(14) BASS RIVER

U.T.M.G. - N-503449
E-43960

N.T.S. - 11E/5C (1:50,000)

This prospect is situated on a tributary of Bass River, 4.96 miles north of Highway 2 at the town of the same name. The barite occurs in situ at the top of a steep embankment, on the west side of the stream. A prominent talus slope cloaking the embankment from the barite outcrop to the stream, and boulders of barite at the base of the slope serve to adequately mark the location of this prospect (Fig. 34 and 35).

Barite was first discovered here in 1952-1953 during surveys carried out by Gordon Minerals Limited. In 1957 an option was acquired on the property by Magnet Cove Barium Corporation Limited which undertook an exploratory program consisting of 155 feet of trenching. This work resulted in proving a thickness of approximately eight feet from hangingwall to footwall, but it did not determine the length along strike.

No further work was conducted until 1971, when the Milmor Syndicate carried out additional trenching and a geophysical survey. The trenching showed the barite to have a minimum strike length of 200 feet and the V.L.F. electromagnetic survey indicated a possible strike length of 2,500 feet. The following year (1972), 400 feet of diamond drilling (4 holes, 100 feet/hole), was carried out by I.M.C. Drilling Mud Inc.; however, the results proved discouraging. Massive barite was cut only in drillholes 1 and 3 and only minor barite in the form of blebs and stringers, was intersected in hole 4.

No additional work has been undertaken at this prospect since 1972.

This barite occurrence is hosted by terriginous clastic sedimentary rocks belonging to the Cumberland and/or Pictou Groups of Late Carboniferous Age. The barite is stratigraphically controlled, occurring as a bed which can be traced along strike for approximately 60 feet, and appears to attain a thickness of five feet (Fig. 36 and 37). For the most part the barite has preferentially replaced a bed of

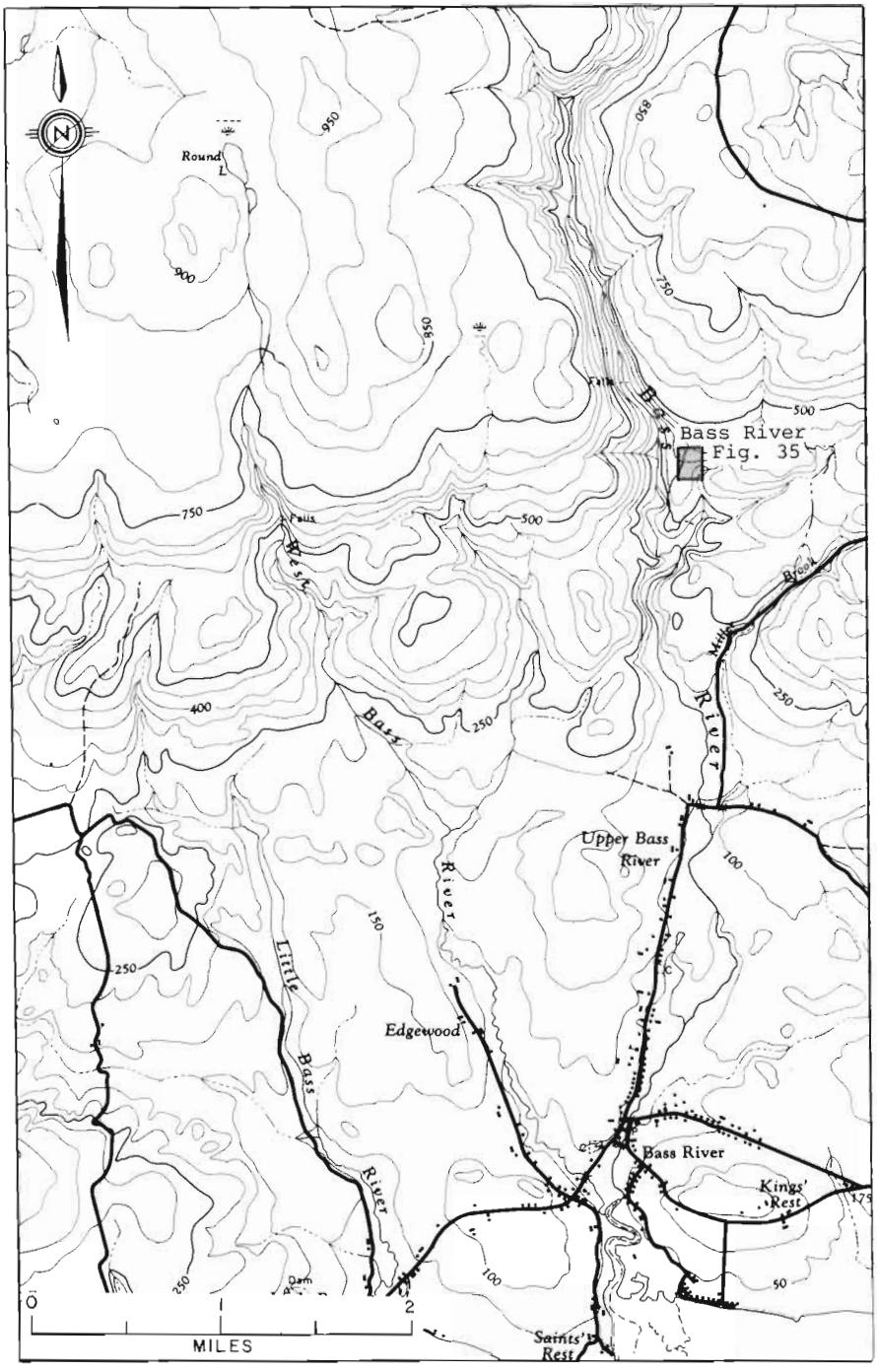
Round L.
950
900
850
750
500
Falls
Bass River
Fig. 35
Falls
Brook
Bass River
Middle River
Upper Bass River
Little Bass River
Edgewood
Bass River
Kings' Rest
Saints' Rest
MILES
0
2

Figure 34

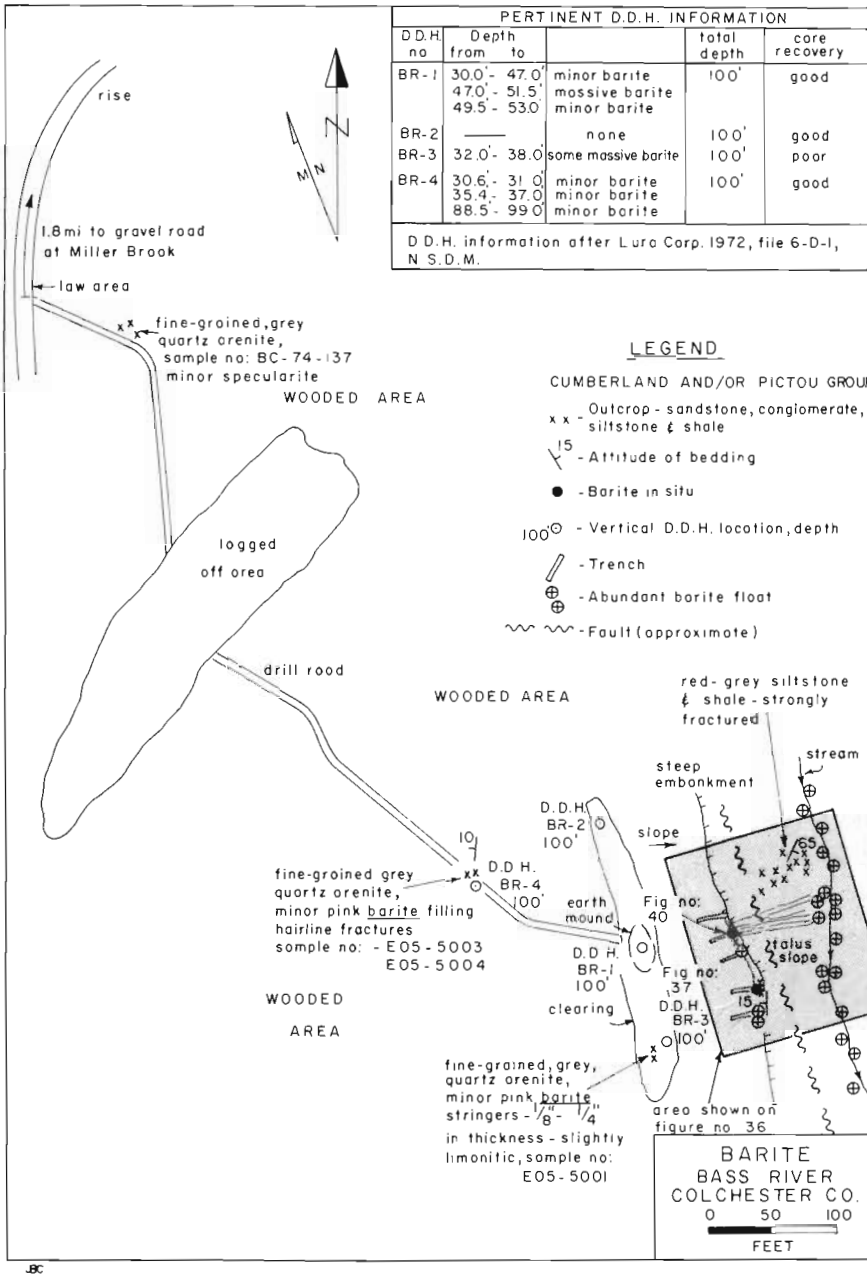
PERTINENT D.D.H. INFORMATION
D.D.H. no | Depth from to | | total depth | core recovery
BR-1 | 30.0' - 47.0' | minor barite | 100' | good
47.0' - 51.5' | massive barite
49.5' - 53.0' | minor barite
BR-2 | —— | none | 100' | good
BR-3 | 32.0' - 38.0' | some massive barite | 100' | poor
BR-4 | 30.6' - 31.0' | minor barite | 100' | good
35.4' - 37.0' | minor barite
88.5' - 99.0' | minor barite
D.D.H. information after Luro Corp. 1972, file 6-D-1, N.S.D.M.
rise
N
M
1.8mi to gravel road at Miller Brook
law area
fine-grained, grey quartz arenite, sample no: BC-74-137 minor specularite
WOODED AREA
logged off area
drill road
WOODED AREA
LEGEND
CUMBERLAND AND/OR PICTOU GROUP
Outcrop - sandstone, conglomerate, siltstone & shale
Attitude of bedding
Barite in situ
Vertical D.D.H. location, depth
Trench
Abundant barite float
Fault (approximate)
red-grey siltstone & shale - strongly fractured
stream
steep embankment
D.D.H. BR-2 100'
slope
D.D.H. BR-4 100'
fine-grained grey quartz arenite, minor pink barite filling hairline fractures sample no: - E05-5003 E05-5004
earth mound
Fig no: 40
talus slope
D.D.H. BR-1 100'
Fig no: 37
clearing
D.D.H. BR-3 100'
WOODED AREA
fine-grained, grey, quartz arenite, minor pink barite stringers - 1/8" - 1/4" in thickness - slightly limonitic, sample no: E05-5001
area shown on figure no 36
BARITE
BASS RIVER
COLCHESTER CO.
0 50 100
FEET
JBC

Figure 35

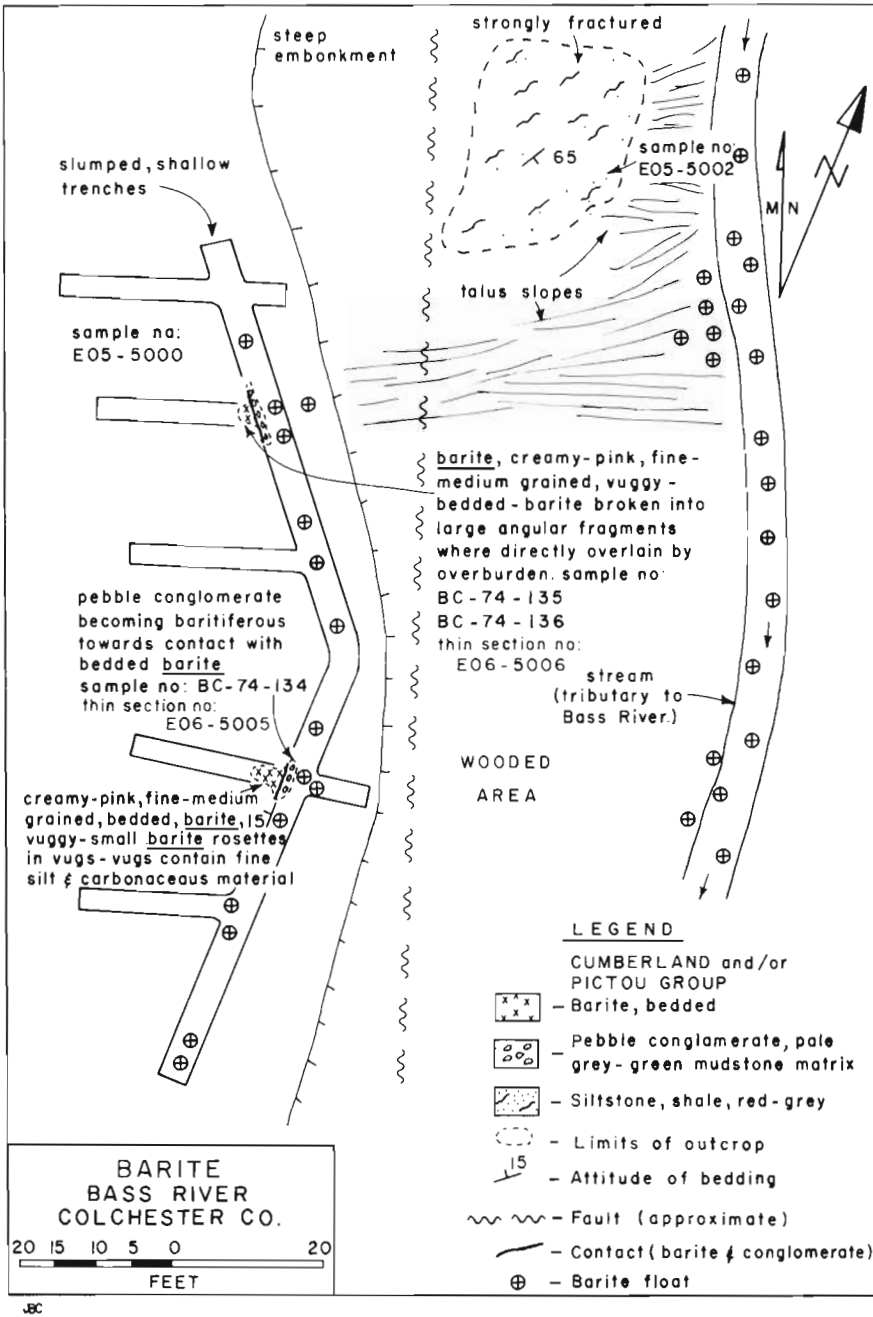
steep embonkment
strongly fractured
65
sample no: E05-5002
slumped, shallow trenches
M N
talus slopes
sample no: E05-5000
barite, creamy-pink, fine-medium grained, vuggy-bedded-barite broken into large angular fragments where directly overlain by overburden. sample no: BC-74-135
BC-74-136
thin section no: E06-5006
pebble conglomerate becoming baritiferous towards contact with bedded barite sample no: BC-74-134 thin section no: E06-5005
stream (tributary to Bass River.)
WOODED AREA
creamy-pink, fine-medium grained, bedded, barite, 15 vuggy-small barite rosettes in vugs-vugs contain fine silt & carbonaceous material
LEGEND
CUMBERLAND and/or PICTOU GROUP
– Barite, bedded
– Pebble conglamerate, pale grey-green mudstone matrix
– Siltstone, shale, red-grey
– Limits of outcrop
15 – Attitude of bedding
– Fault (approximate)
– Contact (barite & conglomerate)
– Barite float
BARITE
BASS RIVER
COLCHESTER CO.
20 15 10 5 0 20
FEET
JBC

Figure 36

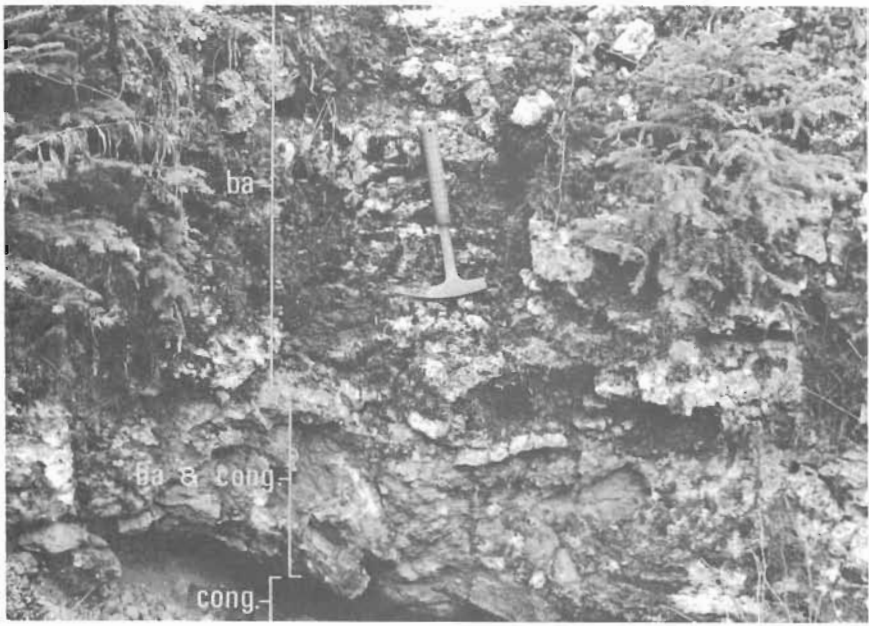

Figure 37 - Bass River. Section through barite bed and Conglomerate. Note baritiferous conglomerate near bottom of photograph grading into barite in the direction of the geopick. Looking west, ba - barite, cong - conglomerate.

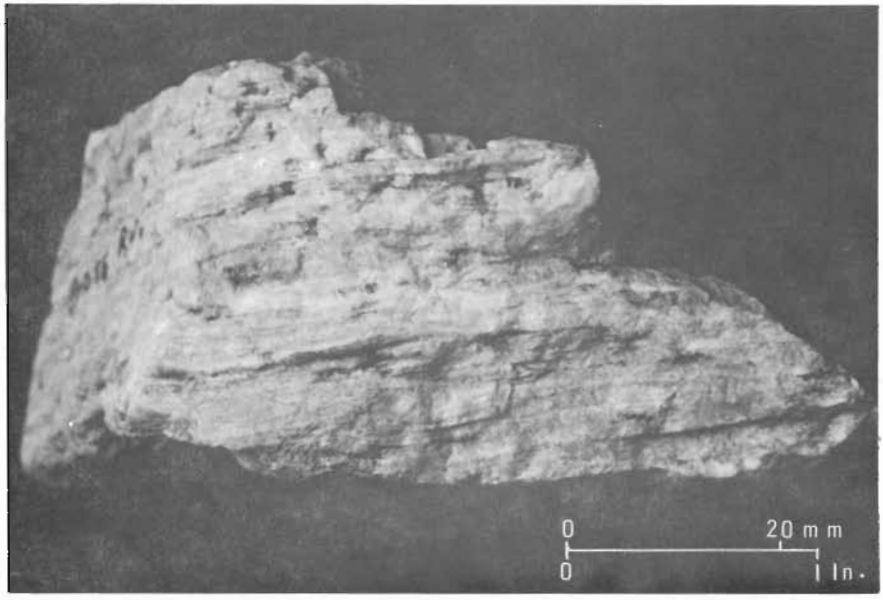

Figure 38 - Bass River. Hand specimen showing the finely laminated nature of the barite and the randomly dispersed, small vugs (dark in photograph).

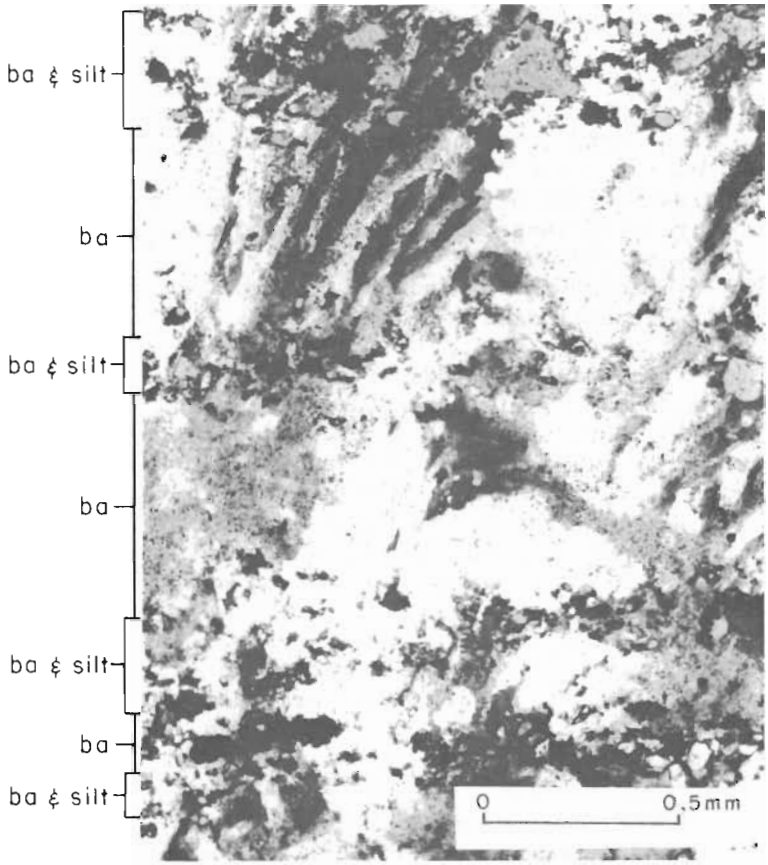

Figure 39 - Bass River. Layers of fine silt separating barite laminae. Note the feathery barite oriented perpendicular to the silt layers. Crossed Nicols, ba - barite.

siltstone and fine grained sandstone. This is indicated by the following:

(i) in thin section, unreplaced relicts of siltstone are found totally engulfed by barite.
(ii) the contact between the barite and siltstone is irregular, and shows numerous embayments of the latter by barite.
(iii) preservation of the original sedimentary layering of the host rock is seen both in hand specimen and in thin section (Fig. 38 and 39).
(iv) in outcrop the contact of the footwall rocks with the barite is gradational.

The footwall consists of a pebble conglomerate with a greenish mudstone matrix, striking north-south and dipping 15° towards the west. In hand specimen, no wallrock alteration other than baritization was evident; however, in thin section the conglomerate appeared moderately sericitized and hematized. The base of the conglomerate bed is in fault contact with red-grey, siltstone and shale, also of the Cumberland and/or Pictou Group. No barite was found to occur in this rock.

The hanging wall is not evident in outcrop as the barite bed is directly overlain by overburden. However, approximately 120 feet west of the barite bed, a fine-grained quartz arenite containing small stringers (1/8"-1/4") of pink barite crops out. This quartz arenite appears to have a similar strike and dip and could possibly represent the hanging wall of the barite deposit. These rocks appear to belong to the Cumberland and/or Pictou Groups. The contact between the barite stringers and the wall rock is sharp.

In hand specimen, barite from the main barite body is creamy pink in colour and varies from fine to coarse grained. In outcrop four varieties of barite are evident, with the first three types forming the bulk of the occurrence. These are:

(i) fine to medium-grained barite (the medium-grained barite displaying a bladed habit) intimately associated with the conglomerate which forms the footwall of the deposit (Fig. 41 and 42).
(ii) fine to medium-grained, vuggy barite found stratigraphically above (i). The contact between (i) and (ii) is gradational. Distinct banding or layering is apparent in the barite, generally conformable with the bedding in the

Figure 40 - Bass River. Angular boulders of laminated barite in overburden, directly above bedrock. Note the curved and convergent nature of the barite laminae in the boulder to the left of the geopick. Looking west.

