction of large blocks suitable for panelling, there is no doubt that pieces of sufficient size could be obtained for the manufacture of clock cases, bases of statuettes, tiles for fireplaces, and for numerous other purposes of a similar kind. It must not be overlooked also that a great deal of waste would be entailed in the production of marketable material and that the product could not be cheaply placed on the market. The hardness, the susceptibility to polishing, and the extraordinary beauty of the stone, however, should more than balance the considerable cost of production. The amount available is enormous.

**Commercial Stone Name: GRANITE, BLACK**
**County: ANTIGONISH**
**Property Name: SOUTH RIVER LAKE QUARRY**

**NTS**: 11F/05
**Longitude**: 61°56′04″
**Latitude**: 45°25′45″
**Sample Number**: Not sampled
**Date**: September 28, 1988
**Property Status**: Abandoned
**Geological Rock Name**: Gabbro
**Possible Uses**: Rubble stone, tiles, possibly monuments

**Location Description**: The old South River Lake Quarry is located on McNaughton Brook, west of Route 316 at South River Lake (Fig. 3).

**Production History**: A small amount of stone was taken from this Quarry in the mid 1930s and used for monuments in Sydney, Nova Scotia.

**Colour**: Black
**Grain Size**: Fine to medium; uniform
**Texture**: Equigranular; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Irregular; moderate to intensive

**Potential Quarry Block Size**: 1 m x 1 m x 50 cm
**Outcrop Exposure**: Fair to good
**Use of Explosives**: Black powder

**Mineralogy**: Medium grained, equigranular pyroxene gabbro. Stone is fresh and contains small amounts of pyrite and pyrrhotite
**Deleterious Minerals**: Pyrite, pyrrhotite, serpentine

**Drilling Details**: One hole SRL-89-01 (Appendix 1, p. 130) was collared on the southern side of McNaughton Brook 15 m west of Route 316 (Fig. 4). The hole was vertical and drilled to a depth of 59.1 m. The gabbro is characterized by abundant serpentine veins and associated alteration.

**Physical Properties**: n/a

**Comments**: The old South River Lake Quarry is presently overgrown. It occupies a 10 m deep gorge that McNaughton Brook flows through. All that remains is an outcrop face 7 m high and a waste pile and cables which at one time supported a stiff leg derrick. Although the stone exposed in the Quarry is

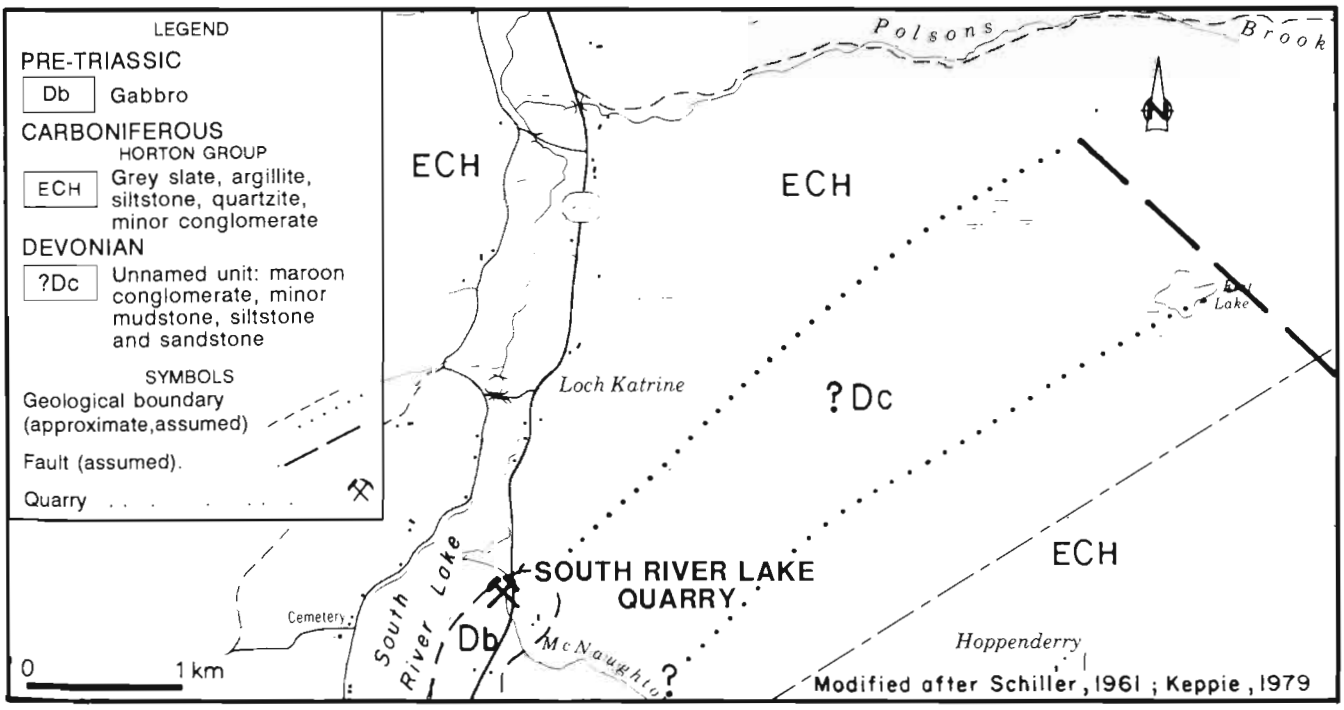
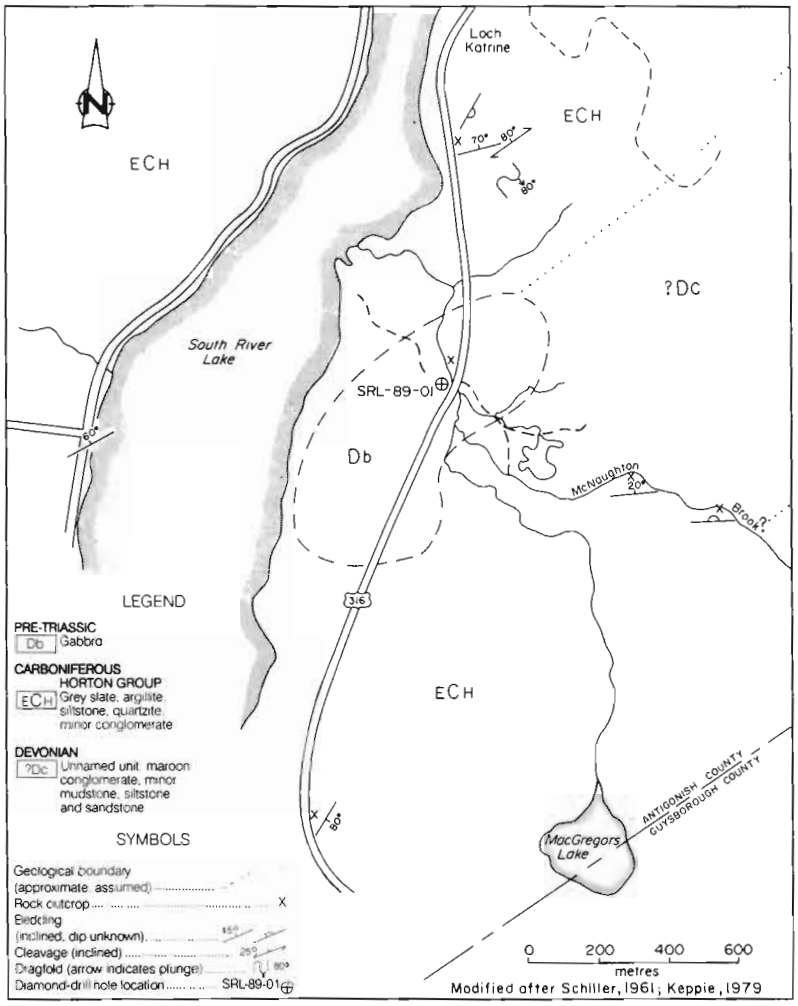



Figure 3. Geological location map for the South River Lake Quarry, Antigonish County (11F/05).



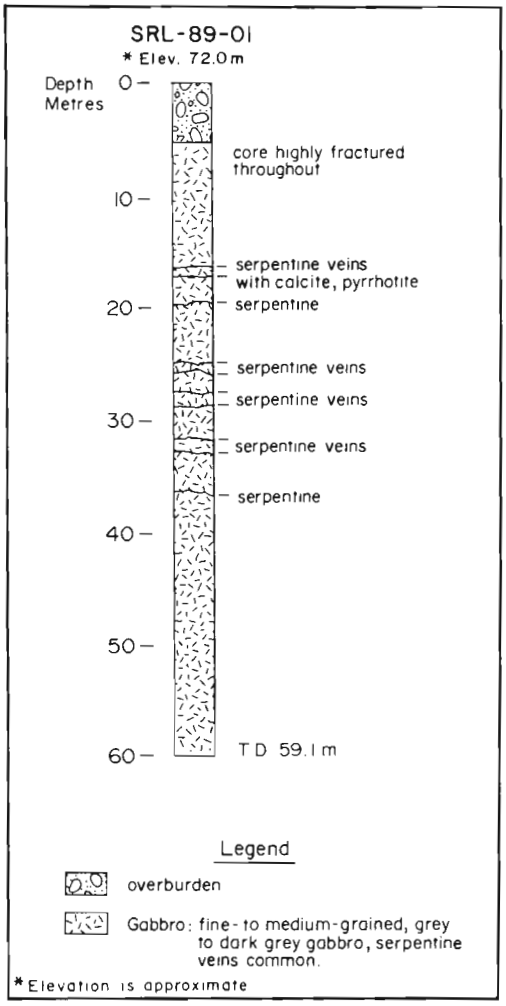




Figure 4. South River Lake, Antigonish County, diamond-drill hole location map (not surveyed) and diamond-drill hole column for SRL-89-01 (11F/05).

excellent quality, the rock cored in the drillhole within 50 m was highly altered and veined. Therefore the available tonnage of good stone would be very limited.

**Commercial Stone Name: GRANITE, BLACK (DAWN BLACK)**
**County: GUYSBOROUGH**
**Property Name: ARSENAULT QUARRY, WEST ERINVILLE**

**NTS**: 11F/05
**Longitude**: 61°46'15"
**Latitude**: 45°23'50"
**Sample Number**: ERV-88-04 Box 2; Sample 6, NSDME Sample Catalogue 89-01
**Date**: September 28, 1988
**Property Status**: Dormant
**Geological Rock Name**: Gabbro
**Possible Uses**: Monuments, tiles

**Location Description**: An opening has been made 500 m east of the northeastern corner of Kellys Lake at West Erinville. Access is provided via a gravel road along the western side of Salmon River 1.2 km northwest of West Erinville (Fig 5).

**Production History**: The first attempts at quarrying were made here in the mid 1930s by a monument maker from Sydney, Nova Scotia. Several hundred tonnes were again removed by Arsenault Monuments Ltd., Antigonish, in 1960. No stone has been quarried since that time.

**Colour**: Fresh black to dark grey; weathered dark grey; uniform
**Grain Size**: Fine to medium; uniform
**Texture**: Equigranular; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Regular to irregular; moderate to intensive
**Grain**: Strike 0°, Dip 63°W; spacing 30 cm-1 m
**Rift**: Strike 106°, Dip 70°N
**Hardway**: Strike 56°, Dip 38°SE
**Potential Quarry Block Size**: 1 m x 2 m x 60 cm
**Outcrop Exposure**: Good
**Use of Explosives**: Black powder

**Mineralogy**: Pyroxene gabbro. Grains of pyroxene up to 4 mm long with grains of plagioclase of the same size with a finer grained matrix of similar composition
**Deleterious Minerals**: Pyrite and pyrrhotite

**Other Features**: The majority of stone exposed in the Quarry is medium grained, dark gabbro, however

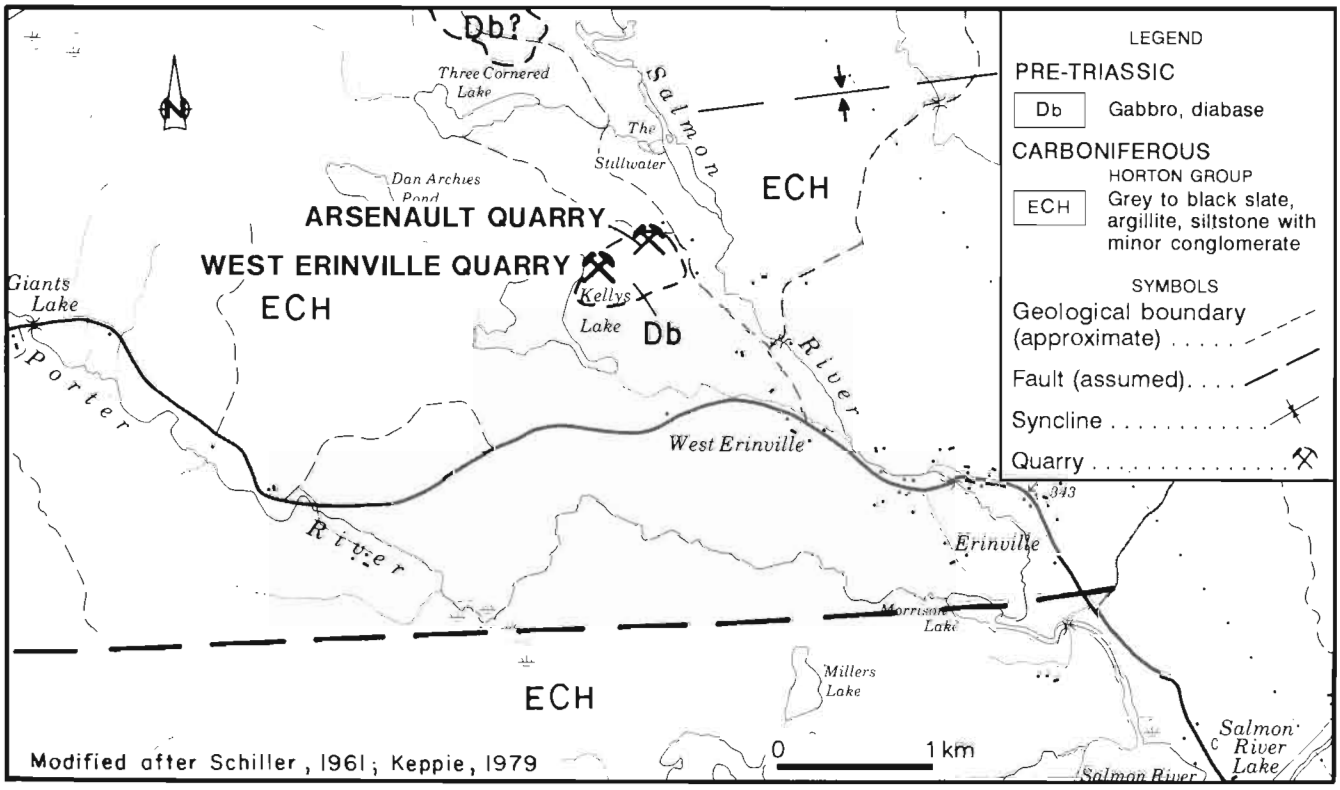



Figure 5. Geological location map for the Arsenault and West Erinville Quarries, Guysborough County (11F/05).

sheets of fine grained, black gabbro cut the main mass parallel to the grain.

**Diamond Drilling Details**: Two holes, ERV-88-01 and ERV-88-04, were collared in the old Quarry (Figs. 6 and 7; Appendix 1, p. 109). The first, NQ size, was drilled vertically to a depth of 62.5 m. The second, HQ size, was collared in the same location and also drilled to 62.5 m. The large core was drilled to obtain samples for testing.

**Physical Properties**: n/a

**Comments**: The old Quarry consists of two openings just south of a small brook. The Quarry is on a sloping, rocky outcrop. It is 25 m in diameter with two holes 5-7 m deep. The most recent Quarry is 10 m south of the old workings which followed a notch eroded into the bedrock. A large volume of stone remains in the waste piles and the quarrying seems to have been done in a haphazard fashion. Due to the high joint frequency, it is very difficult to quarry blocks larger than about 1 t in size. Drilling results indicate that certain zones at depth may have a more favourable joint pattern and further exploration is warranted.

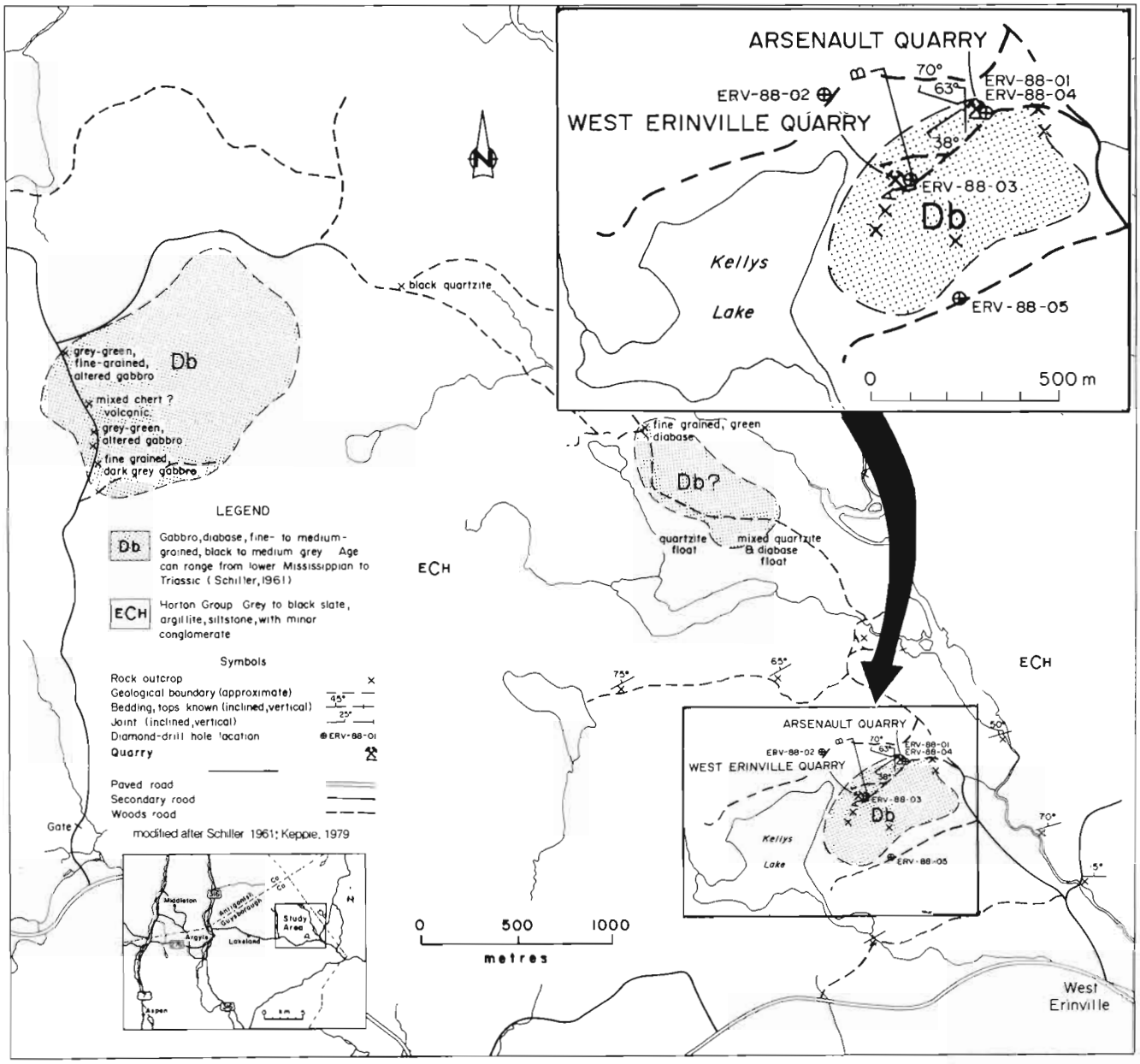



Figure 6. Arsenault and West Erinville Quarries, Guysborough County, geological map and diamond-drill hole locations (not surveyed) (ERV-88-01 to ERV-88-05) (11F/05).

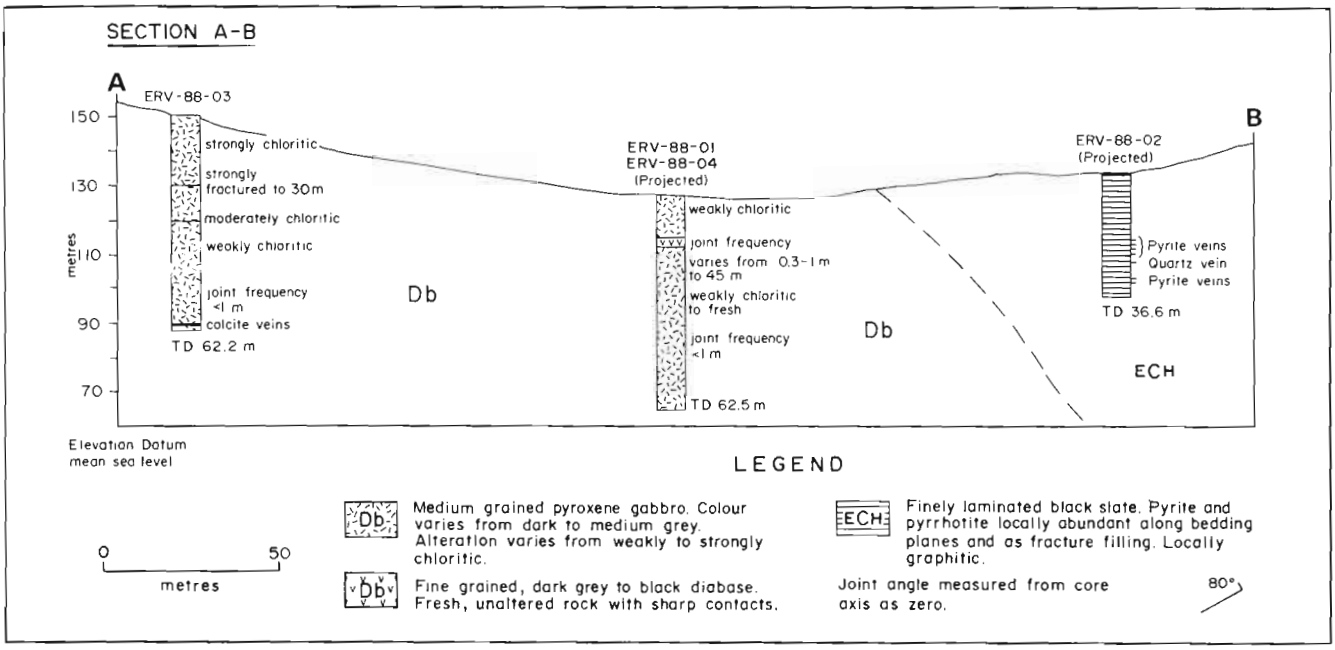



Figure 7. Arsenault and West Erinville Quarries, Guysborough County, geological columns of ERV-88-01 to ERV-88-04 (Section A-B). See Figure 6 for locations.

**Commercial Stone Name: GRANITE, BLACK**
**County: GUYSBOROUGH**
**Property Name: WEST ERINVILLE QUARRY**

**NTS**: 11F/05
**Longitude**: 61°46'34"
**Latitude**: 45°23'48"
**Sample Number**: Not sampled
**Date**: September 28, 1988
**Property Status**: Abandoned
**Geological Rock Name**: Gabbro
**Possible Uses**: None

**Location Description**: The West Erinville Quarry is located 100 m east of the northeastern corner of Kellys Lake, West Erinville (Fig 5, p. 11). It is accessed by a woods road that leads west from the Arsenault Quarry.

**Production History**: The Arsenaults opened this Quarry in the early 1960s, however, due to the poor quality of the stone, no usable stone was ever extracted.

**Colour**: Fresh dark grey green; weathered green; variable
**Grain Size**: Medium; uniform
**Texture**: Equigranular; variable
**Fabric**: No
**Bedding**: No
**Jointing**: Irregular; moderate to intensive
**Potential Quarry Block Size**: 1 m x 1 m x 60 cm
**Outcrop Exposure**: Good
**Use of Explosives**: Black powder

**Mineralogy**: Fine- to medium-grained pyroxene gabbro. Pyroxene completely chloritized producing a brown ochre stain.
**Deleterious Minerals**: Chlorite alteration

**Diamond Drilling Details**: Drillhole ERV-88-3 was collared just east of the Quarry and drilled vertically to a depth of 62.2 m (Figs. 6 and 7). Gabbro is strongly chloritized to 30 m depth and strongly fractured.

**Physical Properties**: n/a

**Comments**: An opening was made on a rocky hillside about 25 m above the base level by Phillip Arsenault in the early 1960s. He stated that no stone of any value was quarried. The hole is 10 m by 5 m and 7 m deep. Extensive jointing and fracturing plus the strong chloritic alteration make further quarry development impossible.

**Commercial Stone Name: GRANITE, BLUE (ATLANTIC MIST GREY)**
**County: ANNAPOLIS**
**Property Name: HERITAGE MEMORIALS LTD. QUARRY, NICTAUX**

**NTS**: 21A/14
**Longitude**: 65°05′28″
**Latitude**: 44°54′02″
**Sample Number**: Sample 8, NSDME Sample Catalogue 89-01
**Date**: August 13, 1986
**Property Status**: Active
**Geological Rock Name**: Biotite granodiorite
**Possible Uses**: Monuments, tiles

**Location Description**: The Heritage Memorials Ltd. Quarry is located 1 km southwest of Nictaux West on the southern side of Route 201 (Figs. 8 and 9). The present Quarry is part of the old Nixon Granite Quarry as described by Carr (1955).

**Production History**: Quarrying began in the Nictaux area in 1889, and three quarries were in production at the time of Parks (1914). Later Carr (1955) stated that two companies, Nixon Granite Works and Gehue's Granite Works, were in production. At present, Heritage Memorials Ltd. quarries 2000 t per year to provide monument blanks and bases for their monument business in Windsor.

**Colour**: Fresh blue grey; weathered grey; uniform
**Grain Size**: Fine to medium; uniform
**Texture**: Equigranular; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Regular to irregular; moderate to intensive
**Sheeting**: Strike 8°, Dip 3° W; spacing 1-2 m
**Rift**: Strike 80°, Dip 80° S; spacing irregular
**Hardway**: Strike 144°, Dip 74° E; spacing irregular
**Potential Quarry Block Size**: 2 m x 1 m x 1 m
**Outcrop Exposure**: Good
**Use of Explosives**: Black powder

**Mineralogy**: Fine grained, equigranular biotite granodiorite, plagioclase 55%, biotite 15%, quartz 30%
**Deleterious Minerals**: Xenoliths of black slate

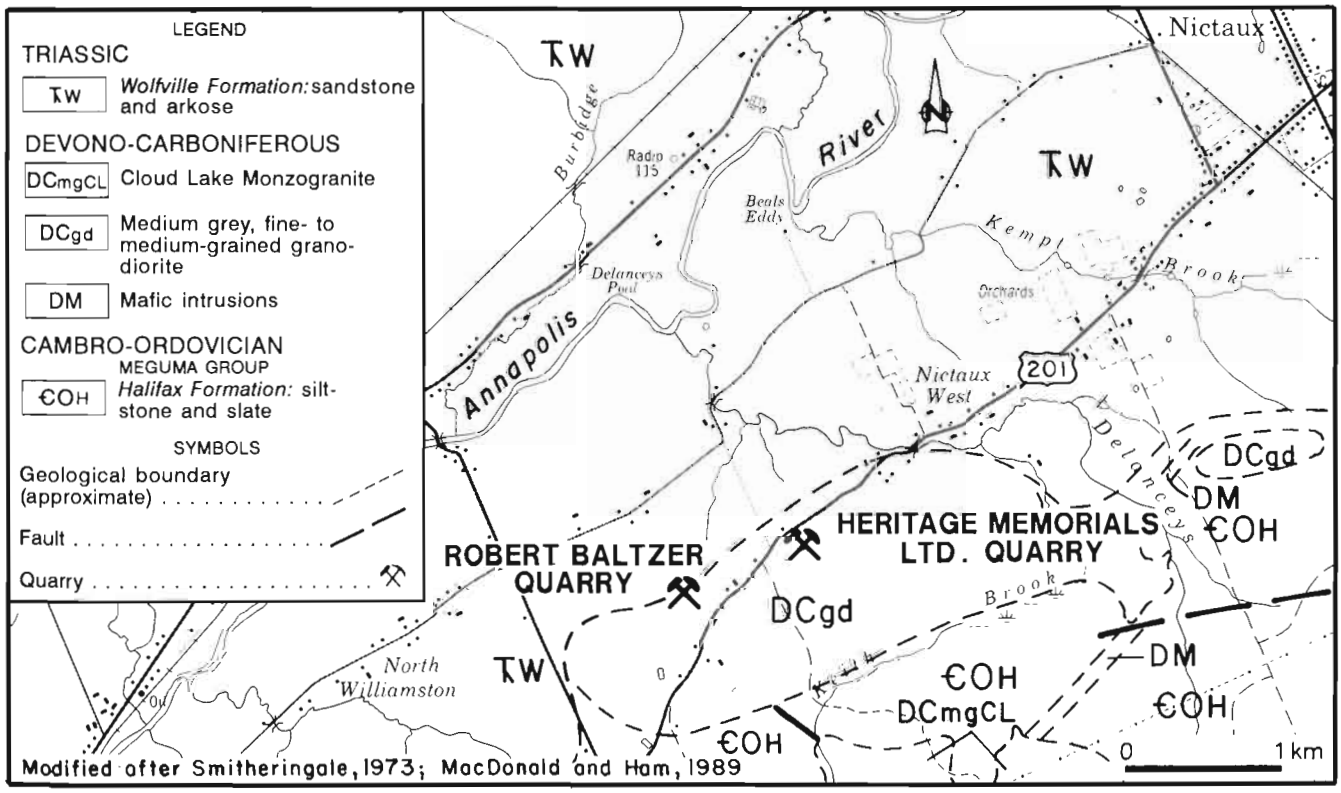



Figure 8. Geological location map for the Heritage Memorials Ltd. and Robert Baltzer Quarries, Annapolis County (21A/14).

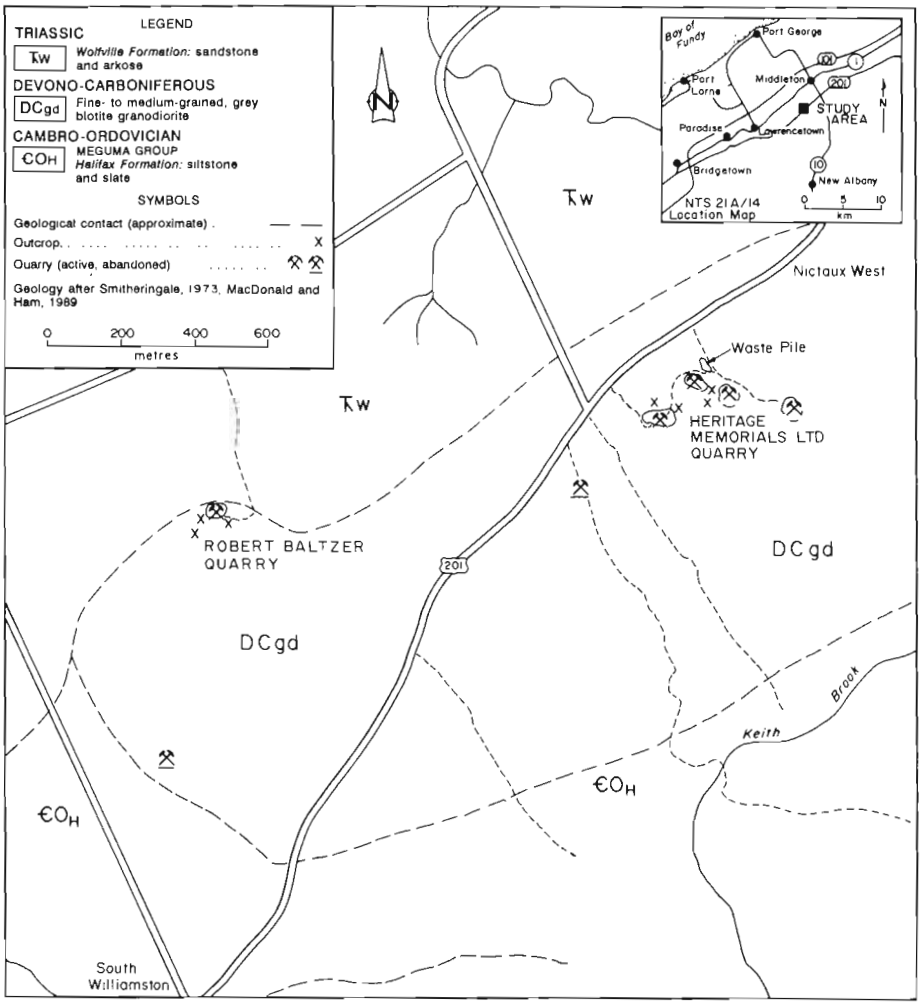


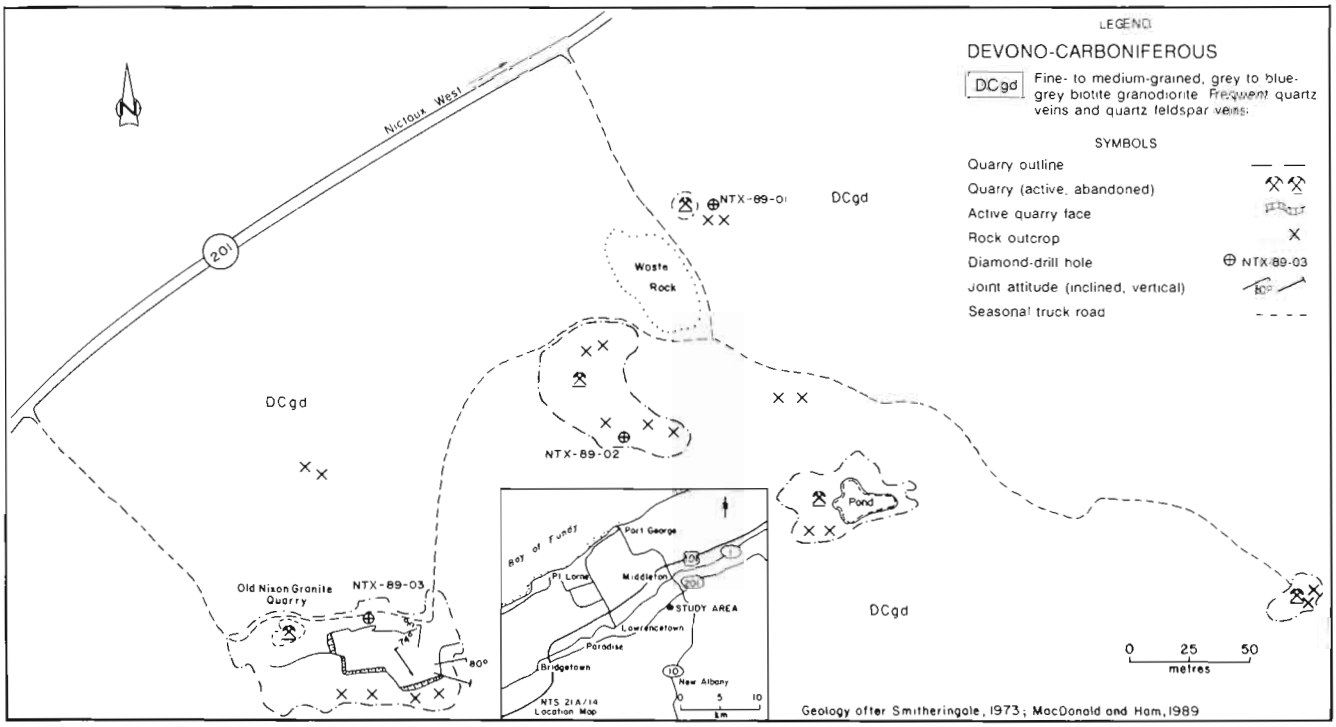

Figure 9. General geology and detailed locations of Heritage Memorials Ltd. and Robert Baltzer Quarries, Annapolis County (21A/14).

**Other Features**: The granodiorite is cut by numerous quartz veins (streaks) which are up to 5 mm wide. Also present are narrow aplite and pegmatite dykes.

**Diamond Drilling Details**: Three holes totalling 116.8 m were drilled by the Nova Scotia Department of Mines and Energy in February 1989 (NTX-89-01 to NTX-89-03; Appendix 1, p. 121). The holes were collared up to 300 m apart in three old quarry workings (Fig. 10). The two western holes cut fresh blue-grey, fine- to medium-grained granodiorite similar to the Quarry exposures. The eastern hole cuts hydrothermally altered rock which contains abundant quartz-feldspar dykes and quartz veins. The fracture density did not diminish with depth so the problems associated with high joint frequency at surface will remain as the quarry is worked to greater depths.

**Physical Properties** (Parks, 1914): Specific weight 167.628 lbs/ft$^3$, Absorption 0.137%, Compressive strength 34,058 lbs/in$^2$, Transverse strength 3,572 lbs/in$^2$

**Comments**: The present Quarry is operated only 8-10 weeks of the year by personnel who travel from the Heritage Memorials plant in Windsor. They quarry only enough stone to meet their own requirements for monument blanks and bases. The combination of quartz and pegmatite veins coupled with the erratic joint pattern make the quarrying of large blocks very difficult. Also the presence of abundant xenoliths results in a high waste factor when the blocks are cut. It is possible, that as the waste factor increases, a point will eventually be reached where it will be less expensive to purchase stone from outside the Province than to quarry at Nictaux.



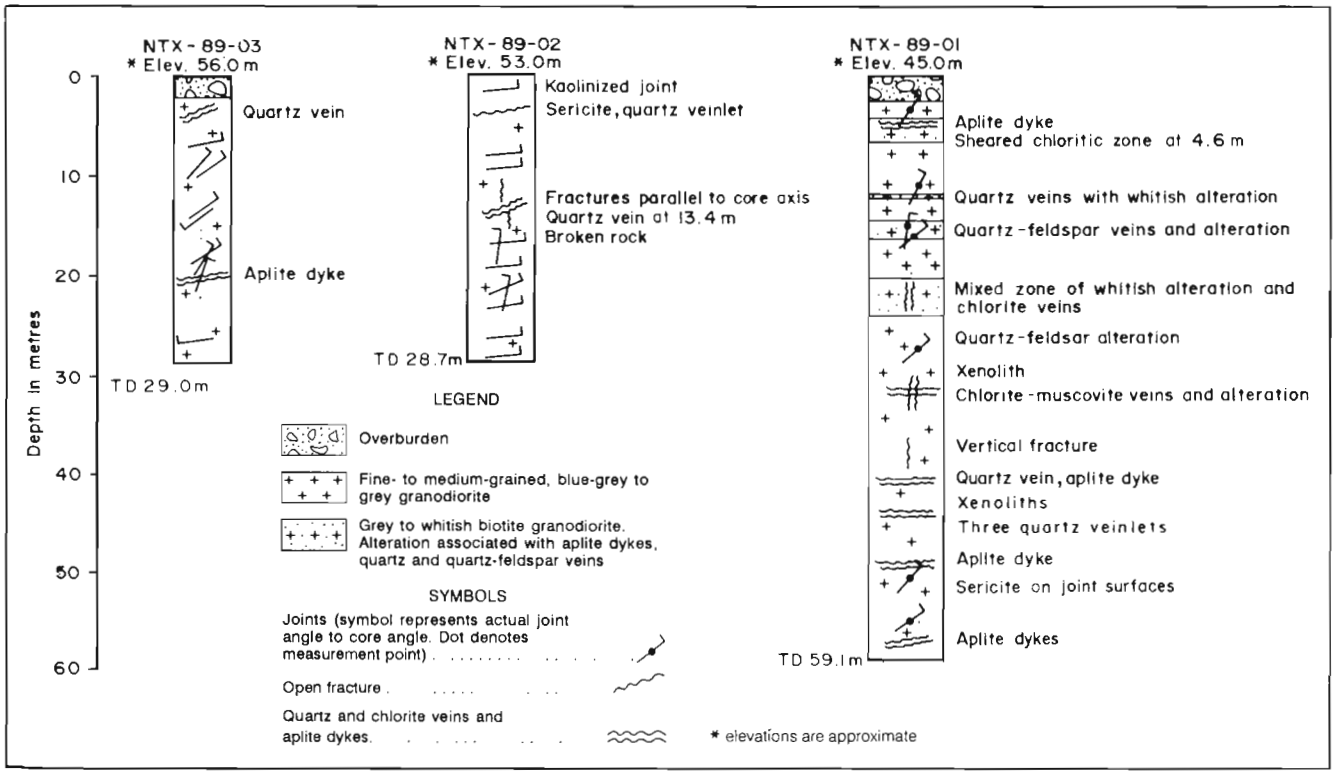




Figure 10. Heritage Memorials Ltd. Quarry, Nictaux, Annapolis County, diamond-drill hole locations (not surveyed) and schematic columns (NTX-89-01 to NTX-89-03) (21A/14).

