BULLETIN 31

PEAT RESOURCES OF MAINE

VOLUME 4: SOUTHERN AND WESTERN MAINE

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by

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DEPARTMENT OF CONSERVATION

Branch of Eastern Mineral Resources
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Bulletin 28 - Peat Resources of Maine, Volume 1: Aroostook County
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Bulletin 31 - Peat Resources of Maine, Volume 4: Southern and Western Maine
Bulletin 32 - Peat Resources of Maine, Volume 5: Washington County
Bulletin 33 - Peat Accumulation Rates in Selected Maine Peat Deposits
Bulletin 34 - Geochemistry of Selected Maine Peat Deposits
Bulletin 35 - Surface Vegetation of Selected Maine Peat Deposits
Bulletin 36 - Hydrology of the Great and Denbow Heaths of Eastern Maine

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INTRODUCTION

Peat is a light to dark brown or almost black residuum formed by the partial decay and disintegration of plants that grew in lakes, marshes, swamps, or damp places such as heaths. It may be fibrous matted material composed of mosses, ferns, grasses, rushes, reeds, sedges, and woody material from trees and shrubs; finely divided plants so decomposed that their biological identity has been lost; or nonfibrous, plastic, colloidal, and macerated material deposited at the bottom of lakes or other bodies of water. The U.S. Bureau of Mines classifies three general types of peat. Moss peat is material derived from moss; reed-sedge peat is material derived from the reed, sedge, shrub, and tree groups; and humus peat is material so decomposed that its botanical identity has been obscured and its further oxidation impeded. The American Society for Testing and Materials (ASTM) defines commercial-quality peat as only that peat which has an ash content of 25 percent or less (American Society for Testing and Materials, 1969). To avoid confusion with soil-science terminology, in this report sphagnum moss peat is equivalent to fibric peat, reed-sedge peat is equivalent to hemic herbaceous peat, and humus peat is equivalent to sapric peat (Olson et al., 1979).

Peat has been used for many years in agriculture and horticulture primarily because of its ability to retain many times its own weight in water. It has also been used as a domestic fuel for hundreds of years. More recently, peat has been used by nations such as Ireland and the Soviet Union to generate electricity. At the present time, virtually all of the peat harvested in the United States is used in agriculture and horticulture. However, in light of the increasing costs of traditional energy sources, peat is being more closely scrutinized as an alternate fuel source.

Recent estimates suggest that there are as many as 6,000 to 8,000 individual peat deposits in Maine covering a total land area of 500,000 to 750,000 acres. However, only some of these peat deposits have economic potential. The Maine Peat Resource Evaluation Program was developed to provide a more comprehensive analysis of the State's peat resources. Investigations were generally limited to deposits at least 80 acres in size containing a minimum thickness of 5 feet of commercial quality peat (peat with an ash content of less than 25%).

This report summarizes the work conducted in southern and western Maine under the Maine Peat Resource Evaluation Program. It includes sketch maps, cores, and laboratory analyses upon which estimates of the resources are based. These data may be utilized to more accurately assess the energy and agricultural potential of Maine's peatlands. Atlases covering the following areas are also available: Aroostook County; Penobscot County; Piscataquis and Somerset Counties; and Washington County.

THE MAINE PEAT RESOURCE EVALUATION PROGRAM

In July 1979, the Maine Office of Energy Resources, in conjunction with the Maine Geological Survey, began the Maine Peat Resource Evaluation Program. The Program, which was funded by the U.S. Department of Energy (DOE), was undertaken to determine the amount and location of fuel-grade peat in Maine. Similar DOE/State Peat Resource Evaluation Programs are also being carried out in thirteen other states, including Alaska, Michigan, Minnesota, North Carolina, and South Carolina, whose programs began in 1979. Alabama, Georgia, Florida, Louisiana, Massachusetts, New York, Rhode Island, and Wisconsin initiated programs in 1980 and 1981.

Research on the fuel potential of Maine's peat resources began early in the twentieth century. The first investigations were conducted by Bastin and Davis (1909) and Soper and Osbon (1922) of the U.S. Geological Survey. They were followed by Trefethen and Bradford (1944) of the Maine Geological Survey. The Maine Peat Resource Evaluation Program was designed to build upon the peat research and inventory conducted in Maine by the Maine and U.S. Geological Surveys in the 1970's (Cameron, 1975; Cameron and Massey, 1978; Cameron and Anderson, 1979).

Two hundred thirty three areas containing peat deposits were evaluated under the Program (Figure 1). During the first field season (1979), 56 areas in Aroostook, Penobscot, Piscataquis, and Washington Counties were investigated (Cameron and Anderson, 1980a, 1980b; Davis and Anderson, 1980). Fifty areas in Piscataquis, Somerset, Aroostook, Kennebec, and Waldo Counties were evaluated during the 1980 field season (Cameron and Mullen, 1982; Cameron et al., 1982). In 1981, research efforts were concentrated in the western and southern counties where 56 areas were surveyed (Cameron and Mullen, 1983), and in 1982, 50 areas in Washington and southern Aroostook Counties were evaluated (Cameron and Mullen, 1984). During a brief final field season in 1983, 21 areas in southern Penobscot County were investigated (Cameron, in preparation). The results on a county by county basis of the Maine Peat Resource Evaluation Program are shown in Table 1.

GEOLOGIC SETTING OF MAINE PEAT DEPOSITS

Maine is part of the Northern Appalachian Province. Its bedrock consists primarily of metamorphosed sedimentary and volcanic rocks which range in age from approximately 350 to 600 million years and are intruded by numerous bodies of granitic rock (Osberg et al., in press). Both the granite bodies and the metamorphic rocks have been subjected to several episodes of folding and faulting, as well as millions of years of weathering, which have resulted in rounded mountains and well-established drainage patterns.

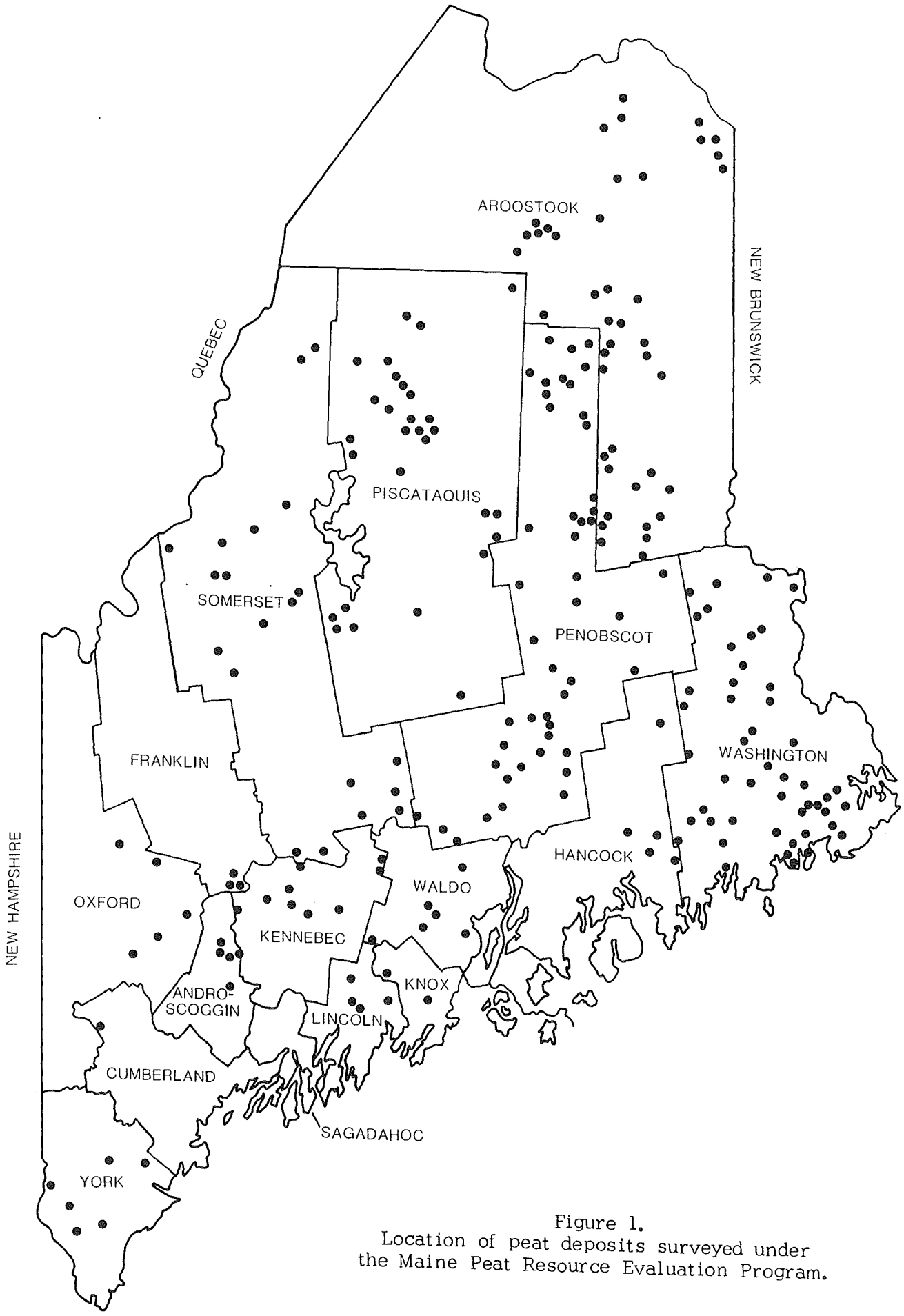

Figure 1.
Location of peat deposits surveyed under the Maine Peat Resource Evaluation Program.

Table 1. Results of the Maine Peat Resource Evaluation Program

COUNTY	NUMBER OF DEPOSITS SURVEYED	ACREAGE	ESTIMATED RESOURCES (AIR-DRIED SHORT TONS)
Androscoggin	4	1,160	2,383,000
Aroostook	43	11,498	18,851,400
Cumberland	1	200	400,000
Franklin	3	1,185	2,414,000
Hancock	5	1,338	2,559,200
Kennebec	8	2,010	4,260,000
Knox	2	227	447,000
Lincoln	4	402	776,200
Oxford	5	563	932,000
Penobscot	47	21,666	40,923,000
Piscataquis	29	5,896	8,311,200
Sagadahoc	0	--	----
Somerset	20	7,056	14,371,800
Waldo	8	2,893	4,835,800
Washington	48	14,988	32,114,800
York	6	1,875	2,923,000
TOTAL	233	72,957	136,502,400

Much of Maine's bedrock is covered by sediments deposited during the episodes of glaciation that occurred in the last hundred thousand years. Large continental glaciers (as opposed to small alpine glaciers found in mountain valleys) spread southward from Canada until much of northern North America was covered by a sheet of ice hundreds to thousands of feet thick. These ice sheets eroded the bedrock and deposited a blanket of clay, silt, sand, gravel, and boulders. As the last ice sheet retreated, much of southern Maine was submerged as the ocean inundated land that had been depressed by the weight of the great thickness of ice (see Figure 3). Between about 13,300 and 12,000 years ago (Stuiver and Borns, 1975), fossiliferous marine sand, silt, and clay were deposited on top of the bedrock and glacial sediments (Thompson and Borns, in press). The ocean gradually receded as the land surface slowly rebounded.

Erosion by glaciers and deposition of glacial and marine sediments significantly altered preglacial morphology and drainage, creating environments favorable for the formation of peat. Streams and rivers were slowed or dammed. Ponds and lakes formed in bedrock basins or in poorly drained depressions, particularly those underlain by glacial or marine silt and clay deposits. Where drainage was impaired, the accumulation of undecayed organic material was enhanced.

FORMATION OF PEAT DEPOSITS IN MAINE

The development of economically significant domed peat deposits typically found in Maine normally progresses through five phases. During the initial phase (Figure 2a), the remains of aquatic plants, such as algae and pond weeds, accumulate over inorganic bottom clay in a pond. When a sufficient thickness of organic material is reached, rooted plants including bulrushes and pond lilies begin to grow. Continued accumulation of aquatic plant remains eventually begins to divert waterflow (Figure 2b) and allow the growth of grasses, sedges, reeds and mosses. Remains of these marsh plants, primarily reed-sedge peat, gradually fill in the basin (Figure 2c).

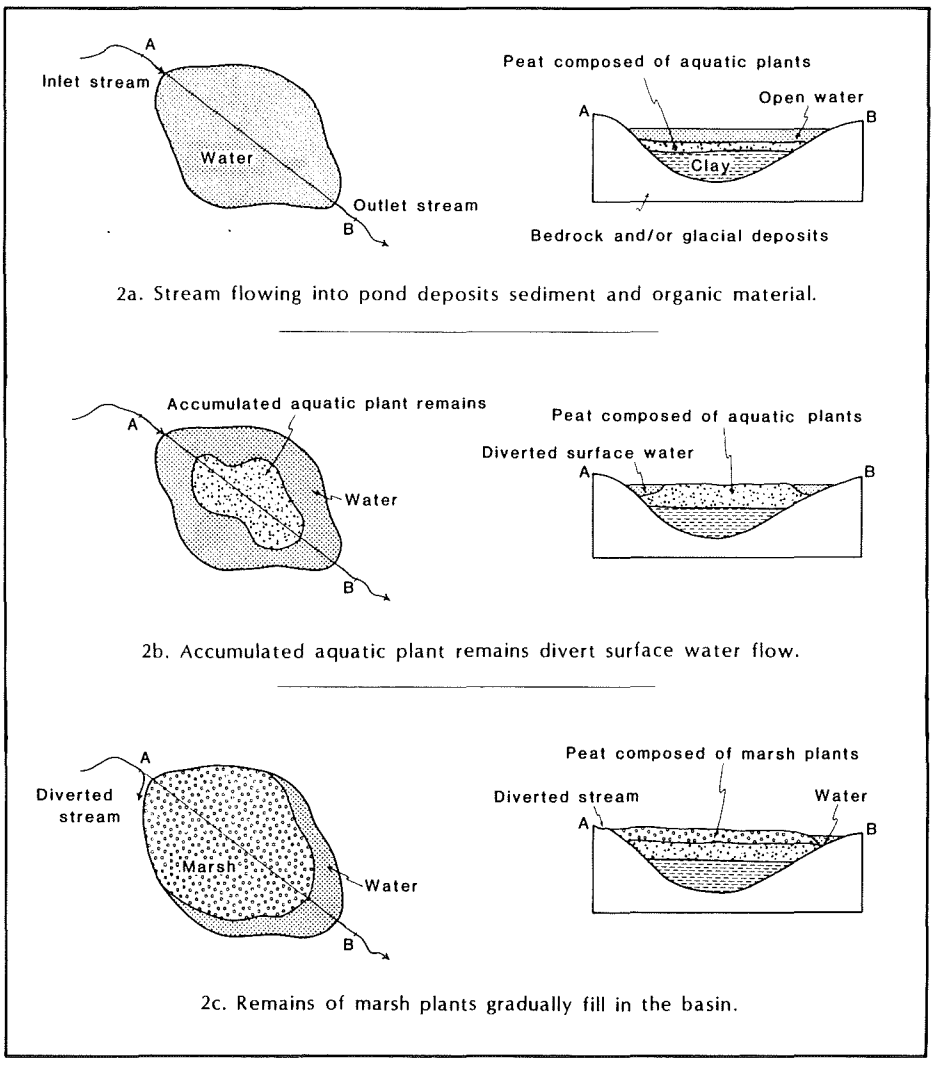

Figure 2. Schematic maps and cross sections of five stages in the development of domed peat deposits (after Cameron, 1975).

In the fourth stage (Figure 2d), the peat-forming vegetation spreads out beyond the margins of the original basin, forming a continuous flat surface. At this stage, surface water flowing toward the bog and ground water from adjacent aquifers lack the energy necessary to reach the centers of the peat-filled depressions. Because the mineral content of the water supply is greatest at the edges of the marsh, plants along the margins increase in variety and abundance. A less diverse plant assemblage including sphagnum moss becomes established away from the deposit edges. With time, the proportion of sphagnum increases.

When sphagnum moss becomes the dominant species, moss peat begins to accumulate in a convex mass or dome (Figure 2e). In this fifth stage, streams and ground water can contribute to the water supply only along the narrow strip between the dome of peat and the mineral soil. This strip, called the moat, collects runoff from both the mineral soil and the slopes of the dome of sphagnum peat. Eutrophic marsh and swamp grasses, shrubs, and trees grow where they are fed by the nutrient-rich surface and ground water and soil, while the mosses and heath vegetation on the dome are oligotrophic, receiving nutrients solely from precipitation. A water table is maintained within the dome by capillarity.

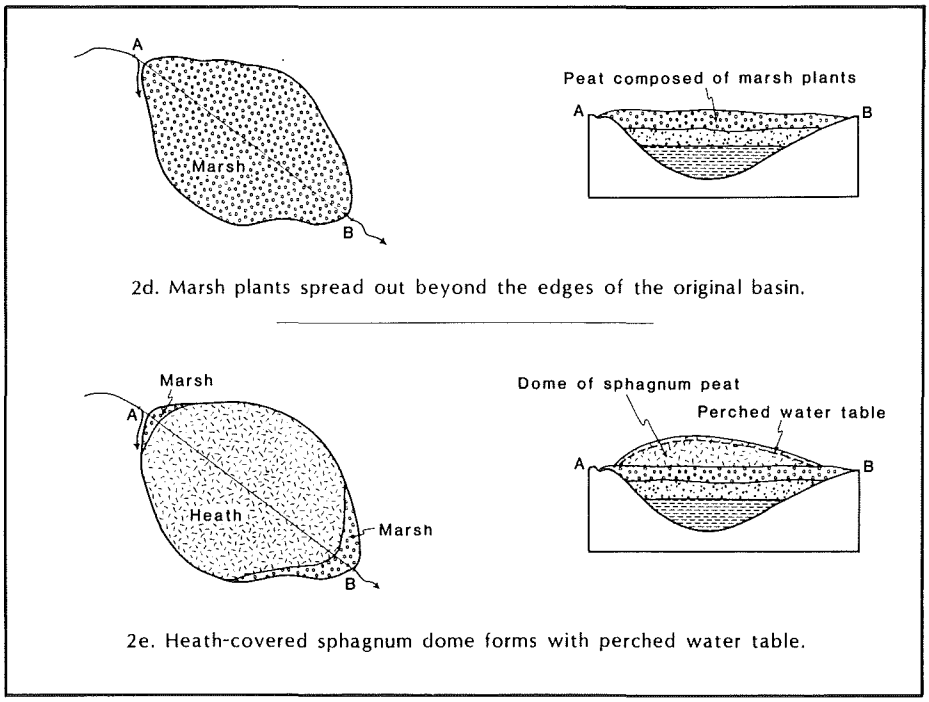

Figure 2. Continued.

Peat deposits in Maine may be covered by marsh, swamp, or heath vegetation according to the phase of peatland development. Floods and fires during any phase may have destroyed all or part of a peat deposit, while variations in climate or nutrient input may change the rate of growth and decomposition. Therefore, deposits in varying stages of development are common.

METHODS OF INVESTIGATION

Not all peat deposits are considered peat resources. A peat deposit is simply an accumulation of peat, whereas a peat resource contains enough commercial quality peat (peat that has an ash content of 25 percent or less) for economic exploitation. For use as a fuel, the peat must also have a minimum heating value of 8,000 BTU/lb. Under the Maine Peat Resource Evaluation Program, deposits that appeared to be at least 80 acres in size with a minimum average thickness of 5 feet of commercial quality peat were considered for study. Actual field measurements often resulted in fewer acres of commercial quality peat.

Potential sites were selected using topographic, soils, and geologic maps; aerial photographs; and other previously published information available for the region to be investigated. These potential sites were ranked based on factors such as accessibility and the likelihood of a deposit containing significant peat resources. Using this ranking, the most promising sites were selected for field study.

In the field, the extent of the deposit was determined by pace and compass traverses, with the bearing and spacing of the traverses dependent on the size and configuration of the deposit. At regular intervals along the traverses, generally 500 feet, cores were obtained with a Macaulay or Davis peat sampler. Samples were taken for subsequent laboratory analysis, and factors such as surface vegetation, type and distribution of peat (both horizontally and vertically), and geomorphic characteristics were noted.

Estimates of commercial-quality resources were made in accordance with ASTM standards (1969) and were based on acre-feet of peat where the peat is five or more feet thick and has an ash content not greater than 25 percent. Tonnage figures throughout the report are for air-dried peat (approximately 30% moisture). The formula used for converting acre-feet of peat to short tons of air-dried peat was originally developed by Bastin and Davis, who summarized the procedure:

> "the quantity of peat in a deposit may readily be calculated with enough accuracy for practical purposes, by obtaining its average depth and its area, and that it will yield at least 200 tons of dry machine-made fuel per acre, for each foot in depth." (Bastin and Davis, 1909, p. 24)

The formula is as follows:

$$\frac{\text{Volume of wet peat in bog, in cubic feet}}{\substack{4 \\ \text{(number of cubic feet of wet peat equal to 1 cubic foot of machine-made peat)}}} \times \frac{\text{(average weight in pounds of 1 cubic foot of machine-made peat)}}{\substack{2{,}000 \\ \text{(pounds in short ton)}}} = \frac{\text{Volume of wet peat in bog, in cubic feet}}{200} = \text{Number of tons of air-dried machine-made peat which the bog can produce}$$

IDENTIFICATION OF MAINE PEAT RESOURCES

Resource potential is determined by the chemical and physical quality of the peat and the thickness and areal extent of the deposit. These factors result from the various environments in which the peat accumulated. Environmental factors fundamental to the development and preservation of the deposit include: type of unconsolidated sediment and bedrock foundation; glacial processes that affected the surface morphology; surface and ground water regimes; climate; and influences of flooding, fires, and human activities.

A guide combining these environmental factors has been developed (Cameron, 1983; in press) and applied to the peat deposits studied. Each deposit was assigned a geologic setting code based on the system outlined in Table 2 and explained below. The setting code can be used to help predict whether or not a peat deposit may in fact be a peat resource.

The two primary headings for deposits in Maine are: I. Deposits within the region of maximum marine invasion, and II. Deposits outside the region of maximum marine invasion. The location of a deposit relative to the marine limit (Figure 3) is important. Isostatic depression of the crust by glacial ice, followed by a worldwide rise in sea level (Stuiver and Borns, 1975), caused much of southern Maine to be submerged by the ocean. The fine-grained sediments deposited during this period of inundation provided settings particularly favorable to the formation of peat. The poor drainage caused by these silts and clays resulted in the development of wetlands in which peat could accumulate. In addition, climate, especially humidity, influences size, height, and amount of sphagnum in economically significant raised bogs. The area between the marine limit and the present coastline typically has relatively high humidity which is conducive to both the growth of peat-forming vegetation and the preservation of their remains. The July average humidity at 8 PM (EST) is greater than 70 percent (Visher, 1954, p. 186).

The secondary headings of Table 2 refer to the major categories of underlying bedrock. The topography of Maine, although modified significantly by glacial processes, is bedrock controlled. The type and structure of the local bedrock influences the shape and orientation of preglacial valleys and basins which provide the settings for peat bogs. In addition, such economically important indicators as ash content, trace-element content, pH, and the occurrence of marl are related, at least indirectly, to the local or regional bedrock.

The tertiary headings are based on a synthesis of factors related to surface and ground water regimes, permeability and water-table fluctuations, as well as past and present effects of fires and flooding or ponding. Surface and ground water flow rates, for example, affect soil chemistry and help control growth and decay of peat-forming vegetation. The greatest breakdown of peat fibers takes place in the zone of water-table fluctuation where aerobic bacteria help produce reed-sedge and sphagnum peat. Extreme breakdown of peat fibers results in an ash content

that is too high for commercial quality peat. Introduction of clay or silt by streams also reduces resource potential by increasing ash content. In addition, a potentially economically valuable raised bog may be destroyed by fire, or a currently economically valuable peat deposit may be concealed by ponding.

PEAT RESOURCES IN SOUTHERN AND WESTERN MAINE

A total of 46 deposits covering 11,853 acres and containing 21,930,200 short tons (dry weight) of peat in southern and western Maine (Figure 3 and Table 3) have been evaluated under the Maine Peat Resource Evaluation Program. These deposits range in size from 55 to 732 acres and in estimated resources from 55,000 to 1,864,000 short tons. Maps of individual deposits showing the distribution and depth of peat, core sites, and the surficial geology of the area adjacent to the deposits are shown in Figures 4-49. Cores showing the vertical distribution of peat and sediment as well as sample locations, and the results of laboratory analyses are also included.

ACKNOWLEDGEMENTS

This project was supported by funds furnished by the U.S. Department of Energy, Grant No. DE-FG18-79ET14690, the Maine Office of Energy Resources, the Maine Geological Survey, and the U.S. Geological Survey. The assistance of Robert Tucker, Bennett Wilson, Robert Johnston, John Poisson, and Catherine Stultz in the preparation of this report is greatly appreciated. The excellent field assistance of Vernon Shaw and Robert Johnston is also gratefully acknowledged.

Table 2. Field guide to identification and study of Maine peat resources.

I. Deposit within the region of maximum marine invasion. If not turn to II.

A. Bedrock largely folded sedimentary, metasedimentary, or layered volcanics. If not turn to B. Select appropriate number and letter under A or B.

1. Deposit in glacial drift in hills or mountains at the head of a stream - IA1

2. Deposit in end or ribbed moraine - IA2

3. Deposit in kame or kettle topography - IA3

4. Deposit in till parallel to drumlins or other ice contact features - IA4

5. Deposit in alluvium, till, or glacial outwash in valley along stream
   a. behind natural levee or on plain subject to flooding - IA5a
   b. where deadwater reaches of stream flow on deposit - IA5b
   c. adjacent to esker - IA5c
   d. in drift-dammed bedrock valley; natural levees, deadwater reaches, or eskers not conspicuous - IA5d

6. Deposit in glacial outwash in valley remote from stream; outwash may include eskers - IA6

7. Deposit in glacial outwash and till on broad plain crossed by streams and eskers - IA7

8. Deposit on glaciomarine sediments
   a. in valley between till ridges, glacial outwash, or till-covered bedrock walls - IA8a
   b. in basin or on plain between till ridges, glacial outwash, or till-covered bedrock ridges - IA8b
   c. on plain adjacent to large stream - IA8c

9. Deposit in till or glacial outwash along a lake or pond
   a. separated from lake or pond by esker or bedrock - IA9a
   b. that has been artificially dammed - IA9b
   c. which deposit has incompletely filled - IA9c

10. Deposit in till or glacial outwash on drained pond or lake floor - IA10

11. Deposit on tidal flat; peat generally too shallow to be a resource - IA11

12. Deposit a thin blanket over consolidated or unconsolidated rock slopes; peat too shallow to be a resource - IA12

Table 2. Continued.

I. Deposit within the region of maximum marine invasion.

B. Bedrock largely massive plutonic rock such as granite and gabbro

1. Deposit in glacial drift in hills or mountains at the head of a stream - IB1

2. Deposit in end or ribbed moraine - IB2

3. Deposit in kame or kettle topography - IB3

4. Deposit in till parallel to drumlins or other ice contact deposits - IB4

5. Deposit in alluvium, till, or glacial outwash in valley along stream
   a. behind natural levee or on plain subject to flooding - IB5a
   b. where deadwater reaches of stream flow on deposit - IB5b
   c. adjacent to esker - IB5c
   d. in drift-dammed bedrock valley; natural levees, deadwater reaches, or eskers not conspicuous - IB5d

6. Deposit in glacial outwash in valley remote from stream; outwash may include eskers - IB6

7. Deposit in outwash and till on broad plain crossed by streams and eskers - IB7

8. Deposit on glaciomarine sediments
   a. in valley between till ridges, glacial outwash, or till-covered bedrock walls - IB8a
   b. in basin or on plain between till ridges, glacial outwash, or till-covered bedrock ridges - IB8b
   c. on plain adjacent to large stream - IB8c

9. Deposit in till or glacial outwash along a lake or pond
   a. separated from lake or pond by esker or bedrock - IB9a
   b. that has been artifically dammed - IB9b
   c. which deposit has incompletely filled - IB9c

10. Deposit in till or glacial outwash on drained pond or lake floor - IB10

11. Deposit on tidal flat; peat generally too shallow to be a resource - IB11

12. Deposit a thin blanket over consolidated or unconsolidated rock slopes; peat too shallow to be a resource - IB12

Table 2. Continued.

II. Deposit outside the region of maximum marine invasion

A. Bedrock largely folded sedimentary, metasedimentary, or layered volcanics. If not turn to B. Select appropriate number and letter under A or B.

1. Deposit in glacial drift on flat to rolling plain; bedrock is limestone, dolomite, or marble - IIA1

2. Deposit in ground moraine in hills or mountains at the head of a stream - IIA2

3. Deposit in end or ribbed moraine - IIA3

4. Deposit in kame or kettle topography - IIA4

5. Deposit in till parallel to drumlins or other ice contact deposits - IIA5

6. Deposit in alluvium, till, or glacial outwash in valley along stream
   a. behind natural levee or plain subject to stream flooding - IIA6a
   b. where deadwater reaches of stream flow on deposit - IIA6b
   c. adjacent to esker - IIA6c
   d. in drift-dammed bedrock valley; natural levees, deadwater reaches, or eskers not conspicuous - IIA6d

7. Deposit in glacial outwash in valley remote from stream; outwash may include eskers - IIA7

8. Deposit in outwash and till on broad plain crossed by streams and eskers - IIA8

9. Deposit in till or glacial outwash along a lake or pond
   a. separated from lake or pond by esker or bedrock - IIA9a
   b. that has been artificially dammed - IIA9b
   c. which the deposit has incompletely filled - IIA9c

10. Deposit in till or glacial outwash on drained pond or lake floor - IIA10

11. Deposit a thin blanket over consolidated or unconsolidated rock slopes; peat too shallow to be a resource - IIA11

Table 2. Continued.

II. Deposit outside the region of maximum marine invasion

B. Bedrock largely plutonic rock such as granite and gabbro

1. Deposit in glacial drift on flat to rolling plain - IIB1

2. Deposit in ground moraine in hills or mountains at the head of a stream - IIB2

3. Deposit in end or ribbed moraine - IIB3

4. Deposit in kame or kettle topography - IIB4

5. Deposit in till parallel to drumlins or other ice contact deposits - IIB5

6. Deposit in alluvium, till, or glacial outwash in valley along stream
   a. behind natural levee or plain subject to stream flooding - IIB6a
   b. where deadwater reaches of stream flow on deposit - IIB6b
   c. adjacent to esker - IIB6c
   d. in drift-dammed bedrock valley; natural levees, deadwater reaches, or eskers not conspicuous - IIB6d

7. Deposit in glacial outwash in basin remote from stream; outwash may include eskers - IIB7

8. Deposit in outwash and till on broad plain crossed by streams and eskers - IIB8

9. Deposit in till or glacial outwash along a lake or pond
   a. separated from lake or pond by esker or bedrock - IIB9a
   b. that has been artificially dammed - IIB9b
   c. which the deposit has incompletely filled - IIB9c

10. Deposit in till or glacial outwash on drained pond or lake floor - IIB10

11. Deposit a thin blanket over consolidated or unconsolidated rock slopes; peat too shallow to be a resource - IIB11

Table 3. Location, areal extent, estimated resources, and geologic setting codes of the 46 areas containing peat deposits surveyed in southern and western Maine

Deposit Number	Location	Acres of commercial quality peat (peat at least 5 feet thick with ash content not exceeding 25 percent)	Estimated resources (short tons air-dried peat)	Geologic setting code
1	Bog at Black Pond, Acton and Lebanon Twps., Berwick 15 minute Quadrangle, York County	135 with an average thickness of 9 feet	243,000	IIA6d
2	Bog south of East Lebanon along Route 202, Lebanon Twp., Berwick 15 minute Quadrangle, York County	220 with an average thickness of 8 feet	352,000	IA6
3	Beaver Dam Heath, Berwick Twp., Berwick 15 minute Quadrangle, York County	170 with an average thickness of 5 feet	170,000	IA6
4	The Heath north of Merriland Ridge, Wells Twp., Kennebunk 15 minute Quadrangle, York County	320 with an average thickness of 8 feet	512,000	IB8b
5	The Heath, Lyman and Waterboro Twps., Buxton 15 minute Quadrangle, York County	595 acres of which 5 have an average thickness of 12 feet and 590 have an average thickness of 5 feet	602,000	IIA5
6	The Heath, Saco Twp., Portland 15 minute Quadrangle, York County	435 with an average thickness of 12 feet	1,044,000	IA8b
7	Bog along Willett Brook, Bridgton Twp., Norway and Sebago Lake 15 minute Quadrangles, Cumberland County	200 with an average thickness of 10 feet	400,000	IIB6c

Table 3. Continued.

Deposit Number	Location	Acres of commercial quality peat (peat at least 5 feet thick with ash content not exceeding 25 percent)	Estimated resources (short tons air-dried peat)	Geologic setting code
8	Bog at North Pond, Norway Twp., West Paris 7.5 minute Quadrangle, Oxford County	180 with an average thickness of 11 feet	396,000	IIA9c
9	Bog adjacent to Moose Pond at North Paris, West Paris Twp., West Paris 7.5 minute Quadrangle, Oxford County	125 with an average thickness of 8 feet	200,000	IIA9c
10	Bog at Bunganock Pond and Bunganock Brook, Hartford Twp., Canton 7.5 minute Quadrangle, Oxford County	130 with an average thickness of 8 feet	208,000	IIA6b
11	Bog along Webb River north of Dixfield, Mexico Twp., Dixfield 15 minute Quadrangle, Oxford County	Not recommended as a peat resource	--	IIB6a
12	Bog between Horseshoe Brook and Meadow Brook, Andover and Roxbury Twps., East Andover 7.5 minute Quadrangle, Oxford County	128 with an average thickness of 5 feet	128,000	IIB6d
13	Bog 1.5 miles southwest of North Leeds, Leeds Twp., Turner Center 7.5 minute Quadrangle, Androscoggin County	385 of which 220 have an average thickness of 15 feet and 165 have an average thickness of 7 feet	891,000	IA1
14	Bog along Allen Stream, Leeds Twp., Turner Center 7.5 minute Quadrangle, Androscoggin County	110 with an average thickness of 7 feet	154,000	IB8a

Table 3. Continued.

Deposit Number	Location	Acres of commercial quality peat (peat at least 5 feet thick with ash content not exceeding 25 percent)	Estimated resources (short tons air-dried peat)	Geologic setting code
15	Bogs west and south of Curtis Corner, Leeds Twp., Wayne 7.5 minute Quadrangle, Androscoggin County	495 of which 220 have an average thickness of 12 feet, 225 have an average thickness of 9 feet, and 50 have an average thickness of 5 feet	983,000	IA1
16	Bog along Bog Brook south of Androscoggin Lake on the Androscoggin-Kennebec County line, Leeds and Monmouth Twps., Wayne 7.5 minute Quadrangle	Not recommended as a peat resource	--	IA8a
17	Bog at Little Sabattus Pond, Greene Twp., Lewiston 15 minute Quadrangle, Androscoggin County	170 of which 65 have an average thickness of 15 feet, 55 have an average thickness of 10 feet, and 50 have an average thickness 5 feet	355,000	IA8a
18	Bog southeast of North Pond, Chesterville Twp., Farmington 15 minute Quadrangle, Franklin County	100 with an average thickness of 10 feet	200,000	IB5d
19	Bog south of North Pond and along Little Norridgewock Stream, Jay and Chesterville Twps., Farmington 15 minute Quadrangle, Franklin County	665 of which 100 have an average thickness of 19 feet, 455 have an average thickness of 10 feet, and 110 have an average thickness of 7 feet	1,444,000	IB5b
20	Bog west of Norcross Pond and south of Little Norridgewock Stream, Chesterville Twp., Farmington 15 minute Quadrangle, Franklin County	420 of which 130 have an average thickness of 14 feet and 290 have an average thickness of 7 feet	770,000	IB5d

Table 3. Continued.

Deposit Number	Location	Acres of commercial quality peat (peat at least 5 feet thick with ash content not exceeding 25 percent)	Estimated resources (short tons air-dried peat)	Geologic setting code
21	Bog south of Meadow Brook on Kennebec-Androscoggin County line, Livermore Falls and Fayette Twps., Fayette 7.5 minute Quadrangle.	Not recommended as a peat resource	--	IB6
22	Bogs along Ingham Stream and Belgrade Stream, Mount Vernon Twp., Augusta 15 minute Quadrangle, Kennebec County	340 of which 285 have an average thickness of 10 feet and 55 have an average thickness of 5 feet	625,000	IA5b
23	Bogs adjacent to North Bay and west of Varney Hill and Bickford Hill, Smithfield, Rome,and Belgrade Twps., Norridgewock 15 minute Quadrangle, Somerset and Kennebec Counties	460 of which 70 have an average thickness of 15 feet, 250 have an average thickness of 11 feet, and 140 have an average thickness of 5 feet	900,000	IB8a
24	Austin Bog at south end of Great Pond, Belgrade Twp., Belgrade 7.5 minute Quadrangle, Kennebec County	175 with an average thickness of 5 feet	175,000	IB5c
25	Belgrade Bog, Belgrade Twp., Belgrade 7.5 minute Quadrangle, Kennebec County	330 with an average thickness of 6 feet	396,000	IA5c
26	Great Sidney Bog, Sidney and Augusta Twps., Belgrade 7.5 minute Quadrangle, Kennebec County	605 of which 200 have an average thickness of 20 feet, 245 have an average thickness of 16 feet, 120 have an average thickness of 10 feet, and 40 have an average thickness of 5 feet	1,864,000	IA8a

Table 3. Continued.

Deposit Number	Location	Acres of commercial quality peat (peat at least 5 feet thick with ash content not exceeding 25 percent)	Estimated resources (short tons air-dried peat)	Geologic setting code
27	Bog 1.5 miles south of East Vassalboro, Vassalboro 15 minute Quadrangle, Kennebec County	100 with an average thickness of 15 feet	300,000	IA4
28	Fowler Bog, Albion and Unity Twps., Burnham 15 minute Quadrangle, Kennebec and Waldo Counties	732 with an average thickness of 8 feet	1,171,200	IA8a
29	Bogs north and east of Fowler Bog, Unity Twps., Burnham 15 minute Quadrangle, Kennebec and Waldo Counties	630 of which 302 have an average thickness of 10 feet, 213 have an average thickness of 8 feet, and 115 have an average thickness of 5 feet	1,059,800	IA8b
30	Bogs north of Little Dyer Pond and south of Kerr Pond, Jefferson Twp., Wiscasset 15 minute Quadrangle, Lincoln County	115 of which 110 have an average thickness of 10 feet and 5 have an average thickness of 5 feet	225,000	IA9c
31	Bog at south end of Muscongus Bay, Nobleboro Twp., Waldoboro West 7.5 minute Quadrangle, Lincoln County	110 with an average thickness of 12 feet	264,000	IA8a
32	Bog between Duckpuddle Pond and Pemaquid Pond, Nobleboro and Waldoboro Twps., Waldoboro West 7.5 minute Quadrangle, Lincoln County	117 with an average thickness of 8 feet	187,200	IB8a

Table 3. Continued.

Deposit Number	Location	Acres of commercial quality peat (peat at least 5 feet thick with ash content not exceeding 25 percent)	Estimated resources (short tons air-dried peat)	Geologic setting code
33	Bog north of Route 1 and east of Route 235, Waldoboro Twp., Waldoboro East 7.5 minute Quadrangle, Lincoln County	60 of which 40 have an average thickness of 10 feet and 20 have an average thickness of 5 feet	100,000	IB8a
34	Rice Heath, Washington Twp., Union 7.5 minute Quadrangle, Knox County	77 of which 70 have an average thickness of 10 feet and 7 have an average thickness of 5 feet	147,000	IA8b
35	The Bog, Rockland Twp., West Rockport 7.5 minute Quadrangle, Knox County	150 with an average thickness of 10 feet	300,000	IA8a
36	Bog complex at the southeast end of Sheepscot Pond, Palermo and Hibberts Gore Twps. and Somerville Plantation, Razorville 7.5 minute Quadrangle, Waldo and Lincoln Counties	687 of which 60 have an average thickness of 10 feet, 447 have an average thickness of 7 feet, and 180 have an average thickness of 5 feet	925,800	IA5c
37	Witcher Swamp, Searsmont Twp., Morrill and Searsmont 7.5 minute Quadrangles, Waldo County	325 of which 160 have an average thickness of 12 feet, 15 have an average thickness of 8 feet, and 150 have an average thickness of 5 feet	558,000	IB1
38	Herricks Bog, Northport Twp., Lincolnville 7.5 minute Quadrangle, Waldo County	113 of which 73 have an average thickness of 17 feet and 40 have an average thickness of 5 feet	288,200	IA1

Table 3. Continued.

Deposit Number	Location	Acres of commercial quality peat (peat at least 5 feet thick with ash content not exceeding 25 percent)	Estimated resources (short tons air-dried peat)	Geologic setting code
39	Greers Bog, Morrill Twp., Morrill 7.5 minute Quadrangle, Waldo County	111 of which 5 have an average thickness of 15 feet, 26 have an average thickness of 9 feet, 55 have an average thickness of 7 feet, and 25 have an average thickness of 5 feet	163,800	IA1
40	Smiths Millpond Bog, Morrill Twp., Morrill 7.5 minute Quadrangle, Waldo County	240 of which 110 have an average thickness of 22 feet and 130 have an average thickness of 5 feet	614,000	IA8a
41	Jones Bog, Monroe Twp., Brooks 15 minute Quadrangle, Waldo County	55 with an average thickness of 5 feet	55,000	IA9c
42	Bogs along Union and Bog Rivers between Ledge Falls Dam and trail crossing southwest of Little Bull Hill, Eastbrook and Osborn Twps., Great Pond, Ellsworth, and Tunk Lake 15 minute Quadrangles, Hancock County	396 of which 172 have an average thickness of 15 feet, 30 have an average thickness of 12 feet, 22 have an average thickness of 10 feet, 57 have an average thickness of 8 feet, 45 have an average thickness of 6 feet, and 70 have an average thickness of 5 feet	847,200	IB8a
43	Rock Dam Heath bogs, T16 MD, Tunk Lake 15 minute Quadrangle, Hancock County	365 of which 215 have an average thickness of 14 feet and 150 have an average thickness of 5 feet	752,000	IB8b
44	Bog along Spring River, T16 MD, Tunk Lake 15 minute Quadrangle, Hancock County	152 of which 20 have an average thickness of 11 feet, 15 have an average thickness of 9 feet, and 117 have an average thickness of 5 feet	188,000	IB8a

Table 3. Continued.

Deposit Number	Location	Acres of commercial quality peat (peat at least 5 feet thick with ash content not exceeding 25 percent)	Estimated resources (short tons air-dried peat)	Geologic setting code
45	Bog along Downing Bog Stream, T10 SD, Tunk Lake 15 minute Quadrangle, Hancock County	240 of which 65 have an average thickness of 14 feet, 100 have an average thickness of 10 feet, and 75 have an average thickness of 5 feet	457,000	IB8a
46	Bogs along Gassabias Stream, T41 MD, Nicatous Lake 15 minute Quadrangle, Hancock County	185 of which 65 have an average thickness of 12 feet, 65 have an average thickness of 8 feet, and 55 have an average thickness of 5 feet	315,000	IIA6c

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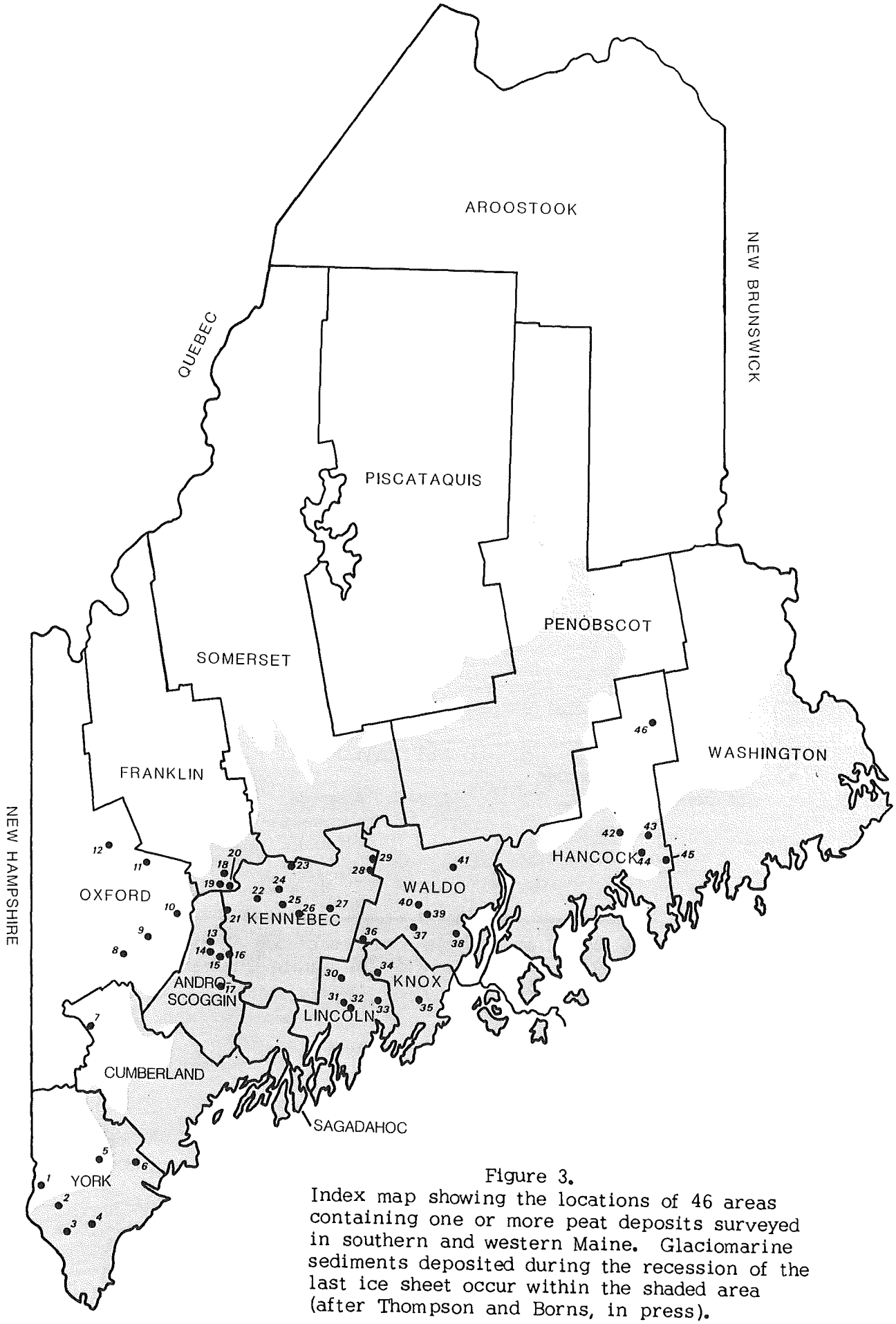
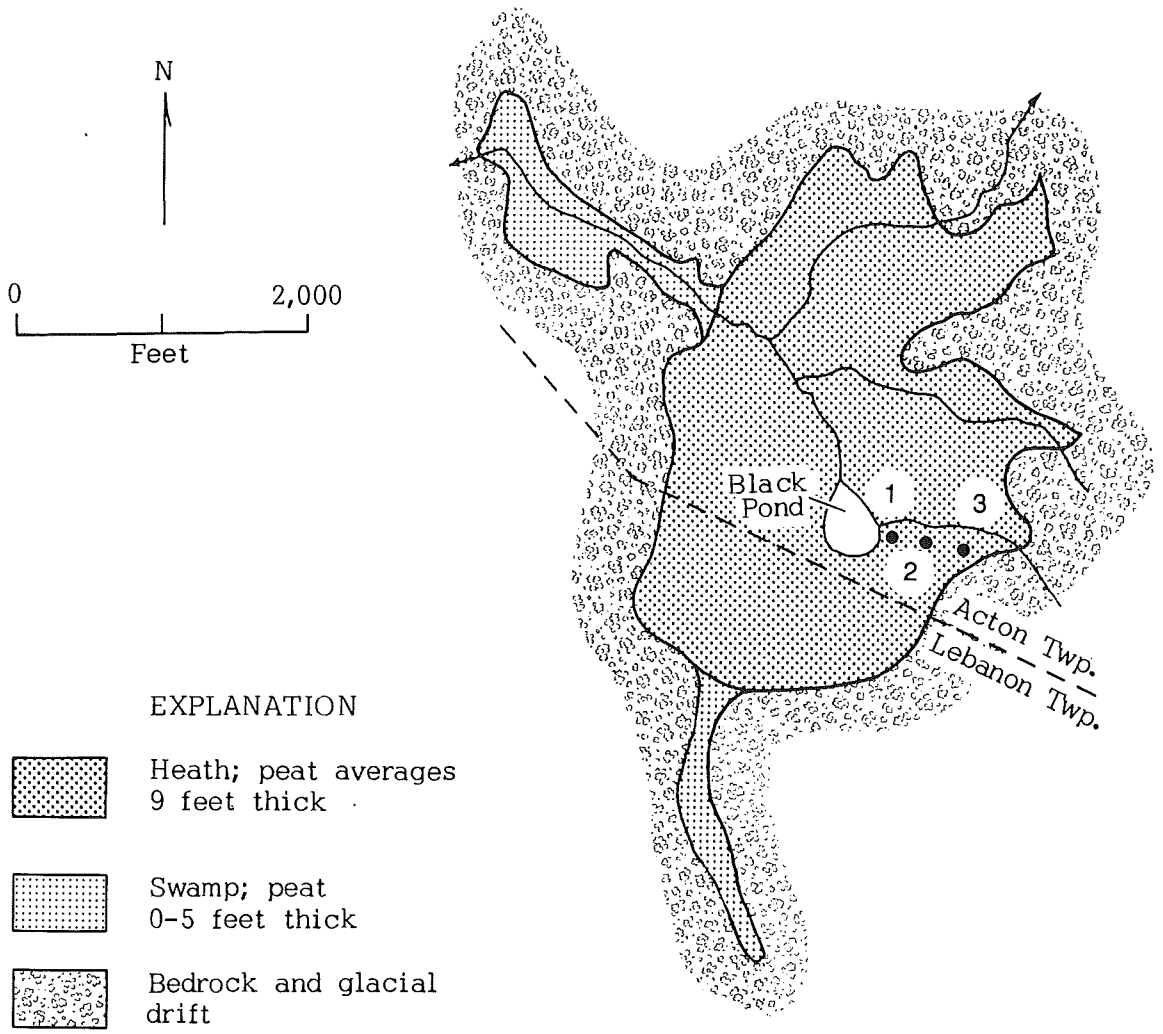


Figure 3.
Index map showing the locations of 46 areas containing one or more peat deposits surveyed in southern and western Maine. Glaciomarine sediments deposited during the recession of the last ice sheet occur within the shaded area (after Thompson and Borns, in press).



