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THE LA COUPE SITE

by

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DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

THE EXCAVATION OF THE LA COUPE SITE

IN EASTERN NEW BRUNSWICK

Norman F. Barka
December, 1970

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PREFACE

The excavation of the La Coupe site in 1963 and the subsequent laboratory study were performed by the author while under contract to the Canadian Historic Sites Division, Natural and Historic Resources Branch, Department of Northern Affairs and National Resources, Ottawa. The author wishes to extend his thanks to all of the people of the Division who helped in any way with the project, and in particular the following: Mr. J. D. Herbert, Mr. John Rick, Mr. Maxwell Sutherland, Mr. Harry Johnson, and Mr. Ian Imrie, the latter a former staff member of the Division.

Gratitude is also extended to Mr. A. H. Gill of Fort Beausejour National Historic Park, and to my wife, Anne, who valiantly withstood the rigors of the sticky marshmud of the Isthmus of Chignecto.

The author acknowledges the help and constructive criticism of Mr. Jervis D. Swannack, Jr. and others of the National Historic Sites Service, Department of Indian Affairs and Northern Development.

The contour map of the site (Figure 7), drawn originally by Mr. S. O. Roberts for Webster (1933a), has been used in the report to follow, with the areas excavated in 1963 superimposed upon it. Several drawings and photographs have also been used from Webster's article.

CHAPTER I

AN INTRODUCTION TO THE SITE

A. Geography of the Area

The La Coupe site is located on the Isthmus of Chignecto in eastern New Brunswick.[1]

> "The Isthmus of Chignecto lying between Baie Verte and Cumberland Basin consists of upland in its northeastern and of marsh land in its southwestern portion. The latter is divided by ridges of high land which extend from the former towards Cumberland Basin. These are the La Coupe or Jolicure ridge (the shortest and most westerly), the Beausejour or Fort Cumberland ridge, and the Beaubassin or Fort Lawrence ridge. These ridges are separated more or less from one another and from the uplands northwest and southeast of them by great areas of marshlands, which have been formed from the detritus of red mud, eroded from the soft sandstone bottom of the Bay of Fundy and swept upwards by the strong tidal currents. Most of these great areas have been dyked and cultivated, but those near the uplands, where the drainage of the latter and the rainfall accumulate, remain quite undeveloped, and are unfit for agriculture, being soft and boggy, with a rank growth of mossy vegetation, shrubs and small trees, and containing many small lakes.
>
> "Through the marshes four main rivers run to Cumberland Basin, viz., Tantramar, Aulac, Missaguash and La Planche (Fig. 2). These have the same characteristics, except where the flow of water has been changed in them by the building of aboiteaux, i.e., cross-dams provided with valved sluices which exclude the sea-water while allowing outward drainage of fresh water from above the obstruction. These rivers, below the aboiteaux, are full at high tide, and nearly empty at low tide, their sides of red mud sloping inward towards the lowest part of the bed (a transverse section presents the appearance of a V). The tides of Cumberland Basin vary from 38 feet neap to 45.5 spring, and are not as high, on the average, as in other parts of the Bay of Fundy. These figures enable one to form some idea of the enormous volume of water which rushes up these rivers at each tide.

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[1] The site is called Chignecto Dry Dock by Webster (1933a).

"The Aulac river was known in the French period as Riviere du Lac, because at its upper end was a lake situated in the valley between the La Coupe and Beausejour ridges near the crossing made by the Baie Verte-Beausejour road (now Rye's Corner). The distance of this lake from the mouth of the river, in a bee-line, was about 8½ miles, though the river itself being tortuous was somewhat longer."[2]

"About 3½ miles below the former lake, not far from the lower end of the La Coupe ridge, another river, La Coupe, enters from the westward into the Aulac, forming an acute re-entrant angle. At present the junction of the two rivers is never reached by the tide, which is excluded by a large aboiteau two miles below; in the French period, however, the tide extended above it making the rivers navigable for small vessels for a considerable distance. There was an enlargement at this junction-point, and at full tide a basin or small lake was formed, known as petit-Oniguin (the latter being a Micmac word for "portage"). From this point the La Coupe extends for a short distance southwesterly, then gradually curves westerly around the lower end of the La Coupe ridge, and takes a northeasterly course to its place of origin, the Jolicure lakes at the northern end of the ridge (the length of the latter being about 3½ miles). Opposite the lower end of this ridge a striking and curious four-sided arrangement of high dykes, unique in all this region, straddles the La Coupe river."[3]

B. Description of the Site

The following description of the La Coupe site, made over 30 years ago by Webster, is certainly an accurate and detailed one, and differs insignificantly from the situation of the site today. There has been no human disturbance of the site, and river erosion since 1933 has been slight.

"The dyked area occupies both sides of the river, the larger portion, DABC, being on the south-western side (see Fig.5). Both portions together form an irregular quadrilateral figure, whose outline is well shown in the air photographs as well as in the contour plan (Figs.3-7).

"a. southwestern portion: the dyke CB measures 220 feet in length; it is not quite straight but is very slightly bent about the middle, the convexity being on the west side. The dyke AB measures 110 feet, and is bent slightly towards the middle, the convexity pointing to the north. The dyke AD is 175 feet and is

[2]Webster 1933a:87

[3]Ibid:88

slightly bent towards the north end, the convexity pointing west. At C and D the dyke ends slope downwards to the river bed, and are much thicker both laterally and vertically than the dykes just described. The area within ABCD (slightly less than 2/3rds of an acre) consists of a sloping portion next to the river, which was the former south bank of the latter, and the larger portion M which forms a sort of plateau and having a somewhat uneven surface slightly below the level of the marsh outside.

"b. Northeastern portion: this is smaller than the former and contains slightly over half an acre. It is bounded by dykes in the following manner. On the west side, next the river is a large sloping face opposite C on the south side, and presenting a similar appearance. From the point F the dyke extends north for 80 feet to H and then turns east, running about parallel with the river for a distance of 130 feet to R where it apparently terminates at the edge of an irregularly rounded basin, K, 40 feet or more across, which contains water, rushes, and other water plants, its bottom being of boggy consistence. The north side of this basin is bounded by a curved bank higher than the surrounding field, and at each end (east and west) the bed of a stream L opens into the basin. The land from this point slopes gradually upward towards the north, and it is evident that in heavy rains or after the melting of a winter's snow there must be a considerable flow of water in these streams. That the basin must overflow at times into the river is evident from a line of depression from its east side downward towards the river."[4]

"The east boundary of the northern area is a massive dyke which extends from the river at E northward for 80 feet to Q and then eastward for 100 feet to I where it turns gradually and extends somewhat east of north towards the main highway road. This dyke towards its northern end becomes lower until it gradually merges with the field. The distance form the point J, where it can be definitely recognized, to the point E, following the curve of the dyke is about 560 feet, and to the gate on the road about 360 feet. The height of this dyke which, like all the others, is narrowed towards the top, is about five feet, but south of I it is higher, as the ground slopes downward towards the river. The average width of the base is 10 to 12 feet, but towards the river it widens markedly and measures across its base about 34 feet.

"The area NO within these dykes is divided into two parts, parallel with the river, one, O, the northern, being on a higher level than the other, which is a flat plateau, N, whose average level from the top of the dyke FH is about 11 feet, whereas the upper area is about 5 feet from the top. (see Plate 20). That the lower plateau which is next to the river bed, and which varies in width from 40 feet at the west end to 60 near the east end, is an artificial creation there can be no doubt whatever. It is quite different from the opposite bank of the river or any other portion

[4] Ibid:89

"of the latter in which a marked slope is found (a characteristic of all Chignecto rivers in this district). Where there is no interruption to their flow by aboiteaux these sloping banks, at low tide, are composed of red mud. Owing to the building of these obstructions in the 19th century, whereby no tidal inflow of water is possible, the red mud has become covered with grass, and the river is an insignificant rivulet which merely carries off water from the area of country to which it is tributary." [5]

[5] Ibid: 90.