**Commercial Stone Name: GRANITE, BLUE**
**County: ANNAPOLIS**
**Property Name: ROBERT BALTZER QUARRY, SOUTH WILLIAMSTON**

**NTS**: 21A/14
**Longitude**: 65°06′38″
**Latitude**: 44°53′49″
**Sample Number**: Drill core SWN-89-01
**Date**: March 1989
**Property Status**: Prospect
**Geological Rock Name**: Biotite granodiorite
**Possible Uses**: Monuments?, tiles

**Location Description**: This quarry prospect is located on the farm of Robert Baltzer, 1.3 km southwest of the Heritage Memorials Ltd. Quarry (Figs. 8, p.15; and 9, p. 16). Access is provided by a road south from the Baltzer house 550 m to the site.

**Production History**: A test pit was excavated in July 1988 by Robert Baltzer and a face about 15 m long and 7 m high was exposed. No commercial production has taken place.

**Colour**: Fresh blue grey; weathered grey; uniform; variable
**Grain Size**: Fine to medium; uniform
**Texture**: Equigranular; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Irregular; moderate to intensive
**Potential Quarry Block Size**: 1 m x 1 m x 50 cm
**Outcrop Exposure**: Fair to good
**Use of Explosives**: Black powder

**Mineralogy**: Fine- to medium-grained, equigranular biotite granodiorite, plagioclase 50%, biotite 15%, quartz 35%

**Deleterious Minerals**: Xenoliths and quartz veins

**Other Features**: Numerous quartz and quartz/feldspar veins cut the granite at random angles.

**Diamond Drilling Details**: Three holes totalling 62 m were drilled on the property (SWN-89-01 to SWN-89-03; Appendix 1, p. 131). All were vertical and varied from 15.8-26.4 m in depth. They were spaced at 15 m intervals and were located just south of the face of the exploration quarry (Fig. 11). The two eastern holes intersected typical fine- to medium-grained biotite granodiorite similar to the rock in the Heritage Memorials Ltd. Quarry. Fracture density was also similar to the rock in the Heritage Quarry. The most westerly hole intersected either a contact zone or a major fault zone because the core was strongly hematized, chloritized and fractured. In order to determine the size of the fault zone some trenching would be required.

**Physical Properties**: n/a

**Comments**: This prospect contains rock similar to the Heritage Memorials Ltd. Quarry. Outcrop exposure suggests that the fracture and joint density is no less than in the Heritage Quarry. Although the stone has a pleasing colour in the vicinity of the test pit, the waste factor may be extremely high in a quarry operation in this location. The same problems with xenoliths and quartz veins which occur at the Heritage Memorials Ltd. Quarry also exist at this location.

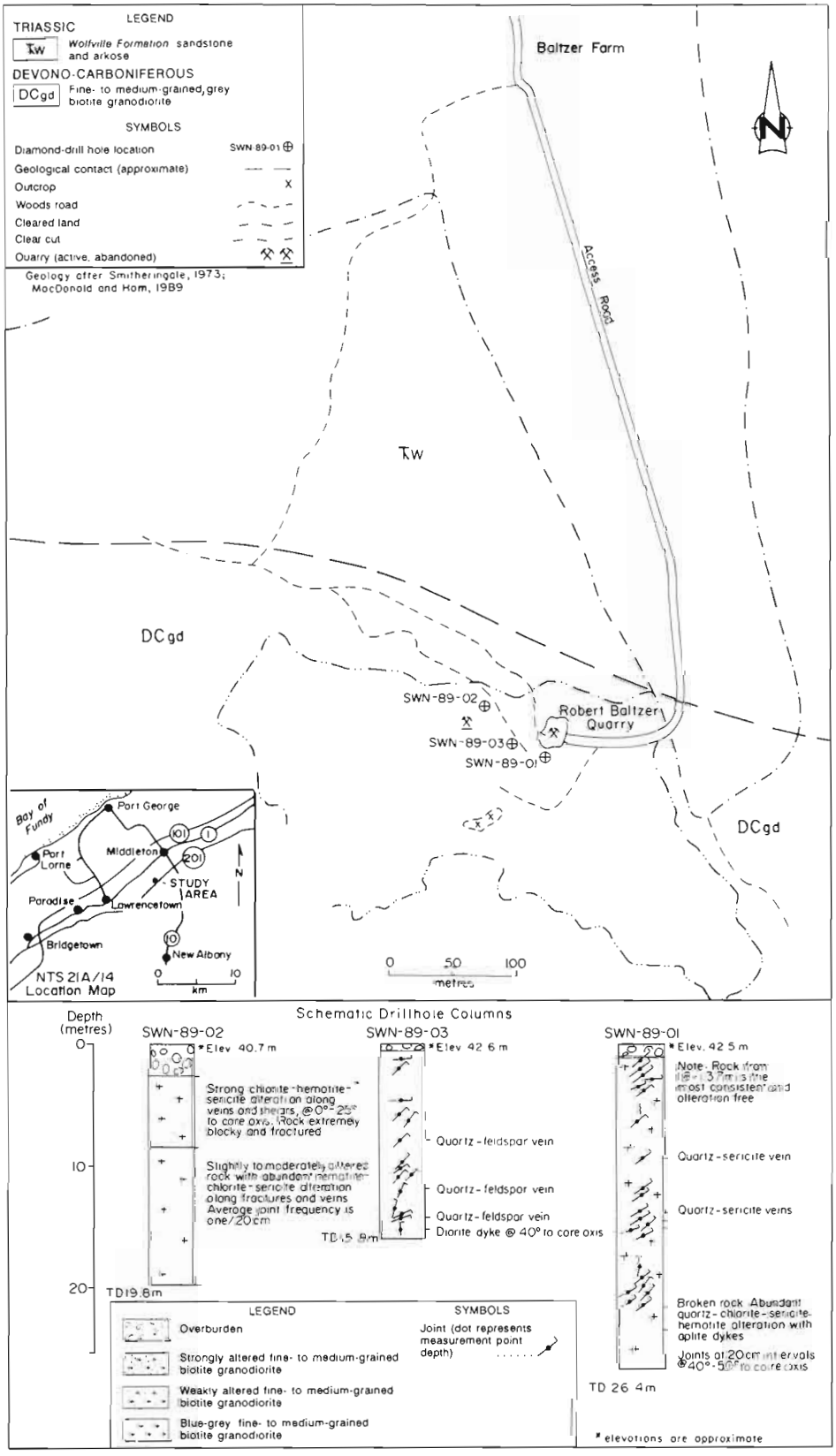



Figure 11. Robert Baltzer Quarry, South Williamston, Annapolis County, diamond-drill hole locations (not surveyed) and columns (SWN-89-01 to SWN-89-03) (NTS 21A/14).

**Commercial Stone Name: GRANITE, GREY**
**County: GUYSBOROUGH**
**Property Name: QUEENSPORT QUARRY**

**NTS**: 11F/06
**Longitude**: 61° 15′54″
**Latitude**: 45° 20′00″
**Sample Number**: 86-01-14 Box 1
**Date**: August 27, 1986
**Property Status**: Abandoned
**Geological Rock Name**: Granite
**Possible Uses**: Quarry 1: monuments, tiles, ashlar, rubble stone; Quarry 2: monuments(?), rubble stone, armour stone

**Location Description**: Two quarries were worked at Queensport (Carr, 1955). The first is 61 m above sea level, 1.5 km southwest of the bridge at Queensport. Access is via an old road from the gravel pit marked on the topographic sheet. It is 1.2 km by road from the edge of the gravel pit. The second quarry is on the western side of the road 540 m north of the first (Fig. 12).

**Production History**: According to a local man, Mr. Jamieson, who worked in the Quarry as a young man, two men from Sydney, Nova Scotia, began quarrying stone some time after 1900. It ran until 1935 when the owner died. The Quarry was recently acquired by Dauphinee's of Shelburne, although there has been no production since 1935.

## Quarry 1

**Colour**: Fresh yellowish grey; weathered dark grey; uniform
**Grain Size**: Fine to medium; uniform
**Texture**: Equigranular; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Regular; moderate
**Grain**: Dip horizontal; spacing 1 m
**Rift**: Strike 144°, Dip vertical; spacing wide
**Hardway**: Strike 39°, Dip vertical; spacing very wide
**Potential Quarry Block Size**: 2 m x 2 m x 1 m
**Outcrop Exposure**: Excellent

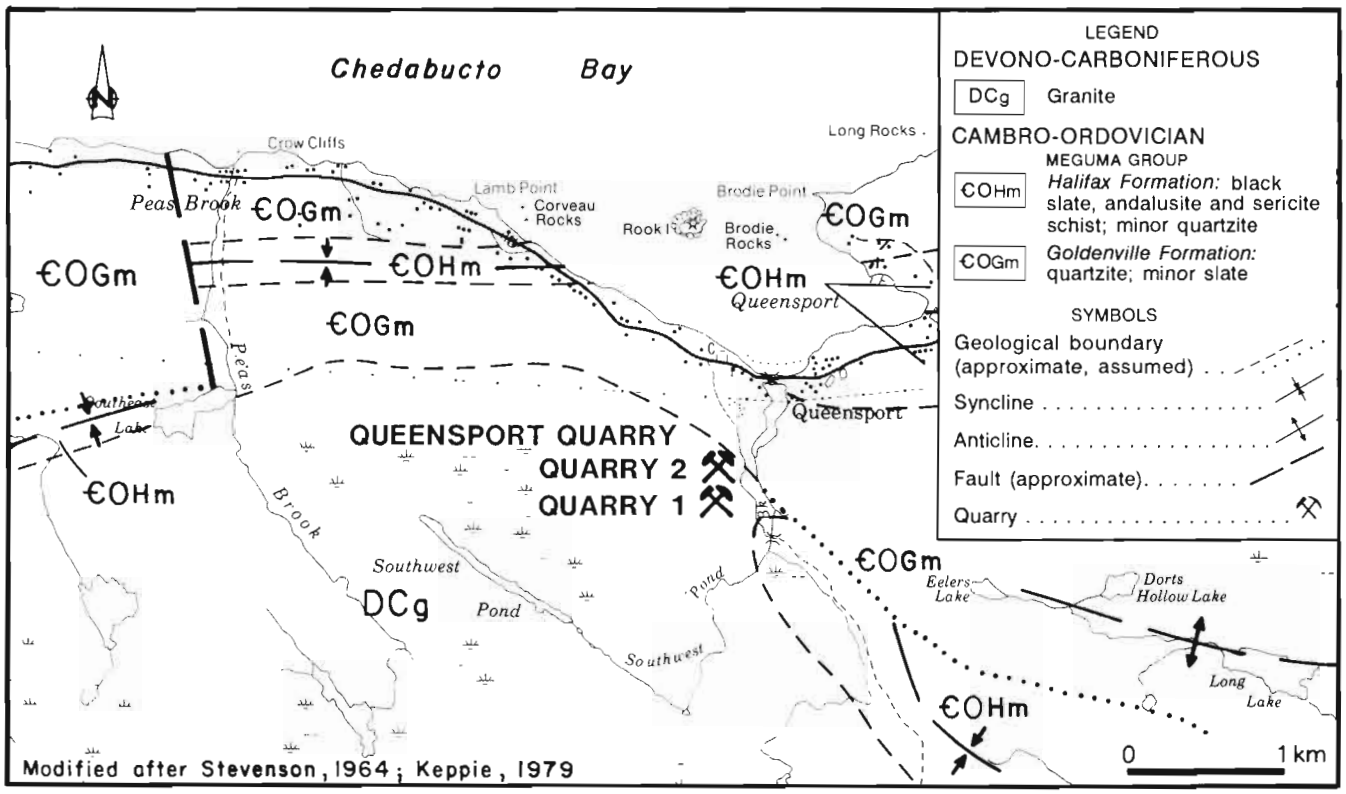



Figure 12. Geological location map for the Queensport Quarry, Guysborough County (11F/06).

**Use of Explosives**: Black powder

**Mineralogy**: 65% feldspar, 5% muscovite, 20% quartz (this is one of the hardest granites to saw of any sampled), 10% biotite
**Deleterious Minerals**: No

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: Stone was quarried roughly to size and hauled to a finishing plant by teams of horses. The plant was located on the brook and power was supplied by water. There was no saw, only a polisher. As many as 20 men were employed in the 1930s (personal communication, Jamieson). Granite was simply stripped off the surface of the rock which is horizontal. Sheeting allowed removal of blocks up to 1 m thick. The granite from this Quarry was primarily used for monument base stock because it is somewhat coarser grained than that in Quarry 2. Considering the yellow colour of the stone available, coupled with its hardness, further development of the Quarry for building stone is unlikely.

**Quarry 2**

**Colour**: Fresh yellowish grey; weathered orange grey
**Grain Size**: Fine to medium; uniform
**Texture**: Equigranular; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Irregular; moderate to intensive
**Grain**: Strike 60°, Dip 30° SE; spacing 1-2 m
**Rift**: Strike 176°, Dip 80° E; spacing 50 cm-1 m
**Potential Quarry Block Size**: 1 m x 50 cm x 50 cm
**Outcrop Exposure**: Good
**Use of Explosives**: Possibly high explosive

**Mineralogy**: 65% feldspar, 1% muscovite, 20% dark quartz, 14% biotite

**Deleterious Minerals**: No

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: The Quarry is 540 m north of Quarry 1. The excavation is semicircular in shape, 50 m in diameter and 20 m deep. The rock is highly fractured and high explosives may have been used. The local people suggest that this stone was used for monument blanks. Due to the highly fractured nature of the rock, the Quarry has limited potential for further development for building stone. It may, however, be an excellent source of granite for armour stone and aggregate.

**Commercial Stone Name: GRANITE, GREY**
**County: HALIFAX**
**Property Name: COUGLAN QUARRY, PURCELLS COVE**

**NTS**: 11D/12
**Longitude**: 63°34′16″
**Latitude**: 44°36′33″
**Sample Number**: Not sampled
**Date**: August 26, 1989
**Property Status**: Abandoned
**Geological Rock Name**: Monzogranite
**Possible Uses**: Monuments, pavers, tiles

**Location Description**: The Couglan Quarry is located 400 m west of Route 253 and 400 m north of Purcells Pond (Fig. 13). It can be reached by an old cart track which is located at the old school building in Purcells Cove. The Quarry is at 45 m elevation.

**Production History**: Granite was quarried in this location by the Couglan family for several generations. The stone was used mainly for monuments and building stone. Production ceased when the business failed in the 1960s.

**Colour**: Fresh whitish grey; weathered yellowish grey; uniform
**Grain Size**: Medium; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Regular; moderate to intensive
**Grain**: Strike horizontal
**Rift**: Strike not determined, Dip vertical
**Potential Quarry Block Size**: 1 m x 50 cm x 50 cm
**Outcrop Exposure**: Good to excellent
**Use of Explosives**: Black powder

**Mineralogy**: Typical white to whitish-grey biotite monzogranite. Combined feldspar (50%), quartz (40%), biotite (10%)
**Deleterious Minerals**: No

**Other Features**: Abundant xenoliths of black slate and greywacke

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: The Couglan Quarry produced a high volume of waste due to the random nature of the fracture pattern. Local residents say that a tramway carried stone from the Quarry to the Queen Wharf in Purcells Cove.

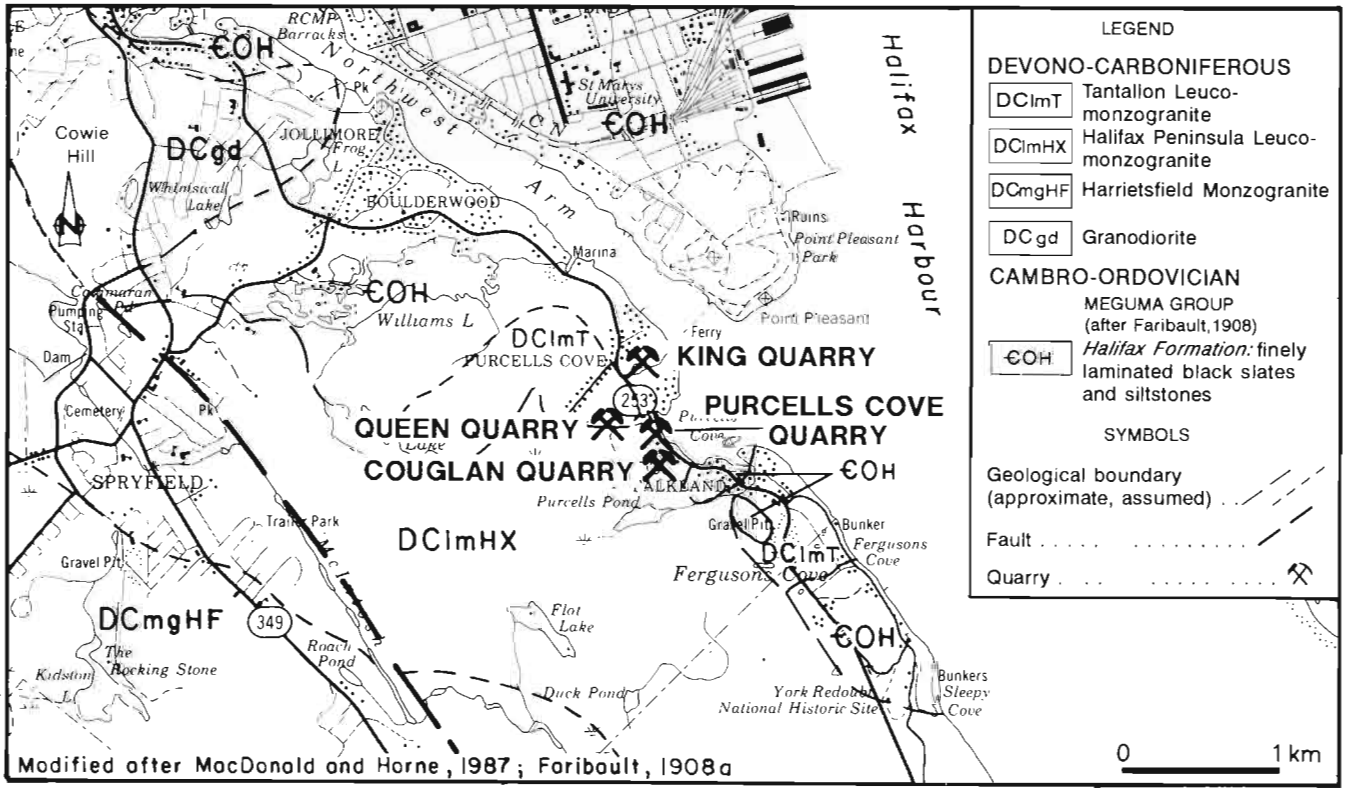



Figure 13. Geological location map for the Couglan, Purcells Cove, Queen and King Quarries, Halifax County (11D/12).

**Commercial Stone Name: GRANITE, GREY**
**County: HALIFAX**
**Property Name: FLETCHERS LAKE QUARRY**

**NTS**: 11D/13
**Longitude**: 63°36'42"
**Latitude**: 44°50'43"
**Sample Number**: 87-01-05A Box 3
**Date**: June 26, 1987
**Property Status**: Abandoned
**Possible Uses**: Curbing, monuments, tile

**Location Description**: Fletchers Lake Quarry is located on the western side of Fletchers Lake, 1.5 km south of where the Canadian National Railway line crosses the Lake outlet (Fig. 14).

**Production History**: Production history is unknown. The Fletchers Lake Quarry was recorded by Faribault (1909) on his geological map. There is no other record of production.

**Colour**: Fresh white to grey; weathered grey; uniform
**Grain Size**: Medium; uniform
**Texture**: Equigranular to porphyritic; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Regular to irregular; moderate
**Grain**: Strike subhorizontal; spacing irregular
**Rift**: Strike 175°, Dip 82°E
**Hardway**: Strike 60°, Dip 82°SW

**Potential Quarry Block Size**: 2 m x 2 m x 1 m
**Outcrop Exposure**: Excellent
**Use of Explosives**: No

**Mineralogy**: Very fresh looking granodiorite to monzogranite. Feldspar (65%), quartz (30%), biotite (5%)
**Deleterious Minerals**: No

**Other Features**: Stone seems free of xenoliths and veining

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: The land behind the old Quarry rises steeply to 100 m in elevation. The Quarry is an opening in the face of a rock bluff. Large blocks were drilled and wedged off the 5 m high working face by plug and feathers. Quarrying was carried out along the natural cliff face over a distance of 50 m. The stone breaks well by plug and feather technique producing straight sides with no runout. This stone is one of the finest seen in the Halifax area, but unfortunately the Quarry is located about 200 m from active residential settlement on the eastern side of Fletchers Lake. Further exploration of the granite inland from the Lake could outline a suitable deposit.

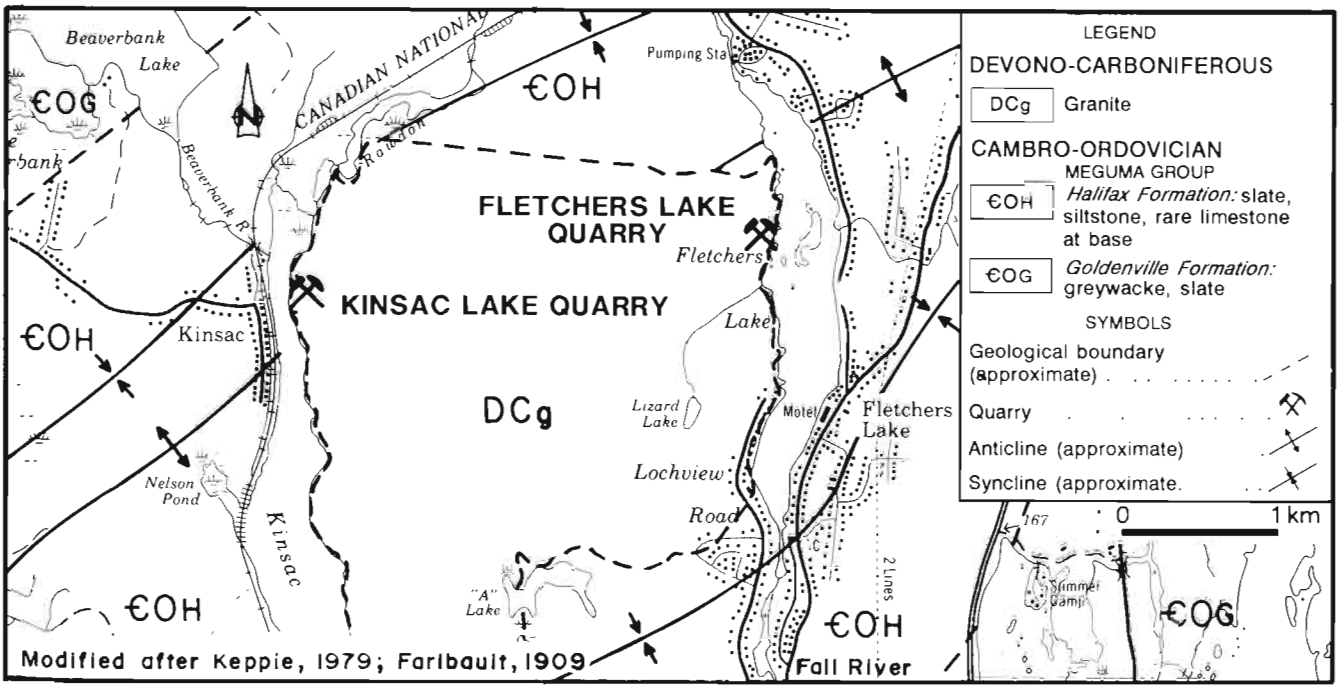



Figure 14. Geological location map for the Fletchers Lake and Kinsac Lake Quarries, Halifax County (11D/13).

**Commercial Stone Name: GRANITE, GREY**
**County: HALIFAX**
**Property Name: GRANITE QUARRY, JOLLIMORE**

**NTS**: 11D/12
**Longitude**: 63° 36′02″
**Latitude**: 44° 37′37″
**Sample Number**: Not sampled
**Date**: August 26, 1986
**Property Status**: Abandoned
**Geological Rock Name**: Granodiorite
**Possible Uses**: Limited because of the small size of quarry blocks

**Location Description**: The Granite Quarry is located on the eastern side of Route 253, 200 m north of the brook which connects Whimsical Lake and Frog Lake (Fig. 15). No quarry face was seen although a depression exists where the old Quarry should be.

**Production History**: Unknown

**Colour**: Fresh grey; weathered grey; uniform
**Grain Size**: Medium; uniform
**Texture**: Uniform

**Fabric**: No
**Bedding**: No
**Jointing**: Irregular; intensive
**Potential Quarry Block Size**: 1 m x 50 cm x 50 cm
**Outcrop Exposure**: Fair
**Use of Explosives**: No

**Mineralogy**: Grey granodiorite, plagioclase (50%), quartz (35%), biotite (15%)
**Deleterious Minerals**: No

**Other Features**: The presence of black knots or xenoliths in moderate numbers detracts from the stone.

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: This area is now residential and the old Granite Quarry is in a resident's backyard; it would be impossible to quarry stone because of the settlement.

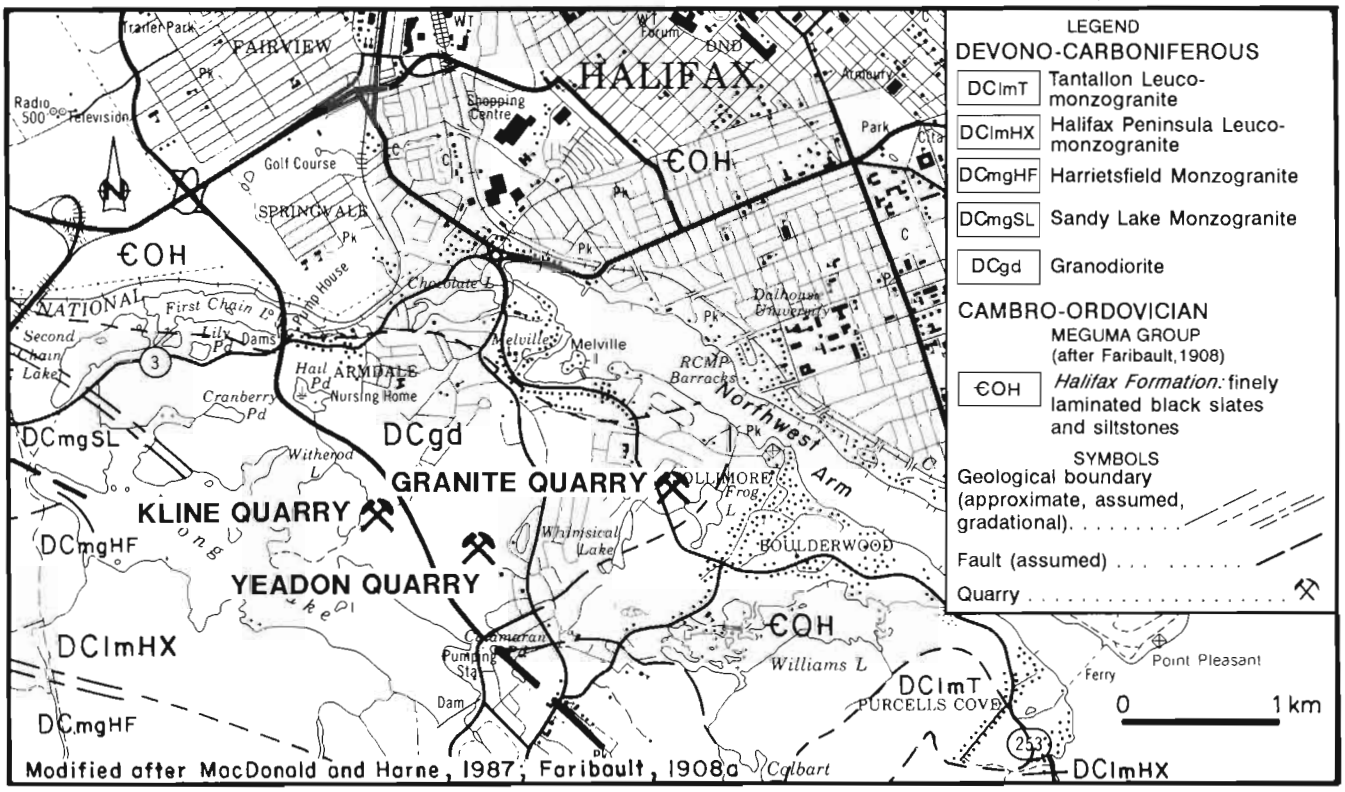



Figure 15. Geological location map for the Granite, Kline and Yeadon Quarries, Halifax County (11D/12).

**Commercial Stone Name: GRANITE, GREY**
**County: HALIFAX**
**Property Name: KINSAC LAKE QUARRY**

**NTS**: 11D/13
**Longitude**: 63°38′59″
**Latitude**: 44°50′32″
**Sample Number**: Not sampled
**Date**: June 24, 1987
**Property Status**: Abandoned
**Geological Rock Name**: Biotite monzogranite
**Possible Uses**: Limited to small rough block stone work and possibly tiles

**Location Description**: There is an opening on the eastern side of Kinsac Lake directly across the Lake from the Village of Kinsac. The opening is 600 m south of the Lake outlet to the Rawdon River (Fig. 14, p. 23).

**Production History**: The production history is unknown. The Quarry is located on Faribault's (1909) geology map which indicates activity sometime prior to 1909.

**Colour**: Fresh whitish grey with shades of pink; weathered grey; variable
**Grain Size**: Medium; uniform
**Texture**: Mildly porphyritic; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Irregular; moderate
**Grain**: Strike horizontal; spacing 1-1.5 m
**Rift**: Strike 85°, Dip 73°S; spacing 1.5 m
**Hardway**: Strike 140°, Dip vertical; spacing 1.5 m
**Potential Quarry Block Size**: 1 m x 50 cm x 50 cm
**Outcrop Exposure**: Good to excellent
**Use of Explosives**: No

**Mineralogy**: Combined feldspar (60-70%), quartz (15-20%), biotite (5%), muscovite (5%). Clusters of biotite and muscovite up to 1 cm common. Phenocrysts of feldspar up to 1-2 cm long are frequent.
**Deleterious Minerals**: No

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: Two openings were made in the outcrop at the shoreline of the Lake. The most northerly was 10 m long and 7 m east into the rock bluff. The back face is 4 m high. Immediately to the south, a notch about 5 m long by 5 m wide was cut into the outcrop. Here the face is about 4 m high. It is difficult to determine quarry parameters. There was difficulty in obtaining square blocks. Runout was apparent on the east-west joint set. In the southern hole plug and feather holes seemed to be incorrectly aligned because runout was observed on most faces. Few blocks over 1 m by 70 cm by 30 cm were seen.

**Commercial Stone Name: GRANITE, GREY**
**County: HALIFAX**
**Property Name: KLINE QUARRY, COWIE HILL**

**NTS**: 11D/12
**Longitude**: 63°37'37"
**Latitude**: 44°37'32"
**Sample Number**: Not sampled
**Date**: August 26, 1986
**Property Status**: Abandoned
**Geological Rock Name**: Granodiorite
**Possible Uses**: Possibly tiles, monument bases

**Location Description**: The Kline Quarry (Faribault, 1908a) is located on the western side of the Dunbrack-Spryfield extension, 200 m northeast of the southeastern corner of Witherod Lake near a power line (Fig. 15, p. 24).

**Production History**: Parks (1914) described the Kline Quarry as several small openings with six derricks in operation. It produced polished stone chiefly for monuments and for building. The Quarry has long been abandoned.

**Colour**: Fresh grey; weathered grey; uniform
**Grain Size**: Medium; uniform
**Texture**: Porphyritic; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Irregular; moderate to intensive
**Grain**: Strike 90°, Dip vertical; spacing 50 cm-2 m
**Rift**: Strike horizontal; spacing unknown
**Hardway**: Strike 15°, Dip vertical; spacing 50 cm-3 m
**Potential Quarry Block Size**: 3 m x 1 m x 50 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Mineralogy**: Plagioclase (50%), quartz (40%), biotite (10%)
**Deleterious Minerals**: No

**Other Features**: Granite contains abundant black knots or xenoliths

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: The Kline Quarry is adjacent to a settled area on Cowie Hill and production is unlikely to resume. Similar granite at Quarry Lake Quarry (p. 28), Halifax County, may prove to be a better source of this type of granodiorite.

**Commercial Stone Name: GRANITE, GREY**
**County: HALIFAX**
**Property Name: PURCELLS COVE QUARRY**

**NTS**: 11D/12
**Longitude**: 63°34'09"
**Latitude**: 44°36'35"
**Sample Number**: Not sampled
**Date**: August 26, 1989
**Property Status**: Abandoned
**Geological Rock Name**: Monzogranite
**Possible Uses**: Cladding, curbing, tiles and ashlar

**Location Description**: This is a large quarry excavation on the western side of Route 253 at Purcells Cove where the water comes closest to the road (Fig. 13, p. 22). A private residence presently occupies the old quarry floor.

**Production History**: The local inhabitants stated that the Purcells Cove Quarry was used for building stone after the old Queen Quarry was abandoned and then in later years was used for armour stone and rip rap.

**Colour**: Fresh whitish grey; weathered grey; uniform
**Grain Size**: Medium to coarse; uniform
**Texture**: Porphyritic; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Regular; limited to moderate
**Grain**: Strike 147°, Dip 5°SE; spacing not determined
**Rift**: Strike 64°, Dip vertical; spacing 3-4 m
**Hardway**: Strike 148°, Dip 58°SW; spacing 2 m

**Potential Quarry Block Size**: 2 m x 2 m x 1 m
**Outcrop Exposure**: Excellent
**Use of Explosives**: Black powder and dynamite

**Mineralogy**: Combined feldspar (50%), quartz (40%), biotite (5-10%). This granite is similar to the Terence Bay stone, but with less cordierite
**Deleterious Minerals**: No

**Other Features**: The presence of xenoliths may detract from the Quarry's potential as a producer of large uniform blocks.

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: The Quarry is semicircular in shape, 125 m in diameter with the western face over 35 m high rising nearly vertically. The latest use of the Quarry appears to be for armour stone and rip rap. Several 10 cm blast holes were visible on top of the high wall. The holes were drilled from the top and the stone blasted off the face to the Quarry floor. Consequently the stone is fractured severely back from the face several metres. However, competent stone is available to the west of the main face. Due to residential development it is unlikely that any further production will take place.

## Commercial Stone Name: GRANITE, GREY (SILVER GREY)
## County: HALIFAX
## Property Name: QUARRY LAKE QUARRY, HALIFAX

**NTS**: 11D/12
**Longitude**: 63°41'12"
**Latitude**: 44°40'05"
**Sample Number**: 87-01-03 Box 3; Sample 7, NSDME Sample Catalogue 89-01
**Date**: June 25, 1987
**Property Status**: Abandoned
**Geological Rock Name**: Granodiorite
**Possible Uses**: Curbing, tiles, ashlar

**Location Description**: The Quarry Lake Quarry (Faribault, 1908a) is accessed by an old road which trends west from the Trans-Canada Highway 102 at Kearney Lake (Fig. 16). The road originates in the quartzite quarry operated by Gateway Materials and ends at Quarry Lake.

**Production History**: The Quarry was opened in the mid 1800s and production took place from at least four openings. The stone was used for building construction. Evidence at the Quarry suggests that it has been inactive for at least 40 years.

**Colour**: Fresh grey; weathered grey; uniform
**Grain Size**: Medium to coarse; uniform
**Texture**: Mildly porphyritic; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Regular to irregular; moderate to intensive
**Grain**: Strike 75°, Dip 10°NW; spacing 50 cm-1 m
**Rift**: Strike 45°, Dip 84°SE; spacing 3-4 m
**Hardway**: Strike 133°, Dip vertical; spacing 2-5 m
**Potential Quarry Block Size**: 1 m x 1 m x 75 cm
**Outcrop Exposure**: Excellent
**Use of Explosives**: Black powder

**Mineralogy**: Typical granodiorite, combined feldspar (65%), quartz (20%), biotite (15%)
**Deleterious Minerals**: No

**Other Features**: Some biotite shows brown weathering stain. Irregularly spaced quartz and pegmatite veins may increase waste factor. Xenoliths of quartzite common.

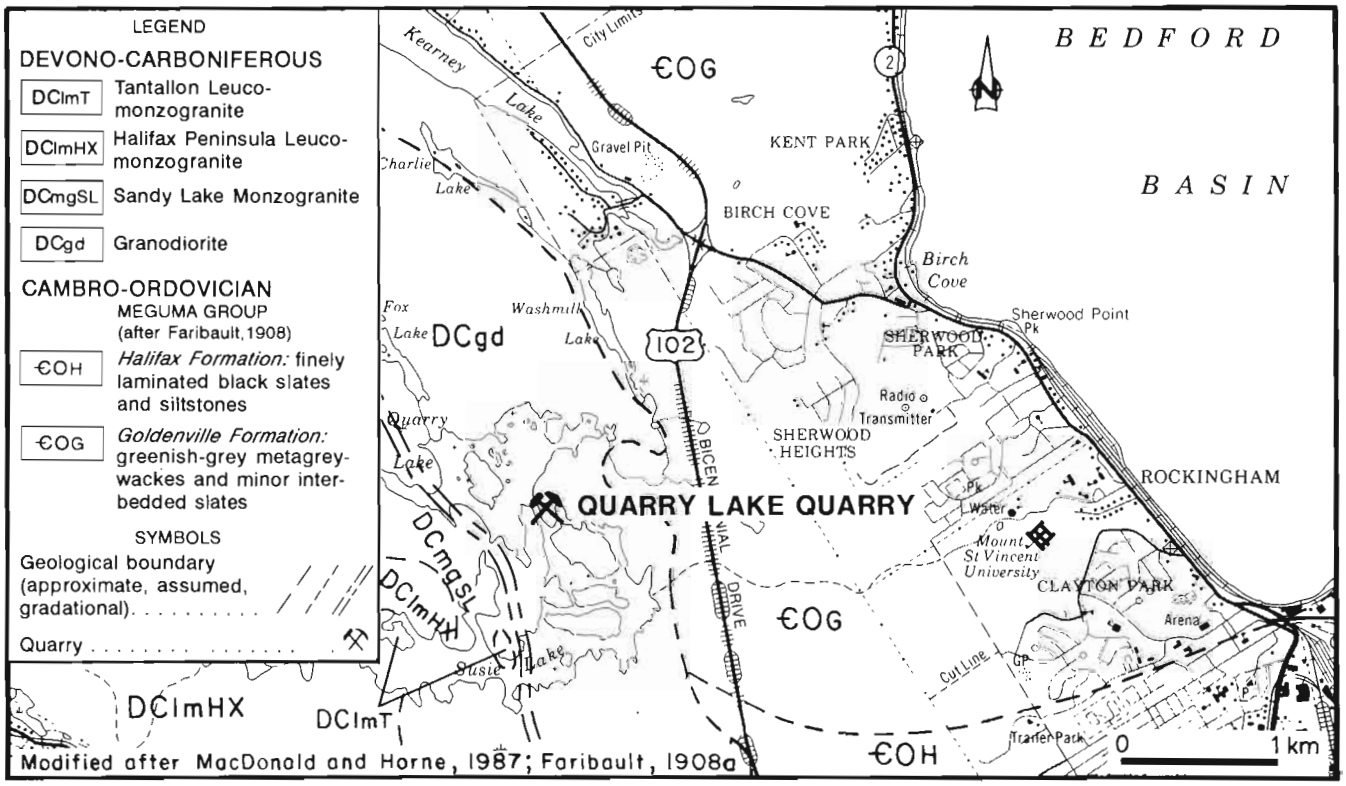



Figure 16. Geological location map for the Quarry Lake Quarry, Halifax County (11D/12).

