(64) YANKEE LINE

U.T.M.G. - N-511110
E-66110

N.T.S. - 11K/2C (1:50,000)

The barite is found in situ in a road cut 0.45 mile southeast of Highway 19 at Lower Middle River (Fig. 183, and 184).

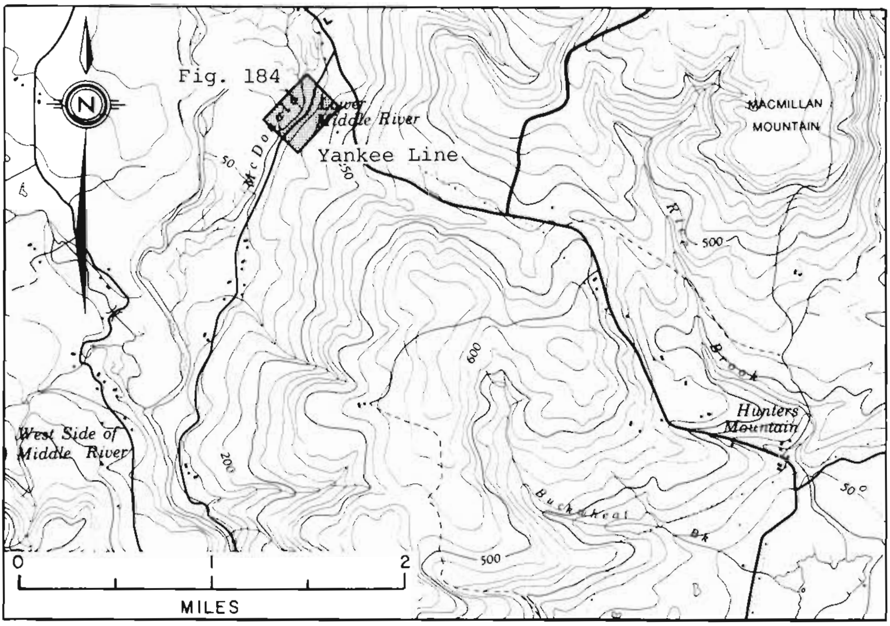

Figure 183

This occurrence was first reported in the literature by Jones and Covert (1972), who conducted surveys in the area for the Nova Scotia Department of Mines. Their work included geological mapping, geochemical sampling, geophysical surveys (Vibroseis Seismograph, VLF-Resistivity and magnetometer), and four diamond-drill holes totalling 1,297 feet. The most recent work undertaken here was by Getty Mines Ltd. (Bryant, 1975).