CHAPTER II

THE ARCHAEOLOGICAL EVIDENCE

Before beginning the discussion of the archaeological excavations, it should be noted that only two weeks were spent at the La Coupe site in September of 1963. In this period, only seven working days were actually given to excavation, the remainder being either rained out or concerned with backfilling.

It should also be stated that in 1963 the La Coupe River was wider and higher than usual, which contributed to excavation problems. In the majority of excavation areas, river seepage was so bad that digging could not proceed to desired depths. Although a gasoline pump was employed to extract the water, re-entry of river water was rapid, which prohibited further excavation. Also the wetness and extreme stickiness of the clay or marsh mud made excavation very difficult at lower depths.

Test trenches were placed in the north interior area of the site and as close as possible to the juncture of the two most outstanding features of the site, the dykes [1] and the river. The placement of the excavation units would, it was hoped, yield data concerning the function and dating of the site, as well as to provide evidence to evaluate the only theory concerning the sites original nature, that of Webster (1933a). A total of twenty-four excavation squares were opened. [2]

[1] the term 'dyke' here implies form and not function.

[2] where specific elevations are given in the report text and drawings, these elevations are not absolute, but refer to distances below an arbitrarily chosen datum point. The datum was the northwest basal flange of a stone monument to the northeast of the site. The below datum (b.d.) elevations of the surveying stations are as follows: A - 0.81 ft., B - 10.41 ft., C - 11.06 ft., D - 0.35 ft., E - 12.55 ft.

The Dykes

A. The Southeast Dyke

Nine excavation squares were opened at the river end of the southeast dyke (Squares 1A-1F, 1M, 1N, 1P). (Figs. 7,8 and Plate 6). It was possible to dig only to a maximum depth of 7.5 feet below ground surface because of river seepage.

The stratigraphy of the dyke revealed alternating reddish-brown and blue colored clays, with grey clays and brown sand at the deeper depths. On a north-south plane (parallel with the river), all strata were roughly horizontal, but on an east-west plane sloped downhill toward the river (Figs. 10, 11).

Two thin, distinct layers of wood matting were found in one of the reddish-brown clay strata. The uppermost layer (layer #1) was from three to five feet below the present ground surface in the excavation area, while the lower layer of matting (layer #2) was one foot beneath layer #1.

The layers of wood matting consisted of whole spruce trees laid horizontally in a north-south direction, i.e., roughly parallel to the river. The spruce trees, usually with needles and cones still attached, had been preserved intact by the clay. All trees showed axe marks at their stem ends.

The individual spruce trees had been evenly spaced from one-another horizontally, being 0.8 foot to 0.9 foot apart. In the majority of areas uncovered, the matting was only one tree in thickness. In spots, however, two trees had been placed on top of one-another.

Small poles or logs, differing from the whole trees in being partially or entirely cleaned of branches, also had been used as matting. The poles also show axe marks, and lay in the same direction as did the spruce trees (Fig. 13 and Plate 7).

Layers #1 and #2 of the spruce matting did not cover the same horizontal area exactly, there being some slight variance. Layer #2 was more extensive horizontally, In excavation square 1A, for example, layer #1 did not occur.

The archaeological trenches excavated at the river end of the southeast dyke spanned the width of the dyke. It was found that both layers of spruce matting did not extend beyond the actual dyke area. The matting occurred in all excavation squares except for one - square 1P, and this square was slightly north of the dyke. Square 1D had very little actual spruce matting, but mostly cleaned branches and poles. However, the latter must have served the same function as whole spruce trees.

The layers of spruce matting were roughly horizontal on a north-south plane, showing one to two feet of variation in elevation, with a slight tendency for a north to south slope (Table 1). On a east-west plane, the matting sloped toward the river, as did the various clay strata of the dyke (Figs. 10, 11). In twenty horizontal feet, the layers of matting sloped anywhere from 4.3 feet to nearly 6.5 feet toward the river. This represents a vertical drop of 1.08 feet to 1.61 feet for every 5 horizontal feet, or an angle of 12 to 18 degrees. It is not known how far east into the dyke the spruce layers extended.

In addition to these sloping layers of spruce matting, a series of fairly heavy logs or braces were uncovered. These log braces averaged 5 to 6 feet in length and 0.25 foot in diameter, and one end of each had been sharpened to a rough point by use of an axe. In contrast to the spruce trees used for matting, all had been trimmed of branches and sometimes bark (Plate 25).

Braces were found in only four of the excavation squares (1A, 1B, 1D, 1E). Eight braces were uncovered, and these had been spaced at definite

intervals (Fig. 12, Plates 8-12). All braces had been driven through the layers of spruce matting at an approximate 35 degree angle, following the slope of the strata and spruce matting. The log braces were found only toward the exterior side of the southeast dyke.

The function of the angling braces was undoubtedly to prevent the downhill slippage of the layers of matting and the adjacent clay strata. The braces had been pounded in at a steep enough angle so that their weight would in turn weight down the spruce matting and thereby hold it in place.

B. The Northeast Dyke

Three excavation squares were opened parallel to the river in the northeast dyke, being designated 1G, 1H, and 1Q. Squares 1G and 1H formed a trench 35 feet in length, giving a good cross-section of the river end of this particular dyke (Plates 13-15).

The clay strata of this dyke were not as varied as those in the southeast dyke, but individual strata were much thicker (Figs. 14, 15). We were fortunate in this area in that water seepage was not as severe as in other excavation areas, so that it was possible to expose a 15.2 feet vertical section in square 1H.

Two layers of spruce matting, identical in characteristics to that previously described for the southeast dyke, were found in squares 1G and 1H, but not in square 1Q, which was situated five feet to the south of square 1G and was slightly beyond the dyke area. One spruce tree in the matting measured ten feet in length and 0.35 foot in diameter (Plate 16).

Layer #1 of the spruce matting - the upper layer - varied in depth from 10.0 feet below datum to 11.3 feet b.d. Layer #2 lay parallel to layer #1, averaging one foot beneath the latter (Table 1).

Angling log braces, as found in the southeast dyke, were not found in place in the northeast dyke. Several logs, however, often with pointed axe

Table 1

DEPTHS OF SPRUCE MATTING LAYERS

		Layer #1		Layer # 2	
	Square	West*	East	West	East
Southeast	1A	-	-	14.14	13.14 ft. b.d.
Dyke	1B	13.0	12.40	13.90	13.40
	1C	13.20	12.19	14.20	13.20
	1D	11.60	10.66	12.65	11.50
	1E	11.90	9.90	12.80	10.90
	1F	10.34	8.54	11.14	9.40
	1M	14.98	13.70	not excavated to this depth	
	1P	-	-	-	-
	1N	did not excavate deep enough			
Northeast	1H	11.10	10.0	12.40	10.80
Dyke	1G	11.30	10.0	12.50	11.10
	1Q	-	-	-	-
Southwest	1K	matting present at 14.83			
Dyke	1L	-	-	-	-
Northwest Dyke		scant indication of matting			

* refers to western or easter portion of the square indicated

\- indicates no matting present

cut ends, were found associated with both matting layers, and may be remnants of braces.

In square 1H, excavation proceeded to a depth of 6.7 feet beneath the lowermost matting layer (#2). At a depth of 6 feet below layer #2 (17.1 feet b.d. and 14.4 feet below the highest ground surface), laying on top of a compact red sand, was a seemingly deliberately placed pavement of stones which covered only the southern one-half of the excavation square (Figs. 14, 15). Individual stones had been set very closely to one-another to form the pavement, as in a cobblestone street. Individual stones were generally very small - 0.3 foot to 0.4 foot in greatest diameter - although one stone measured one foot in diameter. It seems as though any type of stone available had been used to form the pavement, as flat, angular, and round shaped stones had been used. This seems logical, as stone is relatively scarce in the area.

In the 1H excavation square, the stone pavement was not horizontal, but sloped toward the river parallel to the slope of the clay strata and layers of spruce matting.

C. The Northwest Dyke

Two excavation squares were opened at the river end of the northwest dyke, square 1I and 1J (Plates 17, 18). Stratigraphy was similar to that previously discussed. A very compact red sand underlay the clays at a depth of 16.52 feet b.d., slightly higher than in the northeast dyke.