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: The two main quarry openings on the shore of Quarry Lake are about 100 m apart, with the most westerly opening the more recent. A third quarry opening was found overgrown by trees about 200 m to the east. The main Quarry is 10 m in diameter and the last working face is 5 m high. Although pegmatite and quartz veins are numerous along the shoreline, the quarries are quite free of such things. The landscape consists of gently rolling ridges of bedrock separated by lakes and swampy land. Outcrop is virtually continuous on the ridges and absent in the depressions. This location is probably the best in the Halifax area for building stone production. The joint spacing would prohibit the extraction of very large blocks although pieces in the 2-4 t range could easily be produced.

**Commercial Stone Name: GRANITE, GREY**
**County: HALIFAX**
**Property Name: QUEEN QUARRY, PURCELLS COVE**

**NTS**: 11D/12
**Longitude**: 63°34′25″
**Latitude**: 44°36′38″
**Sample Number**: Not sampled
**Date**: August 26, 1986
**Property Status**: Abandoned
**Geological Rock Name**: Monzogranite
**Possible Uses**: Building stone, curbing, tiles

**Location Description**: The Queen Quarry (Faribault, 1908a) is located 400 m west of the old school building in Purcells Cove and can be reached by a foot path which leads to a new subdivision west of the old Quarry (Fig. 13, p. 22).

**Production History**: This was one of the earliest quarries to operate in the Halifax area and stone from it was used in the construction of the Halifax Citadel and many other public buildings. Stone was moved by tram to the Queen Wharf in Purcells Cove (Parks, 1914).

**Colour**: Fresh grey; weathered grey; uniform
**Grain Size**: Medium; uniform
**Texture**: Equigranular to porphyritic; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Not determined
**Outcrop Exposure**: Good
**Use of Explosives**: Black powder

**Mineralogy**: Feldspars (50%), quartz (40%), biotite (10%)
**Deleterious Minerals**: No

**Other Features**: The granite contains abundant black knots or xenoliths

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: This granite is similar to that quarried in the Couglan Quarry (p. 22) and has been used extensively in the City of Halifax for building. Due to the proximity of the Quarry to expanding subdivisions in the area it is unlikely that any further development will take place.

**Commercial Stone Name: GRANITE, GREY**
**County: HALIFAX**
**Property Name: YEADON QUARRY, HALIFAX**

**NTS**: 11D/12
**Longitude**: 63°36'55"
**Latitude**: 44°37'18"
**Sample Number**: Not sampled
**Date**: August 26, 1986
**Property Status**: Developed for housing
**Geological Rock Name**: Granodiorite
**Possible Uses**: None

**Location Description**: The old Yeadon Quarry was not found because the area has been built up with housing. The location on Faribault's (1908a) map situates the Quarry 200 m southwest of Dents Punch Bowl on Cowie Hill (Fig. 15, p. 24).

**Production History**: This Quarry, operated by Isaac Yeadon in the early 1900s, was one of several in the Cowie Hill area. The Quarry was operating in 1908 and in 1911 (Parks, 1914).

**Colour**: Fresh grey; weathered grey; uniform
**Grain Size**: Medium to coarse; variable
**Texture**: Uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Regular; moderate
**Grain**: Strike 90°, Dip vertical
**Rift**: Strike horizontal, Dip horizontal; spacing 1-2 m
**Hardway**: Strike 15°, Dip vertical; spacing 2.5 m
**Potential Quarry Block Size**: 3 m x 1 m x 1 m
**Outcrop Exposure**: Unknown
**Use of Explosives**: No

**Mineralogy**: Plagioclase (50%), quartz (40%), biotite (10%); plagioclase is unweathered for the most part, weathering and decomposition occur in the crystal centres first; quartz grains are smaller than the feldspar and have a brownish cast; the biotite is brownish and fresh.
**Deleterious Minerals**: No

**Other Features**: The presence of black knots or xenoliths is a cause for concern according to Parks (1914) because ... "no pieces of any considerable size can be obtained free from this disfigurement".

**Diamond Drilling Details**: Not drilled

**Physical Properties** (Parks, 1914): Specific weight 167.76 lbs/ft$^3$, Absorption 0.208%, Compressive strength 25,959 lbs/in$^2$, Transverse strength 2,439 lbs/in$^2$

**Comments**: Due to the degree to which the area is built up with housing, it is unlikely that any future quarry development is possible.

**Commercial Stone Name: GRANITE, GREY**
**County: LUNENBURG**
**Property Name: ASPOTOGAN QUARRY, BACKMANS HEAD**

**NTS**: 21A/09
**Longitude**: 64°02'31"
**Latitude**: 44°31'23"
**Sample Number**: 87-01-04 Box 3
**Date**: June 25, 1987
**Property Status**: Abandoned
**Geological Rock Name**: Biotite granodiorite
**Possible Uses**: Armour stone and rip rap

**Location Description**: The old Aspotogan Quarry is located on the northeastern side of Aspotogan (Faribault, 1908b). The opening is 250 m west of the outlet from Awalt Lake (Fig. 17).

**Production History**: The production history is unknown. Granite from the area was used for basement blocks in local houses. This particular Quarry was probably used to obtain a small amount of armour stone.

**Colour**: Fresh grey; weathered grey; uniform
**Grain Size**: Medium; uniform
**Texture**: Equigranular to porphyritic; uniform

**Fabric**: No
**Bedding**: No
**Jointing**: Irregular; intensive
**Main Sheeting**: Strike 135°, Dip vertical; spacing 60 cm-1.2 m
**Potential Quarry Block Size**: 1 m x 50 cm x 50 cm
**Outcrop Exposure**: Good
**Use of Explosives**: High explosives

**Mineralogy**: 60% feldspar, 30% quartz, 10% biotite
**Deleterious Minerals**: No

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: No evidence of a building stone quarry was found although some blasting has been carried out in the last 30 years at this location. The granite rises along the roadside to about 10 m and some jack hammer holes were drilled from the top of the face. No plug and feather work was seen. Due to the high joint frequency and proximity to residential houses further quarry development is unlikely.

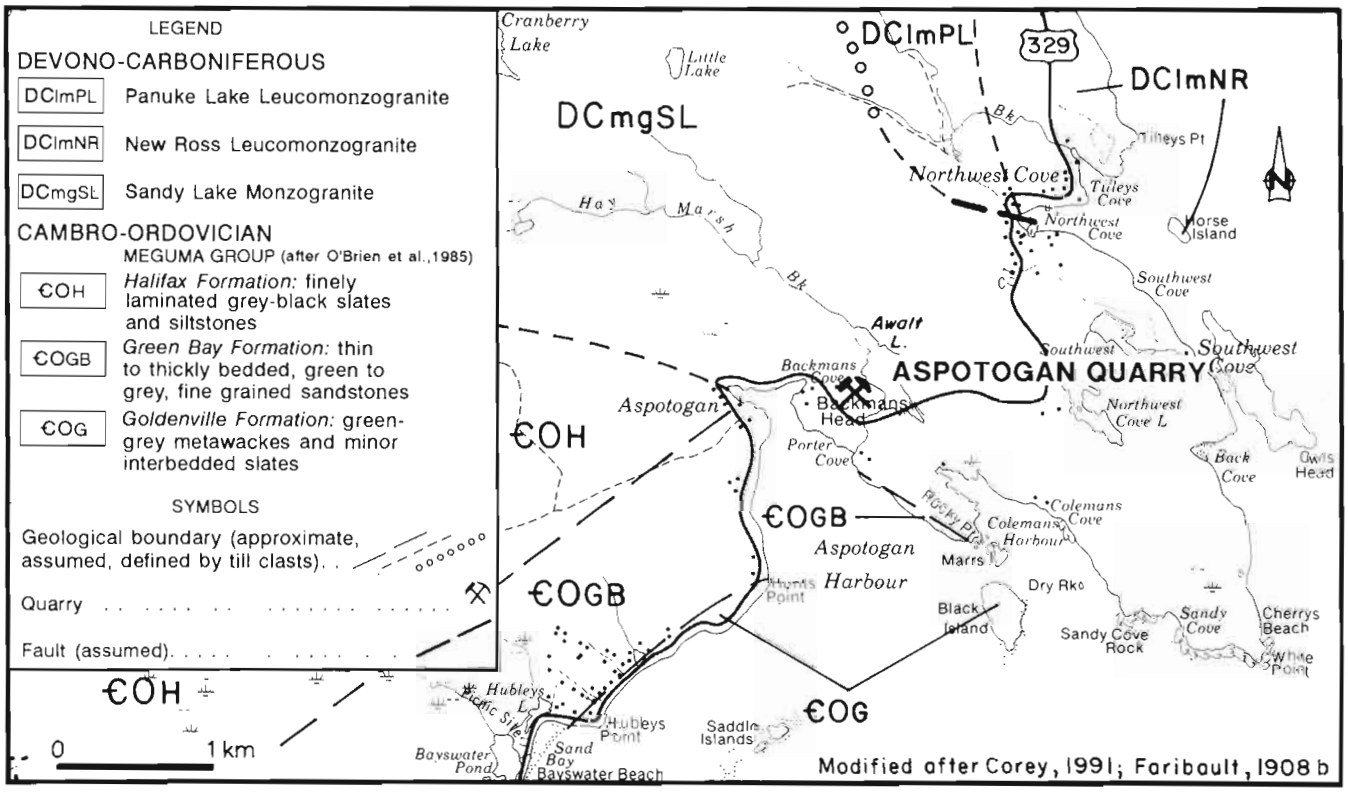



Figure 17. Geological location map for the Aspotogan Quarry, Lunenburg County (21A/09).

**Commercial Stone Name: GRANITE, GREY (SCOTIA GREY)**
**County: SHELBURNE**
**Property Name: SHELBURNE ISLAND PARK QUARRY**

**NTS**: 20P/14
**Longitude**: 65°20′02″
**Latitude**: 43°45′57″
**Sample Number**: 86-01-02 Box 1; Sample 9, NSDME Sample Catalogue 89-01
**Date**: August 15, 1986
**Property Status**: Abandoned and reclaimed quarry, now Provincial Park
**Geological Rock Name**: Biotite-muscovite monzogranite
**Possible Uses**: Monument stone, ashlar, rubble stone, curbing, cladding

**Location Description**: The Shelburne Island Park Quarry is located at the Shelburne Island Provincial Park directly west across Shelburne Harbour from the Town of Shelburne (Fig. 18).

**Production History**: The Quarry had produced stone for many years at the time of Parks' (1914) report. Stone was quarried until the early 1960s by Dauphinee's of Shelburne (Carr, 1955).

**Colour**: Fresh whitish grey; weathered grey; uniform
**Grain Size**: Fine to medium; uniform
**Texture**: Equigranular; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Regular; limited to moderate
**Sheeting Grain**: Strike 60°, Dip 25°NW; spacing 3 m
**Rift**: Strike 60°, Dip 65°NW; spacing 20 cm-3 m
**Hardway**: Strike 120°, Dip vertical; spacing variable
**Potential Quarry Block Size**: 60 cm x 60 cm x 2 m
**Outcrop Exposure**: Good
**Use of Explosives**: Black powder

**Mineralogy**: 60% feldspar, 5% muscovite, 25% quartz, 10% biotite. Miarolitic cavities are common, but generally less than 3 mm in diameter. The presence of muscovite gives a slight gold cast to the stone.
**Deleterious Minerals**: No

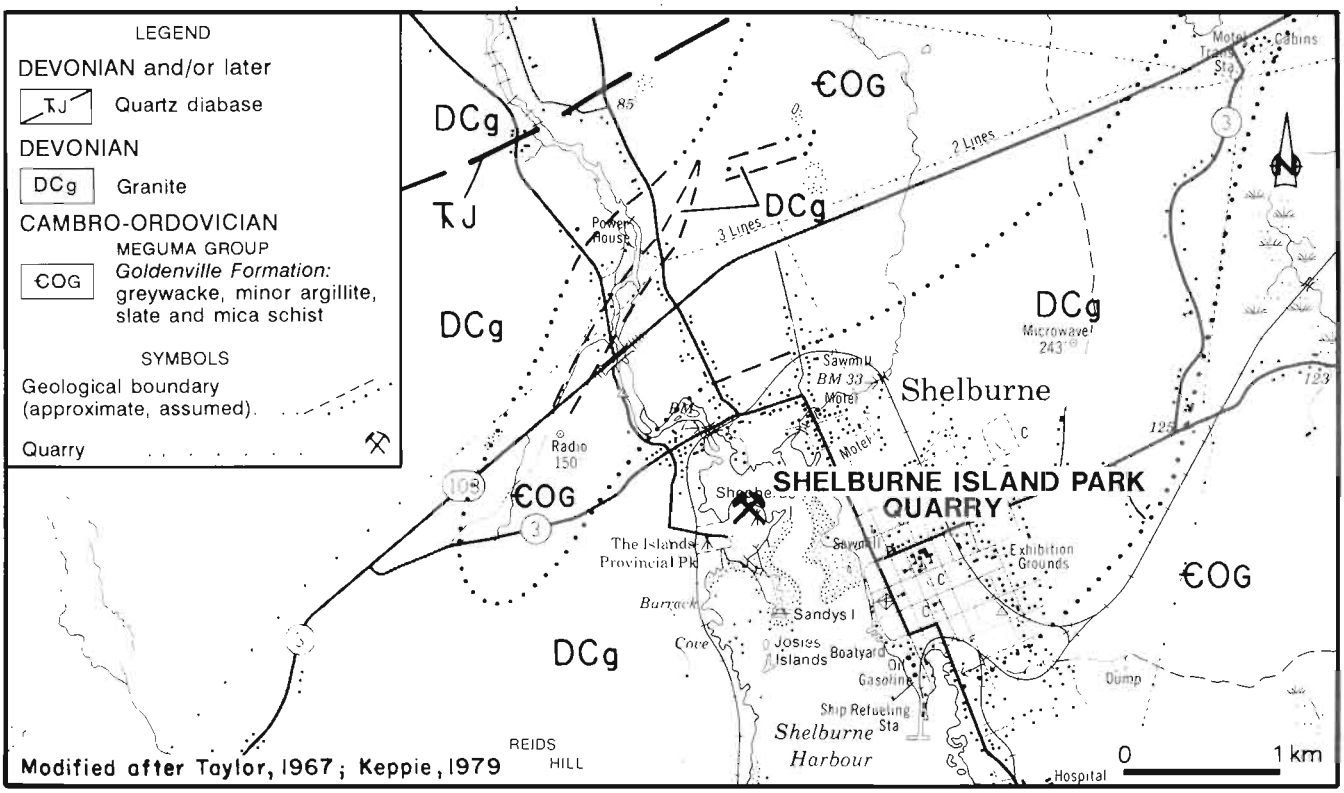



Figure 18. Geological location map for the Shelburne Island Park Quarry, Shelburne County (20P/14).

**Diamond Drilling Details**: Not drilled

**Physical Properties** (Parks, 1914): Specific weight 167.016 lbs/ft$^3$, Absorption 0.172%, Compressive strength 28,440 lbs/in$^2$, Transverse strength n/a

**Comments**: The old Quarry and waste pile are located just north of the Park office and at the time of my visit were grown up with alders and brush. The Quarry hole was full of water and measured 30 m in diameter and was reported to be 30 m deep (personal communication). In 1987 the old Quarry hole was backfilled by the Nova Scotia Department of Lands and Forests and the site graded. The only thing remaining is a waste pile of stone. The quality of the granite cannot be denied and although this Quarry is no longer accessible the granite body in which the Quarry is located is large. A moderate exploration program around the Shelburne area would, no doubt, identify a suitable new quarry site. The granite was used in the construction of St. Bernard Church, Digby County, and the Shelburne Post Office.

**Commercial Stone Name: GRANITE, RED**
**County: INVERNESS**
**Property Name: FIRST FORK BROOK OCCURRENCE**

**NTS**: 11K/07
**Longitude**: 59°57′14″
**Latitude**: 46°28′25″
**Sample Number**: 86-01-30 Box 1; Drill core FFB-87-01
**Date**: September 25, 1986
**Property Status**: Prospect
**Geological Rock Name**: Granite
**Possible Uses**: Armour stone, rip rap

**Location Description**: The quarry prospect is located on the northern side of First Fork Brook, 2.45 km east of Forest Glen. First Fork Brook is a tributary of the Northeast Margaree River, 3.5 km northeast of Kingross (Fig. 19).

**Production History**: No production

**Colour**: Fresh red; weathered red brown
**Grain Size**: Coarse; uniform
**Texture**: Equigranular; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Regular
**Grain**: Strike 40°, Dip 4°NW; spacing 1.5-2.5 m
**Rift**: Strike 60°, Dip vertical; spacing 2-3 m
**Hardway**: Strike 154°, Dip vertical; spacing 2-3 m
**Potential Quarry Block Size**: 3 m x 3 m x 2 m
**Outcrop Exposure**: Excellent
**Use of Explosives**: No

**Mineralogy**: 60% potash feldspar (kaolinized), 35% quartz, 5% biotite
**Deleterious Minerals**: Kaolinized feldspar

**Diamond Drilling Details**: Two holes were collared 200 m apart and drilled vertically to 61 m and 32.6 m (FFB-87-01 and FFB-87-02; Fig. 20; Appendix 1, p. 112). Both holes intersected kaolinized, red, coarse grained granite throughout.

**Physical Properties**: n/a

**Comments**: Although the joint pattern is orthogonal and widely spaced, the granite is kaolinized and not suitable for building stone. It would be an excellent source of armour stone and rip rap.

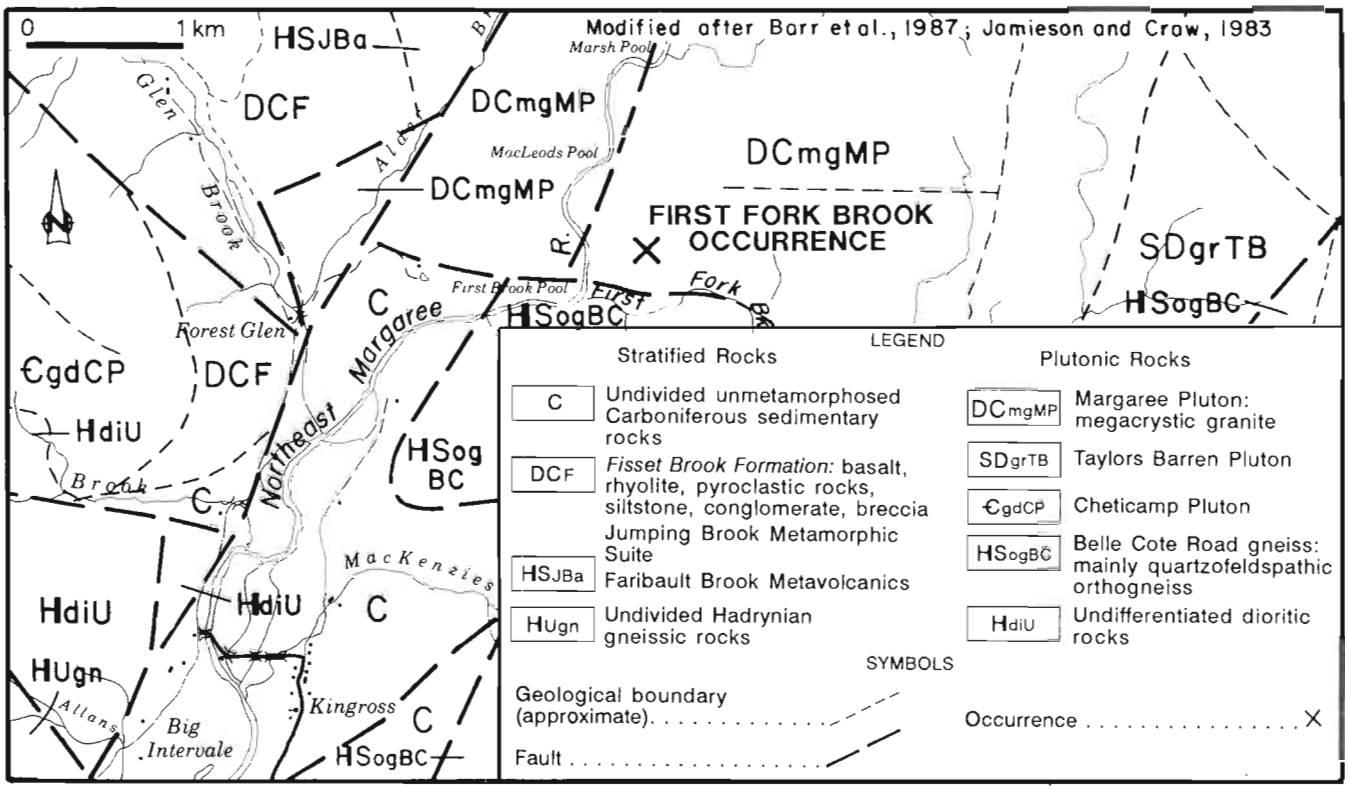



Figure 19. Geological location map for the First Fork Brook occurrence, Inverness County (11K/07).

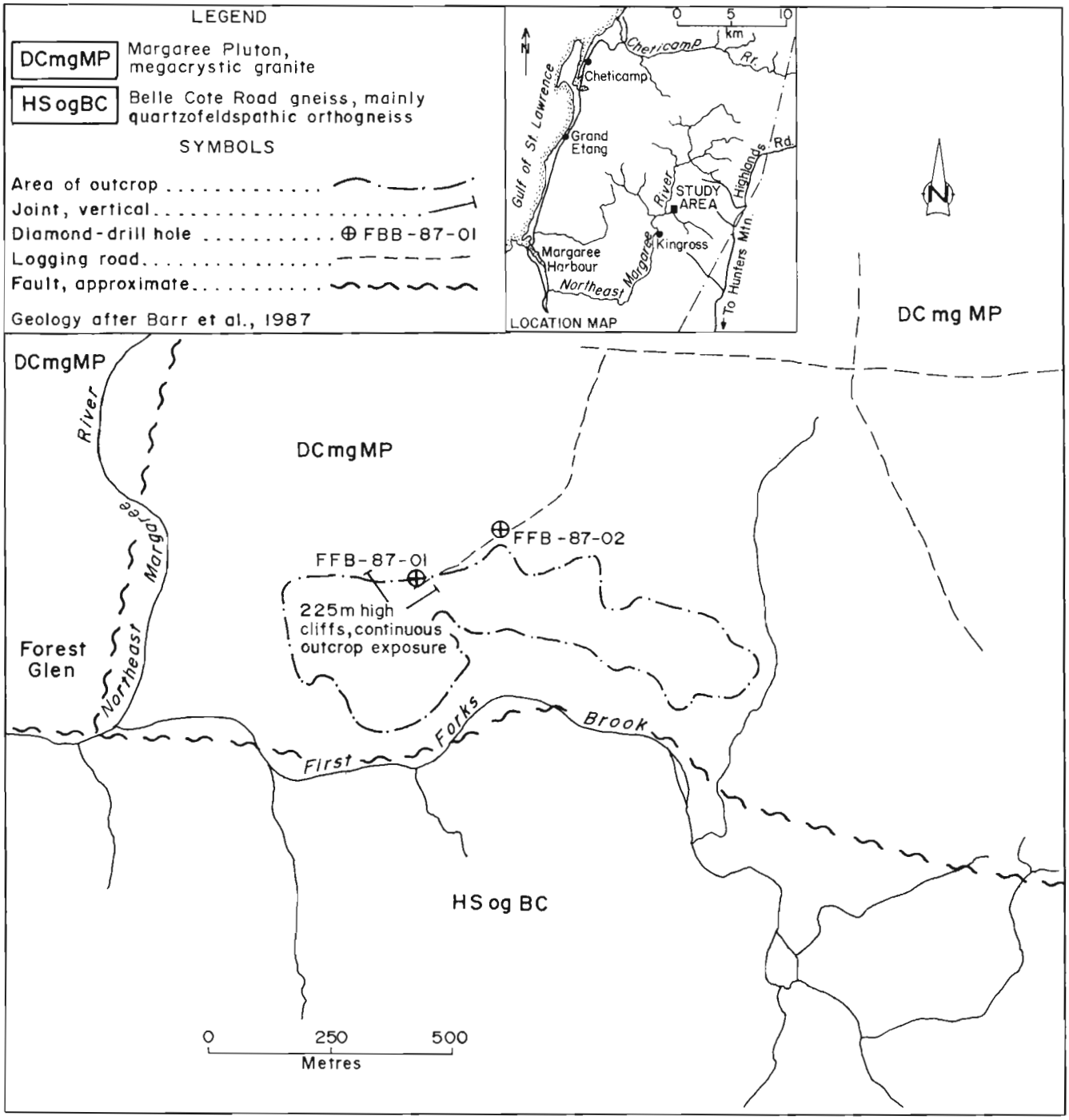



Figure 20. First Fork Brook occurrence, Inverness County, diamond-drill hole locations (not surveyed) (FFB-87-01 and FFB-87-02) (11K/07).

**Commercial Stone Name: GRANITE, WHITE (BROOKFIELD WHITE)**
**County: HALIFAX**
**Property Name: BROOKFIELD QUARRY, TERENCE BAY**

**NTS**: 11D/05
**Longitude**: 63°43'00"
**Latitude**: 44°28'21"
**Sample Number**: 86-01-05 Box 1; Sample 10, NSDME Sample Catalogue 89-01
**Date**: August 16, 1986
**Property Status**: Past producing quarry
**Geological Rock Name**: Leucomonzogranite
**Possible Uses**: Ashlar, monuments, curbing, counter tops, cladding

**Location Description**: The Brookfield Quarry is located at Terence Bay about 15 km west of Halifax, southwest from Route 333 at Whites Lake. The openings are at the mouth of the Terence Bay River on the eastern side opposite the Village of Terence Bay at water level (Fig. 21). Also 200 m further east is what appears to be large roche moutonne, the southern end of which was quarried.

**Production History**: Stone was quarried between 1900 and 1907 by S. M. Brookfield for use as dimension blocks, ashlar and monuments in the Halifax area. The stone was transported by vessel to Halifax (Parks, 1914; Carr, 1955).

**Colour**: Fresh white to off white; weathered white; uniform
**Grain Size**: Coarse; uniform
**Texture**: Porphyritic; uniform
**Fabric**: No
**Jointing**: Regular; limited
**Grain**: Strike 140°, Dip 27°NE; spacing 1.5-2 m
**Rift**: Strike 80°, Dip 74°S; spacing 2 m
**Hardway**: Strike 180°, Dip 70°W; spacing 1 m
**Potential Quarry Block Size**: 2 m x 2 m x 2 m
**Outcrop Exposure**: Excellent
**Use of Explosives**: No

**Mineralogy**: Microcline (50%), quartz (35%), plagioclase (5%), biotite (4%), muscovite (1%), cordierite (5%), microcline phenocrysts up to 5 cm long.

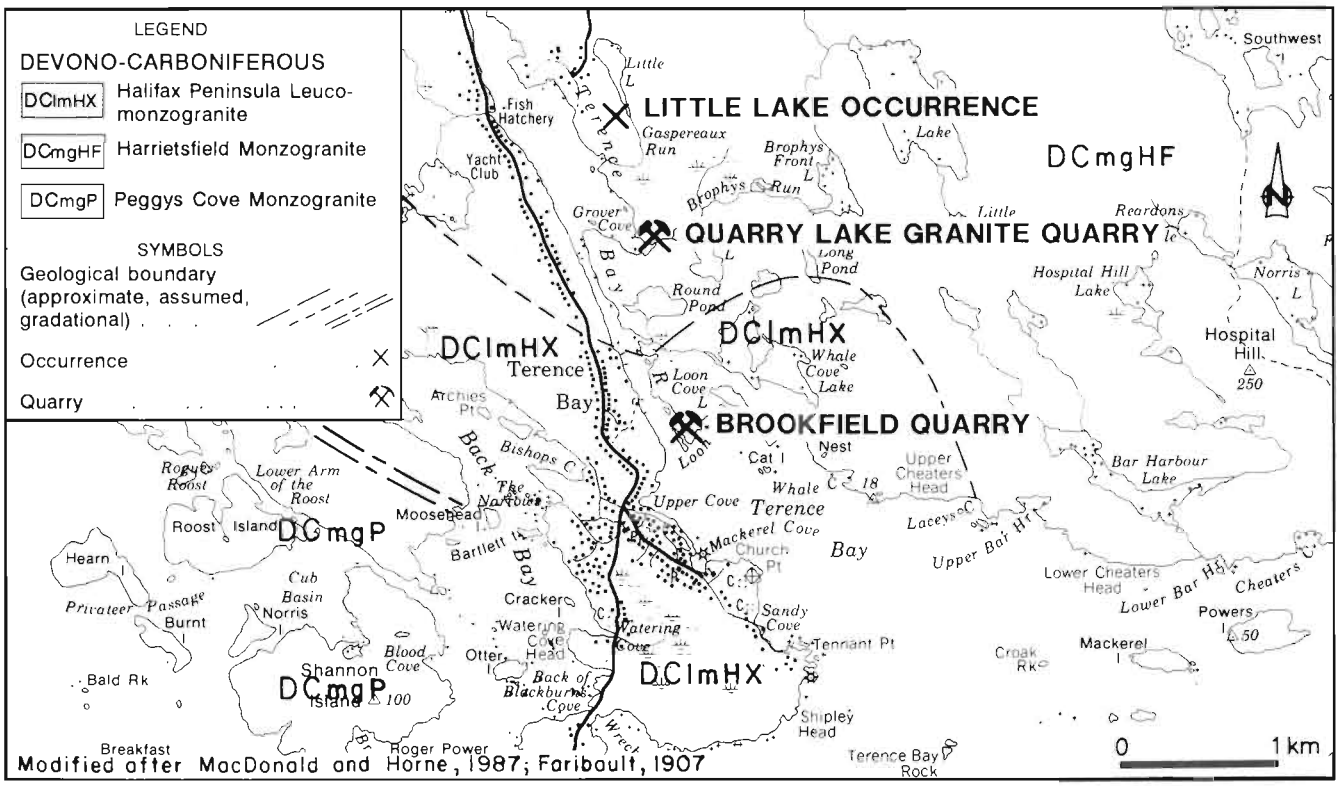



Figure 21. Geological location map for the Brookfield Quarry, Little Lake occurrence and Quarry Lake Granite Quarry, Terence Bay, Halifax County (11D/05).

**Deleterious Minerals**: No

**Other Features**: Minor aplite dykes and quartz veins, very widely spaced

**Diamond Drilling Details**: Not drilled

**Physical Properties** (Parks, 1914): Specific weight 164.95 lbs/ft$^3$, Absorption 0.209%, Compressive strength 25,893 lbs/in$^2$, Transverse strength 2,269 (lbs/in$^2$)

**Comments**: No regular quarry existed, because the stone was removed from surface exposures at several places along the shoreline. Due to the proximity to salt water and the lack of land access, development would be difficult. However, the joint pattern would facilitate the quarrying of large blocks. The Merrill Lynch Building (Bank of Commerce, 1907), Halifax, was constructed using this stone.

**Commercial Stone Name: GRANITE, WHITE**
**County: HALIFAX**
**Property Name: LITTLE LAKE OCCURRENCE, TERENCE BAY**

**NTS**: 11D/05
**Longitude**: 63°43'22"
**Latitude**: 44°29'38"
**Sample Number**: Not sampled
**Date**: August 16, 1986
**Property Status**: Prospect
**Geological Rock Name**: Leucomonzogranite
**Possible Uses**: Cladding, curbing, monuments, counter tops

**Location Description**: The area explored is the western side of Little Lake, 2.5 km north of the Village of Terence Bay on the eastern side of the Terence Bay River (Fig. 21, p. 37). An area of continuous outcrop surrounds Little Lake. The best area occurs on Crown Land, 500 m south of the small settlement at Little Lake.

**Production History**: There was never any building stone production from this location.

**Colour**: Fresh white to off white; weathered white to grey; uniform
**Grain Size**: Coarse; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Regular; limited
**Grain**: Strike horizontal; spacing 3 m
**Rift**: Strike 160°, Dip vertical; spacing 10 m
**Hardway**: Strike 72°, Dip vertical; spacing 25 m
**Potential Quarry Block Size**: 5 m x 5 m x 3 m
**Outcrop Exposure**: Excellent
**Use of Explosives**: No

**Mineralogy**: Microcline (55%), quartz (35%), biotite (5%), cordierite (5%), microcline phenocrysts up to 5 cm in length.

**Deleterious Minerals**: No

**Other Features**: Rare, partially digested xenoliths of country rock. Aplite dykes are occasionally present. Very widely spaced joint pattern unique to all other areas examined.

**Diamond Drilling Details**: Four holes approximately 15 m in depth were drilled in a line, 25 m west of and parallel to Little Lake (TB-87-08 to TB-87-11; Figs. 22a and b; Appendix 1, p. 136). A fifth hole was collared 20 m west of the previously mentioned line of holes (TB-87-12). Major joint sets are common at depths of about 5 m and 15 m.

**Physical Properties**: n/a

**Comments**: This area was selected for exploration based upon the wide joint frequency, proximity to a road and outcrop exposure. On the basis of surface exposure an estimated 10 000 $m^3$ of stone are available with no overburden removal required. The area is flat and wheeled vehicles could be used for quarrying the stone. Approximately 350 m of road are required to access the site. Diamond drilling has shown the stone to be uniform in grain size, colour and texture. Testing conducted on similar granite salvaged from the Brookfield Quarry, Terence Bay, indicates that the stone burns moderately easily, saws readily and takes a polish easily. This site contains enough drill indicated reserves to make it a world class building stone quarry. The surface rights are held by the Crown and the land is designated Park Reserve. This puts some constraints on the development of the site for quarrying and may restrict the size of any operation which may develop. Any access road would have to cross a narrow strip of private land.

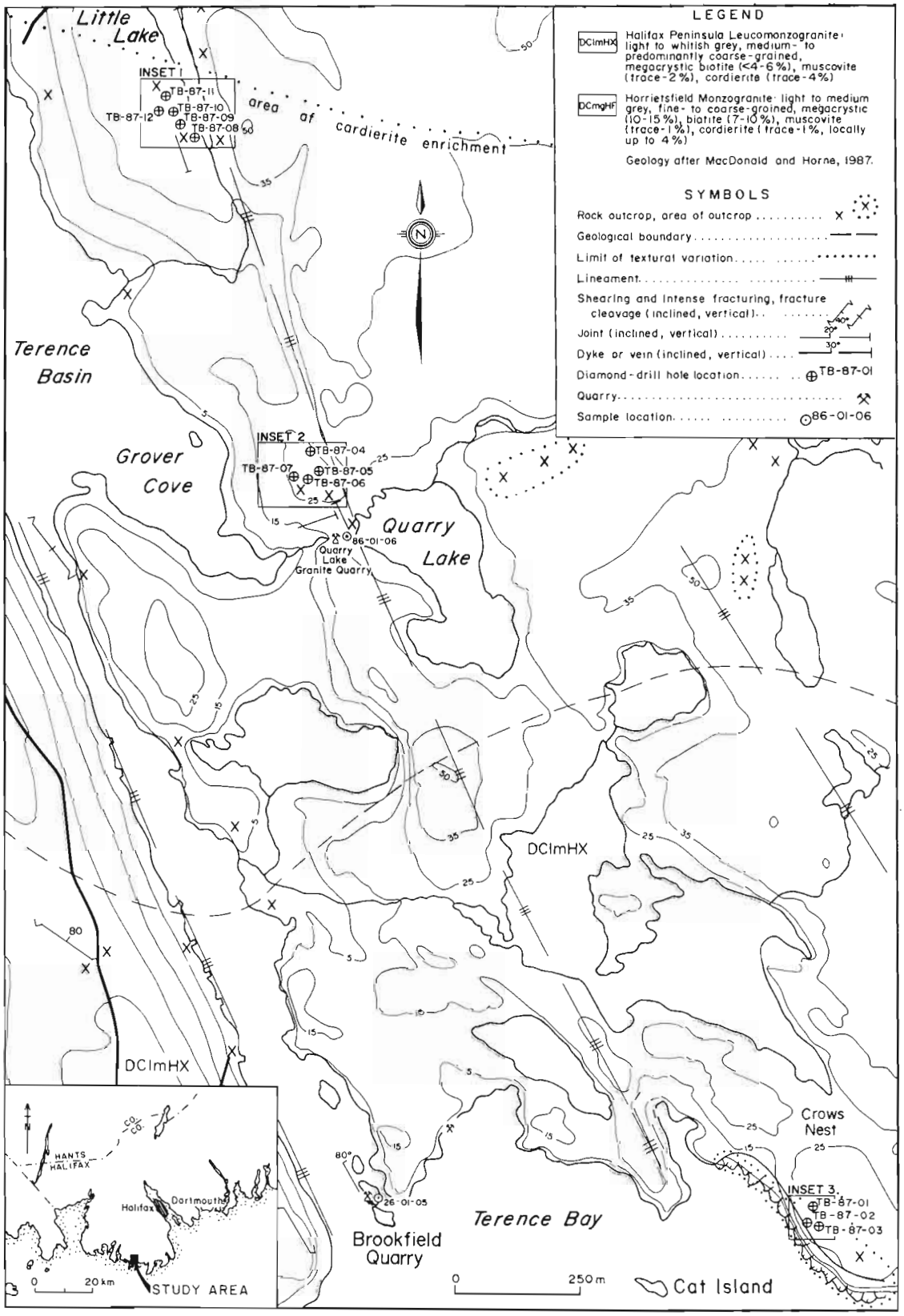



Figure 22a. Terence Bay granite deposit, Halifax County, geological map and diamond-drill hole locations (TB-87-01 to TB-87-12) (11D/05). See pages 41, 43 and 44 for Insets 1-3, respectively.