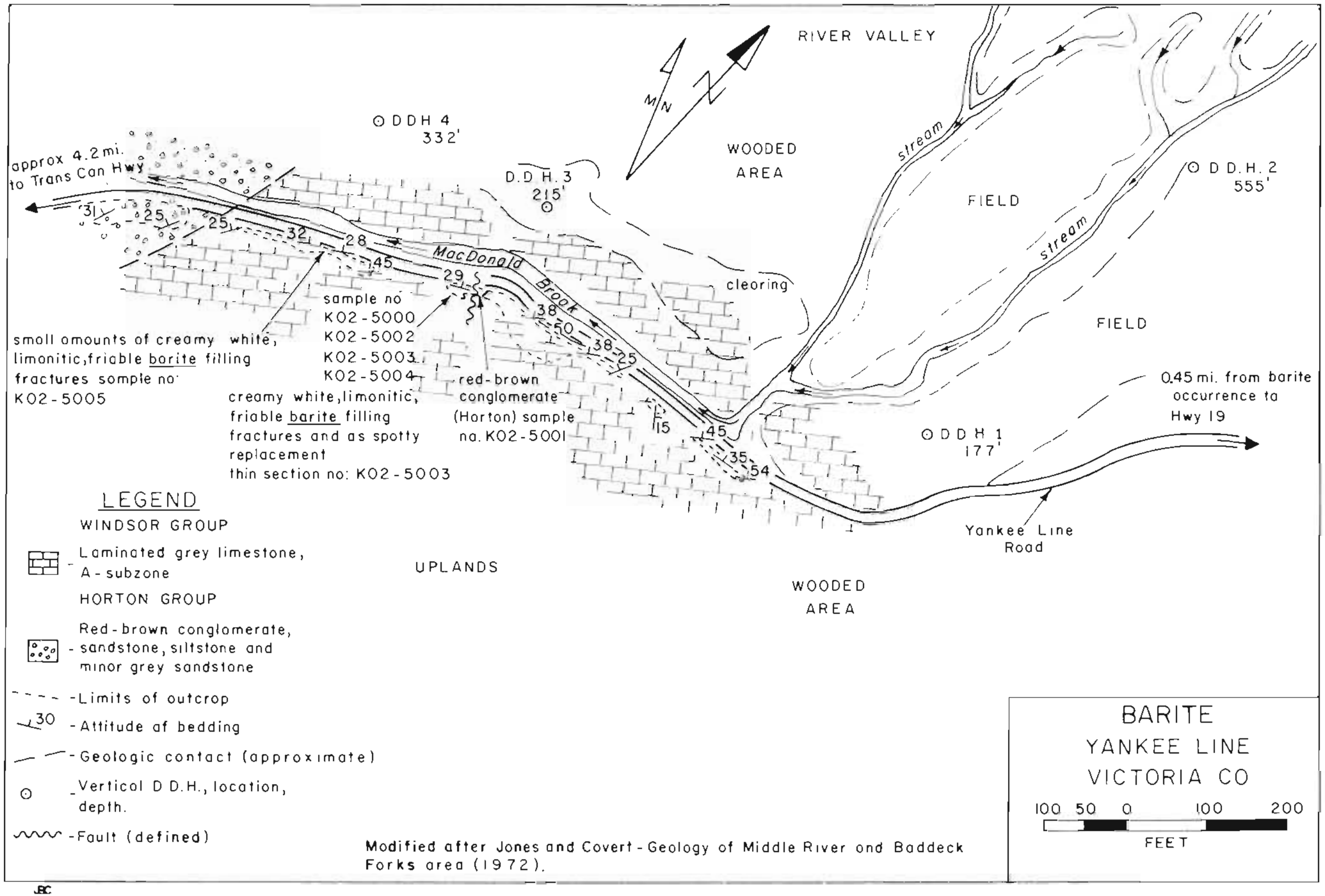
BARITE
YANKEE LINE
VICTORIA CO
100 50 0 100 200
FEET
RIVER VALLEY
M/N
WOODED AREA
FIELD
FIELD
stream
stream
O D D H 4 332'
D.D.H. 3 215'
O D.D.H. 2 555'
O D D H 1 177'
clearing
MacDonald Brook
approx 4.2 mi. to Trans Can Hwy
0.45 mi. from barite occurrence to Hwy 19
Yankee Line Road
UPLANDS
WOODED AREA
small amounts of creamy white, limonitic, friable barite filling fractures sample no: KO2-5005
sample no KO2-5000 KO2-5002 KO2-5003 KO2-5004
creamy white, limonitic, friable barite filling fractures and as spotty replacement thin section no: KO2-5003
red-brown conglomerate (Horton) sample no. KO2-5001
LEGEND
WINDSOR GROUP
- Laminated grey limestone, A-subzone
HORTON GROUP
- Red-brown conglomerate, sandstone, siltstone and minor grey sandstone
- Limits of outcrop
30 - Attitude of bedding
- Geologic contact (approximate)
- Vertical D D.H., location, depth.
- Fault (defined)
Modified after Jones and Covert - Geology of Middle River and Baddeck Forks area (1972).
JBC

Figure 184

The showing is situated in the Windsor Group which conformably overlies the Horton Group in this region. A major north trending fault which traverses the Horton Group to the east of the prospect also forms the boundary between the Windsor Group and the pre-Carboniferous rocks in the northeast. Other faults in the surrounding district strike northeast and northwest. The deformation evident in the Carboniferous rocks is primarily attributed to the Maritime Disturbance.

The host rock is a grey, fine-grained, thinly laminated limestone which generally strikes 063° and dips from 25° to 50° towards the northwest. This rock appears to attain a thickness of approximately 30 feet and forms part of the A-subzone of the Windsor Group in this area. This unit overlies the Ainslie Member (Horton Group), which is composed of red-brown conglomerate, sandstone, siltstone and minor grey sandstone. No barite was noted in the Horton rocks though minor malachite was observed as disseminations in a pebble conglomerate.

The mineralization was structurally controlled, with barite occupying a small fault zone and filling fractures closely related to the fault. Partial replacement of brecciated fragments of the host rock within the fault, as well as spotty replacement of the wall rock is suggested by small, isolated fragments of the host rock found within the barite crystals. The small areal extent of the outcrop exposure at the site of the occurrence, and the somewhat irregular nature of the vein made it impossible to obtain a vein orientation.