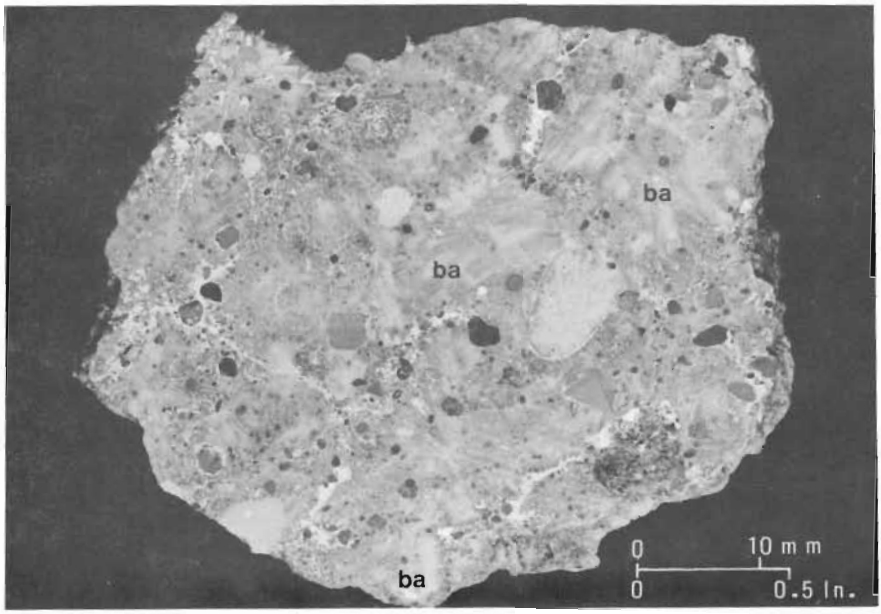

Figure 41 - Bass River. Polished section of baritiferous conglomerate.

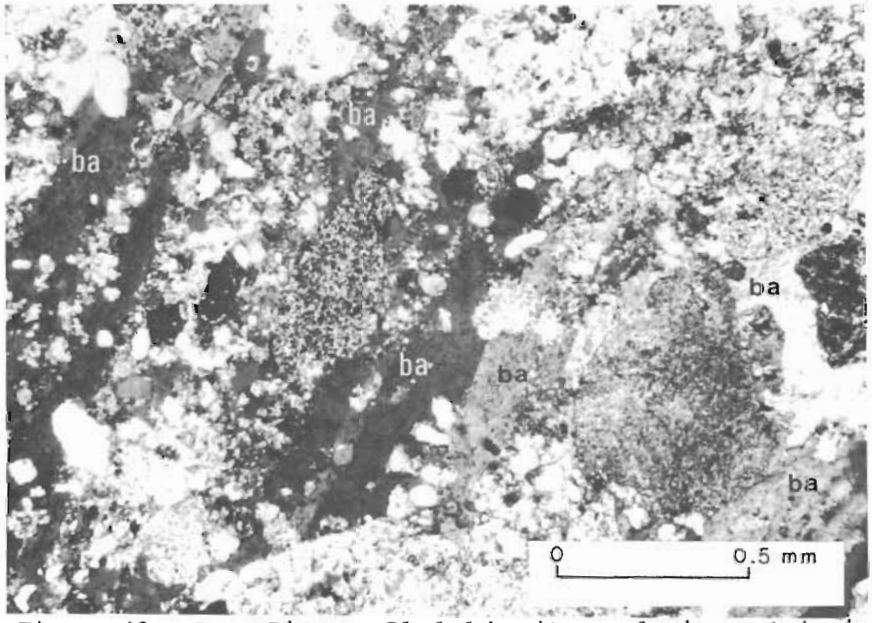

Figure 42 - Bass River. Bladed barite replacing matrix in conglomerate. Note the numerous relict sedimentary clasts in the barite. Crossed Nicols, ba - barite.

footwall. The laminae are 1/8 to 1/4 inch thick and often curved and convergent (Fig. 40). The small vugs contain barite rosettes and are filled with fine silt. In thin section the banding is found to be due to laminae of barite separated by thin layers of fine silt and clay sized material (Fig. 39). The barite forming these laminae displays a feathery extinction which for the most part is perpendicular to the silty layers.

(iii) medium to coarse-grained barite forming nodular concretions up to four inches in height and occasionally showing an indistinct prismatic habit.

(iv) small (1/4 inch) tabular, perfectly formed transparent crystals in vugs.

Grab samples were taken from the main barite body, the barite veined quartz arenite, the quartz arenite with minor specularite, the quartz arenite, the conglomerate and the siltstone outcrop. The sample locations are shown in Figures 35 and 36, and the results of the chemical analyses are listed below and in appendix III.

Rock Type	Sample No.	Per cent			ppm		
		$BaSO_4$	$SrSO_4$	F	Cu	Pb	Zn
Barite, conglomerate	BC-74-134	65.70	1.42	.03	20	50	10
Barite	BC-74-135	97.00	1.92	.03	20	50	10
Barite	BC-74-136	92.85	1.13	.03	40	40	50
Quartz arenite, minor specularite	BC-74-137	.34	.01	.03	30	40	50
Quartz arenite, minor specularite	BC-74-144	.04	.00	.05	2	5	20
Baritiferous conglomerate	E05-5000	32.73	.45	.08	10	40	30
Quartz arenite, barite	E05-5001	12.43	.54	.06	10	30	30
Siltstone	E05-5002	.22	.00	.04	10	30	10
Quartz arenite, barite	E05-5003	14.44	.52	.03	10	30	20
Quartz Arenite	E05-5004	.10	.00	.03	10	20	20

The small size of the barite body as delineated at present would restrict it to a sub-economic deposit. It is possible, however, that strategically located drillholes may prove the deposit to be larger than thought, and that similar deposits may exist at other locations in the near vicinity at the same stratigraphic horizon.

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(15) BASS RIVER OF FIVE ISLANDS

U.T.M.G. - N-3249-503249
E-1836-91836
&
N-3236-503236 (Eureka Mine)
E-1833-41833

N.T.S. - 21H/8E (1:50,000)

This occurrence is found on the east and west banks of Bass River of Five Islands, north of the village of Five Islands, Colchester County. The best approach is made by driving 2.1 miles on a gravel road north of Five Islands Village and then walking approximately 1,850 feet to the river on a bearing of 285° azimuth (Fig. 43 and 44).

This area first received attention as a potential barite producer in 1849. Exploration work led to the opening of a mine (Eureka Mine) in 1866. Reports indicate that this was the first barite mine in Nova Scotia and possibly in Canada. It operated under various owners from 1866-1876, and up until 1906 the mine received only sporadic attention. However, in 1907, renewed interest resulted in a fair amount of development work in an attempt to delineate new ore bodies (Fig. 45).

The following is an explanation of Figure 45 by C. H. Warren (Barium & Strontium in Canada, H. S. Spence, p. 32):

> "Tunnel A cuts a few stringers, but not the main veins. Entering B, a vein of barytes is encountered at 65 feet, and is well exposed in A. The vein is 4 feet wide here, and also shows up in the drift C, being 15 inches wide at the point marked b. This may be a new vein, but since it lies so nearly in line with the large mass exposed 20 feet above, it is more likely to be an extension of the latter. Near the end of the drift B, at c, a narrow vein, one foot wide, is exposed, and is again seen in the branch working at d. There is evidently an extension of the same vein met with in the drifts E and F, 30 feet above.

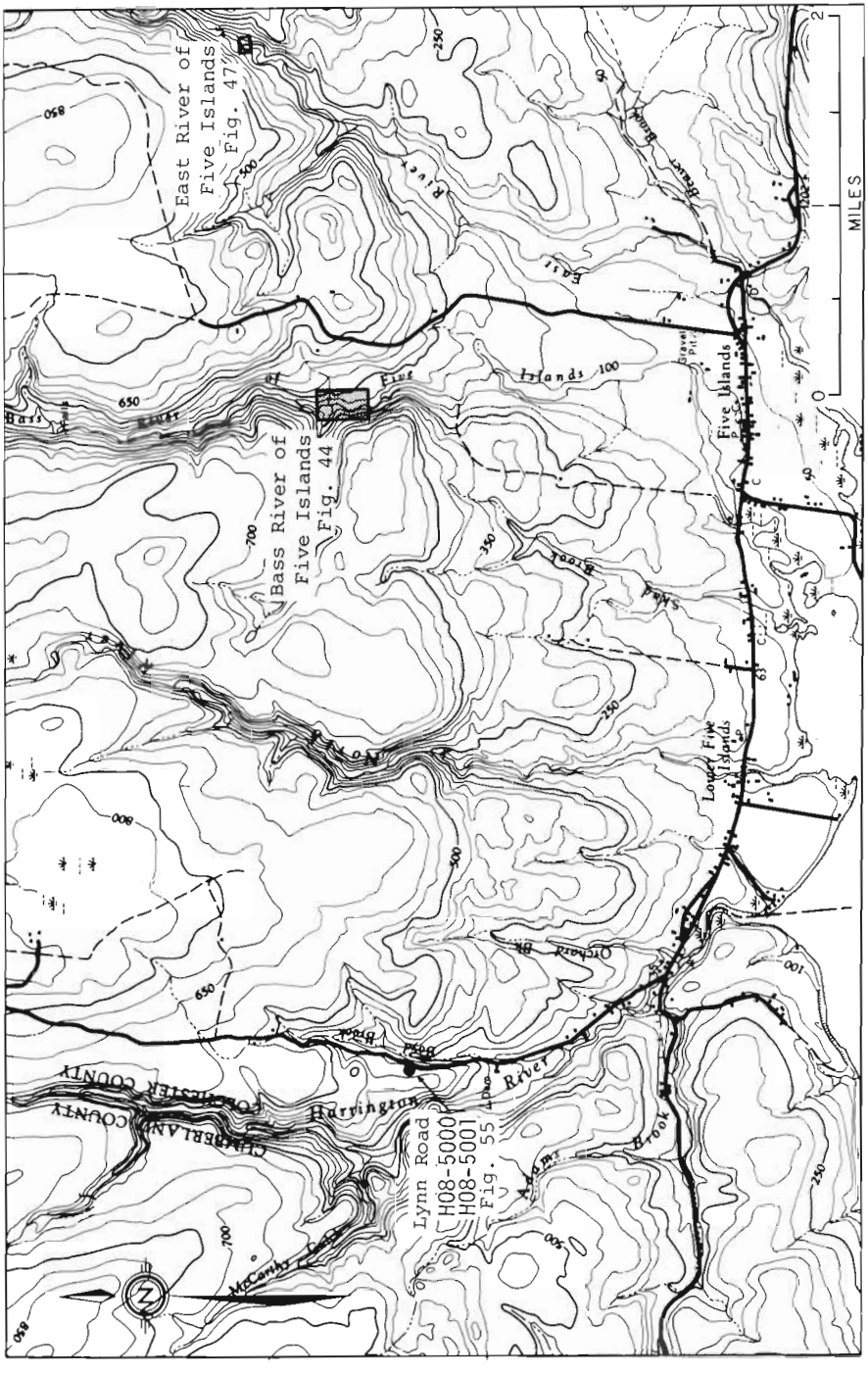
East River of
Five Islands
Fig. 47
Bass River of
Five Islands
Fig. 44
Lynn Road
H08-5000
H08-5001
Fig. 55
Harrington
CUMBERLAND COUNTY
Lower Five
Islands
Five Islands
MILES
0
2

Figure 43

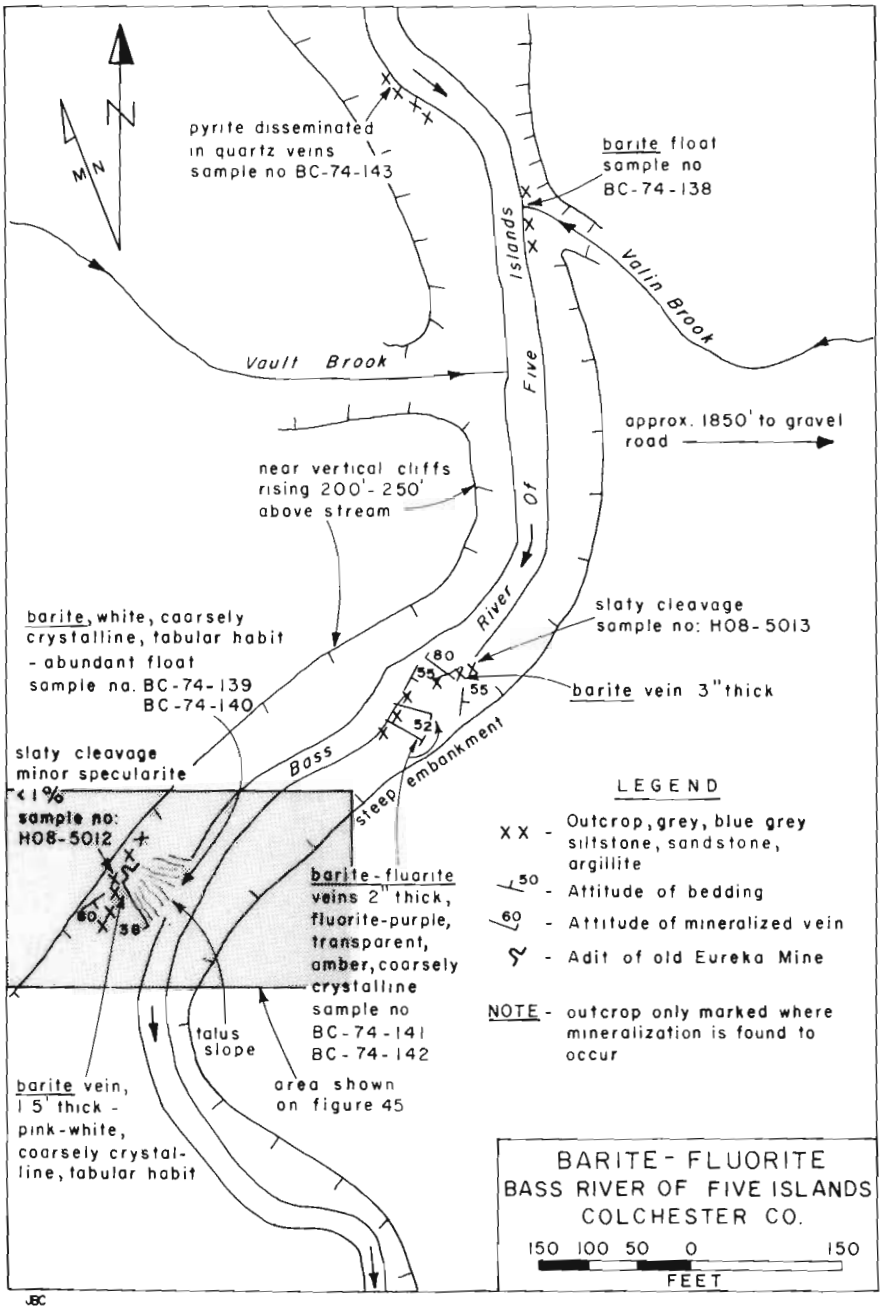
pyrite disseminated
in quartz veins
sample no BC-74-143
barite float
sample no
BC-74-138
Valin Brook
Vault Brook
Five Islands
approx. 1850' to gravel road
near vertical cliffs
rising 200'-250'
above stream
barite, white, coarsely
crystalline, tabular habit
- abundant float
sample no. BC-74-139
BC-74-140
slaty cleavage
sample no: H08-5013
barite vein 3" thick
Bass River Of
slaty cleavage
minor specularite
<1%
sample no:
H08-5012
steep embankment
barite-fluorite
veins 2" thick,
fluorite-purple,
transparent,
amber, coarsely
crystalline
sample no
BC-74-141
BC-74-142
talus
slope
barite vein,
1.5' thick -
pink-white,
coarsely crystal-
line, tabular habit
area shown
on figure 45
LEGEND
XX - Outcrop, grey, blue grey siltstone, sandstone, argillite
50 - Attitude of bedding
60 - Attitude of mineralized vein
Adit of old Eureka Mine
NOTE - outcrop only marked where mineralization is found to occur
BARITE-FLUORITE
BASS RIVER OF FIVE ISLANDS
COLCHESTER CO.
150 100 50 0 150
FEET
JBC

Figure 44

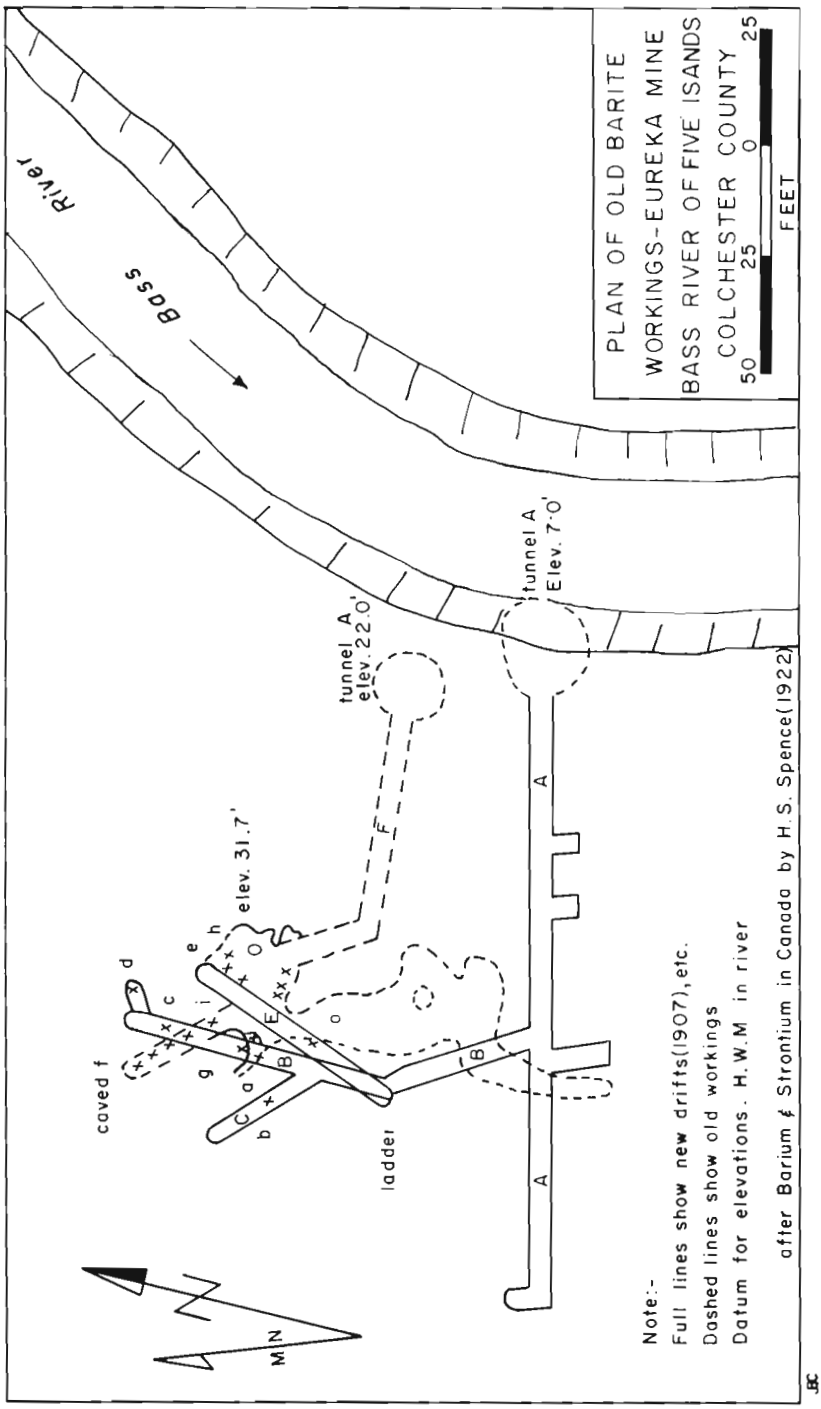
PLAN OF OLD BARITE
WORKINGS-EUREKA MINE
BASS RIVER OF FIVE ISANDS
COLCHESTER COUNTY
50 25 0 25
FEET
Bass River
tunnel A
elev. 22.0'
tunnel A
Elev. 7-0'
elev. 31.7'
caved f
ladder
N
Note:-
Full lines show new drifts(1907), etc.
Dashed lines show old workings
Datum for elevations. H.W.M. in river
after Barium & Strontium in Canada by H.S. Spence(1922)

Figure 45

> A 10-foot raise has been put up from B into the upper drift E, and in the latter, several narrow veins have been encountered. The end of drift E connects with the old workings above. At the point marked g, a 6-foot vein of barytes is exposed, which narrows to 3 feet about 20 feet to the north."

Despite this additional development work, the mine never returned to production and remained neglected until 1945. At this time Maritime Exploration Limited undertook a brief geological investigation of the area and concluded that the geology did not indicate a barite deposit of economic size.

The area last received attention in 1970 when Triton Exploration Limited diamond drilled two holes in the vicinity of the mine in a search for sulphide deposits. The drilling encountered only small veins (1/2") of barite and fluorite. The same company also carried out a magnetic survey and geochemical survey in the area.

The host rocks on the east bank of the river are grey, blue-grey, siltstone, sandstone and argillite displaying a slaty cleavage. The attitude of the bedding was found to be 010°Az/55°E, and 030°Az/55°SE. On the west bank of the river the occurrence is hosted by a light grey siltstone with slaty cleavage which strikes 055° azimuth, dips 38° southeast, and contains minor amount of specularite (<1 per cent). The rocks belong to the North River Sequence which are believed to be of Silurian or older in age (Donohoe, 1976).

All deposits examined at this prospect are structurally controlled, with the mineralized areas restricted to minor fault zones, fractures and brecciated zones. No replacement of the wall rock by barite or fluorite, nor any alteration that could be attributed to the mineralization is apparent in hand specimen.

On the east bank of the river the barite-fluorite is found filling fractures ranging from 1" to 3" in thickness and filling brecciated zones. The attitudes of three veins were found to be: 105°Az/52°NE, 120°Az/90°, and 130°Az/80°NE.

On the west side of the stream, just north of Vault Brook, milky white quartz veins containing disseminated

pyrite are found. South of Vault Brook but still on the west side of the stream, a steep talus slope marks the location of one of the Eureka Mine adits near the top of the bank. Abundant barite float is also found in the immediate vicinity and in the stream bed. Approximately 10 feet southwest of the adit, a vein of barite, 1.5 feet thick (maximum), stiking 145° Az and dipping 38° southwest, is found traversing siltstone.

Although it is at present unsafe to enter the old mine workings, the following descriptions are given by Hugh Spense in "Barium and Strontium in Canada" (1922, p. 31 & 32):

> "A survey of the old mining workings in 1906 indicates that the main ore-bodies occured in a zone about 700 feet wide, and trending northwest (Fig. 45). Most of the ore encountered in these workings has been removed.
>
> "None of the workings extend below the level of the river, and consequently it is not known whether the barytes bodies persist in depth. However, one large ore-mass exposed in the lowest workings had a width of about 18 feet at almost river level, so that it appears reasonable to anticipate a considerably greater vertical extension of the lead.
>
> "The operations in 1907 disclosed a strong vein of barytes about 500 feet south of the main tunnel. This vein measures 19 feet, but carries numerous included fragments of slate; it strikes northeast and has been uncovered for a distance of 40 feet. Stripping indicates that this lead is an extension of an outcrop some distance to the southwest, and which appears to be part of one of the largest ore-bodies as yet encountered on the property.
>
> "From the main cliffs, lying back from the river, prominent ledges extend, and between the ledges are deep depressions filled with rock debris, the fragments of which are firmly cemented by carbonate of lime, the whole thus forming an agglomerate. It is in this agglomerate that the barytes chiefly occurs, the ore-bodies usually lying in the form of irregular, pockety masses.