Immediately on top of this red sand was found another pavement of stones, as in square 1H. The stones showed the same characteristics as those in square 1H, but were larger in size. The stone pavement sloped toward the river (Fig. 16, Plate 19).

Due to river seepage, only a portion of the stone pavement could be

uncovered in a part of square 1J. However, by probing, it was established that the pavement occurred in the remaining parts of 1J and also in 1I.

No distinct layers of spruce matting were found in the northwest dyke. However, a few thin wooden poles and one log showing a sharpened end did appear in the course of excavation at the expected depths.

D. The Southwest Dyke

Very little excavation was completed in this dyke. Two excavation squares - 1K and 1L - were opened. It was established that spruce matting was present in 1K (at 14.83 feet b.d.), but not in square 1L. The latter square was situated slightly beyond the dyke.

E. Summary and Discussion of the Dykes

None of the dykes were completely excavated because of time limitations, but most were thoroughly tested, in the following order of completeness: southeast, northeast, northwest, with the southwest dyke having received the least amount of attention.

As the preceding descriptions have indicated, excavation of the river end of each of the four dykes revealed similar characteristics in each, so that each dyke can be thought of as a complex made up of several parts: heaped-up marshmud or clay imbedded within which were found two distinct layers of spruce tree matting, a series of angling log braces which had been pounded into and through the layers of spruce matting, and a layer or pavement of stones.

As Table 2 indicates, not all of these items were found in association. Layers of spruce matting were definitely found in the southeast, northeast, and southwest dykes. In the northwest dyke, the evidence for matting was slight. Also, the matting occurred only within the extent of the dykes, as excavation squares 1K and 1Q indicated. Squares 1K and 1Q were situated

slightly beyond the actual dykes involved and did not contain matting.

Log braces were found in situ only in the southeast dyke on the exterior side of the dyke. Similar log braces occurred in the northeast dyke, but they were not in place when found. Braces may have been present in the southwest dyke, but insufficient time prevented extensive excavations in this area.

Stone pavements, originally placed beneath the spruce layers and log braces by many feet, were found only in the northeast and northwest dykes, as water seepage in the southeast dyke prevented excavations from reaching the proper depth. Similar stone pavements may be present within the southeast and southwest dykes also. Informants have told the author that in seasons when the river level is extremely low, the river bed within the area bounded by the dykes is exposed, revealing a stone pavement similar to those found archaeologically. These apparently are not random river cobbles, but form an intentionally placed series of stones. However, until this information is substantiated, the function of this possible pavement and its relationship with the dykes, if any, cannot be ascertained.

All of the features described above - matting, braces, stone pavements, and clay strata - sloped downward (either west to east or east to west) toward the river, as previously mentioned. The reason for this slope is not known.

In summary, the preliminary excavation of the dykes at their river ends revealed characteristics which cannot presently be explained. One can conjecture that large dykes such as the ones under consideration were originally built to prevent water from entering a certain area. If one assumes this, and there is no archaeological evidence to prove this assumption, then why the presence of two layers of spruce tree matting within the clay dykes? Did the matting serve to hold the dyke together better or to prevent erosion by water better than a clay dyke without matting? Given the presence of sloping layers of matting, the presence of log braces was

Table 2

SUMMARY OF FEATURES

Dyke	Spruce Matting	Braces in Position	Stone Pavement
Southeast	present	present	x
Northeast	present	absent	present
Northwest	possibly present	absent	present
Southwest	present	x	x

x - indicates lack of time to excavate thoroughly, or excavation could not proceed to the required depths because of river seepage.

presumably to prevent downhill slippage of the matting and dyke as a whole. Perhaps the matting and braces served this latter purpose as a unit? The stone pavement many feet below the matting and braces cannot be explained. Perhaps the stone served as a partial footing for the dykes?

Unfortunately, no historical records have been located which allude to the site under investigation. However, at least one historical source mentions a type of construction which is of interest in the light of the previous discussions. Diereville (1699) describes the methods of construction of an aboideau in Acadia:

> "To grow Wheat, the Marshes which are inundated by the Sea at high tide, must be drained; these are called Lowlands, & they are quite good, but what labour is needed to make them fit for cultivation. The ebb & flow of the Sea cannot easily be stopped, but the Acadians succeed in doing so by means of great Dykes, called Aboteaux, & it is done in this way; five or six rows of large trees (or logs) are driven whole into the ground at the points where the Tide enters the Marsh, & between each row, they lay other trees lengthwise, one on top of the other, & all the spaces between them are so carefully filled with well-pounded clay, that the water can no longer get through. In the centre of this construction, a Sluice is contrived in such a manner that the water on the Marshes flows out of its own accord, while that of the Sea is prevented from coming in. An undertaking of this nature, which can only be carried on at certain Seasons when the Tides do not rise so high, costs a great deal, & takes many days, but the abundant crop that is harvested in the second year, after the soil has been washed by Rain water compensates, for all the expense." [3]

The use of trees described above by Diereville may be similar to the log brace - spruce matting construction found archaeologically in the dyke ends, i.e., to provide solidness and stability to the dykes in order to better impede water flow. However, in order to have carried out this function or the opposite function - to enclose a body of water instead of keeping water out - the dykes of the La Coupe site would have had to extend across the La Coupe River - the northeast dyke joining the northwest dyke, and the

[3] Dole 1898: 342-3; Webster 1933b: 94-95. Underlining mine.

southwest and southeast dykes coming together. There is no archaeological evidence to support this contention, nor to support the presence of sluices in the dykes to form aboideau as mentioned by Dierevelle.

Thus, combining the archaeological information with Diereville's description, there is the possibility that the dyke complex found archaeologically (clay, matting, log braces) may have been built to impede water flow or to enclose a body of water, but there is no evidence remaining that sluices, gates, etc., were present.

The Interior of the Site

In addition to testing the dykes, some excavation was carried out within the interior of the site on the east side of the river. Eight excavation squares (2A-2F, 2H, 2I) covering nearly 300 square feet were opened in this area of the site. The usual difficulties were encountered - extremely sticky clay and water seepage from the river - which limited excavation. In the lowest excavation areas closest to the river, digging could proceed only to a depth of a few feet below ground level because of rapid river seepage (Plates 20, 21).

No artifacts were found except for a series of perfectly preserved wooden pickets, which had been driven into the ground and were presently from one to three feet beneath the ground surface (this refers to the tops of the pickets) (Plate 22).

In the area excavated, 12 wooden pickets were found. All were upright except for four pickets, which sloped or angled to the east. The length of the pickets ranged from 2.6 feet to 3.8 feet, while diameters ranged from 0.15 foot to 0.28 foot (Table 3). One picket (#4) had a top which had been blunted by pounding. All pickets showed axe-cut ends (Plates 23, 24).

Collectively the pickets formed a definite pattern, as is shown by Figure 19. They were evenly spaced, averaging about 4 feet apart. The pattern formed by the pickets is a rough rectangle measuring 15 feet by 13 feet. Because of the limited time spent at the site, it was not possible to determine whether or not the pickets extended to the north and south of the excavated area, but pickets did not extend to the east and west of this area.

Before making conjectures as to the function of these pickets, the stratigraphic situation of the area will be briefly examined. A series of clays, often intermingled with various colored thin layers of sand, characterizes the area (Figs. 17, 18). All of these strata were sterile of cultural remains. Scattered pieces of wood and brush were found near a few of the pickets, but these materials were haphazard occurences, possibly having been washed in by river action.

The lack of brush matting and the vertical attitude of the majority of the pickets (8 of the 12 pickets were upright, the other 4 were angled or slanted) contrast with the situation found in the dykes, where brush matting occurs and all in situ pickets or braces were at sharp angles with the ground in which they were imbedded. The function of the interior pickets is not known, but seemingly it was different from the dyke braces because of the contrasting archaeological evidence.