EXPLANATION

Heath; peat averages 9 feet thick

Swamp; peat 0-5 feet thick

Bedrock and glacial drift

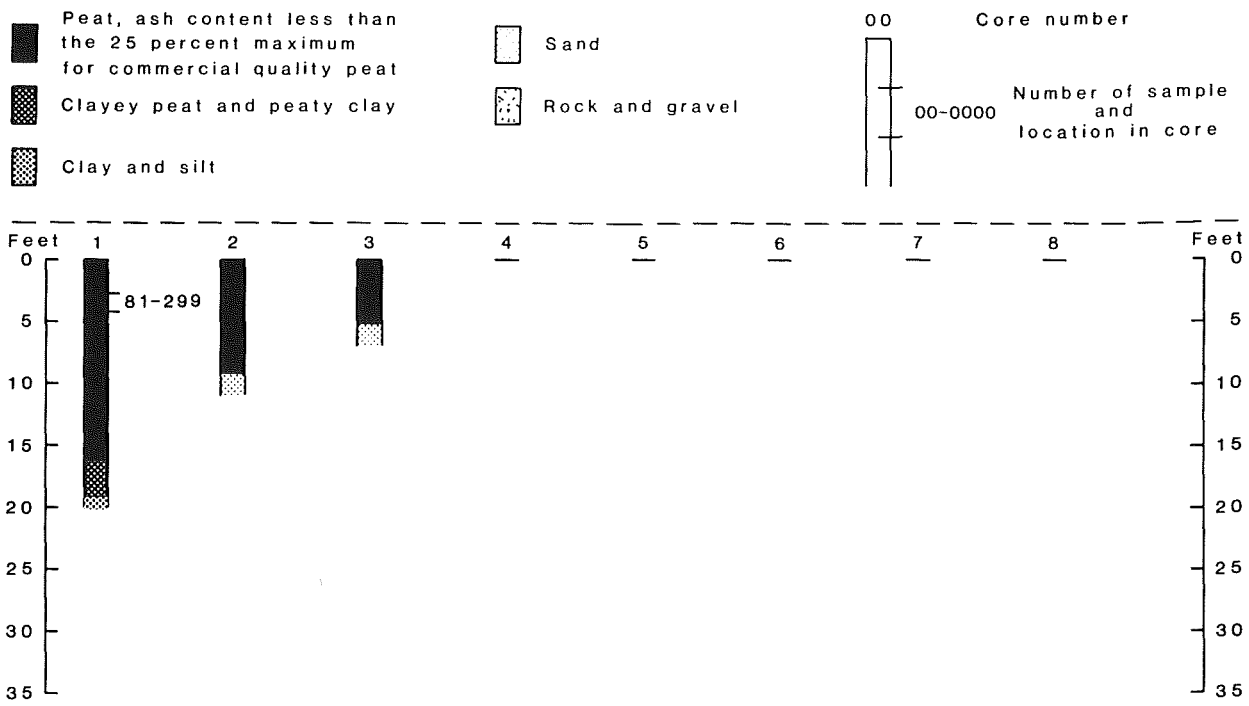
●0 Location and number of core

ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
135	9	243,000

Geologic setting code: IIA6d

Figure 4. Sketch map, cores, and sample analyses of bog at Black Pond, Acton and Lebanon Twps., Berwick 15 minute Quadrangle, York County, Maine (Number 1 on Index Map).



PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
*81-299	88.3	61.2	32.7	6.1	4.62	55.36	1.91	0.64	9,358

*Bag torn; moisture content not accurate.

Figure 4. Continued.

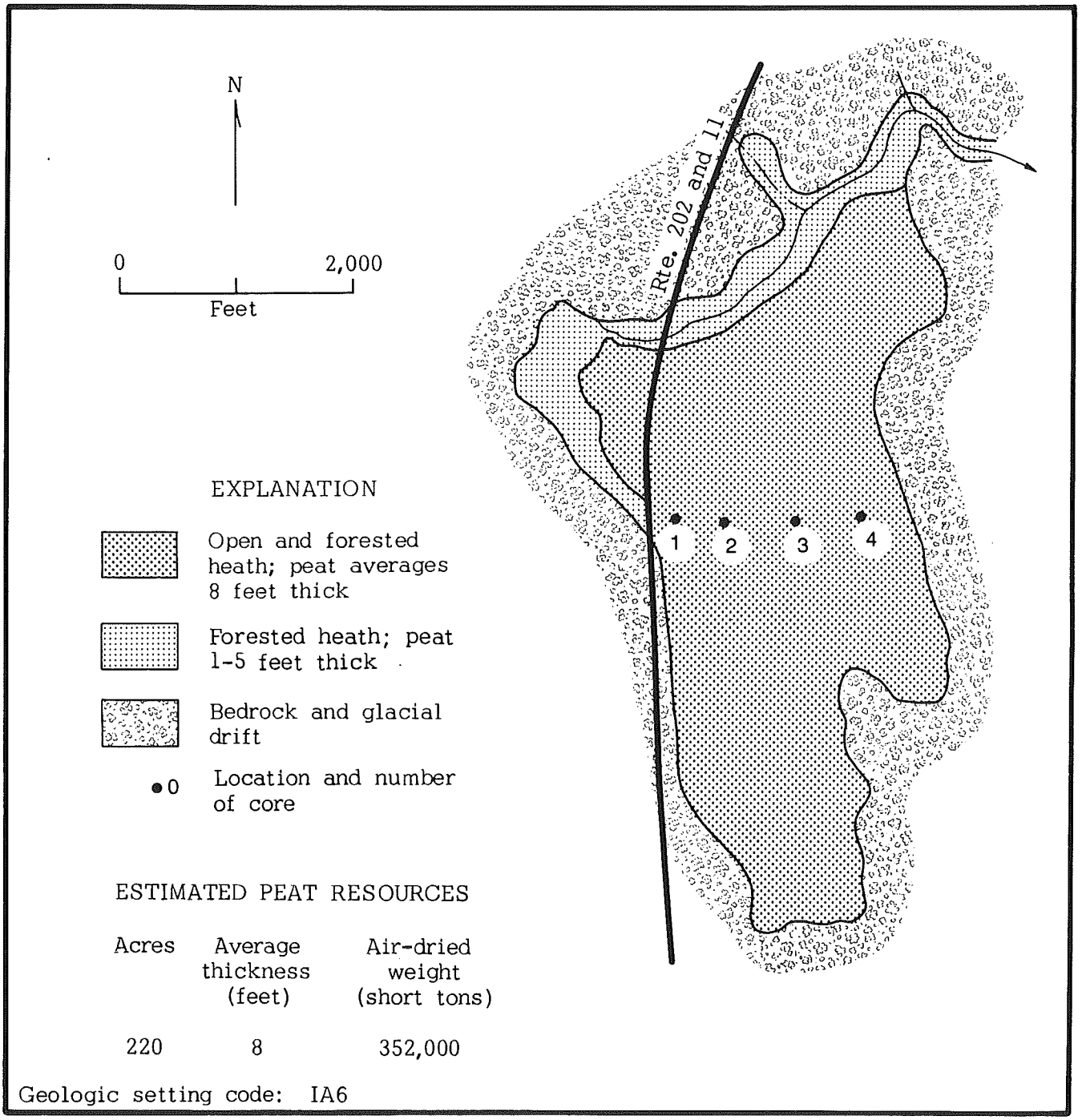
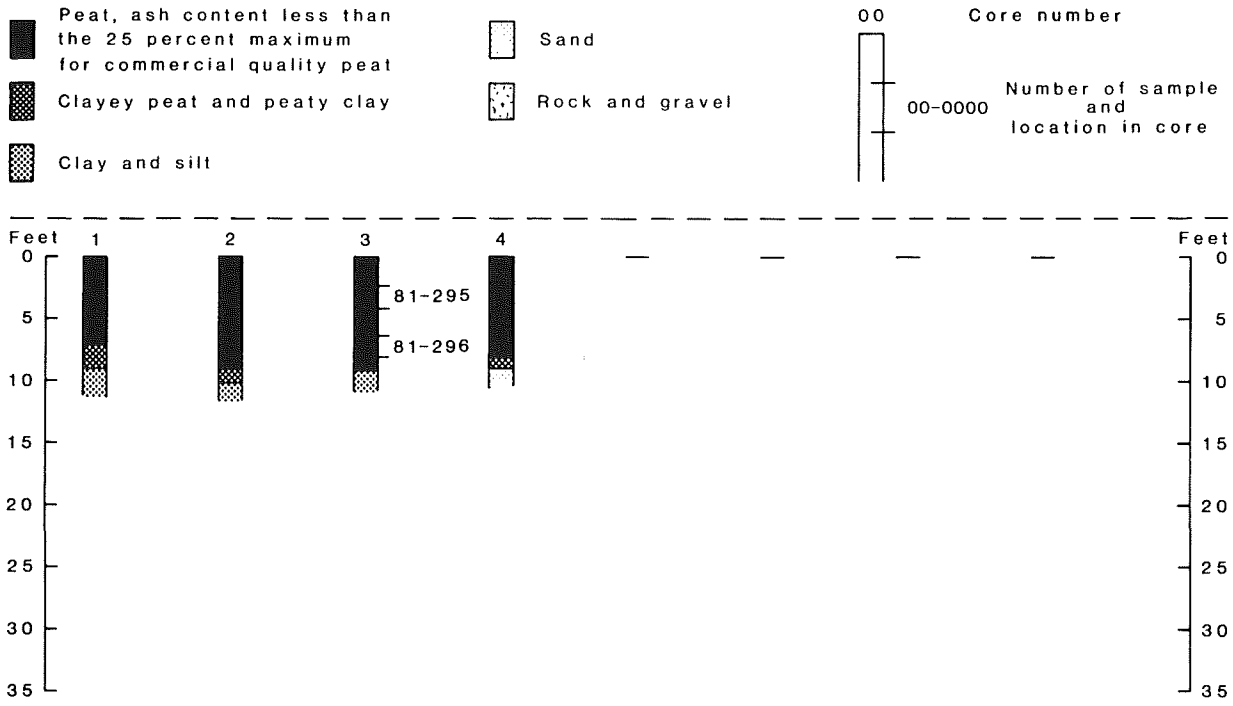


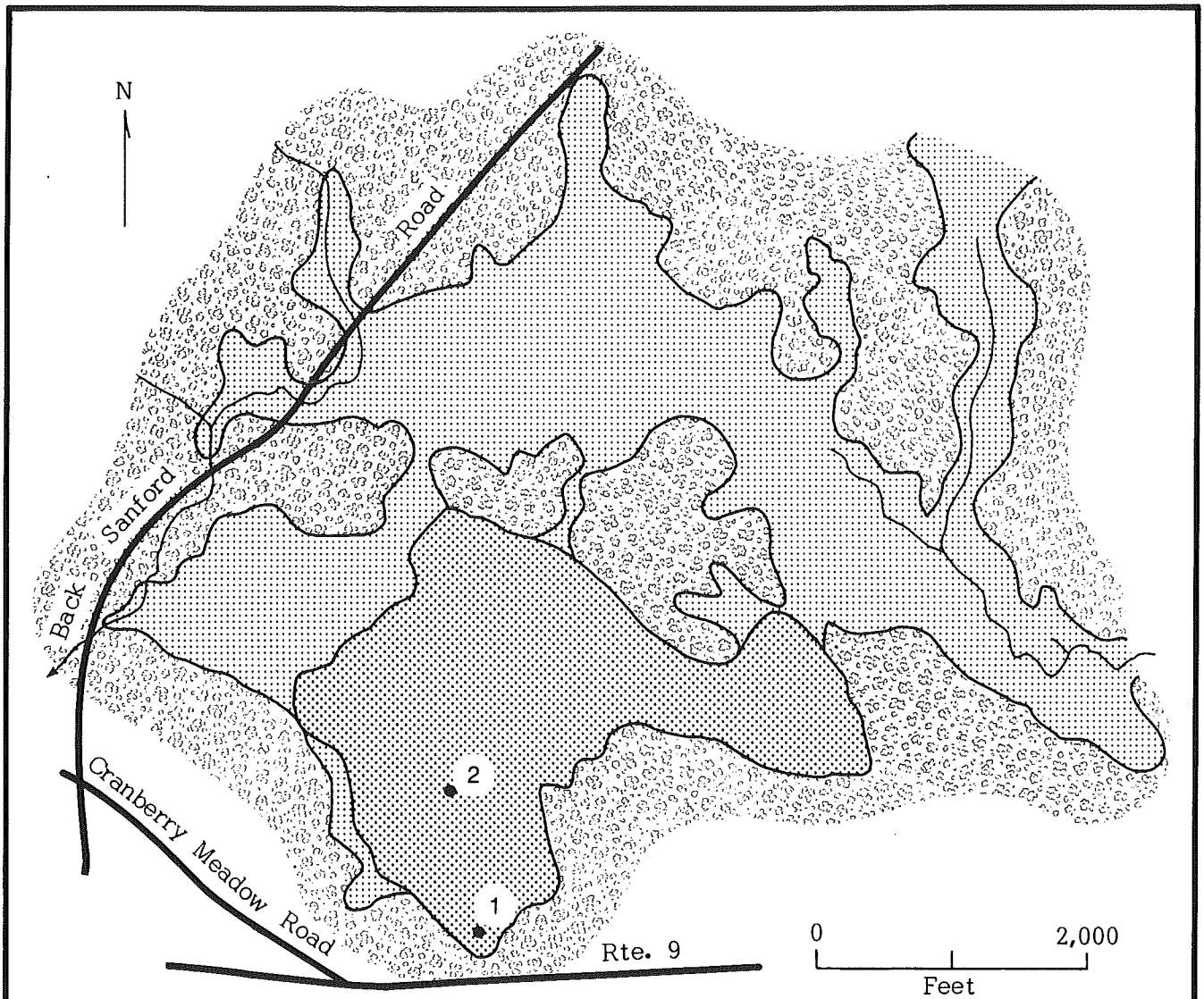
Figure 5. Sketch map, cores, and sample analyses of bog south of East Lebanon along Route 202, Lebanon Twp., Berwick 15 minute Quadrangle, York County, Maine (Number 2 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
*81-295	87.4	64.8	33.8	1.4	5.06	59.24	1.05	0.28	9,990
*81-296	90.3	64.4	33.0	2.6	4.94	58.76	1.06	0.57	9,899

*Bag torn; moisture content not accurate.

Figure 5. Continued.



EXPLANATION

Heath; peat averages 5 feet thick and overlies charcoal, sand, and silt

Swamp; peat 0-5 feet thick

Glacial drift (sand and gravel)

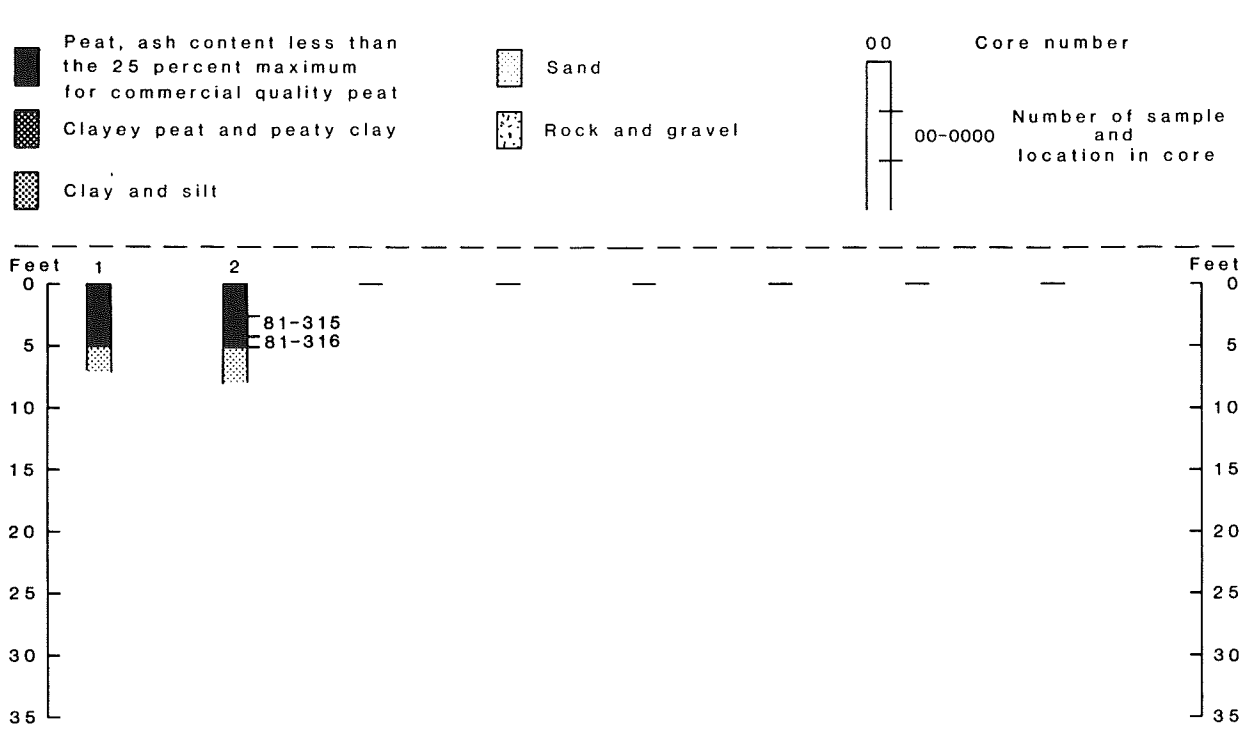
●0 Location and number of core

ESTIMATED PEAT RESOURSES

Acres	Average thickness (feet)	Air-dried weight (short tons)
170	5	170,000

Geologic setting code: IA6

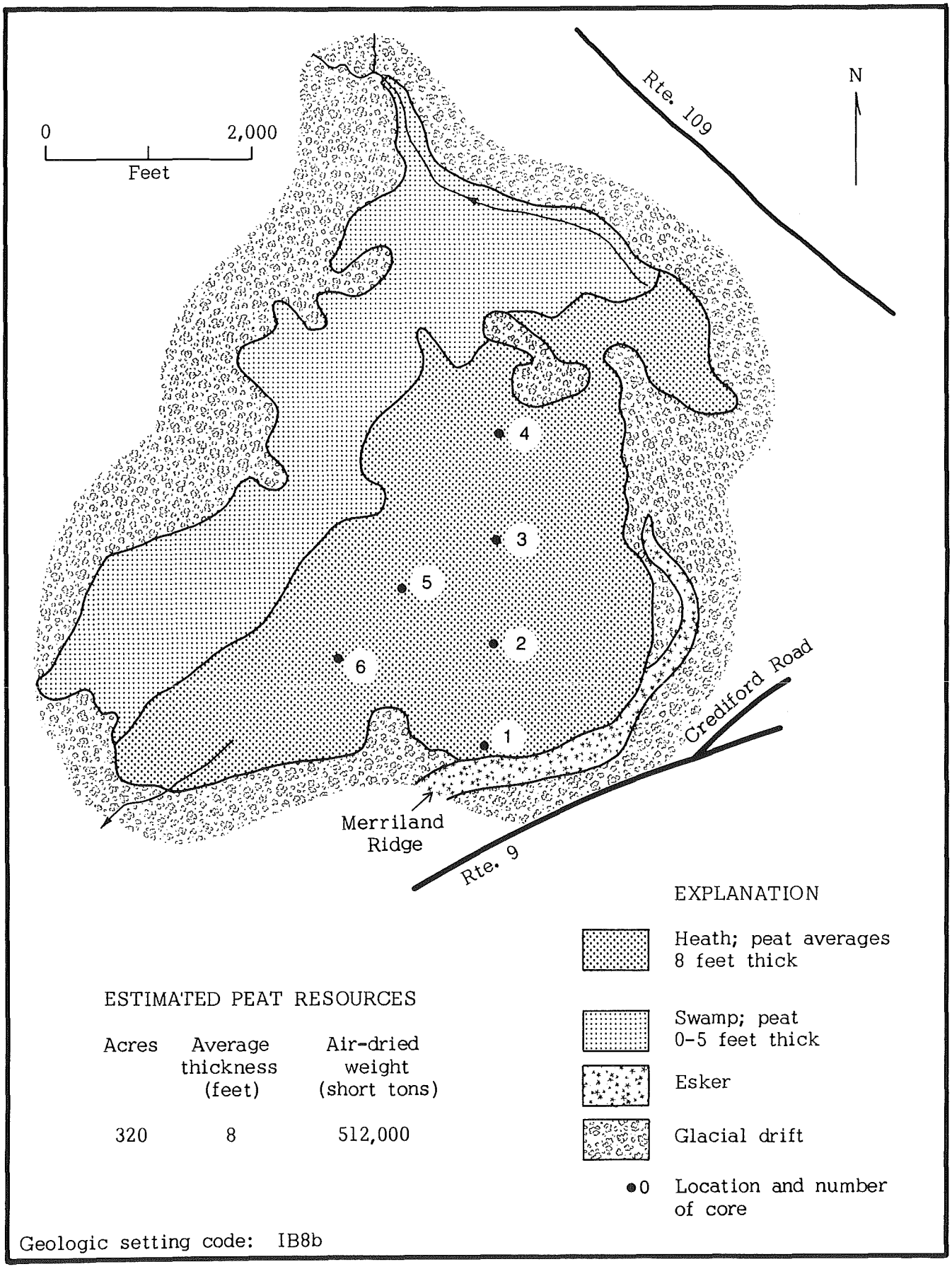
Figure 6. Sketch map, cores, and sample analyses of Beaver Dam Heath, Berwick Twp., Berwick 15 minute Quadrangle, York County, Maine (Number 3 on Index Map).



Sample number	Percent water as received	PROXIMATE ANALYSIS Percent dry weight Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS Percent dry weight Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
*81-315	84.9	64.6	31.9	3.5	5.15	60.54	1.22	0.59	10,463
81-316	88.0	57.9	27.7	14.4	4.52	53.74	2.22	1.11	9,543

*Bag torn; moisture content not accurate.

Figure 6. Continued.

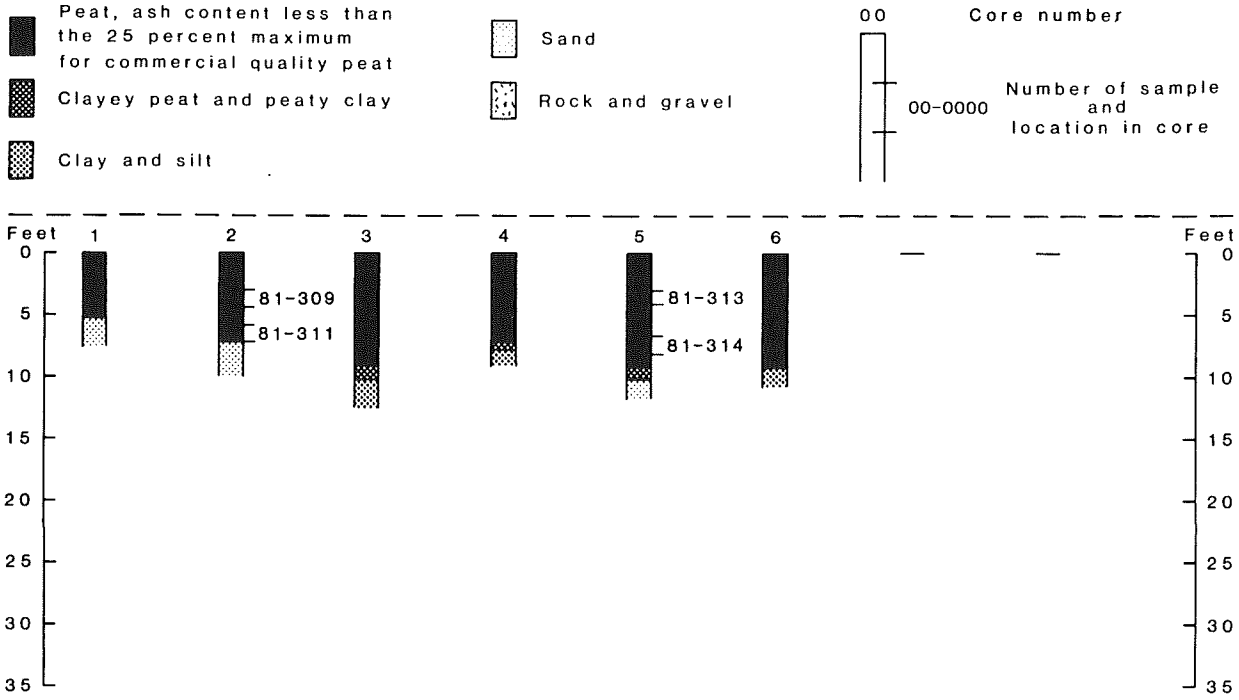


ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
320	8	512,000

Geologic setting code: IB8b

Figure 7. Sketch map, cores, and sample analyses of The Heath north of Merriland Ridge, Wells Twp., Kennebunk 15 minute Quadrangle, York County, Maine (Number 4 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-309	90.3	69.9	29.2	0.9	4.48	53.21	0.48	0.12	8,836
81-311	90.3	63.3	33.4	3.3	4.25	55.63	1.46	0.34	9,303
81-313	88.7	73.0	26.2	0.8	4.86	51.88	0.55	0.14	8,628
81-314	88.3	63.7	34.0	2.3	3.99	56.13	1.05	0.24	9,290

Figure 7. Continued.

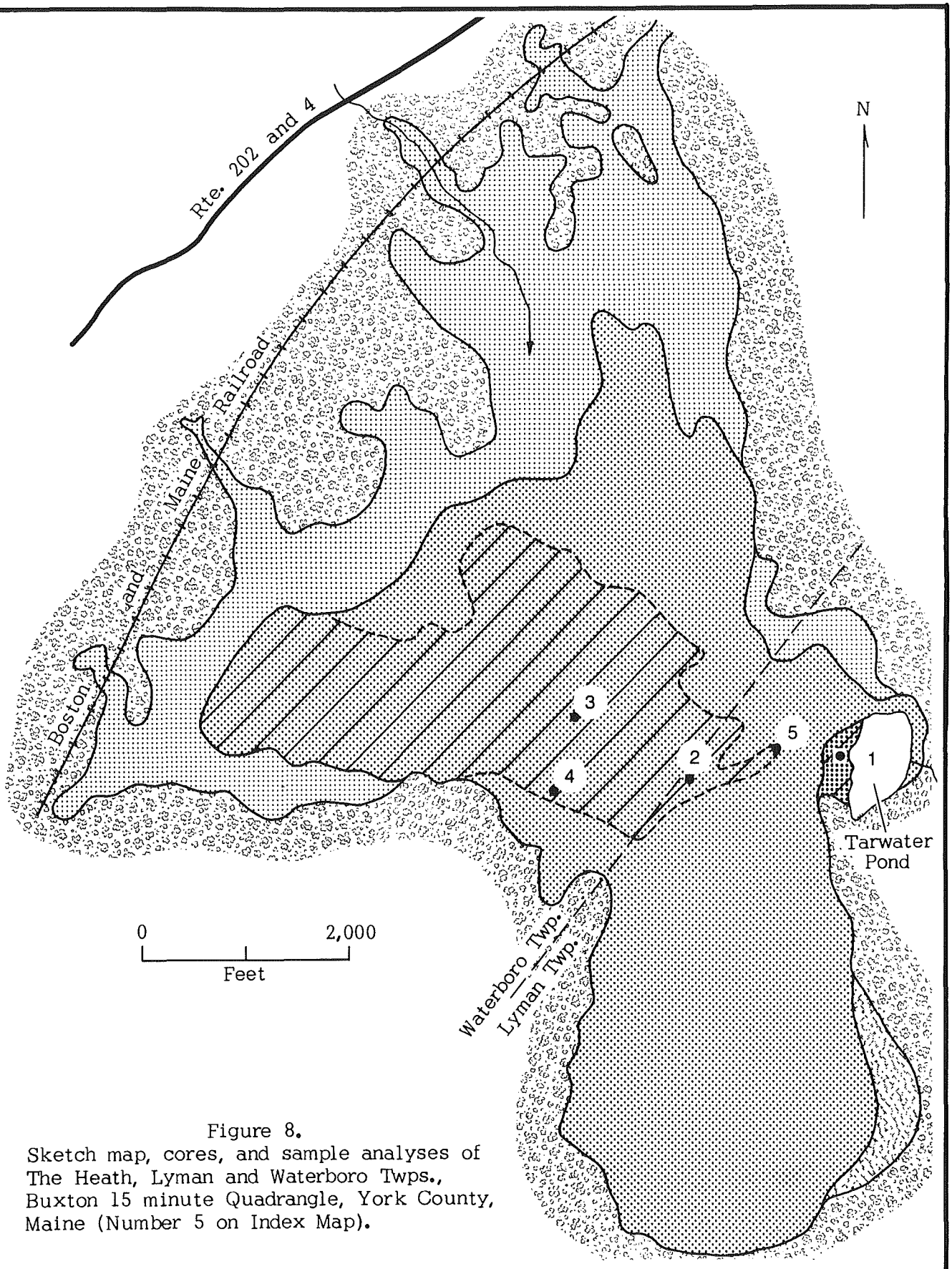


Figure 8.
Sketch map, cores, and sample analyses of The Heath, Lyman and Waterboro Twps., Buxton 15 minute Quadrangle, York County, Maine (Number 5 on Index Map).

Geologic setting code: IIA5

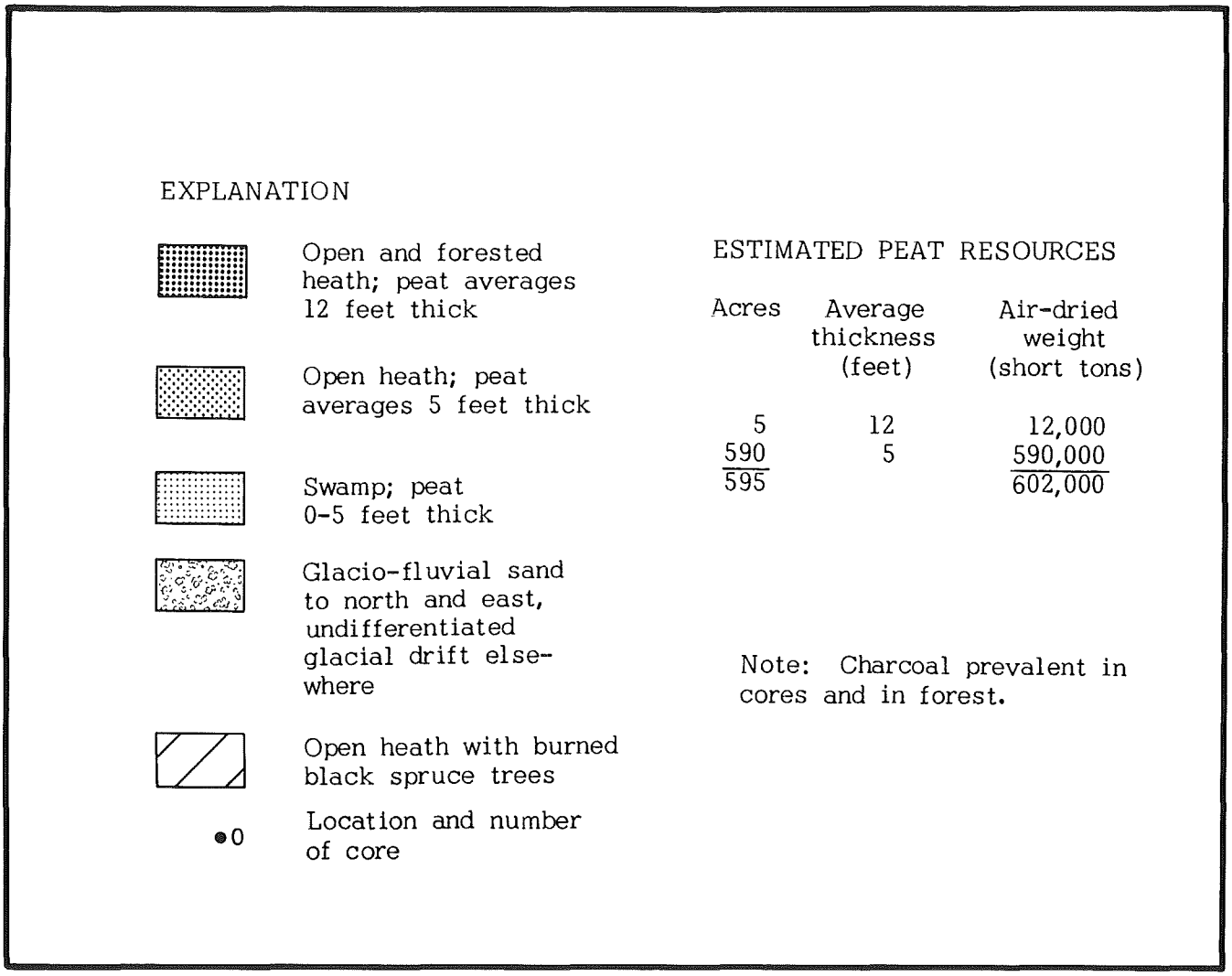
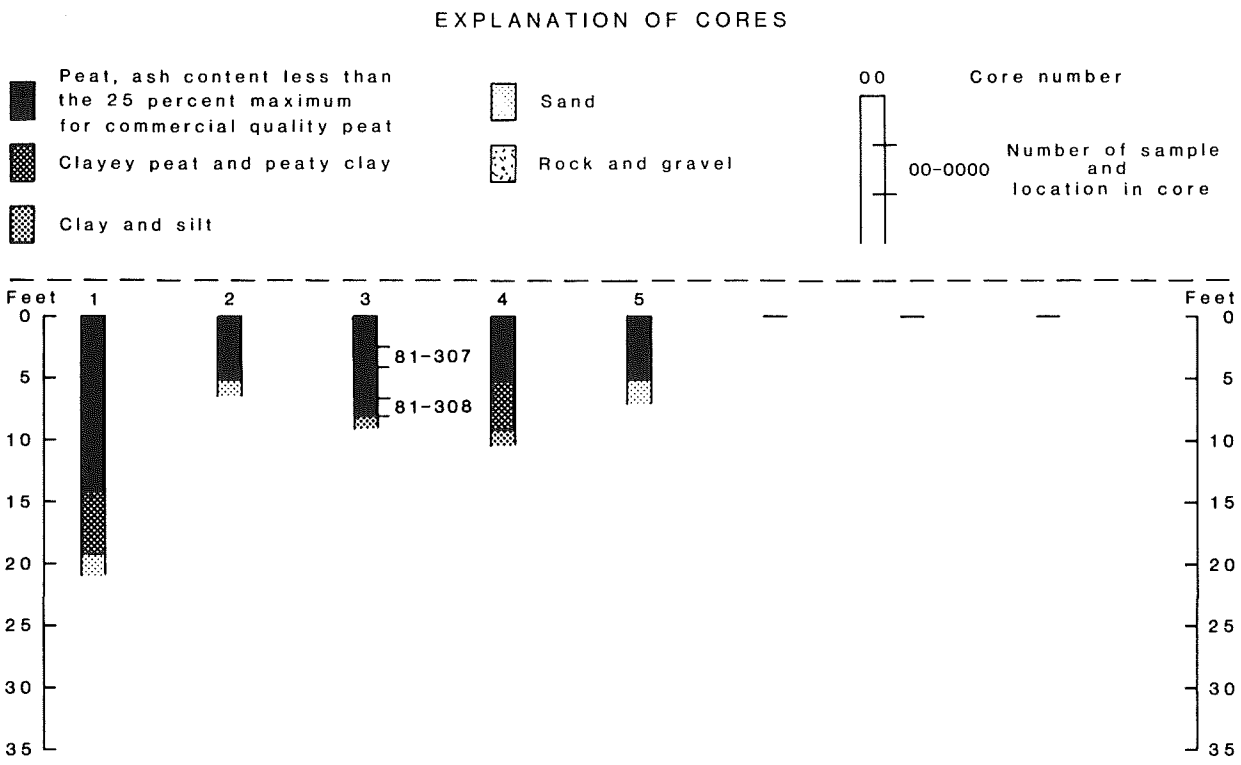


Figure 8. Continued.



PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
*81-307	87.6	65.8	31.0	3.2	5.66	61.75	1.58	0.32	10,923
81-308	84.2	54.4	26.8	18.8	4.41	51.42	1.56	0.52	8,921

*Bag torn; moisture content not accurate.

Figure 8. Continued.

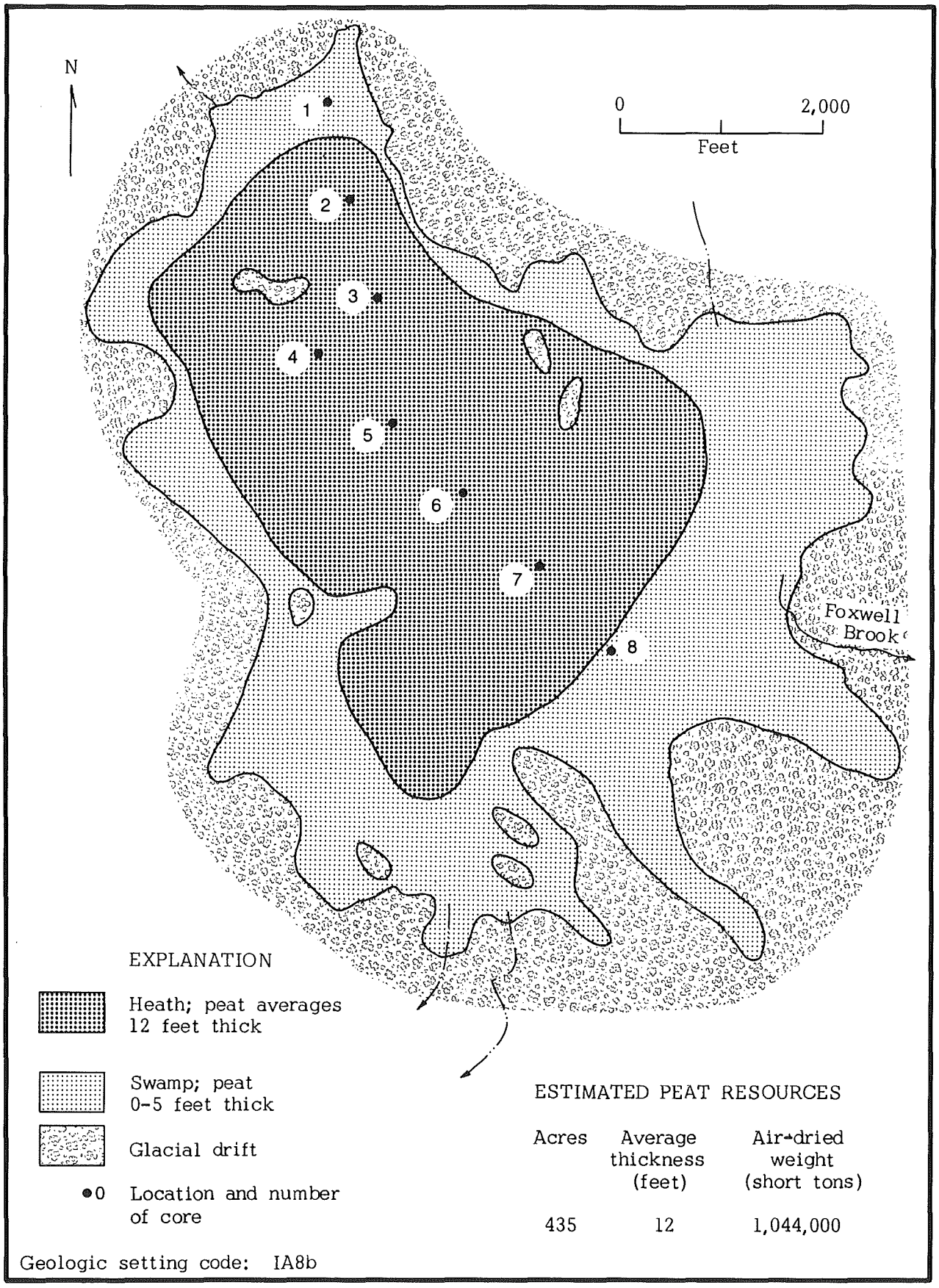
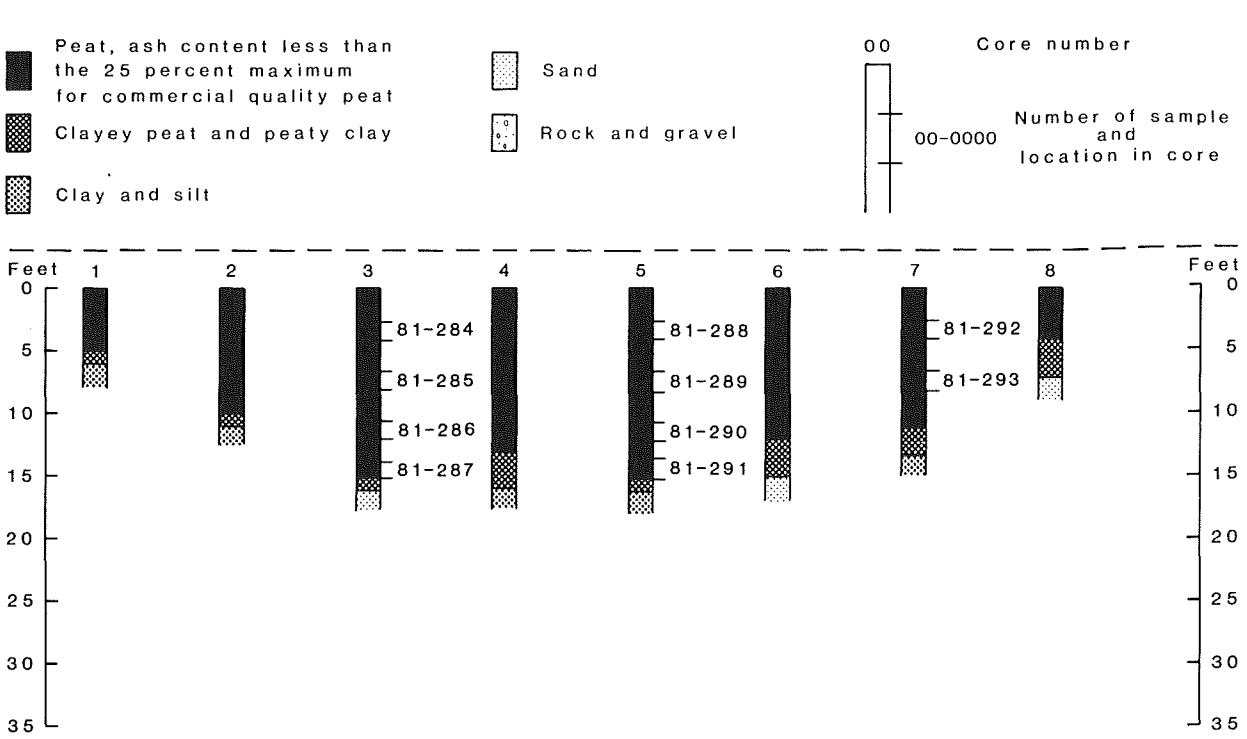


Figure 9. Sketch map, cores, and sample analyses of The Heath, Saco Twp., Portland 15 minute Quadrangle, York County, Maine (Number 6 on Index Map).



PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-284	90.6	67.8	31.4	0.8	4.30	53.53	0.92	0.18	8,916
81-285	90.9	67.7	31.6	0.7	4.68	55.19	1.01	0.14	9,326
81-286	91.3	65.2	33.7	1.1	4.70	58.66	1.02	0.21	10,076
81-287	87.2	58.5	25.9	15.6	4.98	53.04	1.97	0.30	9,188
81-288	91.0	70.8	28.4	0.8	4.80	52.42	0.58	0.19	8,787
81-289	90.0	70.9	28.3	0.8	4.89	52.23	0.38	0.12	8,659
81-290	90.9	66.0	32.9	1.1	5.01	59.23	0.88	0.11	10,187
81-291	87.9	65.9	30.6	3.5	5.21	57.81	1.89	0.18	10,133
81-292	89.8	68.4	30.8	0.8	4.52	53.31	0.93	0.12	8,984
*81-293	90.4	68.7	30.7	0.6	5.06	55.55	0.77	0.06	9,175

*Bag torn; moisture content not accurate.

Figure 9. Continued.

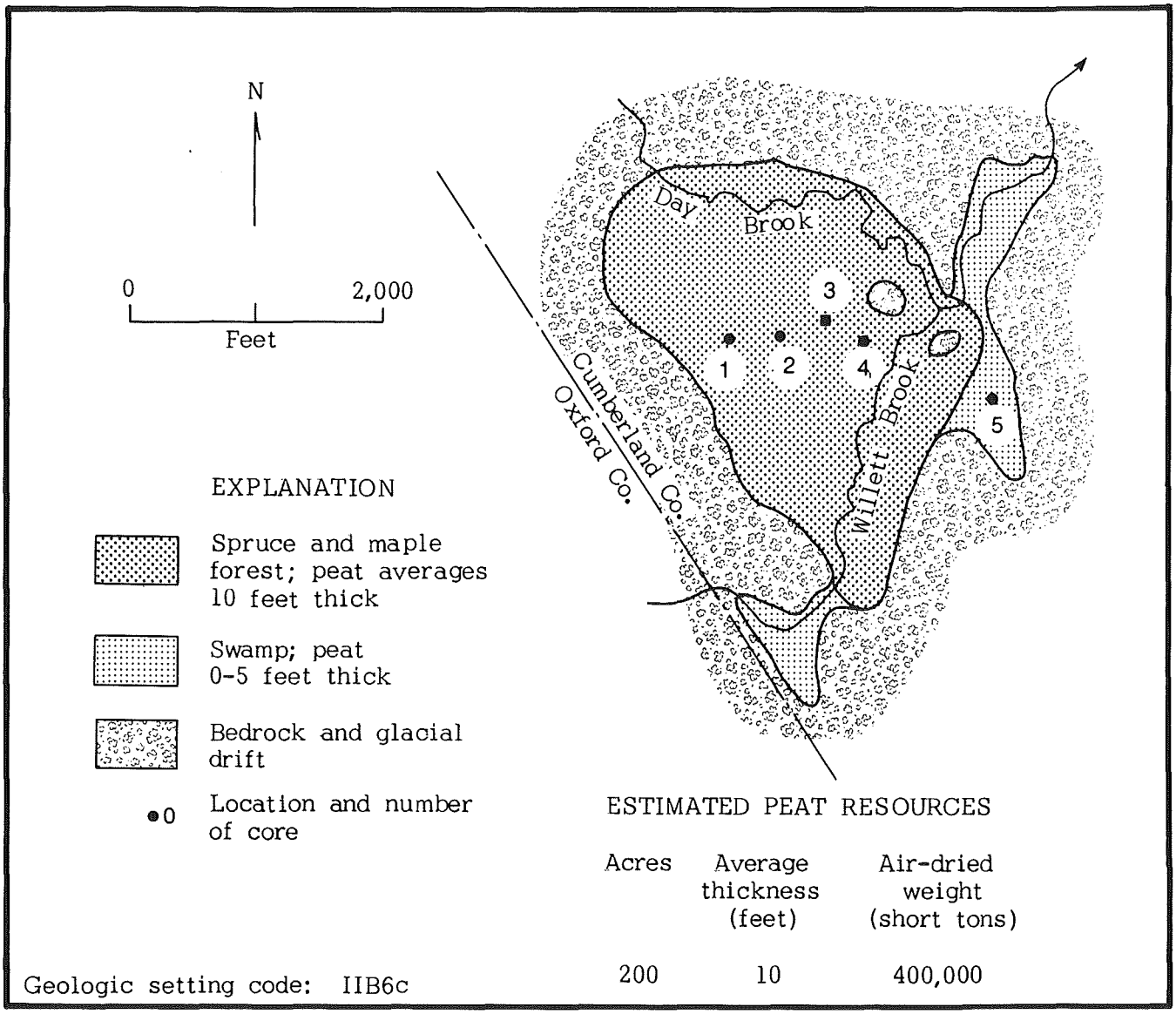
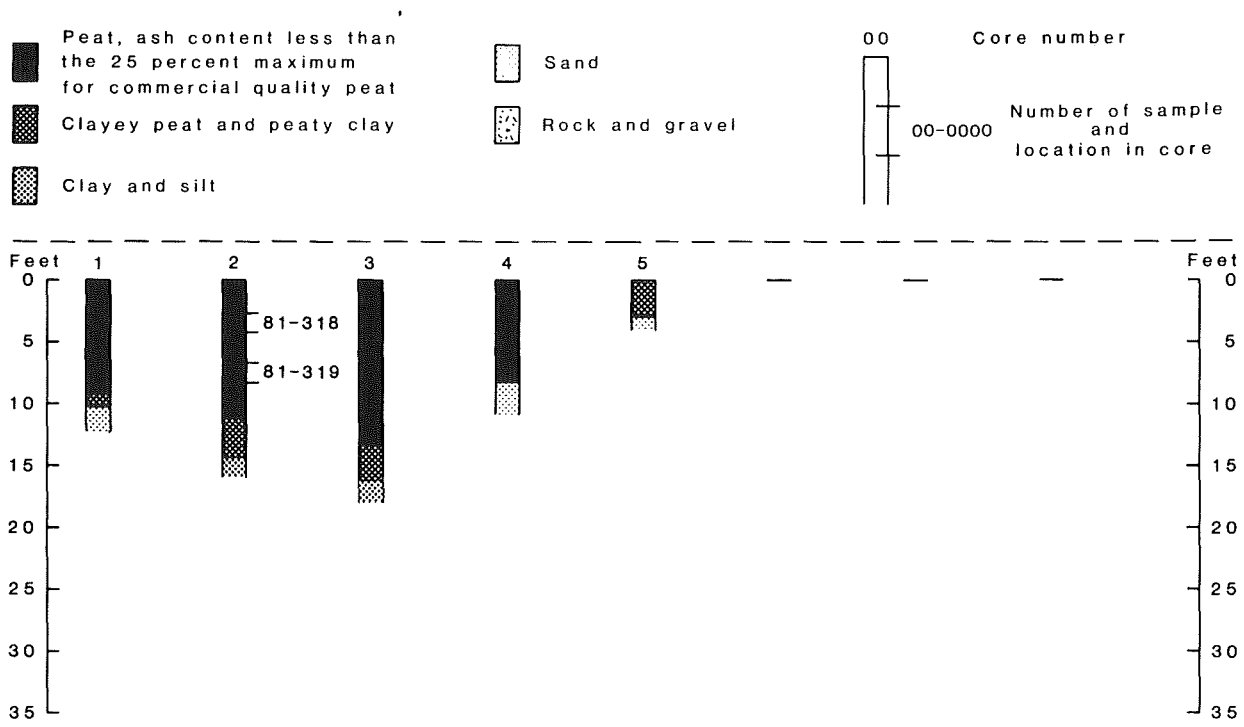
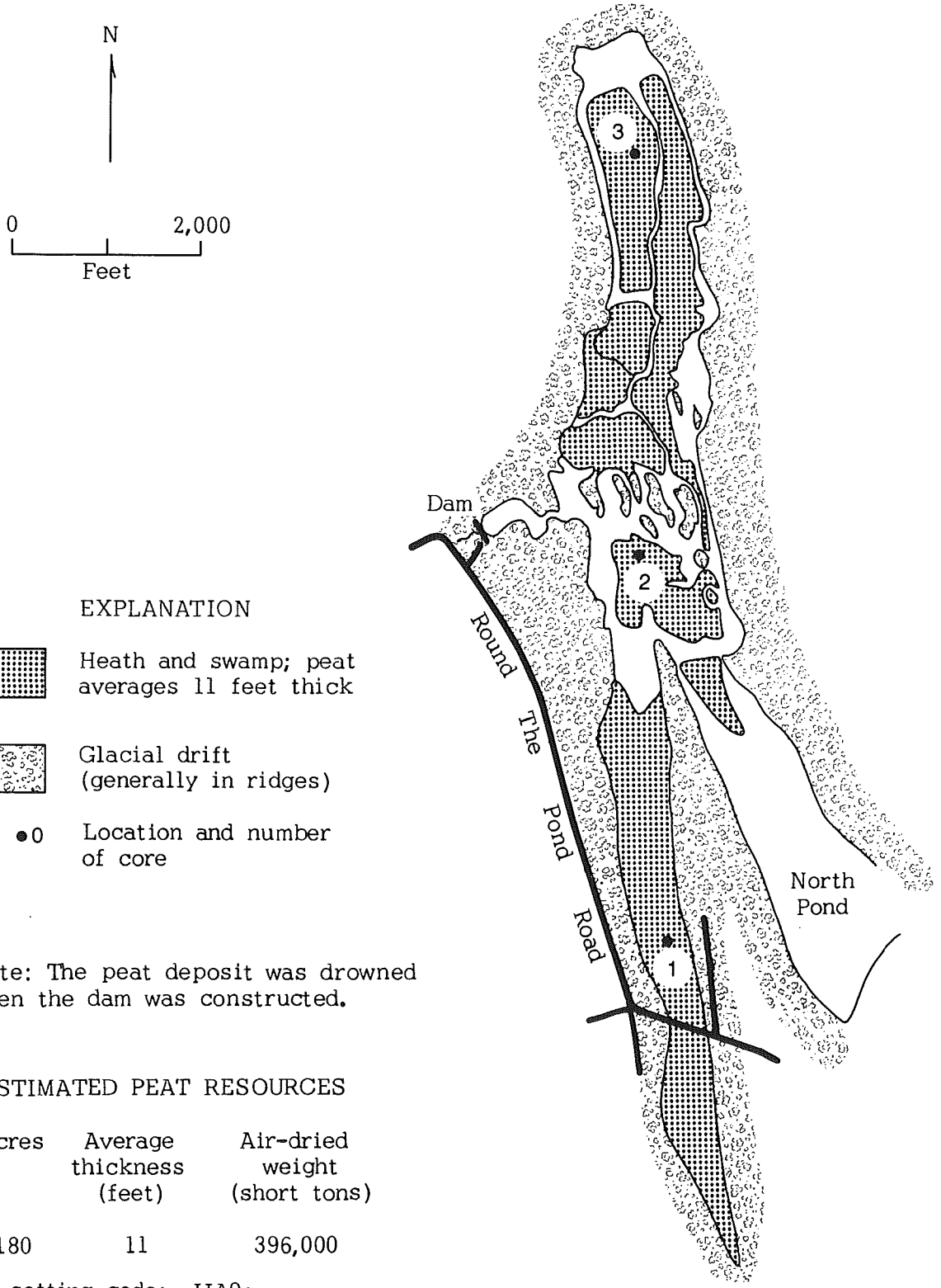


Figure 10. Sketch map, cores, and sample analyses of bog along Willett Brook, Bridgton Twp., Norway and Sebago Lake 15 minute Quadrangles, Cumberland County, Maine (Number 7 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-318	89.5	65.3	31.7	3.0	4.97	58.01	1.29	0.17	9,964
81-319	91.0	62.9	30.2	6.9	4.99	55.15	2.68	0.50	9,649

Figure 10. Continued.