> These masses often extend down through the agglomerate into the underlying slate, and in the latter rock take on more the nature of regular veins."

Reports also state that in the mine, the veins pinch and swell, forming lenticular-like bodies that often intersect each other.

In hand specimen the barite is very coarsely crystalline, displays a tabular habit, and is often drusy (Fig. 46). It varies in colour from creamy white, to pink, and is also transparent. In some instances it is closely associated with coarsely crystalline fluorite which ranges in colour from amber, to purple, to colourless. Barite has been found in beautiful crystalline masses weighing up to 150 pounds (How, 1869). Other minerals associated with this occurrence are calcite, quartz, and small amounts of specularite, pyrite and chalcopyrite. Coarsely crystalline calcite is often found to coat the barite.

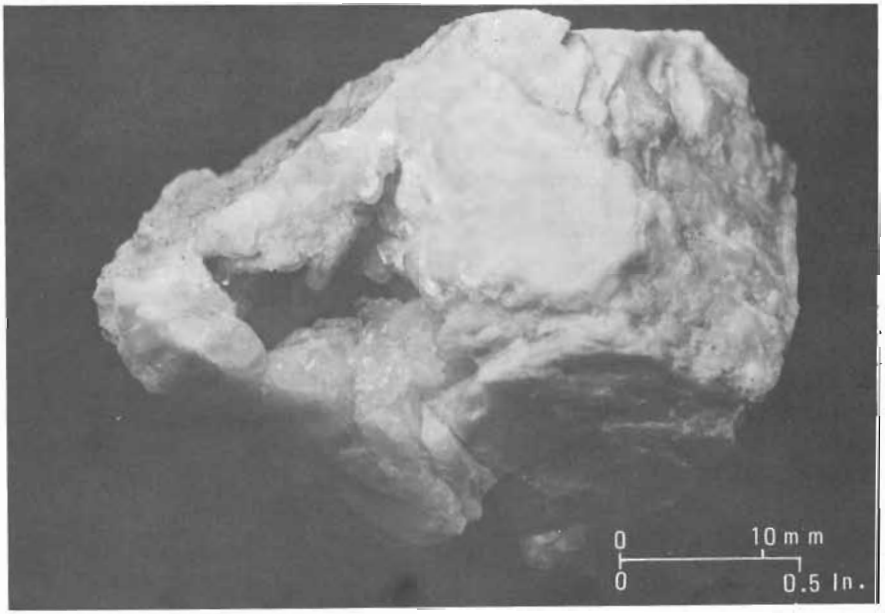

Figure 46 - Bass River of Five Islands. Barite displaying a well developed tabular habit and a vug lined with transparent barite crystals.

Grab samples of the mineralized rock, the quartz veins and the siltstone were collected and submitted for chemical analysis. The sample locations are found in Figure 44, and the analytical results are found below and in appendix III.

Rock Type	Sample No.	Per cent			ppm		
		$BaSO_4$	$SrSO_4$	F	Cu	Pb	Zn
Barite	BC-74-138	96.60	3.28	.03	40	50	20
Barite	BC-74-139	95.40	3.28	.95	50	40	20
Fluorite	BC-74-140	.47	.16	44.87	40	180	300
Calcite, minor barite, fluorite	BC-74-141	1.11	.16	1.10	20	75	100
Fluorite	BC-74-142	.91	.16	38.60	15	80	100
Quartz	BC-74-143	.14	.27	.29	4	10	30
Barite	H08-5011	96.00	3.02	.03	10	10	10
Siltstone	H08-5012	.22	.02	.06	10	60	10
Siltstone	H08-5013	2.17	.01	.04	20	30	90

This occurrence as well as a number of others examined is situated at or very near the Cobequid Fault Scarp. Thus, it would be reasonable to assume that the mineral deposits are closely related to the numerous major faults recognized in the area, the most prominent being the Cobequid Fault which has an east-west strike, and less prominent ones striking north-south and east-west. It is believed that the north-south fault system occurred later than the Cobequid Fault (Weeks, 1948). If the intersecting barite lenses are directly related to both the east-west and north-south faults, this may serve as supporting evidence for two periods of mineralization.

A better understanding of the age relations between the various rock units and the rather complex structure would be of great use in pinpointing potential ore zones in the rocks which constitute the Cobequid Highlands.

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(16) EAST RIVER OF FIVE ISLANDS

U.T.M.G. - N-503316
E-42139

N.T.S. - 21H/8D (1:50,000)

This prospect is situated approximately three miles northeast of the Village of Five Islands on the East River of Five Islands. The best approach to this occurrence is made by driving for 3.2 miles on a gravel road which runs north from Five Islands and then about one mile east on a trail until a large field is reached. From this point one must walk in a southeasterly direction to the river and then downstream until the map area is reached. The 25 foot waterfall north of the occurrence is an easily recognizable reference point (Fig. 43 and 47).

The occurrence is noted on the Geological Survey of Canada Map Sheet No. 76 by Hugh Fletcher (1905). Beyond some prospecting which has been conducted here from time to time since the turn of the century, no significant amount of exploration work has been carried out on this occurrence.

Mr. C. H. Warren (1911) indicates that a "vein of considerable size" occurs on the east bank of the river somewhat farther downstream from this occurrence, and further states that it is exposed in an old tunnel for about 50 feet. Unfortunately this bit of information was missed at the time the field work was carried out and was therefore not investigated.

The host rocks are grey and black siltstone with slaty cleavage, very fine-grained, grey quartz arenite, and fine to medium-grained, pink-red feldspathic arenite or arkose. Attitudes of these rocks range from 028° Az/85°SE, 043° Az/90°, to 070° Az/85°N. Mineralized areas are more prominent in the arkose. These rocks belong to the North River Sequence which are believed to be Silurian or older in age (Donohoe, 1976).

Two high angle faults occur in the map area, (Fig. 47) accounting for the highly fractured and sheared nature of the rocks. These faults are no doubt closely related to the movements resulting in the Cobequid Fault, which traverses the region immediately south of the map area.

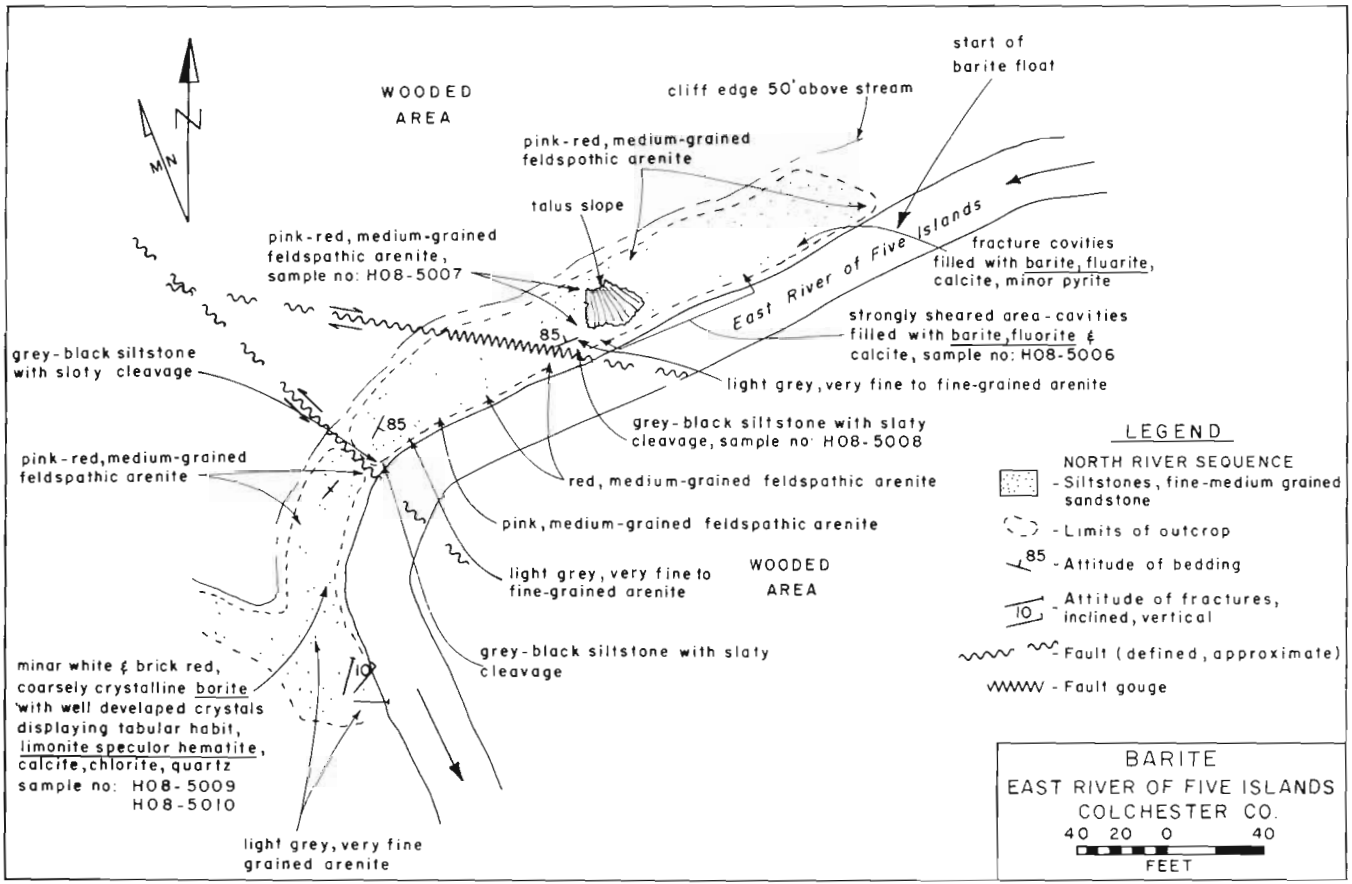
WOODED AREA
MN
cliff edge 50' above stream
start of barite float
pink-red, medium-grained feldspothic arenite
talus slope
pink-red, medium-grained feldspathic arenite, sample no: H08-5007
East River of Five Islands
fracture covities filled with barite, fluarite, calcite, minor pyrite
strongly sheared area-cavities filled with barite, fluorite & calcite, sample no: H08-5006
85
grey-black siltstone with sloty cleavage
light grey, very fine to fine-grained arenite
grey-black siltstone with slaty cleavage, sample no: H08-5008
pink-red, medium-grained feldspathic arenite
red, medium-grained feldspathic arenite
pink, medium-grained feldspathic arenite
light grey, very fine to fine-grained arenite
WOODED AREA
grey-black siltstone with slaty cleavage
10
minar white & brick red, coarsely crystalline borite with well developed crystals displaying tabular habit, limonite speculor hematite, calcite, chlorite, quartz
sample no: H08-5009
H08-5010
light grey, very fine grained arenite
LEGEND
NORTH RIVER SEQUENCE
- Siltstones, fine-medium grained sandstone
- Limits of outcrop
85 - Attitude of bedding
10 - Attitude of fractures, inclined, vertical
- Fault (defined, approximate)
- Fault gouge
BARITE
EAST RIVER OF FIVE ISLANDS
COLCHESTER CO.
40 20 0 40
FEET
JBC

Figure 47

Mineralization here was structurally controlled with barite and fluorite occupying irregular fractures and brecciated zones. No replacement of the wallrock by barite or fluorite, nor alteration which could be attributed to the mineralization, was observed in hand specimen.

The deposit consists primarily of barite with some fluorite. In hand specimen the barite is generally very coarsely crystalline with a well developed tabular habit, and is white, pink-white and brick red in colour (Figure 48). The fluorite is coarsely crystalline and varies in colour from pale green, to amber and colourless. The amber and colourless varieties are the most common. Other minerals associated with the barite and fluorite are pyrite, calcite, specularite, chlorite and quartz.

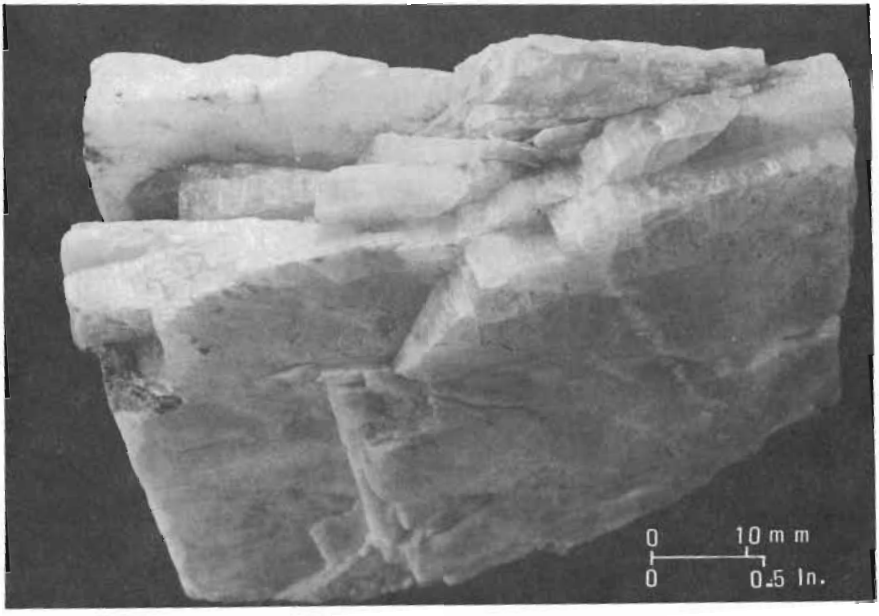

Figure 48 - East River of Five Islands. Barite displaying a well developed tabular habit.

Grab samples were collected from the feldspathic arenite and siltstone outcrops, and the mineralized zones. Locations indicating where the samples were taken from are found in Figure 47, and results of the analyses listed below and in appendix III.

Rock Type	Sample No.	Per cent $BaSO_4$	Per cent $SrSO_4$	Per cent F	ppm Cu	ppm Pb	ppm Zn
Barite	H08-5006	93.50	4.06	.03	10	50	20
Felspathic arenite	H08-5007	.08	.01	.04	30	30	15
Siltstone	H08-5008	.24	.01	.03	10	40	30
Barite, siltstone	H08-5009	69.92	.50	.03	20	40	20
Siltstone	H08-5010	.14	.01	.05	10	100	20

There is a striking resemblance between this showing and that at the Bass River of Five Islands. The minerals at both places have identical textures, habit and colours as well as an apparent lack of alteration of the wall rock. Both showings are also hosted by the North River Sequence of rocks. It should be noted however, that although the host rocks are analagous, other occurrences in close proximity to the Cobequid Fault occur in rocks belonging to different sequences. This indicates that the mineralization was not confined to any one particular sequence of rocks which make up the Cobequid Highlands but is closely related to a structural feature which is common to all these sequences.

No barite-fluorite was encountered in the plutonic rocks which crop out upstream from the map area. These rocks are believed to be of Upper Silurian or Lower Devonian age and were also affected by the Cobequid Fault. However, since movement along this fault occured at various intervals throughout geologic time, it is possible the barite-fluorite mineralization may have occurred prior to faulting of these rocks.

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(17) HILDEN PROSPECT

U.T.M.G. - N-501590
E-47467

N.T.S. - 11E/6B (1:50,000)

This prospect is located on the Chapman Farm, 1.4 miles west of Highway 2 at Hilden. The occurrence is found in situ in a brook which runs through a boggy area covered by a dense growth of underbrush and alders, approximately 150 feet south of the barn (Fig. 49 and 50).

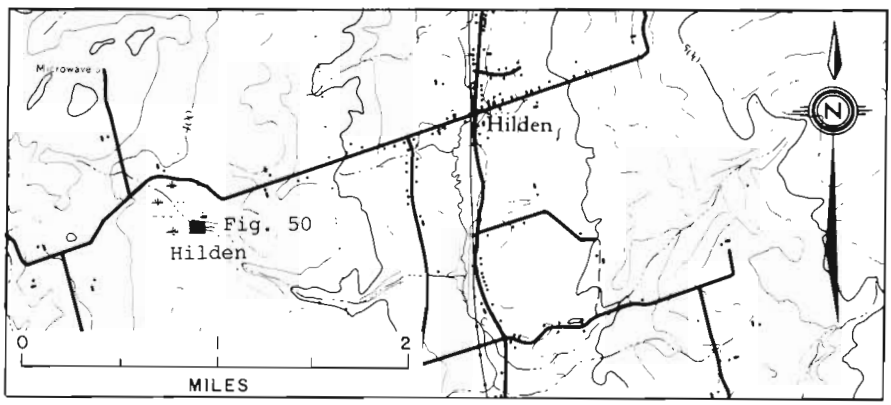

Figure 49

In 1957 Magnet Cove Barium Corp. carried out some geological prospecting, a gravimetric survey and 83 feet of diamond drilling with a packsack drill. The results of the drilling, in brief, are listed in Table 8 and illustrated in Figure 51.

Barite is found as a two foot thick vein striking 020° azimuth in thinly laminated dolomitic limestone and limestone conglomerate of the Macumber and Pembroke Formations of the Lower Windsor Group. Minor amounts of barite are also found as small veinlets and pods.

In the immediate vicinity of the barite vein, the host rock is found to strike 170° Az and dip 70°E.

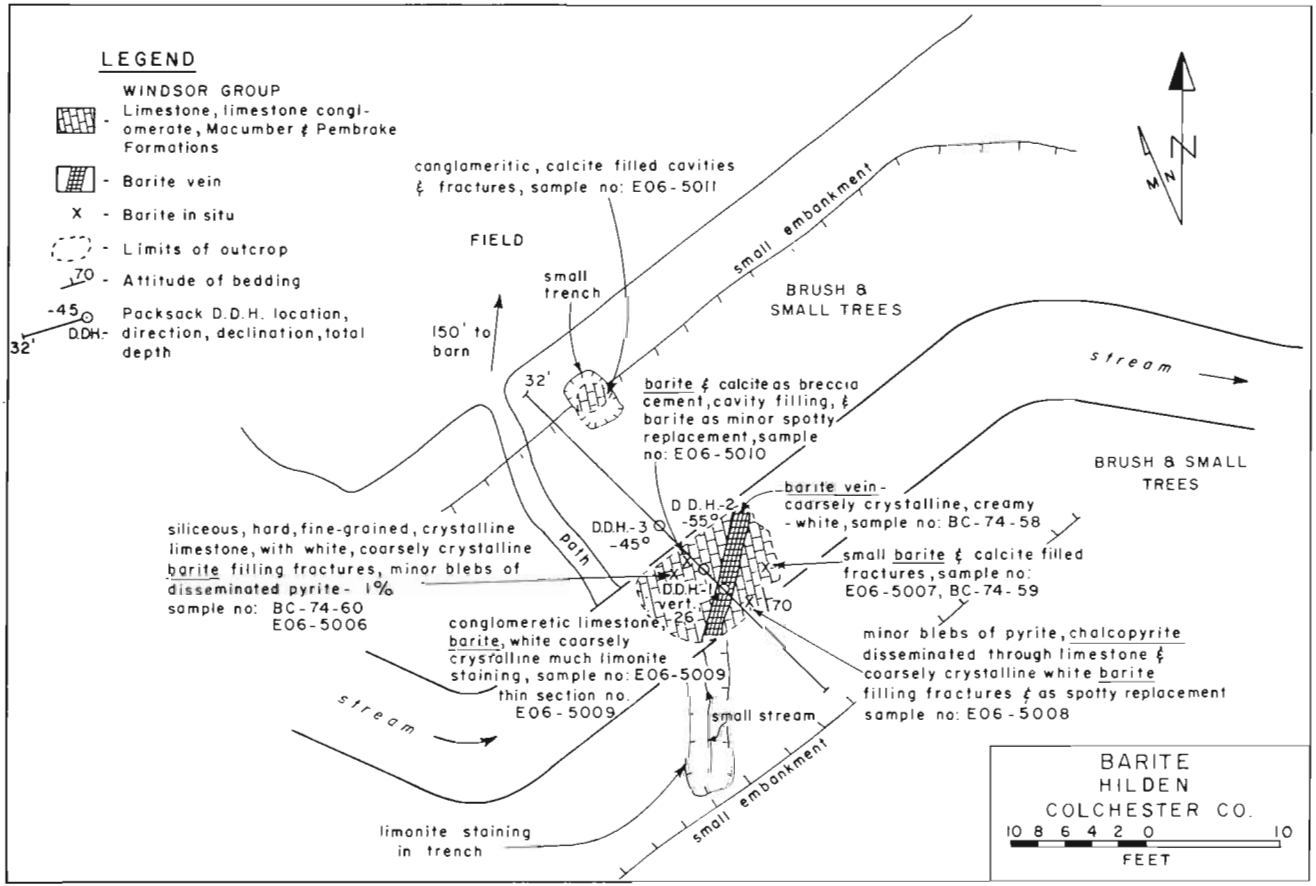
LEGEND
WINDSOR GROUP
Limestone, limestone conglomerate, Macumber & Pembroke Formations
Barite vein
Barite in situ
Limits of outcrop
70 Attitude of bedding
-45 DDH- 32' Packsack D.D.H. location, direction, declination, total depth
conglameritic, calcite filled cavities & fractures, sample no: E06-5011
FIELD
small trench
150' to barn
32'
small embankment
BRUSH & SMALL TREES
stream
barite & calcite as breccia cement, cavity filling, & barite as minor spotty replacement, sample no: E06-5010
BRUSH & SMALL TREES
barite vein - coarsely crystalline, creamy - white, sample no: BC-74-58
D.D.H.-2 -55°
D.D.H.-3 -45°
path
siliceous, hard, fine-grained, crystalline limestone, with white, coarsely crystalline barite filling fractures, minor blebs of disseminated pyrite - 1% sample no: BC-74-60 E06-5006
small barite & calcite filled fractures, sample no: E06-5007, BC-74-59
D.D.H.-1 vert. -26'
70
conglomeretic limestone, barite, white coarsely crystalline much limonite staining, sample no: E06-5009
thin section no. E06-5009
minor blebs of pyrite, chalcopyrite disseminated through limestone & coarsely crystalline white barite filling fractures & as spotty replacement sample no: E06-5008
stream
small stream
small embankment
limonite staining in trench
BARITE
HILDEN
COLCHESTER CO.
10 8 6 4 2 0 10
FEET
JBC