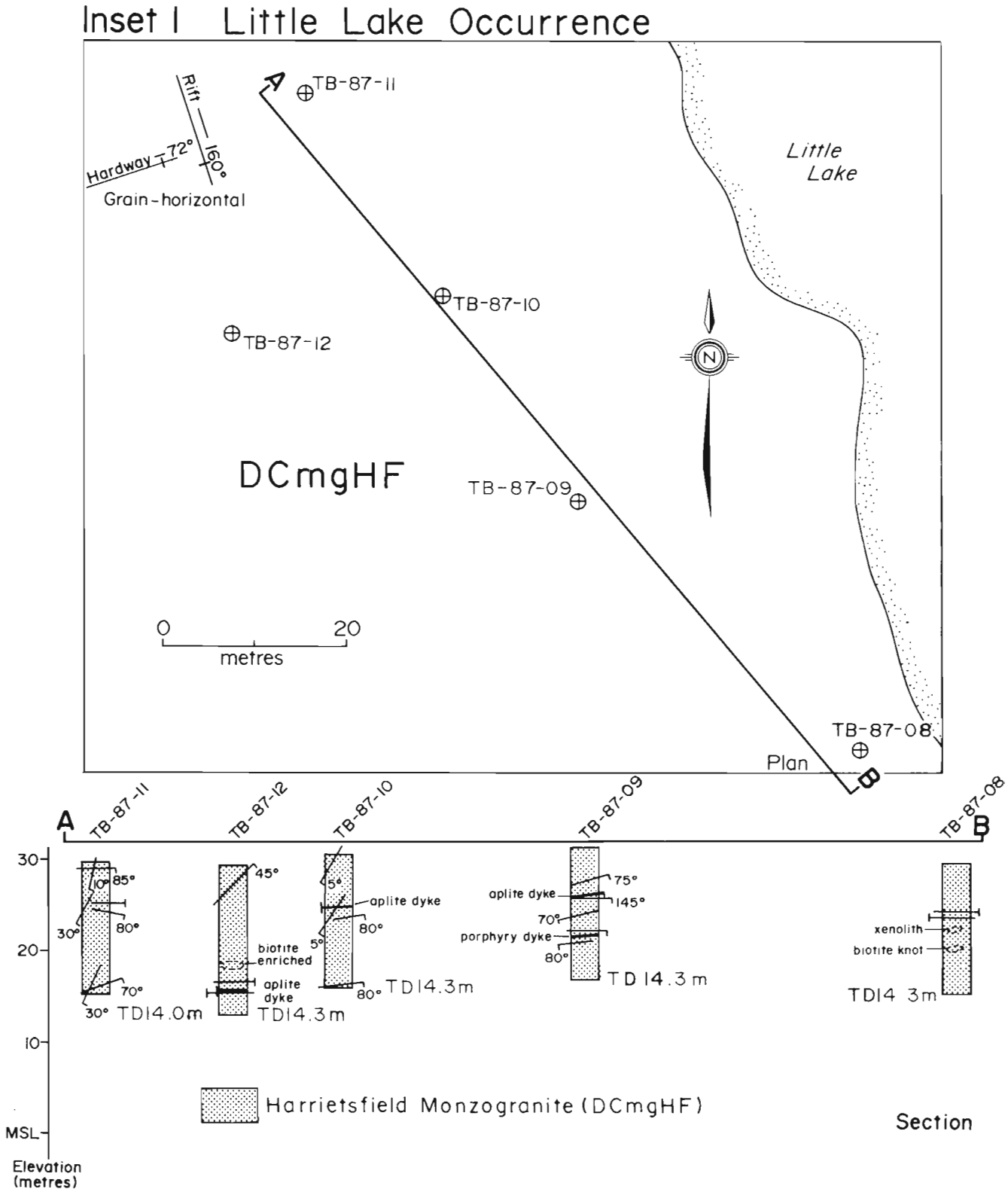



Figure 22b. Detailed location map and section A-B of drillholes TB-87-08 to TB-87-12, Little Lake occurrence, Terence Bay, Halifax County (11D/05). (Inset 1 on Figure 22a).

**Commercial Stone Name: GRANITE, WHITE**
**County: HALIFAX**
**Property Name: QUARRY LAKE GRANITE QUARRY, TERENCE BAY**

**NTS**: 11D/05
**Longitude**: 63°43'05"
**Latitude**: 44°29'05"
**Sample Number**: 86-01-06 Box 1; Drill core TB-87-06
**Date**: August 22, 1986
**Property Status**: Past producer
**Geological Rock Name**: Leucomonzogranite
**Possible Uses**: Curbing stone, ashlar

**Location Description**: The old Quarry Lake Granite Quarry is located at Terence Bay, 15 km west of Halifax. An opening was made at the outlet of Quarry Lake, 2 km north of the Village of Terence Bay on the eastern side of the Terence Bay River (Fig. 21, p. 37).

**Production History**: Small quantities of dimension blocks were taken from a 2 m high face at a small waterfall, in the early 1900s. Blocks were hauled down to the Terence Bay River, loaded on barges and hauled to Halifax.

**Colour**: Fresh white to greyish white; weathered grey; uniform
**Grain Size**: Coarse; uniform
**Texture**: Porphyritic; uniform
**Fabric**: No
**Bedding**: No
**Jointing**: Regular; moderate
**Grain**: Strike 107°, Dip 16°S; spacing 2-4 m
**Rift**: Strike 137°, Dip 58°NE; spacing 1.5-5 m
**Hardway**: Strike 74°, Dip 70°NW; spacing 4-5 m (Note: these readings are from the old Quarry site.)

**Potential Quarry Block Size**: 2 m x 2 m x 1 m
**Outcrop Exposure**: Excellent
**Use of Explosives**: No

**Mineralogy**: Microcline (55%), quartz (35%), biotite (5%), cordierite (5%), abundant phenocrysts of microcline up to 5 cm long, which locally give a slight foliation to the stone.
**Deleterious Minerals**: No

**Other Features**: Occasional, partially digested xenoliths of country rock, occasional quartz veins and aplite dykes

**Diamond Drilling Details**: A large outcrop 150 m north of the old Quarry was drilled (Fig. 22a, p. 40). Four vertical holes, approximately 30 m in depth, were spaced 25 m apart (TB-87-04 to TB-87-07; Fig. 22c; Appendix 1, p. 134). Granite was moderately fractured with joints from horizontal to 70°. Although surface exposures indicate wide joint spacing, drill core reveals many joints at depth. (Note: grain, rift, and hardway readings on Figure 22c refer to the drill site.)

**Physical Properties**: n/a

**Comments**: This site was one of three locations in the Terence Bay area which was investigated by diamond drilling by the Nova Scotia Department of Mines and Energy in 1987. The potential for quarrying large blocks is not as great as in the other locations because of higher joint frequency.

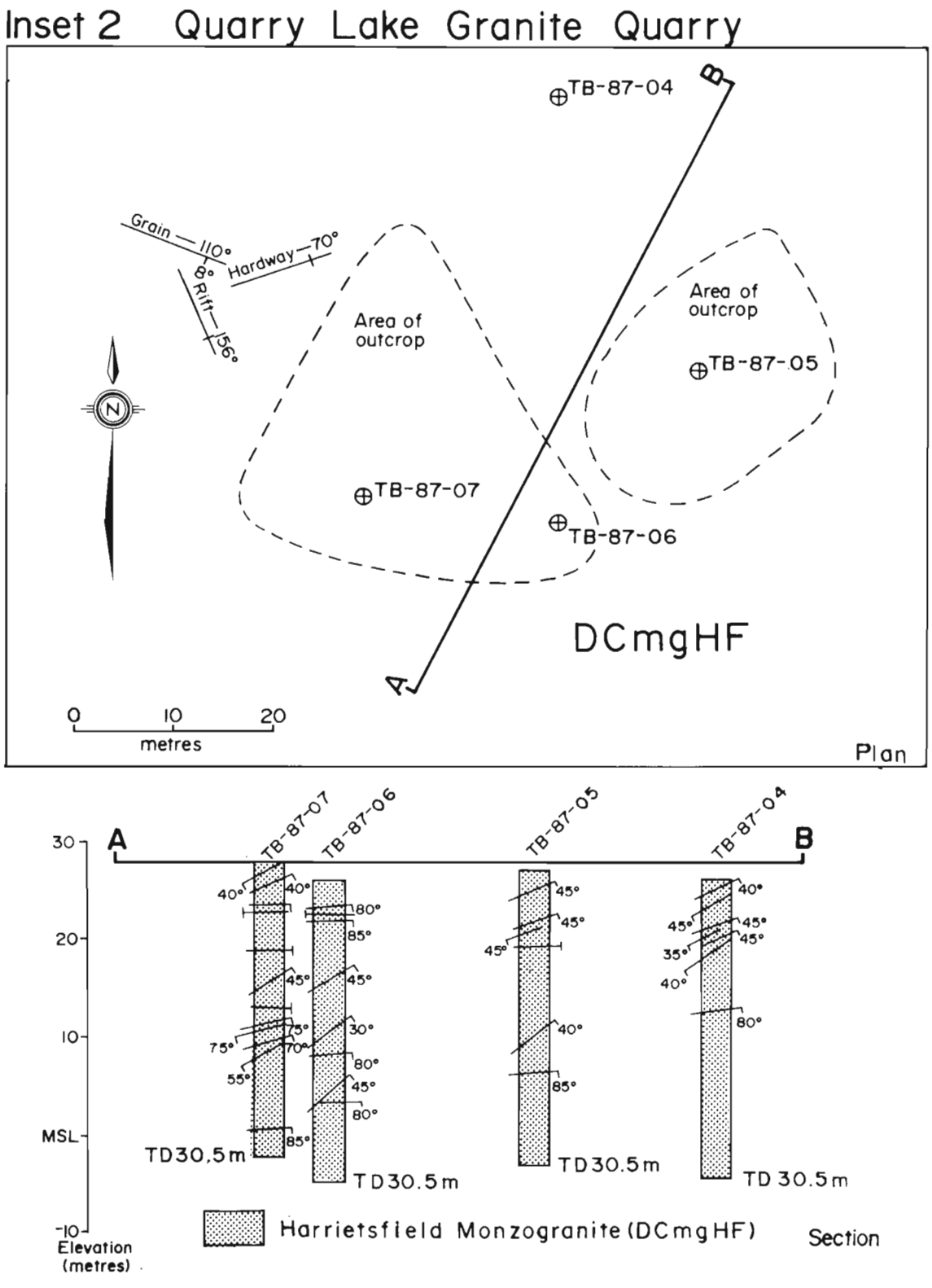



Figure 22c. Detailed location map and section A-B of drillholes TB-87-04 to TB-87-07, Quarry Lake Granite Quarry, Terence Bay, Halifax County (11D/05). (Inset 2 on Figure 22a, p. 40). (Note: grain, rift and hardway readings refer to the drill site).

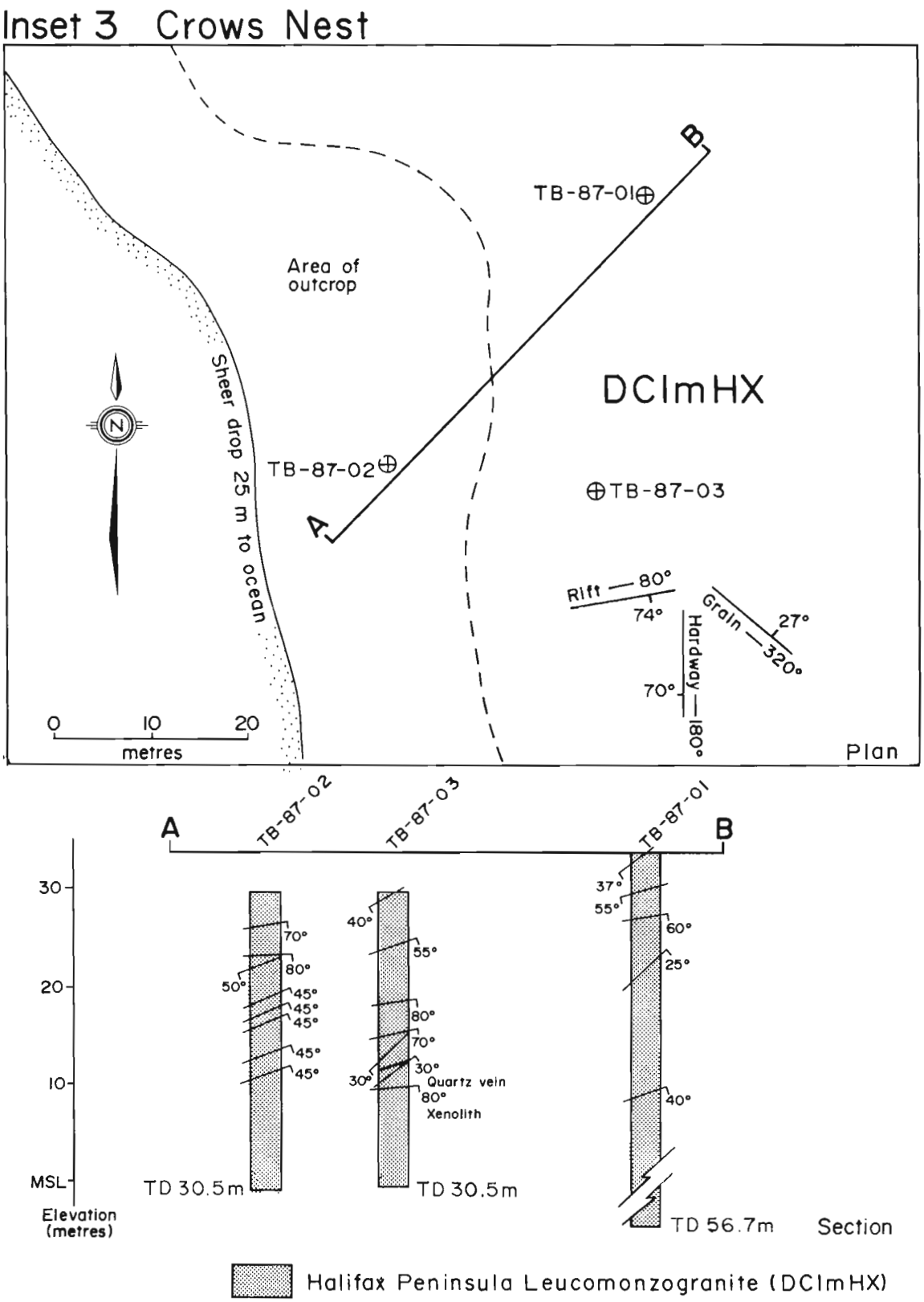



Figure 22d. Detailed location map and section A-B of drillholes TB-87-01 to TB-87-03 (Appendix 1, p. 133), Crows Nest, Terence Bay, Halifax County (11D/05). (Inset 3 on Figure 22a, p. 40). (No occurrence description available).

**Commercial Stone Name: IRONSTONE/SLATE, BLACK**
**County: HALIFAX**
**Property Name: KING QUARRY, PURCELLS COVE**

**NTS**: 11D/12
**Longitude**: 63°34′14″
**Latitude**: 44°36′50″
**Sample Number**: Not sampled
**Date**: August 26, 1989
**Property Status**: Abandoned quarries
**Geological Rock Name**: Greywacke and slate
**Possible Uses**: Rubble work, rock walls and ashlar for restoration work

**Location Description**: Two quarries are located 200 m and 350 m east of Route 253 and 400 m north of Purcells Cove (Fig. 13, p. 22). Faribault (1908a) called this the King Quarry. A small picnic park is located just southeast of the quarries.

**Production History**: Probably the oldest quarry in Halifax; this stone was used for many government buildings, parts of the Citadel, Martello Tower, Dalhousie University buildings and Saint Mary's University buildings.

**Colour**: Fresh dark grey; weathered rusty dark grey; variable
**Grain Size**: Very fine to fine; variable
**Texture**: Massive to finely laminated; variable
**Fabric**: Weak
**Bedding**: Strike 55°, Dip 39°NW; thickness range 10-60 cm, average range 15 cm
**Jointing**: Regular; moderate
**Grain**: Strike 146°, Dip 64°SW
**Rift**: Strike 65°, Dip 62°SE
**Hardway**: Strike 160°, Dip 71°NE

**Potential Quarry Block Size**: 1 m x 1 m x 30 cm
**Outcrop Exposure**: Excellent
**Use of Explosives**: Black powder

**Mineralogy**: Very fine grains of quartz and feldspar intermingled with flakes of muscovite and biotite. Pyrite grains up to 2-3 mm are common.
**Deleterious Minerals**: Pyrite

**Diamond Drilling Details**: Not drilled

**Physical Properties** (Parks, 1914): Specific weight 174.067 lbs/ft$^3$, Absorption 0.072%, Compressive strength 31,470 lbs/in$^2$, Transverse strength 5,415 lbs/in$^2$

**Comments**: This rock type is available over much of southern mainland Nova Scotia. Its abundance in the Halifax area made it a natural choice for building material. The most westerly quarry is 250 m long, 50 m wide and 10 m deep. Bedding is generally 10 cm in thickness, although blocks 60 cm in thickness can be quarried. The stone was hauled about 300 m east down to the government wharf for shipment around Point Pleasant to the Halifax waterfront. The second quarry is located 200 m east of the first, is semicircular in shape, 50 m in diameter with a western wall 30 m in height. The stone was moved 150 m east to the government wharf. The Quarry property was, until recently, owned by Dalhousie University. It has been sold and is slated for a residential housing project. The use of the quarries as a source of building stone is therefore precluded.

## Commercial Stone Name: MARBLE, WHITE AND BLUE
## County: INVERNESS
## Property Name: GLENCOE MARBLE OCCURRENCE

**NTS**: 11F/14
**Longitude**: 61° 15′48″
**Latitude**: 45° 55′25″
**Sample Number**: Drill core Glencoe 88-1
**Date**: May 20, 1987
**Property Status**: Development opportunity
**Geological Rock Name**: Marble
**Possible Uses**: Tile, dimension stone, rubble stone, possible filler

**Location Description**: No actual quarry exists at Glencoe. A reconnaissance of the Glencoe limestone deposit identified a white marble on the eastern extension. The place explored is located on a height of land 600 m north of MacPhail Brook at a point 2.4 km upstream from the Trans-Canada Highway 105 near Upper River Denys (Fig. 23).

**Production History**: There has not been any production.

**Colour**: Fresh white to pale bluish white; weathered dark grey; variable
**Grain Size**: Fine; uniform
**Texture**: Foliated to massive; variable
**Fabric**: No
**Bedding**: Strike 80°, Dip vertical; thickness range 2 mm-1 m
**Jointing**: Irregular; moderate
**Potential Quarry Block Size**: 1 m x 1 m x 50 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Mineralogy**: Fine- to medium-grained crystalline marble
**Deleterious Minerals**: Minor pyrite near granite

**Other Features**: Marble is interbedded with metasedimentary rock on the northern side of the property. The marble is cut off to the south and east by granite.

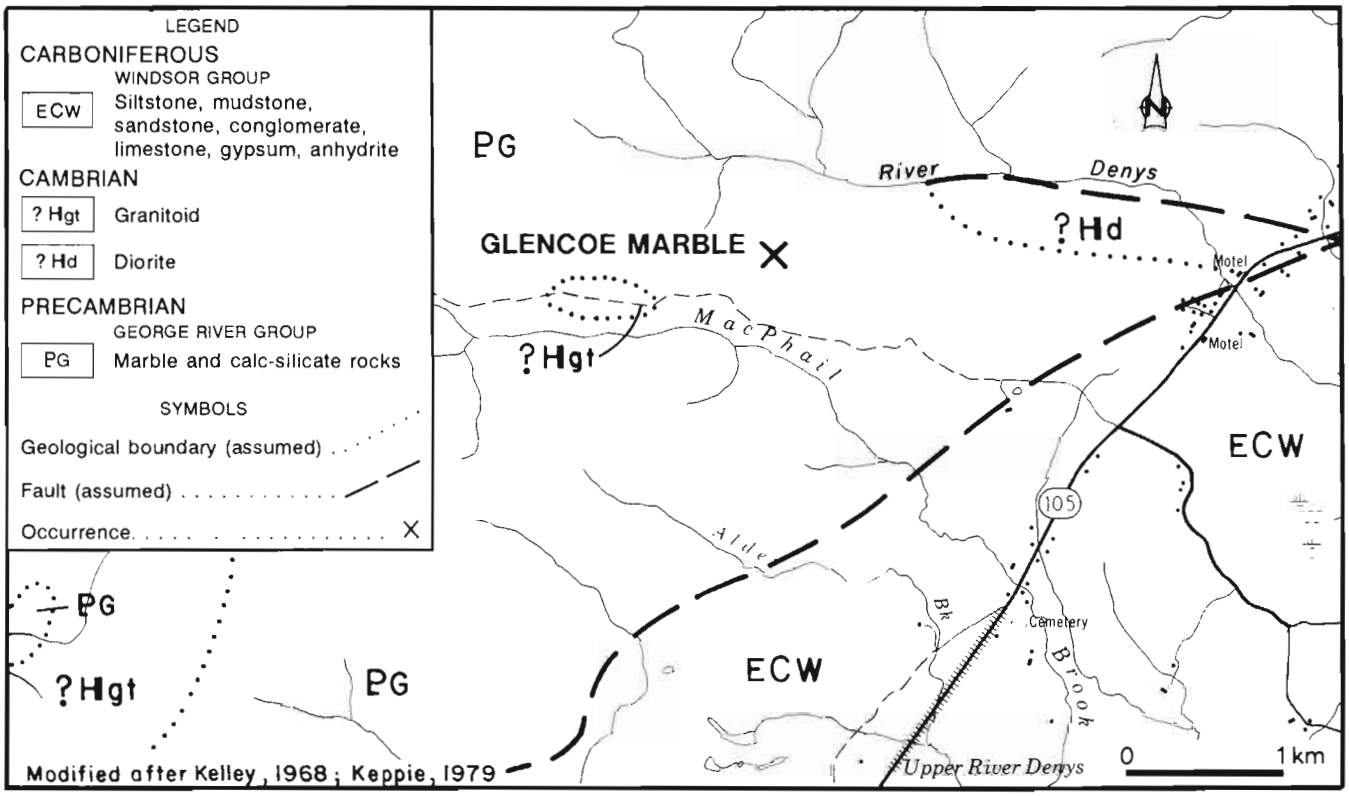



Figure 23. Geological location map for the Glencoe marble occurrence, Inverness County (11F/14).

**Diamond Drilling Details**: Five holes, totalling 431.6 m, were drilled in a cross-section pattern across the strike of the white marble (Glencoe 88-1 to 88-5; Fig. 24; Appendix 1, p. 113). The southern boundary of the marble is an intrusive contact with a grey, medium grained hornblende granodiorite. The northern boundary is formed by a band of greenish-grey chert and quartzite. The dip of the marble intersected in drilling is vertical and a block 650 m wide and 400 m deep was outlined by the fence. Continuing along strike to the west, outcrops of white marble occur up to 500 m away and previous Glencoe drilling delineated a similar white marble unit on fence `M' (MacNeil, 1976). Additional diamond drilling and trenching are required in order to determine if the marble can be traced on strike and if commercial size blocks can be quarried.

**Physical Properties** (Parks, 1914): (Typical) Specific weight 169.5 lbs/ft$^3$, Absorption 0.032%, Compressive strength 18,197 lbs/in$^2$, Transverse strength n/a

**Comments**: Although no quarrying for building stone has taken place at this location, surface exposure suggests that blocks of white stone may be available in commercial sizes. Diamond drilling has shown that the marble extends to over 100 m depth. The marble in this deposit is declared a Crown mineral and so is included under the Mineral Resources Act.

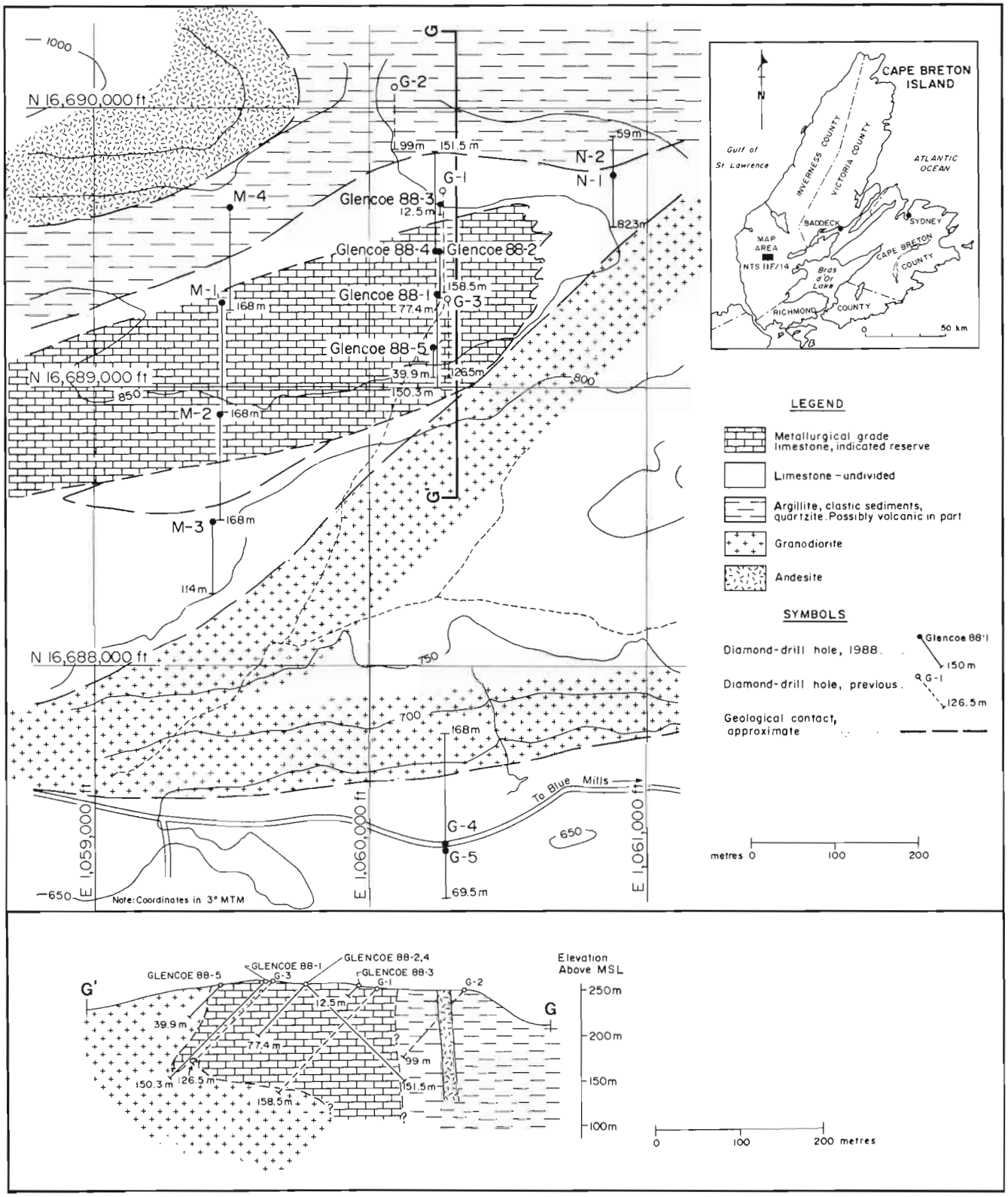



Figure 24. Glencoe marble occurrence, Inverness County, diamond-drill hole locations and section (Glencoe 88-1 to Glencoe 88-5) (11F/14).

**Commercial Stone Name: SANDSTONE, BROWN**
**County: PICTOU**
**Property Name: BIG MERIGOMISH ISLAND QUARRIES**

**NTS**: 11E/09
**Longitude**: 62°23'51"
**Latitude**: 45°40'43"
**Sample Number**: Not sampled
**Date**: October 21, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Rubble stone

**Location Description**: Outcrops of sandstone were found on the northern side of Big Merigomish Island exactly 4.3 km west of the cemetery at Cemetery Point (Fig. 25). A second quarry location was also examined 350 m west of the first.

**Production History**: There is no recorded production. The Quarries' locations were taken from Fletcher's (1902a) geological map.

**Colour**: Fresh grey, olive brown; variable
**Grain Size**: Coarse; variable
**Texture**: Variable
**Fabric**: No

**Bedding**: Strike 90°, Dip 5-20°N; thickness range 1 mm-10 cm
**Jointing**: Irregular; moderate
**Potential Quarry Block Size**: 50 cm x 1 m x 50 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Other Features**: Sandstone interbedded with conglomerate

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: No actual quarry was identified. Stone was probably removed from the cliff face as required for local construction. The outcrop exposure consists of a 60 cm thick bed of coarse grained, buff sandstone overlain by 3-6 m of red clay till. The rock is highly variable in grain size and texture and may have been suitable for foundation stone. There is little or no potential for any further quarry development here.

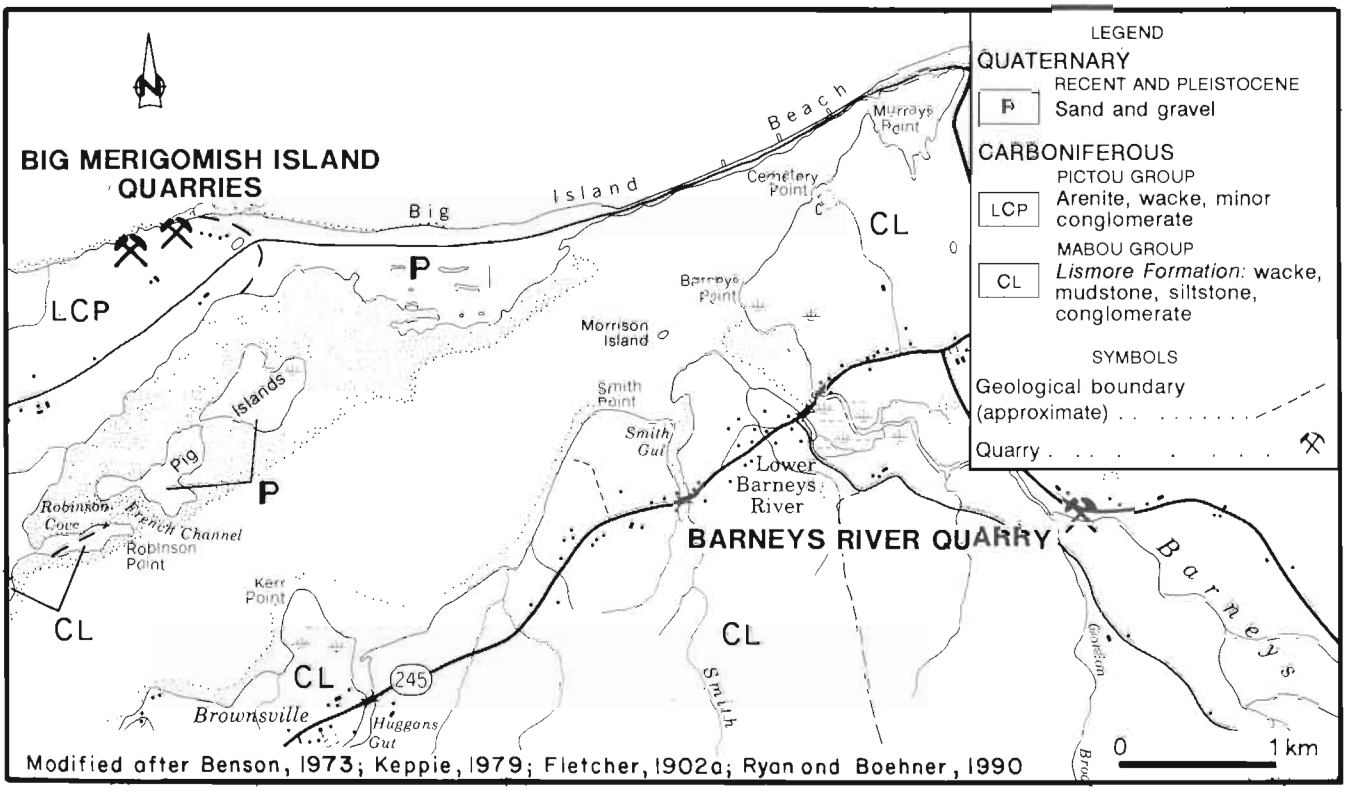



Figure 25. Geological location map for the Big Merigomish Island and Barneys River Quarries, Pictou County (11E/09).

**Commercial Stone Name: SANDSTONE, BROWN**
**County: PICTOU**
**Property Name: SEAFOAM QUARRIES**

**NTS**: 11E/15
**Longitude**: 62°56′05″
**Latitude**: 45°47′06″
**Sample Number**: 85-06-22, Box 1; 85-06-23 Box 1
**Date**: September 22, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Rubble stone, ashlar

**Location Description**: Two quarries were located by Fletcher (1902b) on the Northumberland Strait 600 m east of Kirks Brook near Seafoam (Fig. 26). They are 150 m apart as indicated by Fletcher (1902b).

**Production History**: None recorded

**Colour**: Fresh reddish brown, grey; variable
**Grain Size**: Medium; uniform
**Fabric**: No
**Bedding**: Dip horizontal; thickness range 5 mm-20 cm, average range 10 mm

**Jointing**: Irregular; moderate
**Potential Quarry Block Size**: 2 m x 1 m x 50 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Deleterious Minerals**: No

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: The old Seafoam Quarries have long since eroded away. However, high up in the bank, about 10 m above sea level, large blocks of sandstone are sloughing off the bank. The stone is thinly laminated, but seems to stay together because some blocks up to 1 m thick were observed lying at the base of the bank. The rocks are flat lying with the thickest stone near the top. The area south of the cliffs is presently under cultivation, thereby limiting quarry development in that direction. Also the overall poor quality of the stone makes additional development unlikely.

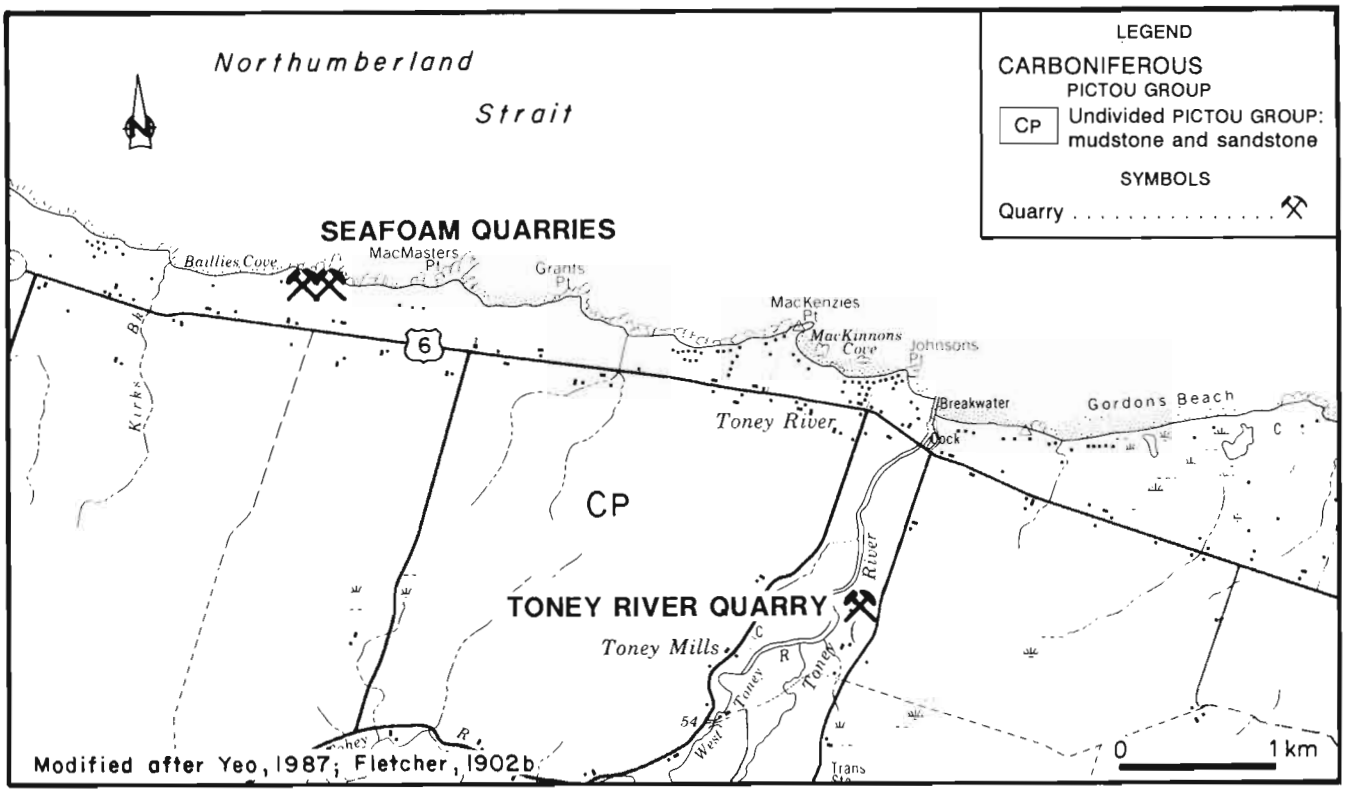



Figure 26. Geological location map for the Seafoam and Toney River Quarries, Pictou County (11E/15).

**Commercial Stone Name: SANDSTONE, BROWN**
**County: PICTOU**
**Property Name: TONEY RIVER QUARRY**

**NTS**: 11E/15
**Longitude**: 62°53′20″
**Latitude**: 45°45′59″
**Sample Number**: 85-06-21 Box 1
**Date**: September 22, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Rubble stone

**Location Description**: Fletcher (1902b) located the occurrence on the eastern side of Toney River, 1.6 km upstream (south) from Route 6 (Fig. 26, p. 50).

**Production History**: Parks (1914) referred to the `Chambers Block' in New Glasgow built from Toney River sandstone. He further stated that the Quarry was not in operation at the time so therefore was not visited.

**Colour**: Fresh red brown and grey; variable
**Grain Size**: Medium; uniform
**Fabric**: No

**Bedding**: Dip horizontal; thickness range 5-30 cm, average range 15 cm
**Jointing**: Irregular; moderate
**Potential Quarry Block Size**: 1 m x 50 cm x 20 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Deleterious Minerals**: Organic streaks

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: Little evidence of the Toney River Quarry was found on the Toney River bank. Some sandstone outcrops halfway up the 20 m bank in the place where the Quarry was located by Fletcher (1902b). The stone is thinly bedded with organic streaks. On the lower levels the stone is grey and higher up it is red brown. Judging from the size of blocks at the site, thicknesses of stone over 30 cm are rare. Based upon the poor quality of stone exposed, this site has very limited development potential.

**Commercial Stone Name: SANDSTONE, BROWN**
**County: PICTOU**
**Property Name: WEST BRANCH FRENCH RIVER QUARRY 2, MERIGOMISH**

**NTS**: 11E/09
**Longitude**: 62°25′42″
**Latitude**: 45°36′47″
**Sample Number**: Not sampled
**Date**: October 24, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Rubble stone, possible ashlar

**Location Description**: The Quarry is located on the West Branch French River exactly 2.23 km south-southwest of the Canadian National Railway bridge over the French River. It is located on the western bank of the West Branch French River at a sharp bend (Fig. 27).

**Production History**: No production has been recorded. It is located on Fletcher's (1902a) geological map.

**Colour**: Fresh grey brown; uniform
**Grain Size**: Medium; uniform
**Texture**: Uniform
**Fabric**: No

**Bedding**: Strike 50°, Dip 46°NW; thickness range 20 cm-1 m, average range 20 cm
**Jointing**: Irregular; moderate to intensive
**Potential Quarry Block Size**: 1 m x 1 m x 50 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Deleterious Minerals**: Plant fragments

**Other Features**: Sandstone is interbedded with mudstone

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: No old quarry was found, but the sandstone was found exposed on a 20 m high face. The stone is severely tilted and broken along bedding planes, and several large blocks have fallen off the face into the West Branch French River, some of which are in the 3-4 t range. Access to the site is difficult because of the deep River gorge and lack of a road within 1 km of the site.