EXPLANATION

Heath and swamp; peat averages 11 feet thick

Glacial drift (generally in ridges)

•0 Location and number of core

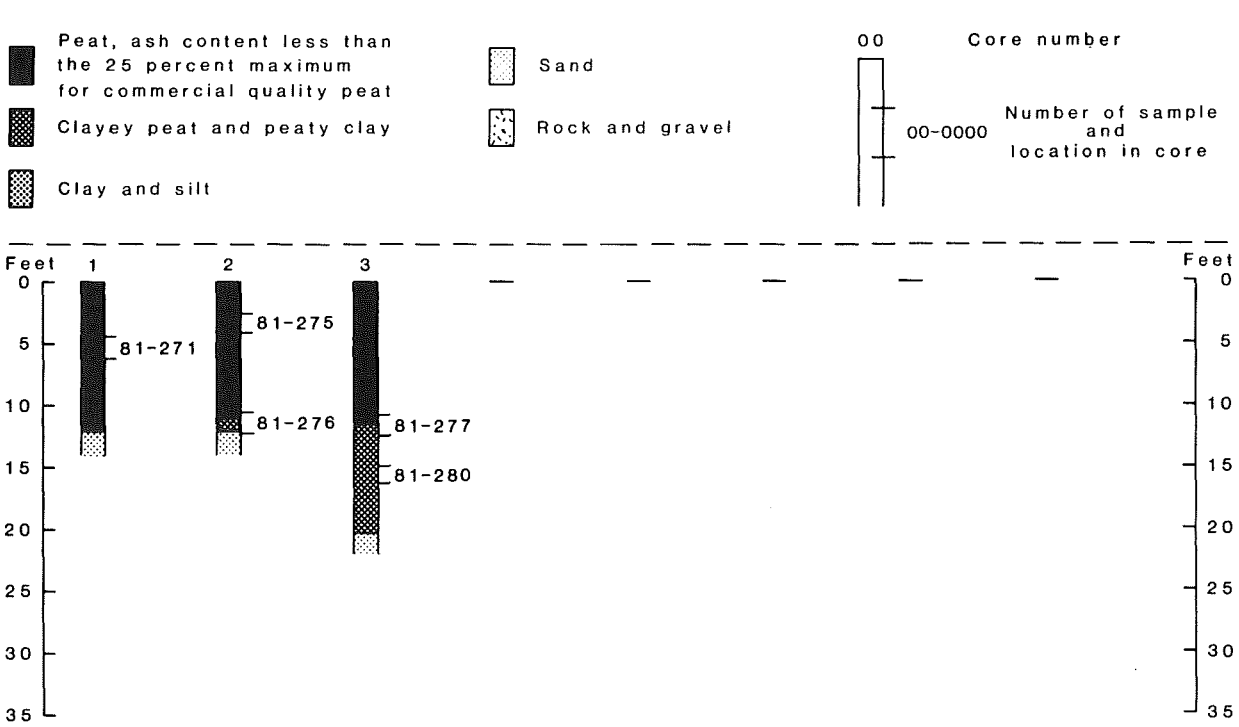
Note: The peat deposit was drowned when the dam was constructed.

ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
180	11	396,000

Geologic setting code: IIA9c

Figure 11. Sketch map and cores of bog at North Pond, Norway Twp., West Paris 7.5 minute Quadrangle, Oxford County, Maine (Number 8 on Index Map).



PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
*81-271	88.5	57.9	35.6	6.5	3.75	54.34	1.86	0.46	8,758
81-275	90.7	68.1	30.0	1.9	4.85	54.54	1.27	0.14	9,216
81-276	87.8	20.3	5.3	74.4	1.31	12.82	0.99	0.78	2,278
*81-277	86.3	42.5	15.1	42.4	3.23	32.30	2.29	0.92	5,762
81-280	93.2	42.0	10.9	47.1	2.68	26.93	2.63	1.10	4,879

*Bag torn; moisture content not accurate.

Figure 11. Continued.

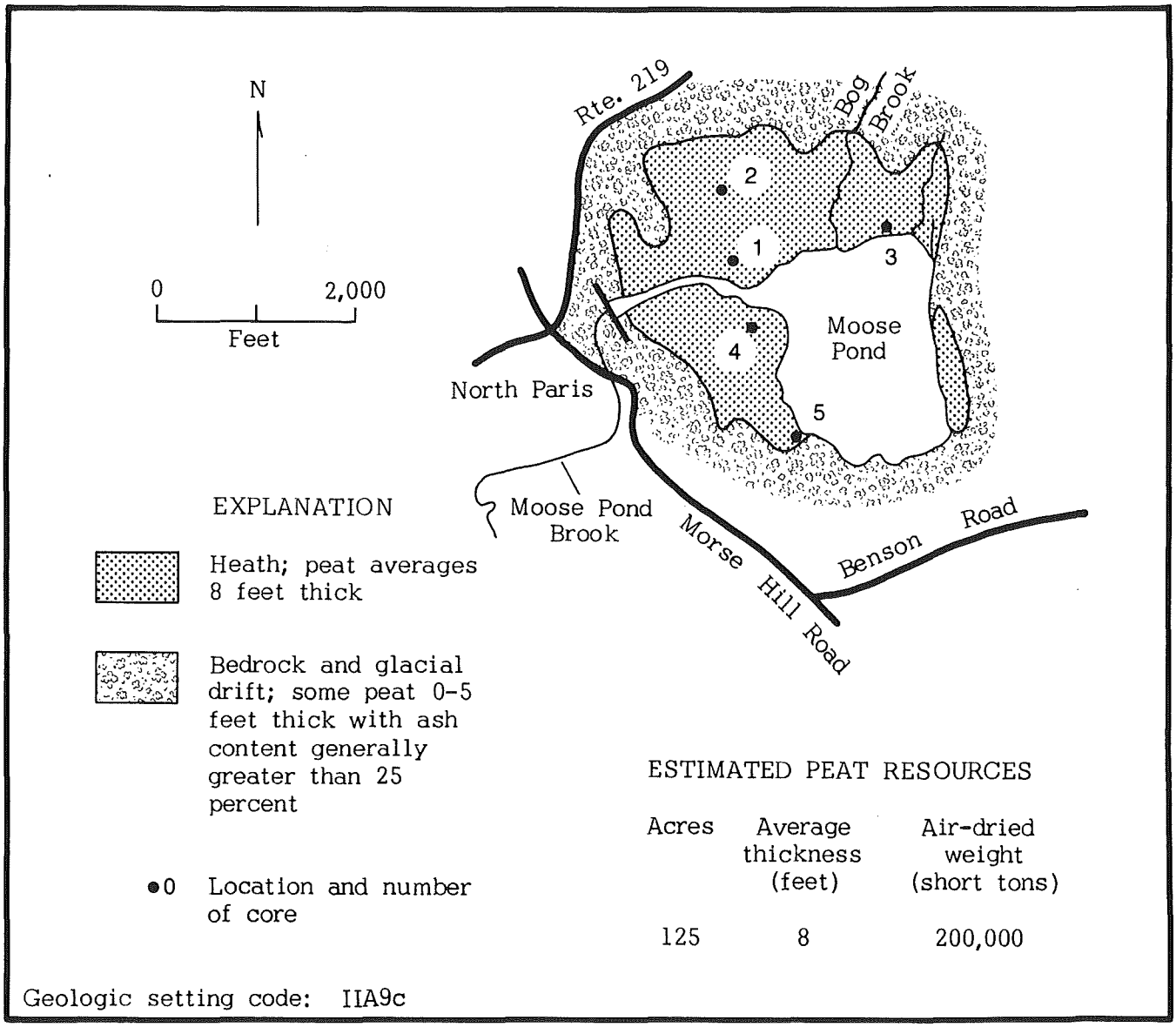


Figure 12. Sketch map and cores of bog adjacent to Moose Pond at North Paris, West Paris Twp., West Paris 7.5 minute Quadrangle, Oxford County, Maine (Number 9 on Index Map).

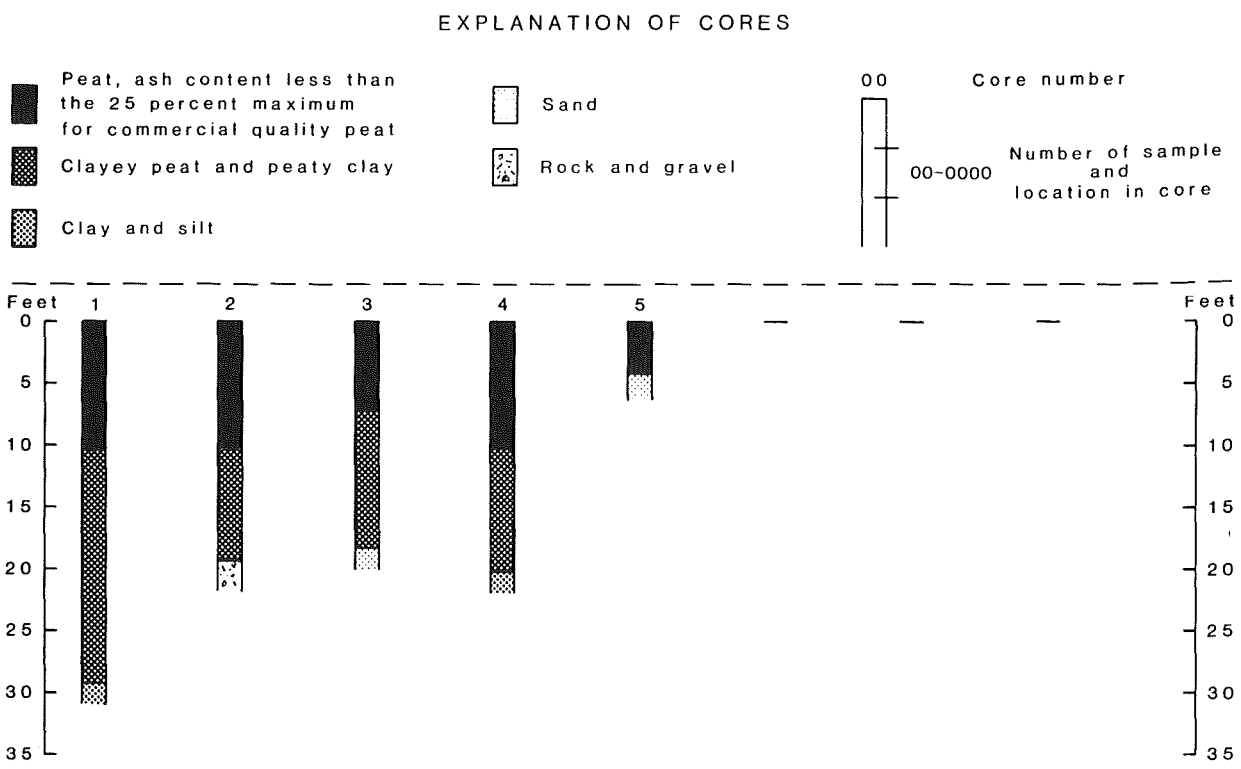


Figure 12. Continued.

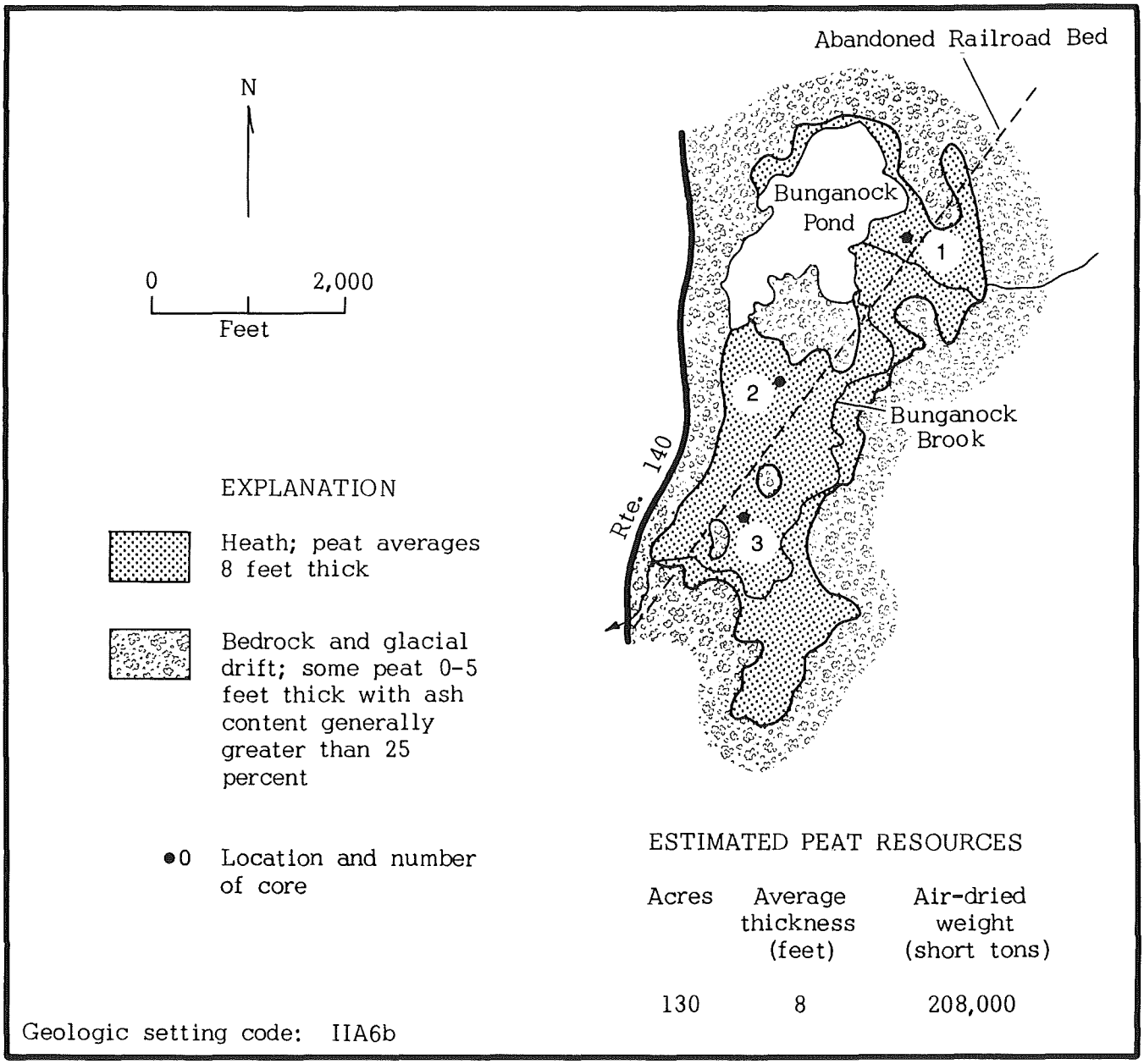
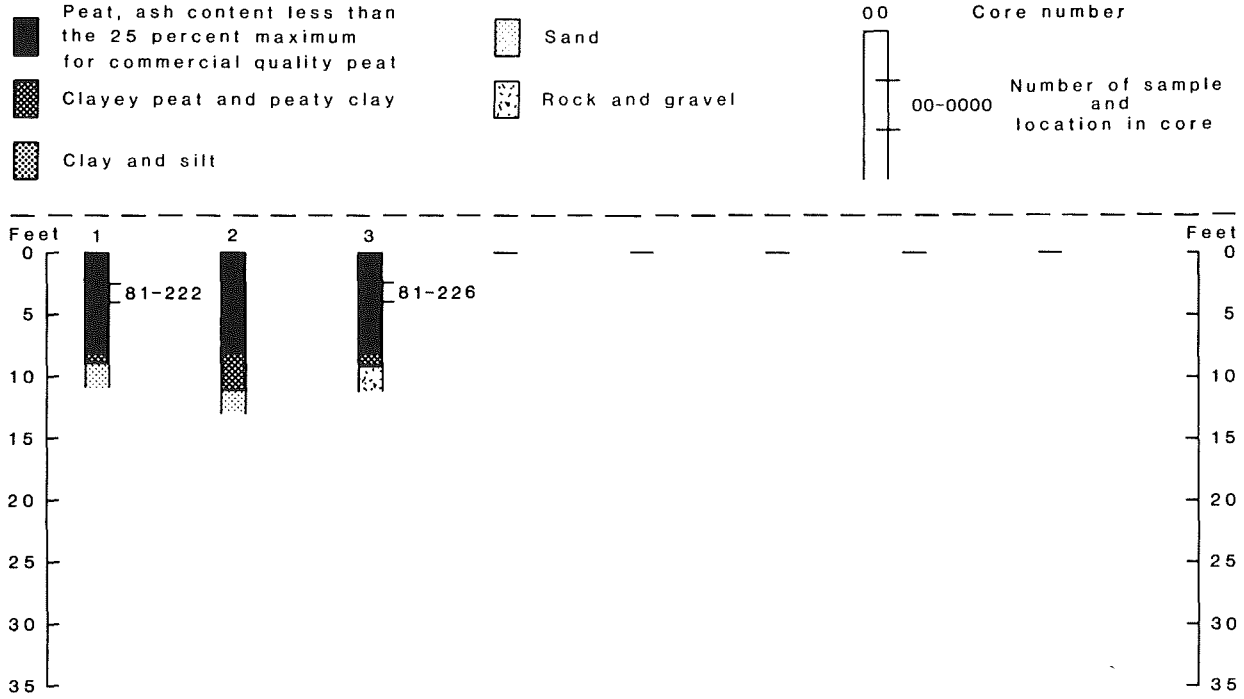


Figure 13. Sketch map and cores of bog at Bunganock Pond and Bunganock Brook, Hartford Twp., Canton 7.5 minute Quadrangle, Oxford County, Maine (Number 10 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	PROXIMATE ANALYSIS: Percent dry weight: Volatile matter	PROXIMATE ANALYSIS: Percent dry weight: Fixed carbon	PROXIMATE ANALYSIS: Percent dry weight: Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	ULTIMATE ANALYSIS: Percent dry weight: Carbon	ULTIMATE ANALYSIS: Percent dry weight: Nitrogen	ULTIMATE ANALYSIS: Percent dry weight: Sulfur	Heating value (BTU/lb)
81-222	87.9	64.0	32.5	3.5	4.72	57.59	1.12	0.24	9,669
81-226	89.6	66.3	31.4	2.3	5.00	60.36	2.51	0.37	10,388

Figure 13. Continued.

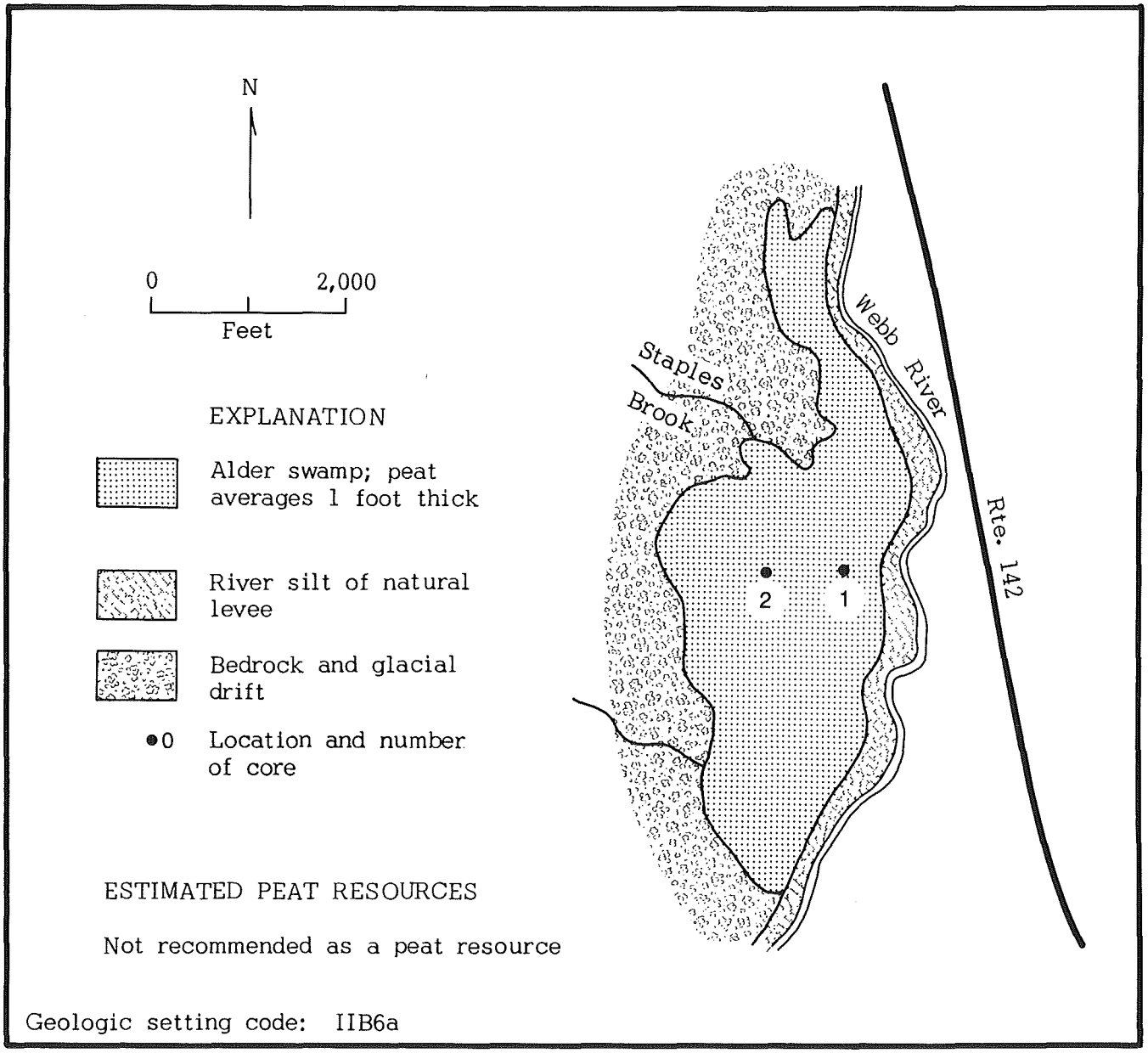


Figure 14. Sketch map and cores of bog along Webb River north of Dix. field, Mexico Twp., Dixfield 15 minute Quadrangle, Oxford County, Maine (Number 11 on Index Map).

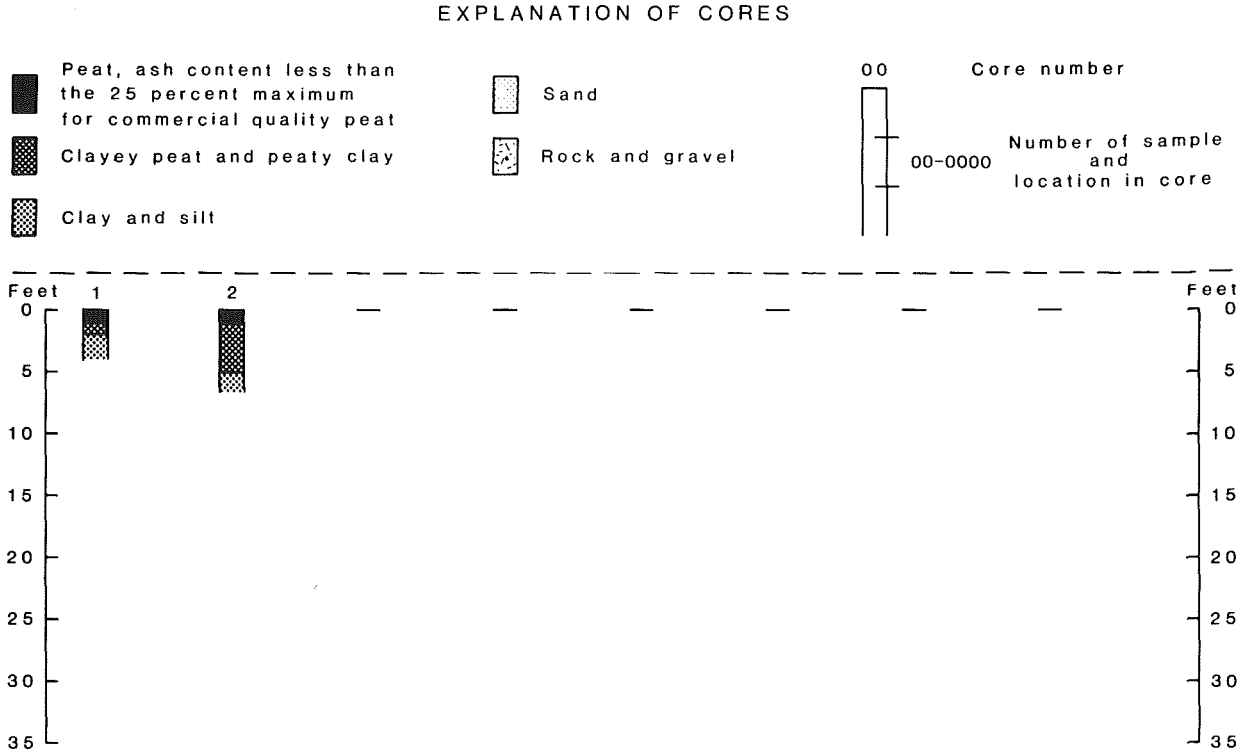
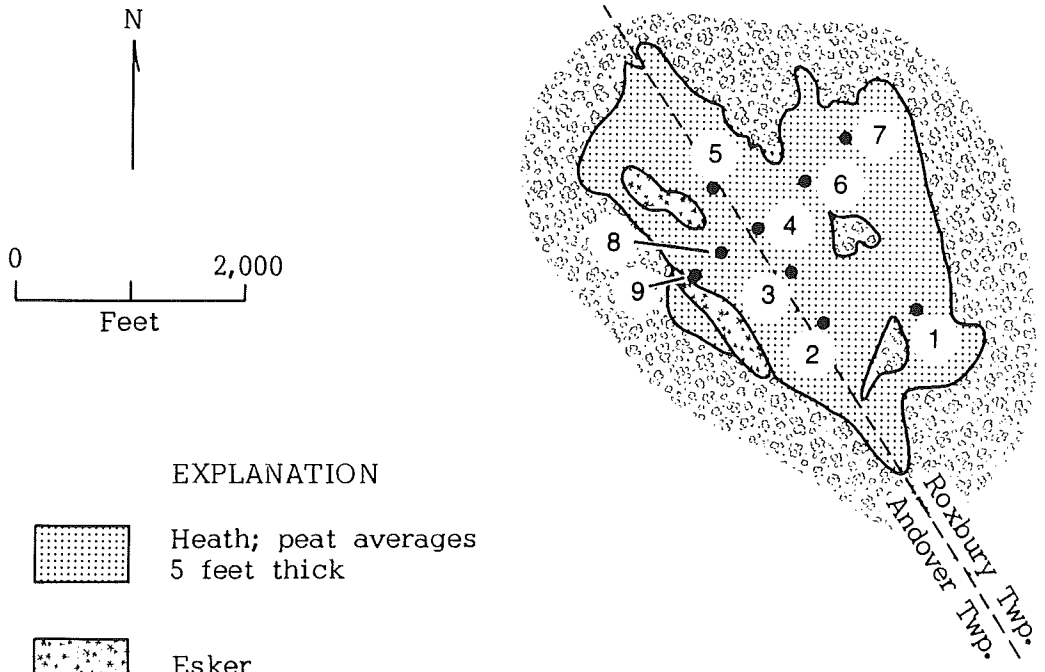


Figure 14. Continued.



EXPLANATION

Heath; peat averages 5 feet thick

Esker

Bedrock and glacial drift

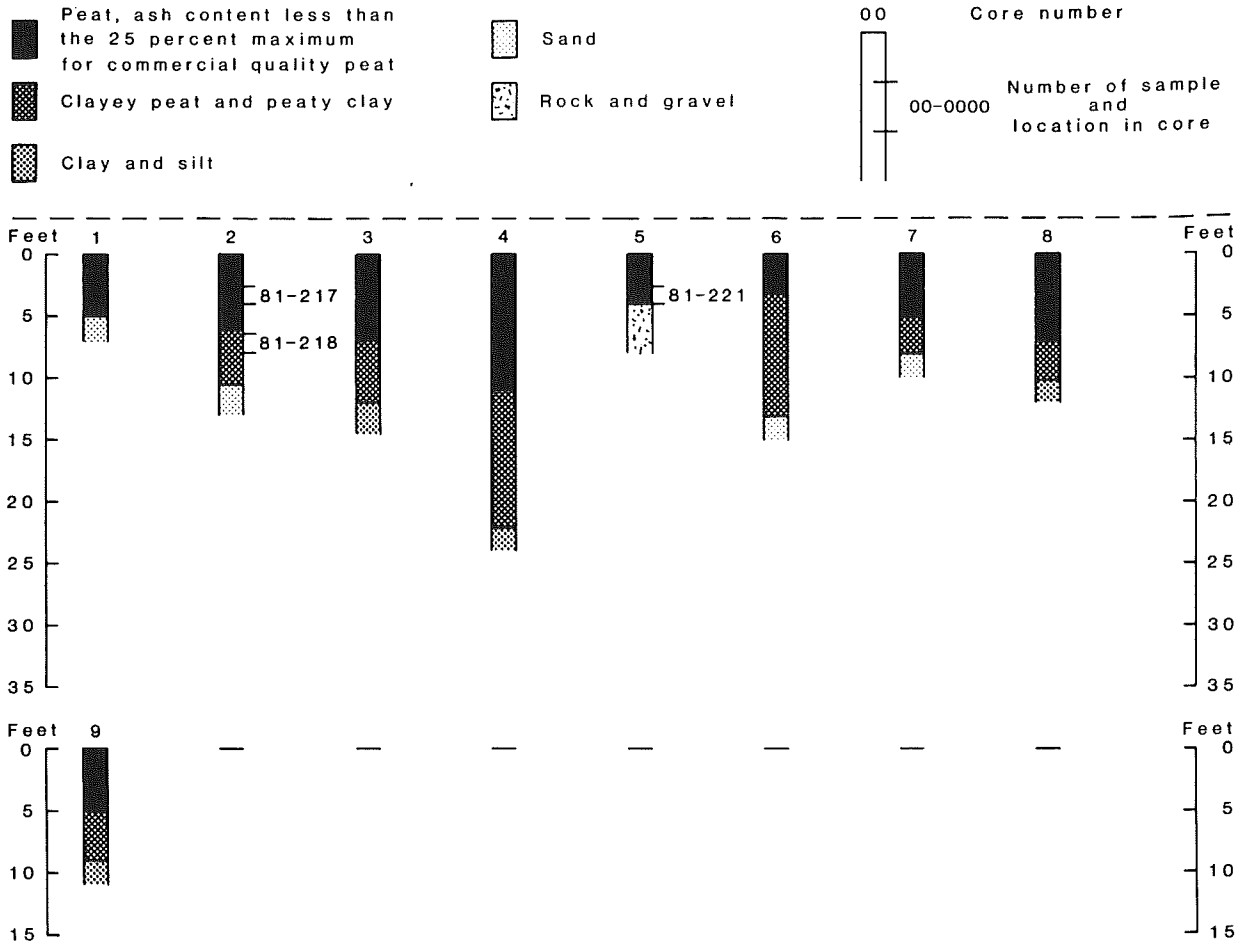
●0 Location and number of core

ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
128	5	128,000

Geologic setting code: IIB6d

Figure 15. Sketch map, cores, and sample analyses of bog between Horseshoe Brook and Meadow Brook, Andover and Roxbury Twps., East Andover 7.5 minute Quadrangle, Oxford County, Maine (Number 12 on Index Map).



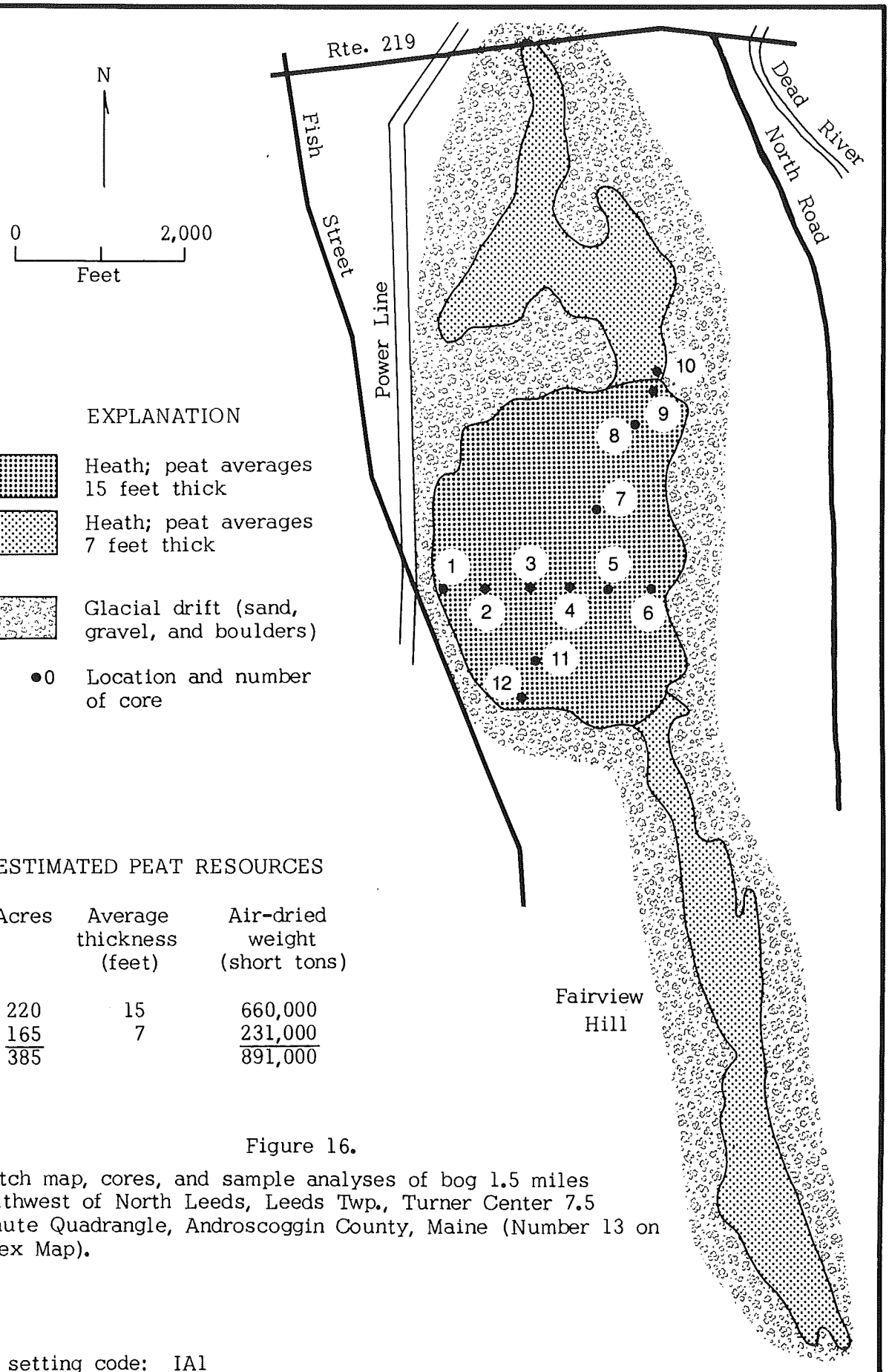
PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
*81-217	90.0	67.3	31.4	1.3	5.62	59.26	1.46	0.17	10,270
81-218	89.9	51.0	21.0	28.0	3.84	43.73	2.62	0.34	7,892
81-221	89.6	61.5	31.3	7.2	4.72	55.68	1.69	0.40	9,693

*Bag torn; moisture content not accurate.

Figure 15. Continued.



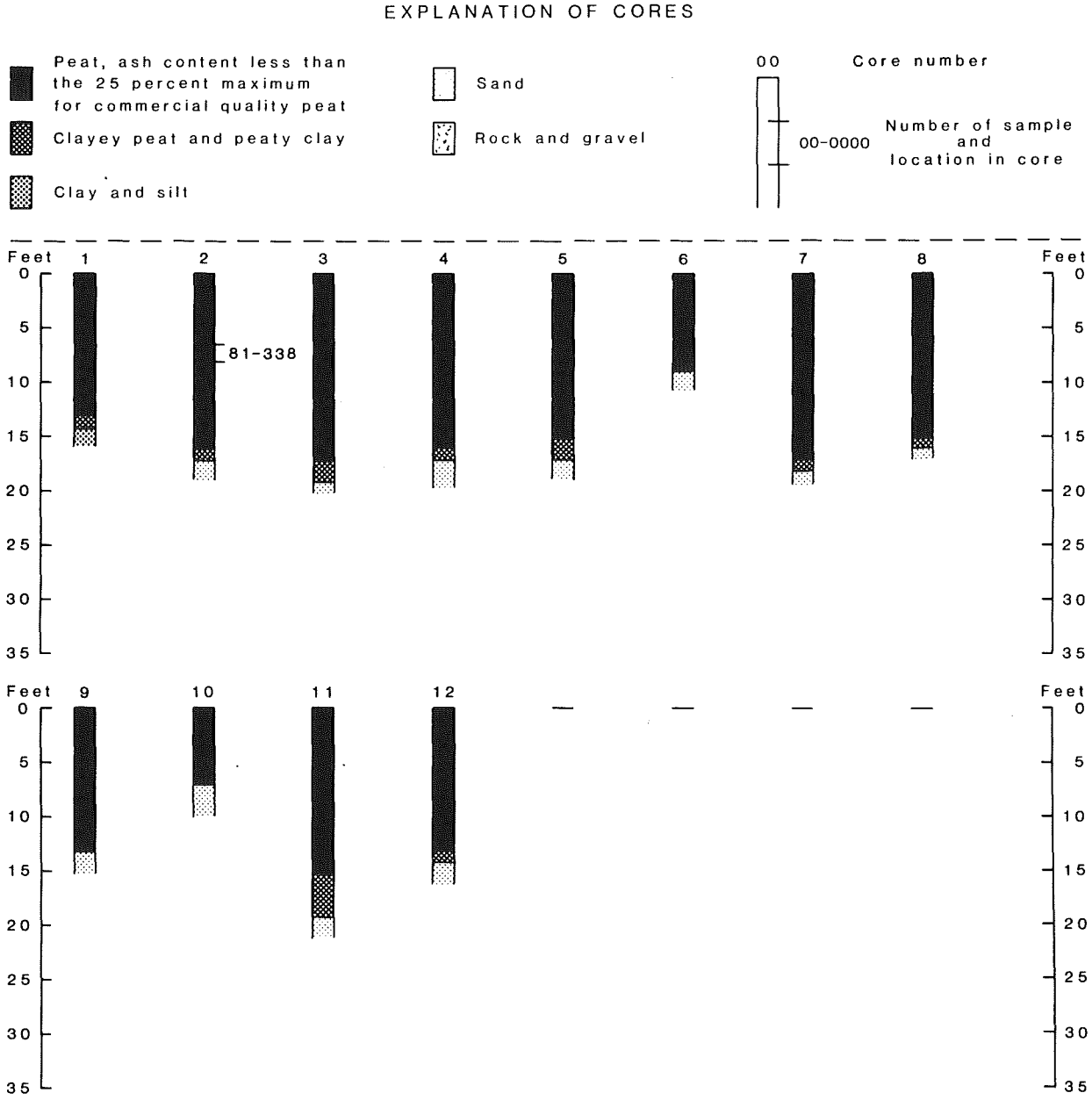
ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
220	15	660,000
165	7	231,000
385		891,000

Figure 16.

Sketch map, cores, and sample analyses of bog 1.5 miles southwest of North Leeds, Leeds Twp., Turner Center 7.5 minute Quadrangle, Androscoggin County, Maine (Number 13 on Index Map).

Geologic setting code: IA1



Sample number	PROXIMATE ANALYSIS: Percent water as received	PROXIMATE ANALYSIS: Percent dry weight — Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight — Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-338	91.2	65.3	33.9	0.8	5.12	57.33	1.12	0.10	9,781

Figure 16. Continued.

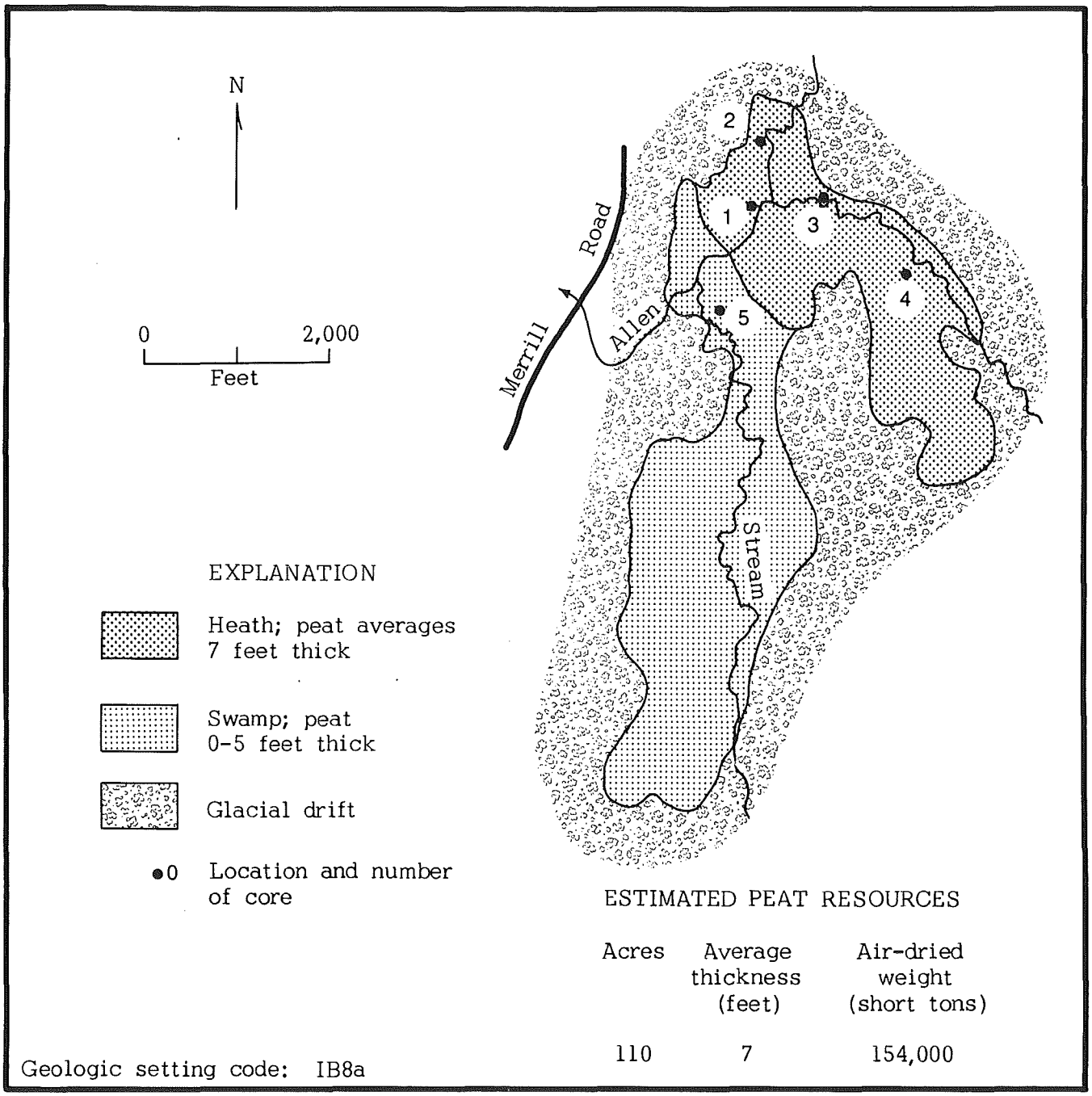
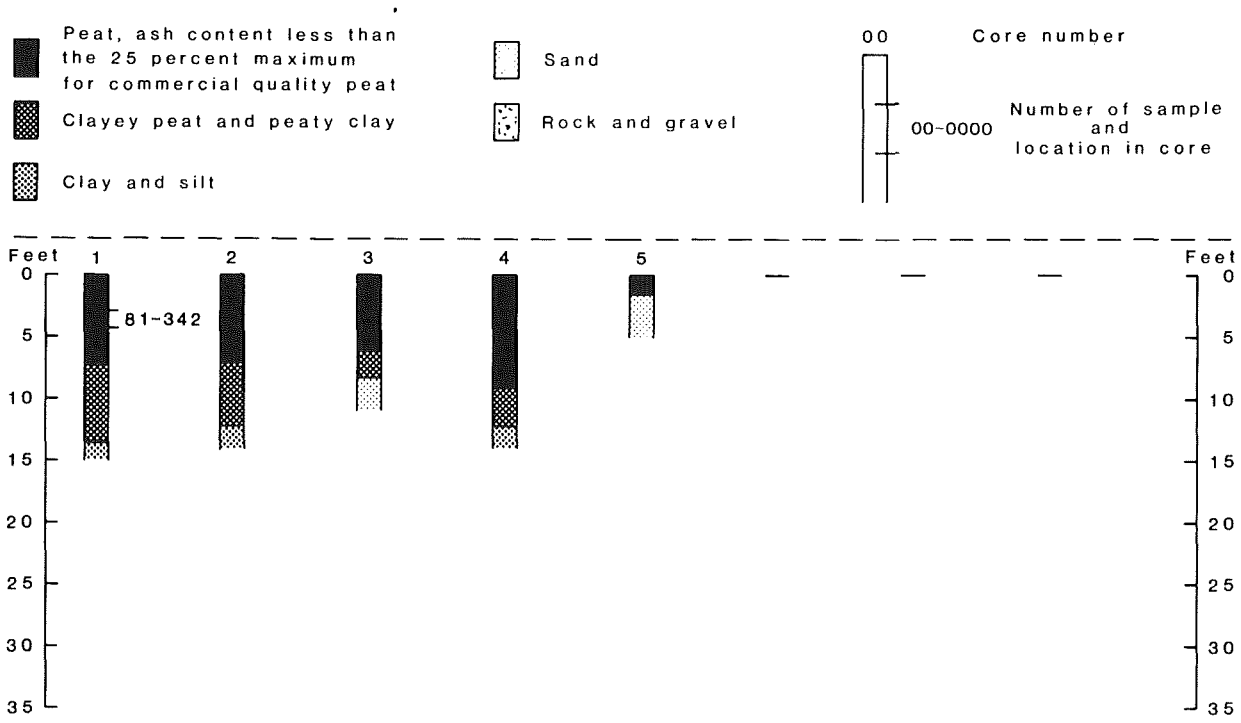


Figure 17. Sketch map, cores, and sample analyses of bog along Allen Stream, Leeds Twp., Turner Center 7.5 minute Quadrangle, Androscoggin County, Maine (Number 14 on Index Map).



PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-342	89.2	62.9	31.1	6.0	4.90	56.47	1.69	0.36	9,672

Figure 17. Continued.

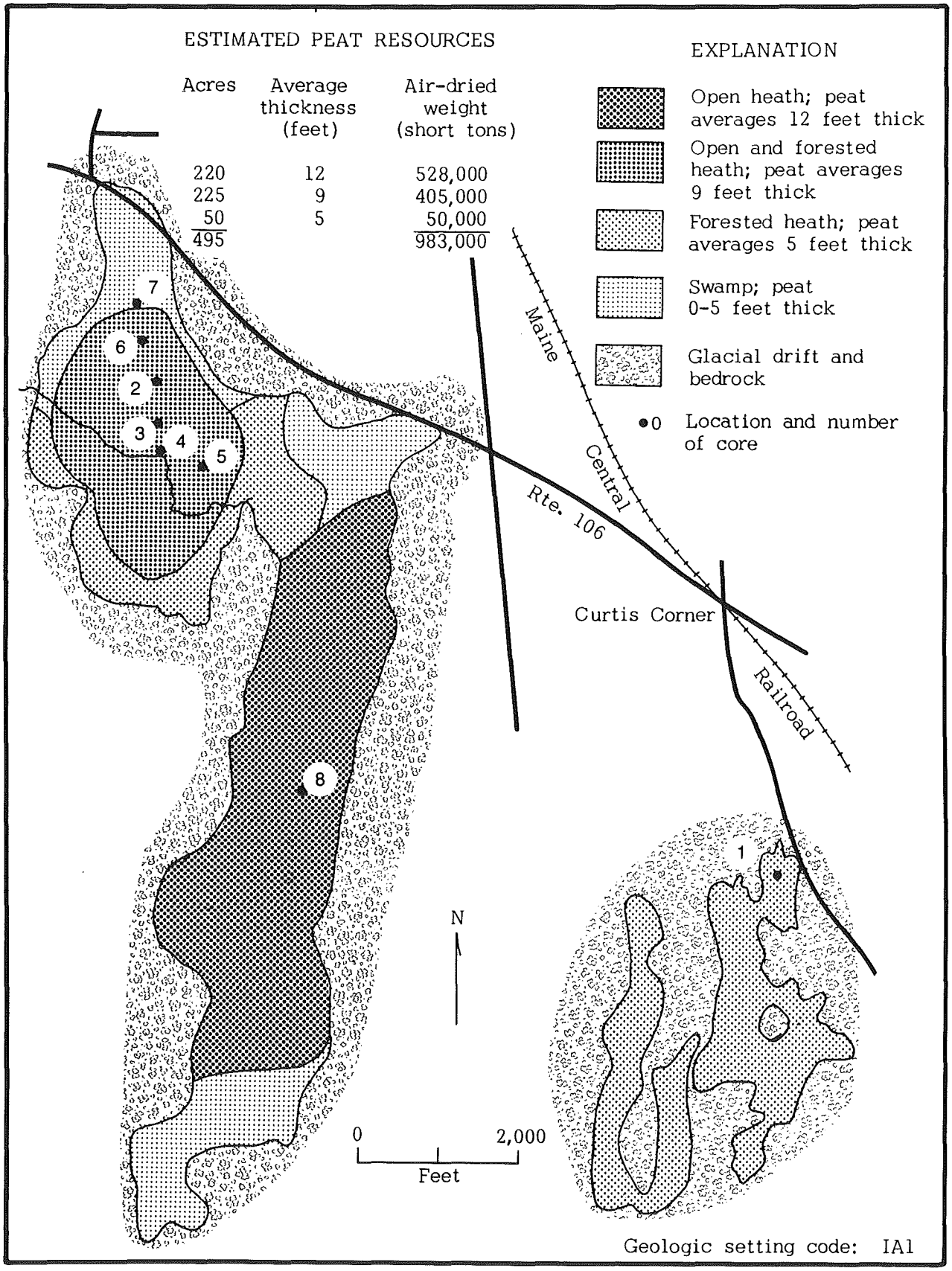
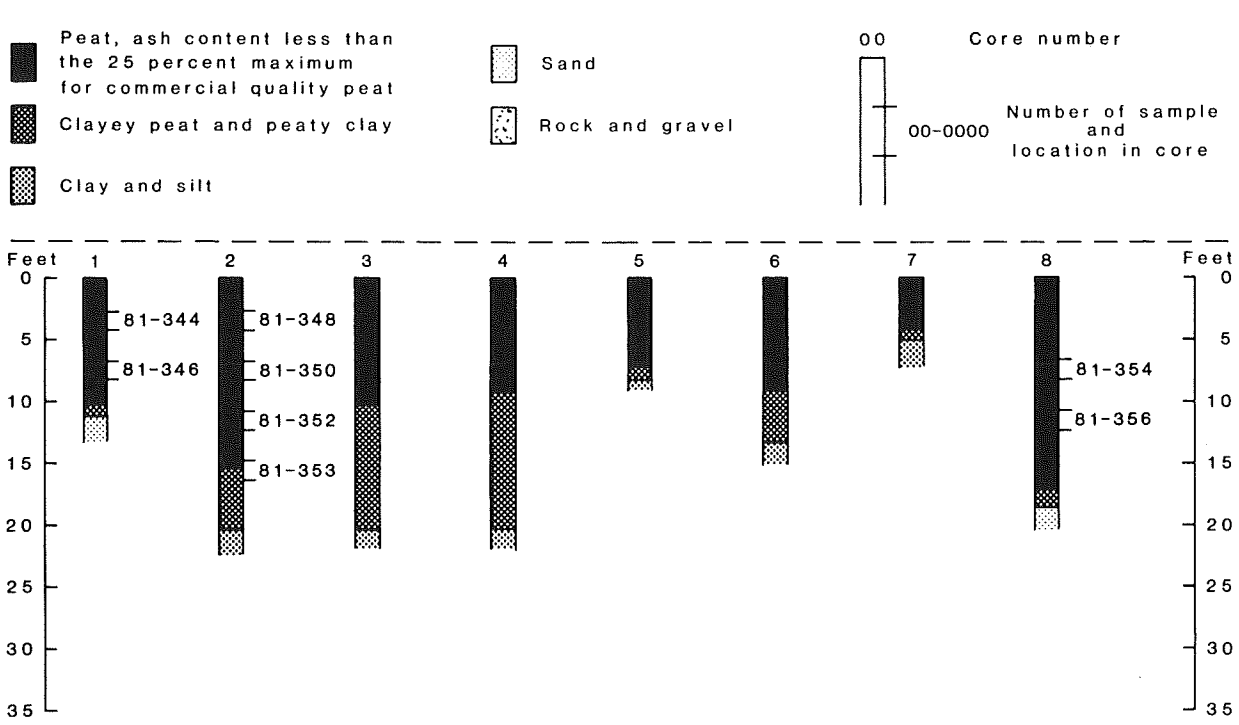


Figure 18. Sketch map, cores, and sample analyses of bogs west and south of Curtis Corner, Leeds Twp., Wayne 7.5 minute Quadrangle, Androscoggin County, Maine (Number 15 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-344	89.4	63.6	34.5	1.9	4.53	57.61	1.14	0.14	9,683
81-346	90.0	66.2	30.7	3.1	4.97	55.95	1.55	0.28	9,567
81-348	90.7	66.0	31.5	2.5	4.96	57.78	1.38	0.18	10,026
*81-350	86.9	64.0	33.7	2.3	5.09	59.15	1.17	0.23	10,017
81-352	89.9	65.2	32.2	2.6	4.95	57.10	1.13	0.26	9,762
*81-353	90.1	38.4	12.7	48.9	3.02	27.81	2.03	1.13	5,002
*81-354	89.0	61.8	34.1	4.1	4.58	56.61	1.36	0.55	9,457
*81-356	92.4	58.1	23.0	18.9	4.76	46.97	3.19	1.13	8,377

*Bag torn; moisture content not accurate.

Figure 18. Continued.

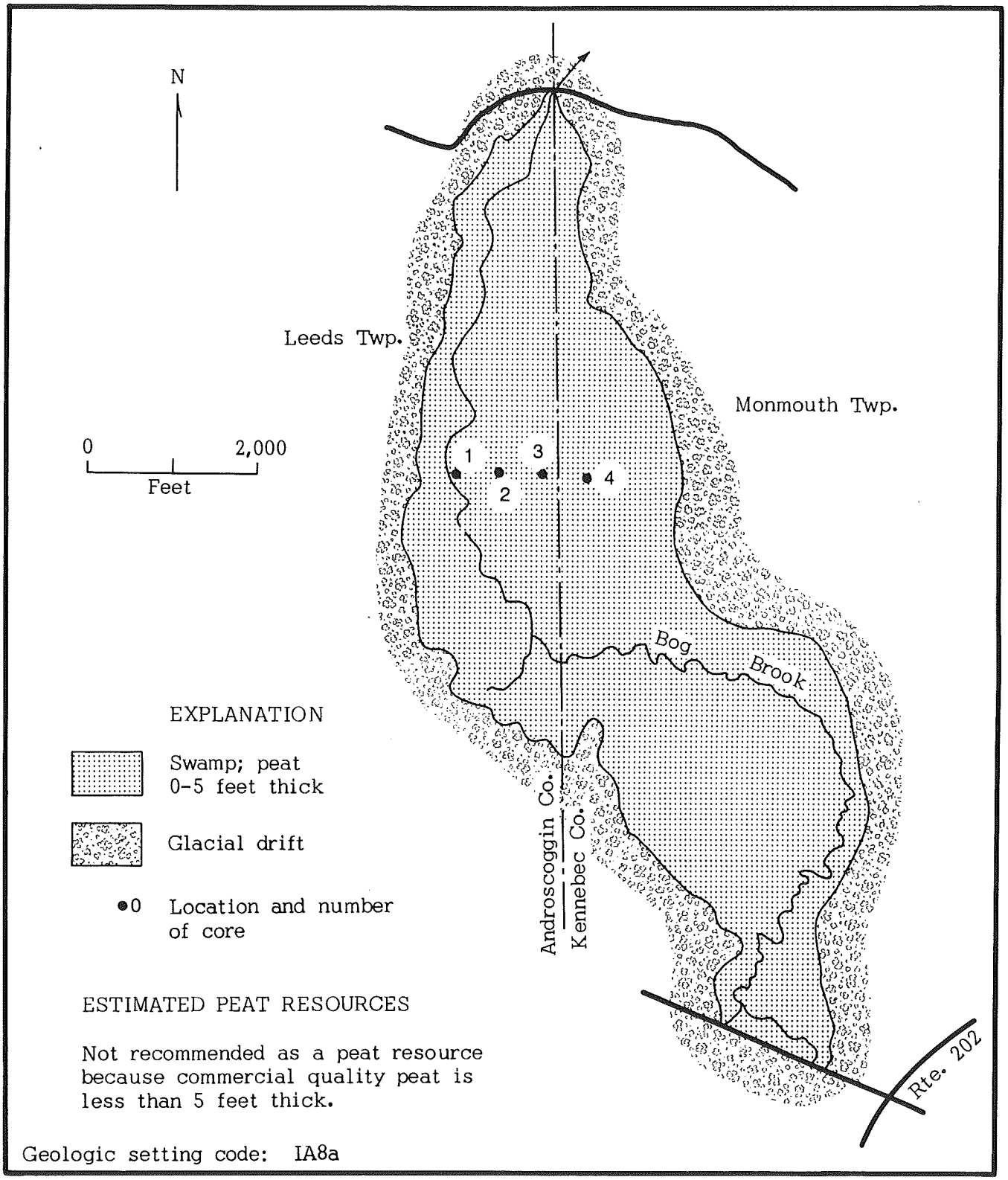
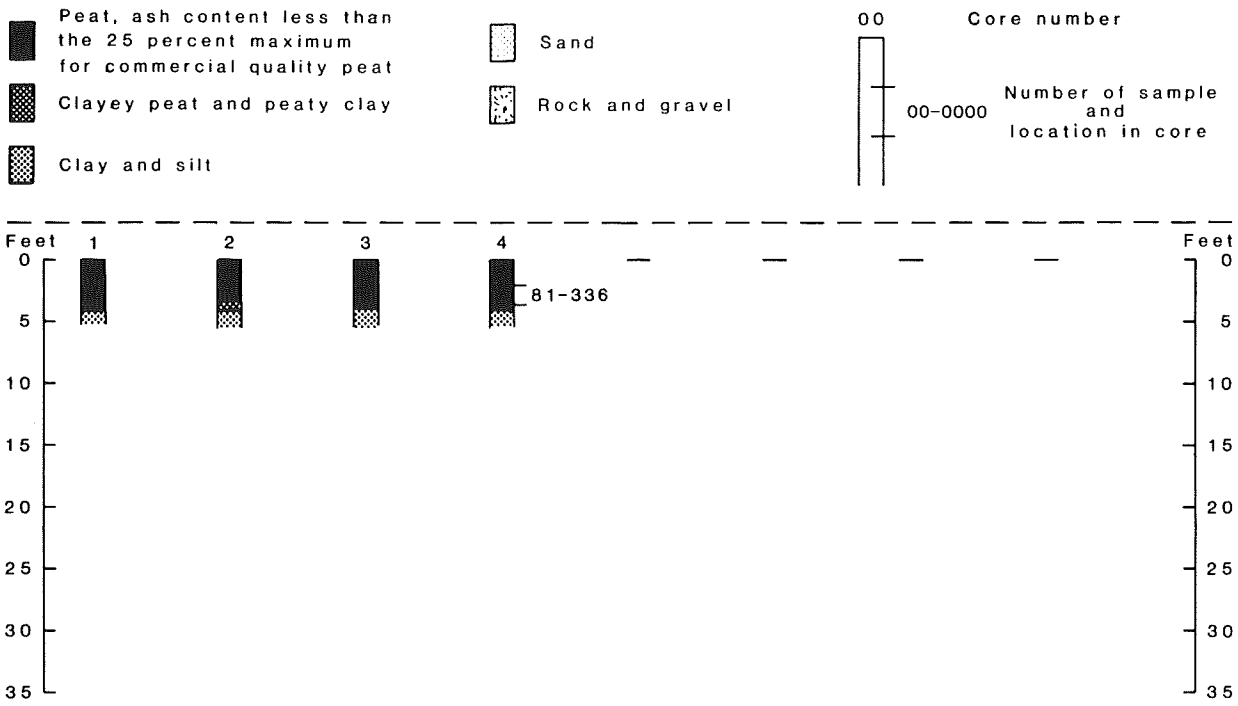
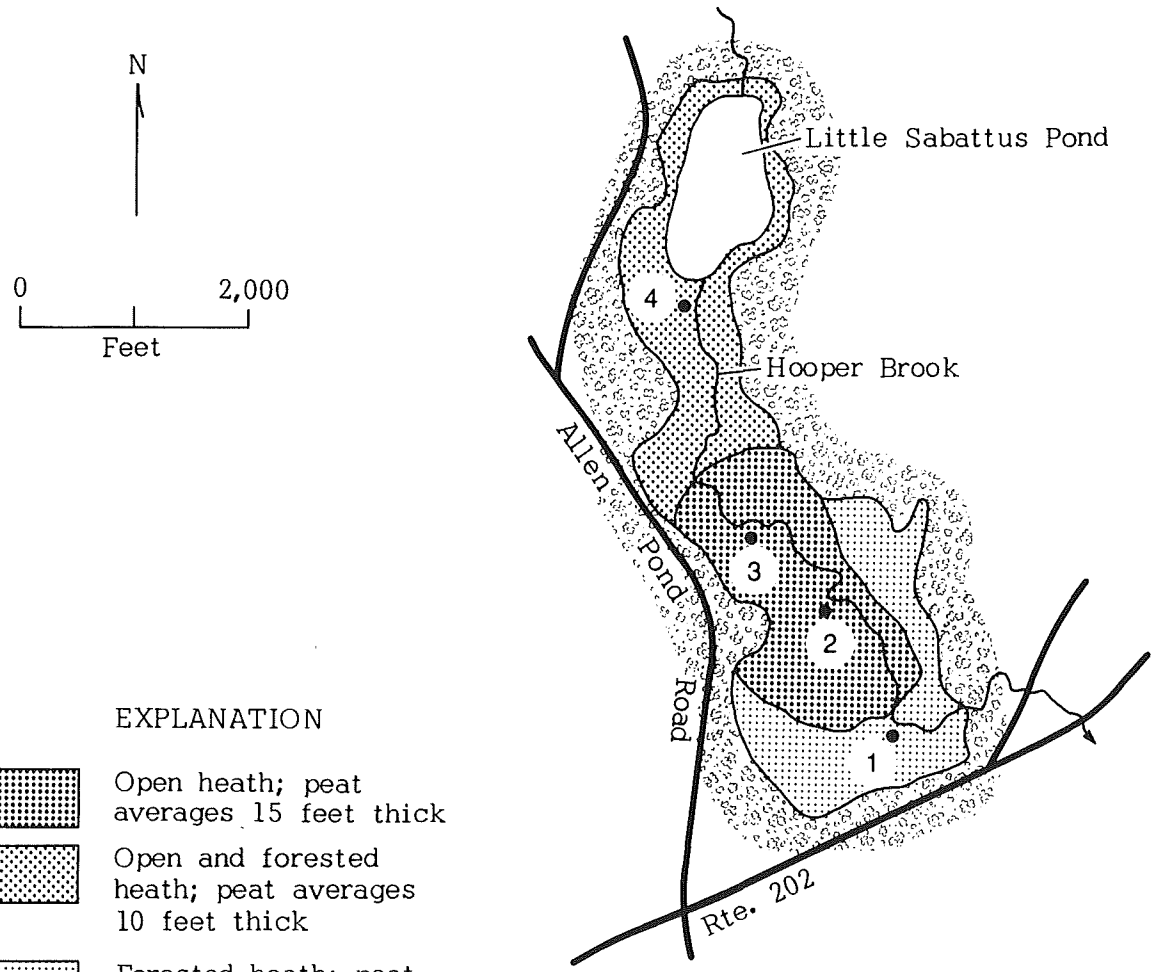


Figure 19. Sketch map, cores, and sample analyses of bog along Bog Brook south of Androscoggin Lake on the Androscoggin-Kennebec County line, Leeds and Monmouth Twps., Wayne 7.5 minute Quadrangle, Maine (Number 16 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-336	86.9	58.8	29.3	11.9	4.90	52.77	1.87	0.37	9,091

Figure 19. Continued.



EXPLANATION

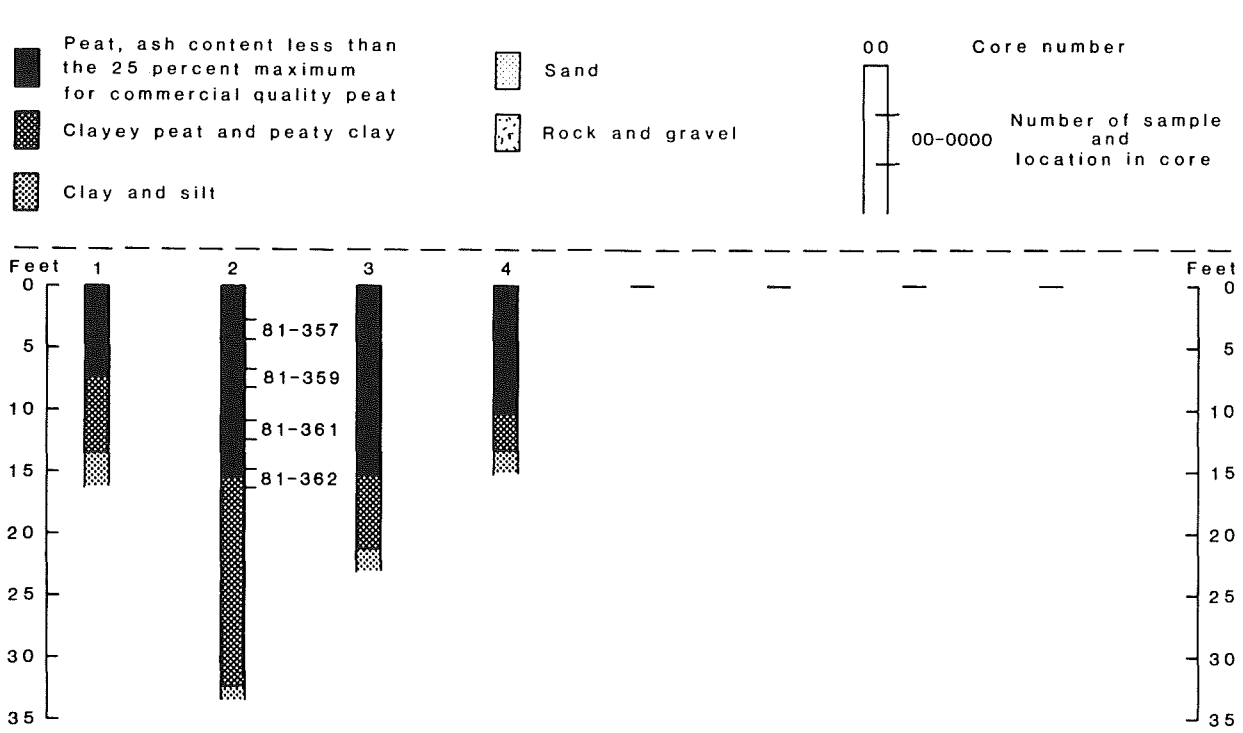
- Open heath; peat averages 15 feet thick
- Open and forested heath; peat averages 10 feet thick
- Forested heath; peat averages 5 feet thick
- Glacial moraine and bedrock
- ●0 Location and number of core

ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
65	15	195,000
55	10	110,000
50	5	50,000
170		355,000

Geologic setting code: IA8a

Figure 20. Sketch map, cores, and sample analyses of bog at Little Sabattus Pond, Greene Twp., Lewiston 15 minute Quadrangle, Androscoggin County, Maine (Number 17 on Index Map).



Sample number	Percent water as received	PROXIMATE ANALYSIS Percent dry weight Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS Percent dry weight Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
*81-357	87.6	60.1	28.3	11.6	4.15	50.87	2.51	0.71	8,550
*81-359	86.1	52.5	27.1	20.4	3.84	46.25	2.28	0.66	7,786
*81-361	88.0	54.1	26.1	19.8	3.90	46.63	2.33	0.66	7,853
81-362	90.0	41.6	15.7	42.7	2.82	32.79	2.25	0.70	5,778

*Bag torn; moisture content not accurate.

Figure 20. Continued.

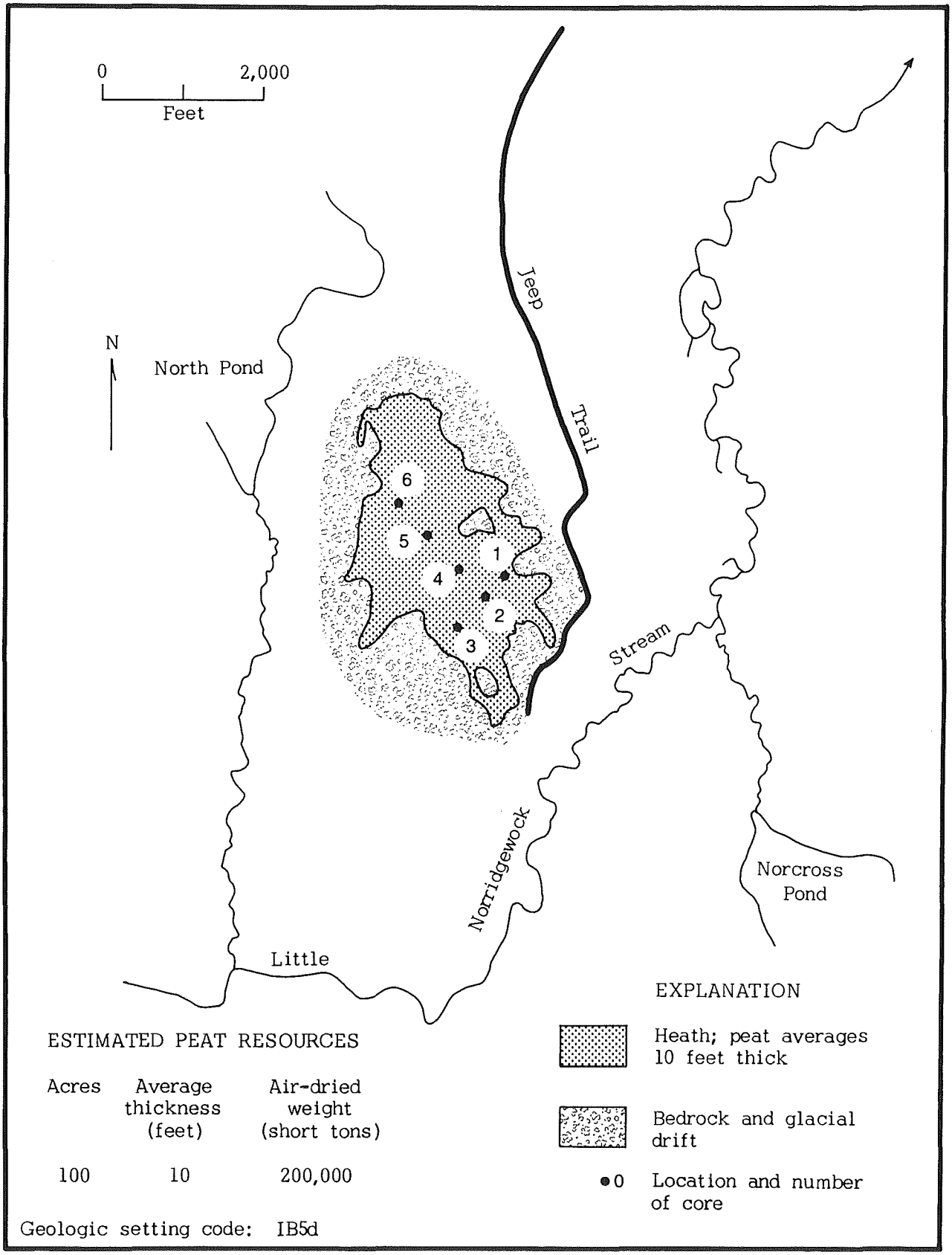
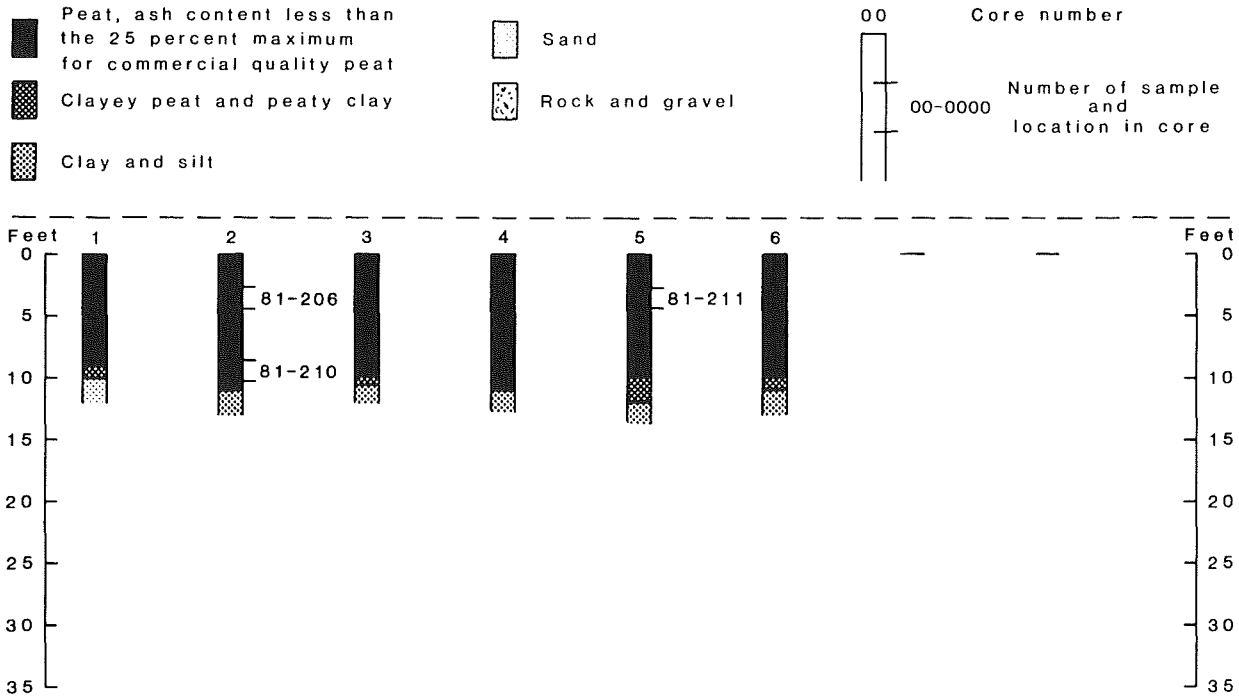


Figure 21. Sketch map, cores, and sample analyses of bog southeast of North Pond, Chesterville Twp., Farmington 15 minute Quadrangle, Franklin County, Maine (Number 18 on Index Map).



PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
*81-206	88.4	65.3	32.3	2.4	4.84	57.24	1.72	0.21	9,517
81-210	85.8	58.8	23.9	17.3	3.91	49.09	2.28	1.25	8,533
*81-211	87.3	67.4	31.5	1.1	5.39	57.59	1.68	0.18	9,843

*Bag torn; moisture content not accurate.

Figure 21. Continued.

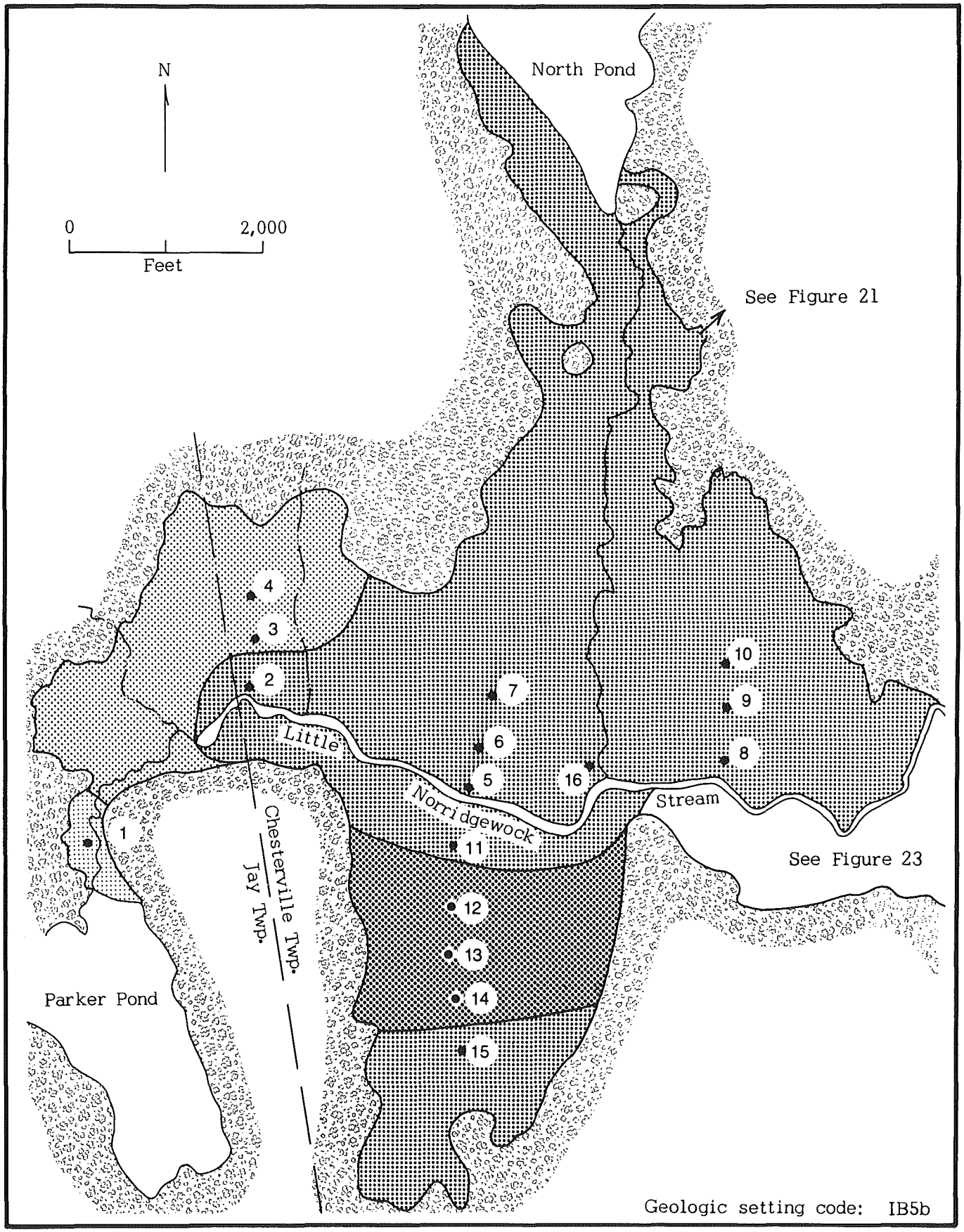


Figure 22. Sketch map and cores of bog south of North Pond and along Little Norridgewock Stream, Jay and Chesterville Twps., Farmington 15 minute Quadrangle, Franklin County, Maine (Number 19 on Index Map).

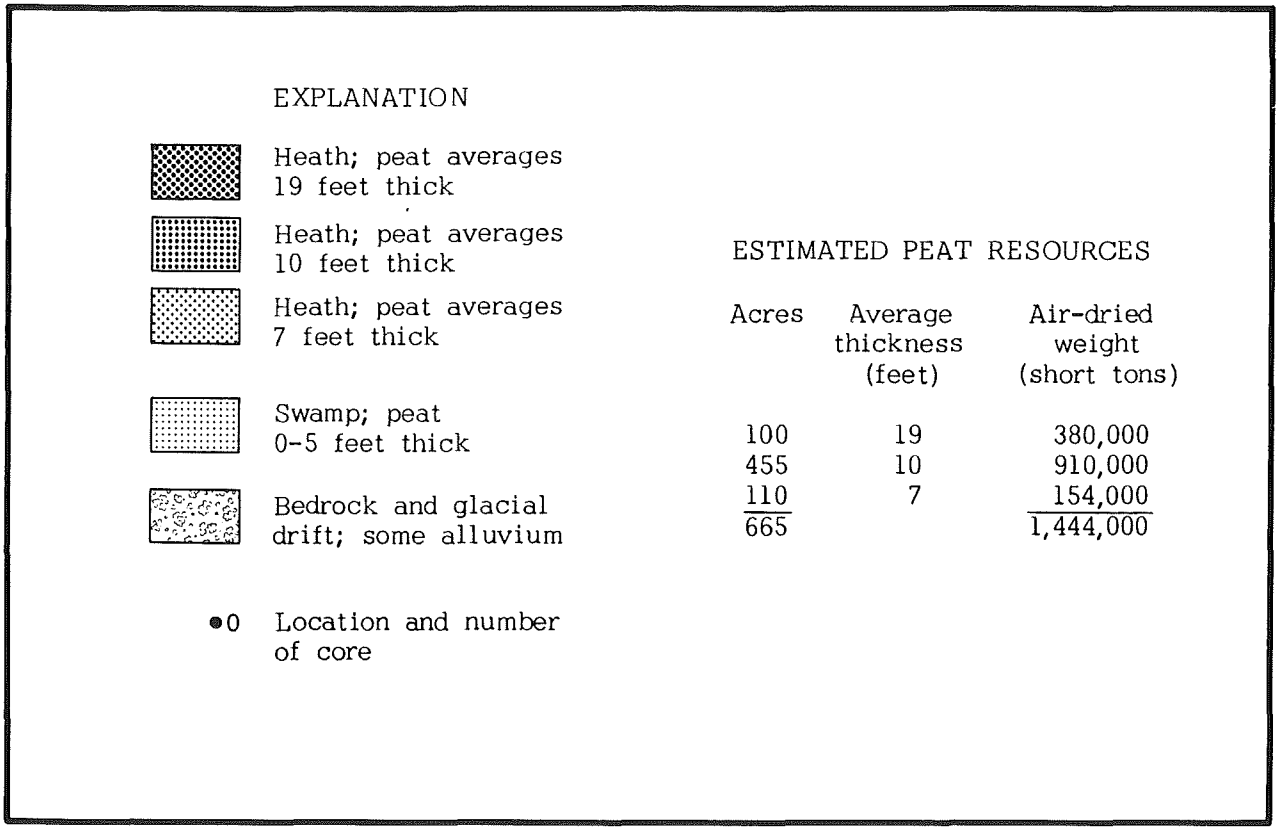
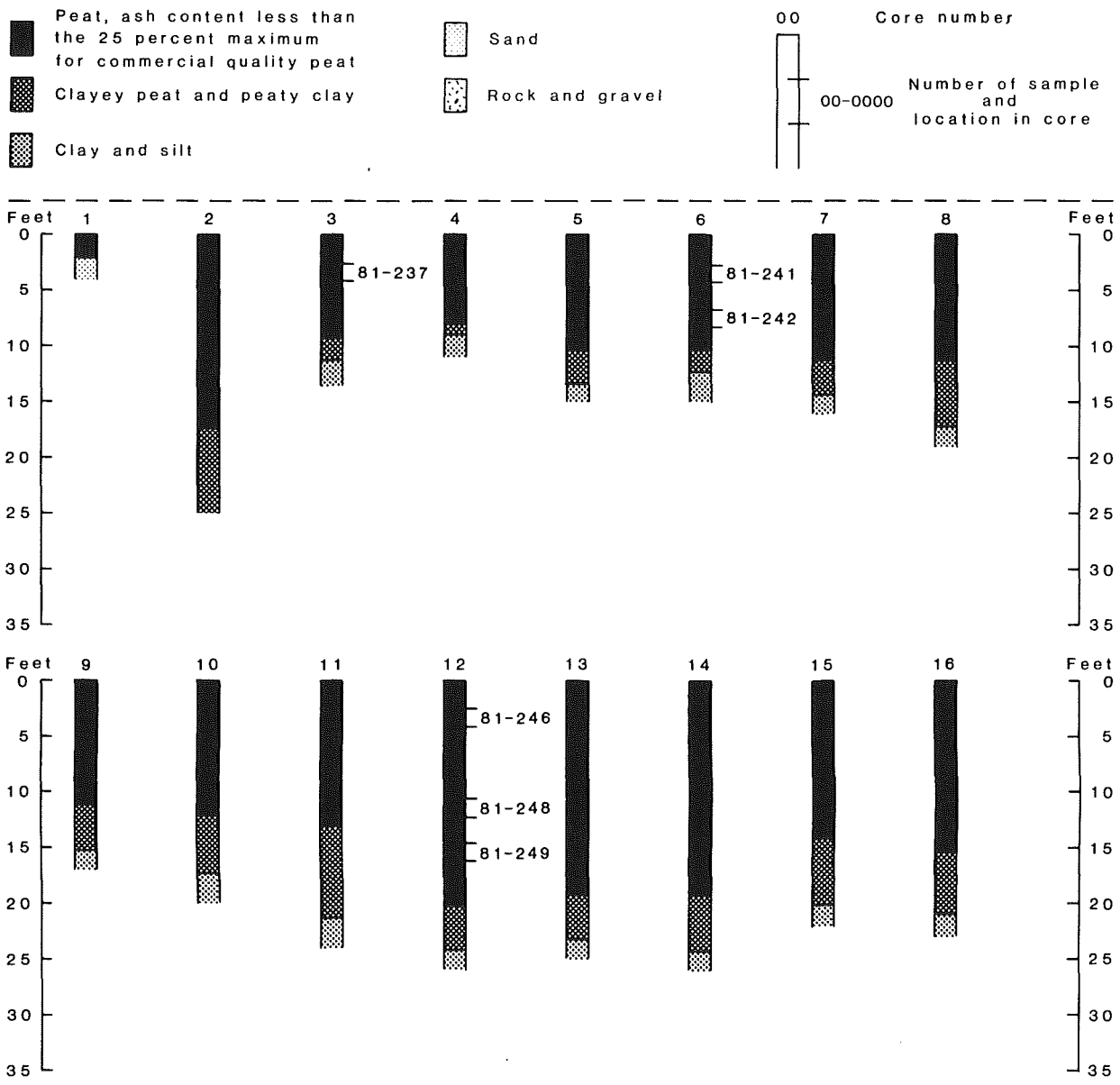


Figure 22. Continued.



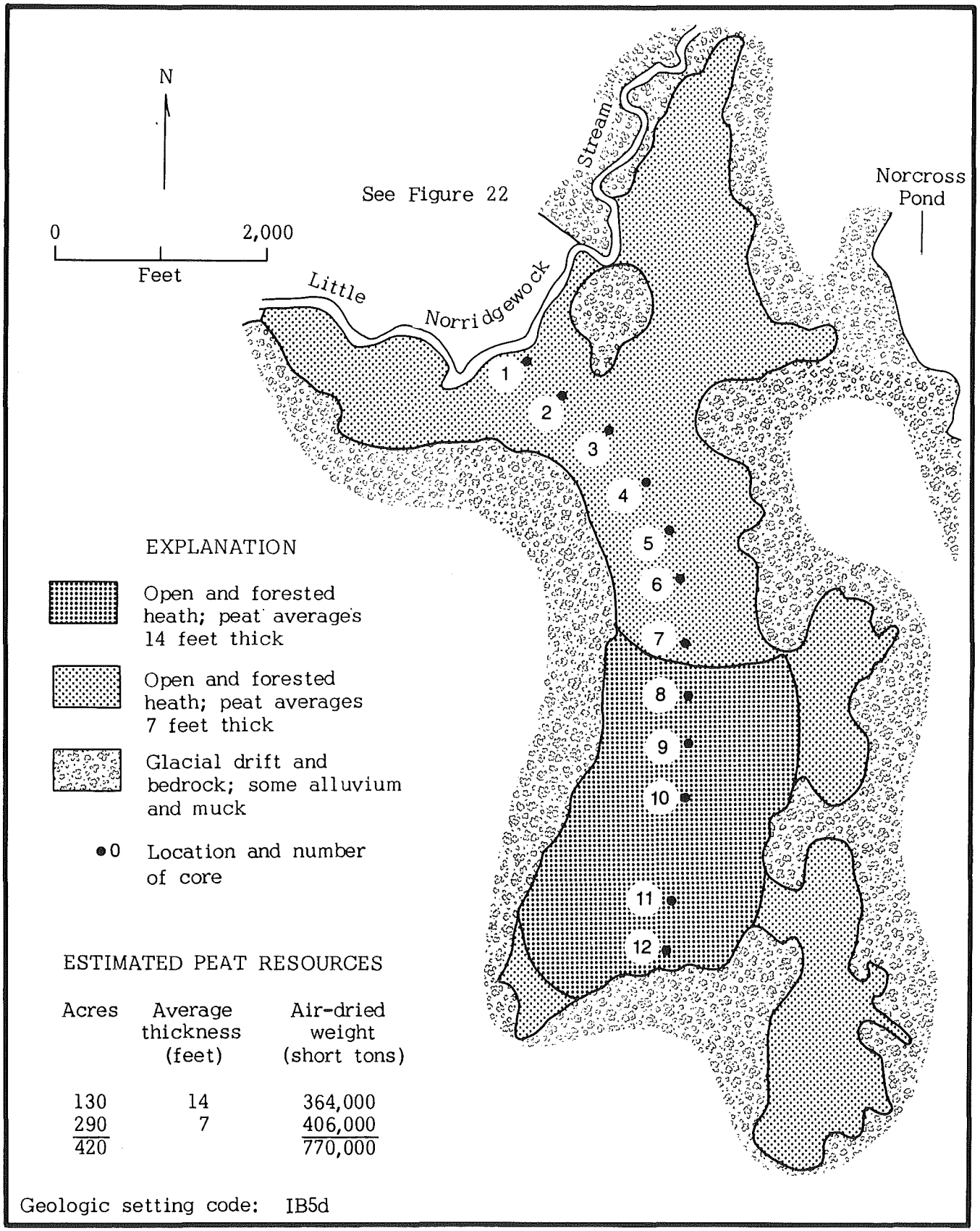
PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-237	86.7	60.3	34.7	5.0	4.02	56.60	1.68	0.76	9,508
*81-241	88.8	63.6	33.7	2.7	4.89	57.89	1.18	0.17	9,758
*81-242	92.2	61.2	27.7	11.1	4.91	52.60	2.96	0.75	9,261
81-246	91.7	68.5	30.8	0.7	4.96	55.14	0.94	0.12	9,202
81-248	91.0	66.4	31.6	2.0	4.99	57.73	1.87	0.23	10,027
81-249	91.4	64.3	31.5	4.2	5.15	56.86	2.74	0.59	9,929

*Bag torn; moisture content not accurate.

Figure 22. Continued.



ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
130	14	364,000
290	7	406,000
420		770,000

Geologic setting code: IB5d

Figure 23. Sketch map and cores of bog west of Norcross Pond and south of Little Norridgewock Stream, Chesterville Twp., Farmington 15 minute Quadrangle, Franklin County, Maine (Number 20 on Index Map).

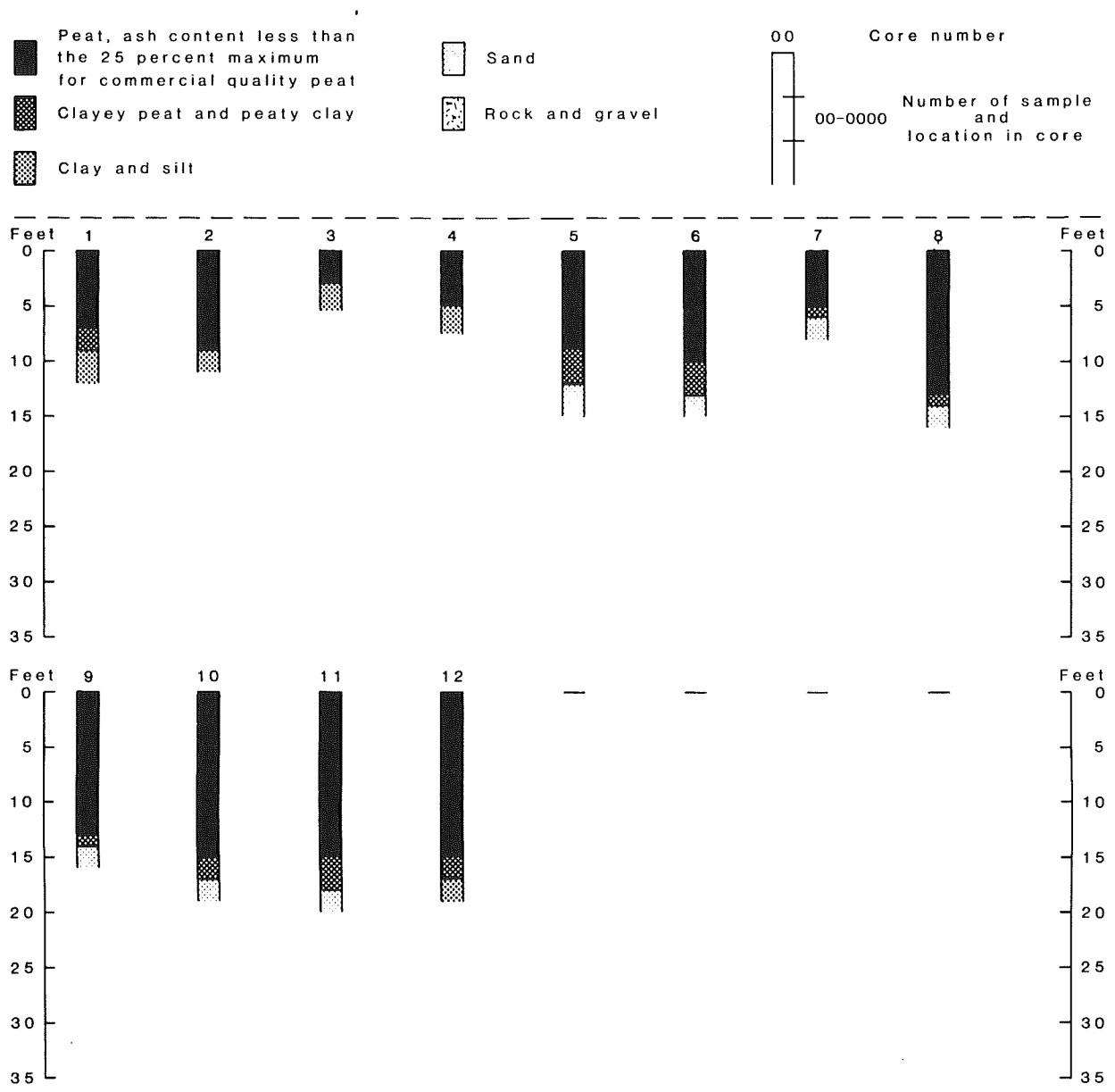


Figure 23. Continued.