Figure 50

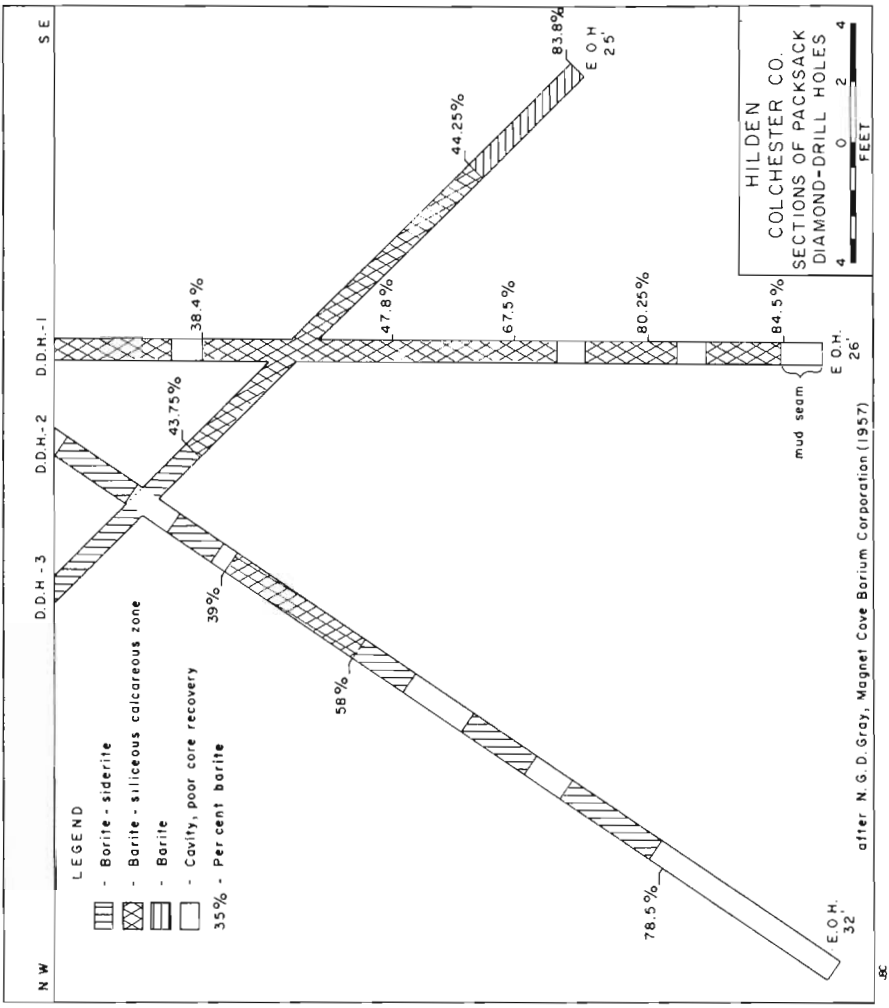
N W
S E
D.D.H.-3
D.D.H.-2
D.D.H.-1
LEGEND
- Barite - siderite
- Barite - siliceous calcareous zone
- Barite
- Cavity, poor core recovery
35% - Per cent barite
39%
58%
78.5%
E.O.H. 32'
43.75%
38.4%
47.8%
44.25%
67.5%
80.25%
84.5%
83.8%
mud seam
E.O.H. 26'
E O H 25'
after N. G. D. Gray, Magnet Cove Barium Corporation (1957)
HILDEN
COLCHESTER CO.
SECTIONS OF PACKSACK
DIAMOND-DRILL HOLES
4 0 2 4
FEET

Figure 51

TABLE 8

FACTS PERTAINING TO DIAMOND-DRILL HOLES
AND MINERALIZATION INTERSECTIONS AT HILDEN, COLCHESTER COUNTY

D.D.H. No.	Location	Direction & Declination	Depth from to	Total Depth	Chemical Analysis-% BaSO4	FeCO3	SiO2	CaO	Core Recovery
1	On barite outcrop in middle of stream	vertical	0.0'-5.0'	26.0'	38.40	12.10	7.12	1.75	82%
			5.0'-10.0'		47.80	10.40	7.30	1.89	
			10.0'-15.0'		67.50	3.88	9.77	1.43	
			15.0'-20.0'		80.25	3.88	3.55	1.58	
			20.0'-26.0'		84.50	3.45	3.00	1.75	
2	2.0' N.W. of hole no.1	N.W. at-55°	0.0'-7.0'	32.0'	39.00	12.82	9.50	1.93	6.64%
			7.0'-12.0'		58.00	6.80	8.07	1.84	
			12.0'-25.0'		78.50	4.32	2.90	1.68	
			25.0'-32.0'		-	-	-	-	no core
3	5.0' N.W. of hole no.2	S.E. at-45°	1.0'-6.5'	25.0'	43.75	12.82	11.43	2.00	90%
			6.5'-20.0'		44.25	9.49	9.00	2.05	
			20.0'-25.0'		83.80	2.59	2.30	1.94	

After Magnet Cove Barium Corp., (1957)

At the western end of the barite-limestone outcrop, the limestone becomes harder, is finer grained, crystalline and highly siliceous [A similar silicified limestone is reported (Shea, 1959) at the Walton barite mine.]. Chert(?) veining occurs here as well as barite. There is no distinct contact between this grey, siliceous rock and the limestone, but rather it appears gradational.

To the northeast of this occurrence, red shale, siltstone and sandstone of the Horton Group crop out of the side of the stream bank and in the stream bed. These beds strike 045° Az and vary in dip from 15°E-70°E, are strongly fractured normal to the bedding planes, and exhibit ripple marks. The actual contact between the Horton Group and Windsor Group is not visible; however, it appears to be very close to the barite-limestone outcrop.

It is evident from the limestone-barite contacts that fracture filling as well as some replacement of the dolomitic limestone has taken place. This is indicated where the barite-dolomitic limestone contact is gradational, and the barite is much finer grained than the vein

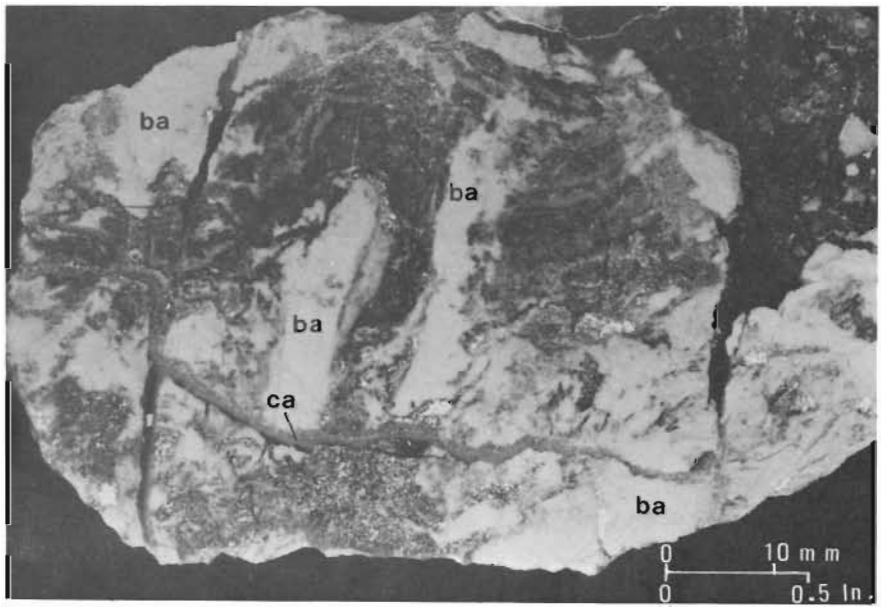

Figure 52 - Hilden. White barite filling cavities and replacing grey limestone. Note calcite veinlet cutting the barite near the bottom of the sample, as well as in a vertical direction on the left. ls - limestone, ba - barite, ca - calcite.

material (Fig. 52). Post mineralization tectonism is apparent from small fractures that cut the barite and are filled with pale green calcite.

The barite at this showing is generally coarsely crystalline and white in colour, although the presence of limonite imparts a rusty colour to portions of the outcrop. The source of the limonite appears to be siderite, which occurs intergrown with the barite and as concentrations in bands. Other minerals associated with the barite are limonite, pyrite, chalcopyrite, quartz and calcite. The pyrite and chalcopyrite are visible as small blebs disseminated through the dolomitic limestone as well as the barite and account for less than one per cent of the minerals present.

Grab samples from the mineralized zone, the siliceous dolomitic limestone, and the limestone conglomerate were collected and submitted for chemical analysis. The locations sampled are indicated on Figure 50 and the analytical results are listed below and in appendix III.

Rock	Sample No.	Per cent			ppm		
		$BaSO_4$	$SrSO_4$	F	Cu	Pb	Zn
Barite, dolomitic limestone	BC-74-58	48.20	.71	.05	16	31	36
Siliceous dolomitic, limestone, minor barite	BC-74-59	2.97	.35	.08	1575	64	28
Limestone	BC-74-60	1.26	.17	.08	80	50	30
Baritiferous, dolomitic limestone	E06-5006	17.80	.41	.05	20	50	30
Siliceous dolomitic limestone	E06-5007	1.47	.11	.05	40	70	20
Barite, dolomitic limestone	E06-5008	67.19	1.56	.03	20	20	20
Barite, dolomitic limestone	E06-5009	60.40	.93	.03	20	60	20
Barite, dolomitic limestone	E06-5010	30.43	.60	.03	10	50	25
Limestone, conglomerate	E06-5011	.65	.11	.06	50	80	45

It is worthy of note that the pale green calcite is identical to that calcite associated with the barite at Middle Stewiacke. Of further interest is the fact that siderite is closely associated with the Hilden barite in much the same manner as the Brookfield barite-siderite occurrence. As all three occurrences are found at the Horton-Windsor contact and possess some geologic similarities, it is quite probable that the time of barite deposition and tectonic histories of the three occurrences concur.

It is felt that further work is warranted on this prospect to determine both the extent of the barite showing and the possibility of massive sulphide deposits (similar to Walton). As the areal extent of the barite-limestone outcrop is small, strategically placed and deeper diamond-drill holes would be necessary to acquire the needed information.

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(18) LONDONDERRY

U.T.M.G. - N-503588 - dumps
E-45272

N-503600 - outcrop
E-45236

N.T.S. - 11E/5D (1:50,000)

The samples obtained from this locality were taken from the dumps and from outcrops on Rockland Brook. The dumps are found in the Village of Londonderry, 30 to 60 feet north of the road connecting with Highway 4. They appear as two conspicuous, rusty coloured, elongated heaps approximately 500 feet in length, 20 feet in width and 10 feet in height, and trend in an east-west direction.

The outcrop is located on the west bank of Rockland Brook, immediately west of the slag heaps (Fig. 53).

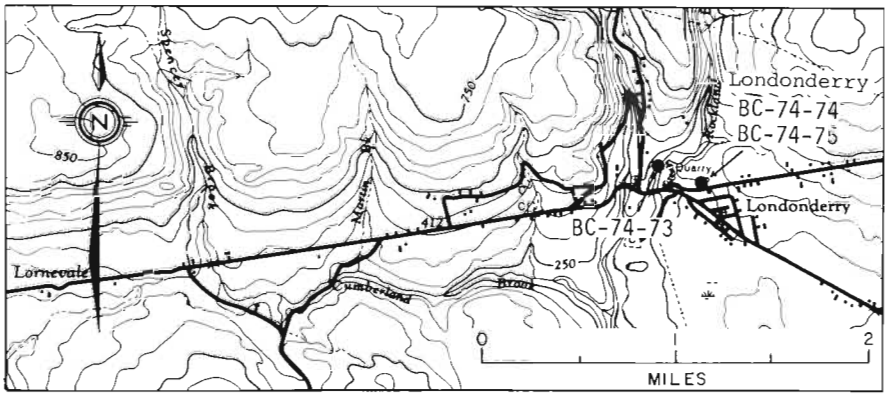

Figure 53

This occurrence has a lengthy history as an iron producing area, having first been mentioned in the literature by J. W. Dawson (1850). Reports indicate that from the year 1849 until the closure of the mines in 1908, approximately four million tons of iron ore were mined from the area. A concise discussion and references on the iron deposits in this vicinity is given by Bishop and

Wright (1974). A section of a bore hole drilled around the turn of the century indicates some barite and sulphides (pyrite) in the vicinity of the old "Derry Ore Body" (hematite) (Fig. 54).

It was not until 1947 that the area received attention as a possible prospect for barite-sulphide deposits when C. O. Campbell carried out investigations for Maritime Exploration Limited. He had hoped to find a large barite deposit closely associated with the siderite, anticipating a barite-siderite body somewhat similar to the Walton deposit. However, results proved discouraging.

Further exploration in a search for barite and sulphides was undertaken by Lura Corporation Limited and Ran Lux Mines Limited in 1966. Their investigations included geological surveys, geophysical surveys, geochemical surveys and seven diamond-drill holes totalling 2,363 feet. This work failed to prove any deposits of economic significance with barite being encountered only as small veinlets.

As this occurrence was not found in situ (the dump specimens undoubtedly having come from the old mines in the area), it was not possible to examine the host rocks. However, reports indicate that they are sandstone, siltstone, limestone and tuff of the Londonderry Group of Lower Devonian age.

The deposits are structurally controlled, occurring in the Cobequid Fault and in fissures adjacent to the Fault. Past studies indicate that mineralizing fluids of hydrothermal origin filled cavities, and cemented and replaced the rock in brecciated zones. Supergene enrichment resulted in economical hematite and limonite deposits. Alteration of the host rock adjacent to and within the deposits due to the hydrothermal activity is present in varying degrees. The following information is reported by A. D. Hudgins (1966):

> "The Silurian sediments adjacent to the replacement bodies are moderately altered and inclusions of unreplaced hosts and breccia fragments within the mineralization are highly altered. The alteration is not apparent to any great extent in hand specimens, but in thin section silicification and alunitization is very evident."

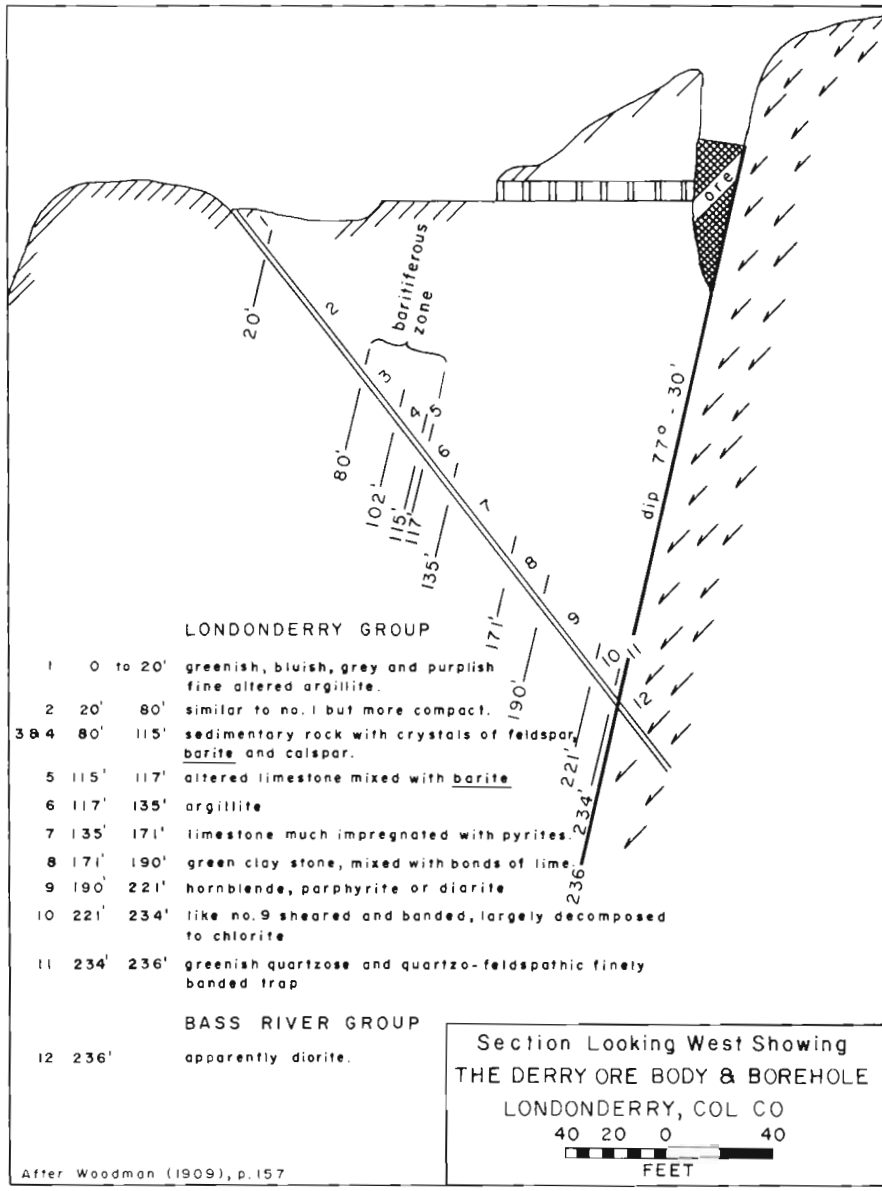
ore
baritiferous zone
dip 77° - 30'
20'
80'
102'
115'
117'
135'
171'
190'
221'
234'
236'
1
2
3
4
5
6
7
8
9
10
11
12
LONDONDERRY GROUP
1 0 to 20' greenish, bluish, grey and purplish fine altered argillite.
2 20' 80' similar to no. 1 but more compact.
3 & 4 80' 115' sedimentary rock with crystals of feldspar, barite and calspar.
5 115' 117' altered limestone mixed with barite
6 117' 135' argillite
7 135' 171' limestone much impregnated with pyrites.
8 171' 190' green clay stone, mixed with bonds of lime.
9 190' 221' hornblende, parphyrite or diarite
10 221' 234' like no. 9 sheared and banded, largely decomposed to chlorite
11 234' 236' greenish quartzose and quartzo-feldspathic finely banded trap
BASS RIVER GROUP
12 236' apparently diorite.
Section Looking West Showing
THE DERRY ORE BODY & BOREHOLE
LONDONDERRY, COL CO
40 20 0 40
FEET
After Woodman (1909), p. 157

Figure 54

Specimens obtained from the dumps indicate that minor amounts of barite are intergrown with ankerite and siderite. The barite is white, very coarsely crystalline with a well developed orthorhombic cleavage and the siderite-ankerite is pale yellow to brown, very coarsely crystalline with a well developed rhombohedral cleavage.

Barite has also been reported to occur as "small irregular veins in the hematite, limonite and siderite in dump specimens" (Campbell, 1947). Minor amounts of creamy pink barite can also be found as small veinlets in the red-brown sandstone and conglomerate which form an escarpment on the west bank of Rockland Brook. These rocks belong to the Pictou and/or Cumberland Group of Late Carboniferous age. The veinlets in the Late Carboniferous Age rocks may possibly be genetically related to those deposits found to occur in similar age rocks at various other locations such as Spicers Cove, South Brook and North Greenville.

Grab samples collected from the dumps and from the sandstone - conglomerate outcrop on Rocklin Brook were submitted for chemical analysis. The sample locations are shown in Figure 53, and the analytical results are listed below and in appendix III.

Rock Type	Sample No.	Per cent $BaSO_4$	Per cent $SrSO_4$	Per cent F	ppm Cu	ppm Pb	ppm Zn
Sandstone-conglomerate, barite	BC-74-73	4.52	.17	.07	145	55	78
Ankerite, siderite	BC-74-74	.08	.06	.03	8	32	14
Ankerite, siderite, barite	BC-74-75	5.65	.23	.05	16	63	29

A hypogene origin of the deposits in the Londonderry area is suggested by Weeks (1948); however, the actual source of the mineralizing fluids has not been adequately explained. The deposits hosted by the pre-Carboniferous rocks are believed to be closely related to other deposits in similar age rocks in proximity to the Cobequid Fault.

The possibility exists that mineral occurrences related to these deposits may be found in favourable geologic structures associated with the Cobequid Fault.

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(19) LYNN ROAD

U.T.M.G. - N-503187
E-41273

N.T.S. - 21H/8D (1:50,000)

This occurrence is located in a road cut, on the west side of the Lynn Road, 1.45 miles north of Highway 2 towards Lynn (Fig. 43).

Drilling was carried out here in 1965 by Dome Exploration Ltd. in a search for copper. Numerous thin barite veins were encountered in the drilling (Wright, 1965). Lura Corporation (1971) conducted a geochemical survey (soil sampling), geophysical program (I.P. survey, horizontal-loop EM survey, VLF-EM survey and magnetometer survey), and a prospecting program in search of Cu-Pb-Zn. A coincident anomaly resulting from these surveys prompted diamond drilling (hole LY-1). The following excerpt from a report by Hudgins, (1974) for Lura Corp. outlines the nature and extent of the deposit encountered.

"Widespread barite mineralization, similar to that found in the drilling by Dome, was intersected between 206-217 feet and 270-300 feet. The mineralization consists of numerous, closely spaced veinlets and veins of coarse-grained barite with minor amounts of fluorite. No sulphides were observed with the barite mineralization."

Barite was also noted here in outcrop during field work conducted by the Nova Scotia Department of Mines (Donohoe, 1976).

The host rocks are grey siltstone and fine-grained feldspathic arenite of the North River Sequence believed to be Silurian or older in age (Donohoe, 1976). These beds strike 155° azimuth, dip 40° southwest and are extensively brecciated and fractured. The barite occurrences are structurally controlled, filling irregular fractures, cementing brecciated zones and forming small lenticular pods (Fig. 55). For the most part the fractures are primarily calcite filled with barite present in subordinate amounts. The barite and calcite are often intergrown; however, in some instances the calcite has been completely leached out to leave only the barite cementing the brecciated host rock. The resultant rock is a breccia

Figure 55 - Lynn Road. Small pod of brecciated, very coarsely crystalline white barite in brecciated metasiltstone, ba - barite.

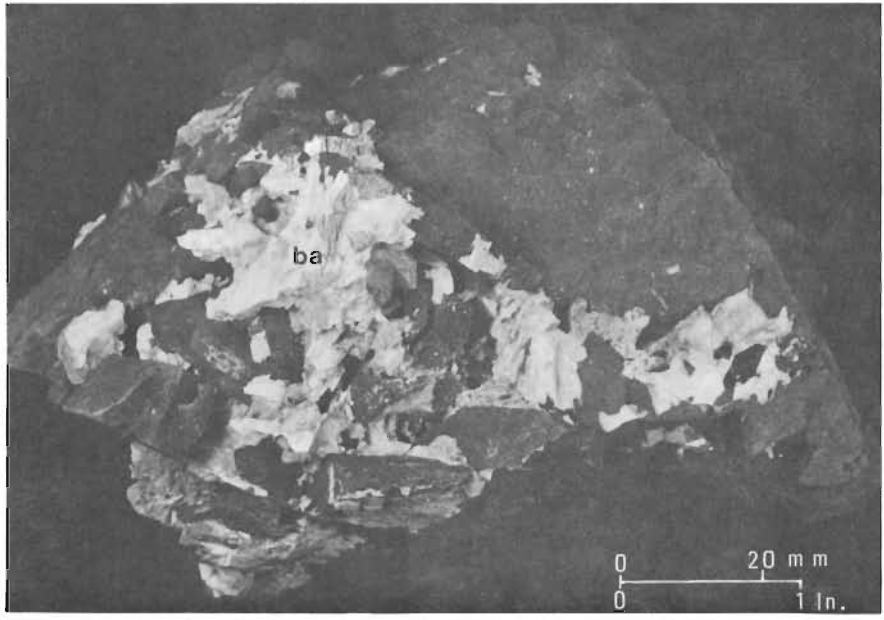

Figure 56 - Lynn Road. Brecciated metasiltstone cemented with white, very coarsely crystalline barite, ba-barite.

which is highly permeable and easily shattered when struck with a geopick (Fig. 56). No hydrothermal alteration of the wall rock was observed in hand specimen.

There has been post, as well as pre-mineralization movement. This is indicated by the friable nature of the barite where movement has occurred primarily along planes of perfect cleavage.

The barite is very coarsely crystalline, with a well developed tabular habit, and creamy pink in colour. Calcite is the only other mineral present.

Grab samples were taken from the mineralized zones and the host rock (feldspathic arenite) adjacent to them. The sample locations are indicated in Figure 43 and the results of the chemical analyses are listed below and in appendix III.

Rock Type	Sample No.	Per cent			ppm		
		$BaSO_4$	$SrSO_4$	F	Cu	Pb	Zn
Barite	H08-5000	90.60	4.10	2.70	40	20	10
Feldspathic Arenite	H08-5001	.56	.08	.03	20	20	10

The origin and age of mineralization are undoubtedly similar to that of the occurrences at Bass River of Five Islands and East River of Five Islands.