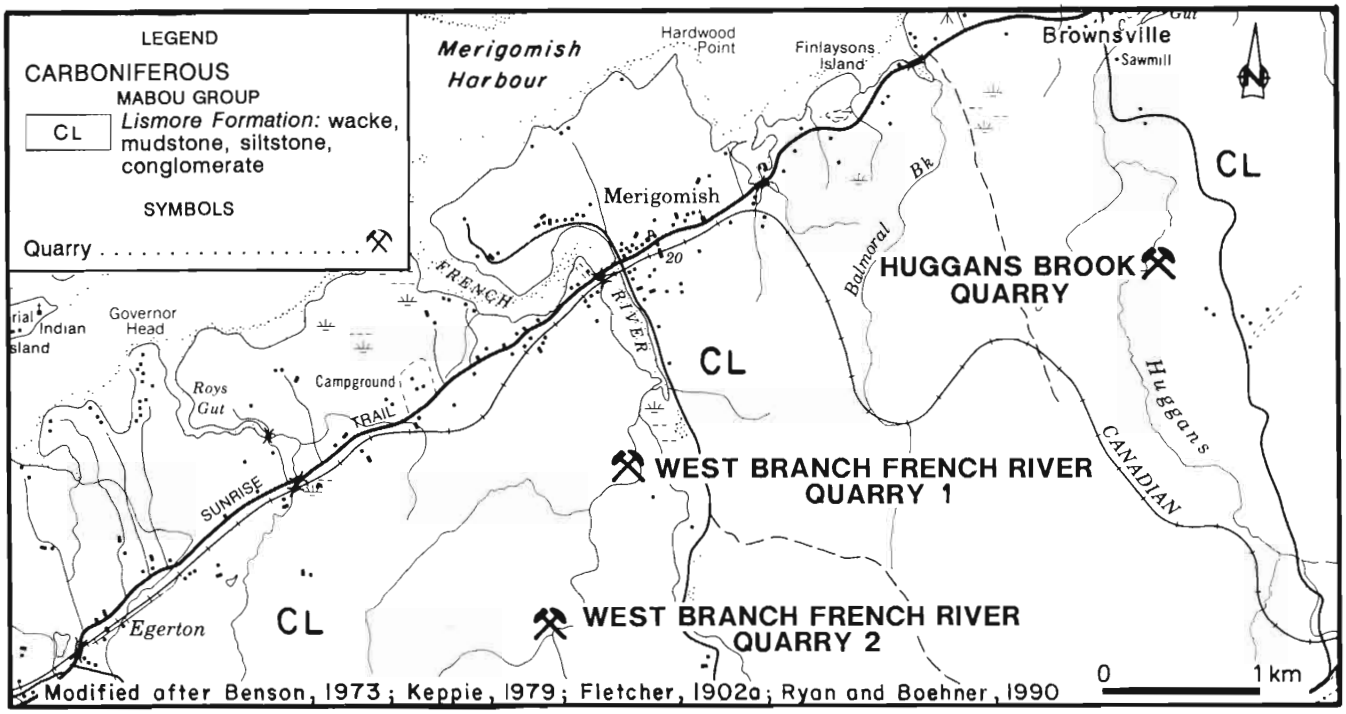



Figure 27. Geological location map for the West Branch French River Quarry 1 and Quarry 2 and Huggans Brook Quarry, Pictou County (11E/09).

**Commercial Stone Name: SANDSTONE, BUFF**
**County: PICTOU**
**Property Name: BARNEYS RIVER QUARRY, LOWER BARNEYS RIVER**

**NTS**: 11E/09
**Longitude**: 62° 19′00″
**Latitude**: 45° 39′48″
**Sample Number**: 85-06-40 Box 1
**Date**: October 25, 1985
**Property Status**: No evidence of quarrying found
**Geological Rock Name**: Sandstone
**Possible Uses**: Rubble

**Location Description**: The reported Quarry was located on the northeastern bank of Barneys River, 450 m southeast of where Gordon Brook joins Barneys River (Fig. 25, p. 49). It is approximately midway between Lower Barneys River and Avondale.

**Production History**: Production history is unknown. This is a miscellaneous occurrence taken from Fletcher (1902a).

**Colour**: Fresh buff tan; weathered buff; variable
**Grain Size**: Medium; uniform
**Fabric**: No
**Bedding**: Strike 45°, Dip 10-15° NW; thickness range 2-20 cm, average range 5 cm

**Jointing**: Irregular; moderate
**Potential Quarry Block Size**: 50 cm x 30 cm x 30 cm
**Outcrop Exposure**: Fair
**Use of Explosives**: No

**Mineralogy**: Quartzose sandstone with quartz and feldspar grains
**Deleterious Minerals**: No

**Other Features**: Due to the thinly laminated nature of the outcrop, quarrying of dimension blocks would be impossible.

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: Evidence of quarrying was not found, although extensive rubble was seen. Most bedding plane parting surfaces are thinner than 3 cm. Near the bottom of the 10 m bluff some blocks were found up to 20 cm in thickness. This stone is not suitable for quarrying for building stone.

**Commercial Stone Name: SANDSTONE, BUFF**
**County: PICTOU**
**Property Name: FOUR MILE BROOK QUARRY**

**NTS**: 11E/10
**Longitude**: 62°50′26″
**Latitude**: 45°35′52″
**Sample Number**: 85-06-41 Box 1
**Date**: October 25, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Rubble stone

**Location Description**: The Quarry location was taken from Fletcher's (1903) geological map. It is located on the northern side of Four Mile Brook, 800 m northwest of Route 376 (Fig. 28).

**Production History**: Production history is unknown, but it is reasonable to assume that stone for local building construction only was quarried here.

**Colour**: Fresh tan buff; weathered brown tan; uniform
**Grain Size**: Fine to medium; variable
**Fabric**: No
**Bedding**: Strike 0°, Dip 5°E; thickness range 10-15 cm, average range 12 cm
**Jointing**: Irregular; limited to moderate
**Grain**: Strike 165°, Dip vertical
**Potential Quarry Block Size**: 1 m x 50 cm x 20 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Deleterious Minerals**: No

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: Nothing remains of the old Quarry workings although there is good outcrop exposure on a 10 m high river bank. The stone is thinly bedded although jointing is fairly widespread. Development of this Quarry is unlikely because it is thinly bedded.

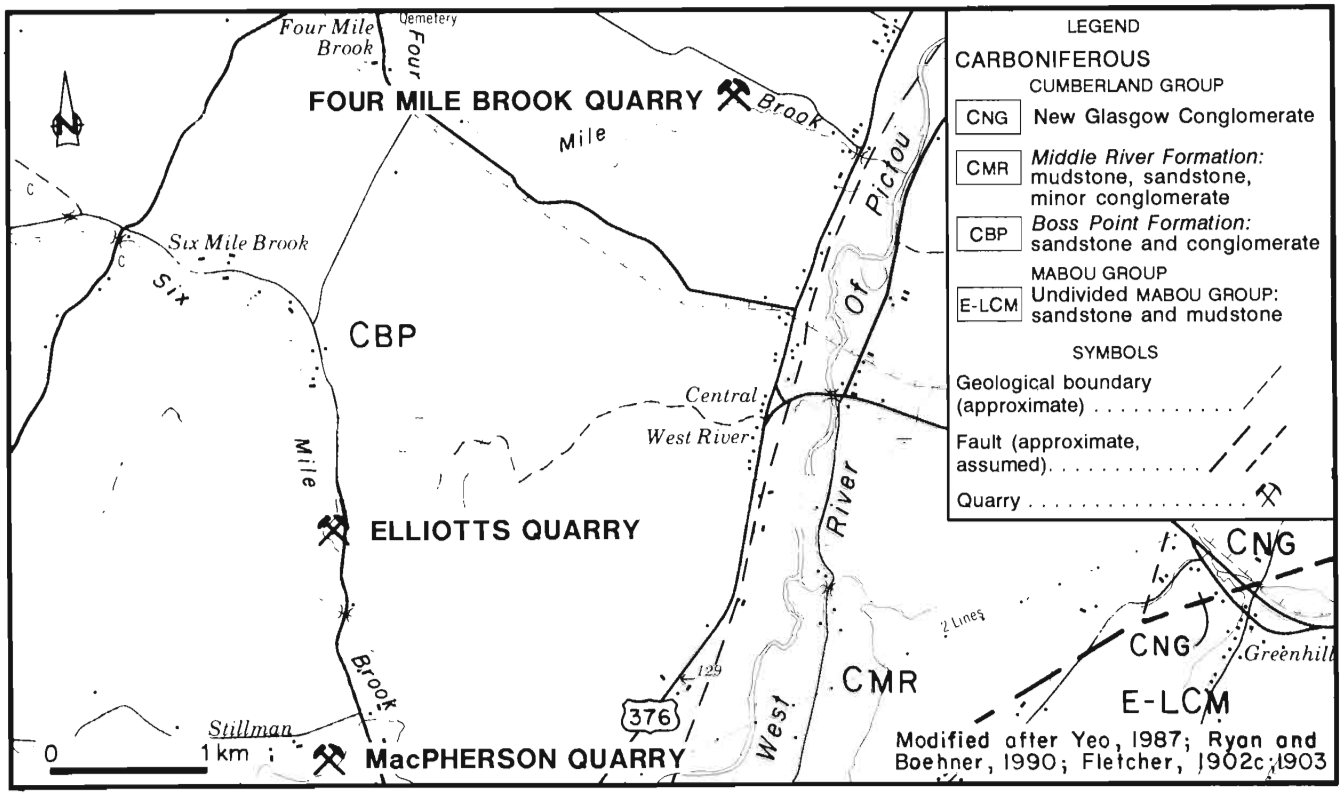



Figure 28. Geological location map for the Four Mile Brook, Elliotts and MacPherson Quarries, Pictou County (11E/10).

**Commercial Stone Name: SANDSTONE, BUFF**
**County: PICTOU**
**Property Name: GAMMON AND WEIR QUARRY, NEW GLASGOW**

**NTS**: 11E/10
**Longitude**: 62°36'21"
**Latitude**: 45°35'24"
**Sample Number**: 85-01-12 Box 1
**Date**: September 21, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Ashlar, rubble stone

**Location Description**: The old Quarry is located at Linacy, 100 m north of Route 4, 2.7 km east of the traffic lights at the intersection of Route 4 and East River Road in New Glasgow (Fig. 29).

**Production History**: The Quarry is identified on Fletcher's (1902a) geological map and Parks (1914) wrote about the Quarry. At that time about 230 $m^3$ (300 $yd^3$) of building stone were being produced.

**Colour**: Fresh olive buff; weathered buff; uniform
**Grain Size**: Medium; uniform; variable
**Texture**: Uniform
**Fabric**: No
**Bedding**: Strike 90°, Dip 45°N
**Jointing**: Regular; moderate
**Grain**: Strike 160°, Dip 72°E
**Rift**: Strike 22°, Dip vertical
**Hardway**: Strike 90°, Dip vertical
**Potential Quarry Block Size**: 1 m x 3 m x 1 m

**Outcrop Exposure**: Good
**Use of Explosives**: Probably black powder

**Deleterious Minerals**: No

**Other Features**: The owner of the property drilled a well in the old Quarry and cut 20 m of sandstone underlain by conglomerate.

**Diamond Drilling Details**: Not drilled

**Physical Properties** (Parks, 1914): Specific weight 145.139 $lbs/ft^3$, Absorption 5.006%, Compressive strength 16,300 $lbs/in^2$, Transverse strength 1,537 $lbs/in^2$

**Comments**: The Quarry site is on land owned by Mr. John Schumacher who has moved a mobile home to the site. He has backfilled the old Quarry in part and has made a fish pond in the remainder. A small outcrop exposure 2-3 m high remains. The sandstone dips steeply to the north thereby limiting development in that direction. The joint pattern is sufficiently wide to allow the extraction of blocks with bed heights greater than 1 m. According to Parks (1914), "... pieces from three to four feet square and from ten to fifteen feet long have been quarried". It is doubtful if any further production can take place in this Quarry because the area has been settled with residential housing along strike and the stone plunges to depth rapidly to the north.

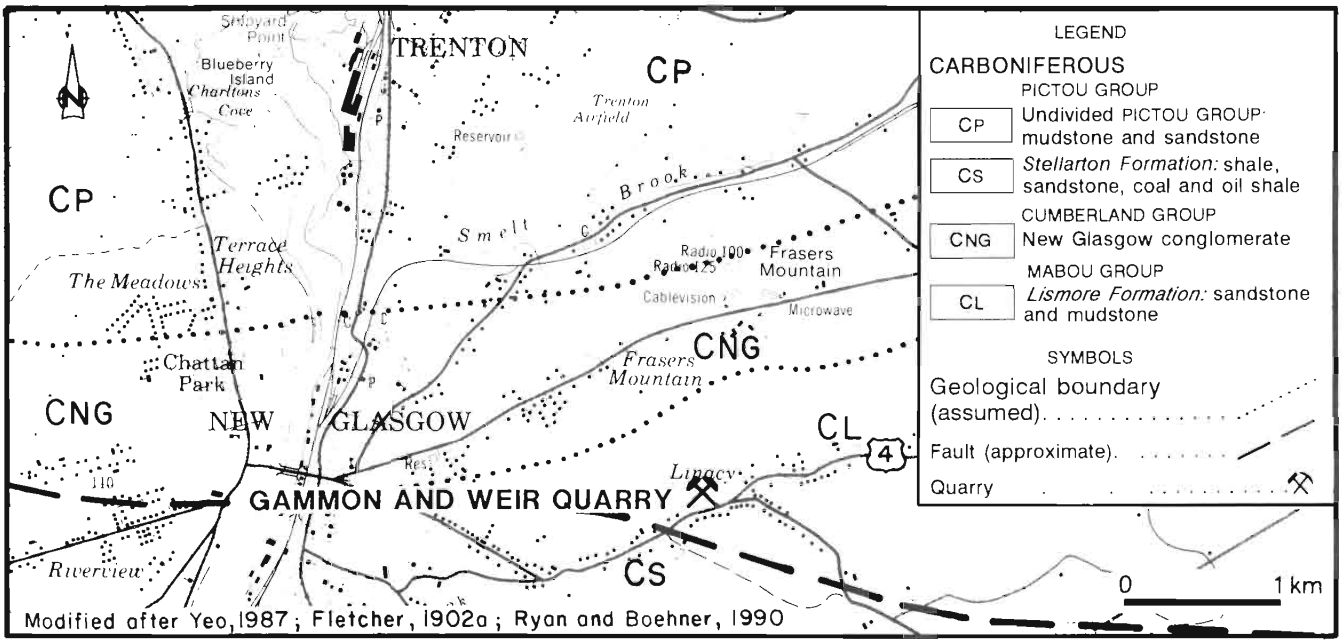



Figure 29. Geological location map for the Gammon and Weir Quarry, Pictou County (11E/10).

**Commercial Stone Name: SANDSTONE, BUFF (SCOTSBURN BUFF)**
**County: PICTOU**
**Property Name: MACKENZIE QUARRY, HARDWOOD HILL**

**NTS**: 11E/10
**Longitude**: 62°50'06"
**Latitude**: 44°39'41"
**Sample Number**: Drill core McK-86-03; Sample 2, NSDME Sample Catalogue 89-01
**Date**: November 1987
**Property Status**: Not producing
**Geological Rock Name**: Sandstone
**Possible Uses**: Dimension stone, ashlar, paving stone

**Location Description**: The MacKenzie Quarry is located on the property of L. B. MacKenzie, Hardwood Hill, and is accessed by a private road which leads off the gravel road from Scotsburn to Heathbell. The entrance is exactly 1.45 km northeast of the intersection of the Heathbell road and Route 256 at Scotsburn. The Quarry is precisely 0.95 km towards 217° from the Hardwood Hill microwave tower (Fig. 30).

**Production History**: The Quarry was opened in 1987 to be used as a source of fill for the Common User Dock Construction project in Pictou. Approximately 100 000 t of stone were removed exposing sandstone which perhaps could be used as building stone (Dickie, 1988). To date no building stone production has occurred.

**Colour**: Fresh olive buff; weathered buff; variable
**Grain Size**: Medium; uniform
**Fabric**: No
**Bedding**: Dip 10° SE
**Jointing**: Irregular; moderate
**Potential Quarry Block Size**: Not determined
**Outcrop Exposure**: Poor to good
**Use of Explosives**: High explosives

**Mineralogy**: Similar to the McKeens Quarry (p. 59). Quartz and feldspar grains in a cement comprised of calcium carbonate (minor), silica and clay.
**Deleterious Minerals**: Minor organic

**Other Features**: See Diamond Drilling Details below. In the most northerly hole the sandstone had

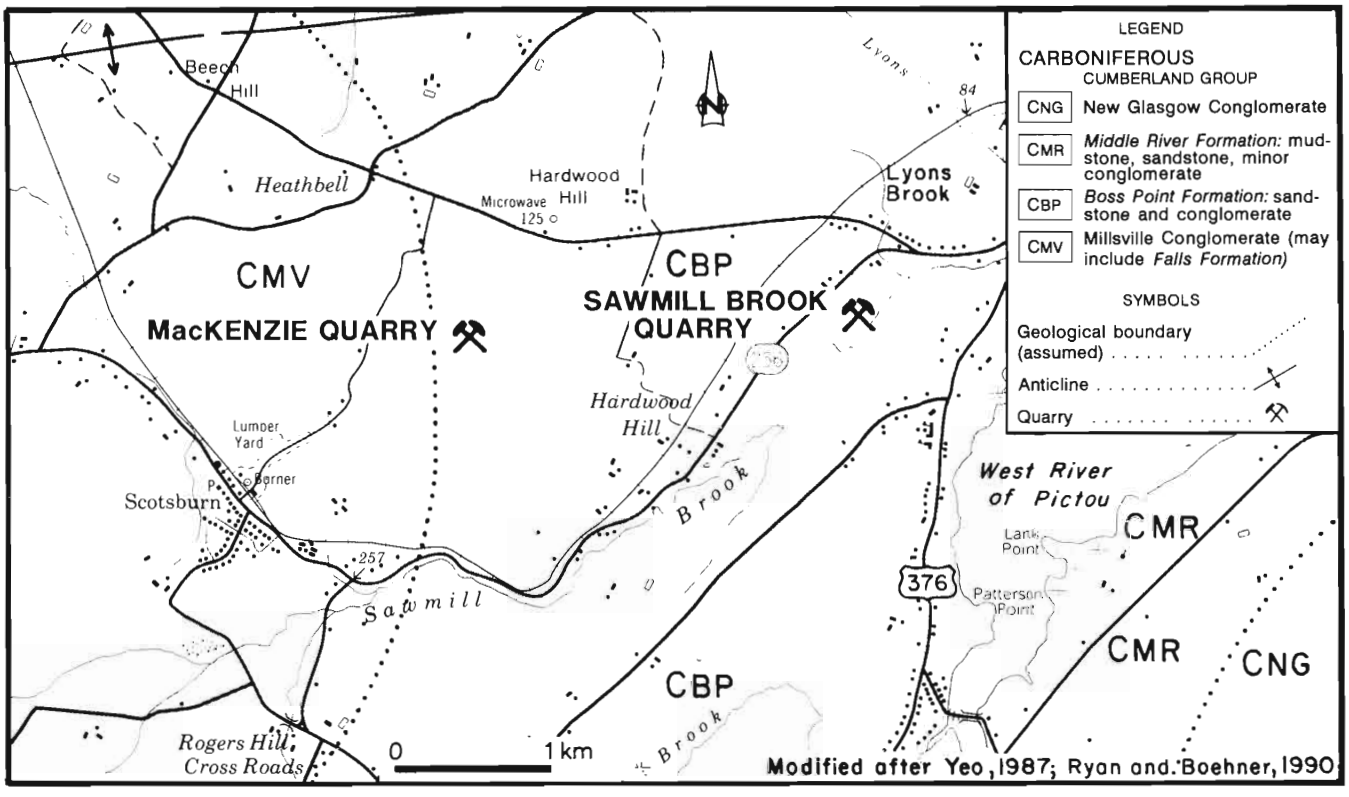



Figure 30. Geological location map for the MacKenzie and Sawmill Brook Quarries, Pictou County (11E/10).

a bleached appearance and the calcareous channel lag was much more dense than in the other two holes.

**Diamond Drilling Details**: Three holes spaced 100 m apart were collared in a north-south line on the height of land where the proposed quarry was to be located (Fig. 31; Appendix 1, p. 118). All holes were 30.5 m deep and core size was BQ. The core was logged in detail and sampled. The top 18.2 m of holes McK-86-01, McK-86-02 and McK-86-03 were selected for sampling. Alternate pieces of core were split and collected in plastic bags. In addition, a 20 cm long, unsplit piece of core was collected from a typical sandstone unit from each hole for compressive and transverse strength determination. The results of the testing are provided in detail in Dickie (1986). Hole McK-86-01 was collared in 6.6 m of medium grained, brown sandstone underlain by 2.2 m of calcareous, lag breccia and a fine- to medium-grained, grey to brown sandstone to a depth of 20.3 m. Hole McK-86-02,

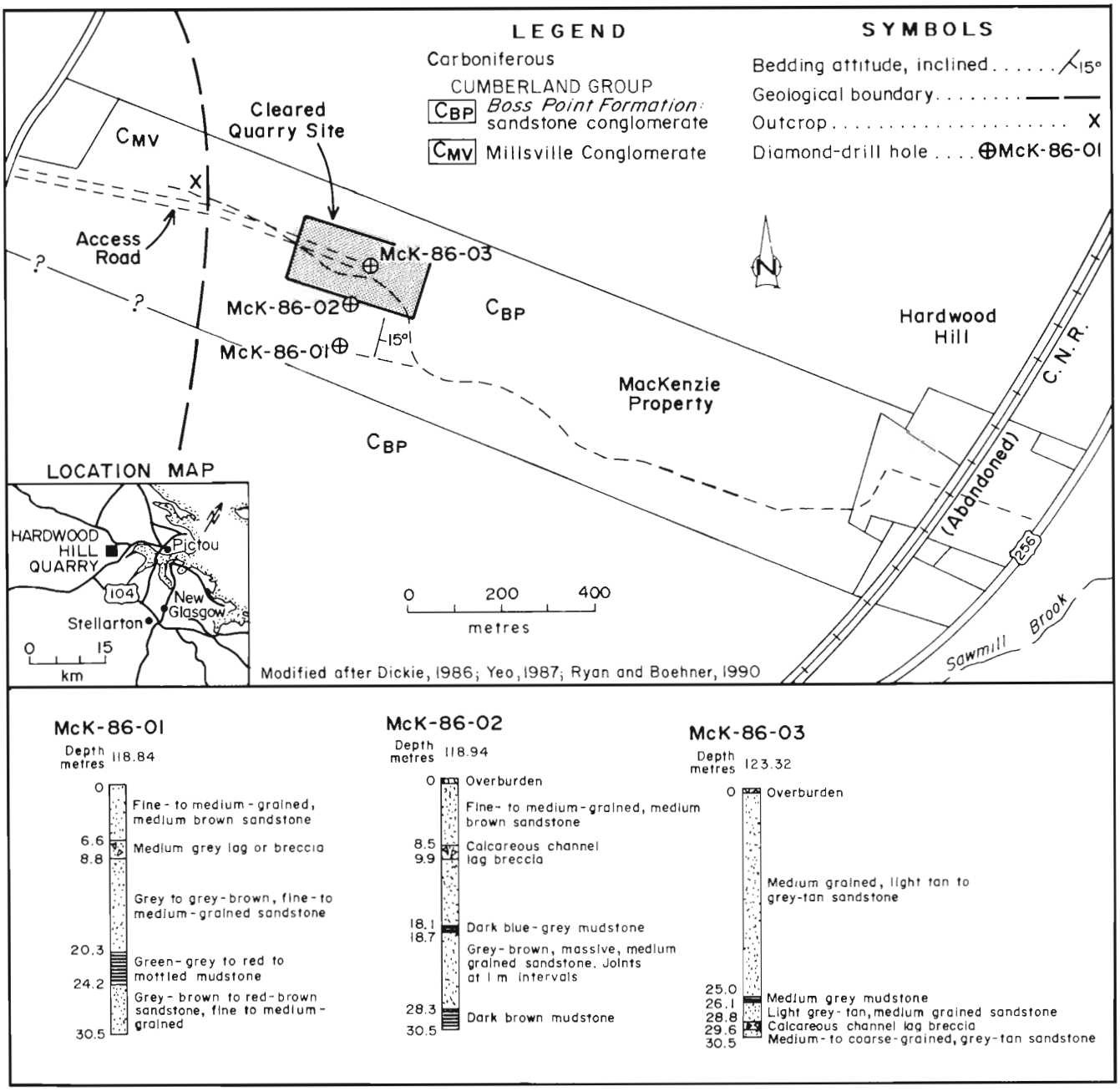



Figure 31. MacKenzie Quarry, Pictou County, general geology and diamond-drill hole locations and columns for McK-86-01 to McK-86-03 (11E/10).

collared 100 m north of McK-86-01, cut predominantly buff-brown, fine- to medium-grained sandstone interbedded with calcareous channel lag from 8.5-9.9 m, from 15.0-15.3 m and from 21.3-21.6 m. The hole terminated in dark brown mudstone from 28.3-30.5 m. Hole McK-86-03, collared 100 m north of McK-86-02 cut 10 m of light tan, medium grained sandstone. Minor calcareous, channel lag occurred over the intervals 10.6-10.9 m, 12.3-13.0 m, 14.3-14.8 m, 21.9-22.3 m and 28.8-29.6 m. A minor unit of massive mudstone was cut from 25-26.1 m. The best sandstone was found to occur in hole McK-86-03 from surface to a depth of 10.6 m. Although the stone comes apart along bedding planes in drill core, bed heights may be sufficient to allow the quarrying of commercial size blocks as a quarry face is developed.

**Physical Properties** (Parks, 1914): Compressive strength 8,520 lbs/in$^2$ (wet), Transverse strength 962 lbs/in$^2$ (wet)

**Comments**: The MacKenzie Quarry has not produced dimension stone blocks at the time of writing this report. Approximately 100 000 t of blasted bank stone has been removed exposing a 10-15 m high working face. The variability of colour and grain size noted in the drill core is apparent in the Quarry. Due to the fact that high explosives were used to extract the stone, a considerable amount of excavation is required to properly expose a bed from which dimension blocks can be obtained. Due to the apparent large volume of sandstone available and the remote nature of the Quarry, this deposit warrants further investigation to determine if a bed is present which could be economically developed for building stone.

**Commercial Stone Name: SANDSTONE, BUFF**
**County: PICTOU**
**Property Name: MCKEENS QUARRY, PICTOU**

**NTS**: 11E/10
**Longitude**: 62°41'31"
**Latitude**: 45°41'29"
**Sample Number**: 85-01-01 Box 1
**Date**: September 7, 1985
**Property Status**: Active
**Geological Rock Name**: Sandstone
**Possible Uses**: Dimension blocks, ashlar, rubble stone

**Location Description**: The old McKeens Quarry (Fletcher, 1903) is located 500 m north of the Pictou to Braeshore road (Fig. 32). The access road is 300 m east of the Golf Course Club House.

**Production History**: This is one of the oldest quarries in Nova Scotia and was producing sandstone in the mid 1800s under the name Fogo Quarry. It produced sandstone continuously until the 1940s when it closed. It is presently producing rock fill and armour stone.

**Colour**: Fresh buff and grey; weathered buff; variable
**Grain Size**: Medium to coarse; variable
**Texture**: Variable
**Fabric**: No
**Bedding**: Strike 157°, Dip 5°NE; thickness range 20 cm-3.2 m, average range 25 cm
**Jointing**: Irregular; moderate
**Grain**: Strike 40°, Dip vertical
**Rift**: Strike 70°, Dip 80°S
**Potential Quarry Block Size**: 2 m x 1 m x 50 cm
**Outcrop Exposure**: Good
**Use of Explosives**: Black powder and dynamite

**Mineralogy**: Quartz grains of 0.25 mm scattered throughout a finer matrix of quartz and feldspar grains. The stone contains a high amount of cement consisting of clays, calcium carbonate and iron oxide.
**Deleterious Minerals**: Muscovite mica and organic stain.

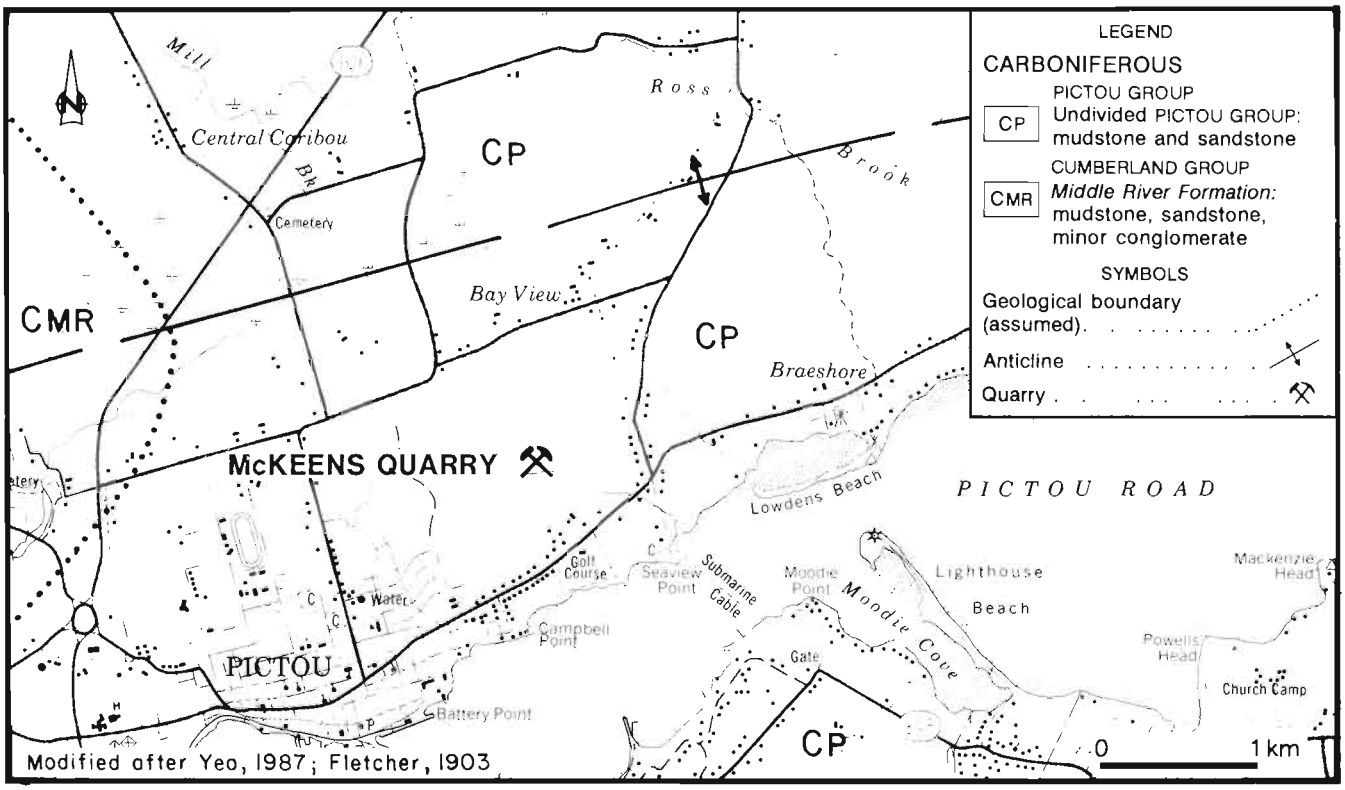



Figure 32. Geological location map for the McKeens Quarry, Pictou County (11E/10).

**Diamond Drilling Details**: Three holes (Dickie, 1987) totalling 143.7 m were drilled along strike, spaced 60 m apart (CRP-86-01 to CRP-86-03; Figs. 33 and 34; Appendix 1, p. 99). Holes were collared in the present upper Quarry floor which is 5 m above the base of the last sandstone bed quarried for building stone. Medium- to coarse-grained, olive-grey sandstone was cored to depths ranging from 6-12 m. This was underlain by 6 m of red-brown, massive mudstone and siltstone. Below the siltstone over 25 m of mixed olive, buff and grey, medium- to coarse-grained sandstone was cored (Fig. 35).

**Physical Properties** (Parks, 1914): Specific weight 141.652 lbs/ft$^3$, Absorption 6.853%, Compressive strength 10,348 lbs/in$^2$, Transverse strength 869 lbs/in$^2$.

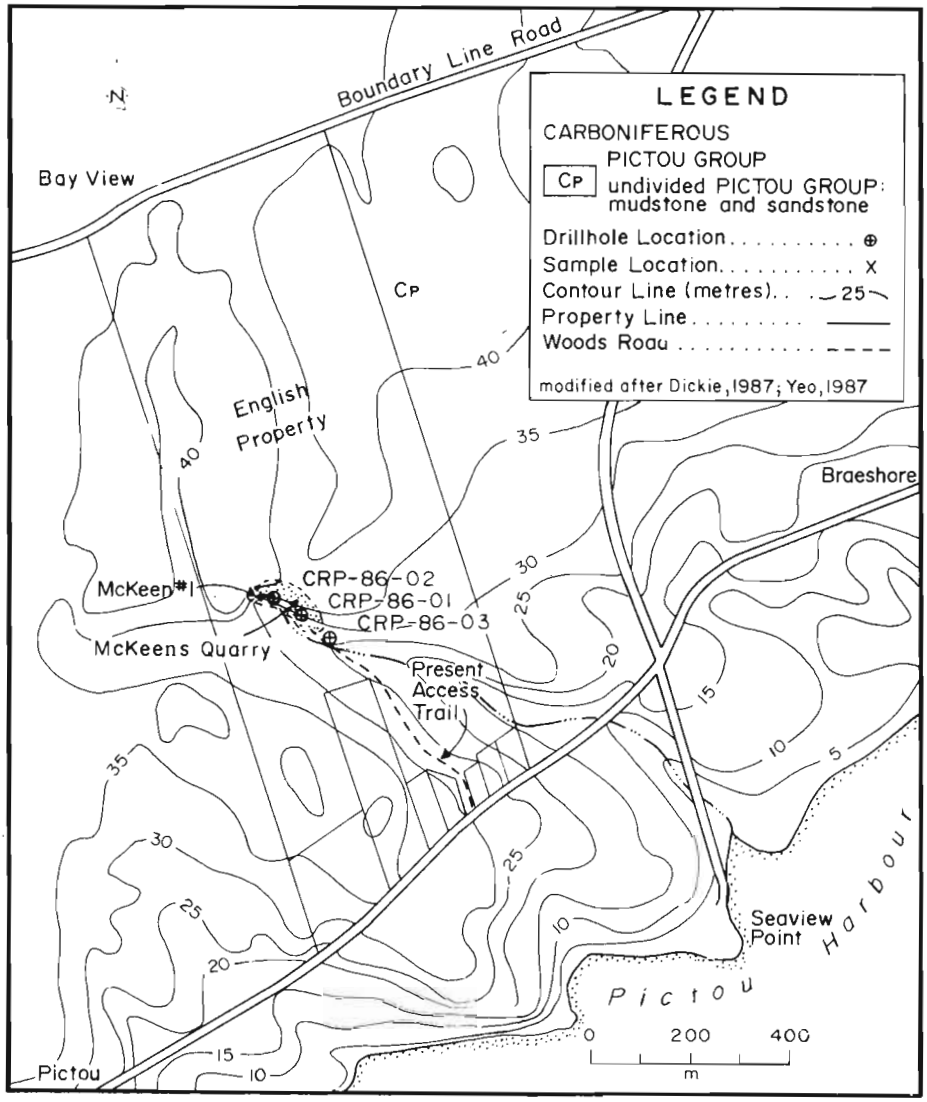



Figure 33. McKeens Quarry, Pictou County, general geology and location map for CRP-86-01 to CPR-86-03 (11E/10).

**Comments**: Approximately 8 m of sandstone is exposed under 2 m of overburden on the northern face of McKeens Quarry. In recent years the stone has been used for armour stone and rip rap. High explosives were used in this phase of the work, shattering the stone. The old Quarry is located 30 m south of the main face, is 5 m deep and was filled with water in 1985. Since that time it has been back filled with quarry debris. In the past, a rail spur connected the Quarry to the Canadian National Railway tracks near the Pictou shipyard.

Many notable buildings (Dickie, 1988) were constructed using this stone including the Charlottetown Legislature, parts of the New Glasgow Town Hall, New Glasgow, and many stone buildings in the Town of Pictou. According to Parks (1914) the stone was awarded a commemorative medal at the Colonial and Indian Exhibition in 1886. The McKeens Quarry stone, as seen on buildings in Pictou, weathers to a fine, uniform buff colour, particularly on worked surfaces. As is typical with sandstones, it has a strong tendency to exfoliate when face bedded. There is a large volume of sandstone remaining on this property and measures should be taken to ensure that the building stone resource is not destroyed.

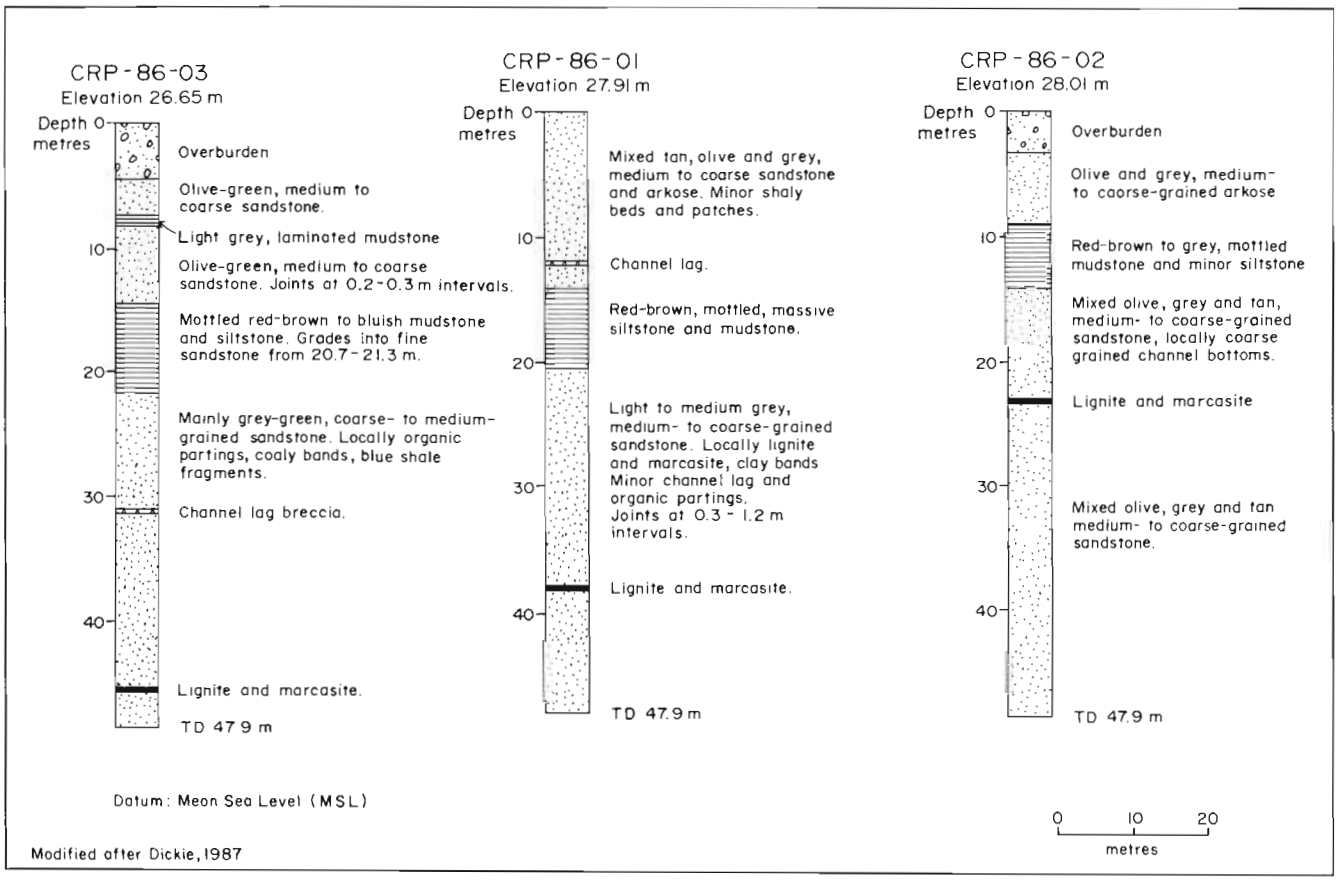



Figure 34. McKeens Quarry, Pictou County, detailed diamond-drill hole columns for CRP-86-01 to CRP-86-03 (11E/10).