The elevations of the pickets may offer an eventual clue to their function. The tops of the pickets follow the hill slope, and are not on the same level. Dividing the pickets into five rows (see Fig. 19), we have the following descending differences in elevations:

Table 4 - Operation 2 Picket Elevations

Row No.	Picket No.	Respective Picket Elevations
1	1	9.90 feet b.d.
2	2, 11, 12	9.45, 9.98, 9.99
3	3, 8, 10	10.45, 10.78, 10.10
4	4, 7, 9	11.30, 11.43, 11.26
5	5, 6	12.33, 12.22

Table 3

Measurements of pickets in operation 2

Number*	Diameter	Length	Elevation (top of picket)
1	0.18 ft.	2.90 ft.	9.90 ft. b.d.
2	0.25	3.30	9.45
3	0.28	3.10	10.45
4	0.24	2.90	11.30
5	0.24	3.30	12.33
6	0.21	3.10	12.22
7	0.15	3.20	11.43
8	0.22	3.10	10.78
9	0.19	3.80	11.26
10	0.17	3.40	10.10
11	0.19	2.60	9.98
12	0.17	3.20	9.99

* See figure 19

From row 2 through row 5, pickets gradually are lower in elevation, each row being lower than the previous row. Between each row, or every four feet horizontally, there is an average vertical drop of 0.80 foot. Because of this downward slope, it does not seem probable that the pickets formed a portion of a level structure. The function of the pickets cannot be ascertained at this time.

CHAPTER III

CONCLUSIONS

There are those researchers who contend that aboideau once existed at the La Coupe site, and furthermore that the site represents the remains of an inland dry dock. This view has been expounded in detail by Webster (1933a), and an examination of his evidence and conclusions is warranted.

> "My view is that the quadrilateral arrangement of dykes was originally provided with massive gates to control the inflow and outflow of the river water so that the area within the gates could be used as a dry dock, in which boats and vessels could be built, repaired, or stored in winter. The lower plateau N on the north side, undoubtedly an artificial excavation, would serve as a resting place for the largest craft likely to be found in the Bay of Fundy in the first half of the 18th century or earlier. The higher plateau, O, would serve a similar purpose, though it would be more suitable for small craft. The large area, M, south of the river, could serve admirably for storing a considerable number of fishing craft and other small boats during the winter months; it is probable that on its highest part were placed the shops for blacksmiths, carpenters, &c., necessary for dock work." [1]

Webster does not provide any concrete evidence to prove his statements that the site under discussion was a dry dock, and his suppositions are merely based upon the general appearance of the site. Not a single shred of data - historical, archaeological, or otherwise - supports Webster's arguments.

> "As to the arrangement of the dock-gates, conjecture only is possible. Was there a gateway on each side, e.g., at DE and at CF? This does not appear to me to have been necessary. One gateway at DE and an aboiteau at CF would suffice for the purpose of a dry dock, and the latter would be much less troublesome to build than a gateway and much more convenient to operate. This aboiteau, constructed of timbers and clay would block the river completely, except that it would be

[1] Webster 1933a:90-91.

> "provided with a sluice through its bottom, having probably the ordinary flap valve, which would permit the escape of water in a downward direction, but prevent it from entering from below. It might, however, have been found more convenient to provide a vertical valve, worked at will by hand. When the dock was dry, and this valve closed, the accumulation of water above the aboiteau would be very moderate in ordinary circumstances, and if it increased too greatly, the valve could be raised and the water allowed to flow down through a valve in the gateway, DE, at low tide. The gates at the latter point, built of solid wood, would have been attached to the vertical timbered faces on opposite sides of the river bed. In order that there should be nor leakage under the gates, they would rest on a timber flooring built across the bed, probably supported on piles, and packed with clay so as to be watertight. Across this floor would doubtless be spiked a squared timber, against which the gates would impinge when closed; when opened their free edges would swing outwards. In order that escape of water from the river bed within the dock might be possible, either a sluice with a valve would be placed in the flow, or a valve could be inserted in one or both of the doors. These would allow water to flow out but would prevent any from entering on a rising tide."[2]

As previously mentioned, there is no definite archaeological evidence as to the former existence of aboiteau at the La Coupe site, so the above arguments have no basis. Websters mentions a complex of solid wood gates, vertical timbered faces, and a timbered flooring supported on piles which he thinks probably were positioned at his point DE (our southwest and southeast dykes). The archaeological investigations in the southeast dyke provided absolutely no evidence of such wooden structural features.

Websters assumptions of the above may have been influenced in part by the supposed exposure of "timbers" at the site:

> "From Judge Hewson, of Moncton, N.B., whose family have held a property in the neighbourhood since the latter part of the eighteenth century, I have learned that between sixty and seventy years ago there were timbers to be seen in the exposed ends of the dykes near the river; moreover, he remembers having heard his father describe the condition in which the timbers were more numerous and the faces of the broken dykes less tumbled down."[3]

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[2] Ibid: 92.

[3] Ibid: 88.

Unfortunately, it is not stated at what specific dykes timbers were present, or if timbers were present at all dyke ends. One wonders, however, whether or not these "timbers" were merely exposures of the spruce matting and/or log braces found archaeologically in 1963. If so, this would refute any more or less positive evidence of wooden structural features which Webster mentions.

In summary, although Websters views concerning the function of the La Coupe site are suggestive, the archaeological testing of the site has provided little evidence to support his conjectures. Based on the archaeological evidence, the La Coupe site cannot be identified as to function or date - it cannot be called a dry dock nor can it be placed in time, as no artifacts (tools, pottery, glass, metal, etc.) were found.

Only two conclusions based on archaeology can be put forth: 1. the La Coupe dykes are definitely man-made structures and not natural mud-clay heaps, as is evidenced by the spruce tree matting, log braces, and stone pavements found within the dykes; 2. some kind of human activities took place within the area bounded by the dykes, as is evidenced by the pickets found in the north interior of the site.

Whatever purpose it may have served, one can reasonably infer that the La Coupe site must have been fairly important, as the dykes must have taken a great deal of labor, time, and money to construct. The inland placement of the site may be an important clue to its function.

Additional archaeological work is needed at the site, although such investigations may not provide much new evidence. The key to the understanding of this unusual site may be an exhaustive search of historical records combined with an intensive study of the geography, topography, geology, and pedology of the Chignecto region, the investigation of which the author was unable to meaningfully pursue in the limited time available in 1963.

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Figure 1. The province of New Brunswick. Arrows delineate the Isthmus of Chignecto, the area shown on Fig. 2.

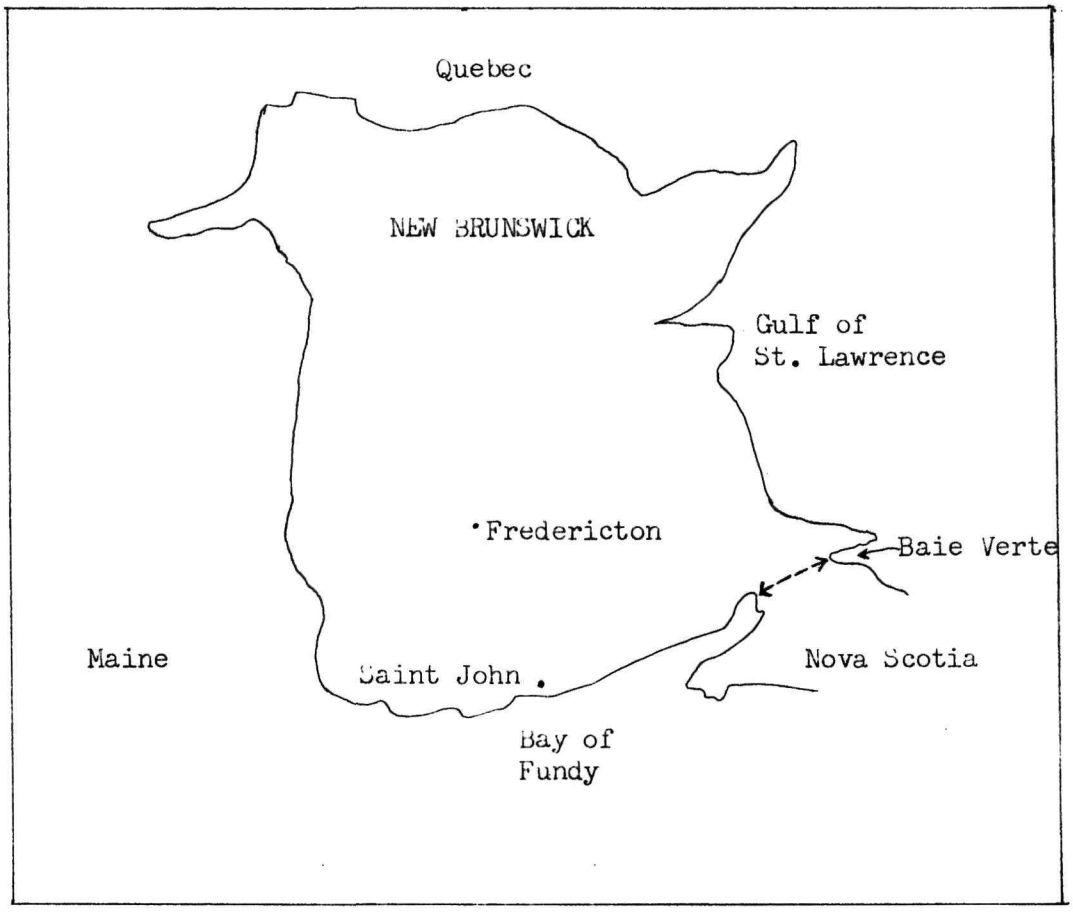
Quebec
NEW BRUNSWICK
Gulf of
St. Lawrence
Fredericton
Baie Verte
Maine
Saint John
Nova Scotia
Bay of
Fundy