Although this barite occurrence is a minor one and primarily only of academic interest, it further illustrates the potential economic significance of structures associated with Cobequid Fault which traverses the area immediately south of the barite location.

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(20) MIDDLE STEWIACKE

U.T.M.G. - N-500890
E-48617

N.T.S. - 11E/3D (1:50,000)

The barite prospect is located on Mine Brook, approximately 0.5 mile north of Highway 289 and 2.2 miles west of the intersection at Middle Stewiacke (Fig. 57 and 58).

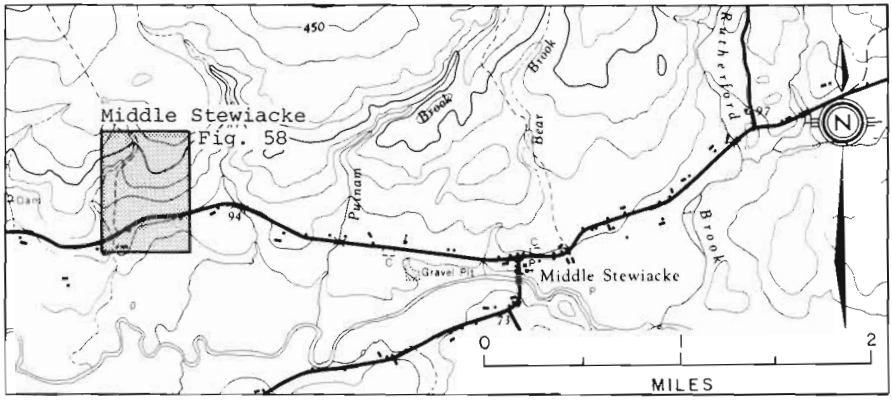
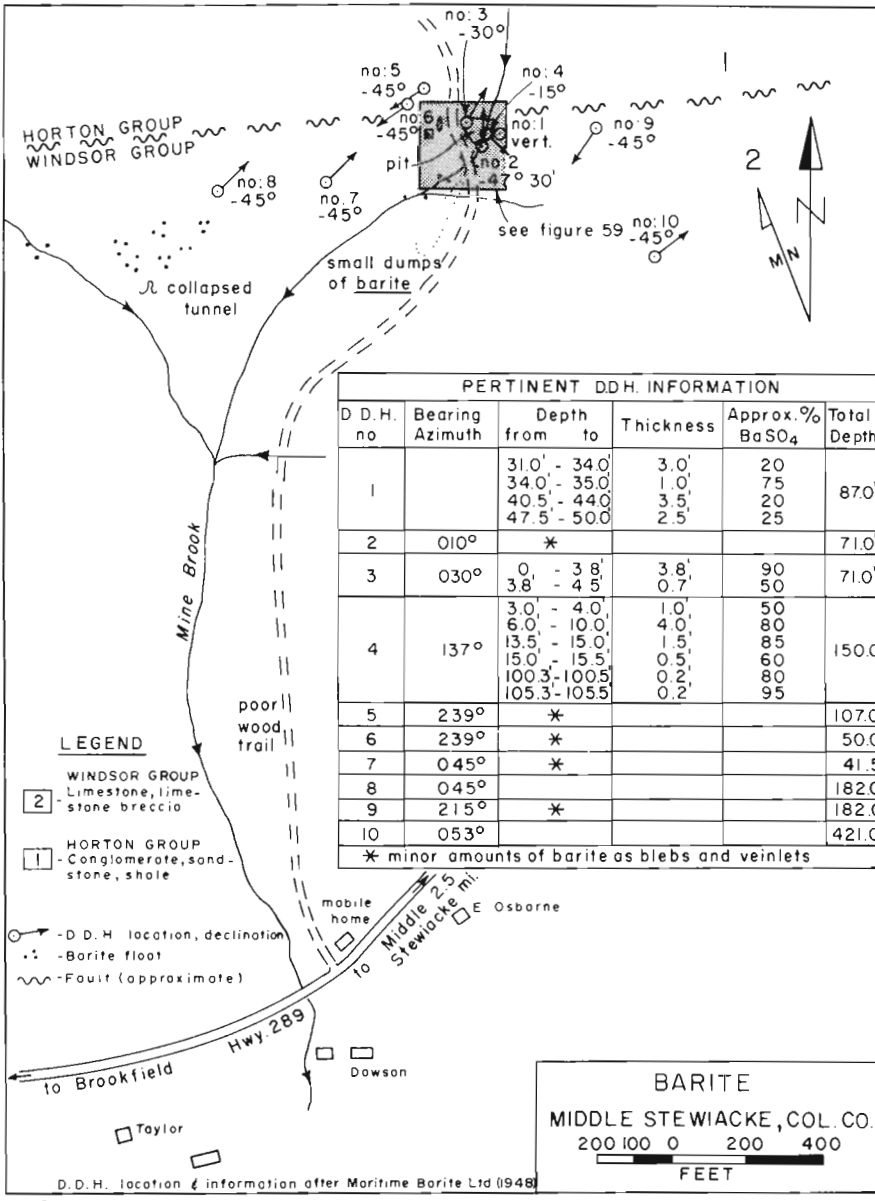


Figure 57

Barite was first reported at this locality by H. How (1869) who stated that 1,200 tons had been removed from a 40 foot shaft. Following this, the deposit received little attention until the 1890's when Brandran and Henderson excavated a small open cut measuring approximately 80 feet in length, 50 feet in width and 30 feet deep, and removed a small quantity of barite ore. The barite removed was of prime white colour and used in the paint manufacturing industry. Any off-white colour barite mined was discarded in dumps in close proximity to the open cut. All the prime white barite was removed at this time, consequently the workings were abandoned and did not again receive attention until 1945-1948 when C. O. Campbell undertook detailed geological surveys for Maritime Exploration Limited.



PERTINENT DDH. INFORMATION

D D.H. no	Bearing Azimuth	Depth from to	Thickness	Approx. % $BaSO_4$	Total Depth
1		31.0' - 34.0' 34.0' - 35.0' 40.5' - 44.0' 47.5' - 50.0'	3.0' 1.0' 3.5' 2.5'	20 75 20 25	87.0'
2	010°	*			71.0'
3	030°	0 - 3.8' 3.8' - 4.5'	3.8' 0.7'	90 50	71.0'
4	137°	3.0' - 4.0' 6.0' - 10.0' 13.5' - 15.0' 15.0' - 15.5' 100.3' - 100.5' 105.3' - 105.5'	1.0' 4.0' 1.5' 0.5' 0.2' 0.2'	50 80 85 60 80 95	150.0'
5	239°	*			107.0'
6	239°	*			50.0'
7	045°	*			41.5'
8	045°				182.0'
9	215°	*			182.0'
10	053°				421.0'

* minor amounts of barite as blebs and veinlets

JBC

Figure 58

Mr. Campbell determined this occurrence to be a favourable prospect and that an exploratory diamond drilling program was justified. During the course of his surveys, barite float was observed for a distance of 6,700 feet west of the open cut and small veinlets of barite were encountered in a limestone conglomerate outcrop, in a brook approximately 0.5 mile east of the open cut.

The following year (1948), a resistivity survey was conducted over the area, and ten diamond-drill holes completed totalling 1,362 feet. Pertinent information and locations of these drillholes are found in Figure 58. The reports on the results of this work suggest that the rock formations in this area have been subjected to considerable faulting and folding.

Interest in the prospect waned until 1957 when Magnet Cove Barium Corporation undertook a geological survey and a gravimetric survey in the area. This company concluded that the barite float found to the west of the open cut may be material which had fallen off the wagons used to transport the ore to the railhead, as it is known that the old Stewiacke-Brookfield road was located somewhere in this vicinity. Thus, future diamond drilling was only recommended for the area along the Horton-Windsor contact east of the open cut.

In 1959, McPhar Geophysics Limited carried out an induced polarization survey for Magnet Cove Barium Corporation over the area, outlining several small magnitude anomalies; however, no followup work was undertaken.

The last reported exploratory work conducted on this prospect was by David S. Robertson and Associates Limited for CERA Corp. Ltd., which consisted of a VLF-EM-16 survey and a hydrogeochemical survey. This work failed to outline any significant anomalies.

The host rock is a grey, massive limestone and limestone breccia of the Upper Windsor Group, which is in fault contact with conglomerate, sandstone and shale of the Horton Group. The brecciated and massive nature of the limestone rendered it impossible to obtain a strike and dip of this rock. However, a sandstone unit stratigraphically above it is found to strike 088° azimuth and dip 80° towards the south. The sedimentary clastic rocks of the Horton Group strike 082° azimuth and dip 80° towards the south (Fig. 59).

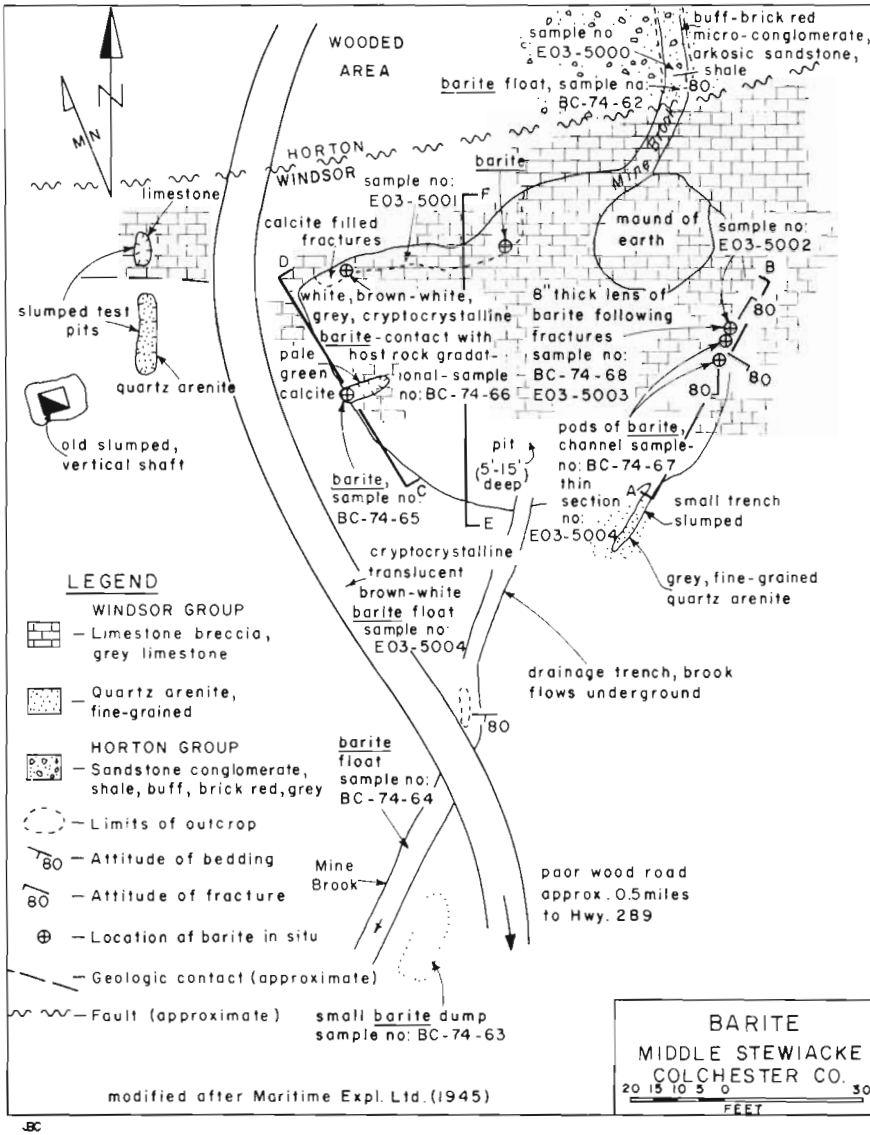

WOODED AREA
HORTON
WINDSOR
MIN
limestone
slumped test pits
quartz arenite
old slumped, vertical shaft
sample no E03-5000
buff-brick red micro-conglomerate, arkosic sandstone, shale
barite float, sample no BC-74-62
barite
Mine Brook
sample no: E03-5001
calcite filled fractures
maund of earth
sample no: E03-5002
white, brown-white, grey, cryptocrystalline barite-contact with pale green calcite
host rock gradational-sample no: BC-74-66
8" thick lens of barite following fractures sample no: BC-74-68 E03-5003
pods of barite, channel sample-no: BC-74-67 thin section no: E03-5004
pit (5'-15' deep)
barite, sample no: BC-74-65
small trench slumped
grey, fine-grained quartz arenite
cryptocrystalline translucent brown-white barite float sample no: E03-5004
drainage trench, brook flows underground
barite float sample no: BC-74-64
Mine Brook
poor wood road approx. 0.5 miles to Hwy. 289
small barite dump sample no: BC-74-63
LEGEND
WINDSOR GROUP
– Limestone breccia, grey limestone
– Quartz arenite, fine-grained
HORTON GROUP
– Sandstone conglomerate, shale, buff, brick red, grey
– Limits of outcrop
– Attitude of bedding
– Attitude of fracture
– Location of barite in situ
– Geologic contact (approximate)
– Fault (approximate)
modified after Maritime Expl. Ltd. (1945)
BARITE
MIDDLE STEWIACKE
COLCHESTER CO.
20 15 10 5 0 30
FEET
JBC

Figure 59

Regionally, the Horton and Windsor Group rocks in this area form the south-southeast limb of a major anticline known as the "Rutherford Brook Anticline" with an axis striking in a northeasterly direction.

The massive limestone and limestone breccia is strongly fractured, and undoubtedly cut by a number of faults although it is impossible to ascertain their attitudes. The brecciation and fracturing which resulted from the faulting provided ample favourable sites for the deposition of barite. In additon to the barite, pale green calcite is found cementing fractures and brecciated zones. The calcite on occasion is found to be stalactitic. This was observed in the trench on the southwest face of the open cut. Sections across the pit are illustrated in Figures 60 and 61.

The mineralization was structurally controlled; deposits occur as pods and lenses of various thicknesses (not exceeding three feet) and lengths (not exceeding 15 feet) which follow major fractures and small faults. The attitudes of two barite lenses on the east face of the pit are 030°/80° SE and 180°/80° W. The contacts between the barite lenses and the host rock are both gradational and sharp. On the northwest face of the pit, the barite changes in colour from white to brown-white to grey and grades progressively into the host rock. Post-mineralization movement is indicated by fractures in the barite lenses, some of which are healed with pale green calcite.

In hand specimen the barite is slightly translucent varying in colour from white, pale grey, dark grey, creamy pink, orange to brown-white, and is cryptocrystalline in texture. The diverse colours appear to be due to varying quantities of the different types of impurities occurring within the barite. Minerals associated with the barite are hematite, limonite, graphite, calcite and very minor amounts of pyrite.

When observed under the microscope, the pale grey-orange barite is found to be inequigranular, and the grains to be primarily anhedral. A few spots showed sheaths of euhedral, bladed barite with a feathery extinction pattern. A replacement texture manifested by relics of fine-grained limestone within the barite (Fig. 62). Opaques constitute the only other minerals present in the rock and they account for less than one per cent of the minerals. The opaques appear to be made up of hematite found in small, irregular hairline fractures and often

oxidized to limonite, and minute amounts of graphite sparsely disseminated throughout the barite.

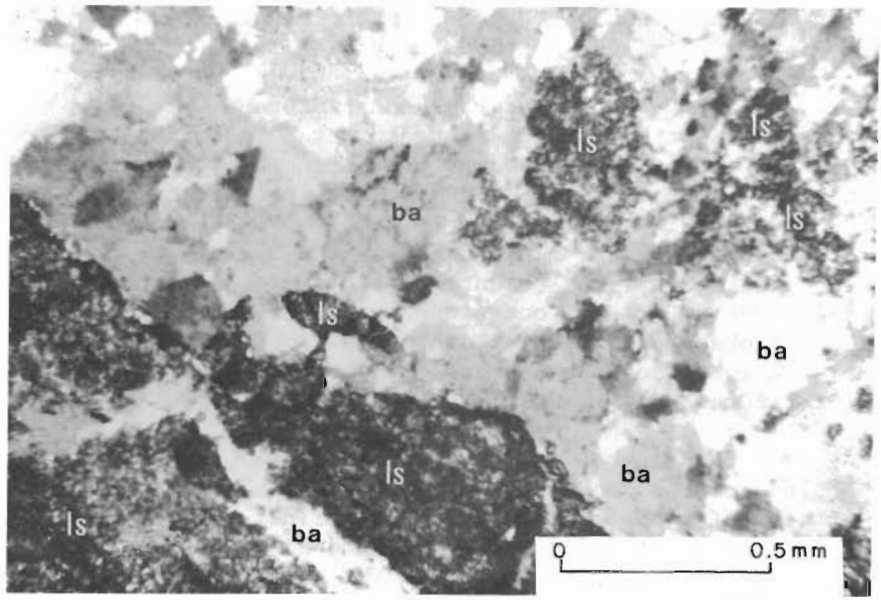
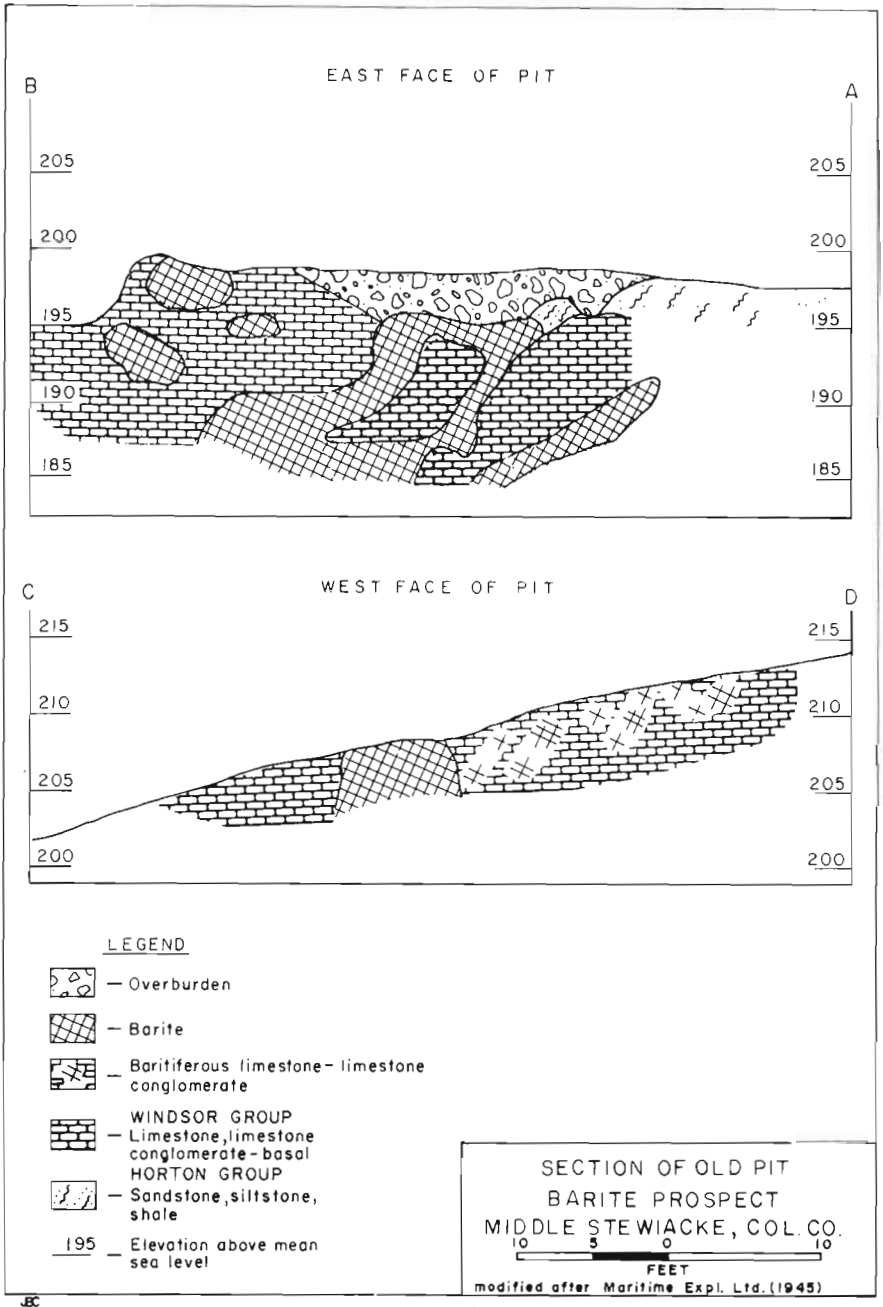


Figure 62 - Middle Stewiacke. Barite replacing fine-grained limestone. Note the embayed, unreplaced portions of limestone. Crossed Nicols, ls - limestone, ba - barite.

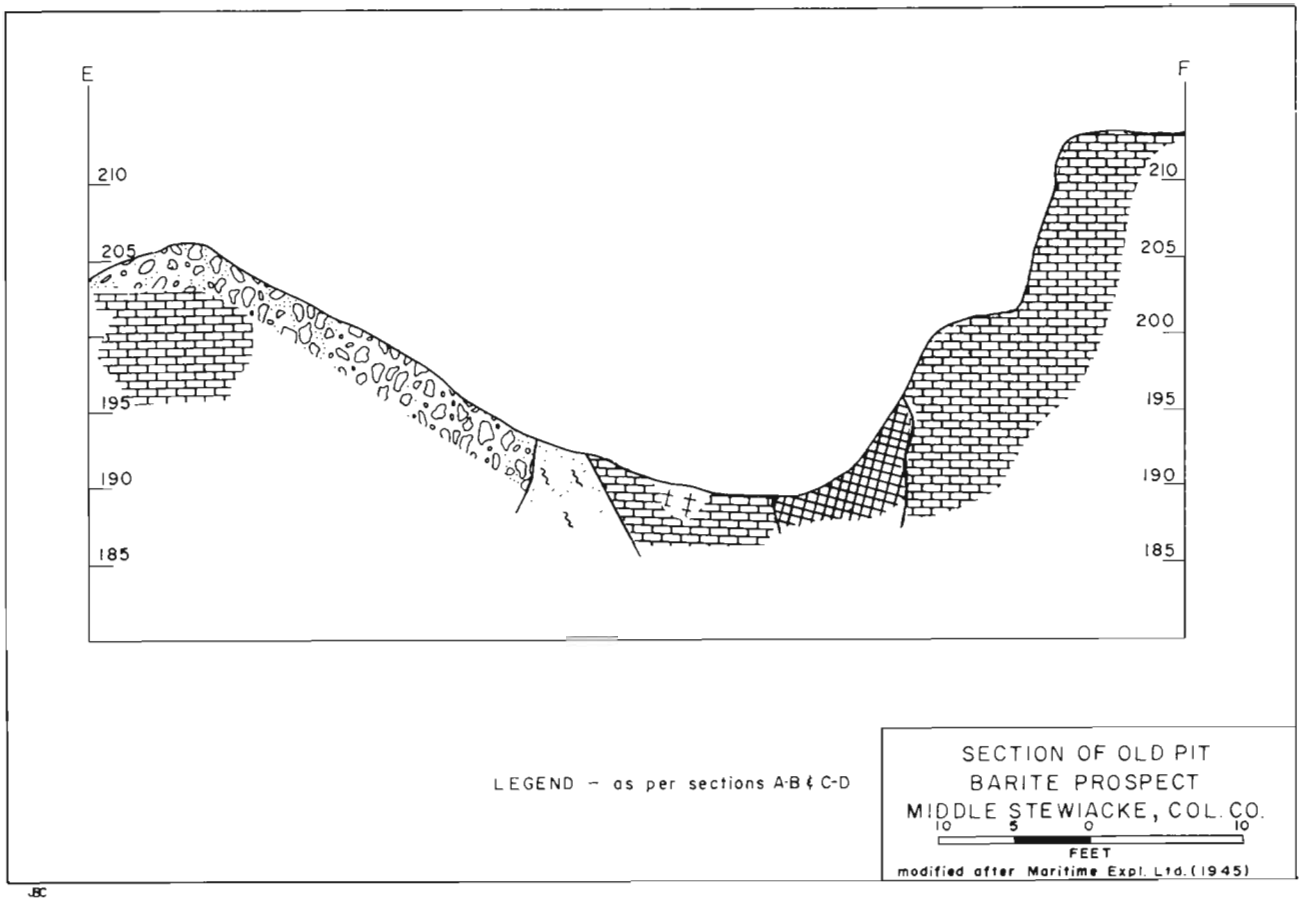
Grab samples were collected from the dumps, the mineralized zones, the limestone and limestone breccia host rock, and the arkosic sandstone, and submitted for chemical analysis. The analytical results are found below and in appendix III, and the sample locations are indicated on Figure 59.