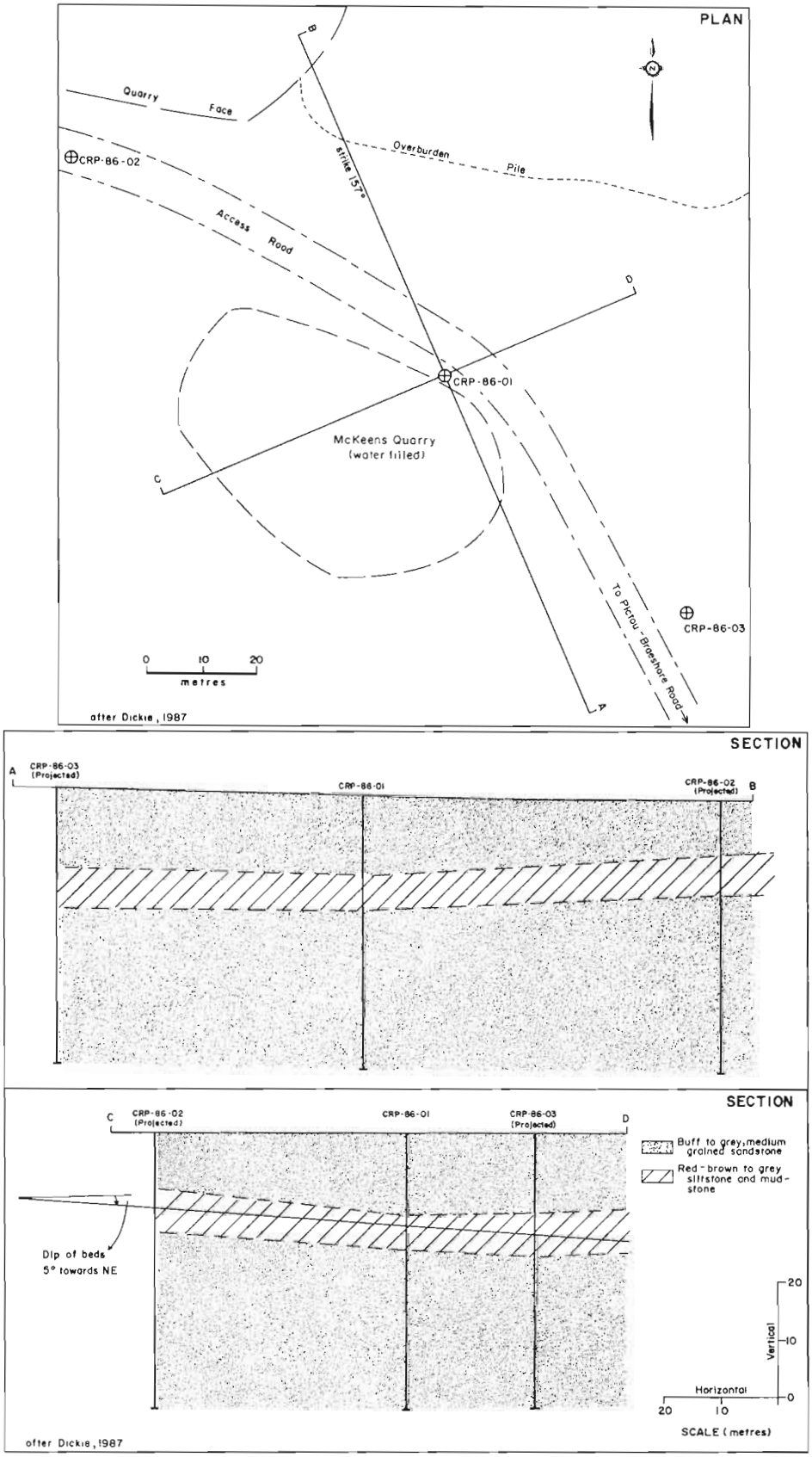



Figure 35. McKeens Quarry, Pictou County, diamond-drill hole locations (CRP-86-01 to CRP-86-03) and longitudinal- and cross-sections (11E/10).

**Commercial Stone Name: SANDSTONE, BUFF**
**County: PICTOU**
**Property Name: SAWMILL BROOK QUARRY, PICTOU**

**NTS**: 11E/10
**Longitude**: 62°48′03″
**Latitude**: 45°39′48″
**Sample Number**: 85-02-02 Box 1
**Date**: September 8, 1989
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Ashlar, rubble stone

**Location Description**: The Sawmill Brook Quarry is located 300 m southeast of Route 256, 1 km southwest of Lyons Brook, Pictou County (Fig. 30, p. 56). The Quarry is 50 m in diameter, located on the western bank of Sawmill Brook, 900 m upstream from where Route 376 crosses the Brook.

**Production History**: The Quarry was first opened around 1830 by John McKenzie. It was subsequently owned and operated by the Acadia Company from 1847-1859. Stone was shipped primarily to the United States market at this time. A Mr. McKenzie apparently ran the Quarry and took over after the Acadia Company left. He continued to quarry stone until the late 1800s at which time it was abandoned.

**Colour**: Fresh olive to buff; uniform
**Grain Size**: Medium; uniform
**Bedding**: Strike 20-30°, Dip 25° SE; thickness range 50 cm-2 m, average range 1 m
**Jointing**: Irregular; moderate
**Potential Quarry Block Size**: 1 m x 1 m x 50 cm
**Outcrop Exposure**: Fair
**Use of Explosives**: No

**Deleterious Minerals**: No

**Exploration and Diamond Drilling Details**: Pumping: The Drilling Division of the Nova Scotia Department of Mines and Energy organized and carried out the pumping operation. A 1200 gallon per minute pump was rented and set up on site. A total of about 12 hours was required to pump the Quarry dry over a three day period. Once the water was removed the Quarry floor was plane table mapped and sampled (Fig. 36).

The stone exposed in the Quarry floor was quarried from two main beds. The rock strikes northeast and dips 20° SE. Therefore, the upper bed was quarried on the eastern side of the hole and the lower bed was quarried on the western side. The two beds are separated by about 3 m of grey shale. The upper bed consists of a massive, fine- to medium-grained, olive-green sandstone with bed thicknesses up to 2.8 m exposed. This stone is identical to that used in the construction of the Taylor House in Lyons Brook, Pictou County. The lower bed consists of grey to tan coloured, fine- to medium-grained sandstone with organic partings near the top. Bed heights of up to 2-2.5 m were observed.

**Diamond Drilling**: A red-brown sandstone was cored in a diamond-drill hole at Sawmill Brook in March 1986 at a depth of about 15 m (SMB-86-01; Fig. 36; Appendix 1, p. 124). Projecting a 20° dip downslope from this location to the Quarry, places the top of the red-brown stone at about 15 m below the water level of the Quarry. The presence of the red-brown stone was confirmed at 18.9 m below the collar of SMB-86-04. I had previously anticipated this stone to be present much nearer the surface. However, inconsistencies in dip angles of the sandstone beds made it impossible to accurately predict its depth. The colour and texture of the red-brown sandstone were very similar in SMB-86-01 and SMB-86-04. SMB-86-05 was collared 46 m west of SMB-86-01 to determine where this stone would subcrop to the west. The bottom 60 cm of the red-brown stone were intersected in the top of this hole. The drill was then moved to SMB-86-06 where 3 m (true thickness) of a finely laminated red-brown sandstone were intersected, at a depth of 6.4 m below surface and 1.5 m below the base of the overburden (4.9 m). Therefore, knowing the strike of the rock, the subcrop projection of the red-brown stone was outlined. Judging from the condition of the drill core in the top 1.2 m of sandstone, there could be considerable wastage of stone due to weathering of the bedrock surface.

**Physical Properties**: n/a

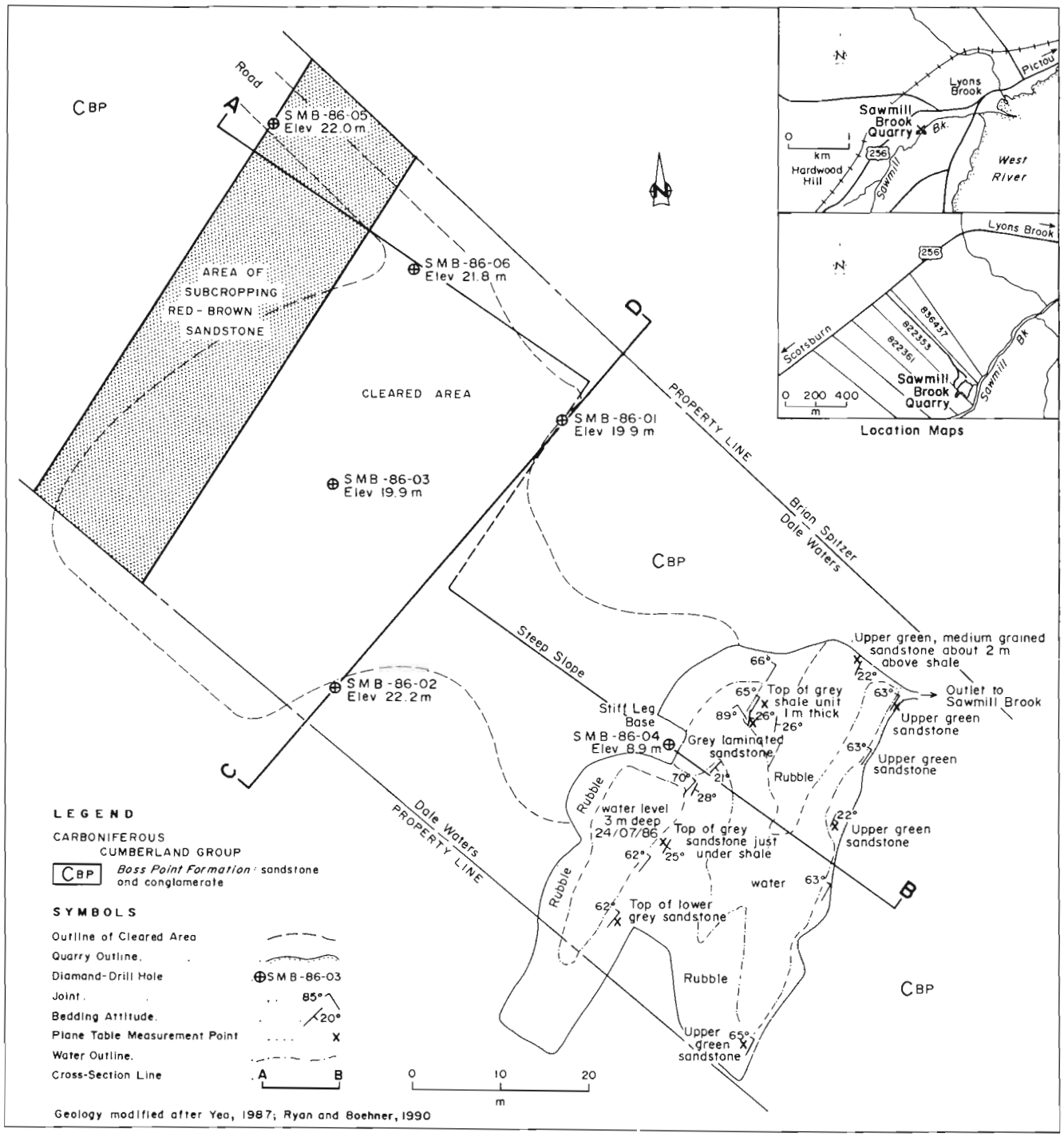
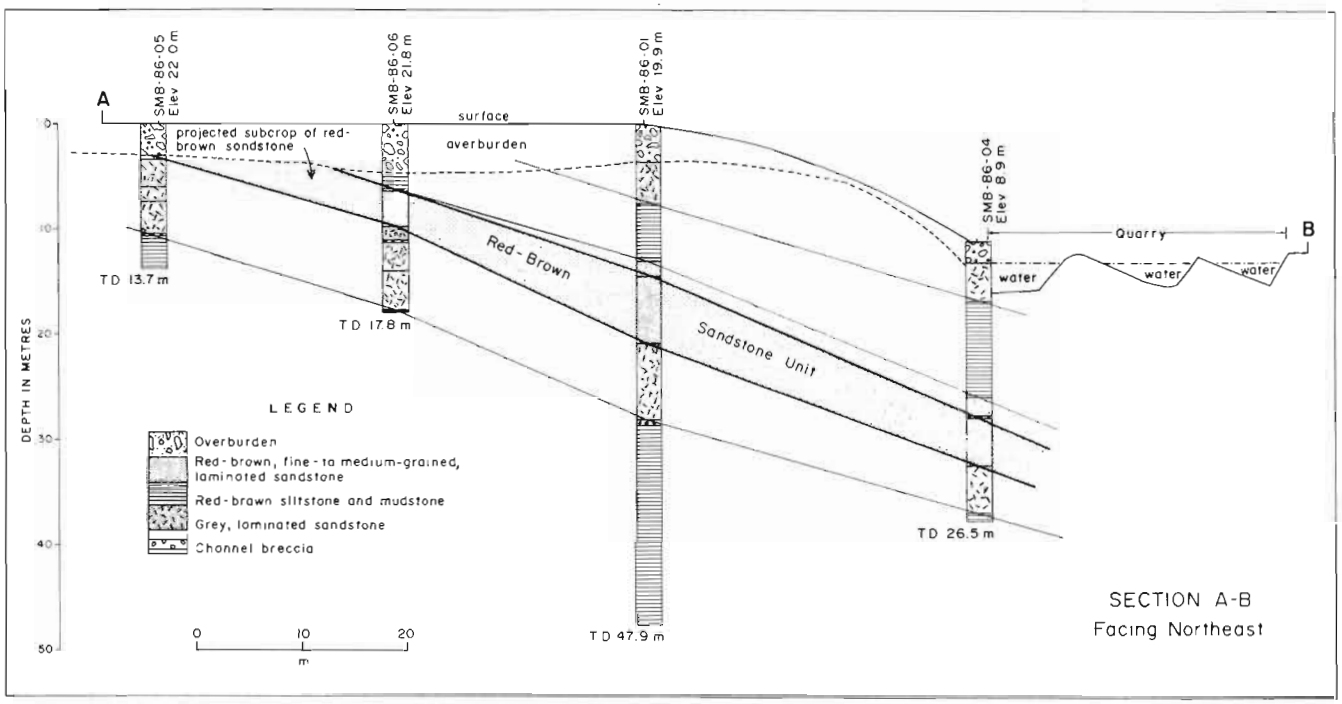



Figure 36. Geological plane table map and drill sections of Sawmill Brook Quarry, Pictou County (Sections A-B and C-D) (SMB-86-01 to SMB-86-06) (11E/10). (Location for SMB-86-04 not surveyed).

**Comments**: The dip of the olive stone quarried in the past, severely limits the volume of stone left in the Quarry. The reserve is cut off to the northeast and east by Sawmill Brook. There is no sandstone suitable for quarrying to the west due to the presence of a thick mudstone unit. The Quarry is part of a residential subdivision thereby eliminating any further extraction of building stone.



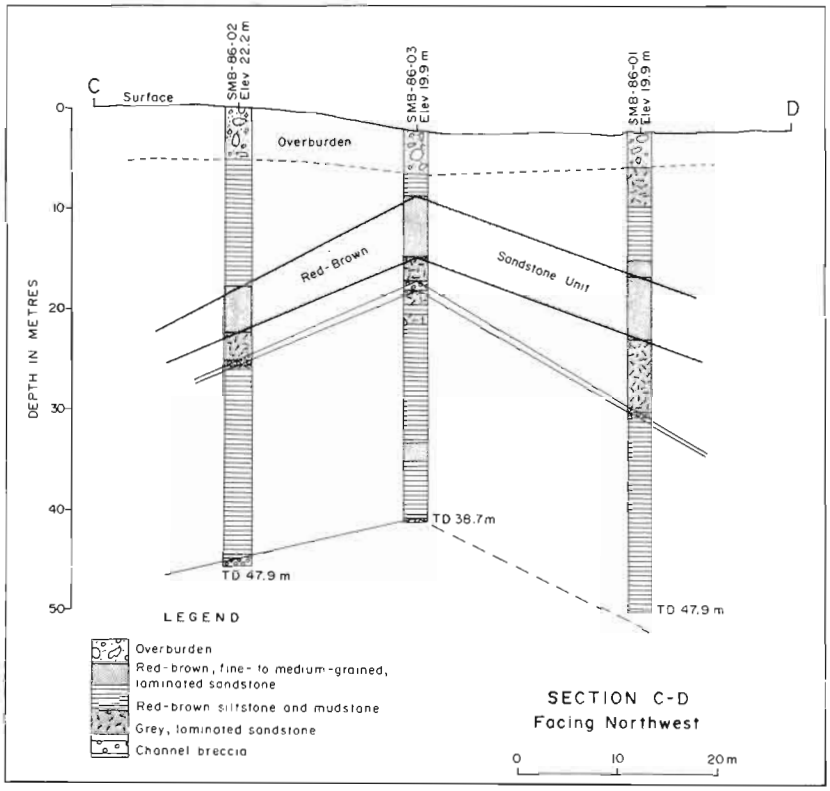




Figure 36. Continued.

**Commercial Stone Name: SANDSTONE, GREY AND BROWN**
**County: INVERNESS**
**Property Name: MCKAYS POINT OCCURRENCE, JUDIQUE**

**NTS**: 11F/13
**Longitude**: 61°30'33"
**Latitude**: 45°54'30"
**Sample Number**: Not Sampled
**Date**: September 20, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Not suitable for building stone

**Location Description**: No actual quarry exists at this location. Stone blocks were taken from the beach at McKays Point 2 km northwest of Judique (Gillis, personal communication, 1986) (Fig. 37).

**Production History**: Mr. John Gillis of McKays Point said stone was cut and taken from the beach in 1924 to build the Judique church. No other production took place.

**Colour**: Fresh grey and brown; variable
**Grain Size**: Medium; variable
**Fabric**: No

**Bedding**: Strike 45°, Dip 50-60° NW; thickness range 5-15 cm, average range 7 cm
**Jointing**: Irregular; moderate
**Potential Quarry Block Size**: 1 m x 15 m x 20 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Deleterious Minerals**: Calcareous

**Other Features**: The sandstone is interbedded with thick blue and grey shale units. There would have been no stone quarried here except stone that was exposed on the shoreline.

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: The only reason that this stone was used is because it was well exposed and accessible on the shore. The poor quality and thin beds make further quarry development impossible.

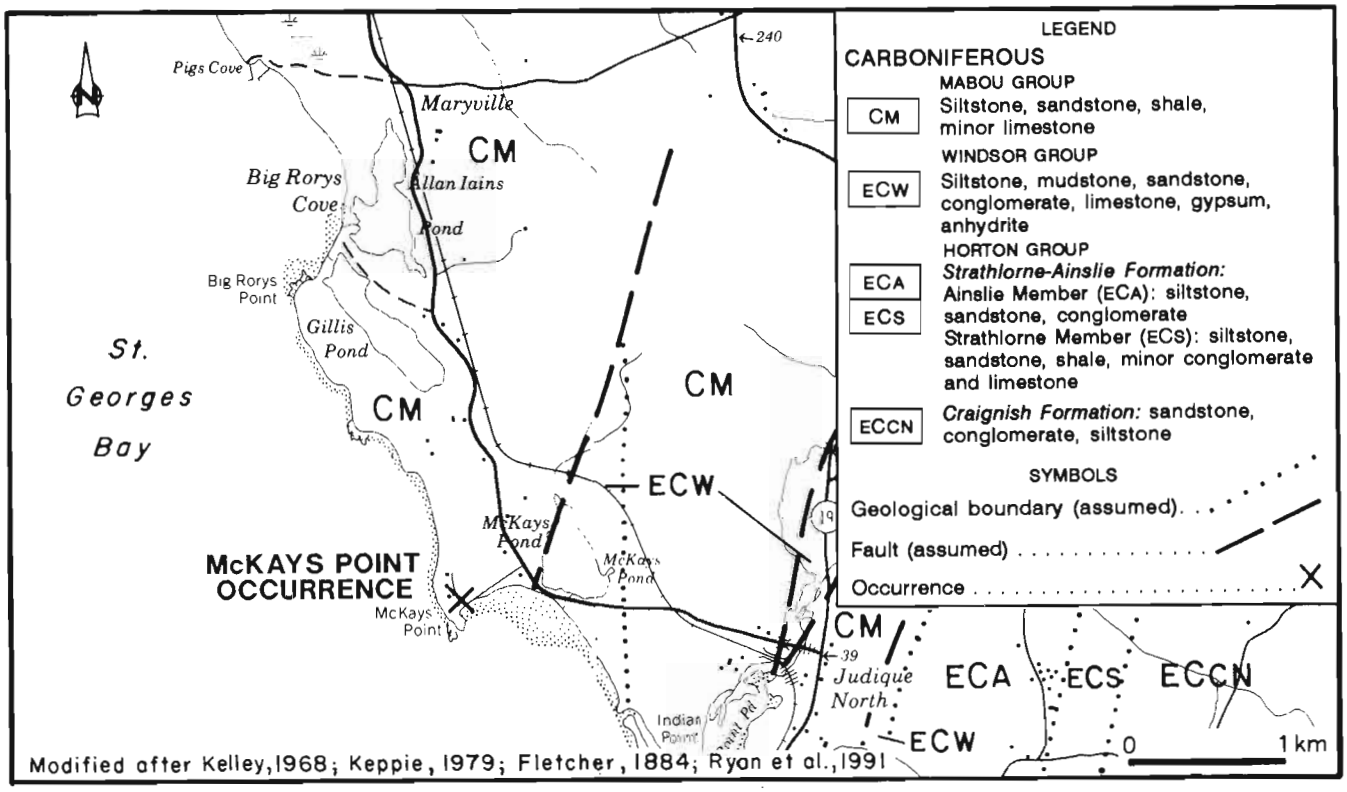



Figure 37. Geological location map for the McKays Point occurrence, Inverness County (11F/13).

**Commercial Stone Name: SANDSTONE, GREY AND BROWN**
**County: VICTORIA**
**Property Name: GRANT QUARRY, BOULARDERIE ISLAND**

**NTS**: 11K/01
**Longitude**: 63°29'08"
**Latitude**: 46°10'25"
**Sample Number**: Not sampled
**Date**: October 5, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Rough foundation stone, rubble stone

**Location Description**: The Grant Quarry is located at Boularderie West on a small brook which runs into St. Andrews Channel. The Quarry is 200 m south of the road and 200 m west of the Victoria County-Cape Breton County line (Fig. 38).

**Production History**: Although Parks (1914) mentioned the Grant Quarry, it was not in operation at that time nor has any production taken place since then.

**Colour**: Fresh yellowish grey; weathered yellowish brown; variable
**Grain Size**: Medium to coarse; variable
**Fabric**: No
**Bedding**: Strike 70°, Dip 5°N; thickness range 10-20 cm, average range 15 cm

**Jointing**: Regular; moderate to intensive
**Grain**: Strike 70°, Dip 82°S
**Rift**: Strike 168°, Dip 80°E
**Potential Quarry Block Size**: 30 cm x 1 m x 60 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Mineralogy**: Inhomogeneous stone with some quartz grains as large as 5 mm in a finer matrix
**Deleterious Minerals**: Pyrite

**Diamond Drilling Details**: Not drilled

**Physical Properties** (Parks, 1914): Specific weight 143.972 lbs/ft$^3$, Absorption 4.675%, Compressive strength 16,894 lbs/in$^2$, Transverse strength n/a

**Comments**: The stone is a pleasing yellowish grey when fresh but, according to Parks (1914), oxidized to a yellowish brown after exposure to the weather. It would seem that quarry work took place in the stream gorge which is 20 m deep locally. Access is by a badly overgrown road to the shore on the eastern side of the brook. Further quarry development is unlikely due to the poor quality of the stone.

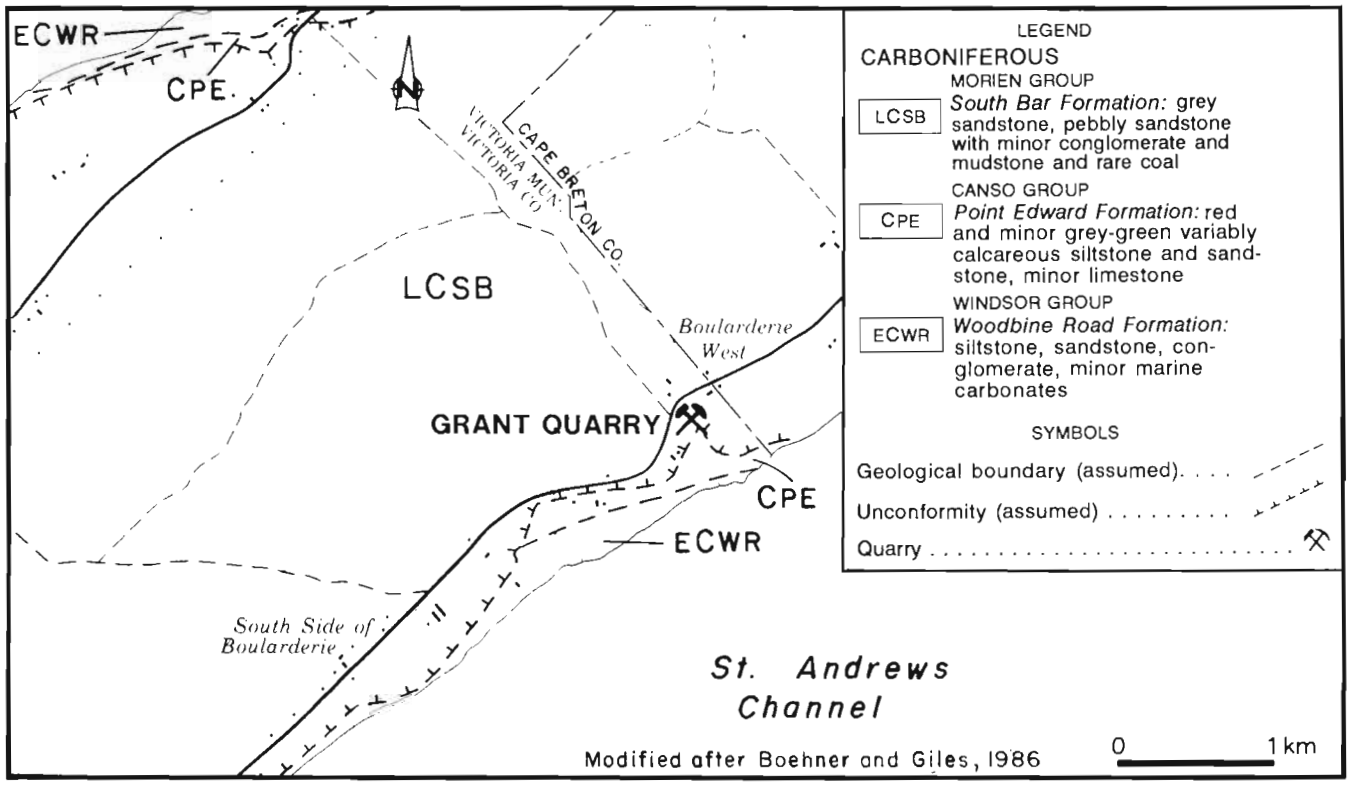



Figure 38. Geological location map for the Grant Quarry, Victoria County (11K/01).

**Commercial Stone Name: SANDSTONE, OLIVE**
**County: CUMBERLAND**
**Property Name: FRED MEAD QUARRY, WALLACE BRIDGE**

**NTS**: 11E/13
**Longitude**: 63°30'45"
**Latitude**: 45°48'06"
**Sample Number**: Not sampled
**Date**: November 2, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Ashlar, rubble stone

**Location Description**: The Fred Mead Quarry is located on the southwestern bank of Meads Brook, 1.5 km south of the bridge at Wallace Bridge (Fig. 39). The Quarry is directly behind the barn of Mr. Fred Mead.

**Production History**: The production history is unknown. The Quarry was noted by Fletcher (1905).

**Colour**: Fresh olive and grey; variable
**Grain Size**: Medium; uniform
**Fabric**: No
**Bedding**: Strike 40-60°, Dip 23° NW; thickness range 30-60 cm, average range 49 cm

**Jointing**: Irregular; limited
**Potential Quarry Block Size**: 2 m x 1 m x 60 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Mineralogy**: Similar to the Wallace River Quarries, Cumberland County (p. 70)
**Deleterious Minerals**: Minor carbon fragments

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: A large quarry was found down an embankment behind the Mead house. A large water filled hole, 50 m in diameter and 10 m deep, was apparently part of the old Quarry. In addition, a portion of the old Quarry was worked into the bank where a 5 m high face remains. A large quantity of good stone remains at this location and a diamond drilling program could define a large tonnage of stone.

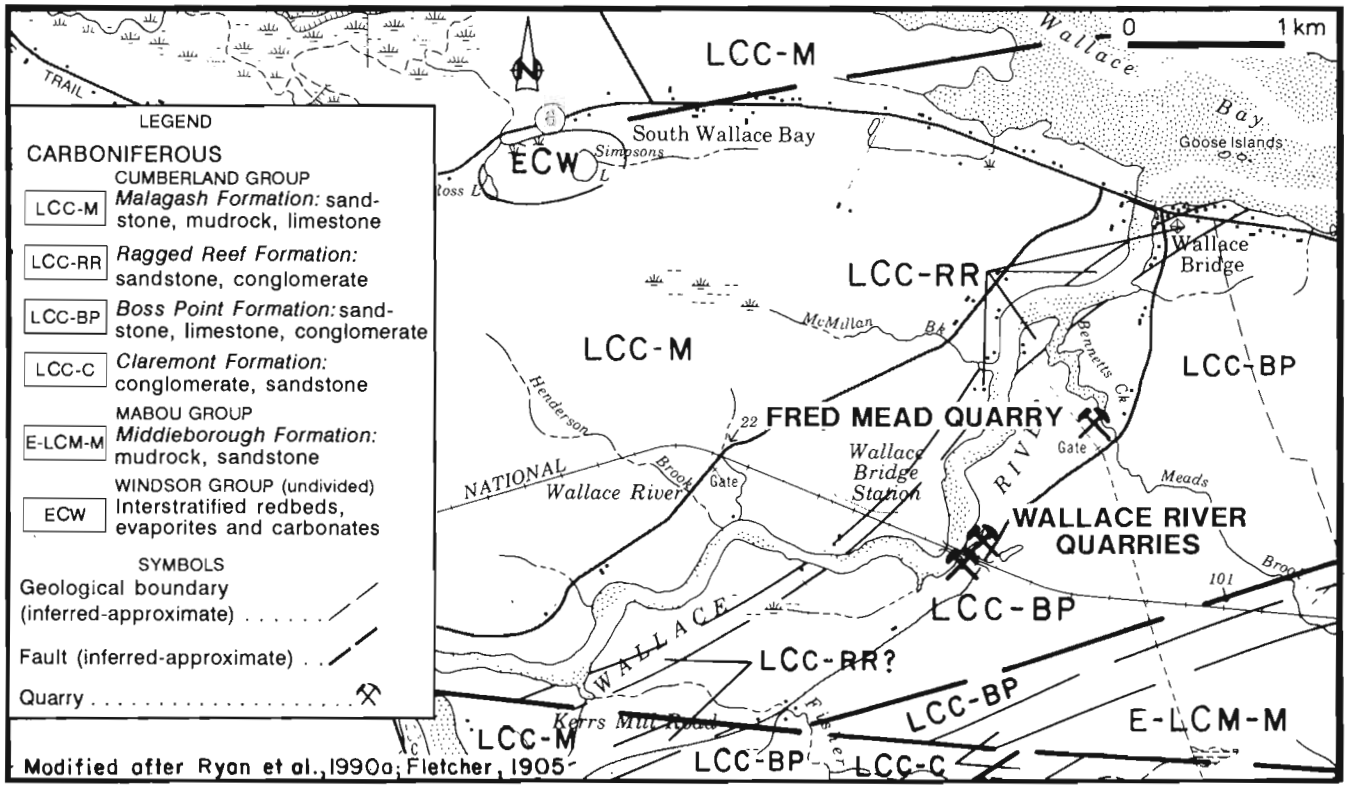



Figure 39. Geological location map for the Fred Mead and Wallace River Quarries, Cumberland County (11E/13).

**Commercial Stone Name: SANDSTONE, OLIVE**
**County: CUMBERLAND**
**Property Name: WALLACE RIDGE QUARRY, WALLACE RIDGE**

**NTS**: 11E/14
**Longitude**: 63°25′23″
**Latitude**: 45°46′54″
**Sample Number**: 85-04-39 Box 1
**Date**: September 20, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Ashlar, rubble stone, fine carving

**Location Description**: This is an occurrence taken from Fletcher's (1905) geological map. A small opening was found in the woods 250 m southeast of the municipal landfill site at Wallace Ridge (Fig. 40)

**Production History**: No production has been recorded. Judging from the size of the opening I would think that the stone was used in the construction of basements for local buildings.

**Colour**: Fresh olive buff; uniform
**Grain Size**: Medium; uniform
**Fabric**: No
**Bedding**: Dip horizontal
**Jointing**: Regular; limited
**Grain**: Strike 158°, Dip 86° SW

**Rift**: Strike 72°, Dip 90°
**Potential Quarry Block Size**: 1.2 m x 1.2 m x 3 m
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Mineralogy**: Similar to Wallace Quarries Ltd. Quarry (p. 77). Predominantly quartz grains in a fine matrix of silica.
**Deleterious Minerals**: No

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: The Quarry was found about 100 m in the woods from an old clearing and apple orchards which were once a farm. The hole is 7 m in diameter and 3 m deep. Exposed is a massive, bedded sandstone jointed in such a way so as to facilitate the removal of blocks up to 1.2 m x 1.2 m x 3 m. Many dimension blocks were lying on the surface. Outcrop exposure is very limited, but bedrock in general is probably not far below the surface (within 50 cm). This area may contain a large reserve of sandstone. A diamond drilling program would determine overburden cover and volume of stone available.

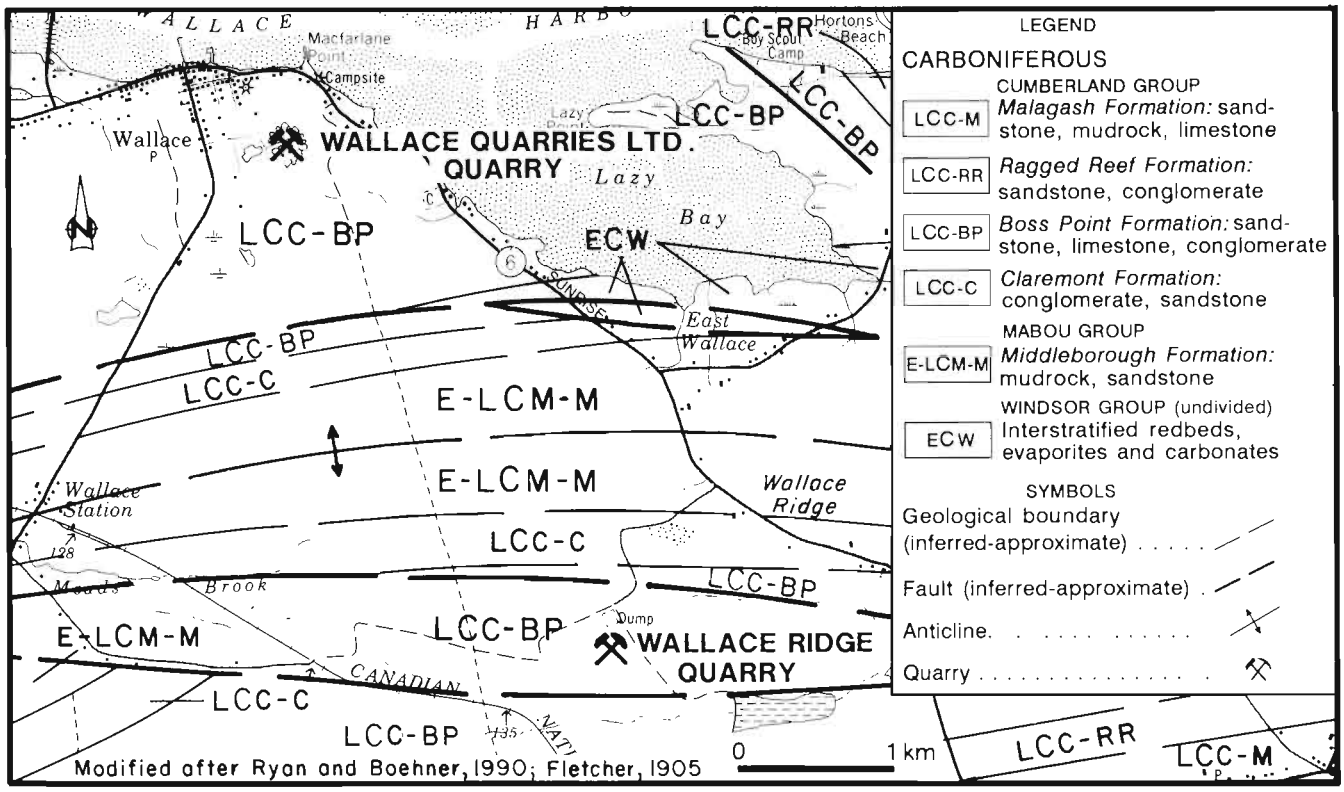



Figure 40. Geological location map for the Wallace Ridge and Wallace Quarries Ltd. Quarries, Cumberland County (11E/14).

**Commercial Stone Name: SANDSTONE, OLIVE**
**County: CUMBERLAND**
**Property Name: WALLACE RIVER QUARRIES, WALLACE BRIDGE**

**NTS**: 11E/13
**Longitude**: 63°31'36"
**Latitude**: 45°47'37"
**Sample Number**: 85-02-45 Box 1
**Date**: November 2, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Ashlar, rubble stone

**Location Description**: Several quarries are located on the eastern side of the Wallace River on either side of the Canadian National Railway bridge over the Wallace River (Fig. 39, p. 68). The quarry just south of the bridge is the Battye Quarry. The quarries north of the bridge were connected to the main rail line by a short spur.

**Production History**: Stone for Government House built in Halifax in 1800 was quarried from the Battye Quarry. The Quarries were located by Fletcher (1905). According to Parks (1914) "... it is 40 years since any work was done" at the Battye Quarry.

**Colour**: Fresh olive to buff; weathered olive; uniform
**Grain Size**: Medium; uniform
**Fabric**: No
**Bedding**: Strike 85°, Dip 23°N; thickness range 20-30 cm, average range 25 cm
**Grain**: Strike 85°, Dip vertical
**Rift**: Strike 175°, Dip vertical
**Potential Quarry Block Size**: 1 m x 2 m x 1 m
**Outcrop Exposure**: Fair to good
**Use of Explosives**: Unknown

**Mineralogy**: According to Parks (1914) "uniformly sized quartz grains with a minimum of cement make up the rock."
**Deleterious Minerals**: Organic particles

**Other Features**: The stone south of the bridge contains abundant organic fragments and is variable in colour. Stone north of the bridge is massive with no organics.

**Diamond Drilling Details**: Not drilled

**Physical Properties** (Parks, 1914): Specific weight 139.84 lbs/ft$^3$, Absorption 7.32%, Compressive strength 11,775 lbs/in$^2$, Transverse strength 1,401 lbs/in$^2$

**Comments**: Southern quarry: A small creek has cut a steep ravine into the sandstone exposed on the River bank. According to Parks (1914) the best stone was obtained from the northern side of the ravine. The beds are mainly less than 20 cm in thickness although blocks up to 2-3 t remain as waste.

Northern quarries: Immediately north of the railway bridge, the remains of wharf pilings and a large amount of sandstone blocks on a waste pile were found. The old Wallace River Quarries were found 350 m further north. At least 6 old quarries were found running east from the Wallace River along strike toward the Wallace Bridge to Middleboro road. About 75 m of rails were found in the eastern end of the quarries. The quarries consist of a series of pits averaging 30 m in diameter and 5-7 m deep. Large blocks of stone on waste piles indicate very good stone was removed from the quarries. The stone is massive with little or no organic content. The local people indicated that a brick plant produced bricks from the clay overburden for a number of years while the stone quarries were working. The area has some potential for additional quarry development although the overburden thickness increases to over 10 m to the east. A diamond drilling program would be required to prove additional reserves of building stone.