Figure 2. Arrow indicates location of site.
(Webster 1933a)

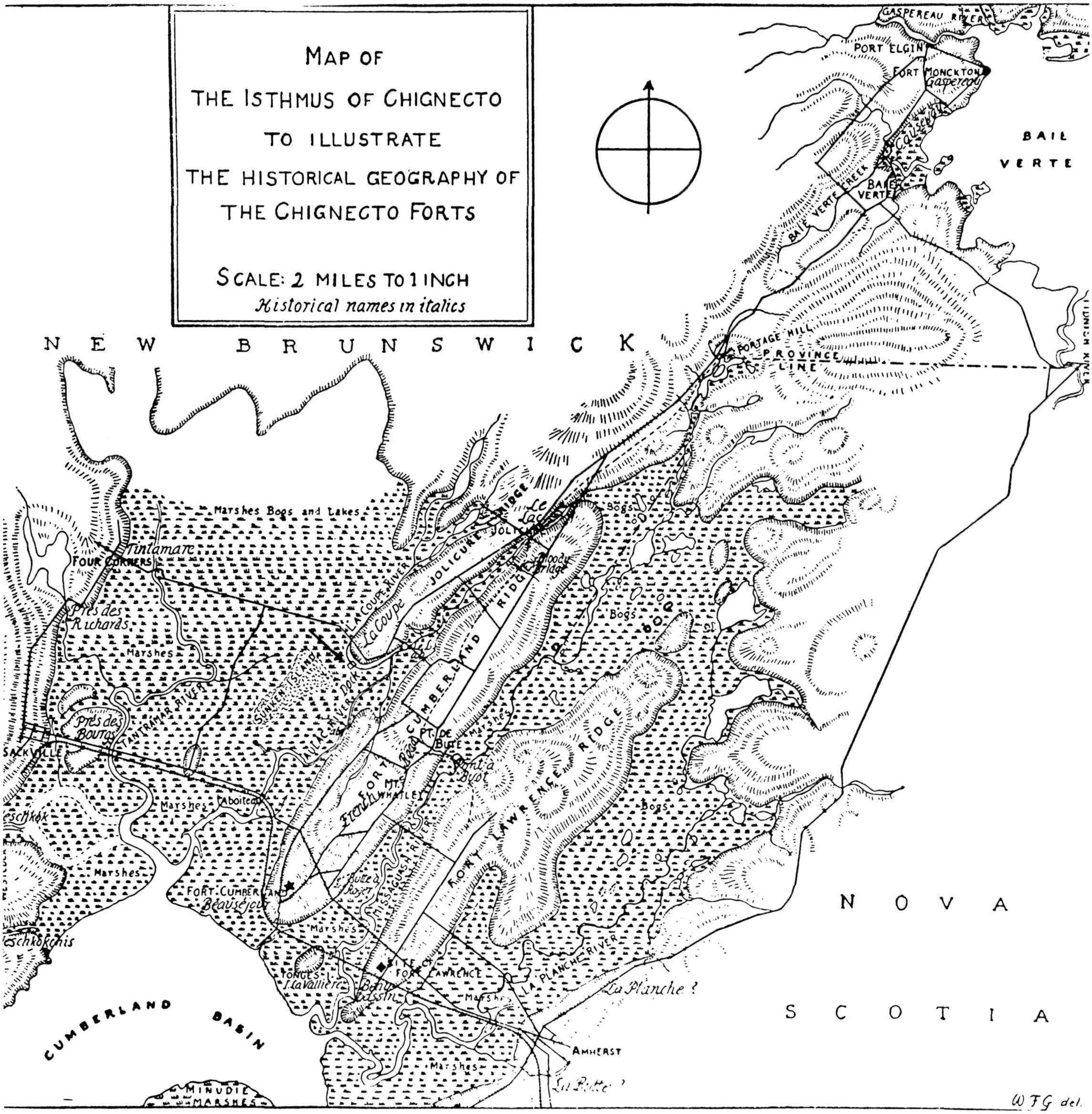
MAP OF
THE ISTHMUS OF CHIGNECTO
TO ILLUSTRATE
THE HISTORICAL GEOGRAPHY OF
THE CHIGNECTO FORTS
SCALE: 2 MILES TO 1 INCH
Historical names in italics
NEW BRUNSWICK
NOVA SCOTIA
GASPEREAU RIVER
PORT ELGIN
FORT MONCKTON
Gaspereau
BAIE VERTE
BAIE VERTE CREEK
PORTAGE HILL
PROVINCE LINE
Marshes Bogs and Lakes
Tintamarre
FOUR CORNERS
Prés des Richards
Marshes
TANTRAMAR RIVER
SUNKEN ISLAND
Prés des Boutes
SACKVILLE
La Coupe
LA COUPE RIVER
JOLICURE RIDGE
JOLICURE
Le Lac
Bogs
CUMBERLAND RIDGE
AULAC RIVER
PT. DE BUTE
Pont à Buot
FORT LAWRENCE RIDGE
MT. WHATELEY
Aboiteau
MISSIGUASH RIVER
Butte à Roger
FORT CUMBERLAND
Beauséjour
FORT LAWRENCE
LA PLANCHE RIVER
La Planche ?
Beau Bassin
I. La Vallière
CUMBERLAND BASIN
AMHERST
La Butte ?
MINUDIE MARSHES
W.F.G. del.

Figure 3. Chignecto Dry Dock. (Plate IV from Webster 1933a)


MAG. NORTH

Figure 4. View of the country near the Chignecto dry dock. (Plate II from Webster 1933a)
1. interior of dry dock. 2. La Coupe river. 3. Aulac river. 4. Remains of Aboiteau built by Abbé Le Loutre (1735-55), now part of highway. 5. Road to Four Corners, Upper Sackville. 6. Road to Jolicure. 7. Site of ancient village of La Coupe. 8. Point de Bute Hill. 9. Cultivated marshland near the Aulac river. 10. Remains of old French road from La Coupe village to Dry Dock. 11. Gate in fence. 12. Road to Point de Bute.