Rock Type	Sample No.	Per cent			ppm		
		$BaSO_4$	$SrSO_4$	F	Cu	Pb	Zn
Barite	BC-74-62	96.07	1.78	.03	20	20	20
Barite	BC-74-63	88.51	1.95	.03	20	30	20
Barite	BC-74-64	96.55	1.71	.03	20	20	20
Barite	BC-74-65	93.98	2.44	.03	20	20	10
Baritiferous Limestone	BC-74-66	22.75	.42	.04	50	60	30
Barite	BC-74-67	40.03	.69	.04	10	50	10
Barite	BC-74-68	91.20	2.01	.03	10	10	10



SECTION A-B & C-D

Figure 60



Section E - F

Figure 61

Arkosic Sandstone	E03-5000	.29	.05	.03	30	50	10
Limestone	E03-5001	.08	.03	.05	50	120	50
Limestone	E03-5002	.10	.03	.04	10	130	20
Barite	E03-5003	84.40	1.76	.04	10	40	10
Barite	E03-5004	95.15	1.75	.04	10	20	10

Although this deposit occurs along the same Horton-Windsor contact as the Walton, Upper Brookfield, Hilden and Smithfield occurrences and displays obvious similarities, there are some distinct differences. These differences are as follows:

(a) siderite is associated with the Hilden, Upper Brookfield and Walton barite deposits, but not at this one;
(b) sulphides are present in the Walton and Hilden deposits, but were not observed at this deposit; and
(c) this deposit is considerably smaller than both the Walton and Brookfield deposits.

Some striking similarities include:

(a) the cryptocrystalline nature of the barite;
(b) the fact that the pale green calcite cutting the barite is identical to that cutting the barite at Hilden;
(c) the hematite and graphite impurities account for some of the distinct colourations imparted to the barite at Walton and Upper Brookfield as well as this deposit; and
(d) folding and faulting played an important role in localizing the ore minerals at all these deposits.

A deep diamond-drill hole below the barite in the open cut might be called for to determine whether or not the occurrence continues with depth and if there are any sulphides beneath the barite.

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(21) SMITHFIELD

U.T.M.G. - N-501272
E-49408

N.T.S. - 11E/6A (1:50,000)

This prospect is situated at Smithfield, approximately 2.3 miles north of Highway 289, and three miles east of the intersection at Middle Stewiacke (Fig. 63, 64, and 64-A).

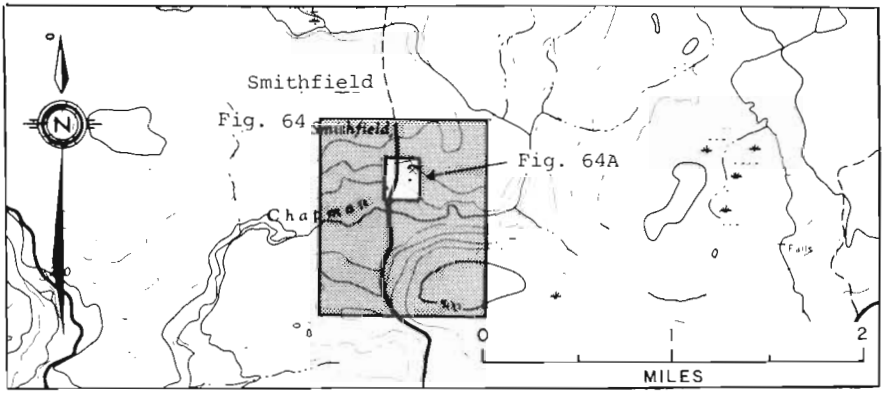

Figure 63

The following extract from G.S.C. Memoir 297 (p. 94 and 95) by I. M. Stevenson (1958) outlines the deposit's history as a lead prospect up until 1951:

> "Intermittent development was carried out on the property during the period 1881 to 1884. Shafts Nos. 1 and 2 were sunk, and a small smelter was erected for extracting the lead from the galena. In 1884 about 300 tons of ore were treated.
>
> "The property was then closed down until the winter of 1894-95, when three diamond drill-holes were put down and shafts Nos. 3 and 4 were sunk. Metallurgical difficulties could not be overcome, and the property became inactive shortly thereafter. Total production is not known, but it amounted to only a few hundred tons.

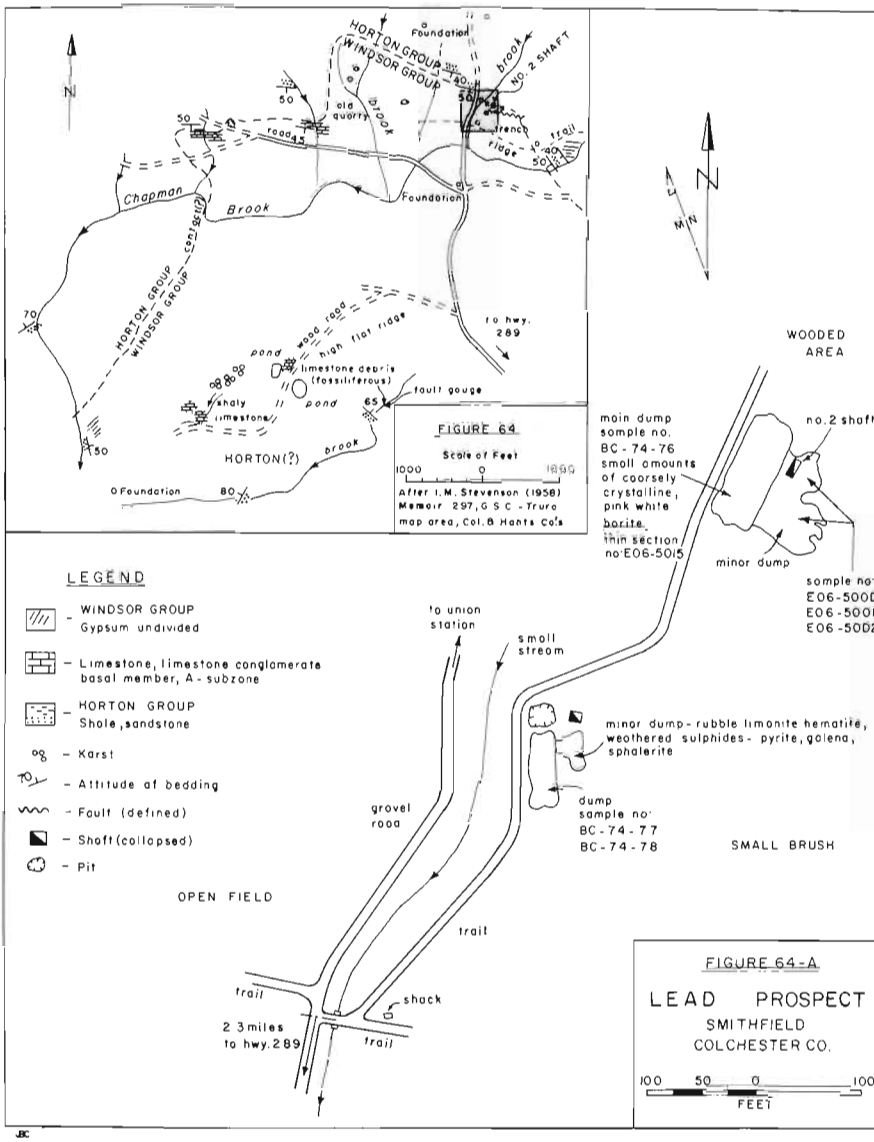

Figure 64 and 64-A

"The next work was carried out during the period 1925-27, when a company called the Leadville Mining Company was formed to explore the property's possibilities. In 1926 the task of dewatering the workings was undertaken to determine the extent and grade of the ore.

"In 1927 the property was optioned to British Metals Corporation of Canada Limited, who carried out development work from January to July of that year. They deepened No. 2 shaft from 50 to 115 feet, did some drifting, cross-cutting, sampling, etc., but no production is recorded.

"The property remained inactive until 1945, when it was taken under option by Maritime Barytes Limited. This company did no underground work, but carried out a surface examination of the property and surrounding district.

"Early in 1951, Minda-Scotia Mines Limited began a systematic surface and underground investigation of the property, which entailed an extensive diamond-drilling program accompanied by resistivity and potentiometer surveys. The examination of the deposit was carried on throughout the summer, and approximately 40 holes were drilled in the vicinity of the shafts. An orebody, 500 feet long, containing about 550,000 tons of ore with a tenor of about 6% combined lead and zinc was reportedly outlined.

"Some biogeochemical work was done in the neighbourhood of the main showing, but this work was too limited in scope to be of much value.

"Late in 1951 the company began sinking a three compartment shaft, which eventually reached a depth of 250 feet. At the 200-foot level a drift was driven into the ore zone for a distance of about 180 feet east and 360 feet west of the shaft.

"At this time operations of the deposit were suspended, and the property was offered for sale."

Canadian Aero Mineral Surveys conducted an induced polarization survey over the area for A.C.A. Howe International Ltd. in 1966. This work delineated an anomalous zone that corresponded to the known sulphide deposit.

There is no outcrop in the immediate vicinity of the shafts; therefore, the showing could not be examined in situ. At present, all the shafts are partially caved, or filled with water, thereby making them inaccessible. Consequently, all that could be examined by the writer were specimens of barite bearing ore collected from the dumps. Barite is present as a gangue mineral at this prospect, with the major minerals being siderite, ankerite, pyrite, galena and calcite.

The following description of the minerals and geology of this deposit is given by I. M. Stevenson (1958), in an extract from G.S.C. Memoir 297 (p. 95-98):

> "The deposit is located at the east end of a long intervale formed by Smithfield River. This river flows for some distance just south of the contact where the limestone and gypsum of lower Windsor age have provided less resistance to erosion than did the sandstones and shales of Horton age that form a series of hills north of the river. The river swings south a short distance west of the property and flows southward into Stewiacke River. A long, flat-topped ridge, heavily covered by drift, lies south of and parallel with the intervale. Several boulders of fossiliferous limestone, of probable lower Windsor age, were found near the top of the ridge. Karst sink holes in the vicinity of the limestone debris are indicative of underlying beds of limestone or gypsum or both.
>
> "The Horton-Windsor contact crosses Smithfield River about 1,000 feet southeast of the workings, but the precise location of the contact could not be determined. Horton shales and sandstones are well exposed for over a mile upriver from this point.
>
> "The overburden in the vicinity of the shafts varies from 50 to over 300 feet in depth, gradually decreasing to the north. Heavy fluviatile deposits of sand and gravel are found to the south and west along the river intervale.
>
> "The lead-zinc mineralization occurs in the Windsor basal limestone and limestone conglomerate, which in this region disconformably overlies the Horton shales and sandstones. There are no outcrops of the limestone in the immediate vicinity of the

mine workings, but Horton shales and sandstones are exposed on the road about 300 feet north of the deposit.

"The first limestone outcrop, going northwest from the mine, is met with at 1,800 feet; from this point the limestone makes a 90-degree swing to the south and is again exposed in a small abandoned quarry 2,500 feet west of the mine. The limestone in the quarry consists of thinly bedded, blue-grey limestone striking west and dipping 40 degrees south. The rock is joined and cut by seams of calcite, and is similar in appearance to the basal Windsor limestone known as the Macumber formation, which is exposed elsewhere in the Truro area along the Horton-Windsor contact.

"The contact between the Horton sandstones and Macumber limestone is well exposed 1,200 feet west of the quarry. There platy, laminated grey limestone lies with apparent disconformity upon red and grey Horton sandstones that strike west and dip 50 degrees south. From this point the contact swings sharply south and crosses Smithfield River.

"The strike of the line of shafts that have been sunk on the property is parallel to the strike of the Horton-Windsor contact in the vicinity of the mine. It is assumed that the ore zone is following the strike of the contact and therefore the strike of the bed of basal limestone.

"The mineral deposit is not exposed at the surface; the following information has been derived mainly from drill-core records and an examination of a limited number of drill-core specimens.

"The lead-zinc mineral deposit occurs in a limestone bed that lies at the base of the lower Windsor. The limestone lies disconformably upon beds of red sandstones and shales of Horton age. The sandstone has been replaced by a large pyrite body with low zinc content in the vicinity of the main orebody. Prior to deposition of the lead and zinc, the limestone was also mineralized with pyrite.

"The Horton-Windsor contact trends in a northwestern direction across the property, and dips to

the southeast with angles ranging from 40 to 75 degrees. Considerable faulting movements have occurred along the contact, and the ore-bearing limestone immediately overlying the Horton has been highly brecciated. The presence of a major fault, striking south 55 degrees east magnetic, and dipping northeast at about 65 degrees has been proved by diamond drilling. If projected upward along the dip, the fault trace would reach the surface at a point 735 feet from the road bridge, on a bearing of north 72 degrees east magnetic. At present the northeast and southwest limits of the faults are unknown. Both pre- and post-mineralization fault breccia indicate several periods of faulting.

"An examination of ore specimens from the dump indicates that pyrite is the most abundant mineral and is associated with the galena. Specimens were examined consisting of alternate bands of pyrite and galena, each band being about one-quarter inch thick. A minor amount of barite is present. Minerals observed in the dump specimens were pyrite, galena, calcite, quartz, arsenopyrite, chalcopyrite, sphalerite, malachite, and azurite.

"Several polished sections examined microscopically showed the sequence of mineral deposition to be as follows, from oldest to youngest:

chert and quartz
pyrite-marcasite
calcite
sphalerite
galena
barite
calcite
sphalerite and galena.

"The true relationship between the pyrite and marcasite could not be determined from the limited number of specimens available. The marcasite appears to have originated from zonal alteration of the pyrite, and is thought to be an alteration product of the latter mineral.

"The ore is probably of hydrothermal origin. Following pyritization of the limestone, faulting movements brecciated many of the limestone beds,

thereby providing channelways for the ascending hydrothermal solutions which carried the gangue minerals and metals. The ore formed both by replacement and cavity-filling processes. The presence of cockade banding, crustification, and fracture filling phenomena in polished sections indicates that cavity-filling predominated."

The barite examined by the writer in the dump specimens was found to be intergrown with siderite, ankerite, pyrite and calcite. The barite ranges in colour from cream-pink to cream-white and is generally coarsely crystalline. Grab samples of this material, the limestone host rock, the quartz arenite, and the shale country rock were taken from the dumps and submitted for chemical analysis. The locations of the dumps from where these specimens were collected is shown in Figure 64-A, and the analytical results are listed below and in appendix III.

Rock Type	Sample No.	Per cent			ppm		
		$BaSO_4$	$SrSO_4$	F	Cu	Pb	Zn
Siderite-ankerite, minor barite	BC-74-76	1.69	.11	.05	48	23	400
Baritiferous siderite-ankerite	BC-74-77	16.90	.30	.04	39	30	330
Limestone	BC-74-78	6.63	.21	.07	10	200	575
Quartz arenite	E06-5000	.04	.01	.03	10	30	10
Shale	E06-5001	.12	.00	.05	10	40	10
Limestone	E06-5002	.10	.19	.03	25	480	10

The exploratory work carried out to date indicates the barite to be present only in minor quanitities as a gangue mineral.

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(22) SOUTHVALE

U.T.M.G. - N - 500268
E - 49897

N.T.S. - 11E/3D (1:50,000)

This occurrence is situated on the west branch of Goshen Brook at Southvale. The prospect occurs in a small outcrop approximately 3 feet long and 2 feet high, on the north bank of the stream, just above stream level (Fig. 65).

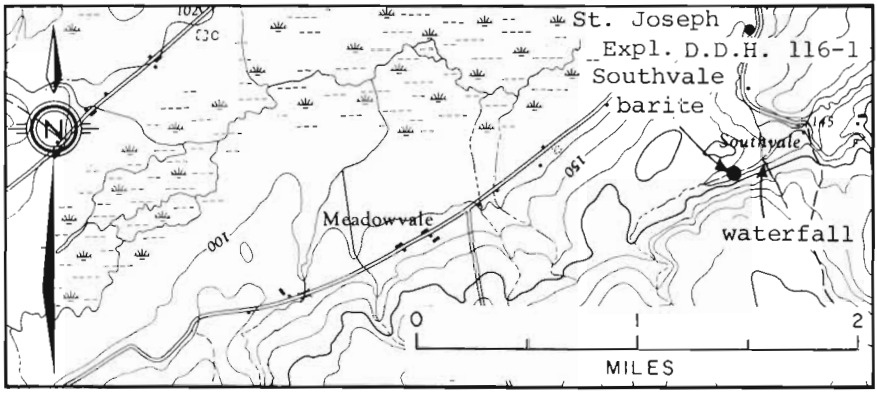

Figure 65

No exploration work has been conducted on this prospect, having been discovered in the spring of 1977 by Mr. Gerald Logan of Upper Stewiacke. The property is currently under option to National Lead Ltd. which is conducting a diamond drilling program to determine the extent of the deposit. The writer visited the prospect briefly during the 1977 field season.

The host rocks are carbonates of the basal Windsor Group which onlap the older steeply dipping slates and shales of the Halifax Formation. The slates and shales at this locality form the northwest limb of a northeasterly striking syncline. The Windsor Basin deepens rapidly towards the north and northwest as is indicated by St. Joseph Exploration drill hole no. 116-1, 3300 feet to the north of the barite showing, which at 826 feet was abandoned in anhydrite.

In Mississippian time the Halifax Formation in this region was present as a paleotopographic high in the Windsor Basin. Little tectonic deformation of the Windsor Group is evident in this area.

The mineralization appears to have been stratigraphically controlled, the deposit occurring as a bed 1.9 feet thick, directly underlain (conformably), by a grey, thinly laminated micritic dolomitic limestone which strikes 047° azimuth and dips 35° NW. In outcrop the contact between the barite bed and this dolomitic limestone unit is sharp. The upper contact of the barite bed is not visible, directly overlain by overburden, consequently the actual thickness of the barite bed may be much greater. The mineralization appears to be of the replacement type, suggested by the presence of fragments of dolomitic limestone within the barite (Fig. 66). The botryoidal texture and crest like forms of some of the barite however, indicates that some cavity filling took place. These cavities may have been induced by the ore bearing solutions. The unreplaced dolomitic limestone fragments in the barite are micritic, grey and nonfossiliferous - texturally and lithologically similar to the limestone underlying the barite. The presence of these fragments indicates that the original host rock must have been a breccia, and given the lack of tectonic activity in this section of the Windsor Basin, it quite likely was a solution collapse breccia.

The barite here is for the most part fine grained to cryptocrystalline, and white, grey-white, and grey in colour. The white variety is often spherulitic and botryoidal in habit (Fig. 67). Visual examination of the mineralized rock suggest that the $BaSO_4$ content to be between 75 and 90 per cent.

The geological features observed at this locality suggest that potentially a large, replacement type deposit may exist. Because this is the first such deposit found along this section of the Windsor Group-Meguma Group contact, it is highly possible that other such deposits will be discovered in a similar geological environment elsewhere in this region. A knowledge of the paleogeography will be essential in the success of future prospects in this area.

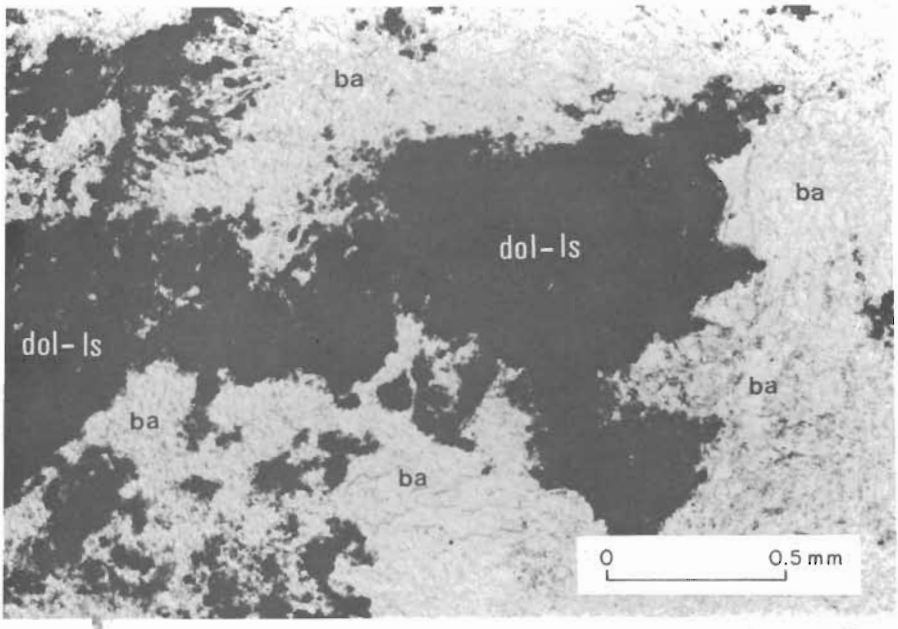

Figure 66 - Southvale. Barite replacing fine grained dolomitic limestone. Plane polorized light, ba - barite, dol-ls - dolomitic limestone.

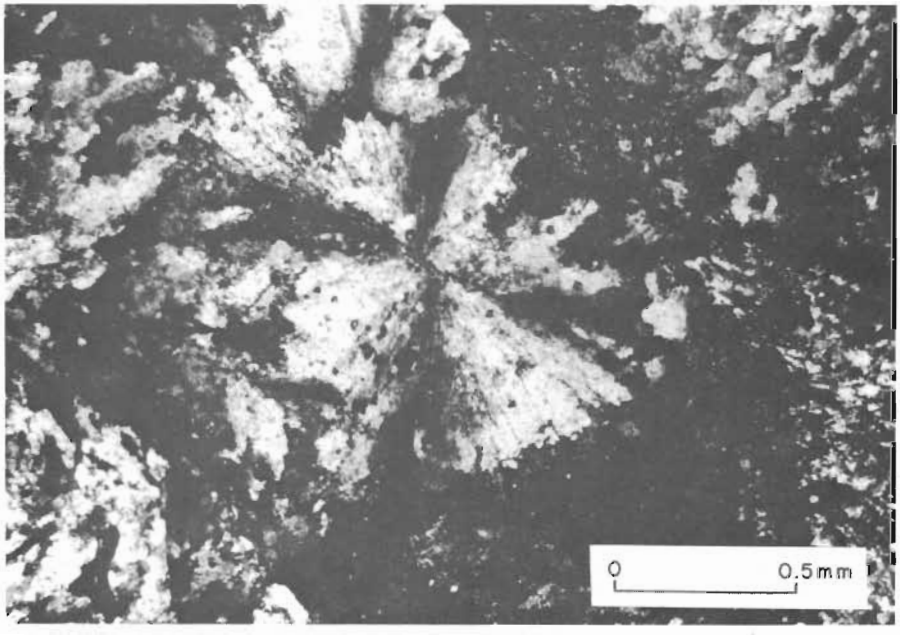

Figure 67 - Southvale. Barite spherulite. Note the pseudouniaxial radial extinction pattern in the barite grain in the center of the photo.