In hand specimen the barite is cream-white to pinkish cream in colour and is primarily coarse-grained and crystalline although some medium and fine-grained barite was also noted. Portions of the coarse-grained barite often display a bladed habit. Minerals closely associated with it (in order of decreasing abundance) include limonite, calcite, and hematite. The majority of the barite-bearing rock is strongly weathered, rendering it very friable.

In thin section (No. K02-5003), the mineralogical make up is 92 to 94 per cent barite, 2 to 3 per cent calcite, approximately 2 to 3 per cent detrital material (biotite, muscovite, minor quartz), and 1 per cent opaques (galena and iron oxides). However, this slide does not represent the petrological character of the majority of the deposit, which for the most part contains from 25 to

35 per cent weathered iron oxides rendering it too friable to make a thin section. The barite occurs primarily in large, equidimensional, anhedral grains though some euhedral grains were noted. These grains for the most part contain numerous small inclusions of biotite, muscovite, quartz and calcite, which are generally gathered together at the core of the barite grains. Often the inclusions are arranged in an orderly manner, closely resembling the orthorhombic habit inherent to barite (Fig. 185). This zoning possibly suggests disequilibrium in the mineralizing solution during the depositional process. The calcite is found as anhedral grains, and euhedral rhombs poikilitically enclosed within the barite grains. It is possible that some very fine grained calcite may be mixed in with the opaques and clay minerals found in the interstices among the barite grains.

The opaques (sulphides and iron oxides) are largely confined to the interstices separating the large barite grains. The micas, quartz, etc., occur both inside the barite grains and at the grain boundaries, with the opaques.

Grab samples were collected from the baritiferous zone, the copper-bearing rocks and the host rocks. The locations sampled are indicated in Figure 184, and the results of chemical analyses of the samples is listed below and in appendix III.

Rock Type	Sample No.	Per cent			ppm		
		$BaSO_4$	$SrSO_4$	F	Cu	Pb	Zn
Barite, limestone, minor galena	K02-5000	60.42	1.64	.04	50	4700	12
Red-brown conglomerate	K02-5001	.65	.04	.03	60	30	50
Baritiferous barite	K02-5002	32.70	.62	.04	30	570	40
Barite, limestone	K02-5003	78.00	1.93	.03	1030	140	130
Limestone	K02-5004	1.44	.17	.04	40	1250	50
Baritiferous limestone	K02-5005	36.12	.36	.03	40	650	70