6
9
4
4
12 →
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3
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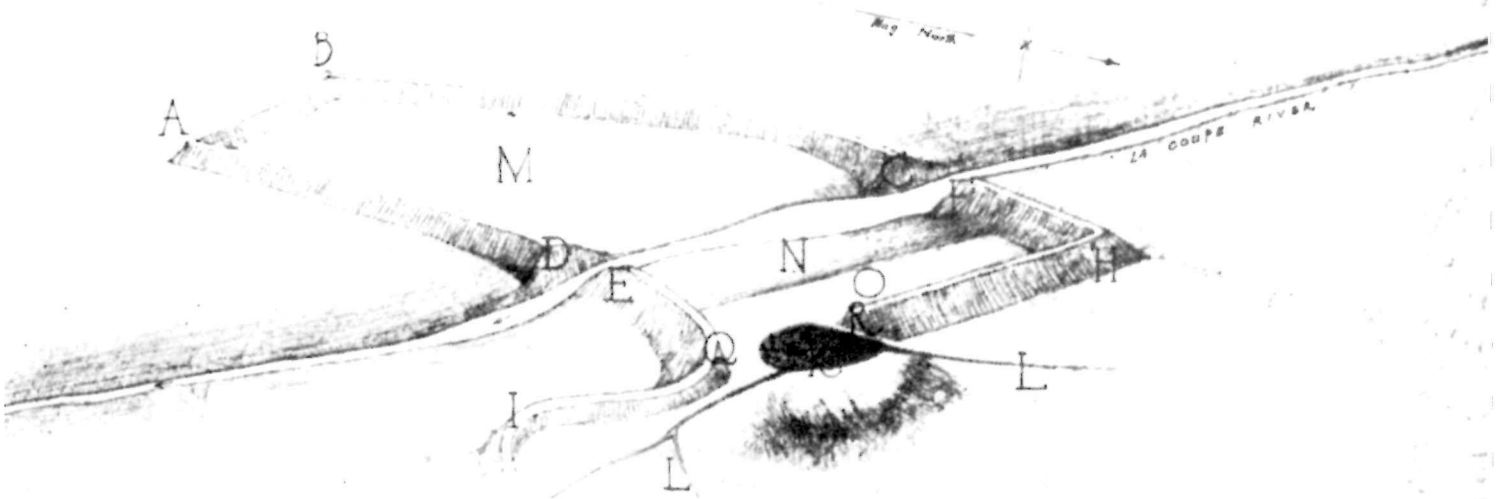
← 5
1
1

Figure 5. Diagrammatic representation of the Chignecto dry dock. (Plate III from Webster 1933a)



A.B.C.D Portion of Dock on S.W side of La Coupe River

E.F.H.Q Portion on N.E. side of River

D and E. Remains of Embankments between which a water gate was placed

C and F. Remains of ends of Embankment which crossed the river as an aboiteau with a sluice

The La Coupe River now merely a small stream lies 18 ft or more below the level of present embankment

M. High level area for shallow draught boats

N Low level area for craft of deeper draught

O Level higher than N

K. A small water basin with rushes. Two tiny rivulets L L drain the surface water of the field in wet weather

I.J Elevated Embankment used as a road towards the higher land on which La Coupe village stood

A-B. 110 ft. B-C 220 ft. A-D 175 ft.

F-H. 80 ft. H-R. 130 ft. E-Q. 80 ft.

Q-I. 100 ft J-I-E. 560 ft

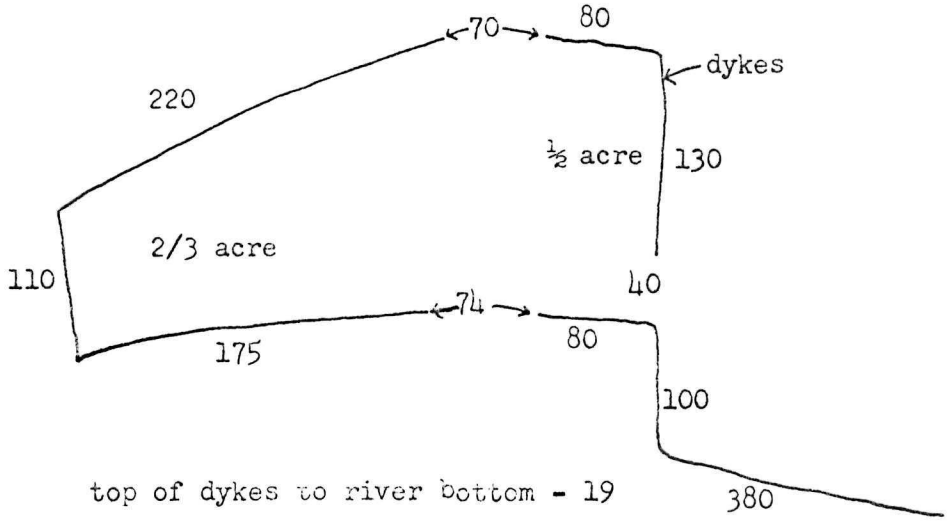
J

ALL AT FOUR CORNERS (from BICKERTON)

ROAD FROM JOLICURE

REMAINS OF PATH TO OLD FRENCH VILLAGE OF LA COUPE

Figure 6. Summary of measurements - La Coupe site. Numbers designate feet.



top of dykes to river bottom - 19

Figure 7. Contour map of La Coupe site.

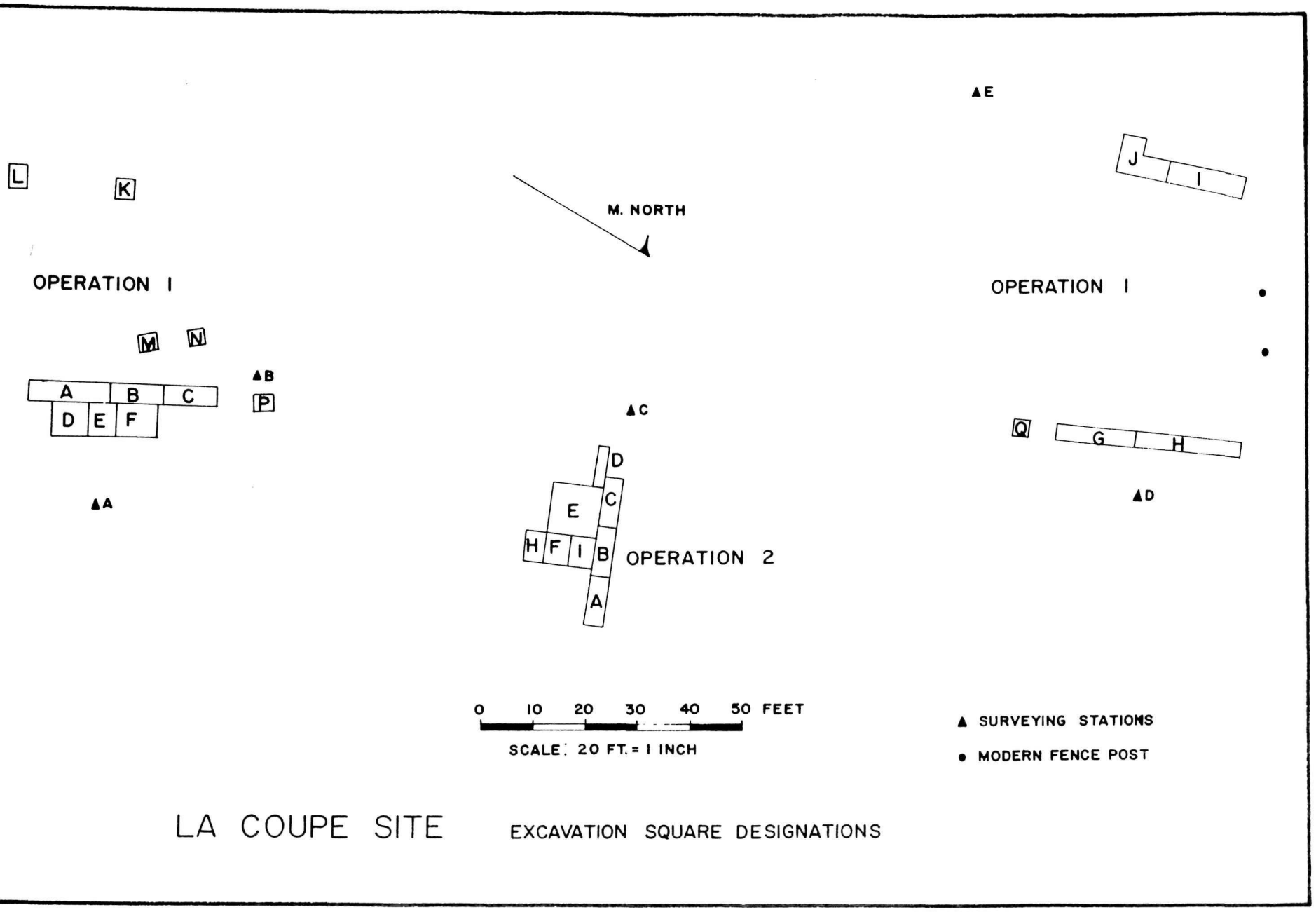
0 20 40 60 80 100 120 feet

SCALE: 40 FT. = 1 INCH

CONTOUR INTERVAL 1 FT.