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(23) UPPER BROOKFIELD

U.T.M.G. - N-501284
E-48108

N.T.S. - 11E/6A (1:50,000)

This prospect is situated on the S. Nelson Farm, 3.1 miles east of Highway 2 at Brookfield. The occurrence appears as a conspicuous white outcrop forming the bluff of a hill on the north side of Little River. A steep talus slope of red shale and sandstone fragments cloaks the south side of the occurrence (Fig. 68, 69, and 70).

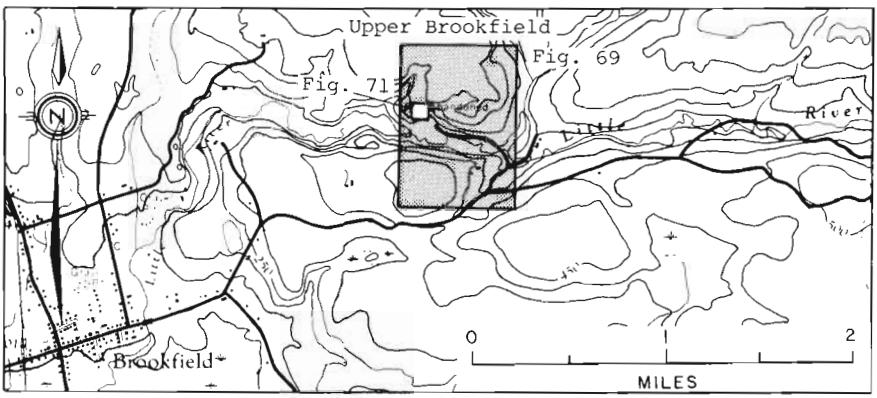


Figure 68

This deposit was first reported in 1868 by J. W. Dawson and then by Fletcher (1892), who indicated that some barite was removed from here. The occurrence again received attention in 1944 when Canadian Industrial Minerals Limited carried out a trenching program and drilled three diamond-drill holes totalling 417 feet.

From 1945 to 1948 Maritime Exploration undertook a year exploratory program which included geological mapping, trenching, investigations on ore beneficiation, and 625 feet of diamond drilling. The lease was subsequently dropped and picked up by Maritime Barytes Limited, who, between then and 1951 drilled an additional 28 holes totalling 6,155 feet. Their results delineated a mineralized zone of approximately 100,000 tons of 80 per

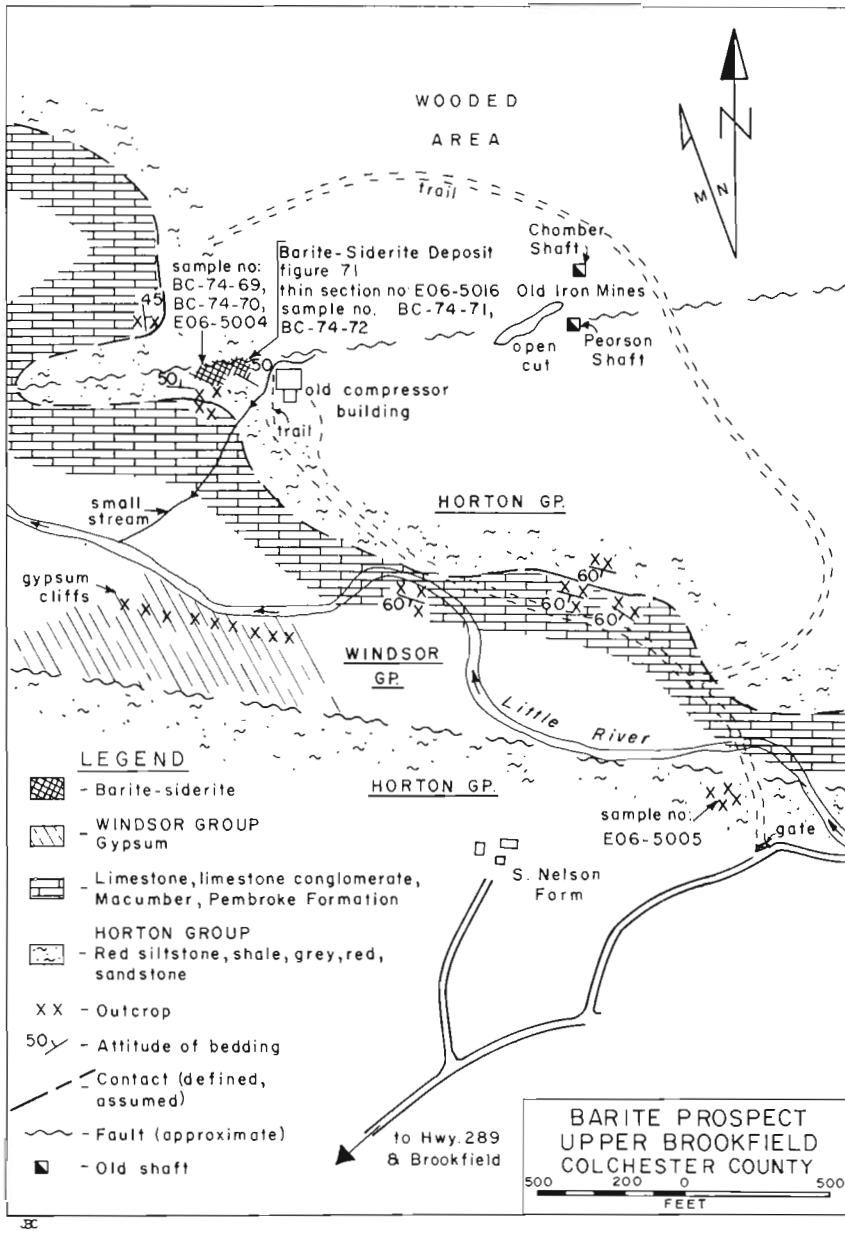

WOODED
AREA
trail
Chamber Shaft
Barite-Siderite Deposit
figure 71
thin section no E06-5016
sample no. BC-74-71,
BC-74-72
sample no:
BC-74-69,
BC-74-70,
E06-5004
Old Iron Mines
open cut
Pearson Shaft
old compressor building
trail
small stream
HORTON GP.
gypsum cliffs
WINDSOR GP.
Little River
HORTON GP.
sample no:
E06-5005
gate
S. Nelson Farm
to Hwy. 289 & Brookfield
N
LEGEND
- Barite-siderite
- WINDSOR GROUP Gypsum
- Limestone, limestone conglomerate, Macumber, Pembroke Formation
HORTON GROUP
- Red siltstone, shale, grey, red, sandstone
XX - Outcrop
50 - Attitude of bedding
- Contact (defined, assumed)
- Fault (approximate)
- Old shaft
BARITE PROSPECT
UPPER BROOKFIELD
COLCHESTER COUNTY
500 200 0 500
FEET

Figure 69

cent barite above groundwater level. Mining plans were then initiated and a concentrating plant constructed. The operation proved unsuccessful however, and the venture was abandoned in 1952.

Figure 70 - Upper Brookfield. Barite-siderite deposit forming the crest of the hill. Looking northwest.

This property did not again receive attention until 1957 when Magnet Cove Barium Corporation carried out a gravity survey and 684 feet of diamond drilling. The conclusions reduced the proven reserves to 62,000 tons of 50.4 per cent barite.

In 1963 Corporation Administrative Services Limited drilled four holes to test several resistivity anomalies in the hopes of discovering evidence of associated sulphide mineralization. Total drilling amounted to 1,371 feet. The anomalies are attributed to widespread graphite.

The latest reported attempt to increase the proven barite reserves was carried out by Cape Chemical Company Limited for Canada Cement Company Limited in 1970. Three diamond-drill holes totalling 221.6 feet were put

down, all of which intersected barite. No indication of tonnages outlined by this program were given in the reports.

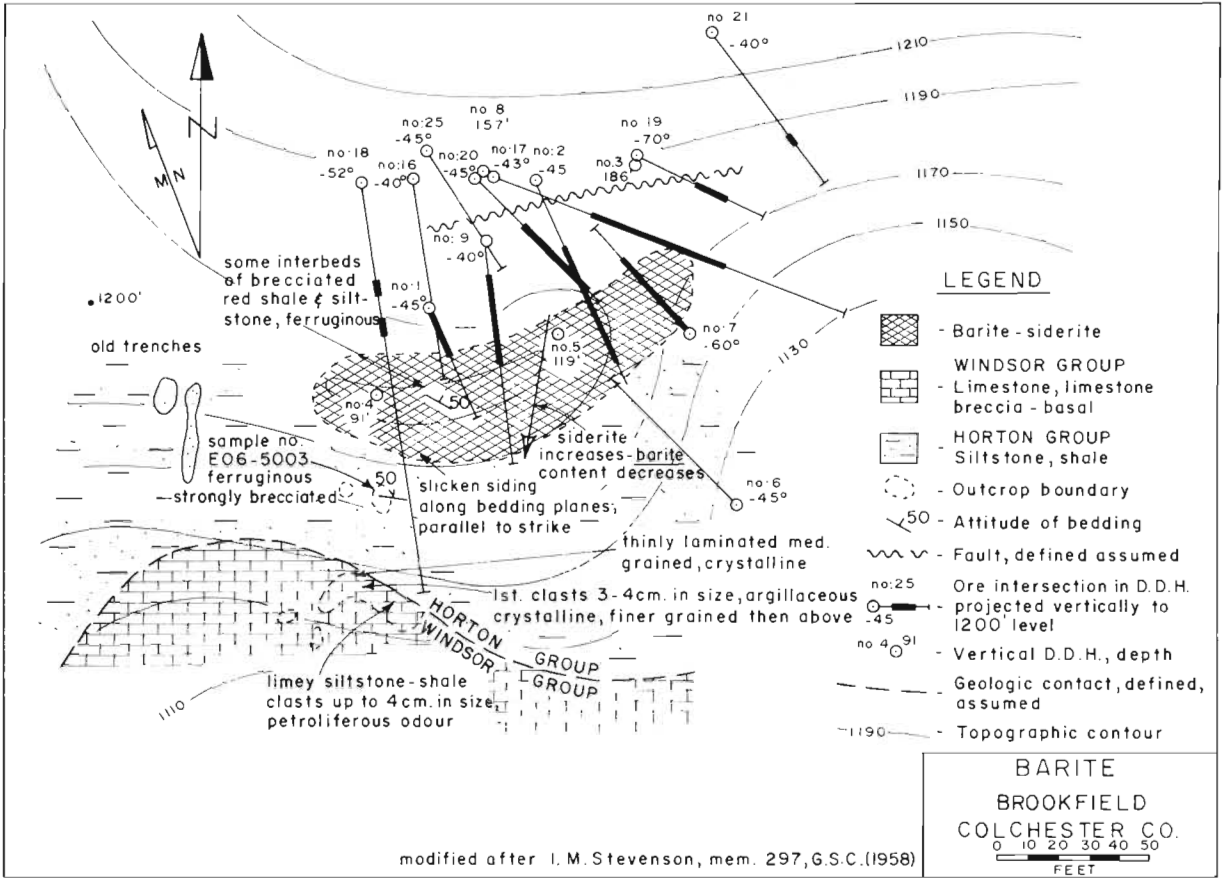
Due to the great amount of drilling undertaken on this prospect (9,473 feet total), not all of the drillhole information can be presented here. However, projections of a number of holes by Maritime Exploration Limited and Maritime Barytes Limited are shown in Figure 71 to illustrate the extent of the deposit. In addition to this, sections of drillholes 1 to 8 inclusive are shown in Figures 72 to 76.

Regionally, this occurrence is situated in terriginous clastic sedimentary rocks on the northeast contact of the Horton-Windsor Groups of the Minas Sub-basin. During late Carboniferous-early Permian time and late Triassic-early Jurassic time these rocks were strongly deformed as evidenced by numerous tight folds and high angle faults.

The barite is entirely hosted within shale, siltstone and sandstone of the Horton Group. It is a structurally controlled deposit with barite-siderite filling cavities produced by folding and faulting and also replacing brecciated zones. Replacement appears to have favoured the grey shale over the red shale and siltstone (Stevenson, 1958). The deposit occupies the crest of an easterly plunging fold and is bound on the northwest by a high angle fault striking 070° azimuth. Diamond-drill results to date indicate the barite body to be pipe-shaped, dipping northwest at 60°-65° and plunging east at 45°-50°.

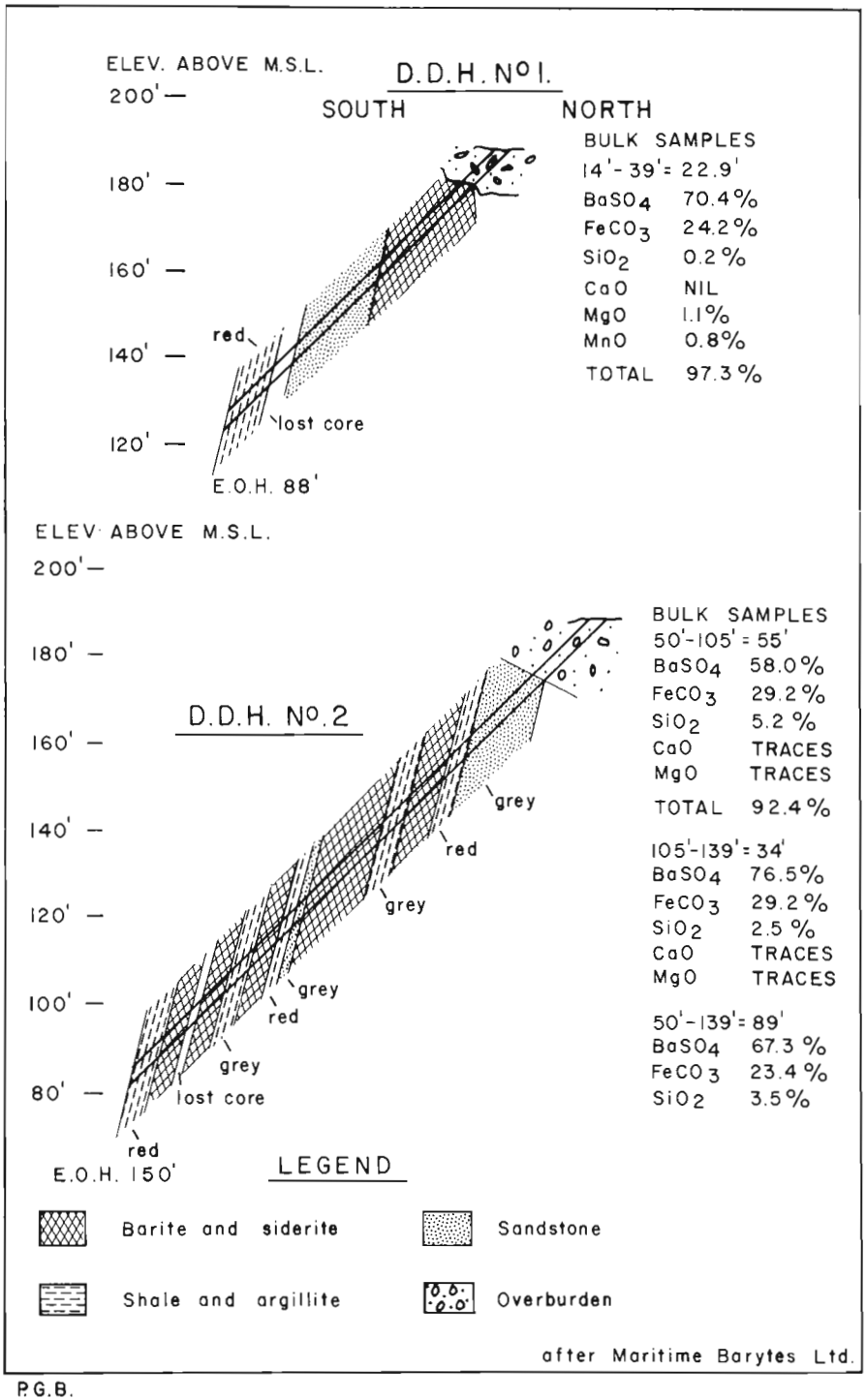
In outcrop, the deposit contains beds up to 12 inches thick of brecciated, ferruginous shale and siltstone which strike 120° Azimuth and dip 50° northeast. Pseudo-beds of coarse-grained barite-siderite are found intercalated with the siltstone, shale beds. The siderite content of the deposit increases in a southerly direction across the outcrop, and decreases at depth (Corporation Services Limited, 1963).

Limestone and limestone breccia of the Windsor Group are found to crop out near the base of the talus slope. The lowest limestone (stratigraphically) is medium-grained, crystalline, thinly laminated, and grey. It probably represents the basal limestone member of the Windsor Group in this area. The limestone then becomes finer grained but brecciated, with recemented limestone



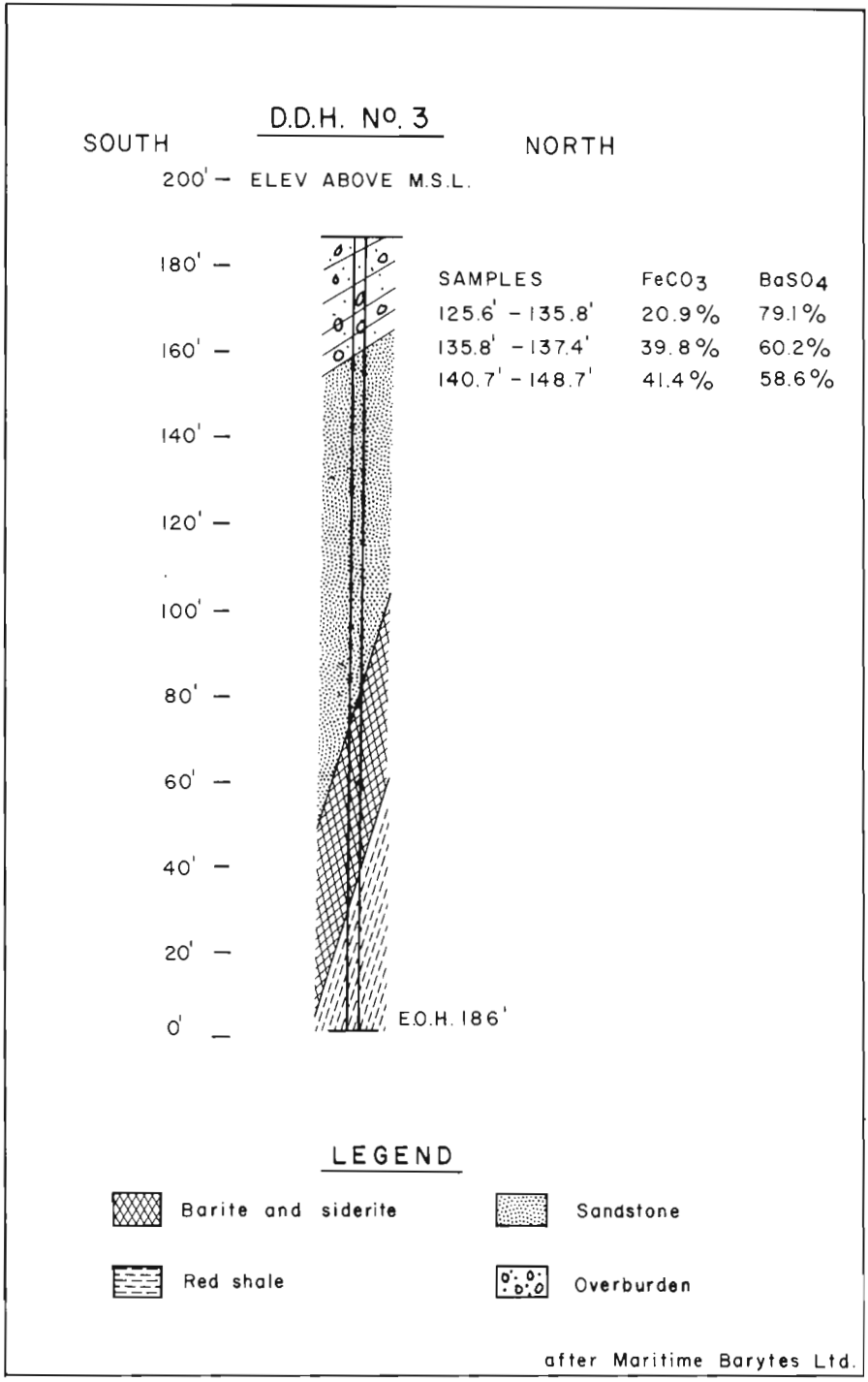
JBC

Figure 71



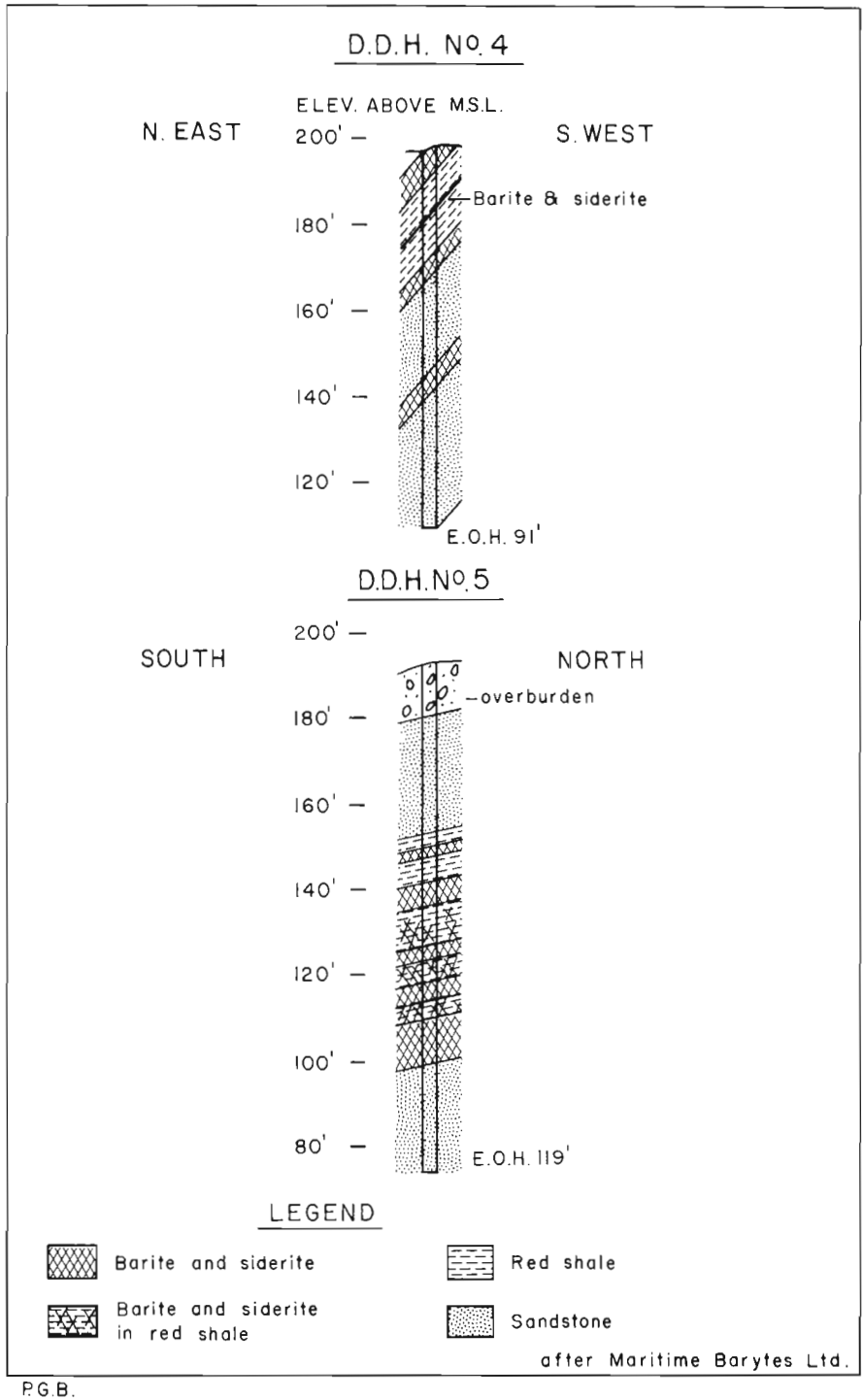
P.G.B.