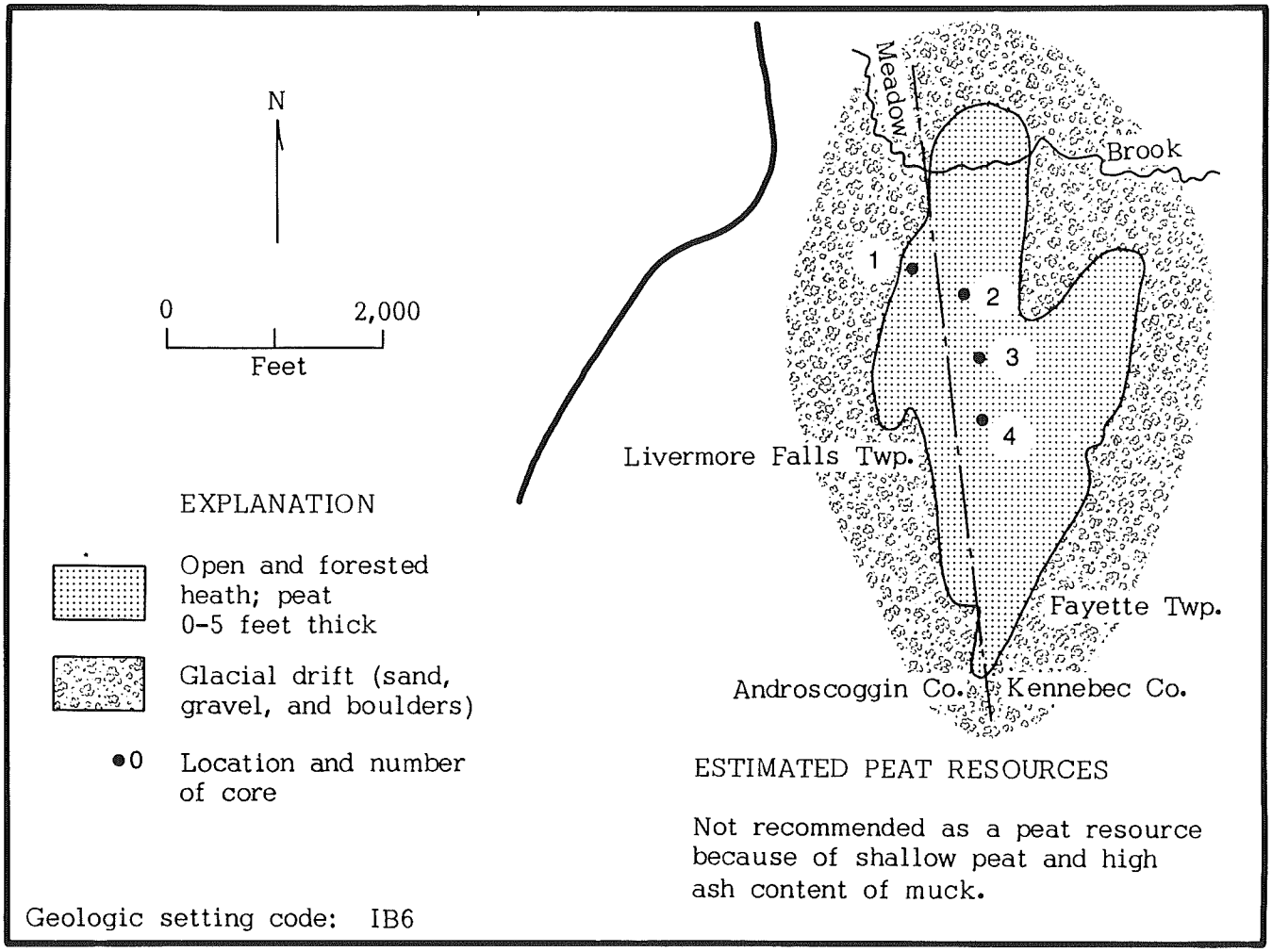


Figure 24. Sketch map and cores of bog south of Meadow Brook on Kennebec. Androscoggin County line, Livermore Falls and Fayette Twps., Fayette 7.5 minute Quadrangle, Maine (Number 21 on Index Map).

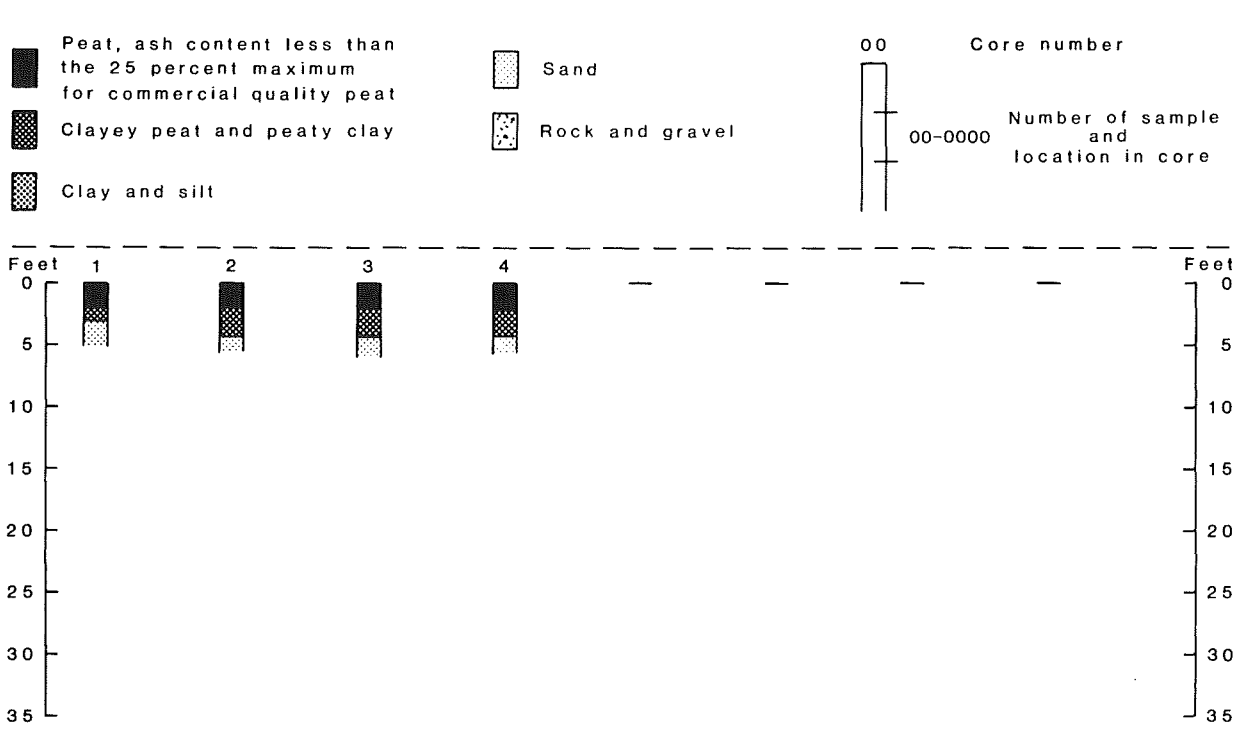
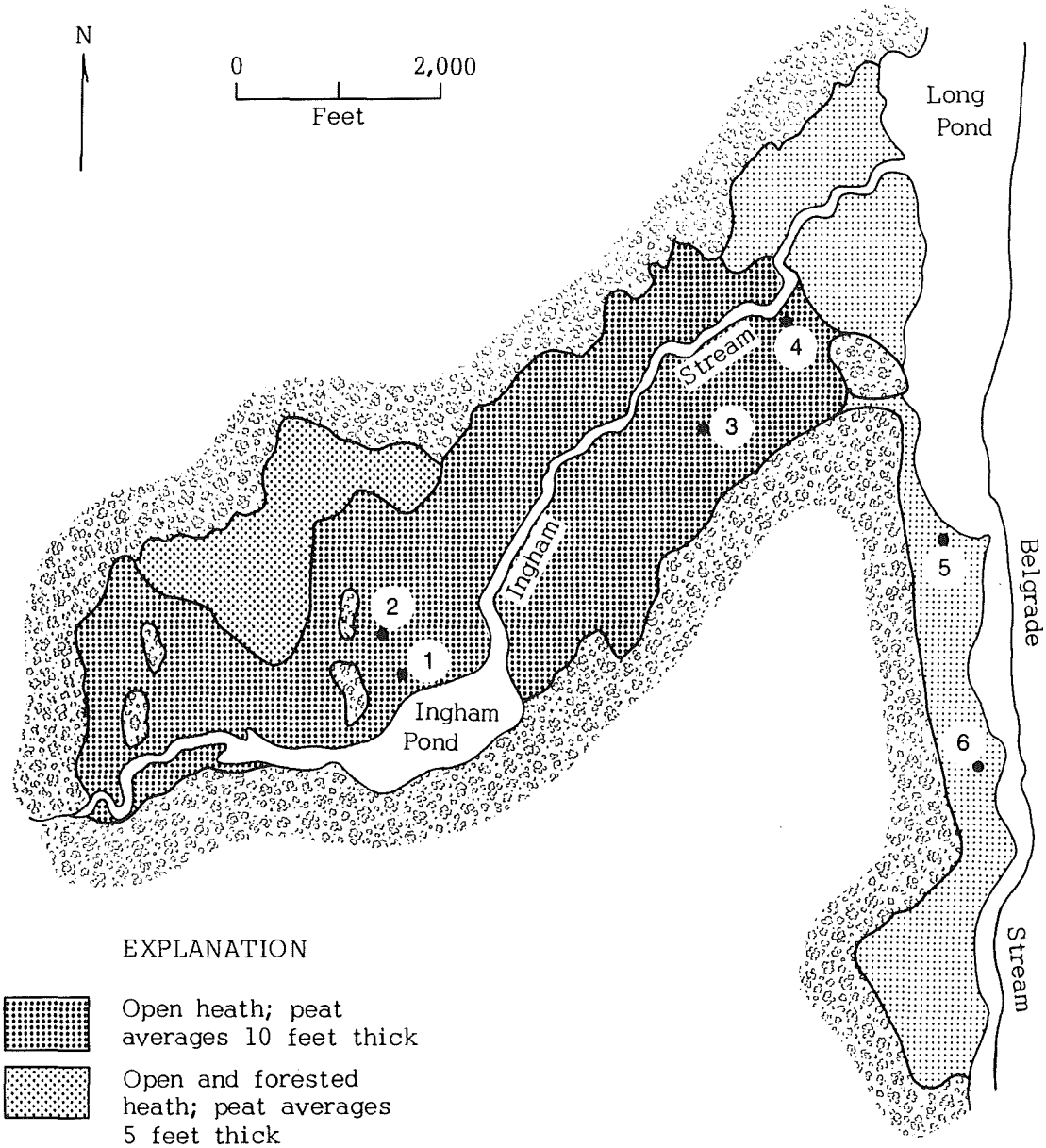


Figure 24. Continued.



EXPLANATION

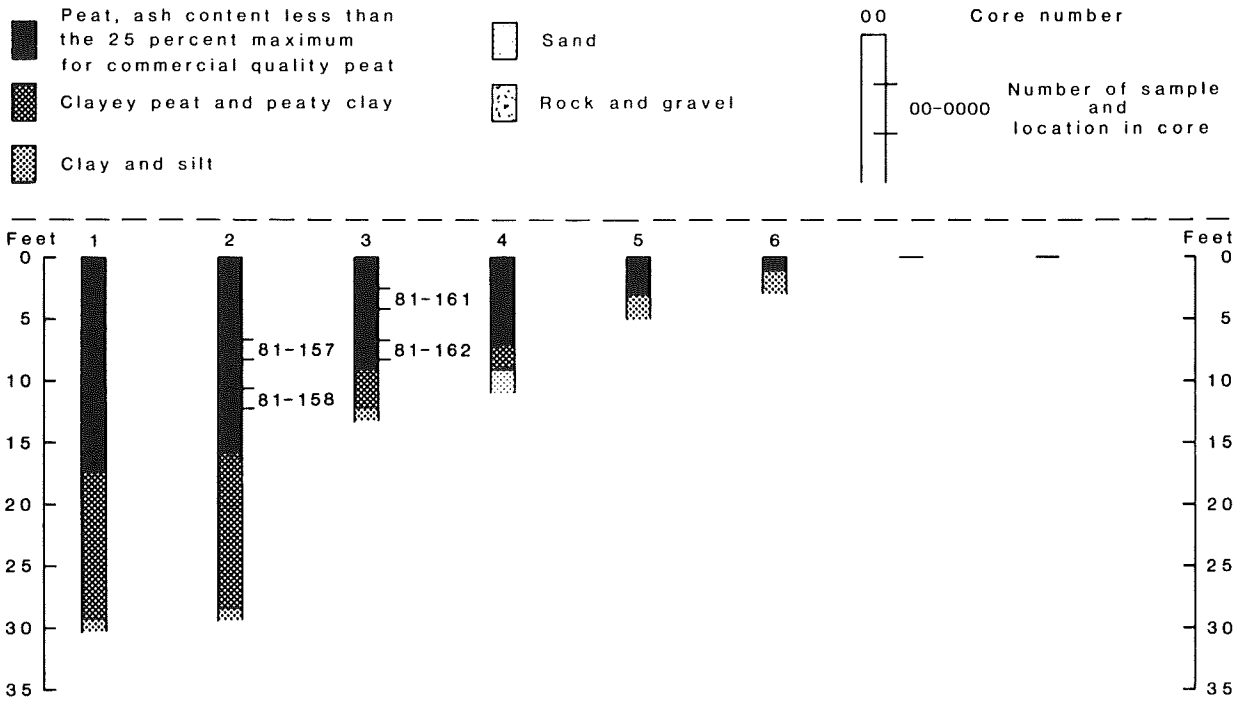
- Open heath; peat averages 10 feet thick
- Open and forested heath; peat averages 5 feet thick
- Swamp; peat 0-5 feet thick
- Bedrock and glacial drift
- ●0 Location and number of core

ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
285	10	570,000
55	5	55,000
340		625,000

Geologic setting code: IA5b

Figure 25. Sketch map, cores, and sample analyses of bogs along Ingham Stream and Belgrade Stream, Mount Vernon Twp., Augusta 15 minute Quadrangle, Kennebec County, Maine (Number 22 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
*81-157	91.4	66.8	32.3	0.9	4.84	55.88	0.79	0.15	9,226
81-158	91.1	66.5	31.3	2.2	5.35	57.47	2.42	0.30	10,079
*81-161	88.7	60.8	34.0	5.2	4.55	56.36	1.65	0.64	9,475
81-162	91.8	63.1	28.5	8.4	5.12	53.76	3.25	0.67	9,533

*Bag torn; moisture content not accurate.

Figure 25. Continued.

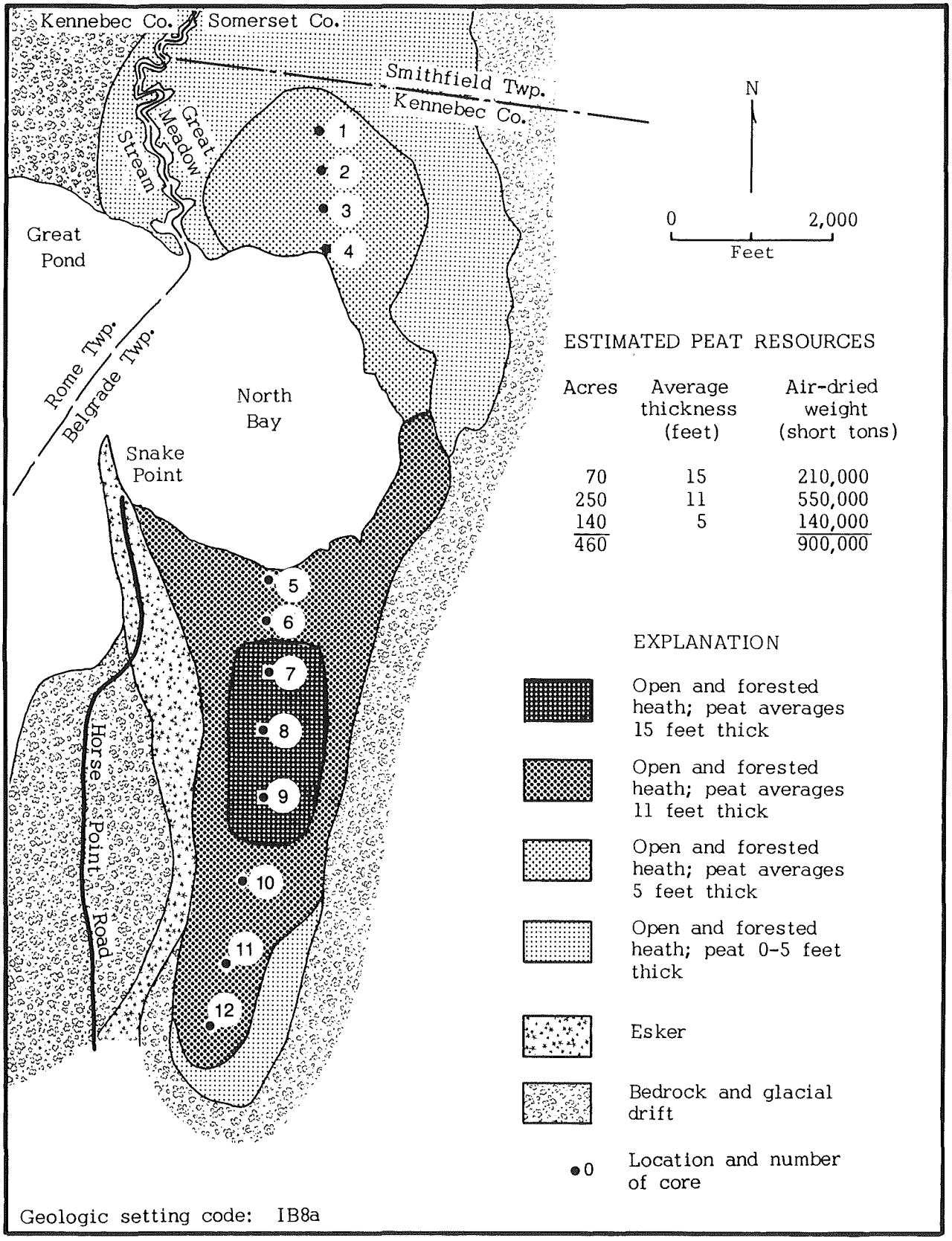
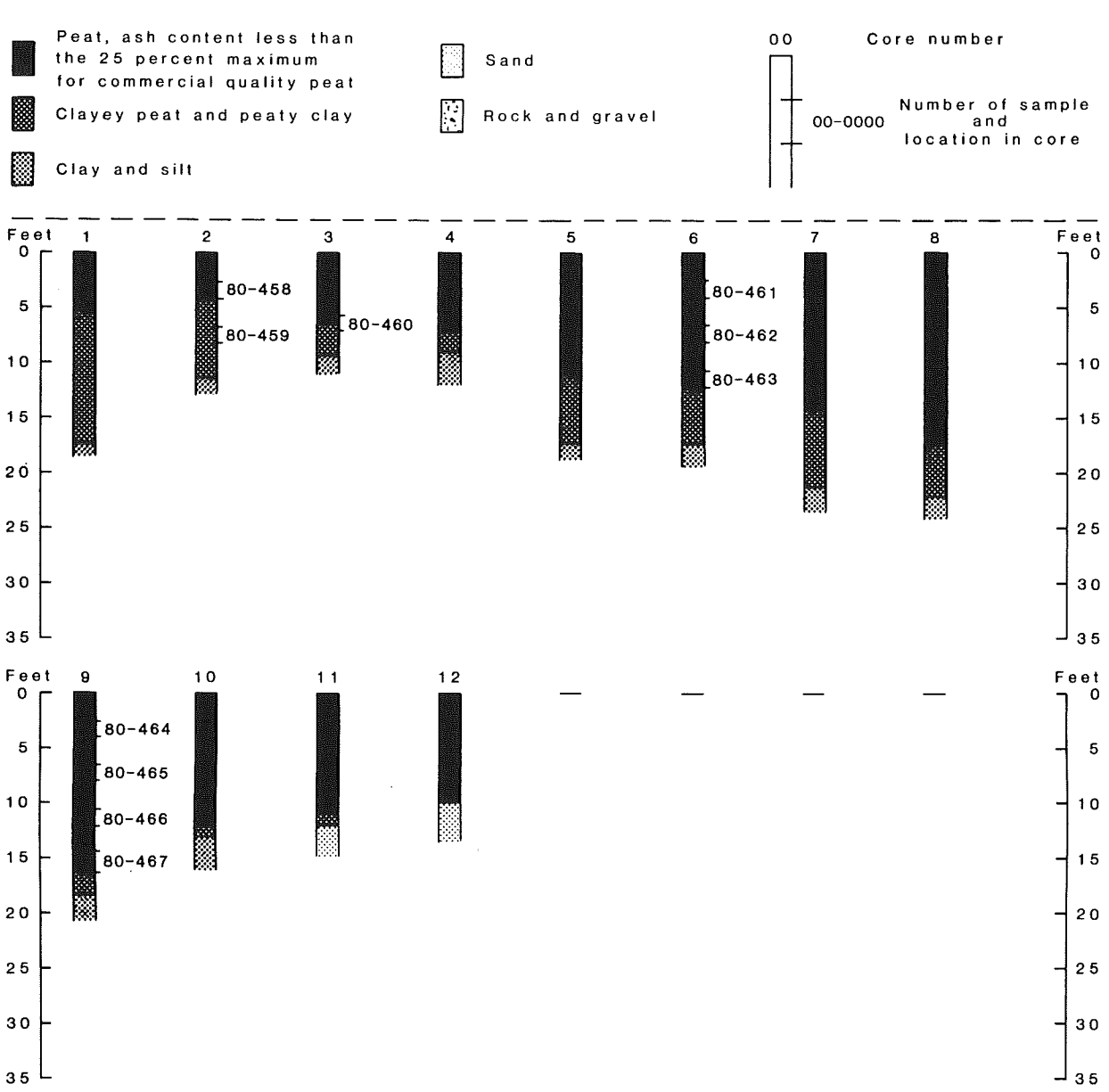


Figure 26. Sketch map, cores, and sample analyses of bogs adjacent to North Bay and west of Varney Hill and Bickford Hill, Smithfield, Rome, and Belgrade Twps., Norridgewock 15 minute Quadrangle, Somerset and Kennebec Counties, Maine (Number 23 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	PROXIMATE ANALYSIS: Percent dry weight — Volatile matter	PROXIMATE ANALYSIS: Percent dry weight — Fixed carbon	PROXIMATE ANALYSIS: Percent dry weight — Ash	ULTIMATE ANALYSIS: Percent dry weight — Hydrogen	ULTIMATE ANALYSIS: Percent dry weight — Carbon	ULTIMATE ANALYSIS: Percent dry weight — Nitrogen	ULTIMATE ANALYSIS: Percent dry weight — Sulfur	Heating value (BTU/lb)
*80-458	11.1	63.1	34.1	2.8	5.09	59.17	1.26	0.30	10,150
80-459	76.5	21.4	6.5	72.1	1.26	14.72	1.02	0.32	2,499
*80-460	45.7	47.2	21.6	31.2	3.52	39.85	2.08	0.83	6,955
80-461	91.2	66.9	32.1	1.0	4.71	54.94	0.64	0.13	9,033
80-462	90.5	60.2	25.8	14.0	4.52	49.65	2.06	0.51	8,571
*80-463	89.9	59.8	25.5	14.7	4.82	49.21	2.57	0.80	8,641
80-464	90.8	67.0	32.3	0.7	4.84	56.02	0.67	0.13	9,190
80-465	90.7	65.8	32.8	1.4	4.96	57.57	1.25	0.16	9,653
80-466	89.9	63.0	33.5	3.5	4.72	57.07	1.80	0.52	9,541
80-467	91.1	57.7	23.9	18.4	4.61	47.67	2.99	1.01	8,211

*Bag torn; moisture content not accurate.

Figure 26. Continued.

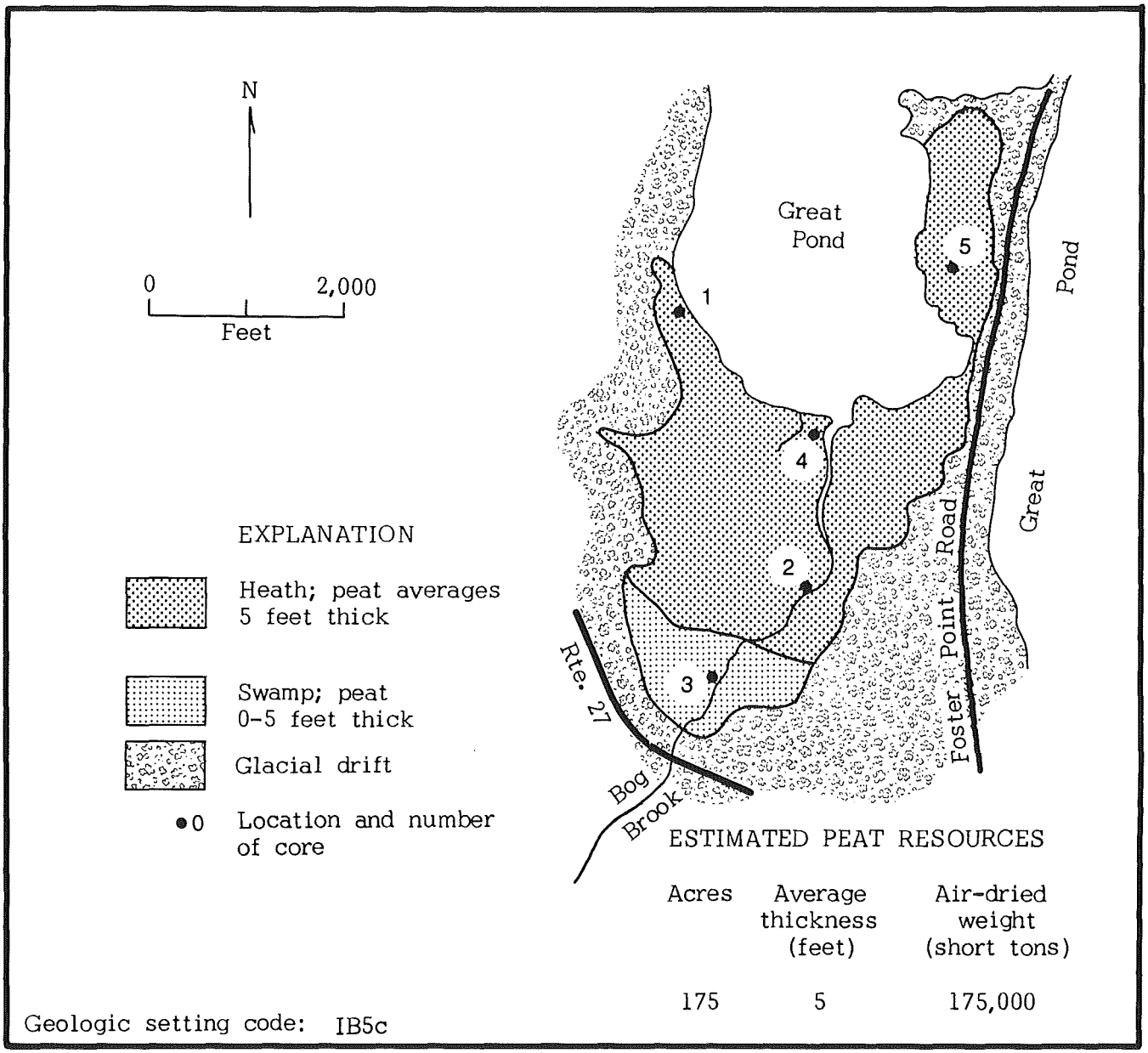


Figure 27. Sketch map and cores of Austin Bog at south end of Great Pond, Belgrade Twp., Belgrade 7.5 minute Quadrangle, Kennebec County, Maine (Number 24 on Index Map).

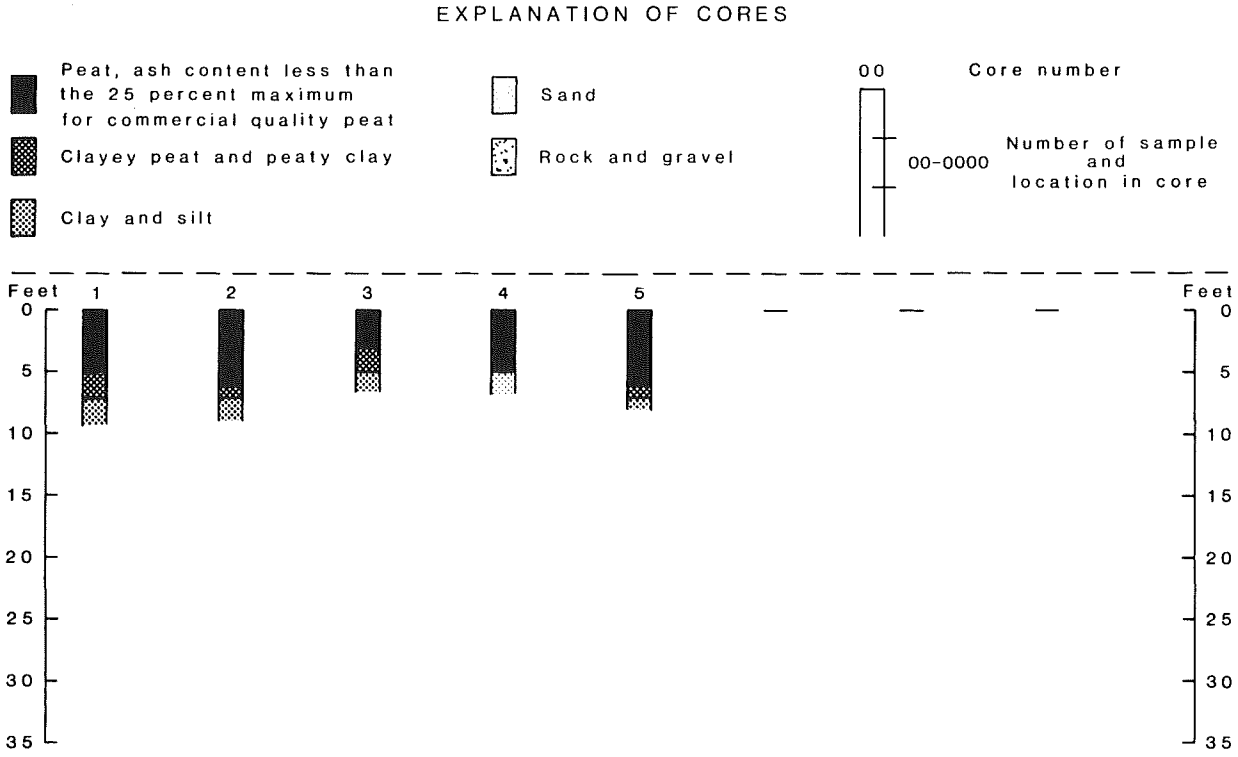


Figure 27. Continued.

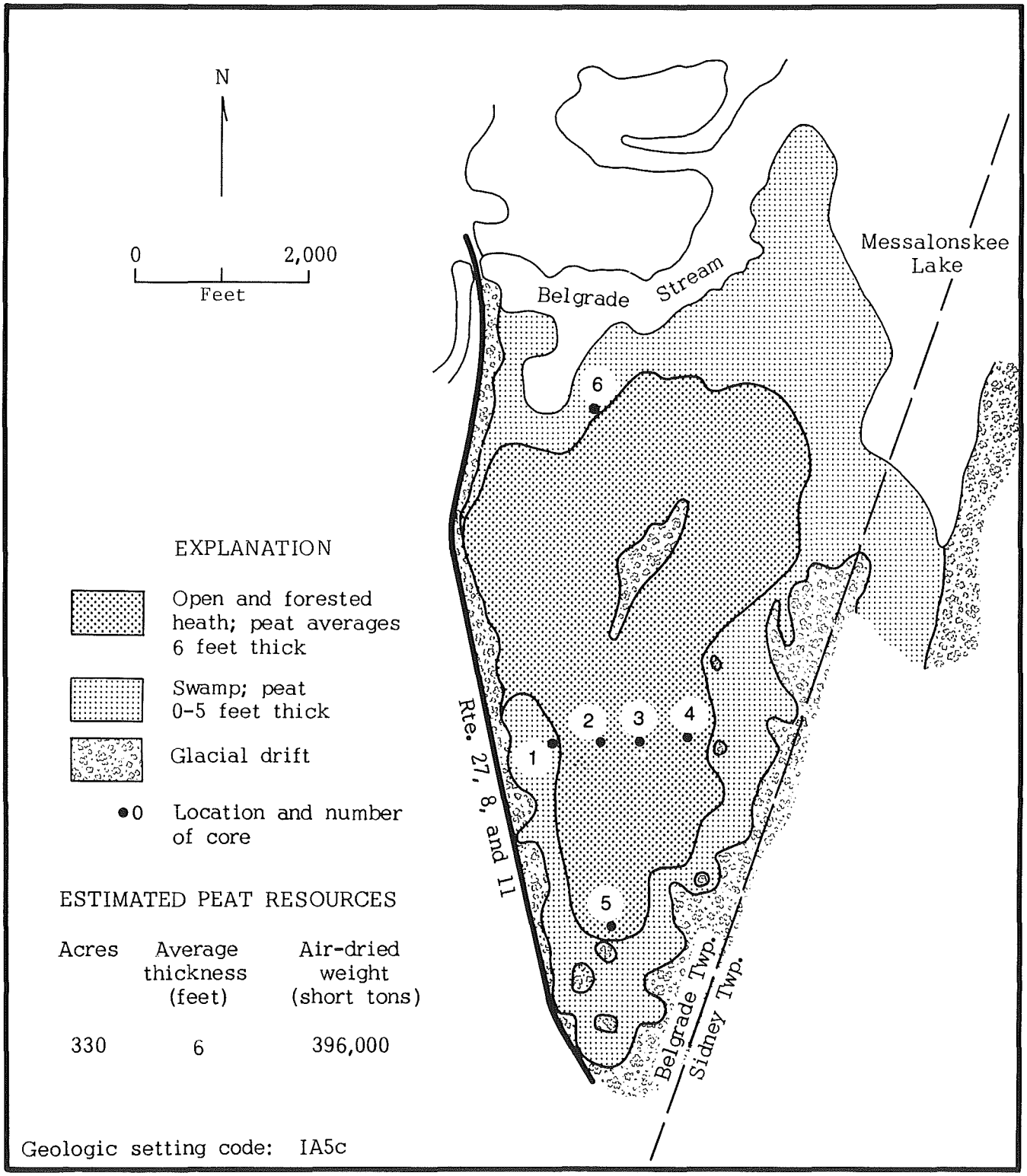
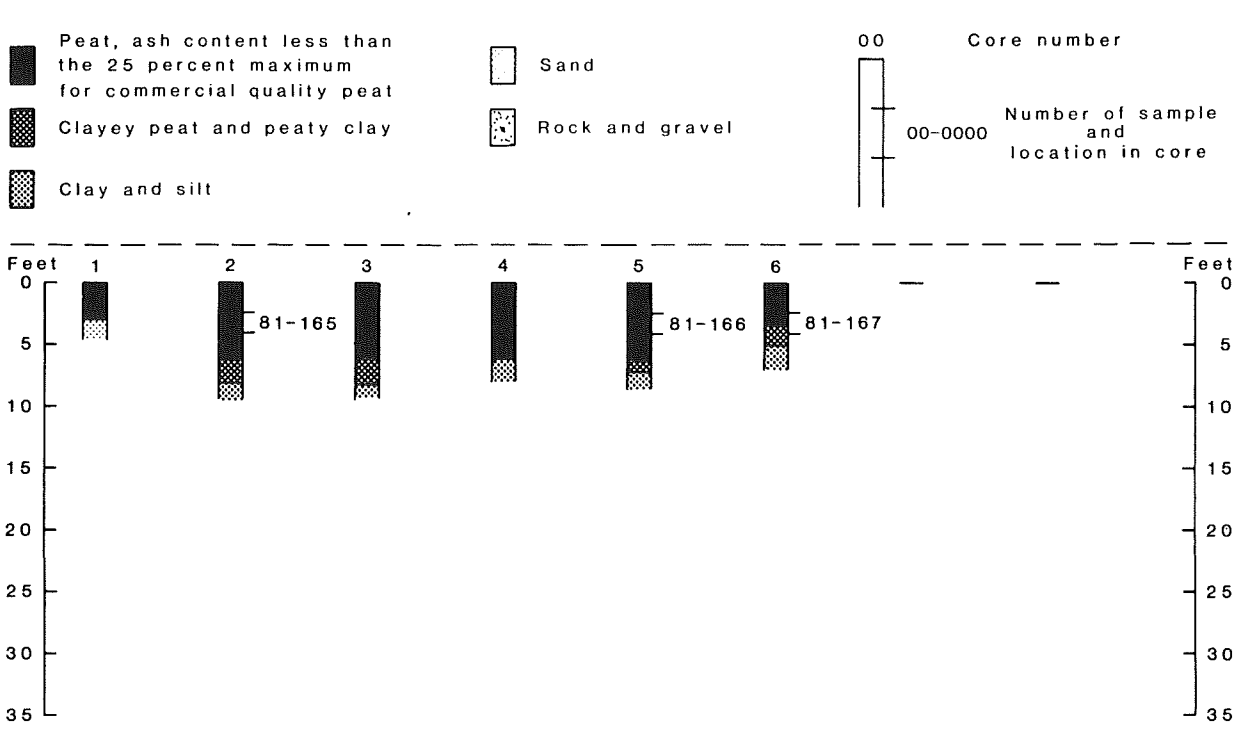


Figure 28. Sketch map, cores, and sample analyses of Belgrade Bog, Belgrade Twp., Belgrade 7.5 minute Quadrangle, Kennebec County, Maine (Number 25 on Index Map).



PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-165	86.0	61.6	30.1	8.3	4.28	56.24	1.91	0.49	9,673
81-166	86.1	65.9	27.6	6.5	5.12	55.69	2.48	0.62	9,785
*81-167	79.5	49.0	19.7	31.3	4.04	42.93	1.43	0.40	7,652

*Bag torn; moisture content not accurate.

Figure 28. Continued.

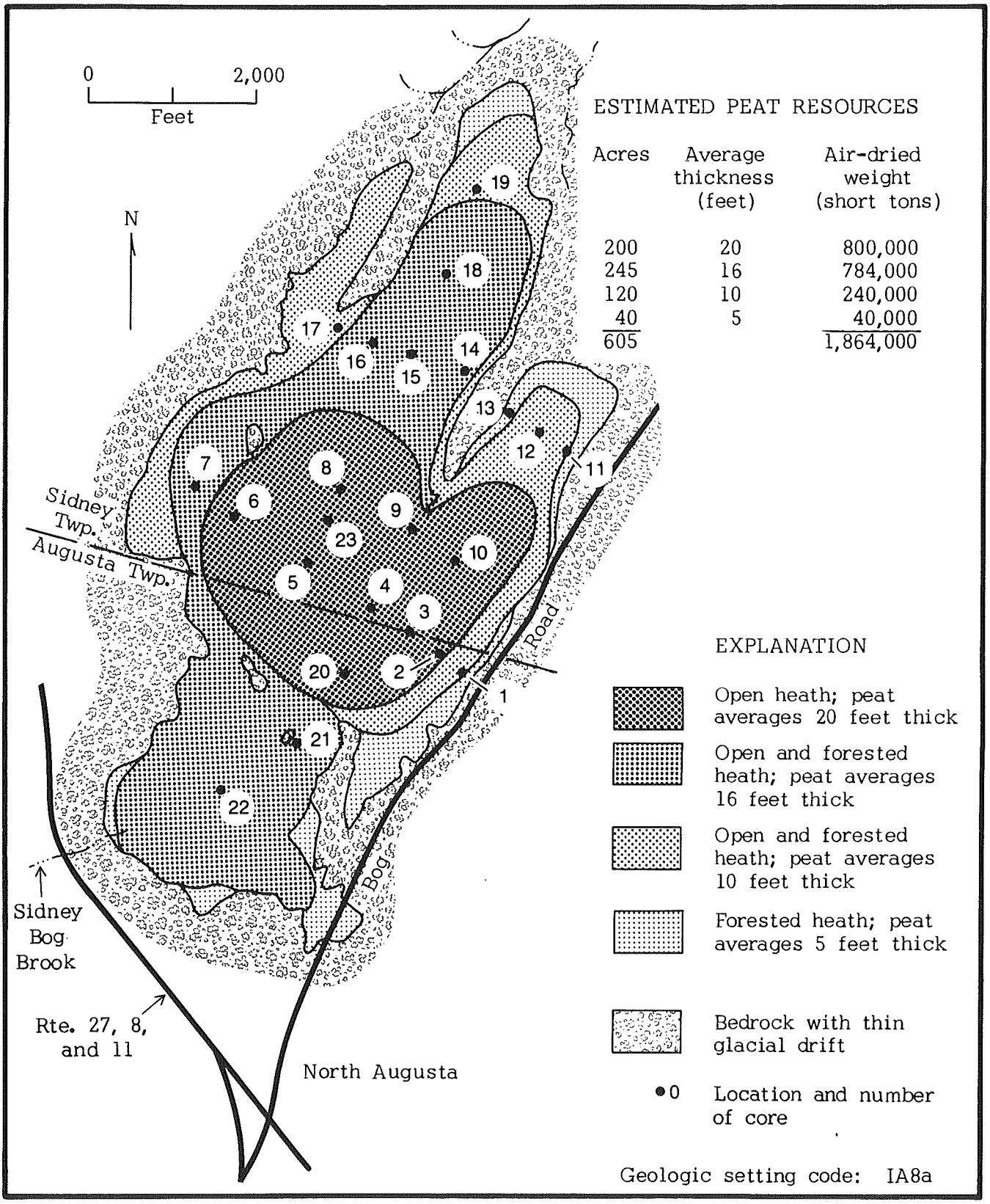
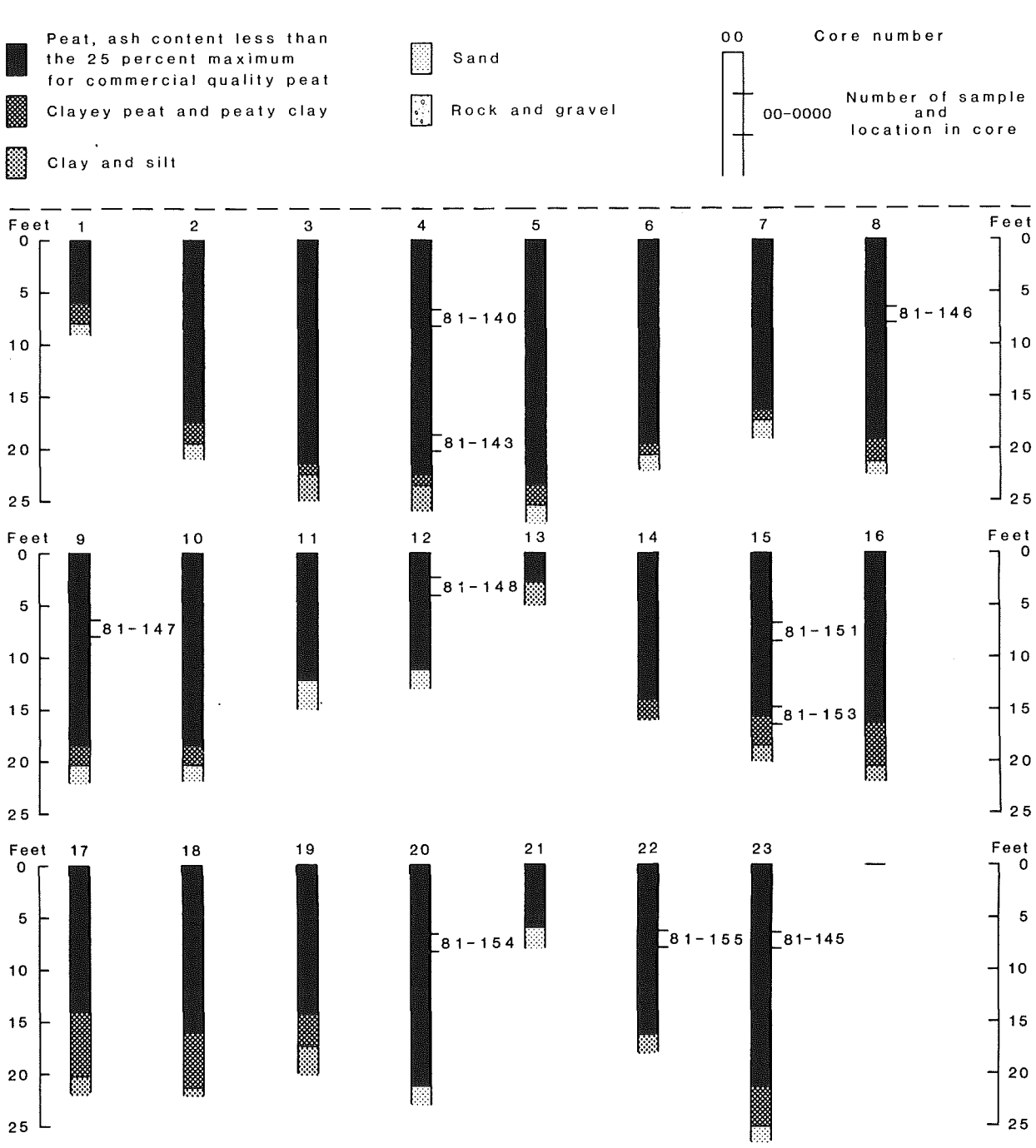


Figure 29. Sketch map, cores, and sample analyses of Great Sidney Bog, Sidney and Augusta Twps., Belgrade 7.5 minute Quadrangle, Kennebec County, Maine (Number 26 on Index Map).



PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-140	90.5	67.9	31.4	0.7	4.90	56.53	1.06	0.11	9,508
*81-143	89.8	65.5	32.6	1.9	5.08	58.12	1.12	0.62	9,900
81-145	92.6	67.9	31.3	0.8	4.48	56.05	0.53	0.10	8,988
*81-146	91.9	68.5	30.9	0.6	4.76	53.23	0.60	0.13	8,886
81-147	90.4	68.3	30.7	1.0	4.77	54.70	0.60	0.10	9,075
81-148	89.3	65.7	33.0	1.3	4.73	59.99	1.33	0.14	10,026
*81-151	90.0	62.1	30.8	7.1	4.61	53.08	1.23	0.65	8,941
*81-153	92.5	49.6	14.3	36.1	3.94	34.45	2.72	0.93	5,484
81-154	91.2	68.4	30.9	0.7	4.73	55.21	0.64	0.14	9,184
*81-155	90.9	66.4	32.9	0.7	5.02	57.82	0.99	0.18	9,788

*Bag torn; moisture content not accurate.

Figure 29. Continued.

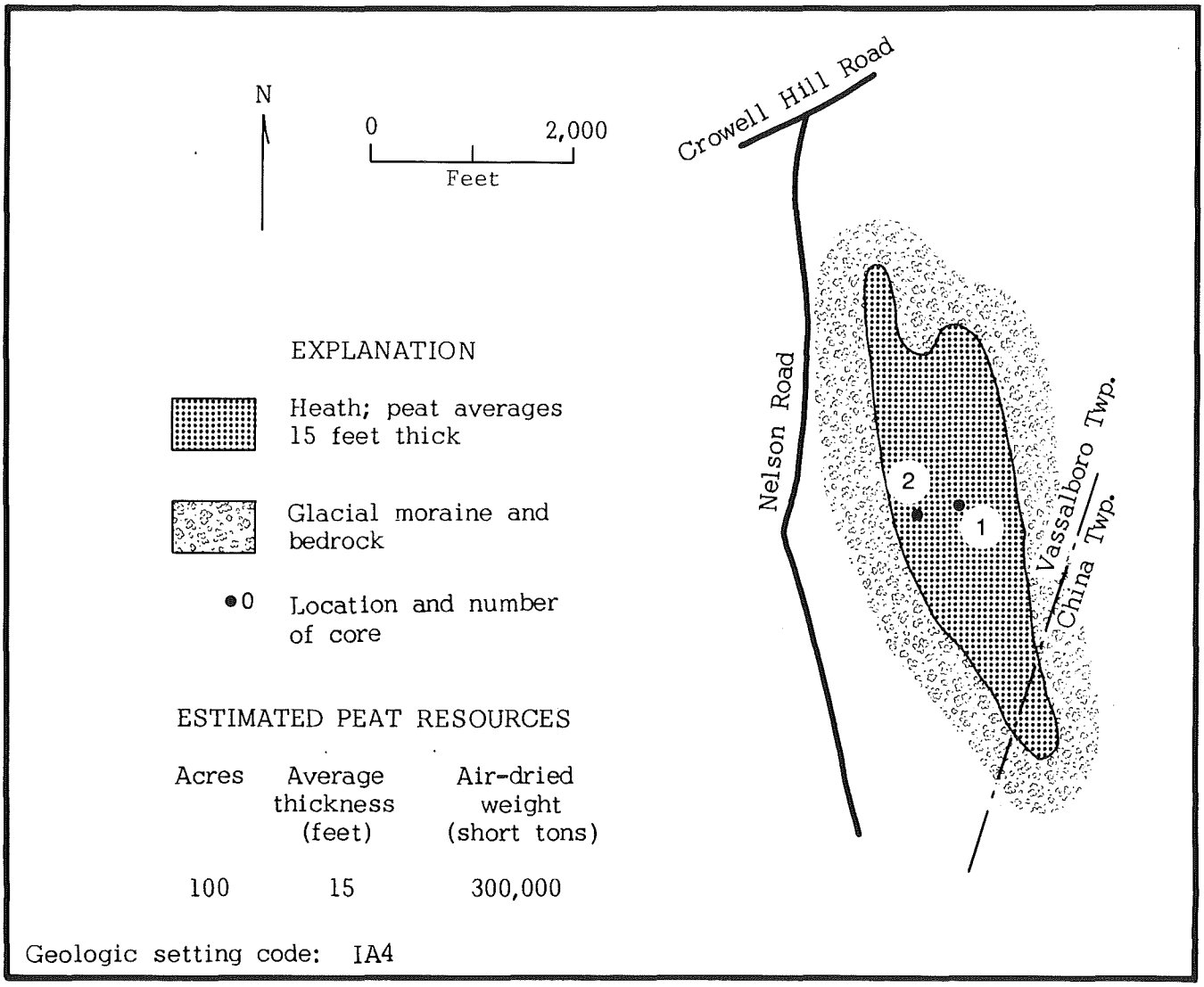
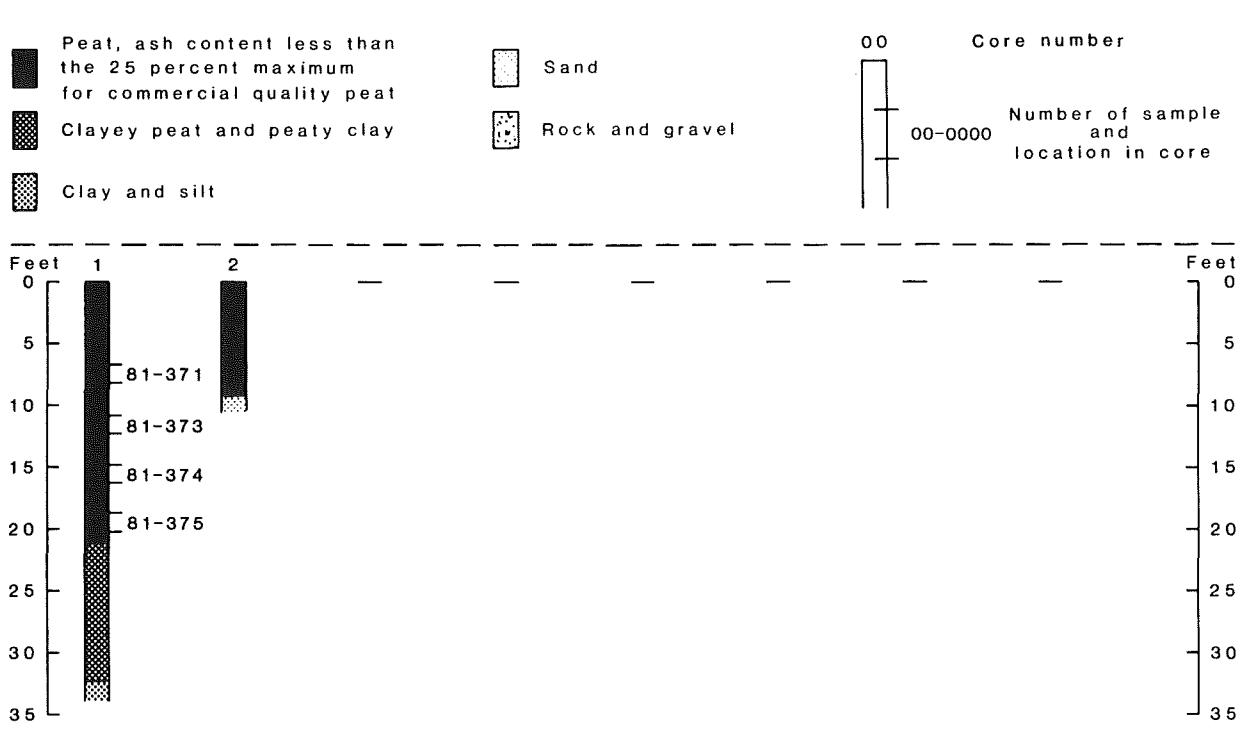


Figure 30. Sketch map, cores, and sample analyses of bog 1.5 miles south of East Vassalboro, Vassalboro and China Twps., Vassalboro 15 minute Quadrangle, Kennebec County, Maine (Number 27 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-371	91.5	68.0	31.2	0.8	4.70	54.23	0.72	0.09	9,084
81-373	91.1	66.1	31.7	2.2	4.91	57.24	1.46	0.16	9,921
81-374	92.2	67.5	30.5	2.0	5.36	57.19	2.03	0.18	9,960
81-375	95.9	69.2	20.8	10.0	5.48	48.41	3.86	0.99	8,500

Figure 30. Continued.