**Commercial Stone Name: SANDSTONE, OLIVE**
**County: PICTOU**
**Property Name: EAGLE QUARRY, TRENTON**

**NTS**: 11E/10
**Longitude**: 62°37'09"
**Latitude**: 45°37'56"
**Sample Number**: Not sampled
**Date**: September 21, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Rubble stone, rock fill

**Location Description**: The old Quarry is located on the Little Egypt Road which joins Little Harbour and Hillside. It is on the southern side of the road near where the power line crosses the road, 900 m east of Route 348 at Hillside (Fig. 41).

**Production History**: No production has been recorded. The Quarry was located on Fletcher's (1902a) geological map.

**Colour**: Fresh olive yellow; weathered yellow; variable
**Grain Size**: Coarse; variable
**Texture**: Variable
**Fabric**: No
**Bedding**: Strike 74°, Dip 10°NW; thickness range 8-10 cm, average range 8 cm
**Jointing**: Irregular
**Potential Quarry Block Size**: 20 cm x 50 cm x 1 m
**Outcrop Exposure**: Fair to good
**Use of Explosives**: Black powder

**Deleterious Minerals**: No

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: The upper part of the old Eagle Quarry has been used as a gravel pit. The old Quarry floor is 5-7 m below the present pit floor. The stone is crumbly and weathers to a yellow colour. Plug and feather holes were present and it appears as though some dimension stone was quarried in the past. There is no evidence of recent quarrying at this location for at least 70 years.

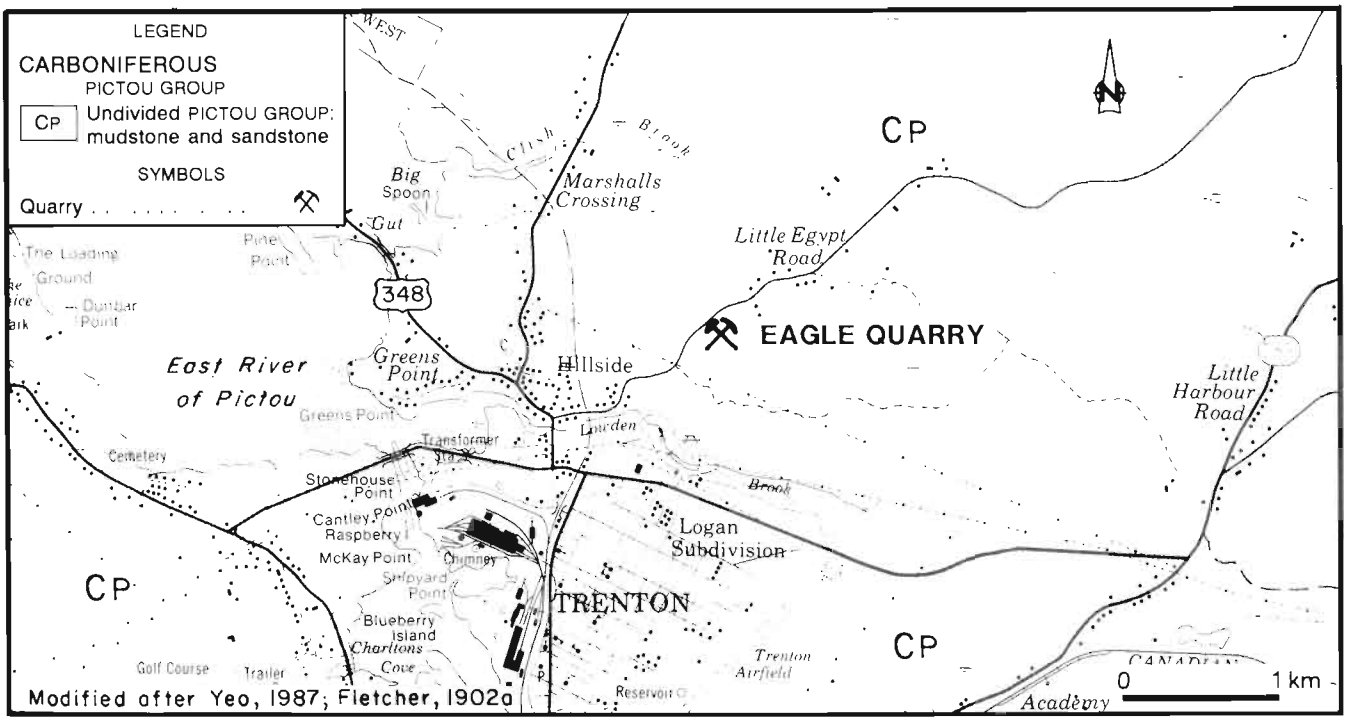



Figure 41. Geological location map for the Eagle Quarry, Pictou County (11E/10).

**Commercial Stone Name: SANDSTONE, OLIVE**
**County: PICTOU**
**Property Name: ELLIOTTS QUARRY, SIX MILE BROOK**

**NTS**: 11E/10
**Longitude**: 62°52'45"
**Latitude**: 45°34'09"
**Sample Number**: Not sampled
**Date**: October 10, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Rubble stone

**Location Description**: The Elliotts Quarry is located on the western side of the road connecting Salt Springs and Six Mile Brook, 350 m north of the point where Six Mile Brook crosses this road (Fig. 28, p. 54). The Quarry is on the eastern bank of the Brook, 8 m below the level of the road.

**Production History**: Production history is unknown. The Quarry is located on Fletcher's (1902c) geological map.

**Colour**: Fresh olive grey; uniform
**Grain Size**: Fine; uniform
**Fabric**: No

**Bedding**: Strike 0°, Dip 7°E; thickness range 8-10 cm, average range 8 cm
**Jointing**: Irregular; moderate
**Potential Quarry Block Size**: 1 m x 50 cm x 20 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Deleterious Minerals**: No

**Other Features**: Stone exposed is thinly bedded although thicker beds may be present at depth because blocks up to 25 cm thick are present on the waste pile.

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: The old Elliotts Quarry is 30 m east of the present position of Six Mile Brook with a working face about 5 m high. The stone is similar in grain size and texture to the MacPherson Quarry, Pictou County (p. 74), stone although with a green cast. Further development of this site would be difficult because of the proximity to the road.

**Commercial Stone Name: SANDSTONE, OLIVE**
**County: PICTOU**
**Property Name: HUGGANS BROOK QUARRY, BROWNSVILLE**

**NTS**: 11E/09
**Longitude**: 62°22′51″
**Latitude**: 45°37′59″
**Sample Number**: 85-06-42 Box 1
**Date**: October 23, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Rough rubble stone

**Location Description**: The Huggans Quarry is located on the eastern side of Huggans Brook at a sharp, westerly bend, 1.75 km south-southeast of the church at Brownsville (Fig. 27, p. 52).

**Production History**: The production history is unknown. The Quarry location was taken from Fletcher's (1902a) geological map.

**Colour**: Fresh olive grey; weathered grey; uniform

**Grain Size**: Medium; variable
**Fabric**: No
**Bedding**: Strike 50°, Dip 10°NW
**Jointing**: Irregular; moderate
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Deleterious Minerals**: No

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: The old Quarry was simply a hole in the Huggans Brook bank about 5 m above the level of the Brook. Bedding plane partings are 8-10 cm in the upper layers and 10-15 cm in the lower layers. The stone is badly broken and because no plug and feather holes were found it can be assumed that the stone was used for rough rubble stone.

**Commercial Stone Name: SANDSTONE, OLIVE**
**County: PICTOU**
**Property Name: MACPHERSON QUARRY, EIGHT MILE BROOK**

**NTS**: 11E/10
**Longitude**: 62°52'55"
**Latitude**: 45°33'21"
**Sample Number**: 85-02-16 Box 1
**Date**: September 21, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Monuments, ashlar, rubble stone, fine carving

**Location Description**: The MacPherson Quarry is located on the northern bank of Eight Mile Brook (Fletcher, 1902c), 400 m upstream from its confluence with Six Mile Brook. It is 200 m upstream from where Eight Mile Brook crosses the road from Salt Springs to Six Mile Brook (Fig. 28, p. 54).

**Production History**: The Quarry was in operation in the late 1800s to early 1900s. The stone was used by a monument maker, Mr. J. MacPherson of New Glasgow (Parks, 1914). Monuments made of this stone can be found throughout the cemeteries of New Glasgow, Stellarton and Mount Thom.

**Colour**: Fresh grey and olive; weathered grey; uniform, variable
**Grain Size**: Fine; uniform
**Fabric**: No
**Bedding**: Strike 5°, Dip 12°E, thickness range 5-40 cm, average range 10 cm
**Jointing**: Irregular; moderate
**Potential Quarry Block Size**: 1 m x 2 m x 50 cm
**Outcrop Exposure**: Poor to fair
**Use of Explosives**: No

**Mineralogy**: Very hard, fine grained, composed of quartz and feldspar grains in a matrix composed of silica, calcium carbonate and clay.

**Deleterious Minerals**: No

**Other Features**: The grey stone is overlain by up to 10 m of overburden and mudstone. Outcrop exposure of the grey stone is very limited because the old Quarry is at the level of the Brook and water filled.

**Diamond Drilling Details**: A drilling program (Dickie, 1988) consisting of 7 holes totalling 244 m was carried out in 1986 by the Nova Scotia Department of Mines and Energy (EMB-86-01 to EMB-86-07; Figs. 42 and 43; Appendix 1, p. 102). The program was designed to locate the grey sandstone horizon on the northern bank of Eight Mile Brook on the level of the road to Stillman. Holes EMB-86-03, EMB-86-04 and EMB-86-05 intersected the grey sandstone at 5.2 m, 6.4 m and 11 m, respectively. The grey stone varies in thickness from 6.4-14.3 m and is overlain by 4.6-5.2 m of overburden and minor amounts of brown sandstone. Hole EMB-86-07 intersected 4.5 m of grey sandstone to the northeast along strike. A deposit of 25 800 $m^3$ of high quality grey sandstone is available in this deposit.

**Physical Properties**: n/a

**Comments**: Two openings were found along the northern side of Eight Mile Brook. Both were water filled so it was impossible to determine their depth. The top of the grey quarried unit is at the level of the Brook, a fact which was confirmed by the drilling. The grey sandstone is one of the best stones for the production of sandstone monuments in the Province. It is extremely fine grained, dense and capable of being worked in fine detail. Several monuments in the Stillman Cemetery made in the early 1900s have retained sharp lines although they have weathered brown in colour. Although the deposit is constrained between the road and the Brook and is overlain by 5 m of overburden, it may have further development potential because of its high quality.

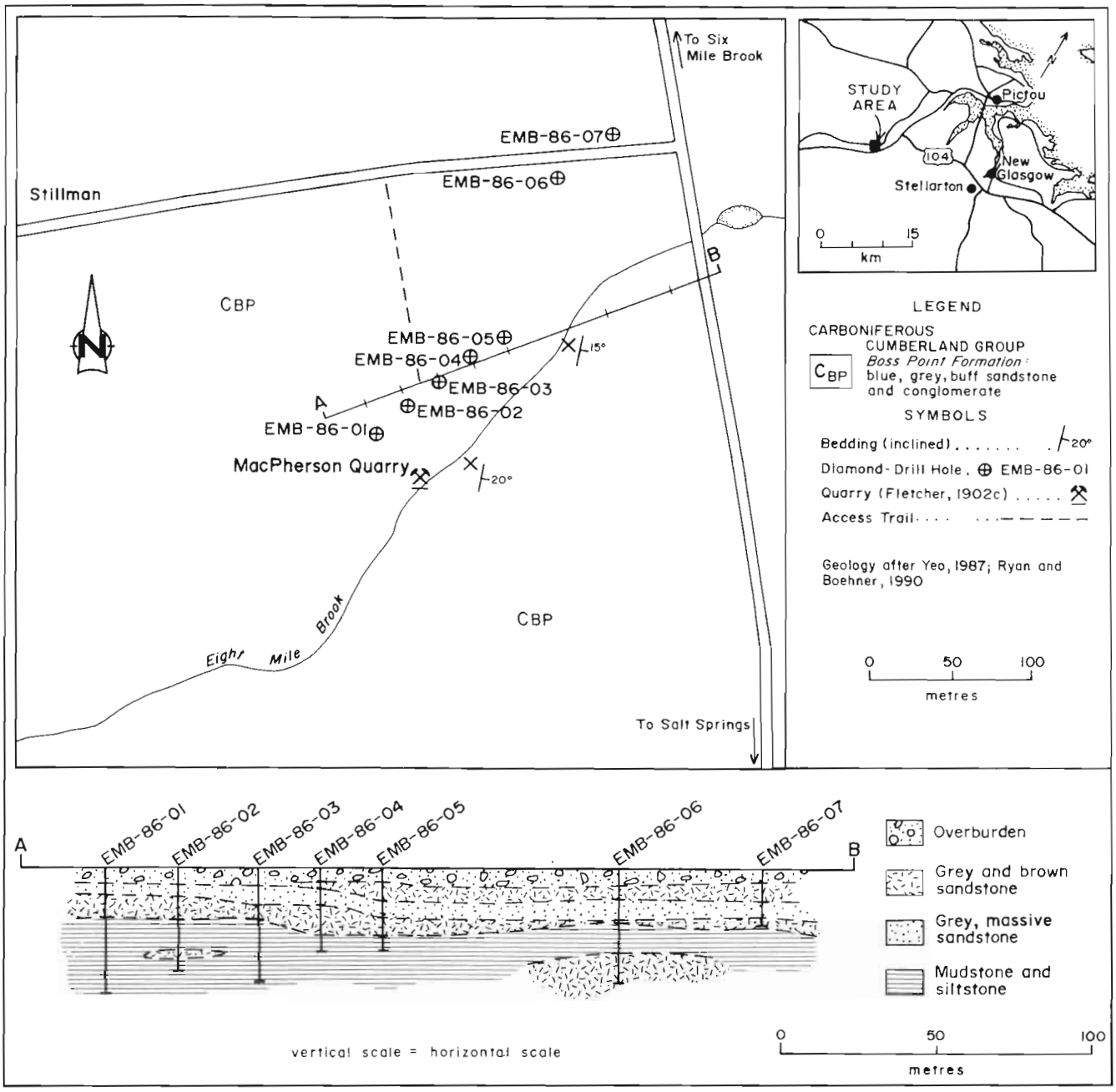



Figure 42. MacPherson Quarry, Eight Mile Brook, Pictou County, diamond-drill hole location map and section A-B (EMB-86-01 to EMB-86-07) (11E/10).

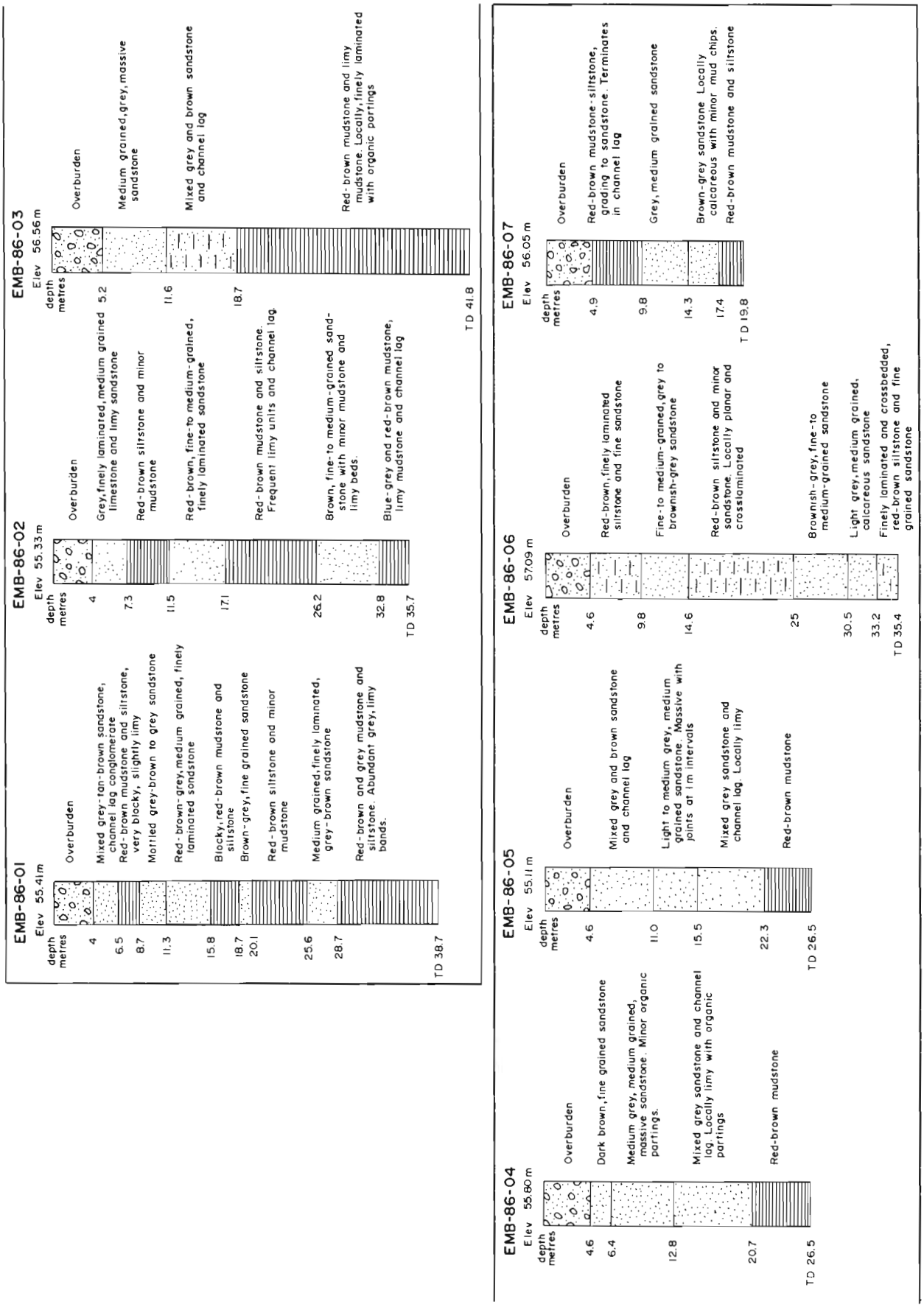



Figure 43. MacPherson Quarry, Eight Mile Brook, Pictou County, diamond-drill hole columns (EMB-86-01 to EMB-86-07) (11E/10).

**Commercial Stone Name: SANDSTONE, OLIVE AND GREY (WALLACE OLIVE, WALLACE BLUE)**
**County: CUMBERLAND**
**Property Name: WALLACE QUARRIES LTD. QUARRY, WALLACE**

**NTS**: 11E/14
**Longitude**: 63°27'40"
**Latitude**: 45°48'33"
**Sample Number**: Wal-86-01 Box 1; Samples 4 and 5, NSDME Sample Catalogue 89-01
**Date**: October 1985
**Property Status**: Active
**Geological Rock Name**: Sandstone
**Possible Uses**: Ashlar, cladding panels, tiles, armour stone

**Location Description**: The Quarry is located 750 m southeast of the intersection of Route 6 and the road to Wallace Station from Wallace in the Village of Wallace (Fig. 40, p. 69). It is accessible via a gravel road near the truck garage owned by Stanley Flynn. Mr. Flynn is the Quarry manager.

**Production History**: Building stone production began in the early 1870s from this Quarry. The presence of the stone was discovered by a farmer digging post holes. According to Parks (1914) the Quarry was started by William McNab. During the next 50 years the Quarry changed hands several times. At present the Quarry is owned by Wallace Quarries Ltd. and managed by S. Flynn. In the period 1873-1973 the total production of the Wallace Quarry was 841 000 t (Nova Scotia Department of Mines, 1874-1974). This is 90% of the total stone production for the entire Province of Nova Scotia.

**Colour**: Fresh olive and blue grey; weathered olive to buff and grey; uniform to variable
**Grain Size**: Medium; uniform
**Fabric**: No
**Bedding**: Strike 80°, Dip 10°N; thickness range 10 cm-2 m, average range 1 m
**Jointing**: Regular
**Grain**: Strike 90°, Dip vertical; spacing 3-6 m
**Rift**: Strike 170°, Dip 80°W; spacing 1-4 m
**Potential Quarry Block Size**: 2 m x 2 m x 2 m
**Outcrop Exposure**: Good; up to 6 m of overburden on the Quarry's eastern side
**Use of Explosives**: Black powder

**Mineralogy**: According to Parks (1914) "the stone is seen to be made up of fairly uniform quartz grains of about 0.25 mm in diameter, and feldspars of about the same size in far less abundance. The grains are rather rounded in outline, and are fitted closely together with only a small amount of greenish-yellow cement of an argillaceous character. Although the feldspars show decomposition, there is, on the whole, very little indeterminable material, as little is to be seen except quartz, feldspars and cement. The greater relative amount of quartz and the absence of 'dirty matter' should render this stone more durable than most of the New Brunswick sandstones of the olive-green class."
**Deleterious Minerals**: Locally organic fragments and partings and minor pyrite.

**Other Features**: Geologically Wallace Quarries Ltd. Quarry is located in thick sequences of channel sands with thin interbedded overbank shale deposits. This coupled with a regularly defined joint pattern results in the extraction of blocks weighing up to 8 t.

**Diamond Drilling Details**: A diamond drilling program (Dickie, 1991), by the Nova Scotia Department of Mines and Energy in 1986, consisting of 8 holes totalling 387 m on the eastern side of the Quarry, has located additional reserves of sandstone (WAL-86-01 to WAL-86-08; Figs. 44a, 44b and 45; Appendix 1, p. 139). Between 5.8 m and 8.2 m of massive, fine- to medium-grained, olive sandstone were intersected in holes WAL-86-04 and WAL-86-05 beneath 11.6 m of overburden, sandstone and shale. Two units of blue-grey sandstone were intersected below the olive sandstone and a thin shale unit. Approximately 10 000 $m^3$ of green sandstone and 32 800 $m^3$ of blue-grey sandstone were outlined by core drilling with the resource open to the north and east.

**Physical Properties** (Parks, 1914): Specific weight 144.808 $lbs/ft^3$, Absorption 5.902%, Compressive strength 13,681 $lbs/in^2$, Transverse strength 1,838 $lbs/in^2$

**Comments**: The Quarry is 200 m wide and just over 15 m deep. It is circular in shape with active faces on the eastern side and on the 2nd bench in the centre of the Quarry. The system of quarrying has not

changed greatly since Messervey (1926), although a large wheeled front end loader is now used to lift stone (eliminating the derricks) and for overburden removal. Once overburden has been removed, stone is quarried by drilling vertical holes to a depth of about 3 m or the height of the bed. They are placed at distances varying from 1-2 m. The hole is tamped with waste up from the bottom one-third of the length. The middle third of the hole is left as air space, except for a small charge of black powder which is inserted in this part of the hole. The upper third of the hole is then tamped. In this way the cleavage can be controlled both in direction and evenness of surface with remarkable accuracy. The stone is sold in rough block form only. There is no longer any sawing facility at the Quarry.

Significant quantities of sandstone are required for the restoration industry which is rapidly expanding in North America. Given the volume of reserves of good sandstone which remain in the Wallace Quarries Ltd. Quarry, this sandstone will continue to be quarried and used for building stone for many years in the future. Three colours of stone were produced from this

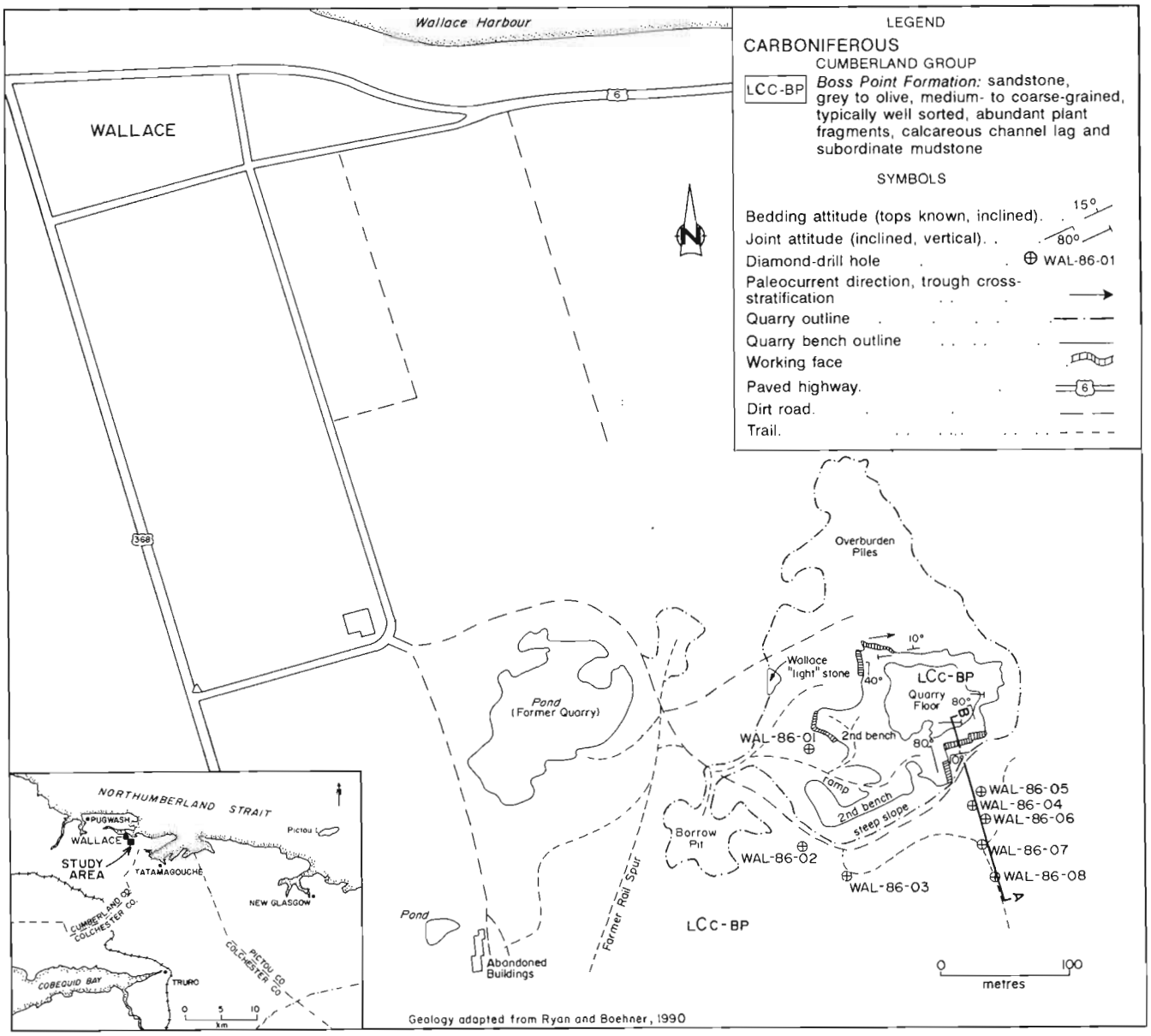



Figure 44a. Wallace Quarries Ltd. Quarry, Cumberland County, diamond-drill hole locations (WAL-86-01 to WAL-86-08) (11E/14).

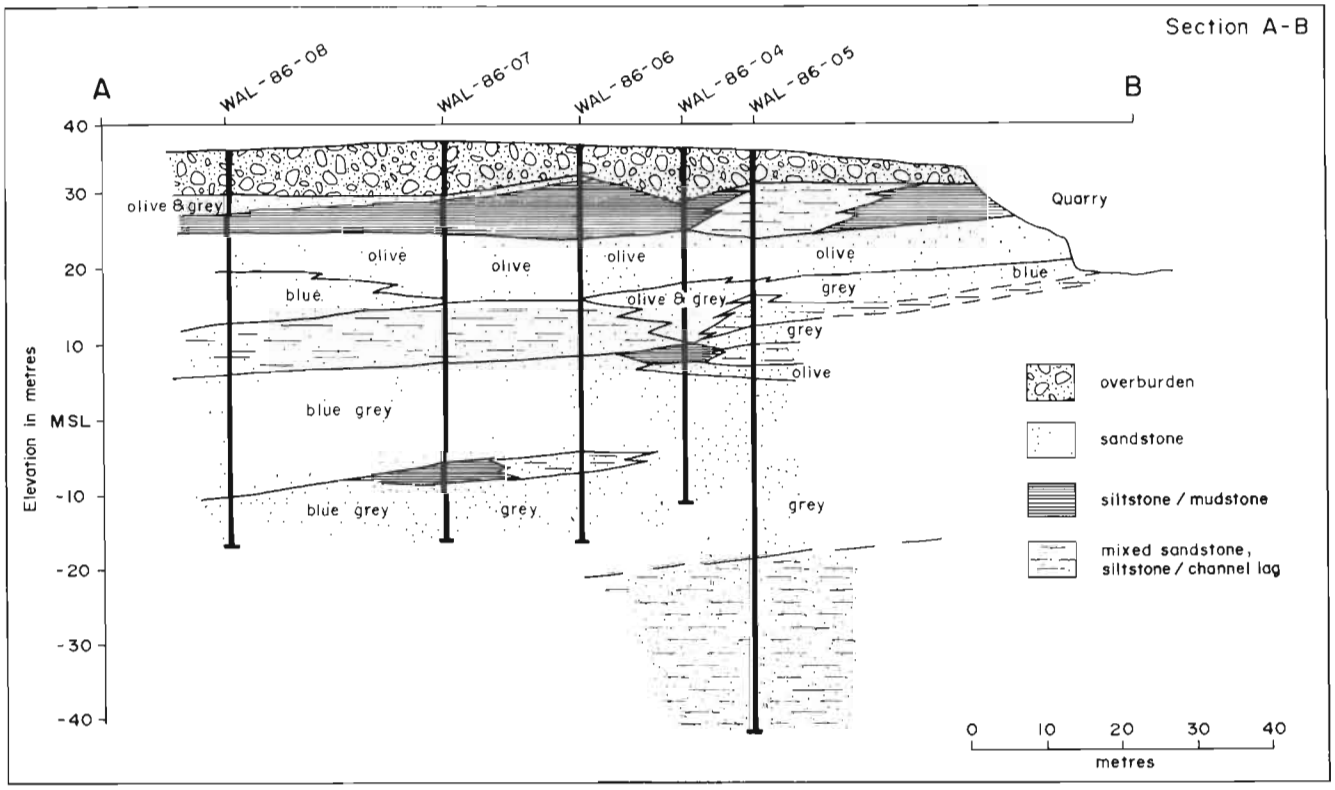



Figure 44b. Wallace Quarries Ltd. Quarry, Cumberland County, diamond-drill hole section A-B.

Quarry in the past, olive, blue and light grey stone. Present production is limited to primarily olive stone and some blue.

Stone from this Quarry has been used in many public buildings in Canada (Parks, 1914) including parts of the Centre Block of the Parliament Building, Ottawa; Dominion Public Building (former Halifax Post Office), Halifax; Provincial Building, Halifax; Dominion Public Building, Amherst; Confederation Centre, Charlottetown; and perhaps hundreds more. Shiploads were sent to markets in Boston, New York and as far west as California. Great numbers of buildings erected in the 1920s and 1930s in Montreal used Wallace sandstone. The recent rise in interest in using natural stone for building exteriors has resulted in increased production at Wallace. Sandstone can be cut into large 10 cm thick panels and used as exterior cladding.

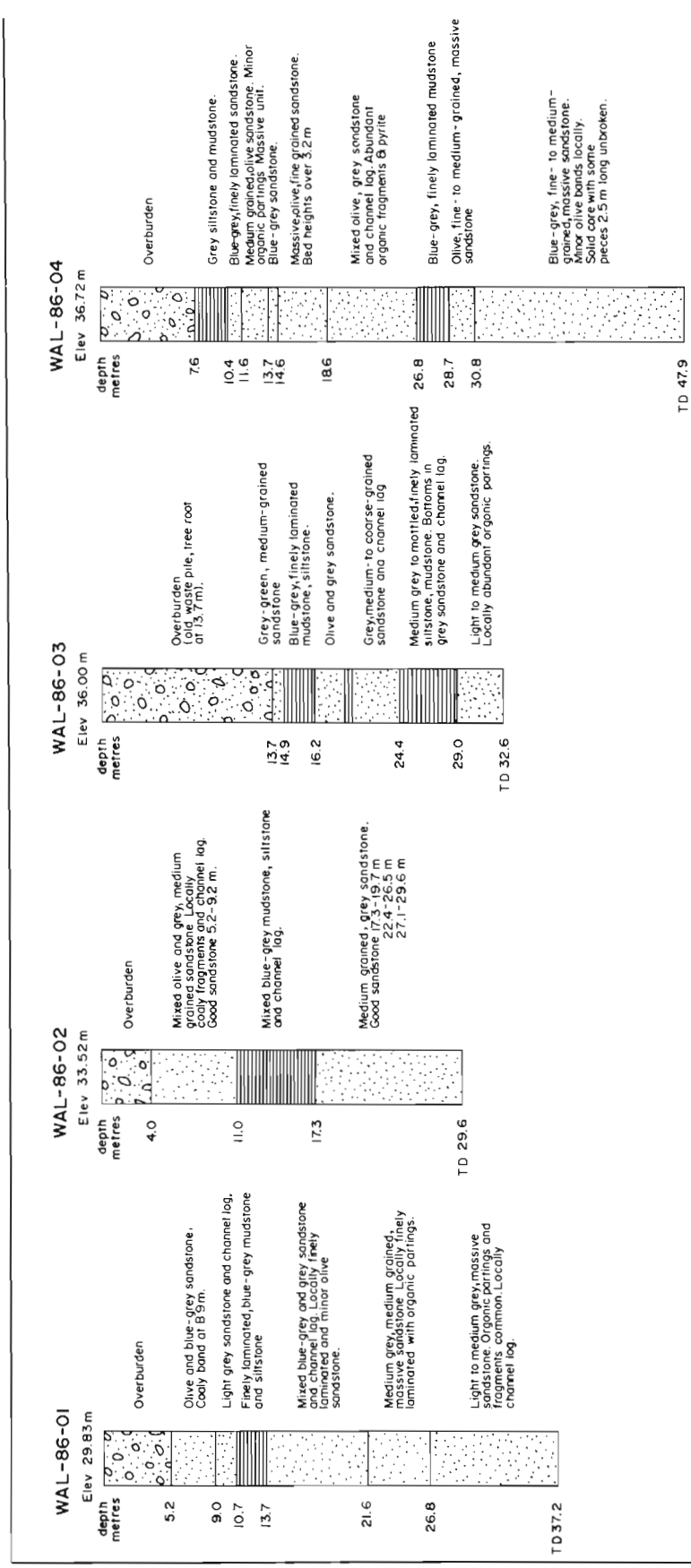



Figure 45. Wallace Quarries Ltd. Quarry, Cumberland County, diamond-drill hole columns (WAL-86-01 to WAL-86-08) (11E/14).

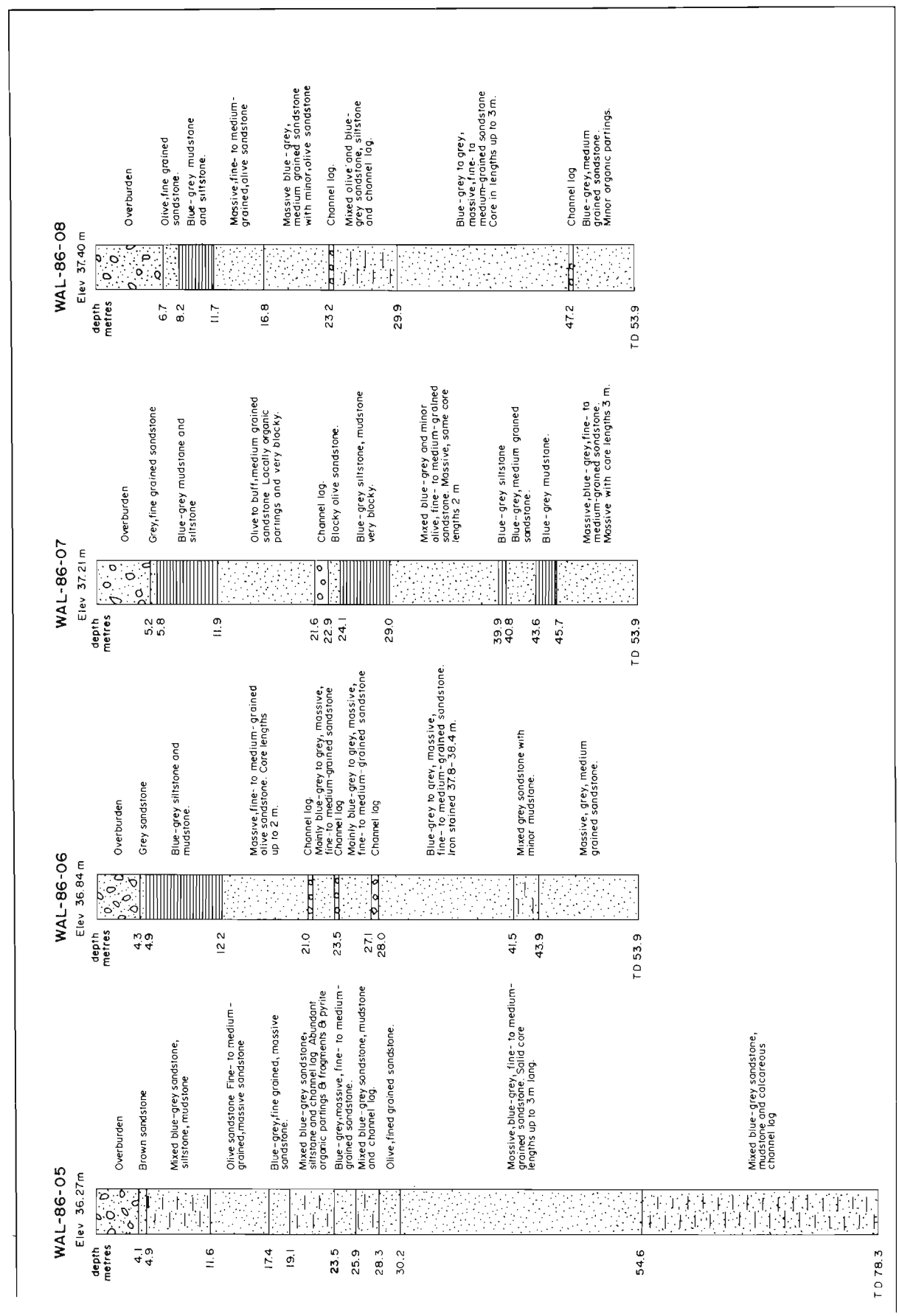



Figure 45. Continued.

**Commercial Stone Name: SANDSTONE, RED**
**County: CUMBERLAND**
**Property Name: AMHERST REDSTONE QUARRY, AMHERST**

**NTS**: 21H/16
**Longitude**: 64° 11'18"
**Latitude**: 45° 50'12"
**Sample Number**: Sample 1, NSDME Sample Catalogue 89-01
**Date**: October 12, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Ashlar, cladding panels

**Location Description**: The Amherst Redstone Quarry is located 1.9 km east of the intersection of Routes 2 and 6 in Amherst on the land of Mr. V. Coates (Figs. 46 and 47). It is water filled and has been abandoned for over 50 years. It is exactly 700 m north of the Atlantic Provinces Special Education Authority Resource Centre for the Hearing Impaired.

**Production History**: The Quarry opened in the mid 1800s and produced sandstone regularly until the 1930s. The stone was used in many important buildings in Amherst and Halifax, Nova Scotia, Toronto, Hamilton and Stratford, Ontario.