Figure 72



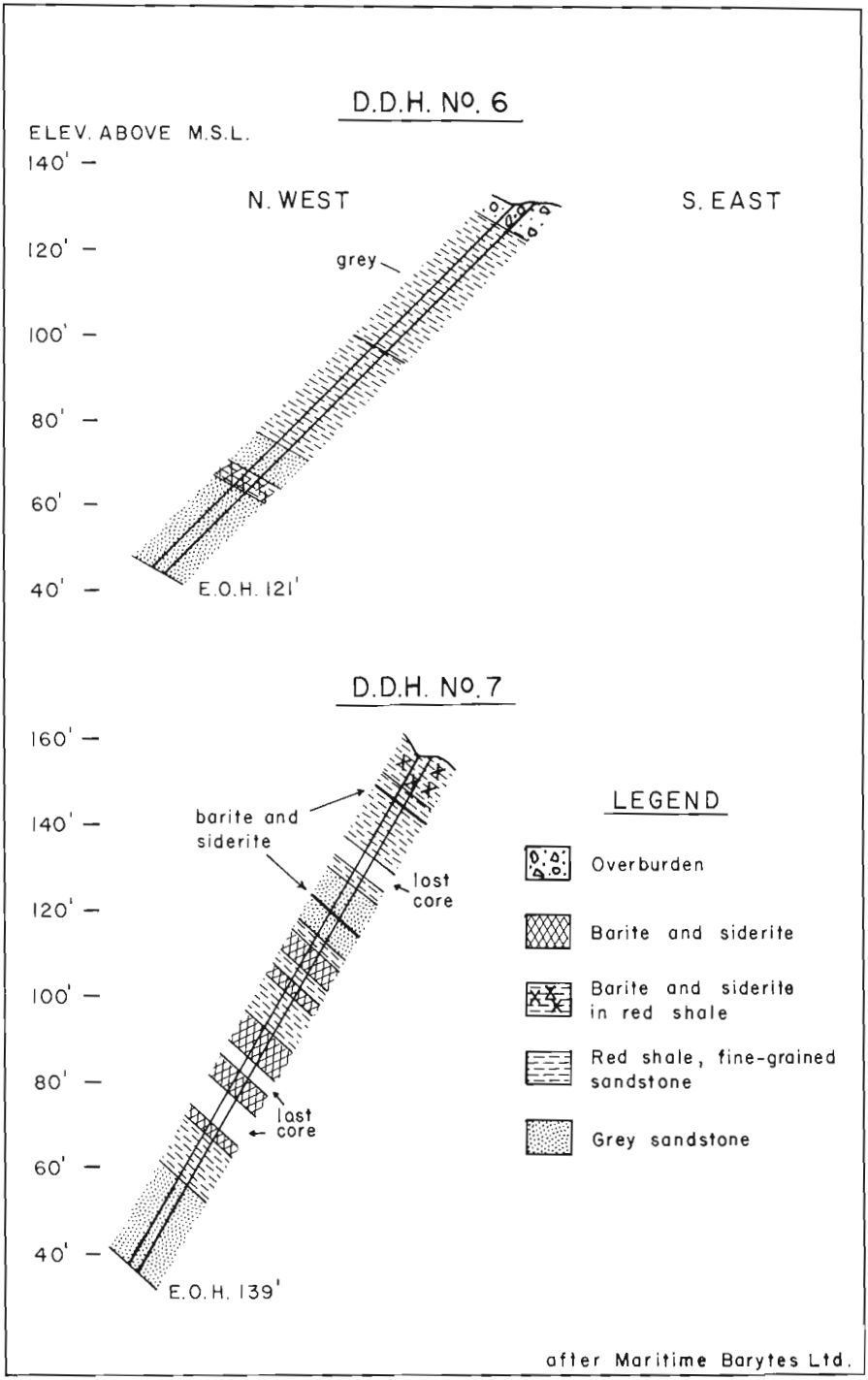
P.G.B.

Figure 73



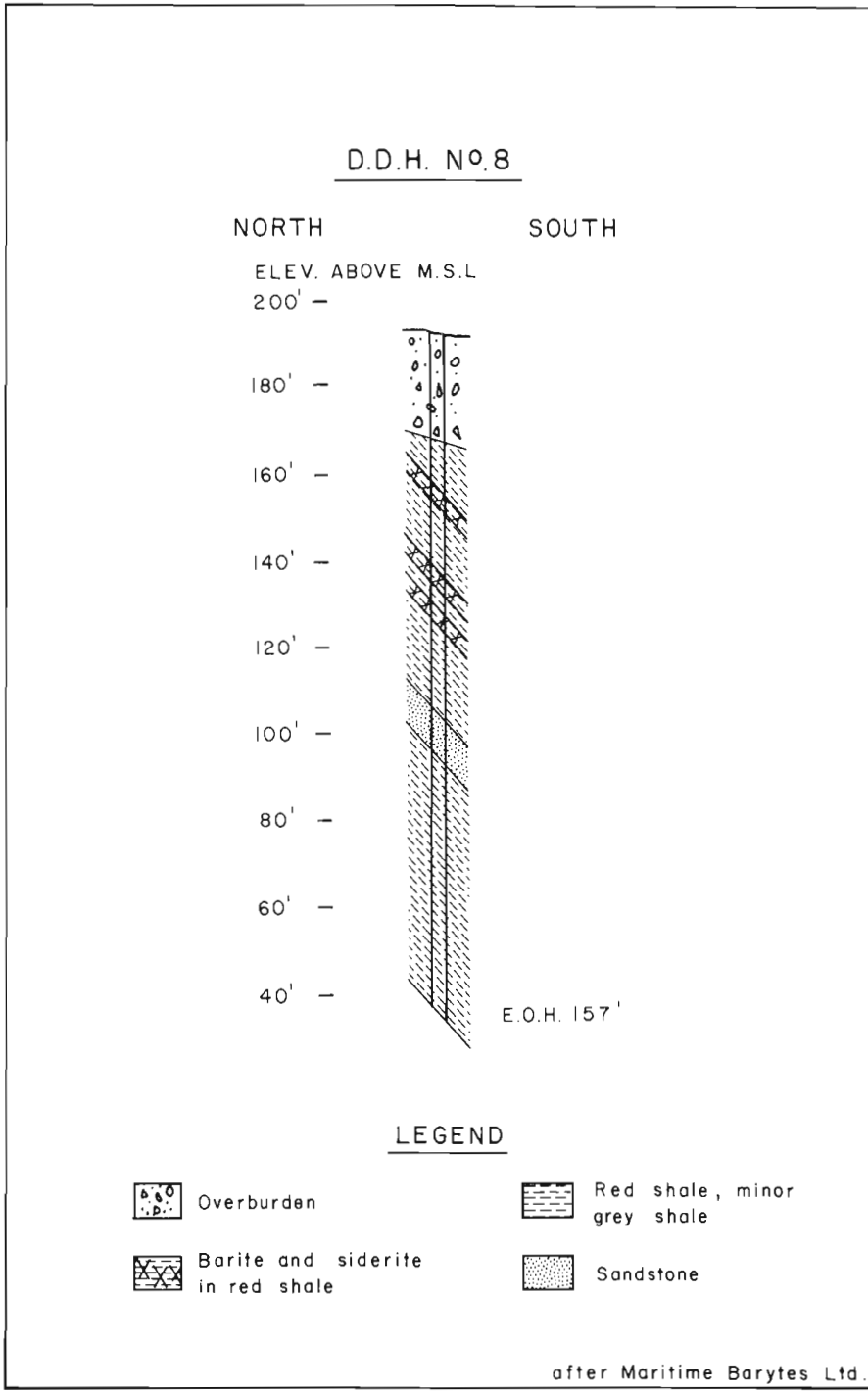
P.G.B.

Figure 74



P.G.B.

Figure 75



P.G.B.

Figure 76

clasts from 3-4 cm in size. This grades into a limestone breccia where the fragments become silty, shaly and ferruginous. Numerous small vugs are also present in the limestone breccia. When struck with a geopick this rock gives off a distinct petroliferous odour (Figure 71).

Further east along the fault, is a limonite-hematite deposit which was mined a number of years ago. The only limonite and hematite present in the barite-siderite deposit is that found on the outcrop surface as a weathering product of the siderite. Other minerals present are minor quartz and calcite.

Three stages of tectonism are recorded at this deposit:

(a) Pre-mineralization faulting, folding and brecciation which is indicated by the minerals replacing breccia, cementing breccia and filling fractures.

(b) Movement contemporaneous to mineralization evidenced by:

(i) bent and deformed aggregates of siderite, and

(ii) brecciated siderite cemented by fine-grained barite (Figure 77).

(c) Post-mineralization movement indicated by:

(i) slickensiding of the barite-siderite (Figure 78), and

(ii) small faults and brecciated zones noted in the barite-siderite near the southern contact with shale and siltstone.

Two varieties of barite occur here. In hand specimen, the first type is white, coarsely crystalline and with excellent orthorhombic cleavage often intergrown with brown siderite displaying rhombohedral cleavage (Fig. 79). This type of barite appears to be the most common. The second variety occurs in a number of colours - grey, grey-white, pale orange, grey-orange and in hand specimen is cryptocrystalline to medium-grained and sugary in texture. The colours are attributed to iron oxide and graphite impurities. This type of barite is often intimately associated with fine to medium-grained siderite; however, it also occurs as the cement in

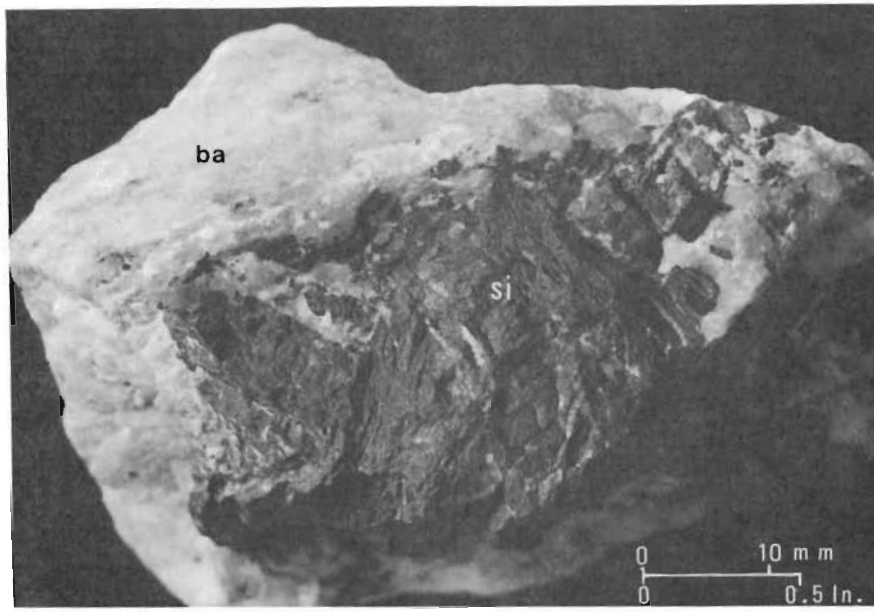


Figure 77 - Upper Brookfield. Brecciated aggregate of deformed coarsely crystalline siderite cemented with fine grained, sugary textured barite, ba - barite, si - siderite.

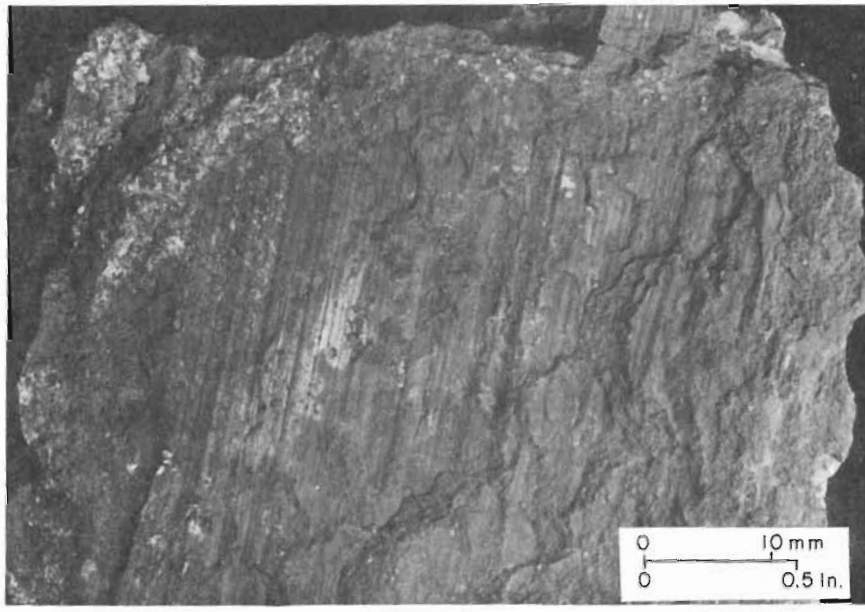


Figure 78 - Upper Brookfield. Slickensiding on barite-siderite ore.

brecciated coarse-grained siderite (Fig. 77). This would suggest at least two periods of barite mineralization.

Grab samples were collected from the mineralized zone, the host rock, and sandstone outcrops in the nearby vicinity of the deposit and submitted for chemical analysis. Sample locations are shown on Figures 69 and 71, and the analytical results are listed below and in appendix III.

Rock Type	Sample No.	Per cent			ppm		
		$BaSO_4$	$SrSO_4$	F	Cu	Pb	Zn
Barite, siltstone	BC-74-69	64.10	1.02	.03	10	10	10
Barite, siltstone	BC-74-70	71.20	.93	.03	16	70	14
Barite	BC-74-71	89.75	1.23	.03	10	13	14
Barite	BC-74-72	93.00	1.22	.03	7	7	7
Siltstone	E06-5003	.09	.18	.04	10	20	20
Micaceous quartz sandstone	E06-5004	.14	.17	.04	10	10	10
Quartz sandstone	E06-5005	.09	.14	.03	20	10	10

Although this deposit somewhat resembles the Walton deposit, i.e. a pipe-shaped mass in a fold-fault intersection at the Horton-Windsor contact, it differs in three respects:

(i) the smaller size of the Brookfield deposit,
(ii) the lack of any associated sulphide mineralization, and
(iii) the deposit's occurrence entirely in Horton Group sediments.

It is also interesting to note that the graphite and iron oxide impurities which impart distinctive colourations to the fine-grained barite are responsible for the same colourations in the Middle Stewiacke barite.

The areal extent of the mineralized zone has been reasonably well delineated, and indicates a deposit ranging in size between 60,000 and 100,000 tons. The easy accessibility to the deposit might make it of interest to a small operator if the economics were favourable.

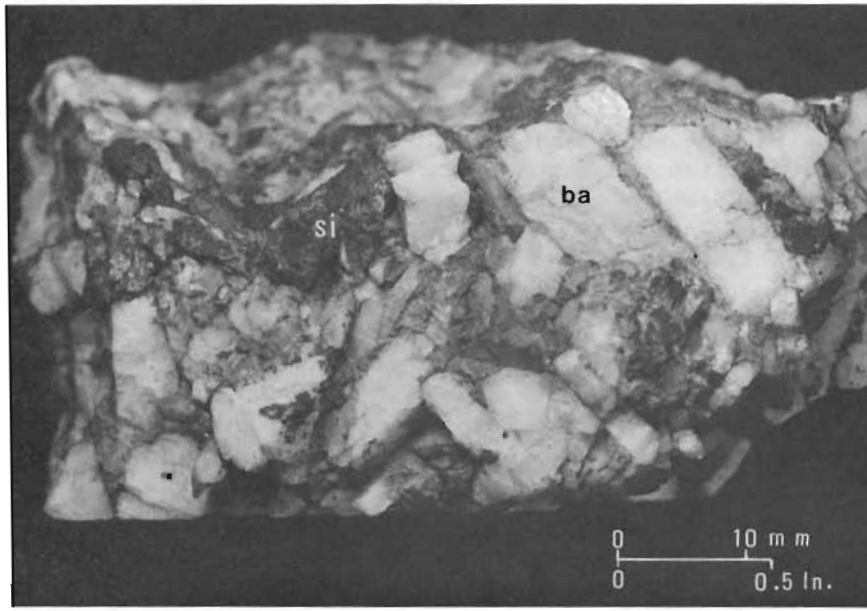


Figure 79 - Upper Brookfield. Barite intergrown with siderite. ba - barite, si - siderite.

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(24) URBANIA

U.T.M.G. - N-500532
E-46835

N.T.S. - 11E/3C (1:50,000)

The barite occurrence is found approximately 5.2 miles northeast of Stewiacke on the east bank of the Shubenacadie River, almost directly opposite the village of Urbania, Hants County. The outcrop is situated in the intertidal zone of the river hence it can only be observed at times of low tide (Fig. 80).

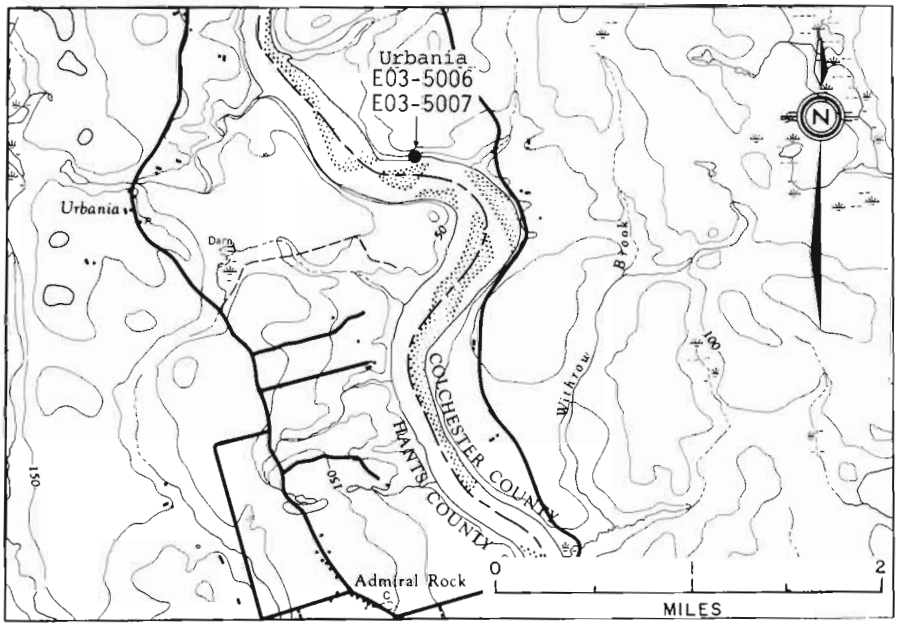

Figure 80

No exploratory work for barite has been conducted here although a number of companies have undertaken investigations in the surrounding area in a search for base metals.

The host rock is a very fine-grained, dense, grey, medium bedded, laminated, fossiliferous (brachiopods) limestone. This rock ranges in attitude from 050°/45° SE

to 045°/ 40° SE, attains a stratigraphic thickness of approximately 50 feet, and is known as the "Avon limestone member" of the D-subzone, Windsor Group (Early Carboniferous age). The host rock also shows numerous small, tight folds, particularly in the eastern portion of the outcrop.

The barite mineralization was structurally controlled, filling fractures with a maximum width of 1.8 inches. The thickest veins are restricted to the western portion of the outcrop, becoming thinner towards the east (or higher up in the stratigraphic column). The veins in the eastern portion of the outcrop are primarily calcite-filled. The attitudes of three representative barite veins are: 130°/vertical, 055°/42° NW, and 120°/85° NE. The calcite veins in the eastern portion of the outcrop are approximately 0.5 inch thick and generally strike 020° azimuth and dip 50° towards the northwest.

No replacement of the wall rock by barite was noted.

The barite found here varies in colour from pale white, semi-transparent to rusty, and is coarsely crystalline, with a tabular habit, often occurring in radiating sheaves (Fig. 81). The rusty colour is due to limonite staining. Minerals closely associated with the barite include calcite, hematite and limonite.

The hematite occurs in a rhombohedral habit producing pseudo-cubic crystals which are found encrusted on the barite crystal faces and as inclusions in calcite. The hematite is often altered to limonite. Two types of calcite are found:

(a) coarsely crystalline, recementing brecciated barite, and
(b) small, well developed crystals lining cavities.

Thus, the paragensis of these minerals appears to be:

(a) barite,
(b) calcite and minor hematite.

Grab samples were taken from the mineralized veins and the limestone host rock, and submitted for chemical analysis. Sample locations are shown on Figure 80 and the results of the chemical analyses are found below and in appendix III.

Rock Type	Sample No.	Per cent $BaSO_4$	Per cent $SrSO_4$	Per cent F	ppm Cu	ppm Pb	ppm Zn
Limestone	E03-5006	.03	.05	.04	10	10	20
Barite, calcite	E03-5007	69.10	1.45	.03	10	60	20

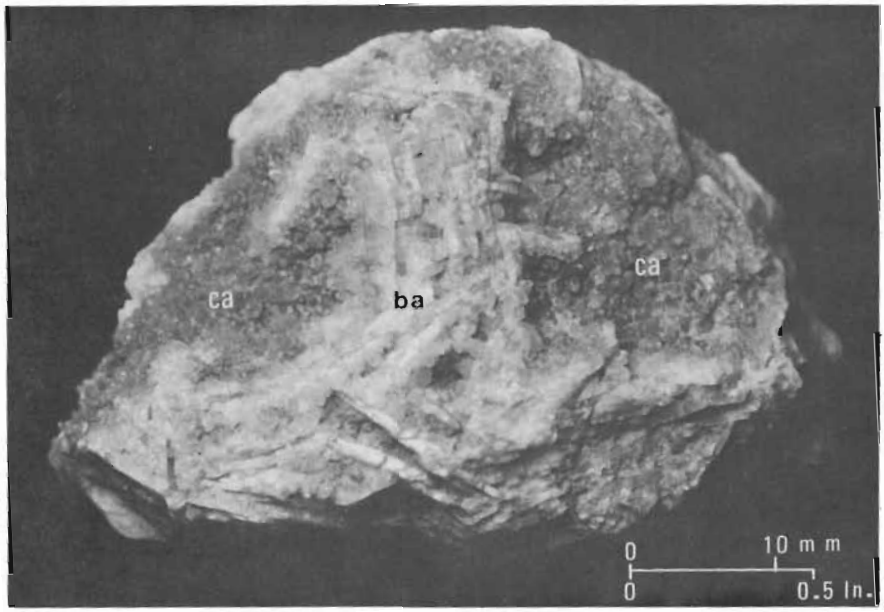

Figure 81 - Urbania. White, bladed barite intergrown with transparent, smoky calcite. ba - barite, ca - calcite.

It is interesting to note that this barite is one of two occurrences found to occur in Upper Windsor rocks of the Minas Sub-basin. In addition to this, while all the other barite occurrences in the Minas Sub-basin are situated at, or close to the contact of the Windsor Group with the Horton Group or older rocks, this showing is not.

The size and nature of this barite showing would necessarily preclude it as a potential prospect at the present time, however it serves to illustrate the potential of the Upper Windsor Group as a host to barite in this area.

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