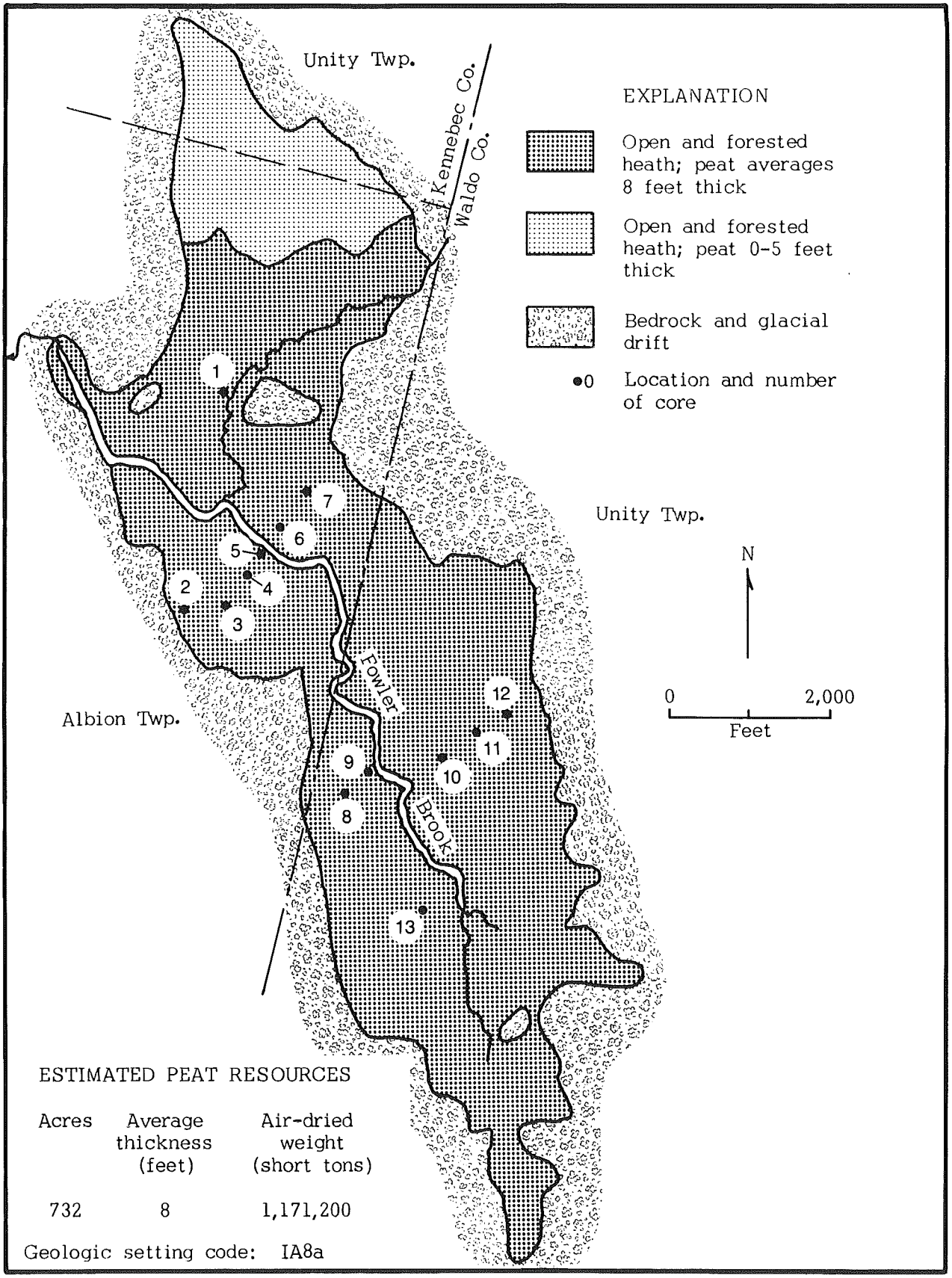
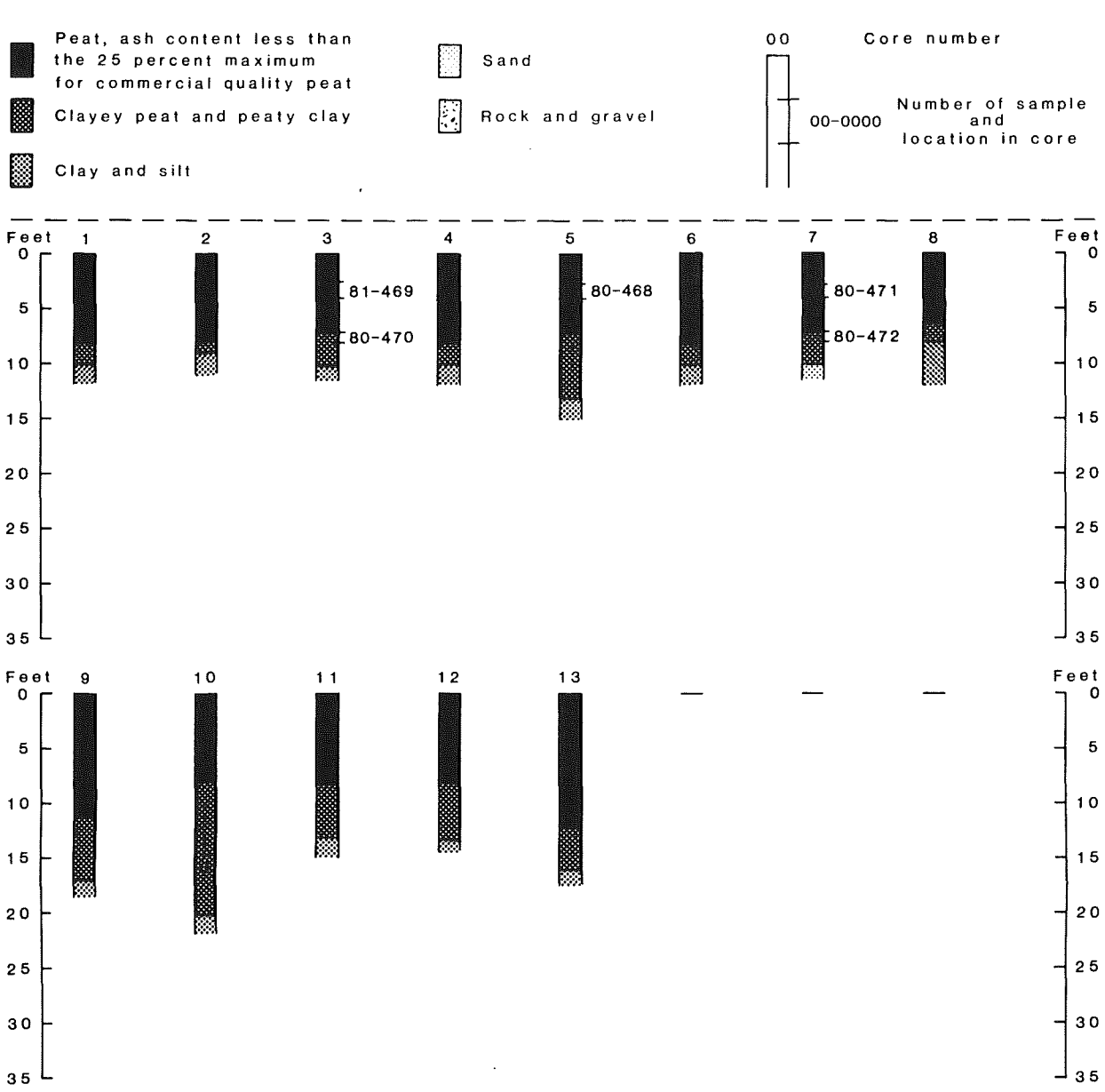


Figure 31. Sketch map, cores, and sample analyses of Fowler Bog, Albion and Unity Twps., Burnham 15 minute Quadrangle, Kennebec and Waldo Counties, Maine (Number 28 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
*80-468	88.3	64.0	33.0	3.0	4.46	58.62	1.34	0.27	9,847
80-469	87.3	65.7	32.6	1.7	4.98	59.53	1.00	0.18	10,086
80-470	90.7	55.9	19.1	25.0	4.15	41.76	2.48	1.53	7,282
80-471	88.4	64.1	31.3	4.6	4.71	56.76	1.25	0.36	9,648
80-472	88.9	51.3	15.7	33.0	3.80	36.07	2.60	1.49	6,420

*Bag torn; moisture content not accurate.

Figure 31. Continued.

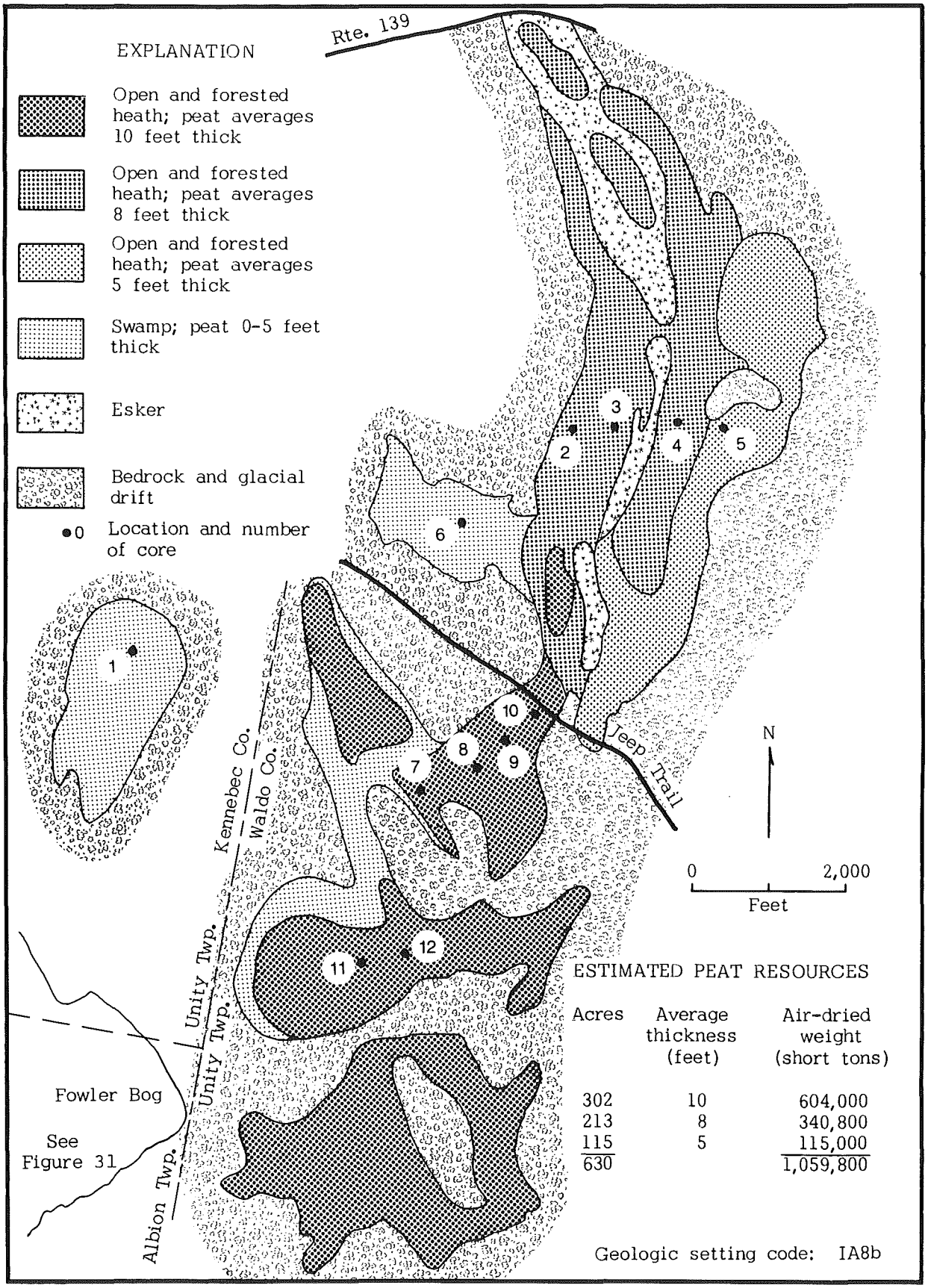
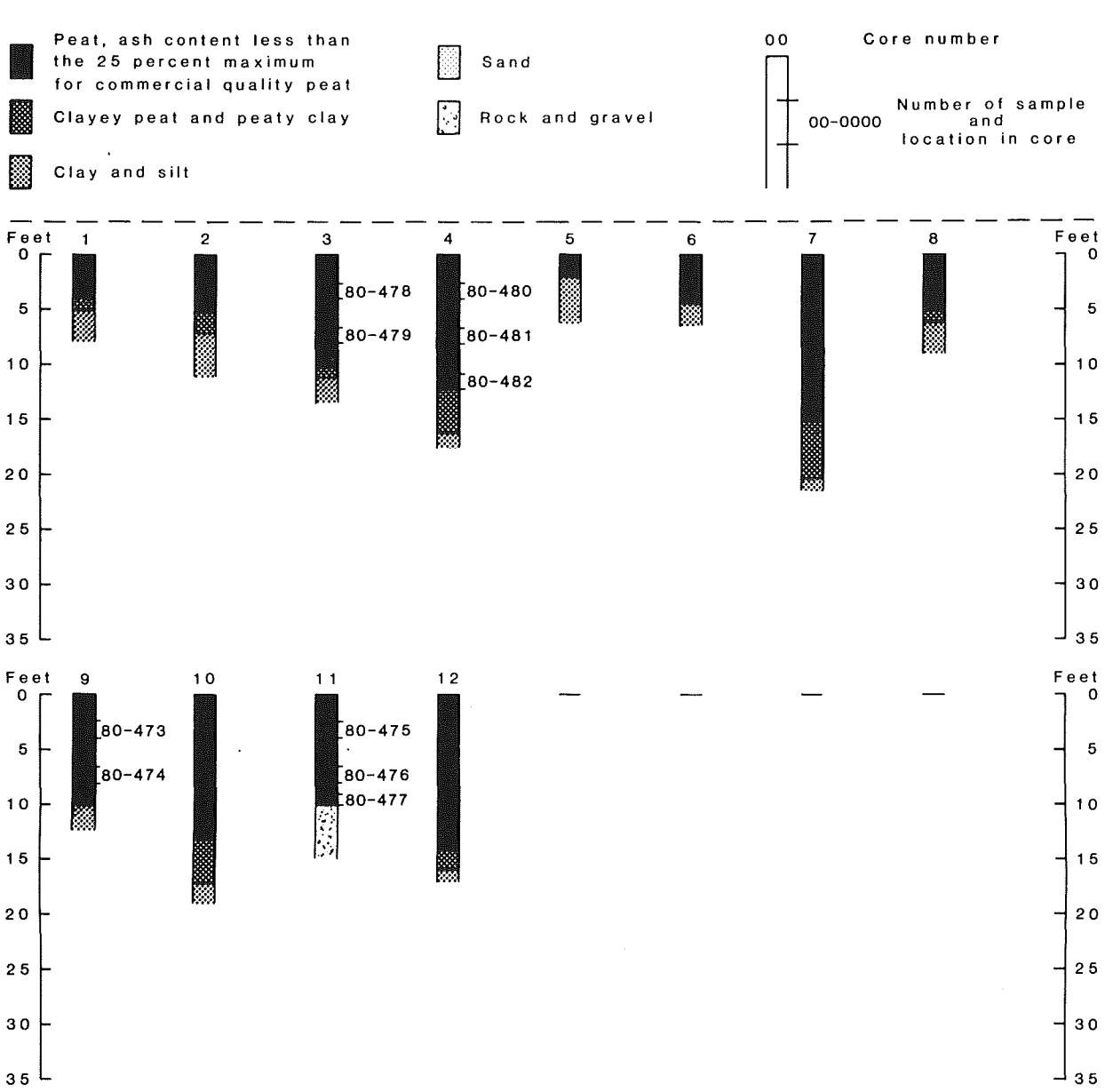


Figure 32. Sketch map, cores, and sample analyses of bogs north and east of Fowler Bog, Unity Twps., Burnham 15 minute Quadrangle, Kennebec and Waldo Counties, Maine (Number 29 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	PROXIMATE ANALYSIS: Percent dry weight: Volatile matter	PROXIMATE ANALYSIS: Percent dry weight: Fixed carbon	PROXIMATE ANALYSIS: Percent dry weight: Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	ULTIMATE ANALYSIS: Percent dry weight: Carbon	ULTIMATE ANALYSIS: Percent dry weight: Nitrogen	ULTIMATE ANALYSIS: Percent dry weight: Sulfur	Heating value (BTU/lb)
80-473	87.7	64.8	33.4	1.8	4.88	58.27	1.05	0.17	9,721
80-474	88.7	61.1	34.0	4.9	3.96	56.39	1.83	0.52	9,293
80-475	88.7	62.0	35.3	2.7	4.70	58.18	1.51	0.32	9,761
*80-476	12.5	60.8	34.4	4.8	4.37	56.77	1.29	0.44	9,512
80-477	90.2	63.0	33.8	3.2	5.13	57.28	1.55	0.46	9,812
80-478	84.9	61.8	34.2	4.0	4.19	58.70	1.19	0.49	9,895
*80-479	89.3	61.0	34.9	4.1	4.43	57.70	1.39	0.49	9,566
80-480	86.9	60.8	34.1	5.1	4.17	56.69	1.67	0.32	9,390
80-481	89.5	63.5	33.9	2.6	4.49	56.48	1.29	0.28	9,389
80-482	91.6	60.1	20.3	19.6	4.61	45.05	2.96	0.96	8,065

*Bag torn; moisture content not accurate.

Figure 32. Continued.

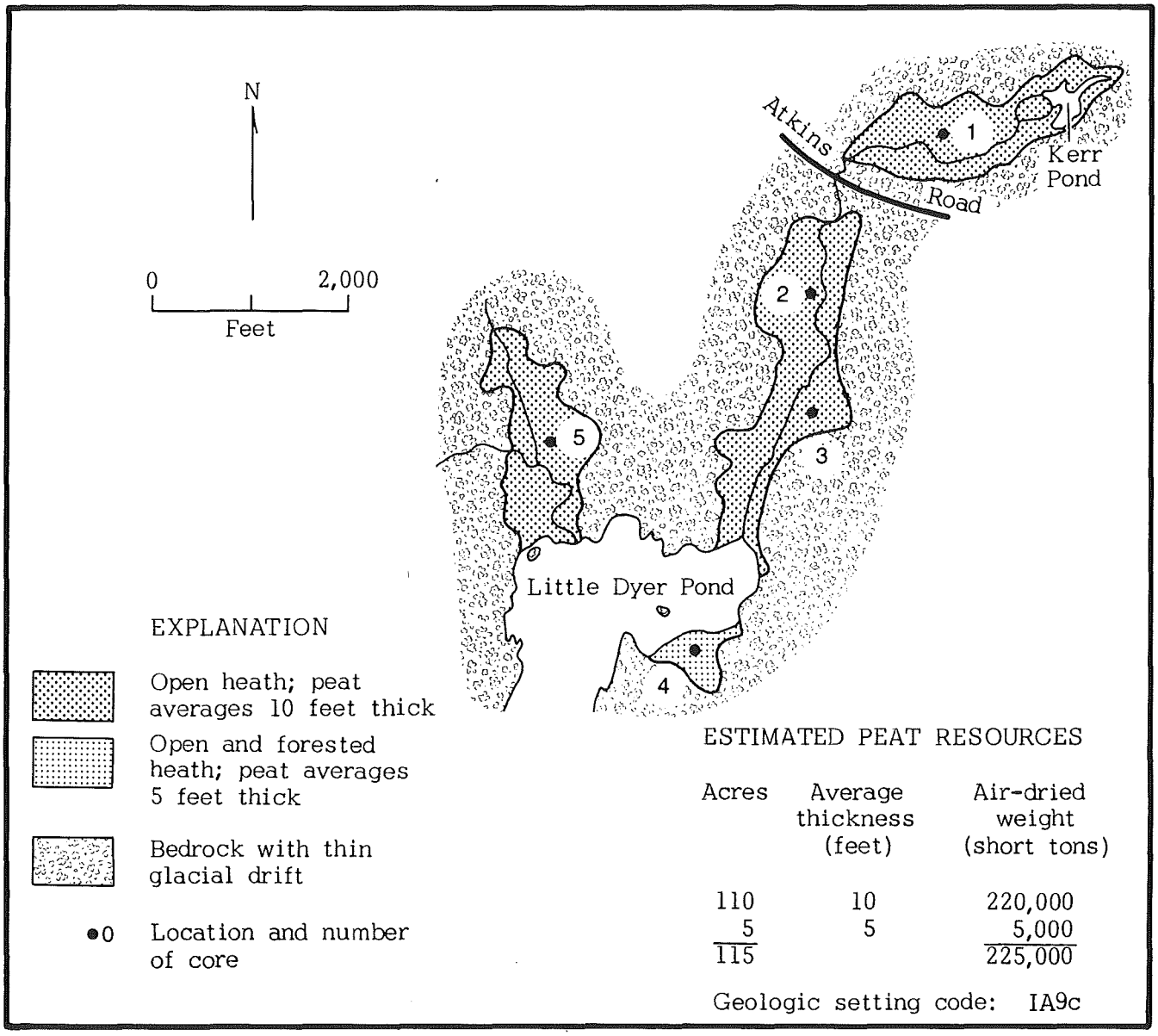
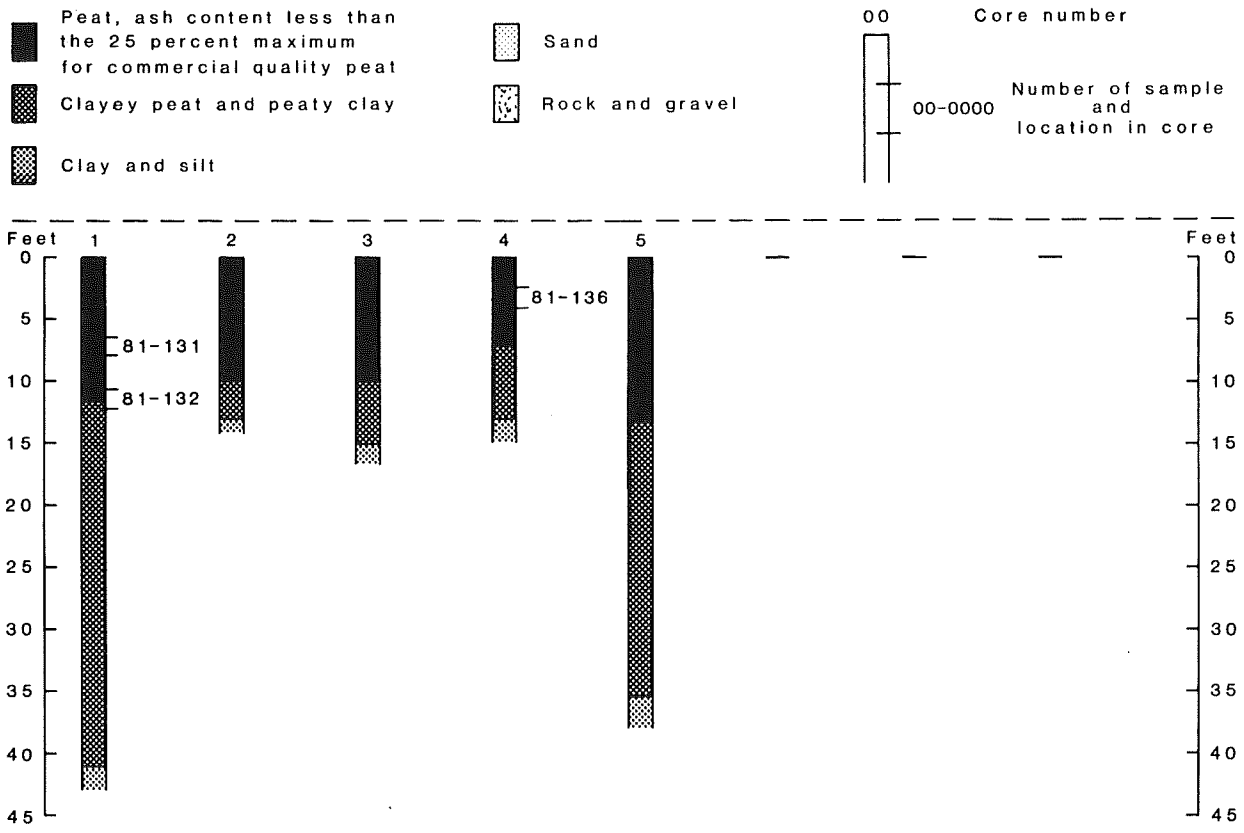


Figure 33. Sketch map, cores, and sample analyses of bogs north of Little Dyer Pond and south of Kerr Pond, Jefferson Twp., Wiscasset 15 minute Quadrangle, Lincoln County, Maine (Number 30 on Index Map).



PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
*81-131	89.0	57.7	27.1	15.2	4.36	48.26	1.99	0.50	8,147
*81-132	89.1	39.7	16.0	44.3	2.83	31.24	2.08	0.52	5,447
*81-136	88.7	65.7	32.6	1.7	5.11	57.10	1.14	0.23	9,644

*Bag torn; moisture content not accurate.

Figure 33. Continued.

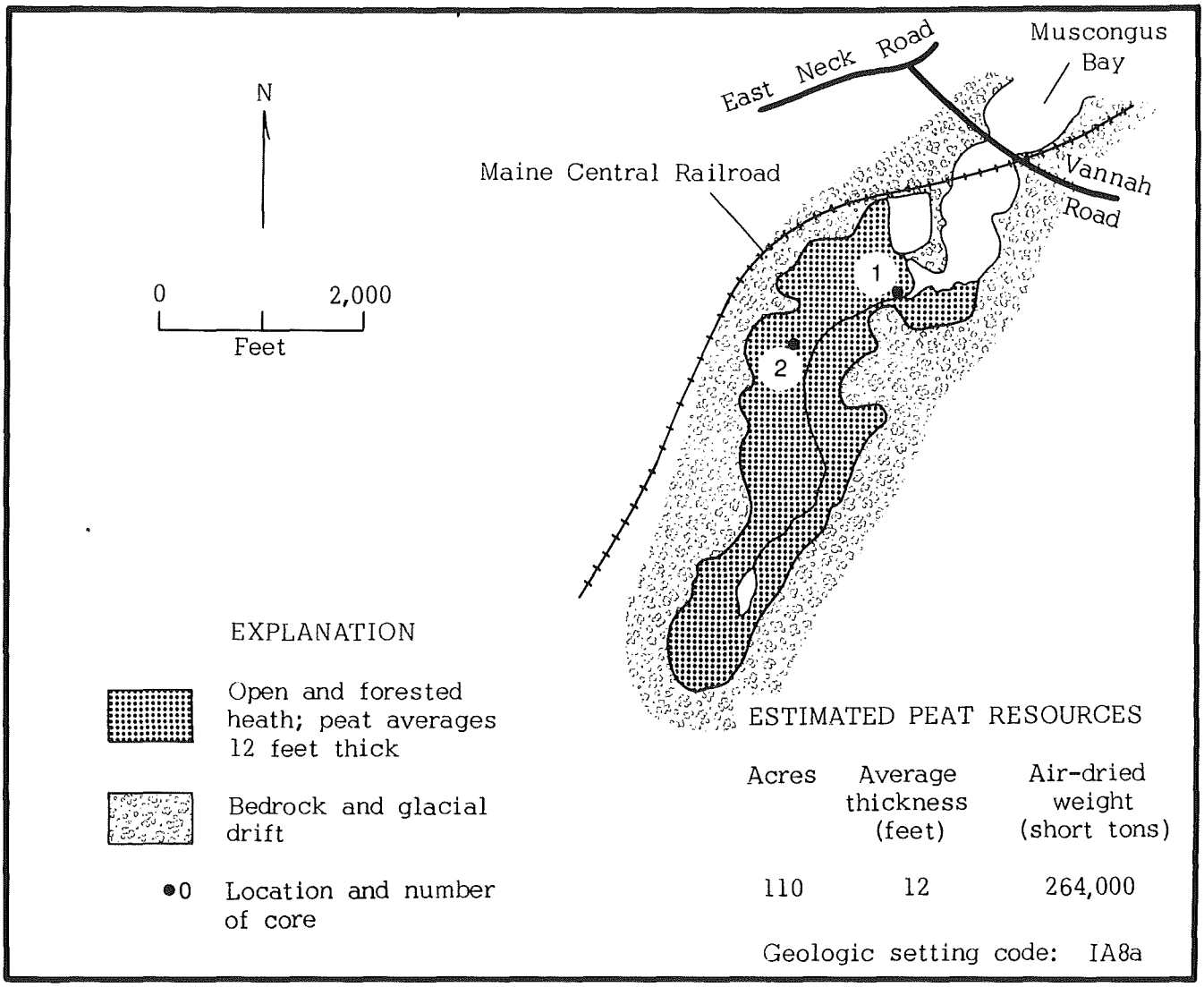
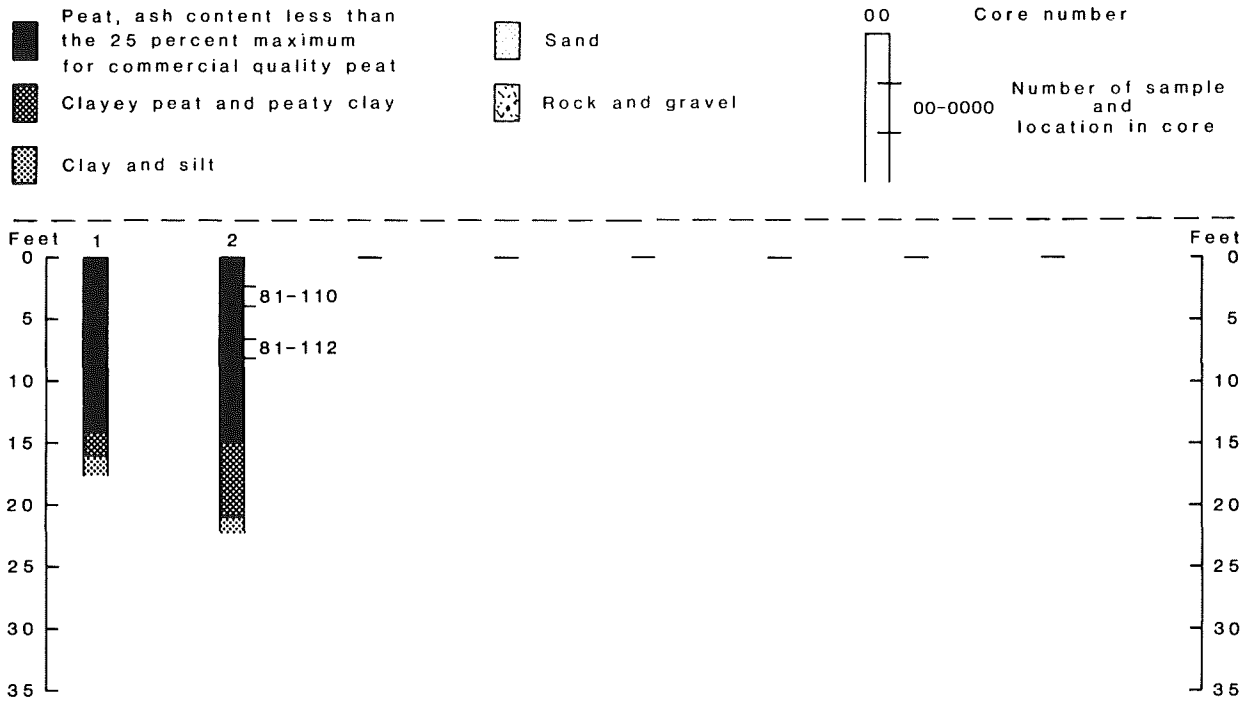


Figure 34. Sketch map, cores, and sample analyses of bog at south end of Muscongus Bay, Nobleboro Twp., Waldoboro West 7.5 minute Quadrangle, Lincoln County, Maine (Number 31 on Index Map).



PROXIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash
81-110	90.2	64.1	31.6	4.3
*81-112	91.1	63.3	31.6	5.1

ULTIMATE ANALYSIS

Sample number	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-110	4.24	54.56	1.65	0.49	9,117
*81-112	4.51	55.03	1.81	0.55	9,281

*Bag torn; moisture content not accurate.

Figure 34. Continued.

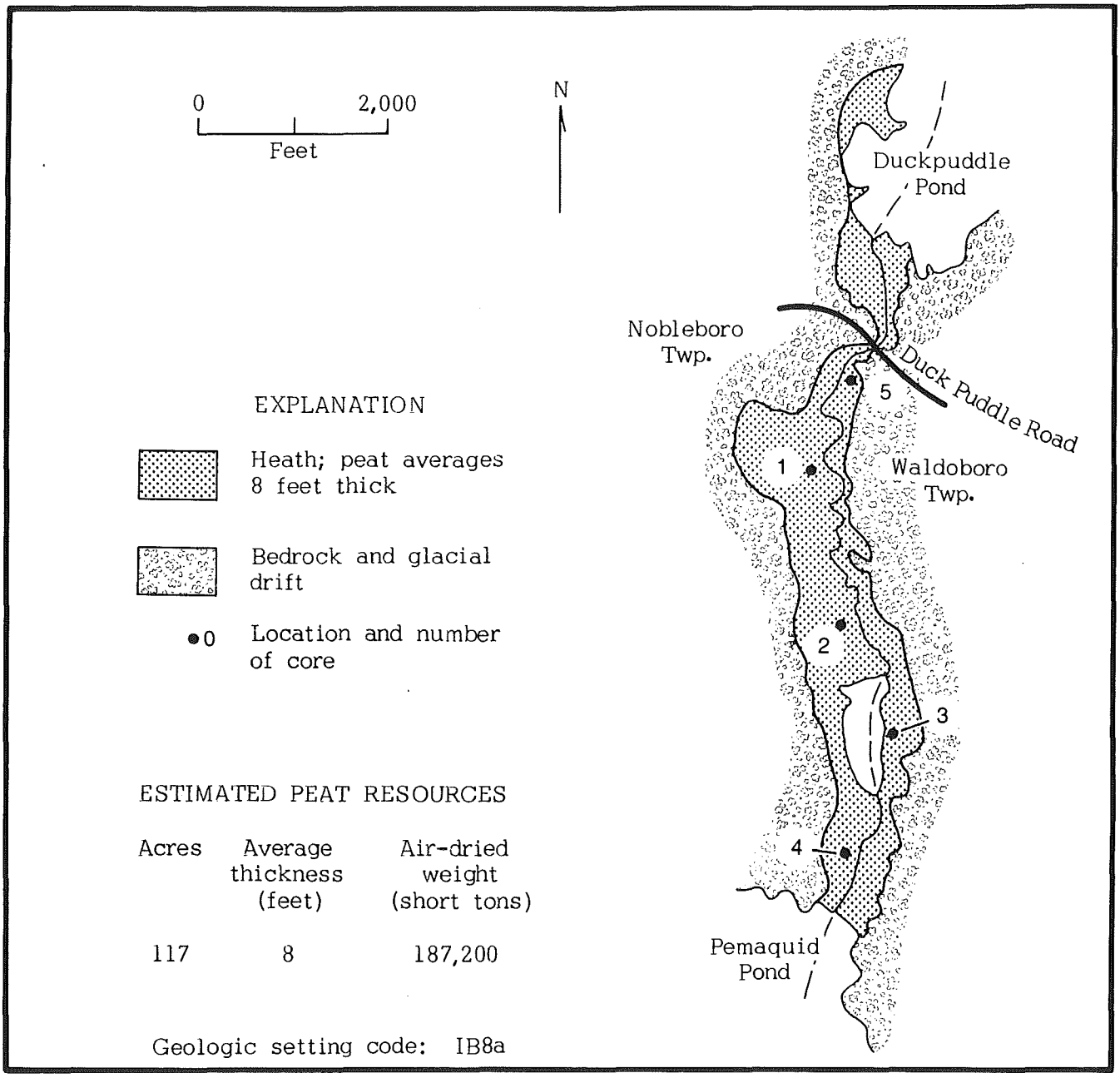
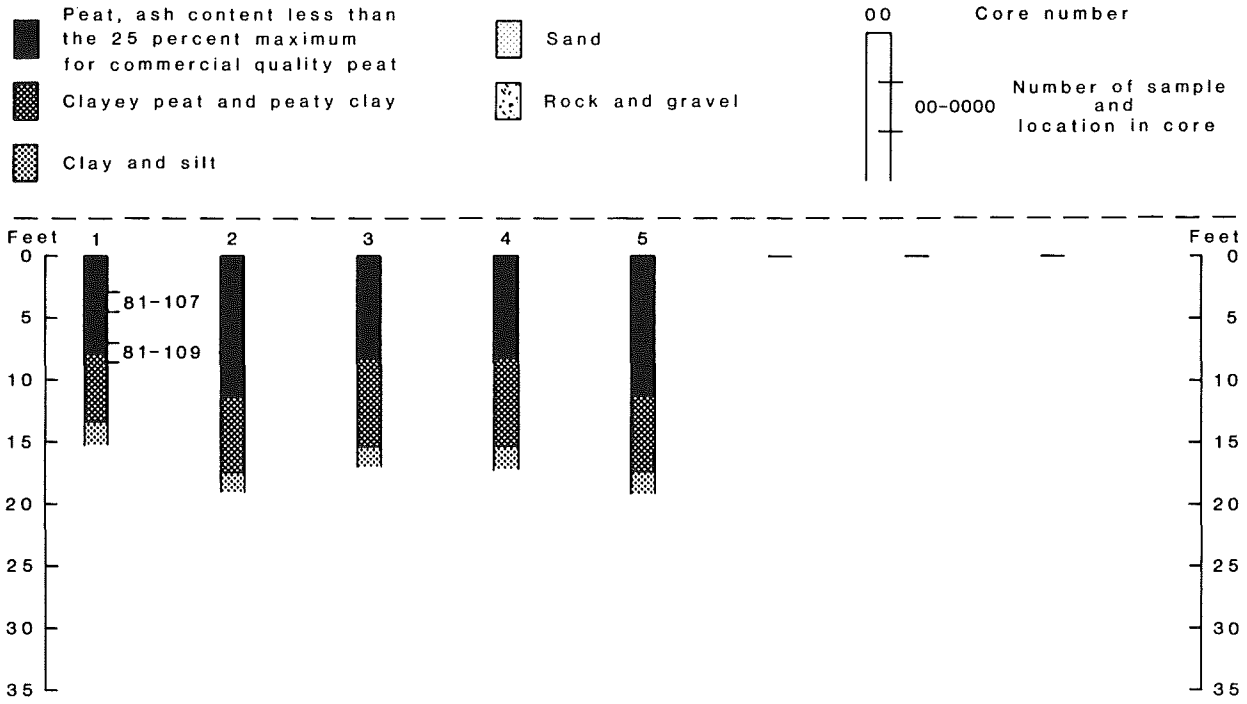


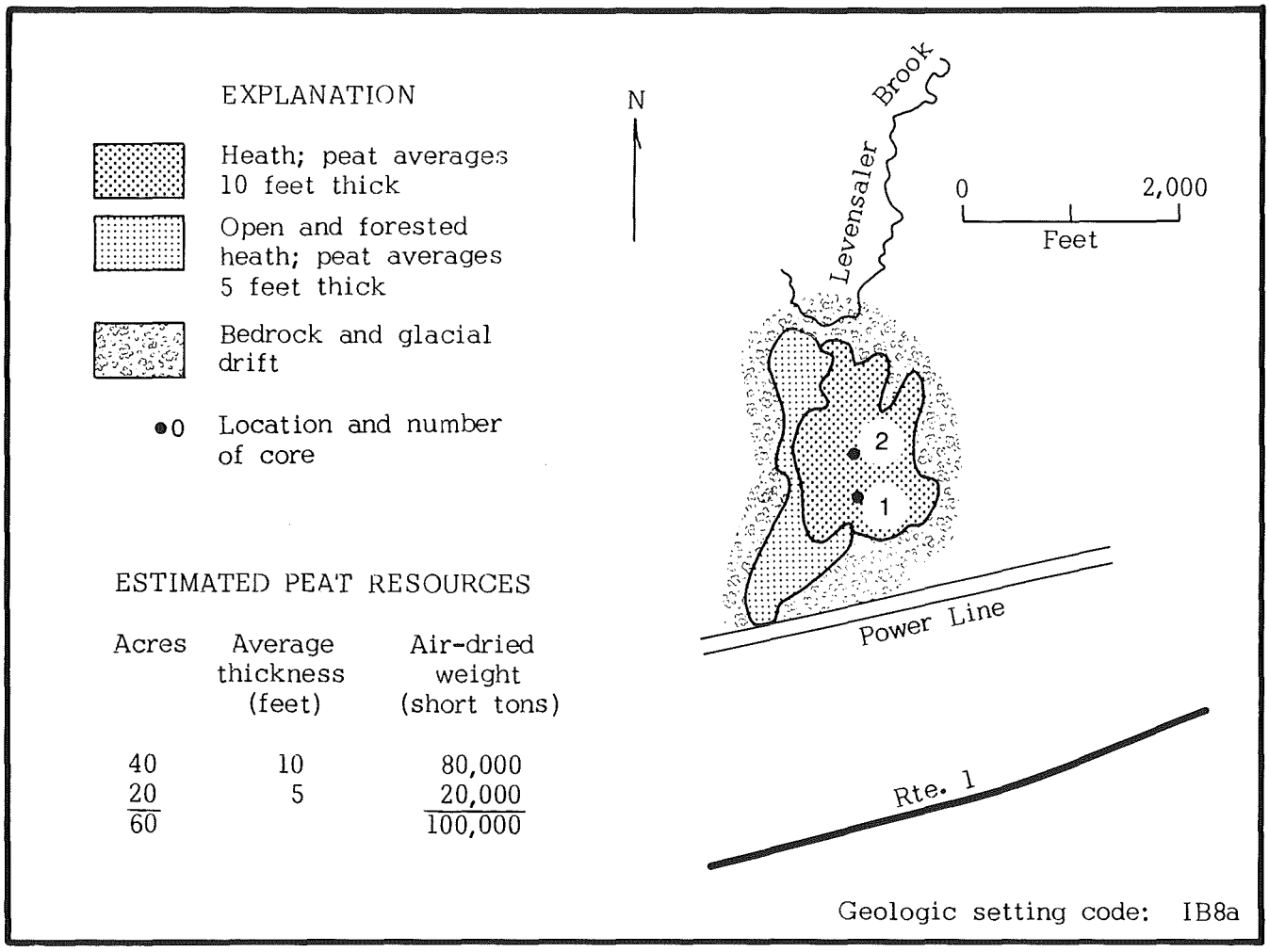
Figure 35. Sketch map, cores, and sample analyses of bog between Duckpuddle Pond and Pemaquid Pond, Nobleboro and Waldoboro Twps., Waldoboro West 7.5 minute Quadrangle, Lincoln County, Maine (Number 32 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
*81-107	87.5	59.5	29.7	10.8	4.47	53.37	2.07	1.03	9,095
*81-109	87.4	42.3	18.5	39.2	3.15	35.25	2.20	0.88	3,385

*Bag torn; moisture content not accurate.

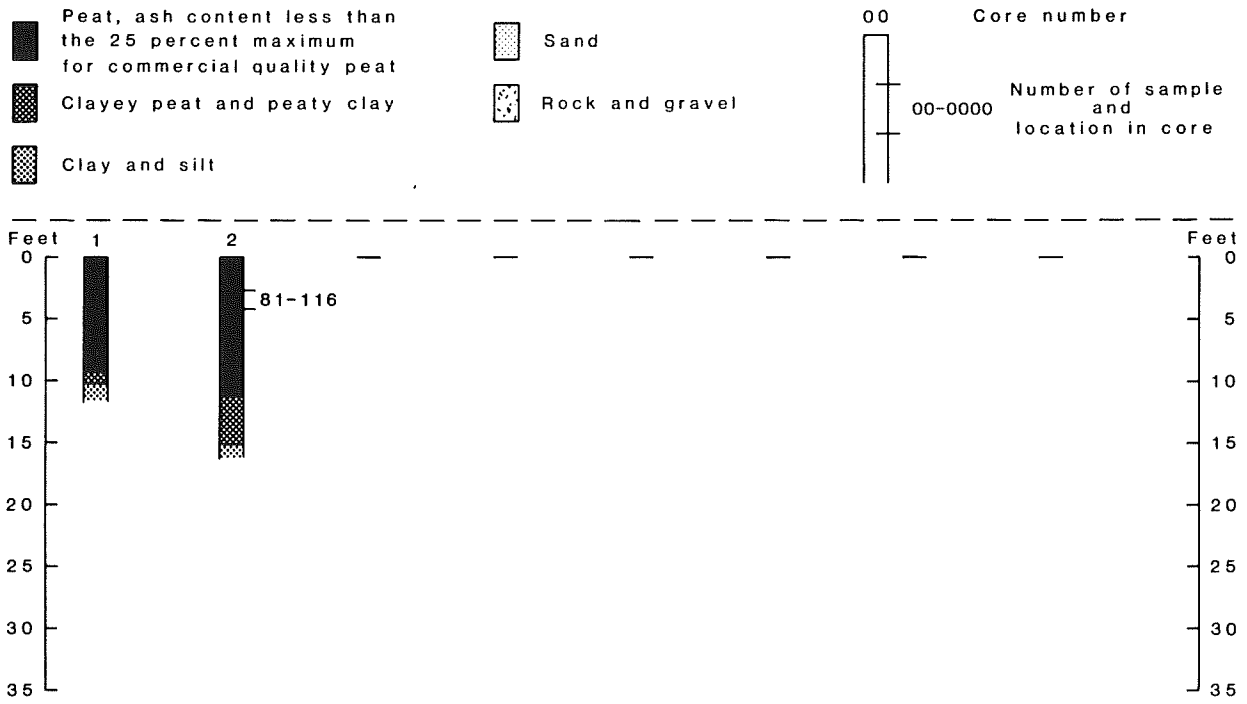
Figure 35. Continued.