**Colour**: Fresh pinkish red; weathered dark red; uniform
**Grain Size**: Fine to medium; uniform
**Fabric**: No
**Bedding**: Strike 90°, Dip 10-20° N; thickness range 10 cm-4 m, average range 60 cm
**Jointing**: Regular to irregular; limited to moderate
**Grain**: Strike 90°, Dip vertical; spacing well defined at 6 m, 6 m, 6 m, 12 m and 6 m intervals
**Rift**: Strike 0°, Dip vertical; spacing irregular
**Potential Quarry Block Size**: 2 m x 1 m x 50 cm
**Outcrop Exposure**: Poor
**Use of Explosives**: Black powder

**Mineralogy**: Quartz and feldspar grains with thin film of iron oxide. The feldspars are badly decomposed and the cement is composed of clay and iron oxide.
**Deleterious Minerals**: No

**Other Features**: The red sandstone is interbedded with minor shale horizons.

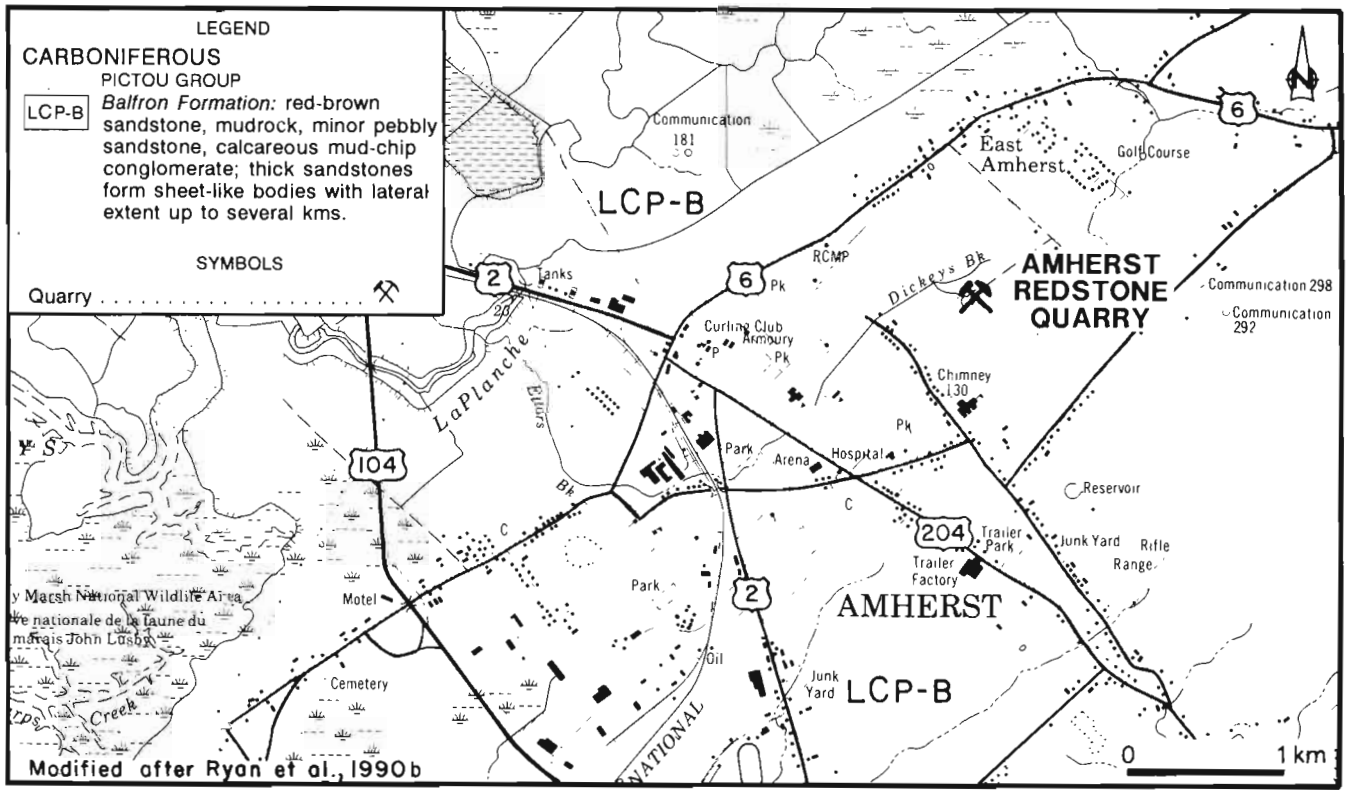
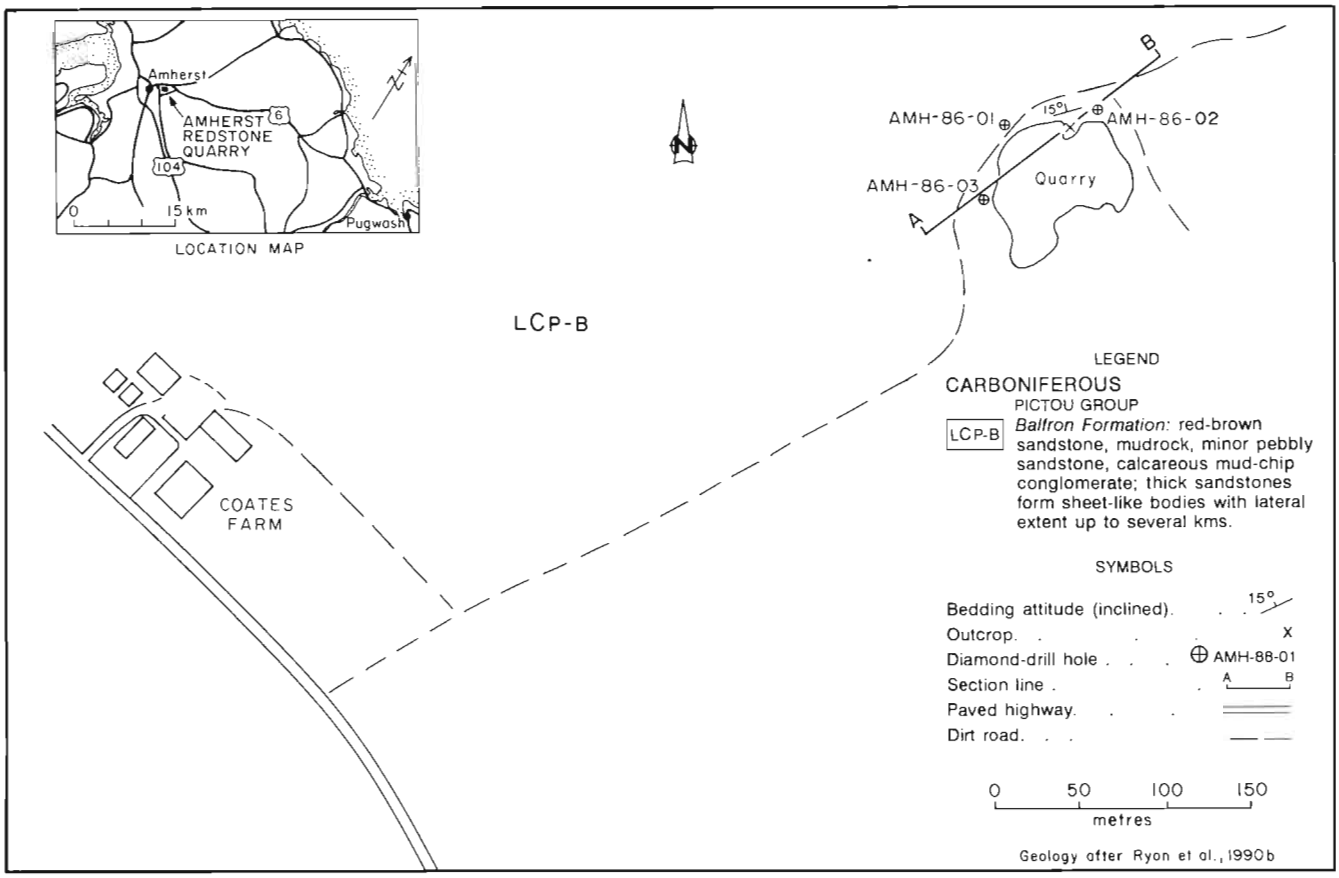



Figure 46. Geological location map for the Amherst Redstone Quarry, Cumberland County (21H/16).



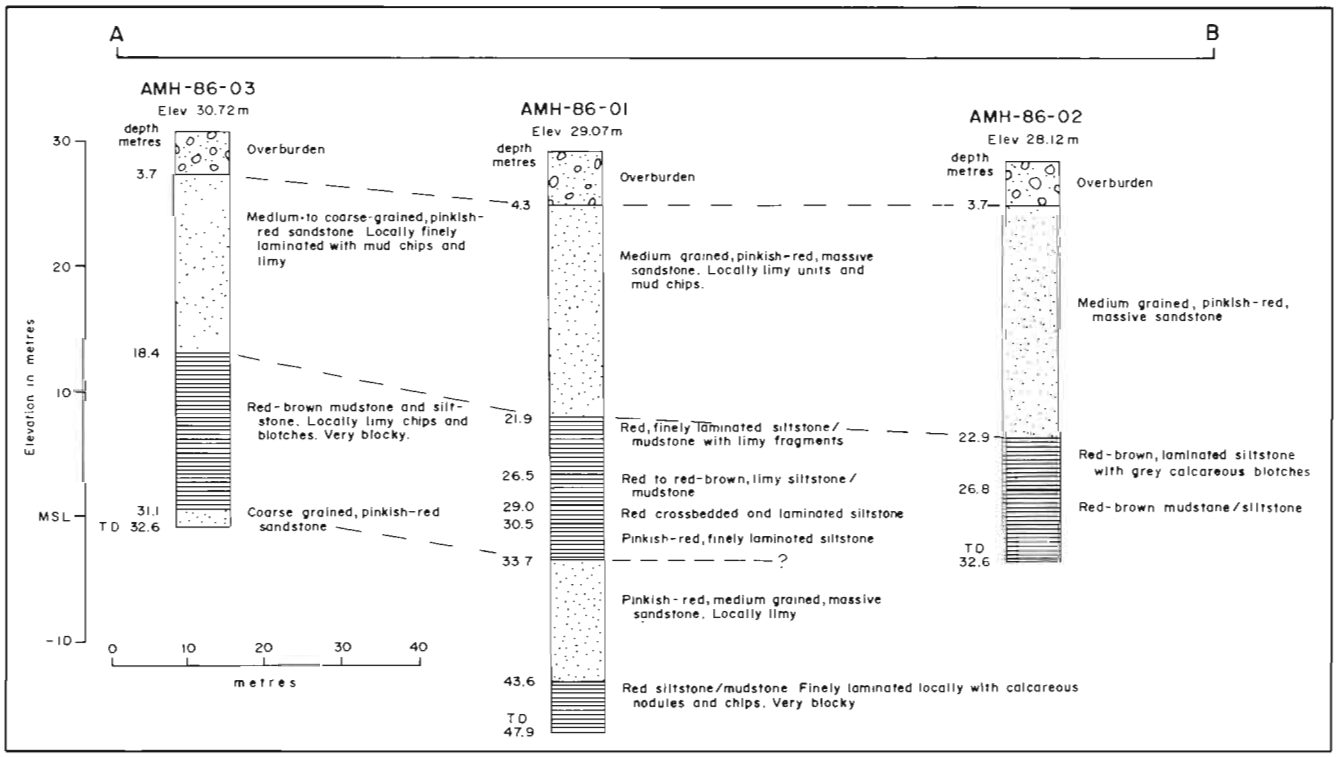




Figure 47. Amherst Redstone Quarry, Cumberland County, diamond-drill hole locations, columns and section A-B (AMH-86-01 to AMH-86-03) (21H/16).

**Diamond Drilling Details**: Three drillholes were collared on the western side of the Quarry, totalling 113 m (AMH-86-01 to AMH-86-03; Fig. 47; Appendix 1, p. 97). All holes intersected 15-20 m of red, fine- to medium-grained, massive sandstone of the Pictou Group. The stone was overlain by 3.7-4.3 m of overburden and underlain by 11.8-12.7 m of red siltstone and mudstone. This drilling has outlined 70 000 t of sandstone and the resource is open in all directions.

**Physical Properties** (Parks, 1914): Specific weight 142.93 lbs/ft$^3$, Absorption 6.894%, Compressive strength 11,122 lbs/in$^2$, Transverse strength 551 lbs/in$^2$

**Comments**: Parks (1914) described the Quarry as it was in 1911. He stated, "The property consists of 20 acres situated about a mile to the east of the town. The quarry is at present about 250 feet wide by 100 feet long. The 250 feet represents the actual working face, but the 100 feet is merely the forward end of an excavation of 400 feet, the rest of which has been partially filled with debris. The present face shows 55 feet of stone covered by an average of 15 feet of soil. The main joints strike east and west with a vertical dip. They are well defined at intervals of 20, 20, 20, 40, and 20 feet from north to south. The second series of joints, at right angles to the above, is irregular and ill-defined. The formation strikes east and west with the main joints, and dips northward at from 10° to 20°. The bedding is variable and much of the upper stone is thin and unsuitable for scabbled blocks. The lower stone is thicker and may occasionally be obtained in blocks 4 feet thick, but the average of the heavy stone is not over 2 feet. An irregular bed of shale appears at a depth of 20 feet in the east end of the face, but good stone is encountered beneath it. Of the total face of 55 feet, probably 35 feet would yield building stone of good sizes. The remaining 20 feet is practically all suitable for rubble."

The Quarry is inside the Amherst Town limits and is surrounded by farm land and housing subdivisions. The stone raised from this Quarry was used to construct the Armouries, Halifax, Scotia Bank, Truro, Scotia Bank, Amherst, Town Hall, Amherst, and many others. Large quantities of excellent stone remain and steps are needed to ensure that the resource is not lost due to further encroachment of housing developments. This represents one of the best sandstone development opportunities in Nova Scotia.

**Commercial Stone Name: SANDSTONE, RED**
**County: CUMBERLAND**
**Property Name: COLDSPRING HEAD QUARRY, NORTHPORT**

**NTS**: 11E/13
**Longitude**: 63°51′52″
**Latitude**: 45°57′45″
**Sample Number**: Not sampled
**Date**: September 9, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Rubble stone

**Location Description**: The Coldspring Head Quarry is located on the shore at Coldspring Head on a property owned by a Mr. Bowser (Fig. 48). The shoreline is presently taken up by many summer cottages.

**Production History**: Parks (1914) mentioned an Oakley Myers Quarry at Northport producing stone which was shipped to Pugwash by skows. This may be the site of the quarry he talked about.

**Colour**: Fresh red brown; weathered red; uniform
**Grain Size**: Medium; uniform
**Fabric**: No
**Bedding**: Thickness range 10-60 cm, average range 30 cm

**Jointing**: Irregular
**Potential Quarry Block Size**: 1 m x 1 m x 50 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Mineralogy**: Quartz, feldspar and muscovite mica grains in clay cement. Stone is open grained and soft.
**Deleterious Minerals**: Muscovite mica

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: Stone was quarried from cliffs 7 m high on the shore of the Northumberland Strait. A continuous exposure of red-brown sandstone extends for 200 m along the shoreline. Bedding is massive with some units up to 60 cm thick. According to Parks (1914) the stone was used in the Royal Bank, Sydney, and the new customs house in Halifax. The Customs House was in a serious state of deterioration and was demolished about 30 years ago. There is little hope of any further development of this site because of cottage development.

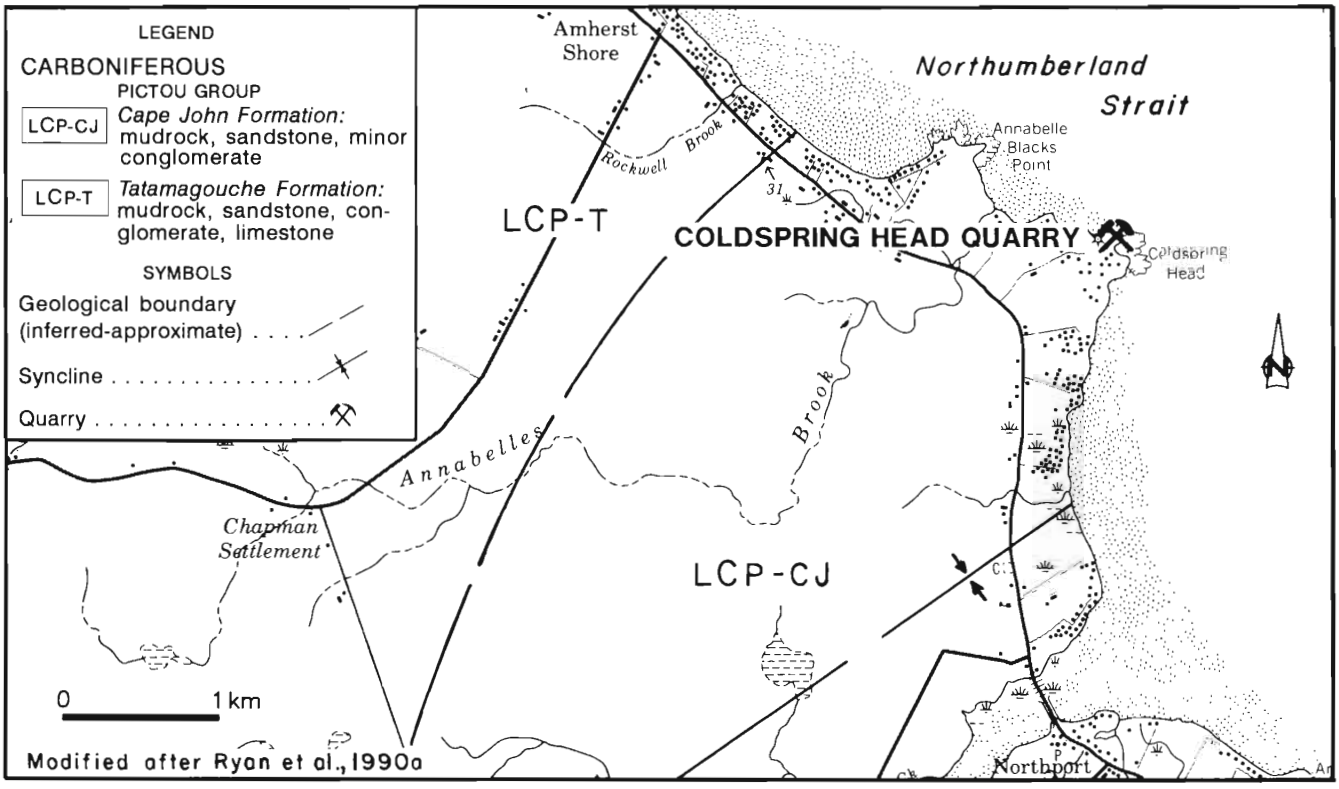



Figure 48. Geological location map for the Coldspring Head Quarry, Cumberland County (11E/13).

**Commercial Stone Name: SANDSTONE, RED**
**County: PICTOU**
**Property Name: HINES QUARRY, RIVER JOHN**

**NTS**: 11E/11
**Longitude**: 63°01'40"
**Latitude**: 45°44'40"
**Sample Number**: Not sampled
**Date**: September 9, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Rubble stone

**Location Description**: The old Hines Quarry is located on the eastern bank of River John, 300 m downstream from the railway bridge near Welsford (Fletcher, 1903; Fig. 49).

**Production History**: According to Parks (1914) two quarries were still operating adjacent to each other at this location in 1911. The H. McNab Quarry was producing stone for shipment to Toronto. The L. and W. Gammon Quarry also shipped stone to Toronto. Both quarries have been abandoned for 75 years.

**Colour**: Fresh red, brown, buff, grey; variable
**Grain Size**: Fine; uniform
**Fabric**: No
**Bedding**: Strike 75°, Dip 15°NW; thickness range 2-10 mm, average range 5 mm
**Jointing**: Irregular; moderate
**Potential Quarry Block Size**: 1 m x 1 m x 30 cm
**Outcrop Exposure**: Fair
**Use of Explosives**: No

**Mineralogy**: According to Parks (1914), "the grain is exceedingly fine as many as sixteen grains occurring in the space of 1 mm. The grains are mainly quartz with a sprinkling of feldspar grains. The cement is relatively abundant and of bright red colour; it consists of clay and oricles of iron."
**Deleterious Minerals**: No

**Other Features**: Between 7 m and 12 m of soil, broken rock and shale overlie beds of stone of maximum 40 cm thickness.

**Diamond Drilling Details**: Not drilled

**Physical Properties** (Parks, 1914): Specific weight 146.041 lbs/ft$^3$, Absorption 5.54%, Compressive strength 15,147 lbs/in$^2$, Transverse strength 1,490 lbs/in$^2$

**Comments**: At the time of Parks' visit in 1911 the Quarry operators found it very costly and difficult to produce a uniform stone for sale. All production was shipped by rail to Toronto for use as coarsing stone (Parks, 1914). The bride piers and towers of the nearby railway bridge were constructed of stone from these Quarries. The highly variable colours of the stone and their finely laminated nature are apparent in this structure. There is no potential for any development of this location due to poor quality, inconsistent stone and very thick overburden.

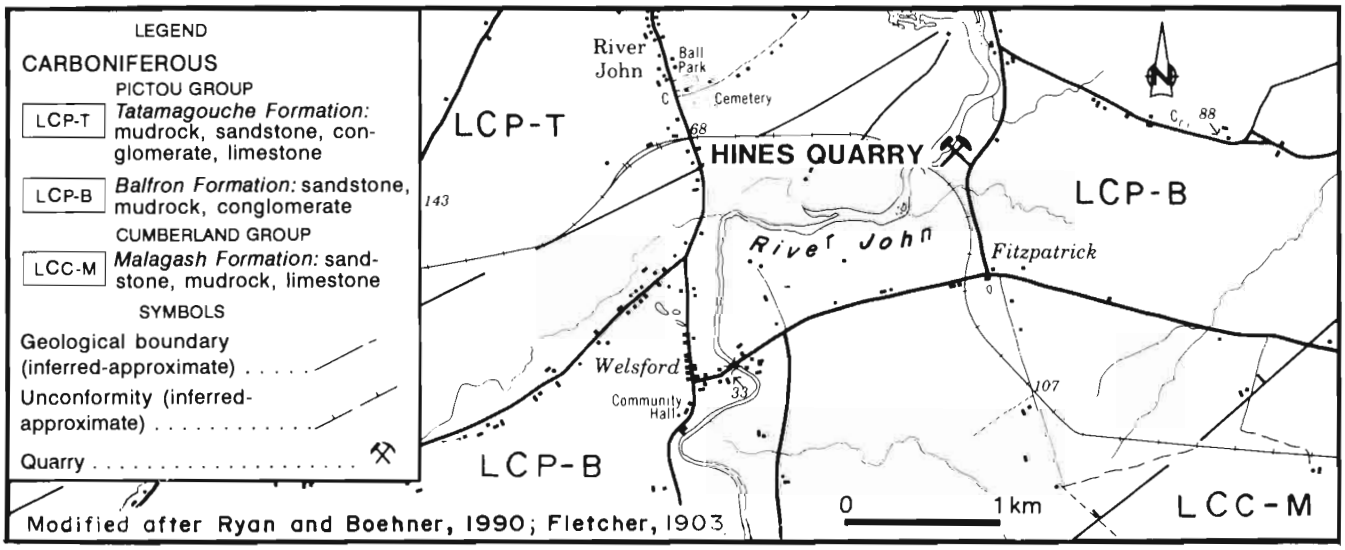



Figure 49. Geological location map for the Hines Quarry, Pictou County (11E/11).

**Commercial Stone Name: SANDSTONE, RED**
**County: PICTOU**
**Property Name: WEST BRANCH FRENCH RIVER QUARRY 1, MERIGOMISH**

**NTS**: 11E/09
**Longitude**: 62°25′29″
**Latitude**: 45°37′13″
**Sample Number**: Not sampled
**Date**: October 24, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Rubble stone

**Location Description**: The Quarry is located on the West Branch French River exactly 1.17 km southeast of the point where the Canadian National Railway bridge crosses the French River (Fig. 27, p. 52). It is located on the western bank 300 m upstream from the confluence of the East and West Branch French Rivers.

**Production History**: No production has been recorded. The location was taken from Fletcher's (1902a) geological map.

**Colour**: Fresh red; weathered red brown; uniform
**Grain Size**: Fine; variable
**Fabric**: No

**Bedding**: Strike 146°, Dip 25°NW; thickness range 1-5 mm, average range 2 mm
**Jointing**: Regular; moderate
**Grain**: Strike 146°, Dip 25°NW; spacing 50 cm
**Rift**: Strike 60°, Dip 65°SW; spacing 1 m
**Hardway**: Strike 150°, Dip vertical; spacing 1 m
**Potential Quarry Block Size**: 1 m x 1 m x 50 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Deleterious Minerals**: No

**Other Features**: Sandstone is underlain and overlain by red mudstone which seriously limits the volume of sandstone available for quarrying.

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: No actual quarry was found although a 1 m thick bed of red sandstone was exposed in the West Branch French River bank. The stone is regularly jointed producing 1 m square blocks as the River bank sloughs off.

**Commercial Stone Name: SANDSTONE, RED AND BUFF**
**County: INVERNESS**
**Property Name: GRAHAM RIVER QUARRY**

**NTS**: 11F/14
**Longitude**: 61°26′58″
**Latitude**: 45°52′02″
**Sample Number**: 85-05-10 Box 1
**Date**: September 20, 1985
**Property Status**: Abandoned
**Geological Rock Name**: Sandstone
**Possible Uses**: Rubble stone, ashlar

**Location Description**: The Graham River Quarry is located on the southern bank of Graham River 700 m south of Rear Judique Chapel (Fig. 50). The Quarry is on land owned by Angus MacMillan of Judique and is 400 m north of the MacMillan homestead.

**Production History**: Small amounts of stone were quarried for local buildings in the Judique area mainly as basement course.

**Colour**: Fresh red and buff; variable
**Grain Size**: Medium; uniform
**Fabric**: No
**Bedding**: Strike 45-50°, Dip vertical; thickness range 5 mm-2 m
**Jointing**: Irregular; moderate
**Potential Quarry Block Size**: 1 m x 2 m x 50 cm
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Deleterious Minerals**: No

**Other Features**: The sandstone exposed on the Graham River bank appears to be limited in extent. Outcrops of shale lie to the south of the sandstone.

**Diamond Drilling Details**: One hole drilled 25 m south of Graham River cut 3 m of shale behind the sandstone face and was abandoned. It is not included in Appendix 1. The presence of the shale standing vertically, severely restricts the volume of sandstone present.

**Physical Properties** (Parks, 1914): Specific weight 144.82 lbs/ft$^3$, Absorption 5.428%, Compressive strength 15,670 lbs/in$^2$, Transverse strength 1,542 lbs/in$^2$

**Comments**: Parks (1914) was quite impressed with the sandstones of the Judique area generally and specifically the Graham River red sandstone. In the area the author examined (MacMillan property), there are some thick beds available, but the rock is steeply dipping and severely jointed. There is no potential for quarry development in this specific location, but, due to the nature of the stone observed, further exploration of the Graham River area is warranted.

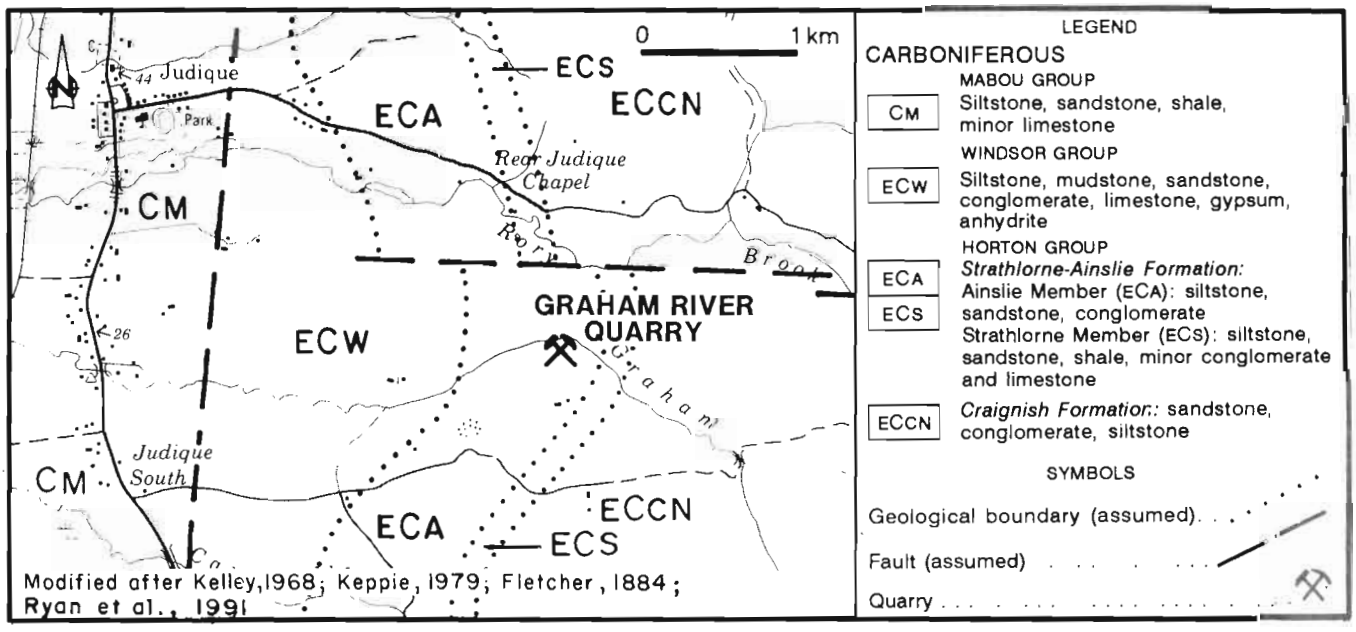



Figure 50. Geological location map for the Graham River Quarry, Inverness County (11F/14).

**Commercial Stone Name: SLATE, BLUE**
**County: HANTS**
**Property Name: EAST GORE SLATE QUARRY, EAST GORE**

**NTS**: 11E/04
**Longitude**: 63°40′14″
**Latitude**: 45°06′31″
**Sample Number**: Not sampled
**Date**: May 27, 1986
**Property Status**: Abandoned
**Geological Rock Name**: Slate and metasiltstone
**Possible Uses**: Roofing slate

**Location Description**: The East Gore Slate Quarry is located on the eastern side of the dirt road from East Gore to Roulston Corner (Fig. 51). It is exactly 1.1 km southeast of the East Gore Cemetery.

**Production History**: According to Messervey (1927), the East Gore Slate Quarry was owned by Nova Scotia Slate Quarries and had been in production for several years. The Quarry was also located by Fletcher and Faribault (1905). It is obvious that the Quarry has not produced slate in the last 50 years.

**Colour**: Fresh dark blue; weathered blue grey; uniform
**Grain Size**: Very fine; uniform
**Texture**: Slaty cleavage
**Bedding**: Strike 65°, Dip 85° NW; thickness range 1-5 mm, average range 2 mm
**Jointing**: Irregular; limited to moderate
**Potential Quarry Block Size**: Roofing slates of practically any size could be fabricated
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Mineralogy**: Typical of slates consisting of very fine grained quartz and feldspar in a matrix of chlorite
**Deleterious Minerals**: Minor pyrite

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: The East Gore Slate Quarry is a small opening in a hillside about 30 m long and 5 m wide. It is about 4 m deep on the high wall. The stone was quarried in block form and then cut into blocks the required size and split. Slate is abundant in the East Gore area so it is probable that a location could be found which would be better suited for quarrying because this Quarry is beside a travelled road.

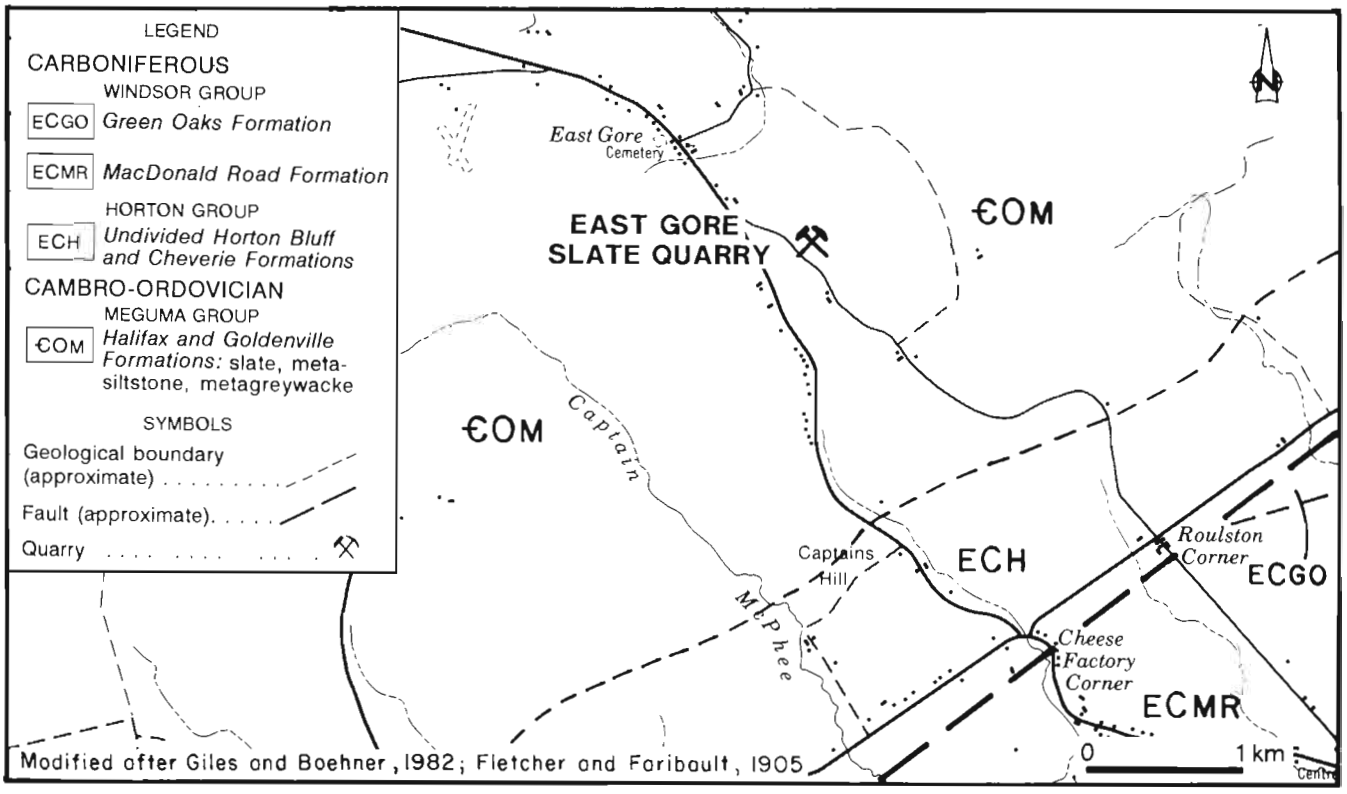



Figure 51. Geological location map for the East Gore Slate Quarry, Hants County (11E/04).

**Commercial Stone Name: SLATE, BLUE**
**County: HANTS**
**Property Name: UPPER RAWDON SLATE OCCURRENCE**

**NTS**: 11E/04
**Longitude**: 63°43′03″
**Latitude**: 45°04′38″
**Sample Number**: Not sampled
**Date**: May 27, 1986
**Property Status**: Abandoned
**Geological Rock Name**: Slate and metasiltstone
**Possible Uses**: Roofing slate

**Location Description**: Slate outcrops on the western side of Rawdon Brook exactly 1 km northwest of the church in Upper Rawdon (Fig. 52). This location is near the slate quarry shown on Fletcher and Faribault (1905) on, what was then known as, Lavers Brook (Rawdon Brook).

**Production History**: No recorded production and judging from the slate debris lying beside Rawdon Brook, probably only small amounts were quarried for local use.

**Colour**: Fresh blue grey; weathered dark grey; uniform
**Grain Size**: Very fine grained; uniform
**Texture**: Massive with slaty cleavage; uniform
**Bedding**: Strike 51°, Dip 74°SE; thickness range 1-5 mm; average range 2 mm
**Jointing**: Irregular; moderate
**Potential Quarry Block Size**: A joint surface running across the beds may limit the size of slate to 20 $mm^2$
**Outcrop Exposure**: Good
**Use of Explosives**: No

**Mineralogy**: Typical fine grained slate and metasiltstone consisting of very fine quartz and feldspar grains in a fine chloritic to siliceous matrix.
**Deleterious Minerals**: No

**Other Features**: Slate is pyrite free and readily splits on cleavage partings.

**Diamond Drilling Details**: Not drilled

**Physical Properties**: n/a

**Comments**: Although no recognizable quarry was observed, the amount of slate rubble indicates that some quarrying of slate took place. The Rawdon Brook cuts across the strike of the rocks and excellent exposures are visible along the banks which rise 10-12 m. The metasiltstone may make better roofing slate because it is less friable than the slate.

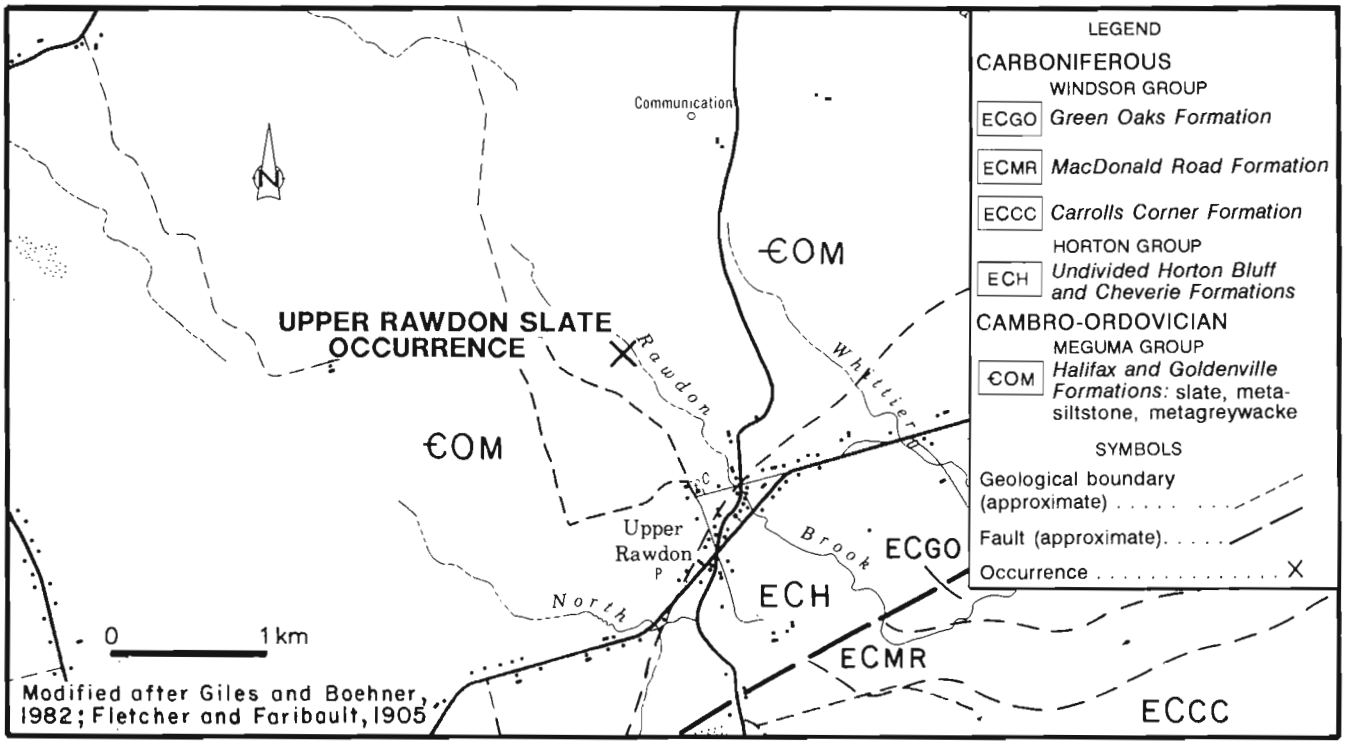



Figure 52. Geological location map for the Upper Rawdon slate occurrence, Hants County (11E/04).