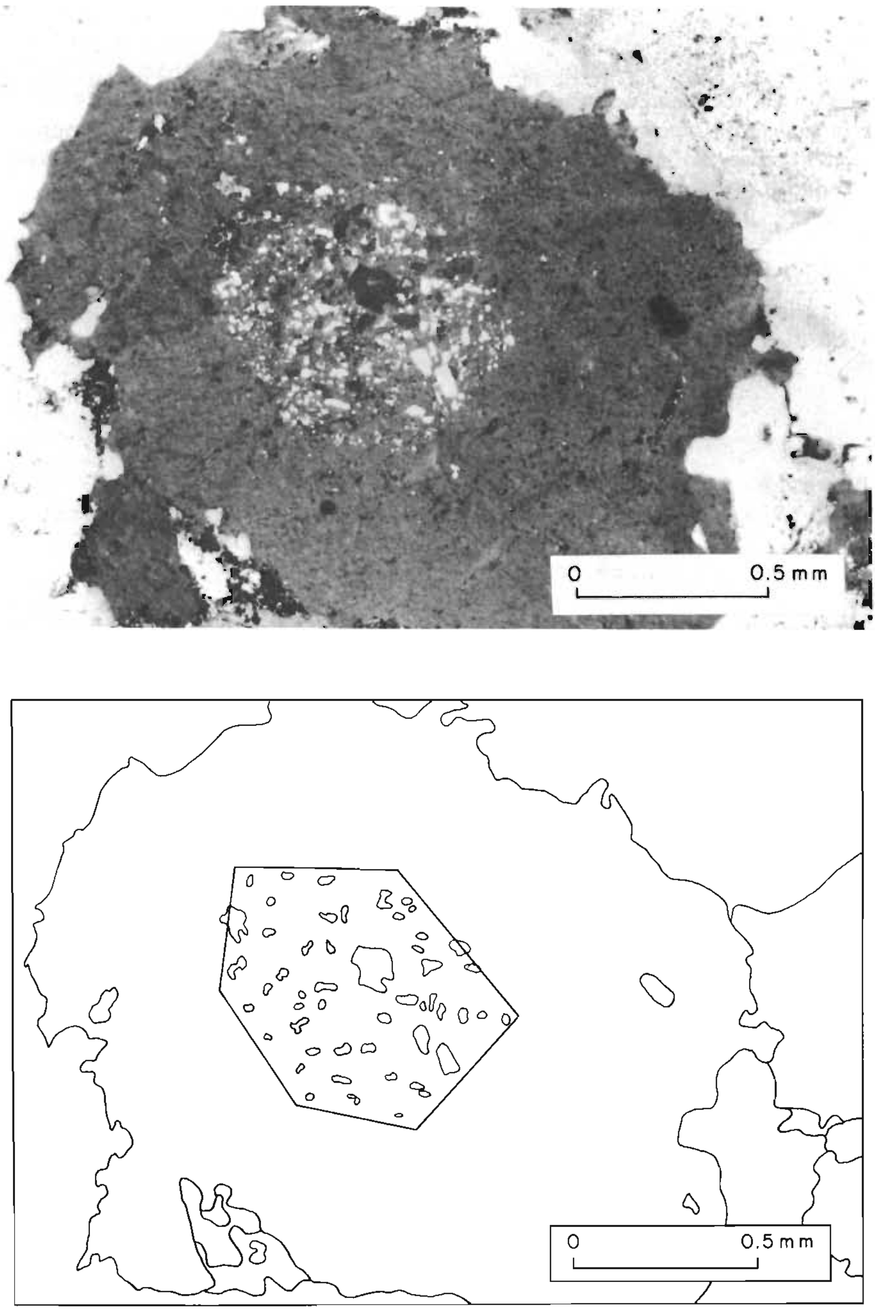

Figure 185 - Yankee Line. (a) Zoning of inclusions with barite grain, (note orthorhombic habit) suggesting disequilibrium in the mineralizing solution during the depositional process. Crossed Nicols. (b) Sketch of (a).

The presence of minor amounts of sulphides (galena) disseminated in the host rock makes this an interesting prospect and indicates that the Windsor Group limestones in the surrounding area should not be overlooked as a potential host for economic quantities of base metal as well as barite deposit.

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Occurrence	No	Style#	Occurrence	No	Style
Arisaig Point	1	A	Johnson Cove	38	A
Big Marsh	2	A	Leminster	39	A
Brierly Brook	3	A	Lower Burlington	40	A
Cape Blue	4	A	Vaughan-Leminster Road	41	A
Lakevale	5	A	Walton (proper)	42	A
McArras Brook	6	E	Wheaton Brook	43	A
McIssac Point	7	A	White Head	44	A
Benacadie Point	8	A	Finlay Point (Mill Brook)	45	B
Derby Point	9	A	Lake Ainslie deposits	46	A
Frenchvale Brook	10	E	Mabou Mines	47	B
Salmon River Road	11	F	Melford	48	A
Shenacadie	12	A	Presqu'ile - Corney Brook Area	49	A
Sydney River	13	E	Rear Judique South	50	A
Bass River	14	B	Nicholsville	51	A
Bass River of Five Islands	15	A	East River Point	52	A
East River of Five Islands	16	A	Forties Settlement	53	A
Hilden	17	C	Lower Canoe Lake	54	A
Londonderry	18	A	New Russell (Walker Prospect)	55	A
Lynn Road	19	A	Bridgeville	56	A
Middle Stewiacke	20	C	Glencoe Brook	57	A
Smithfield	21	A	Hodson	58	A
Southvale	22	D-F	Springville	59	A
Upper Brookfield	23	C	Welsford	60	A
Urbania	24	A	Detter Creek (McNabs Cove Area)	61	A
Beckwith	25	A	Pine Brook	62	F
Brookdale	26	A	Rear Black River	63	F
Malagash North Shore	27	A	Yankee Line	64	A
North Greenville	28	A	Upper Southwest Mabou	109	
Parrsboro	29	A	Calpo Quarry (Southside)	119	
South Brook	30	A	Lochaber Lake	120	
Spicer Cove	31	A	MacLean Showing (Ohio)	121	
Byers Brook	32	D,D	Little River (Brentwood)	123	
Lake Fletcher	33	A	Gays River	130	
Upper Tantallon	34	A	Pleasant Bay	132	
Cheverie	35	A	Melmerby Beach	134	
Feuchtwanger Property	36	A	Little Narrows (Jubilee Prospect)	136	
Goshen	37	A	Summerville Wharf	138	B
			Loch Lomond	139	F

- refer to Fig. 4 for style designation

+ - Walton Mine not described in text

Figure 200 - Barite, celestite and fluorite occurrences in Nova Scotia.

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