ESTIMATED PEAT RESOURCES

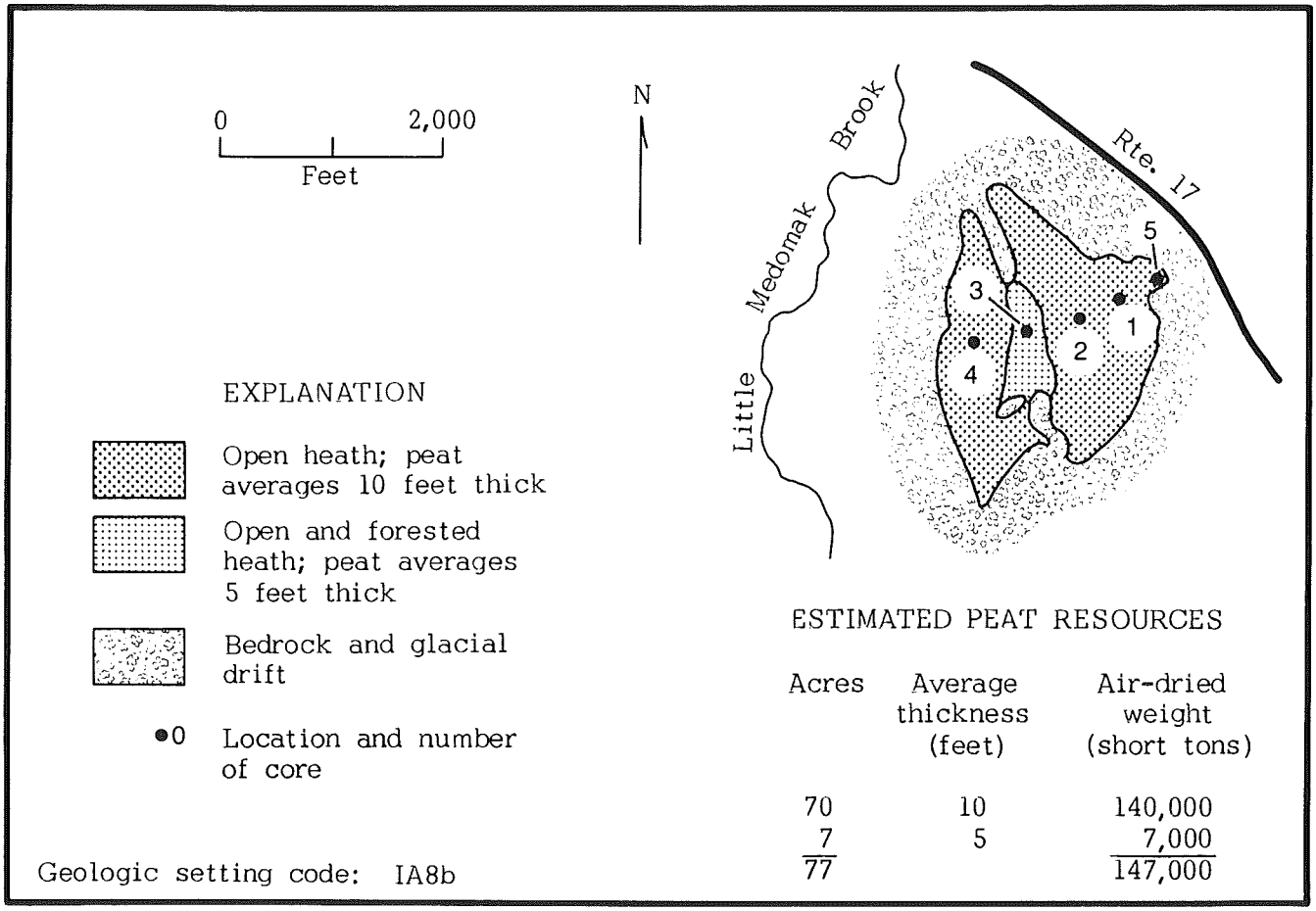
Acres	Average thickness (feet)	Air-dried weight (short tons)
40	10	80,000
20	5	20,000
60		100,000

Figure 36. Sketch map, cores, and sample analyses of bog north of Route 1 and east of Route 235, Waldoboro Twp., Waldoboro East 7.5 minute Quadrangle, Lincoln County, Maine (Number 33 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-116	90.0	67.0	32.0	1.0	4.46	56.29	0.93	0.16	9,357

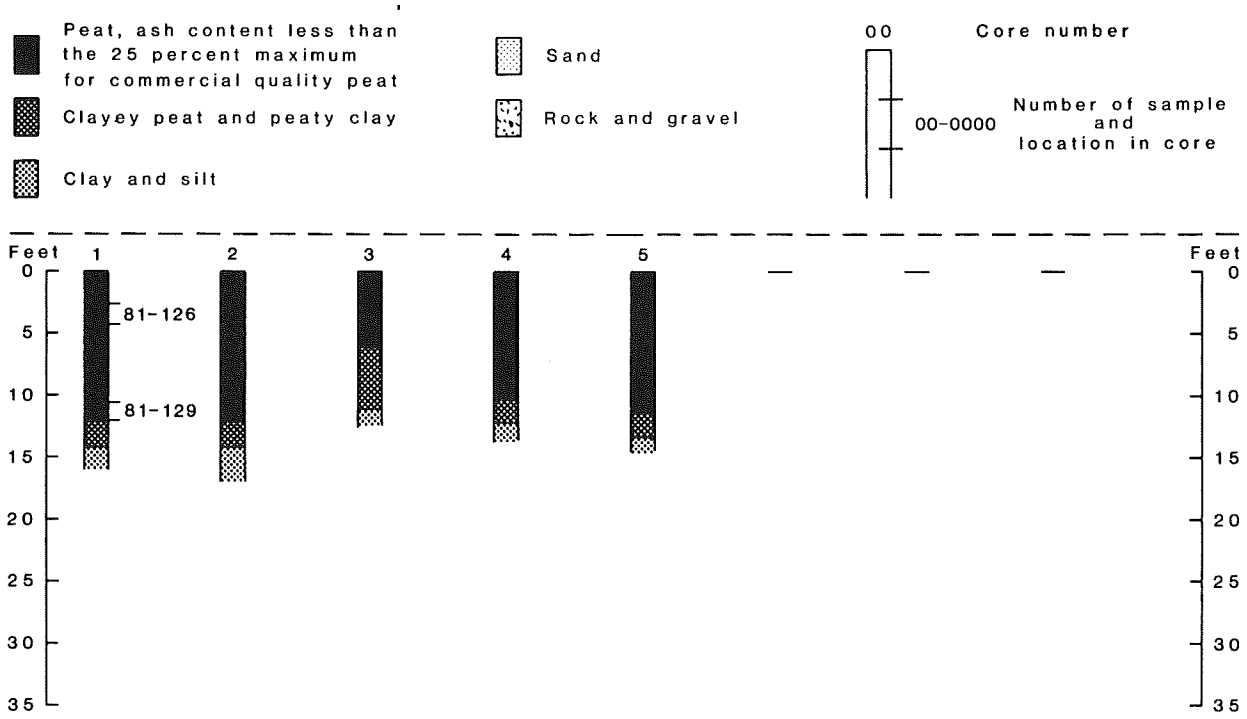
Figure 36. Continued.



ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
70	10	140,000
7	5	7,000
77		147,000

Figure 37. Sketch map, cores, and sample analyses of Rice Heath, Washington Twp., Union 7.5 minute Quadrangle, Knox County, Maine (Number 34 on Index Map).



Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
	PROXIMATE ANALYSIS				ULTIMATE ANALYSIS				
81-126	87.3	62.3	34.4	3.3	4.19	56.72	1.28	0.19	9,316
81-129	91.1	60.6	27.0	12.4	4.97	51.64	2.86	0.64	9,160

Figure 37. Continued.

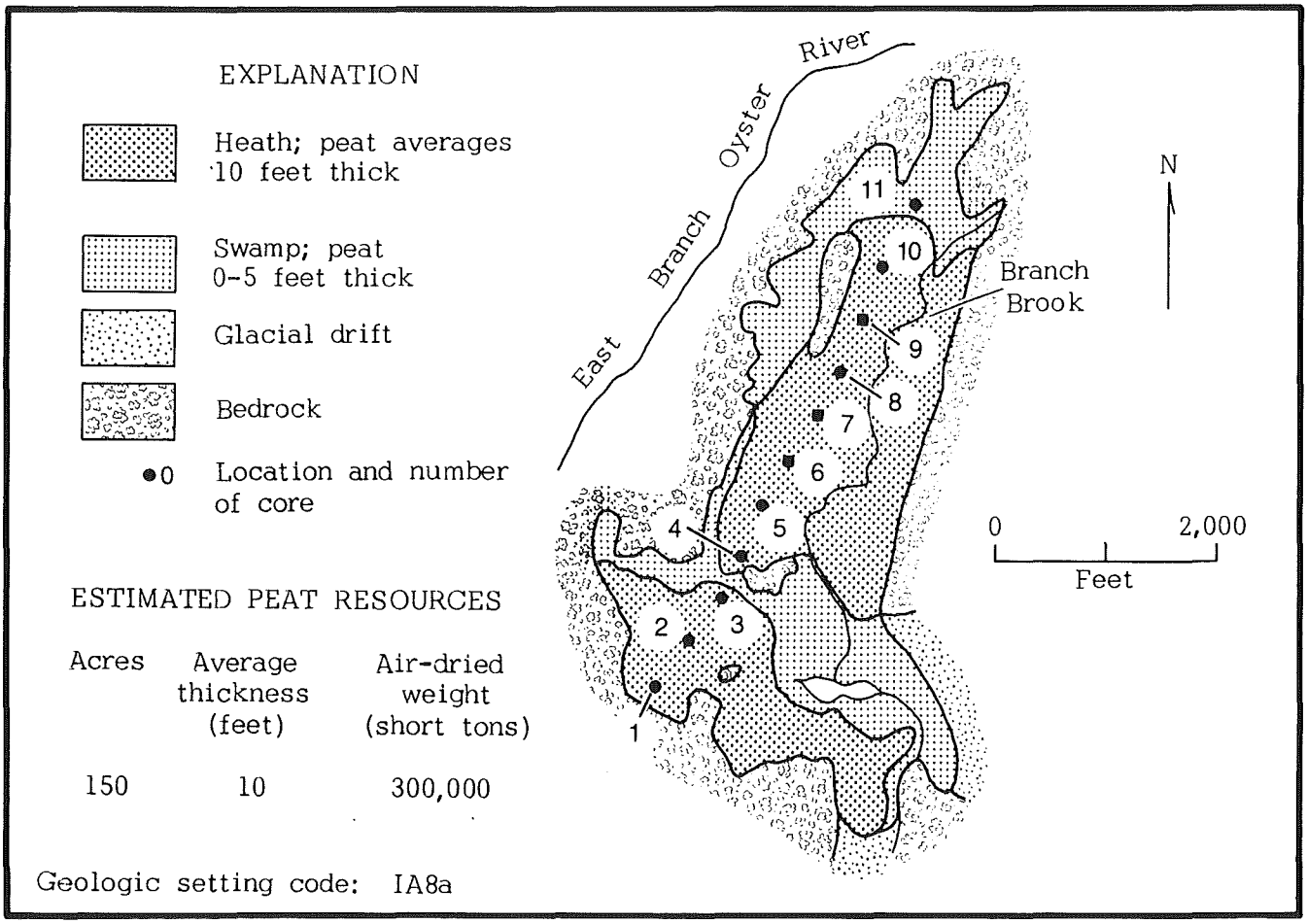
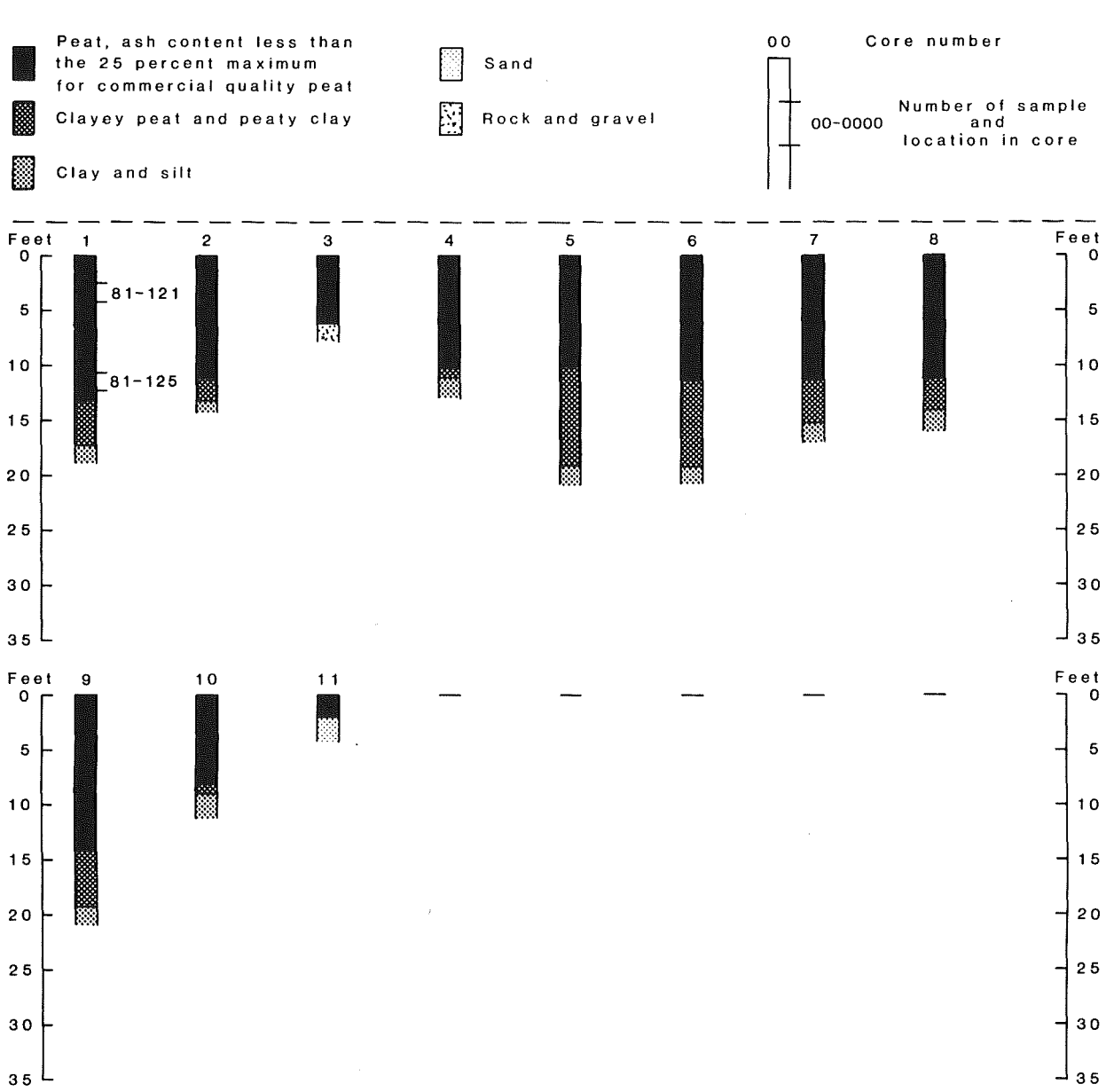


Figure 38. Sketch map, cores, and sample analyses of The Bog, Rockland Twp., West Rockport 7.5 minute Quadrangle, Knox County, Maine (Number 35 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	PROXIMATE ANALYSIS: Percent dry weight: Volatile matter	PROXIMATE ANALYSIS: Percent dry weight: Fixed carbon	PROXIMATE ANALYSIS: Percent dry weight: Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	ULTIMATE ANALYSIS: Percent dry weight: Carbon	ULTIMATE ANALYSIS: Percent dry weight: Nitrogen	ULTIMATE ANALYSIS: Percent dry weight: Sulfur	Heating value (BTU/lb)
81-121	88.7	68.1	30.5	1.4	4.82	56.62	1.14	0.17	9,637
81-125	90.5	52.5	23.7	23.8	4.14	45.03	2.28	0.85	7,889

Figure 38. Continued.

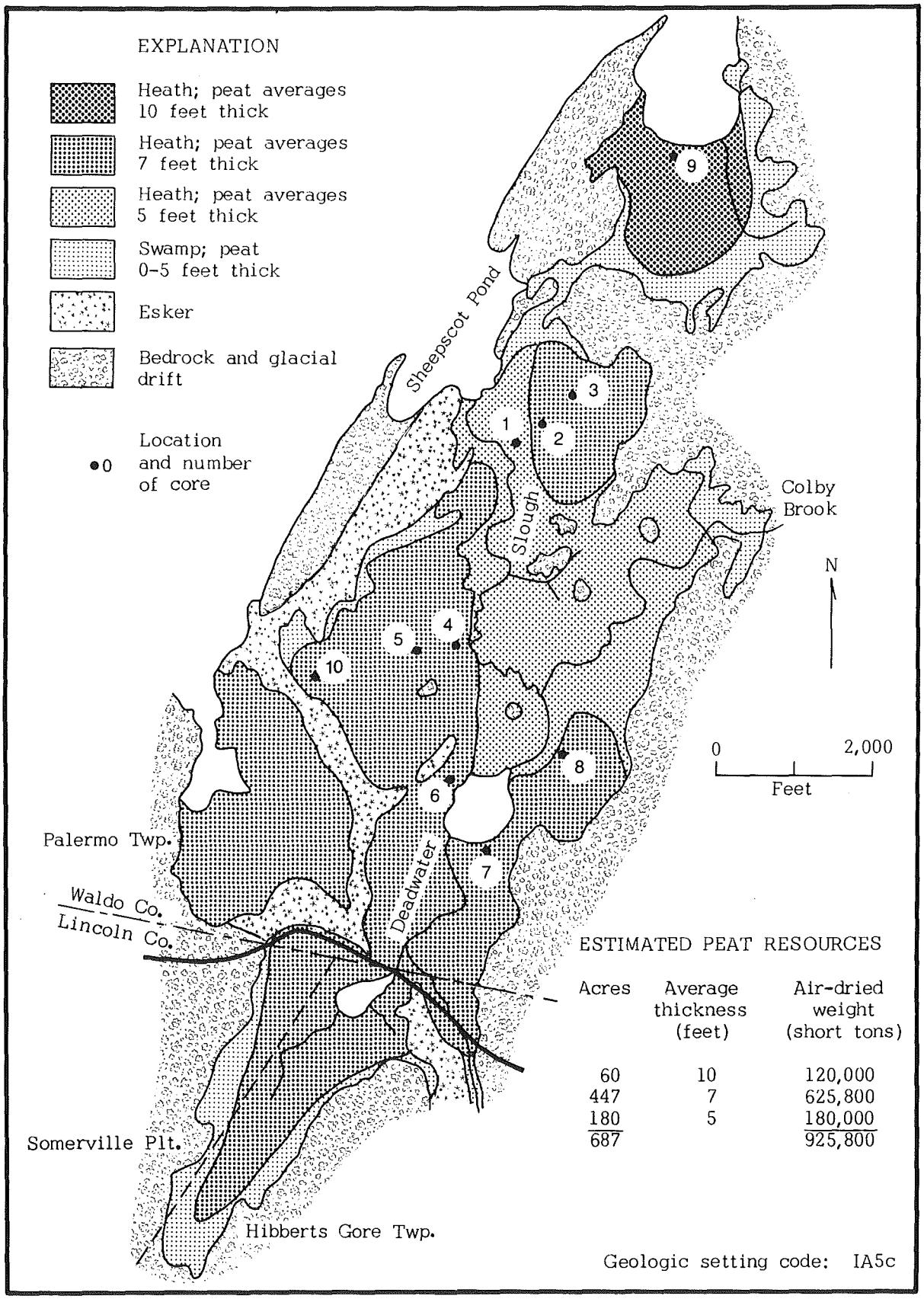
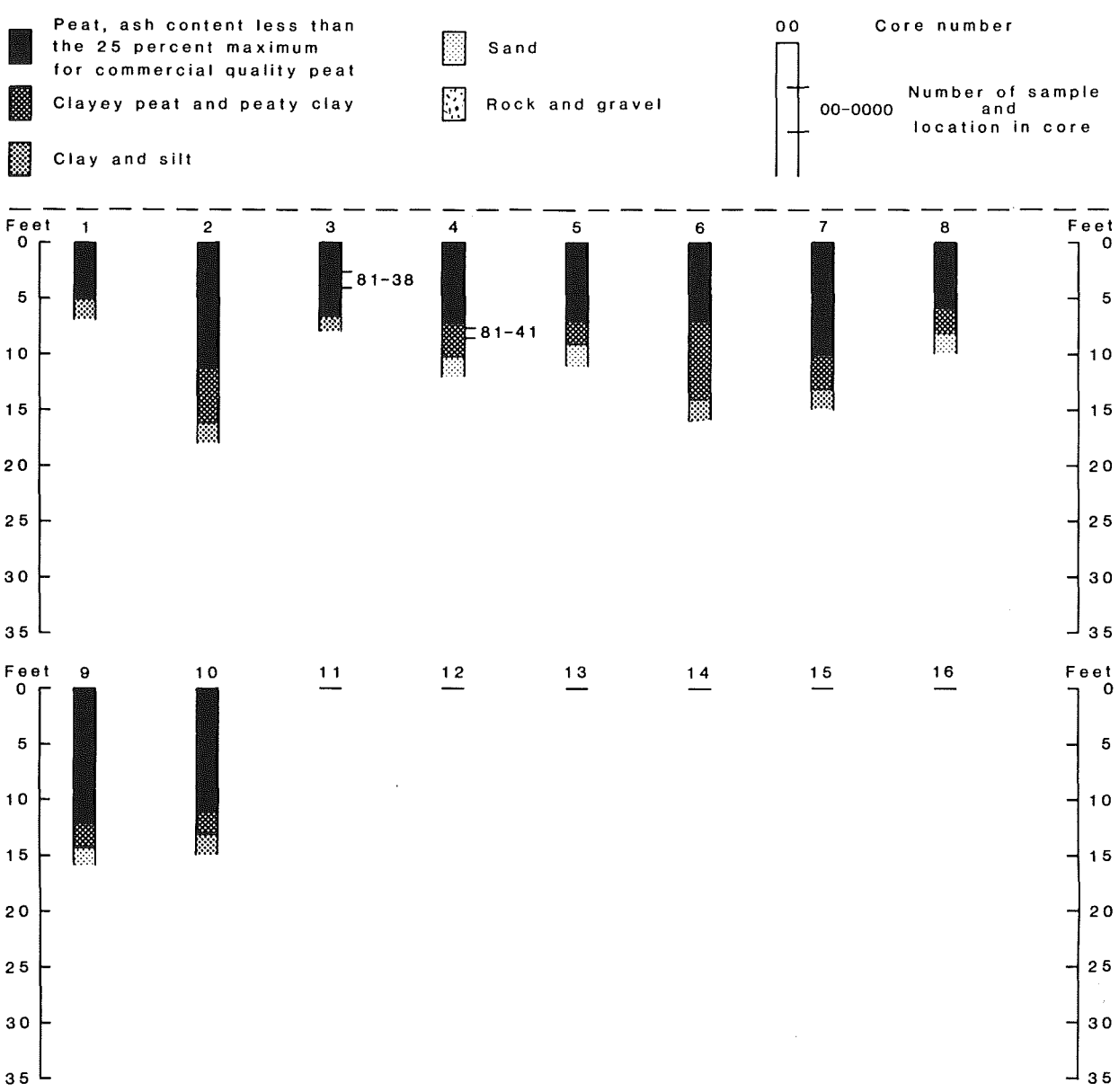
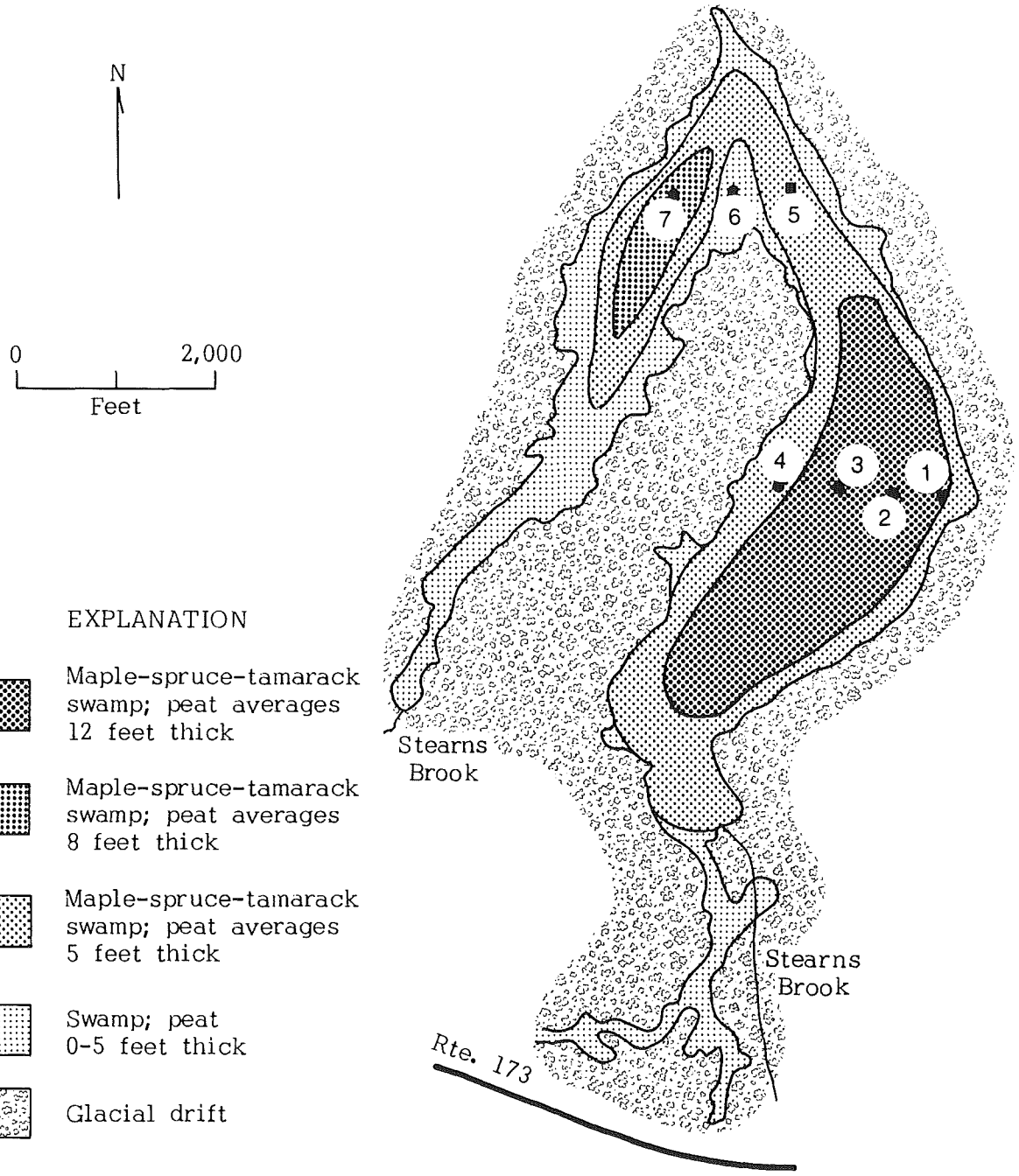


Figure 39. Sketch map, cores, and sample analyses of bog complex at the southeast end of Sheepscot Pond, Palermo, and Hibberts Gore Twps. and Somerville Plantation, Razorville 7.5 minute Quadrangle, Waldo and Lincoln Counties, Maine (Number 36 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	PROXIMATE ANALYSIS: Percent dry weight — Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight — Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-38	89.3	60.8	31.9	7.3	4.71	55.52	2.19	0.50	9,258
81-41	91.1	46.8	19.2	34.0	3.51	38.42	2.18	0.52	6,720

Figure 39. Continued.



EXPLANATION

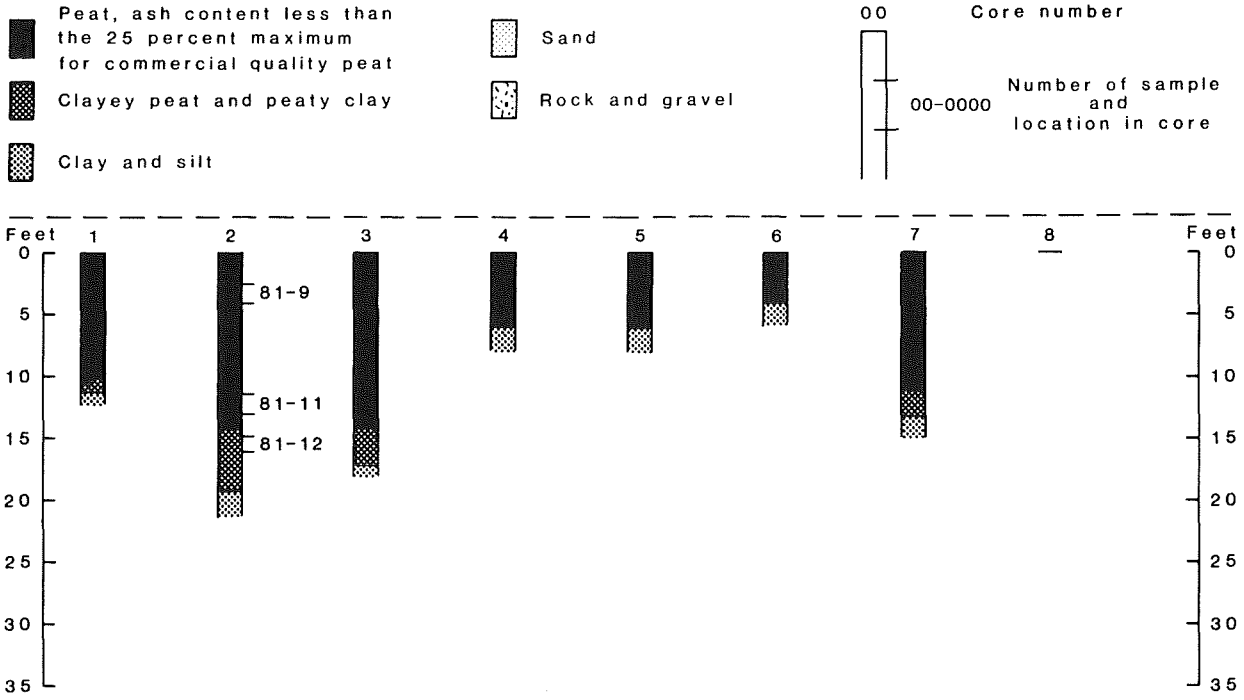
- Maple-spruce-tamarack swamp; peat averages 12 feet thick
- Maple-spruce-tamarack swamp; peat averages 8 feet thick
- Maple-spruce-tamarack swamp; peat averages 5 feet thick
- Swamp; peat 0-5 feet thick
- Glacial drift
- ●0 Location and number of core

ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
160	12	384,000
15	8	24,000
150	5	150,000
325		558,000

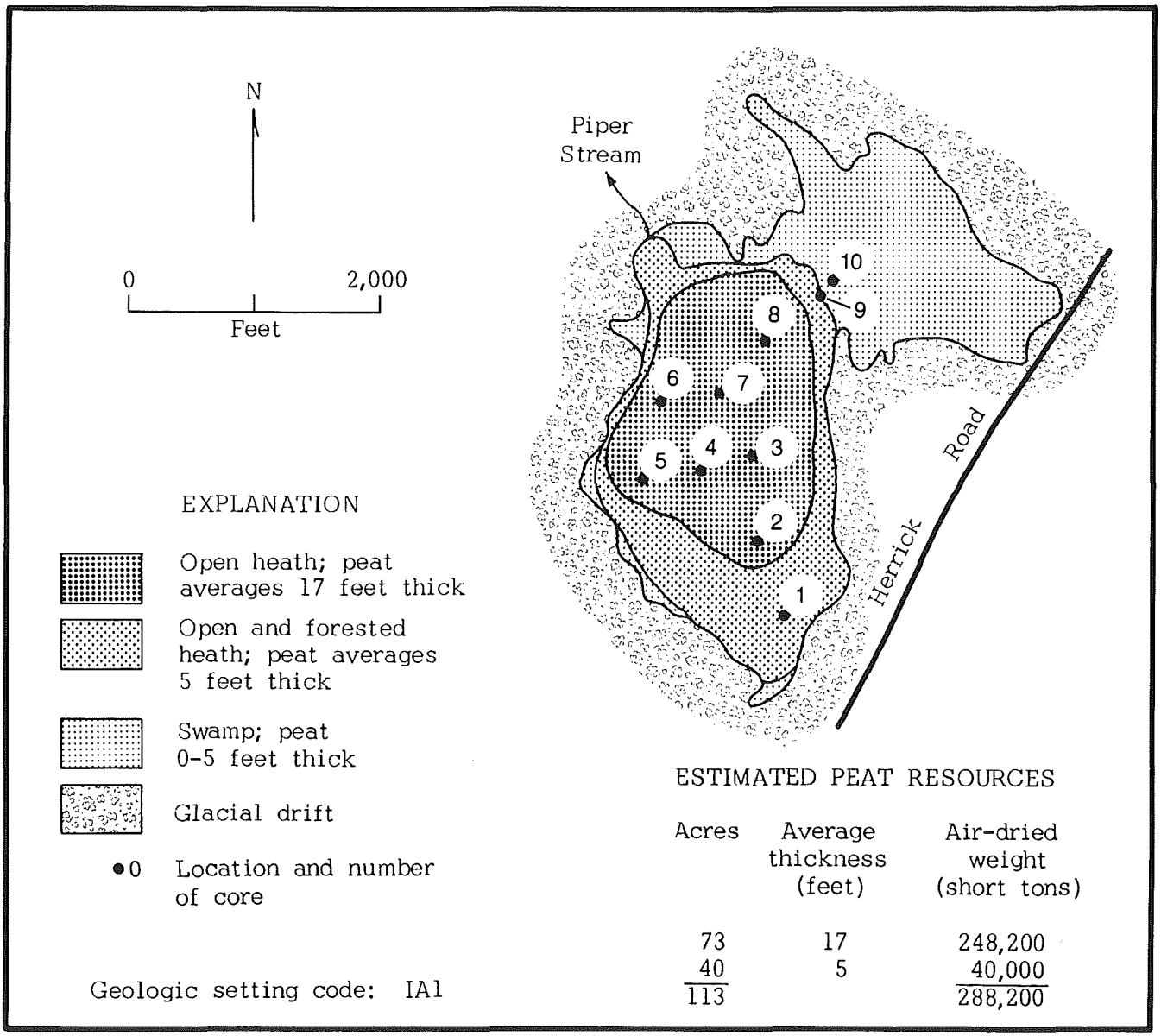
Geologic setting code: IBl

Figure 40. Sketch map, cores, and sample analyses of Witcher Swamp, Searsmont Twp., Morrill and Searsmont 7.5 minute Quadrangles, Waldo County, Maine (Number 37 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	PROXIMATE ANALYSIS: Percent dry weight — Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight — Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-9	91.8	66.0	29.1	4.9	5.03	57.19	1.90	0.41	10,019
81-11	90.3	61.9	32.9	5.2	4.51	56.12	1.70	0.49	9,603
81-12	88.3	35.6	13.9	50.5	2.36	28.62	1.63	0.53	4,961

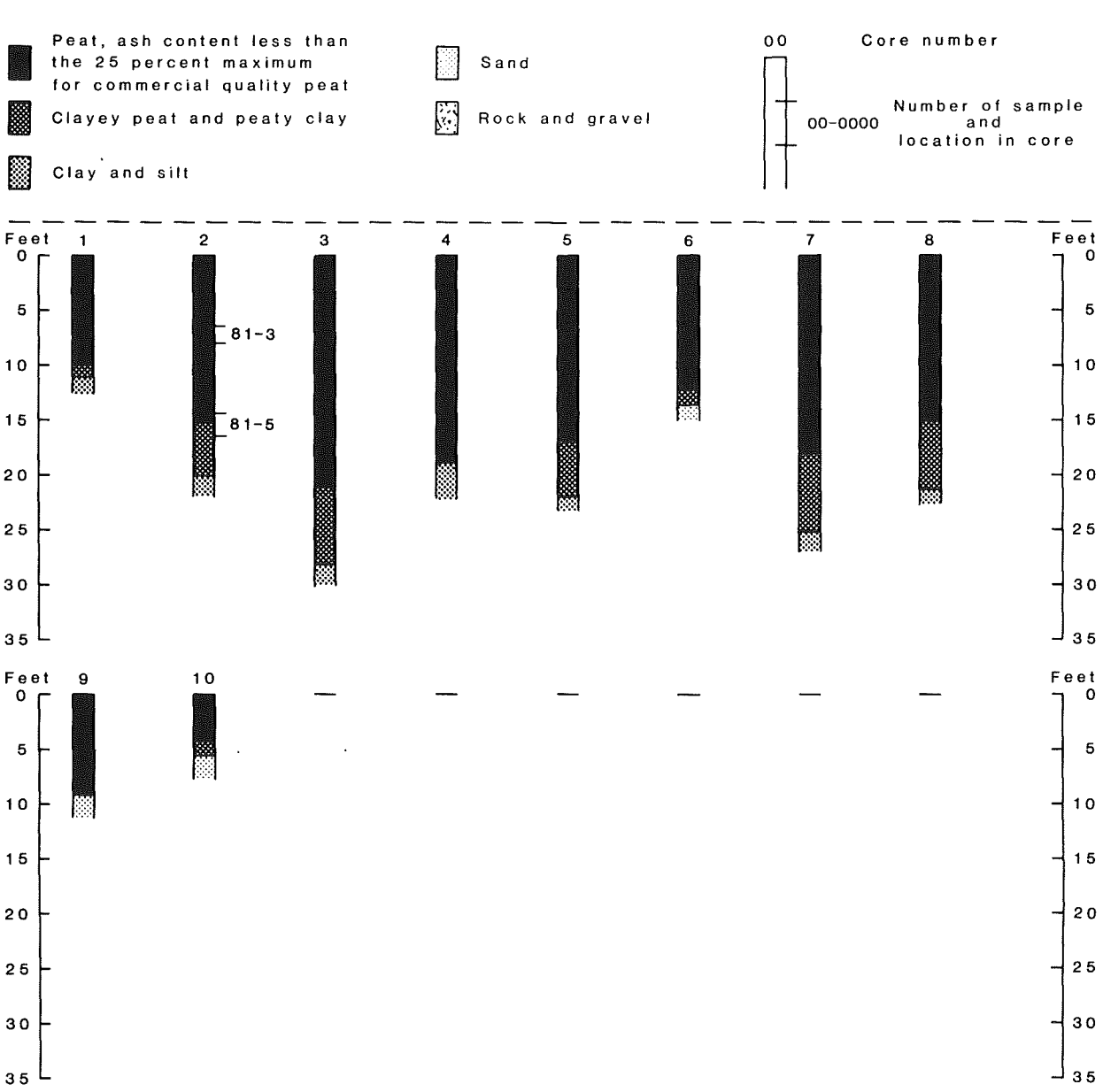
Figure 40. Continued.



ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
73	17	248,200
40	5	40,000
113		288,200

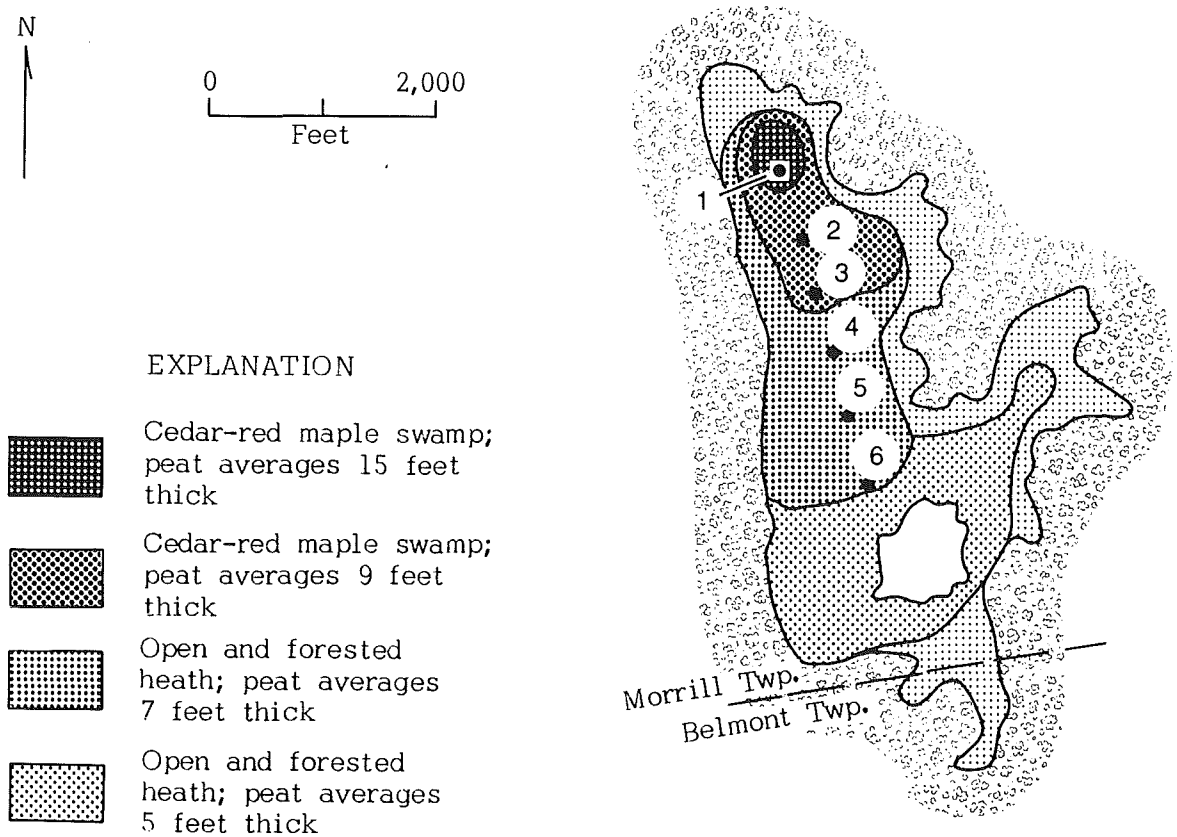
Figure 41. Sketch map, cores, and sample analyses of Herricks Bog, Northport Twp., Lincolnville 7.5 minute Quadrangle, Waldo County, Maine (Number 38 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
*81-3	90.6	63.1	35.1	1.8	4.71	57.92	1.03	0.18	9,778
*81-5	90.4	48.3	17.9	33.8	3.68	37.77	2.54	0.74	6,761

*Bag torn; moisture content not accurate.

Figure 41. Continued.



EXPLANATION

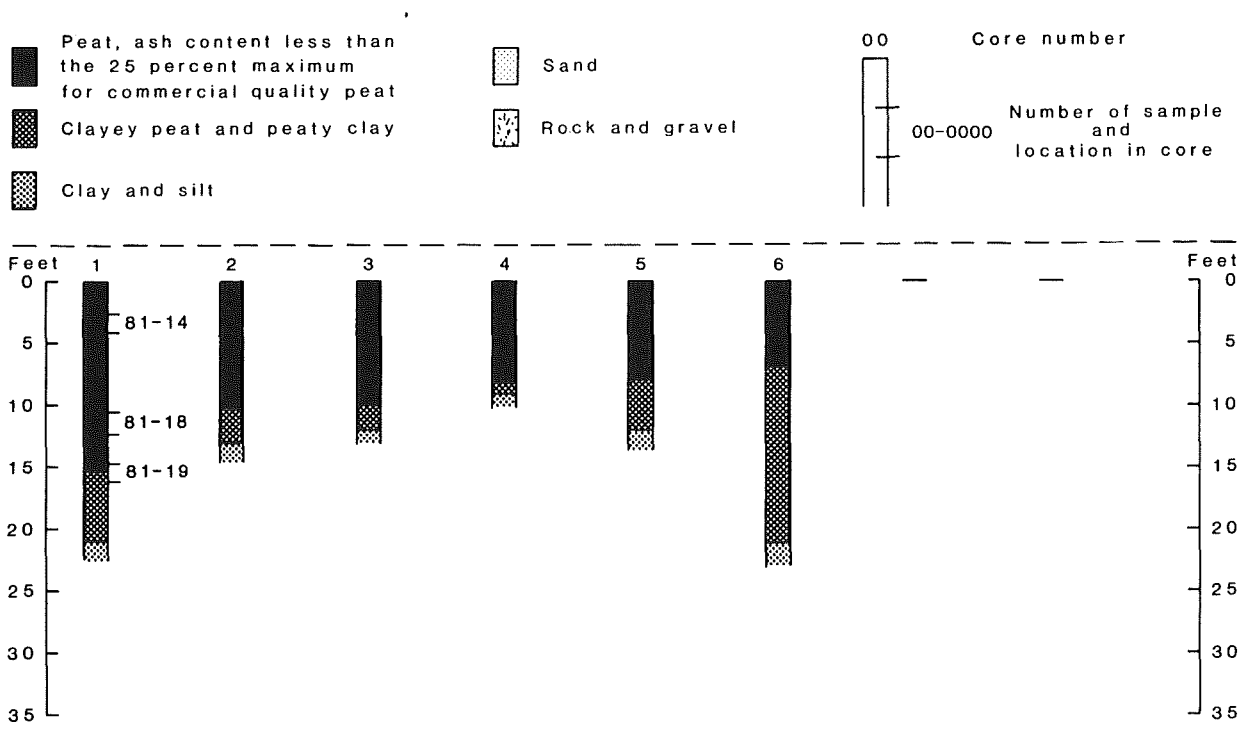
- Cedar-red maple swamp; peat averages 15 feet thick
- Cedar-red maple swamp; peat averages 9 feet thick
- Open and forested heath; peat averages 7 feet thick
- Open and forested heath; peat averages 5 feet thick
- Swamp; peat 0-5 feet thick
- Glacial drift and bedrock
- •0 Location and number of core

Geologic setting code: IA1

ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
5	15	15,000
26	9	46,800
55	7	77,000
25	5	25,000
111		163,800

Figure 42. Sketch map, cores, and sample analyses of Greers Bog, Morrill Twp., Morrill 7.5 minute Quadrangle, Waldo County, Maine (Number 39 on Index Map).

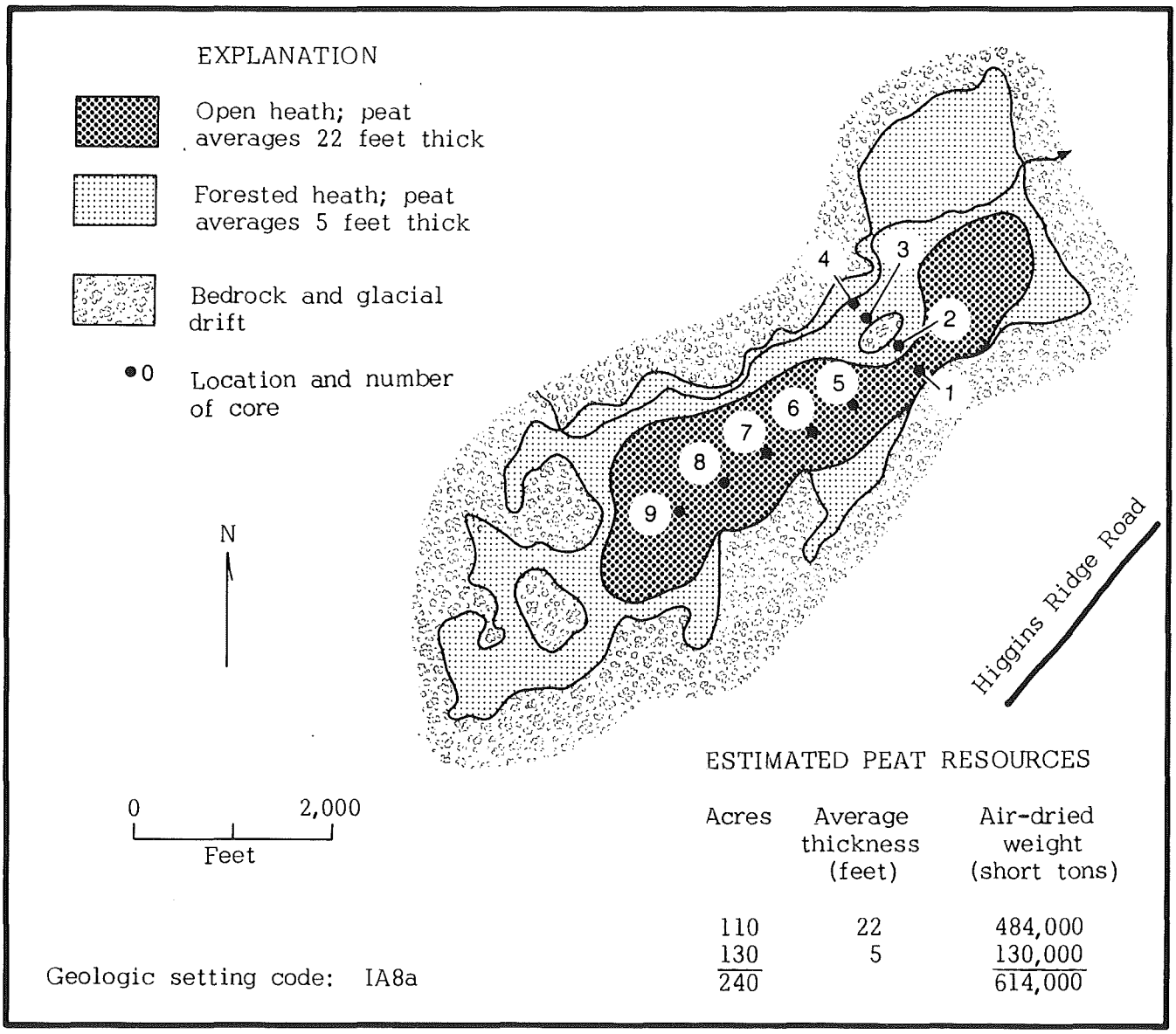


PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-14	87.2	60.6	33.3	6.1	4.08	56.23	1.72	0.62	9,393
81-18	89.9	61.6	31.8	6.6	4.09	54.29	1.56	0.78	9,053
81-19	90.6	51.0	19.6	29.4	3.71	40.69	2.29	1.07	7,236

Figure 42. Continued.

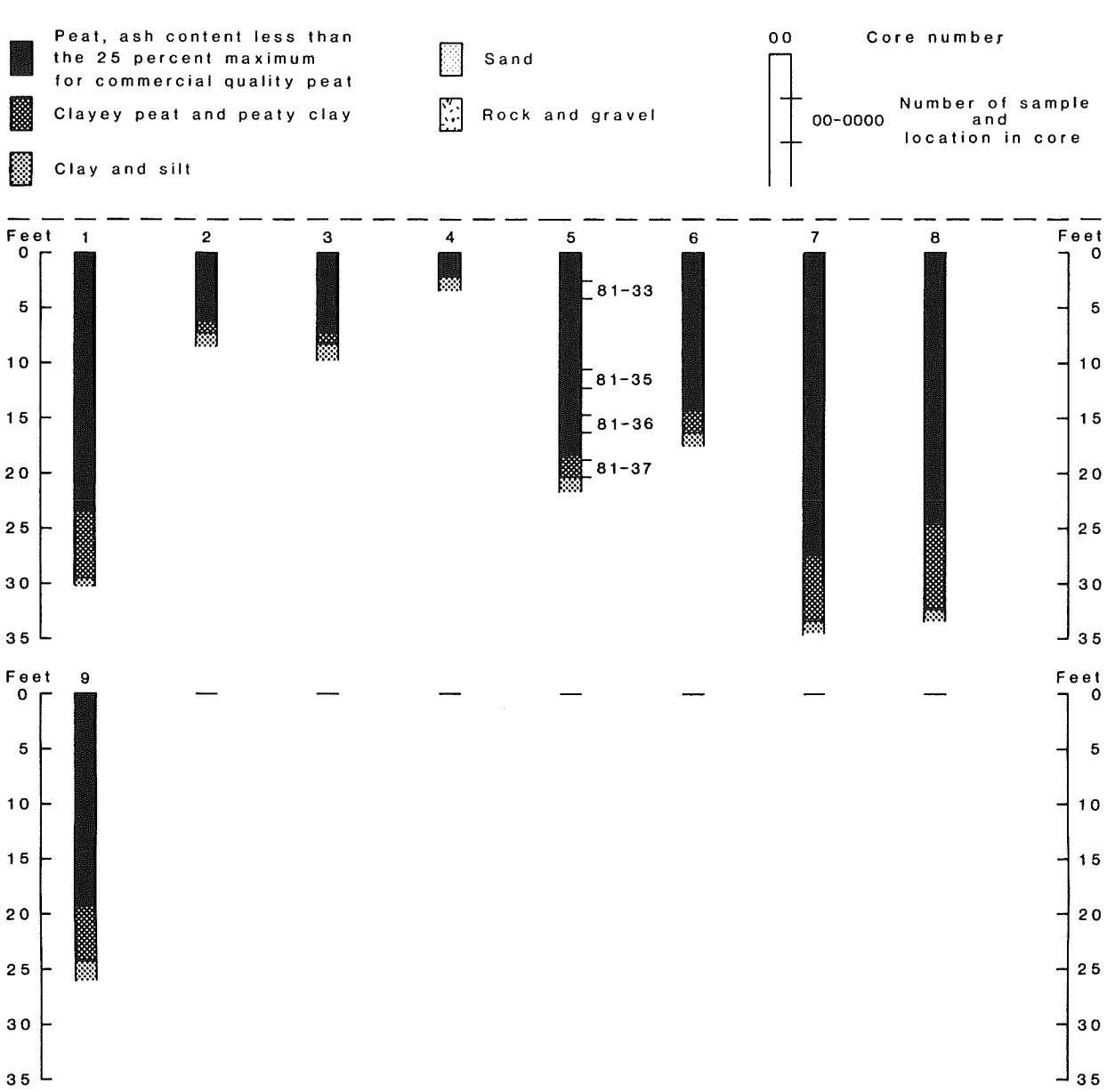


ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
110	22	484,000
130	5	130,000
240		614,000

Geologic setting code: IA8a

Figure 43. Sketch map, cores, and sample analyses of Smiths Millpond Bog, Morrill Twp., Morrill 7.5 minute Quadrangle, Waldo County, Maine (Number 40 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-33	88.3	64.0	33.7	2.3	4.28	57.37	1.10	0.16	9,460
*81-35	88.8	61.7	34.0	4.3	4.62	57.31	1.24	0.53	9,562
81-36	90.7	63.4	31.5	5.1	4.79	55.77	2.46	0.81	9,608
81-37	88.9	39.6	11.2	49.2	2.89	27.34	2.05	1.19	4,778

*Bag torn; moisture content not accurate.