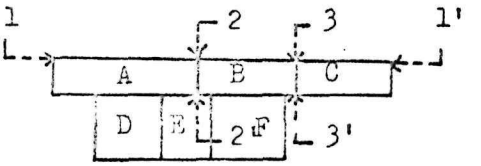
LA COUPE SITE, N.B.

Figure 8. Excavation square designations.

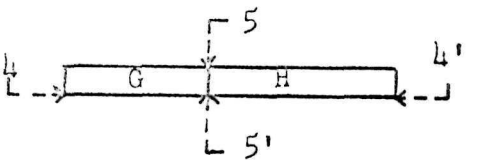


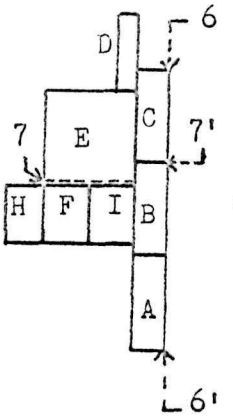
LA COUPE SITE

EXCAVATION SQUARE DESIGNATIONS



Operation 1





Operation 2

Figure 9. Location of Section Drawings.

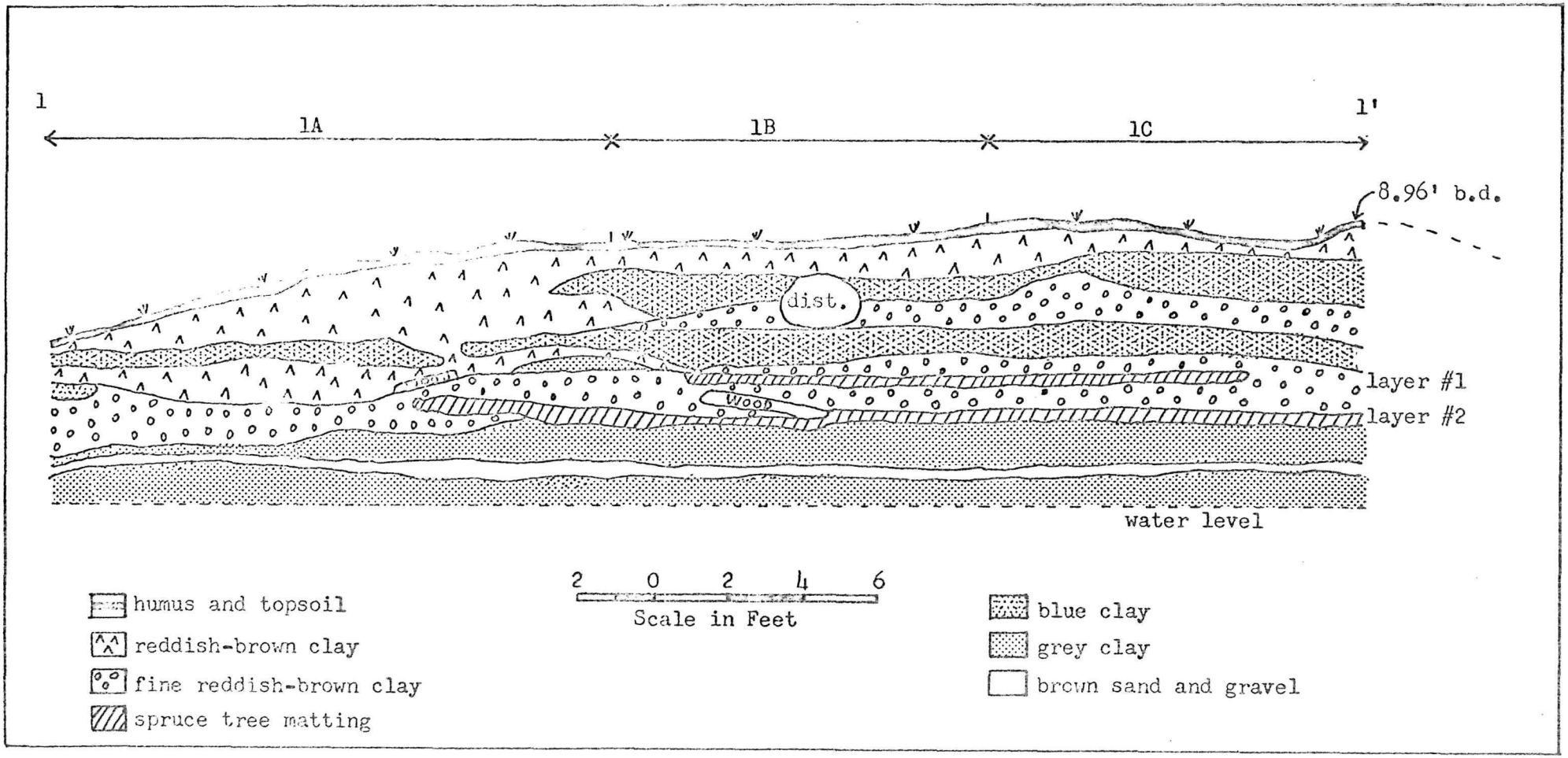


Figure 10. Section 1.