Figure 43. Continued.

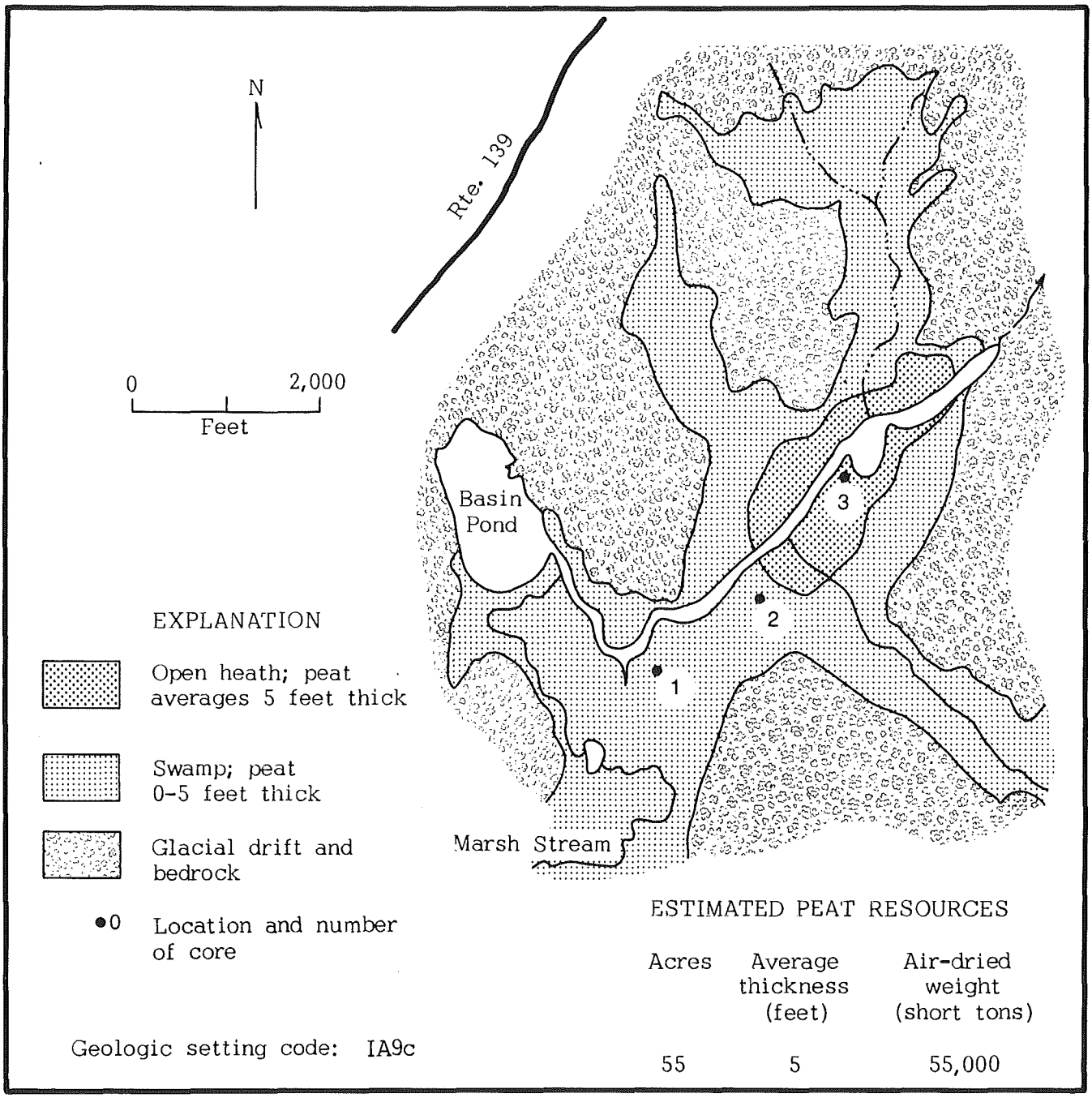
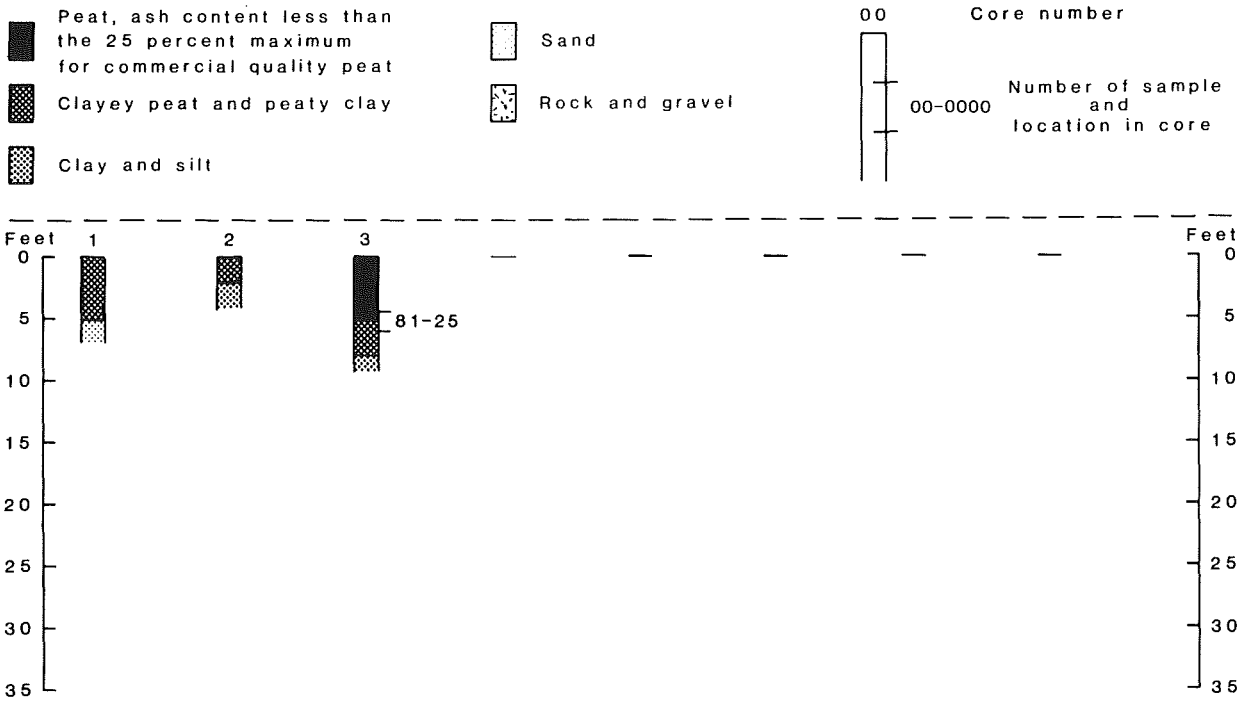


Figure 44. Sketch map, cores, and sample analyses of Jones Bog, Monroe Twp., Brooks 15 minute Quadrangle, Waldo County, Maine (Number 41 on Index Map).

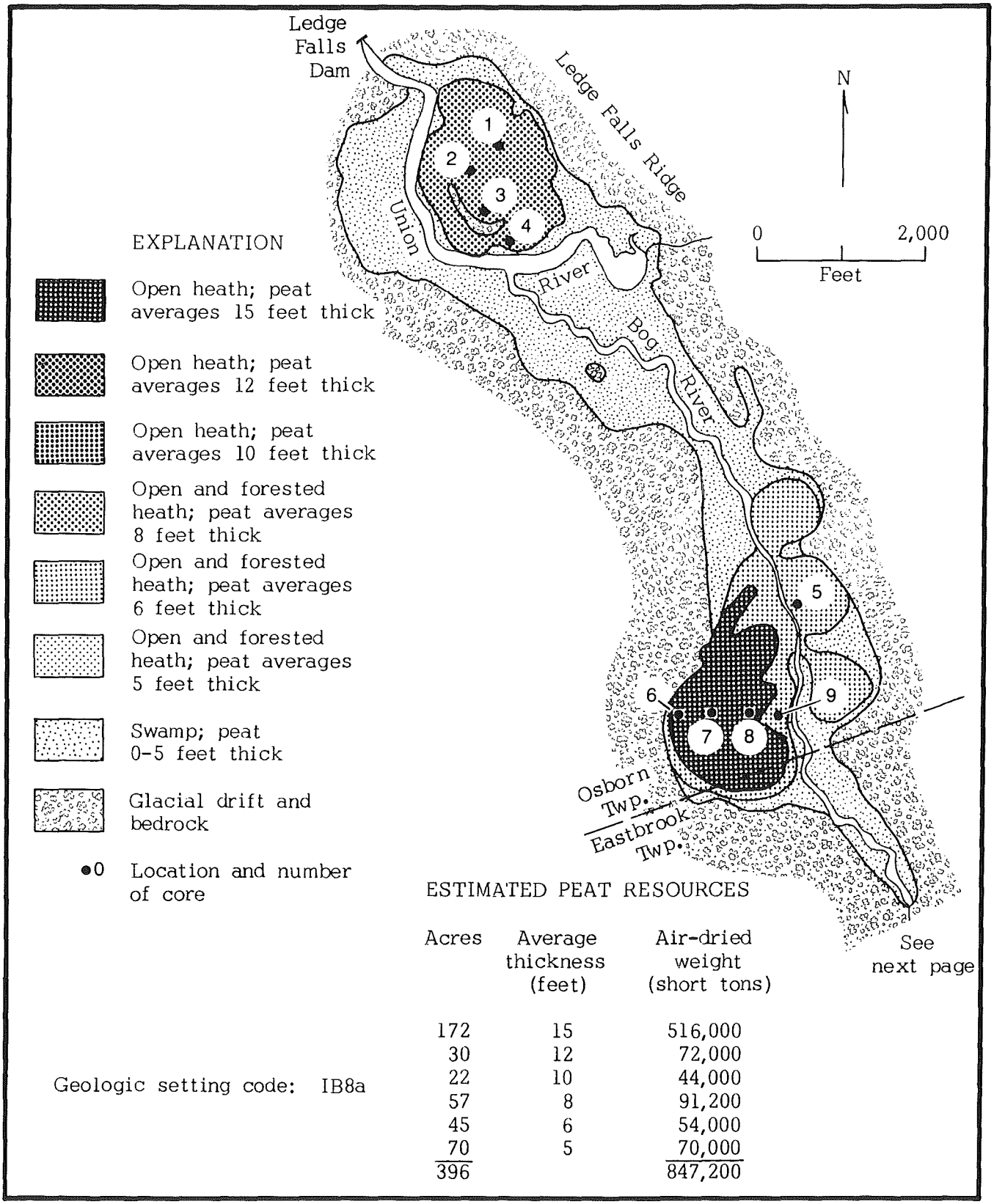


PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-25	85.8	41.2	17.6	41.2	2.77	34.20	1.98	0.57	5,855

Figure 44. Continued.



EXPLANATION

- Open heath; peat averages 15 feet thick
- Open heath; peat averages 12 feet thick
- Open heath; peat averages 10 feet thick
- Open and forested heath; peat averages 8 feet thick
- Open and forested heath; peat averages 6 feet thick
- Open and forested heath; peat averages 5 feet thick
- Swamp; peat 0-5 feet thick
- Glacial drift and bedrock
- •0 Location and number of core

ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
172	15	516,000
30	12	72,000
22	10	44,000
57	8	91,200
45	6	54,000
70	5	70,000
396		847,200

Geologic setting code: IB8a

Figure 45. Sketch map, cores, and sample analyses of bogs along Union and Bog Rivers between Ledge Falls Dam and trail crossing southwest of Little Bull Hill, Eastbrook and Osborn Twps., Great Pond, Ellsworth, and Tunk Lake 15 minute Quadrangles, Hancock County, Maine (Number 42 on Index Map).

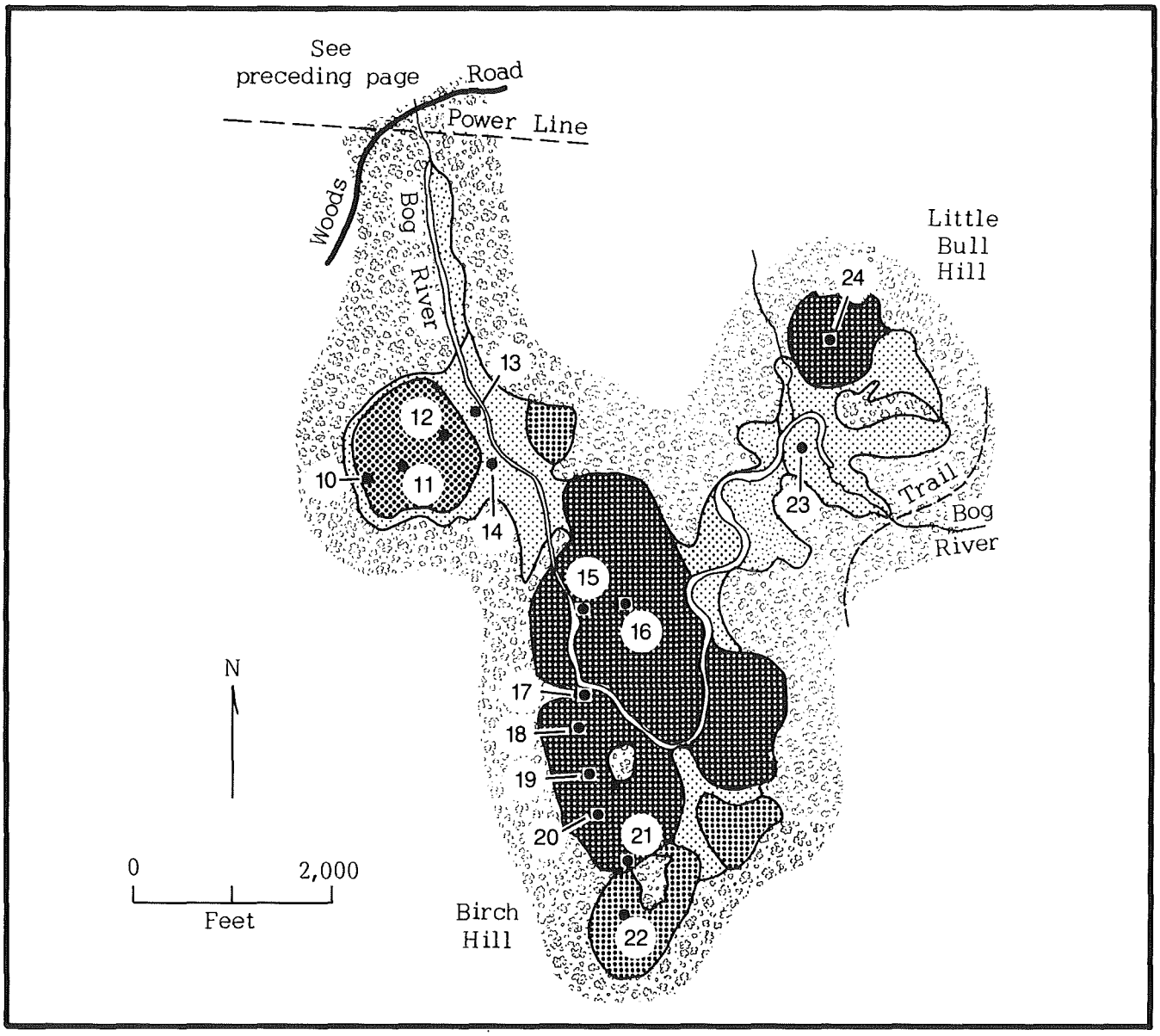
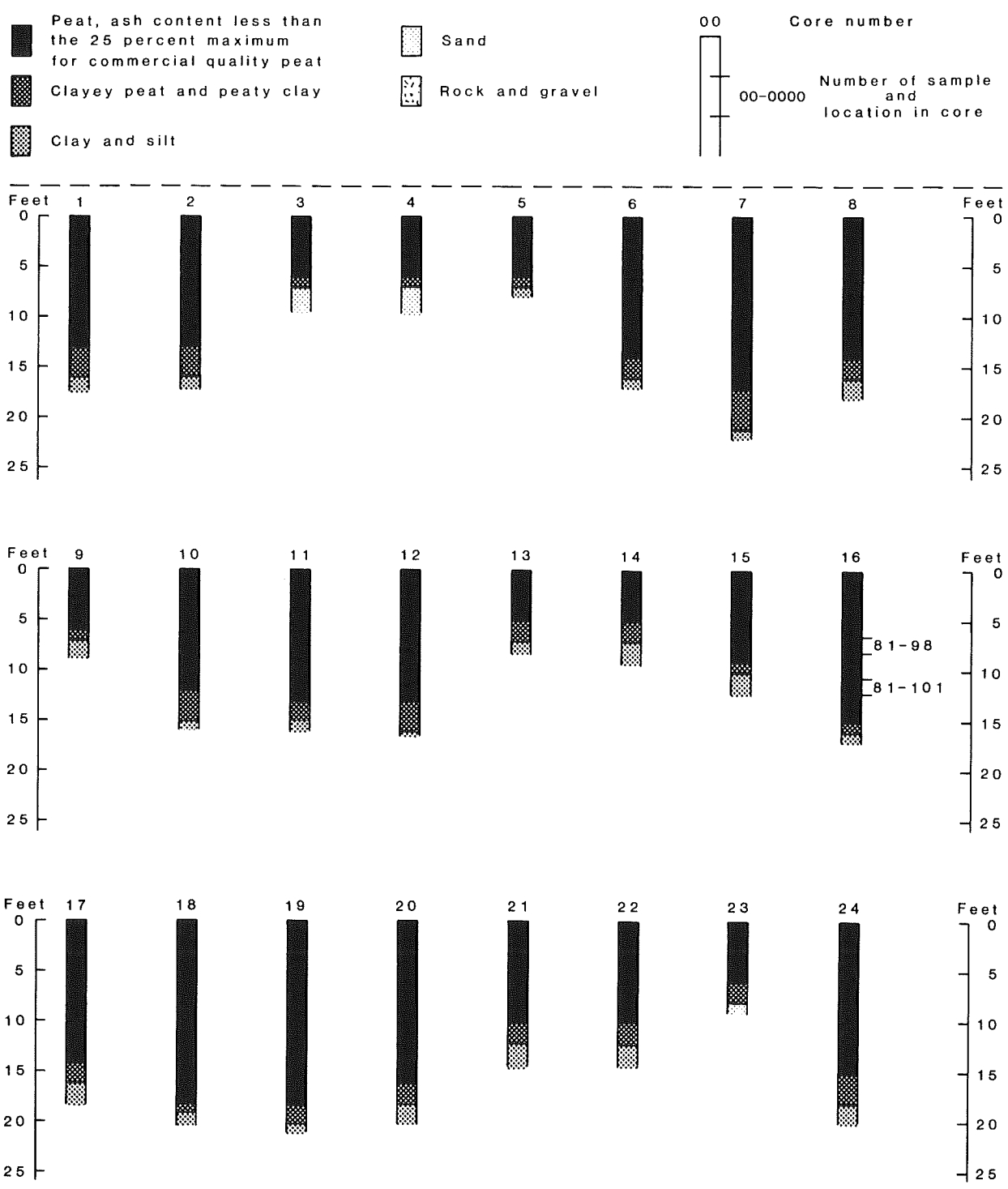


Figure 45. Continued.



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-98	90.9	60.1	30.0	9.9	4.39	53.67	1.90	0.32	9,159
81-101	89.2	66.9	31.5	1.6	4.81	57.55	1.00	0.16	9,637

Figure 45. Continued.

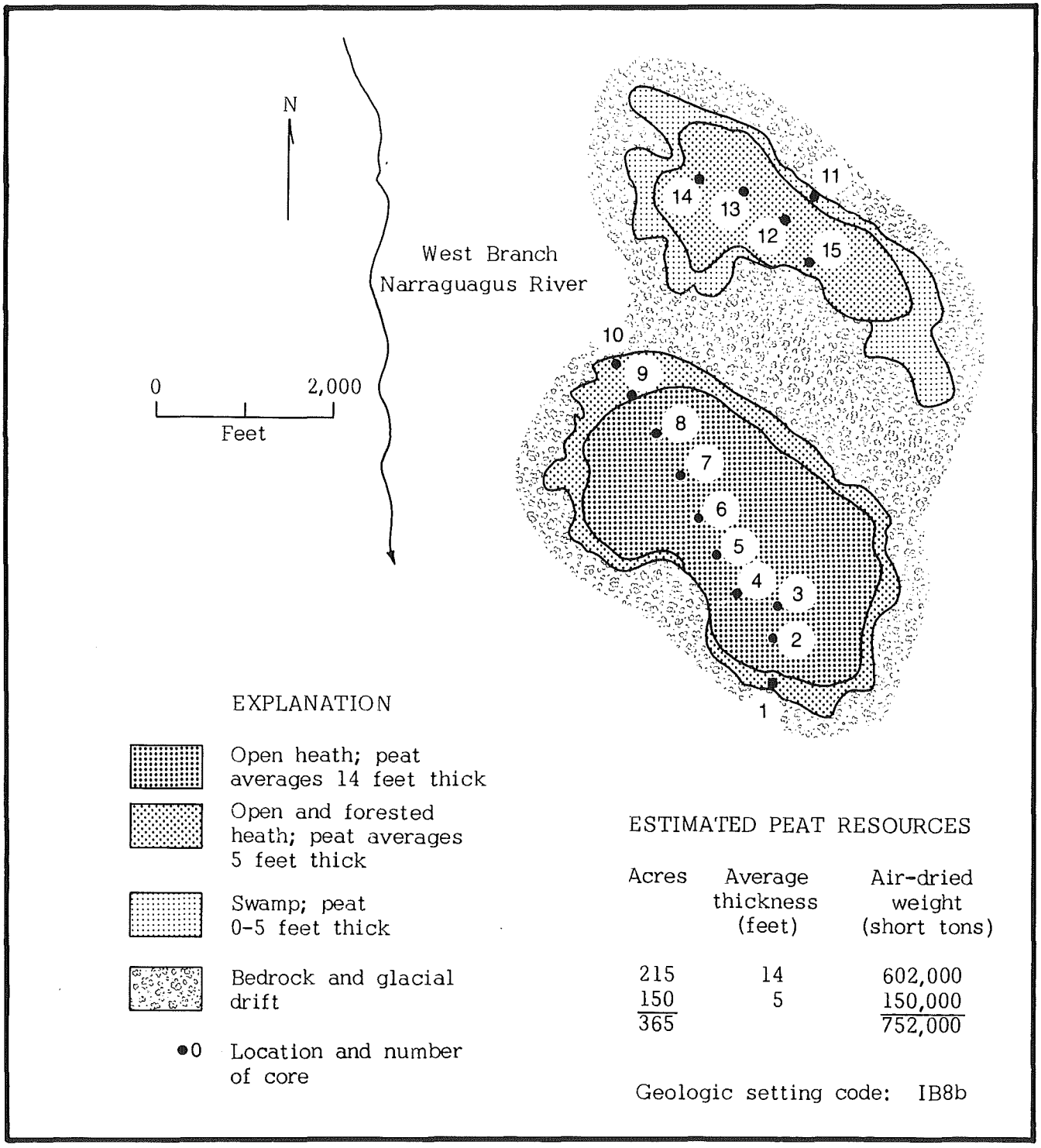
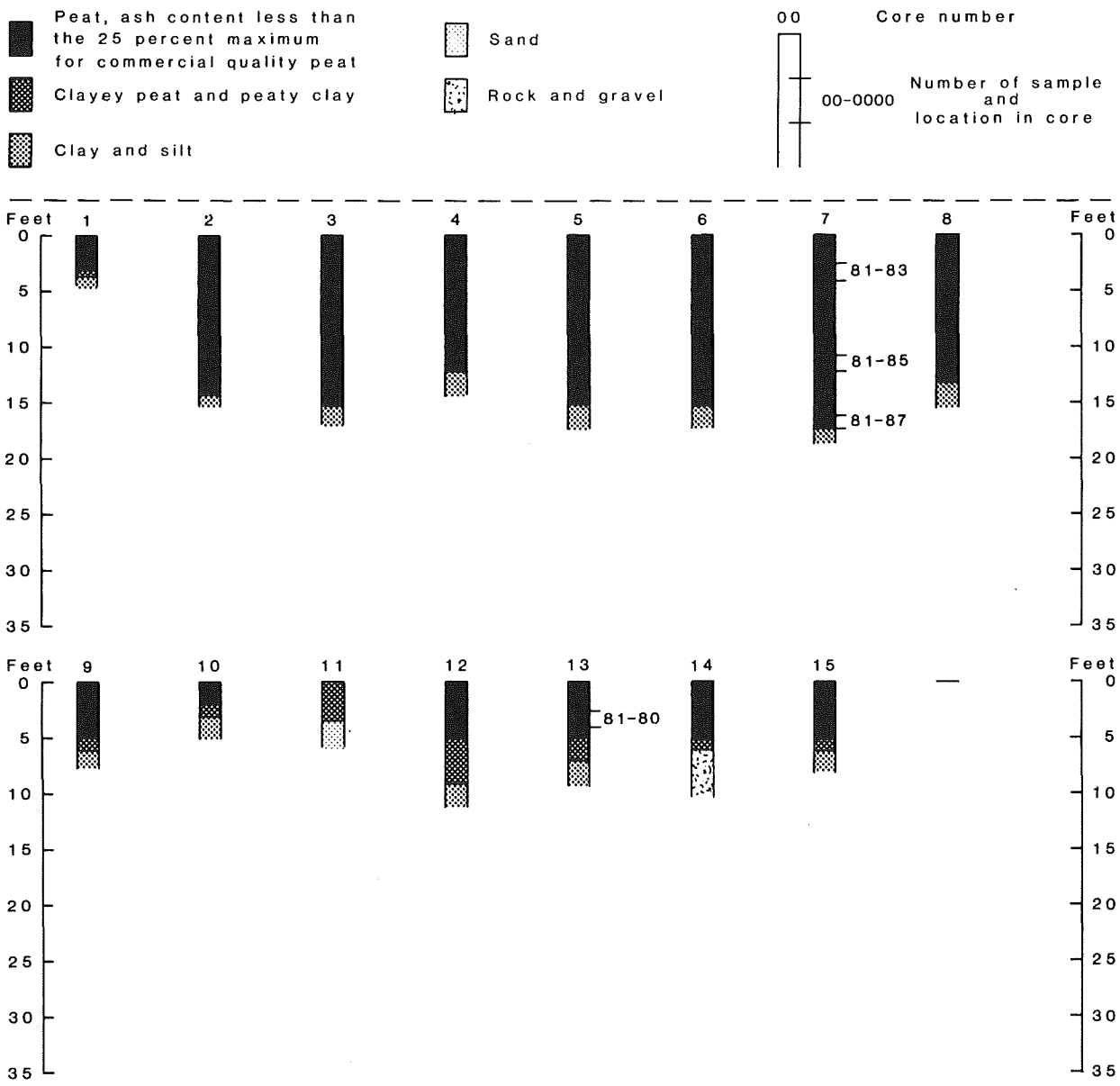
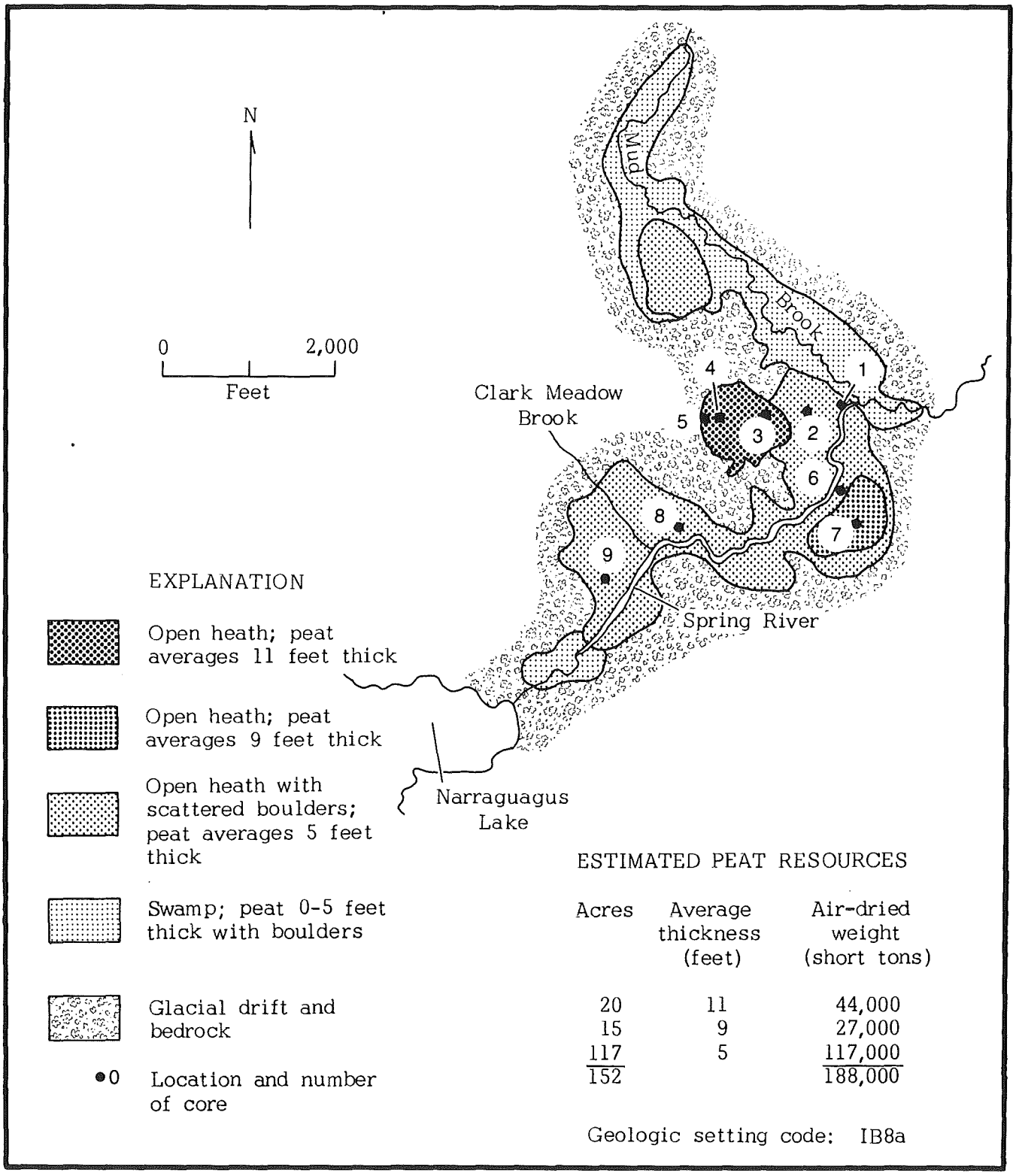


Figure 46. Sketch map, cores, and sample analyses of Rock Dam Heath bogs, T16 MD, Tunk Lake 15 minute Quadrangle, Hancock County, Maine (Number 43 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-80	89.5	67.8	29.6	2.6	5.22	56.25	1.79	0.16	9,645
81-83	91.3	68.4	30.9	0.7	4.51	53.87	0.71	0.12	8,916
81-85	92.4	68.7	30.2	1.1	4.78	53.88	0.61	0.17	9,007
81-87	89.1	63.1	32.0	4.9	5.06	57.27	2.08	0.29	9,822

Figure 46. Continued.

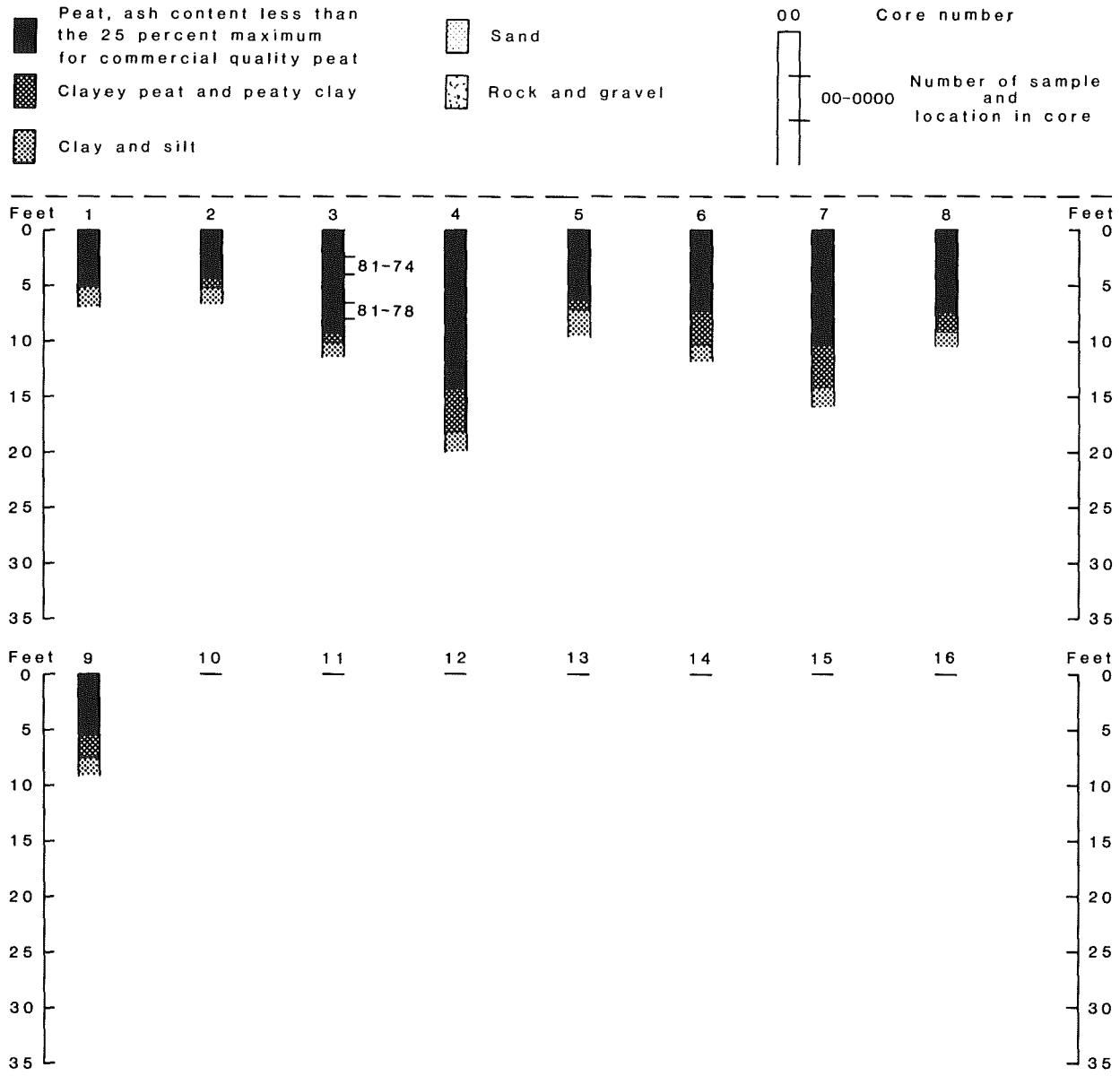


ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
20	11	44,000
15	9	27,000
117	5	117,000
152		188,000

Geologic setting code: IB8a

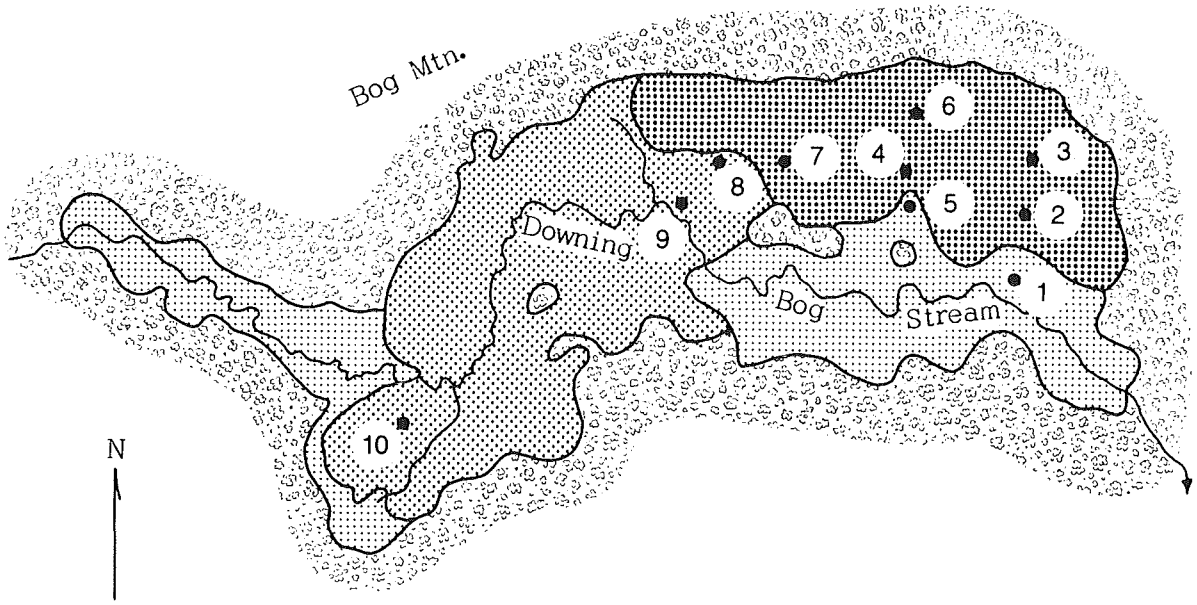
Figure 47. Sketch map, cores, and sample analyses of bog along Spring River, T16 MD, Tunk Lake 15 minute Quadrangle, Hancock County, Maine (Number 44 on Index Map).



Sample number	PROXIMATE ANALYSIS: Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	ULTIMATE ANALYSIS: Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-74	91.1	68.8	30.4	0.8	4.92	53.08	0.73	0.15	8,855
*81-78	87.4	66.0	32.2	1.8	4.89	57.44	0.85	0.21	9,716

*Bag torn; moisture content not accurate.

Figure 47. Continued.



EXPLANATION

Open heath; peat averages 14 feet thick

Open and forested heath; peat averages 10 feet thick

Forested heath; peat averages 5 feet thick

Bedrock and glacial drift

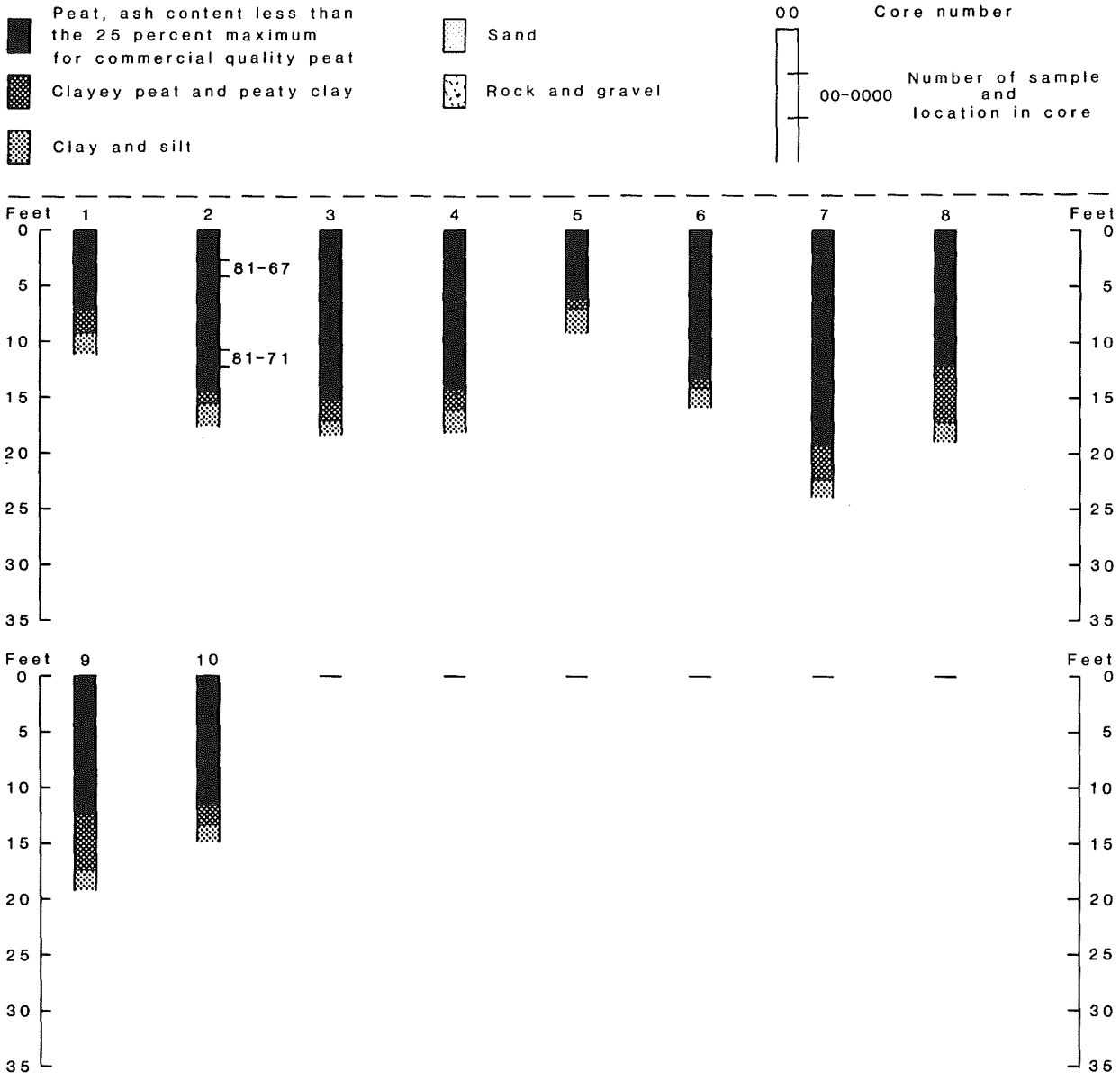
●0 Location and number of core

ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
65	14	182,000
100	10	200,000
75	5	75,000
240		457,000

Geologic setting code: IB8a

Figure 48. Sketch map, cores, and sample analyses of bog along Downing Bog Stream, T10 SD, Tunk Lake 15 minute Quadrangle, Hancock County, Maine (Number 45 on Index Map).



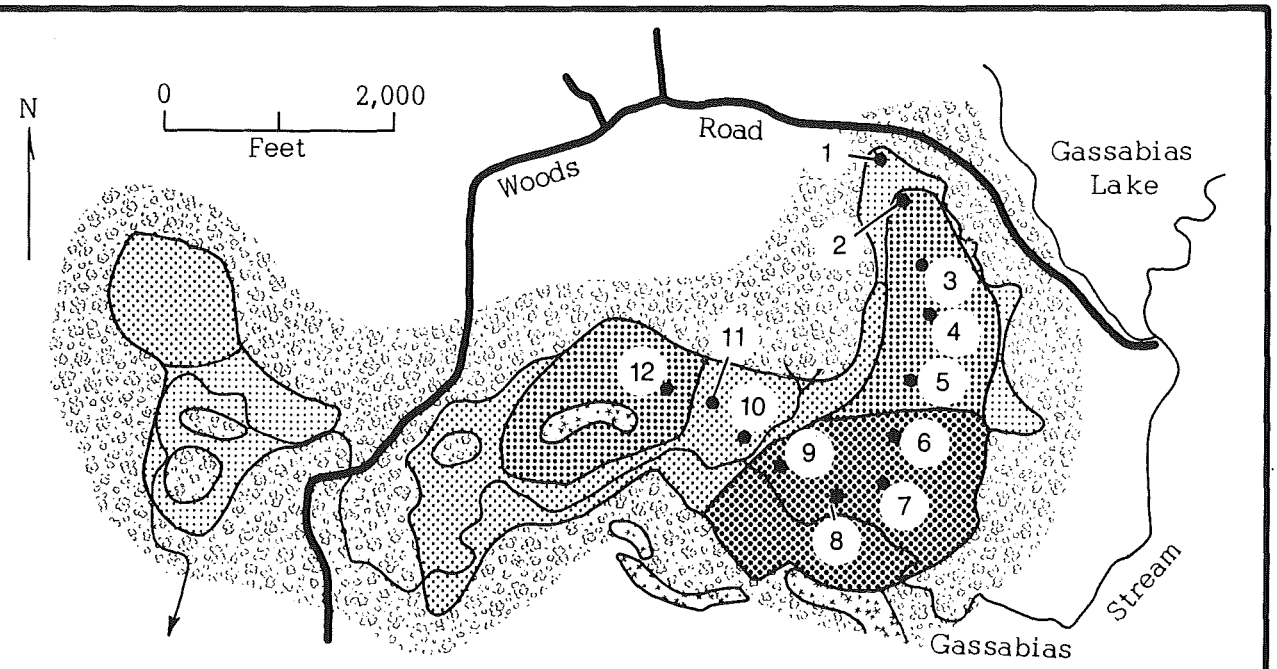
PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-67	90.6	65.6	33.6	0.8	4.72	55.86	0.93	0.20	9,341
*81-71	90.1	65.9	32.0	2.1	4.75	57.40	0.83	0.21	9,605

*Bag torn; moisture content not accurate.

Figure 48. Continued.



EXPLANATION

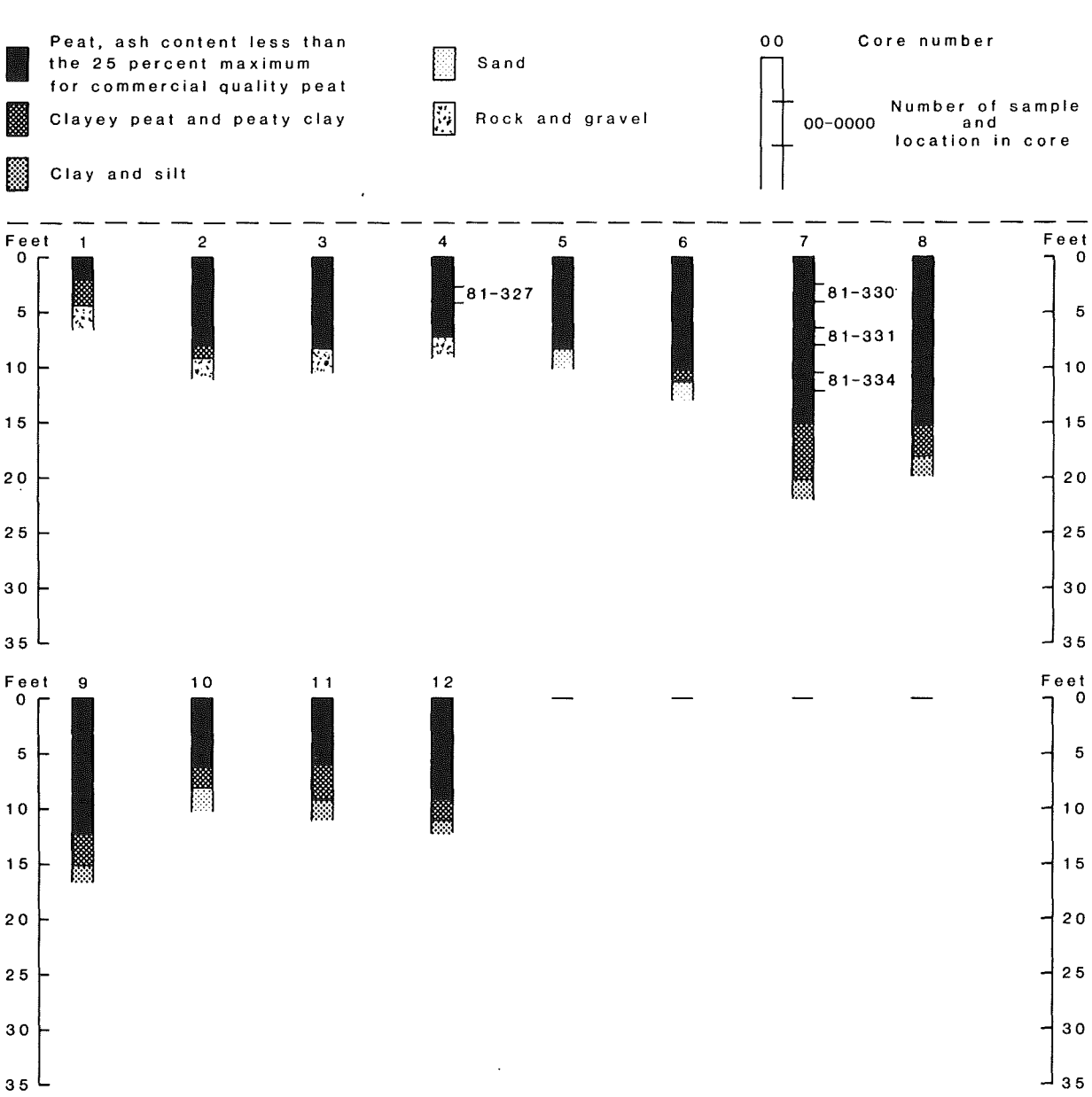
- Open heath; peat averages 12 feet thick
- Open and forested heath; peat averages 8 feet thick
- Open and forested heath; peat averages 5 feet thick
- Swamp; peat 0-5 feet thick
- Esker
- Glacial drift
- ●0 Location and number of core

ESTIMATED PEAT RESOURCES

Acres	Average thickness (feet)	Air-dried weight (short tons)
65	12	156,000
65	8	104,000
55	5	55,000
185		315,000

Geologic setting code: IIA6c

Figure 49. Sketch map, cores, and sample analyses of bogs along Gassabias Stream, T41 MD, Nicatous Lake 15 minute Quadrangle, Hancock County, Maine (Number 46 on Index Map).



PROXIMATE ANALYSIS

ULTIMATE ANALYSIS

Sample number	Percent water as received	Percent dry weight: Volatile matter	Fixed carbon	Ash	Percent dry weight: Hydrogen	Carbon	Nitrogen	Sulfur	Heating value (BTU/lb)
81-327	89.8	63.7	35.2	1.1	5.52	57.67	1.12	0.14	9,927
81-330	91.3	69.0	30.4	0.6	4.85	54.48	0.66	0.14	8,983
81-331	91.2	66.6	32.5	0.9	4.97	55.66	0.82	0.11	9,341
*81-334	87.3	64.8	29.0	6.2	4.78	55.39	1.15	0.21	9,464

*Bag torn; moisture content not accurate.

Figure 49. Continued.