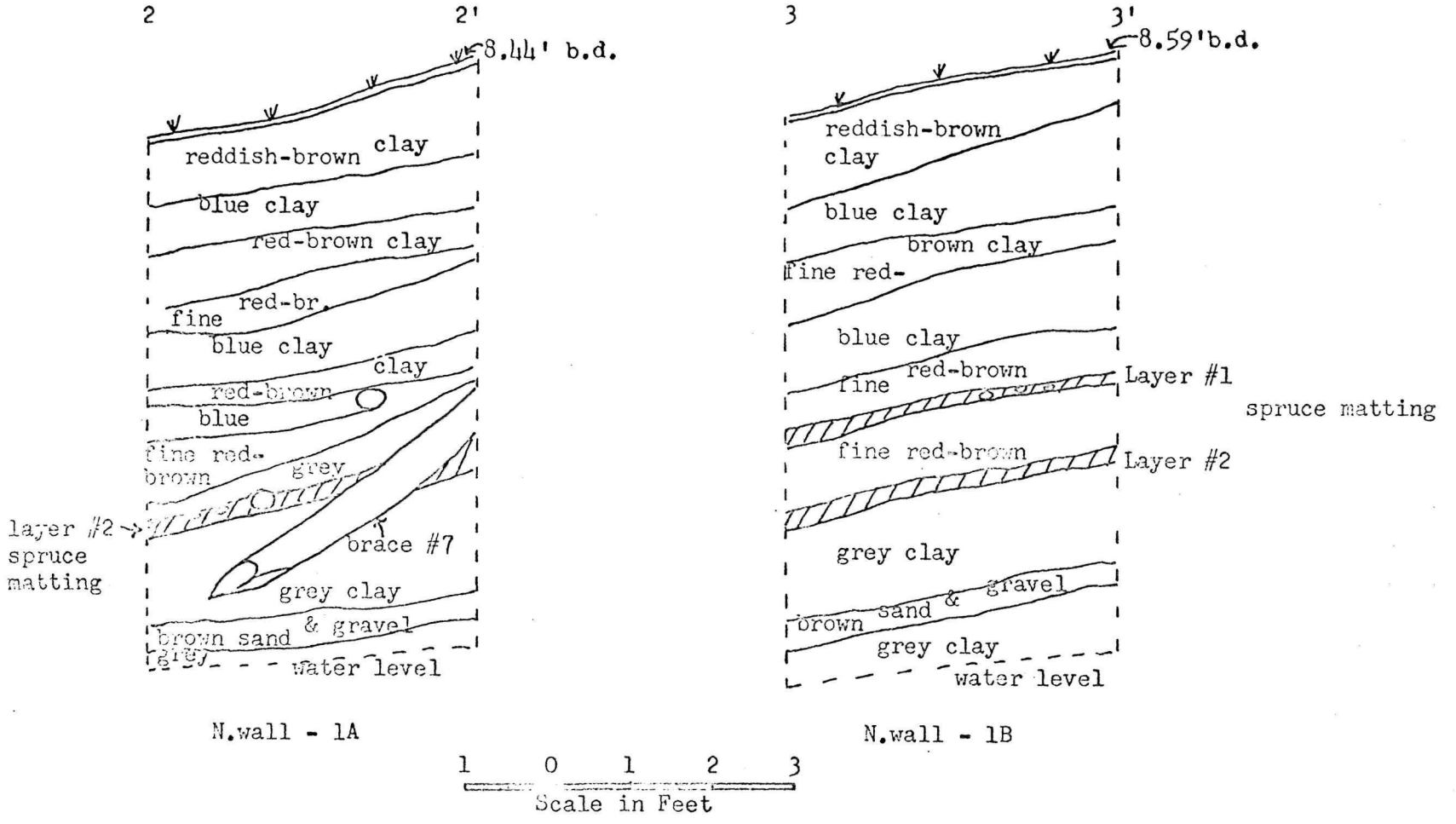


Figure 11. Sections 2 and 3.

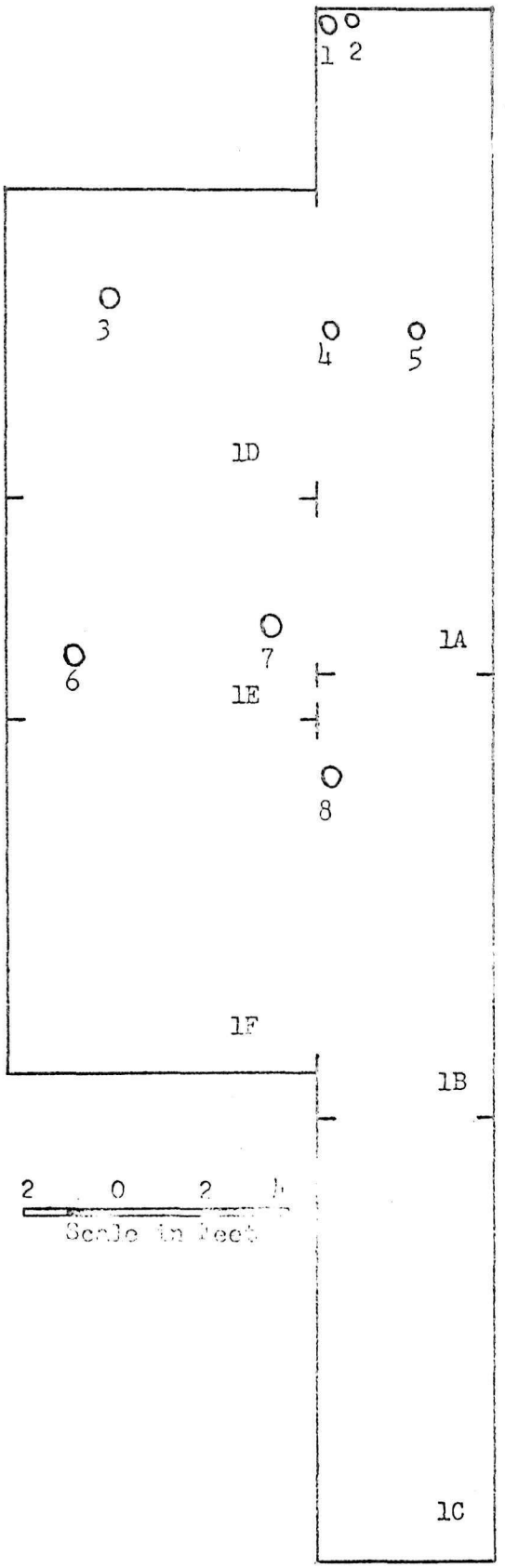
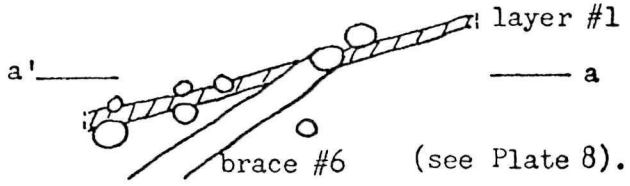


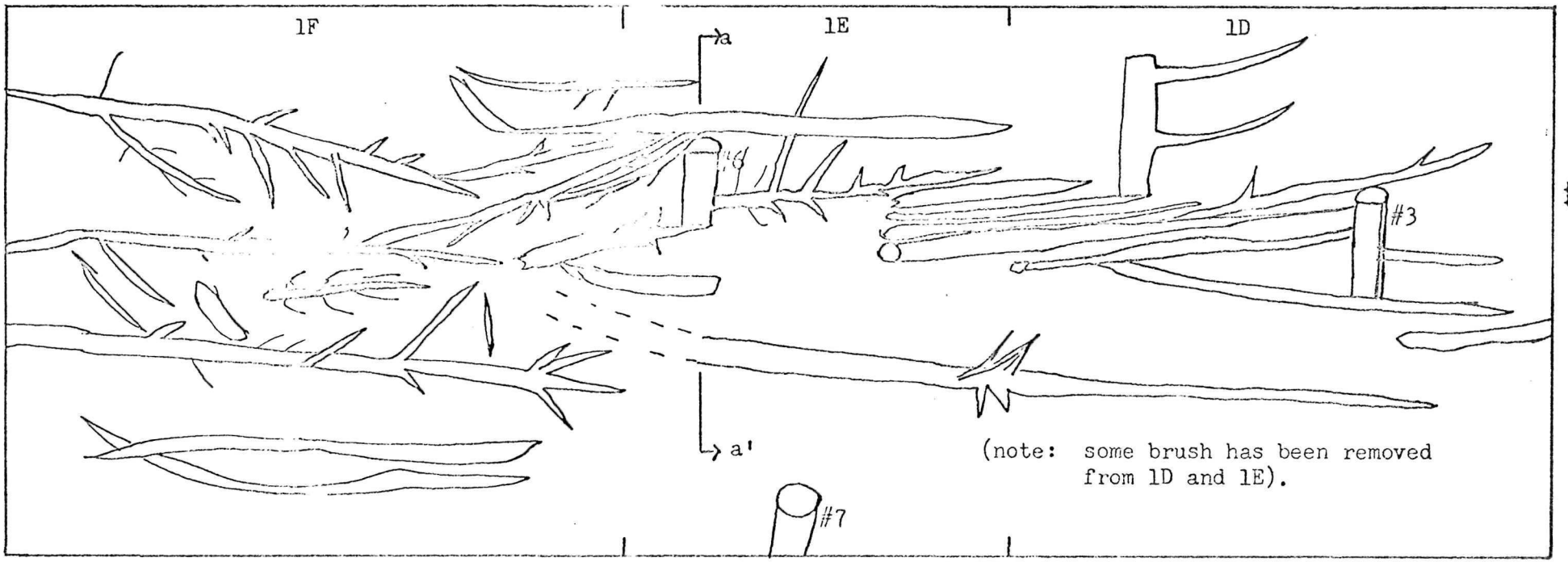
Figure 12. Location of Angling Wooden Braces. Circles mark the top of the braces.

Figure 13. Plan of layer #1 of spruce tree matting in square 1D, 1E, 1F. The positions of 3 angling braces are shown (nos. 3, 6, 7). (Compare with Fig. 12 and plate 7).

Section showing spruce matting and wooden brace:



(see Plate 8).



1 0 1 2 3 4

Scale in Feet

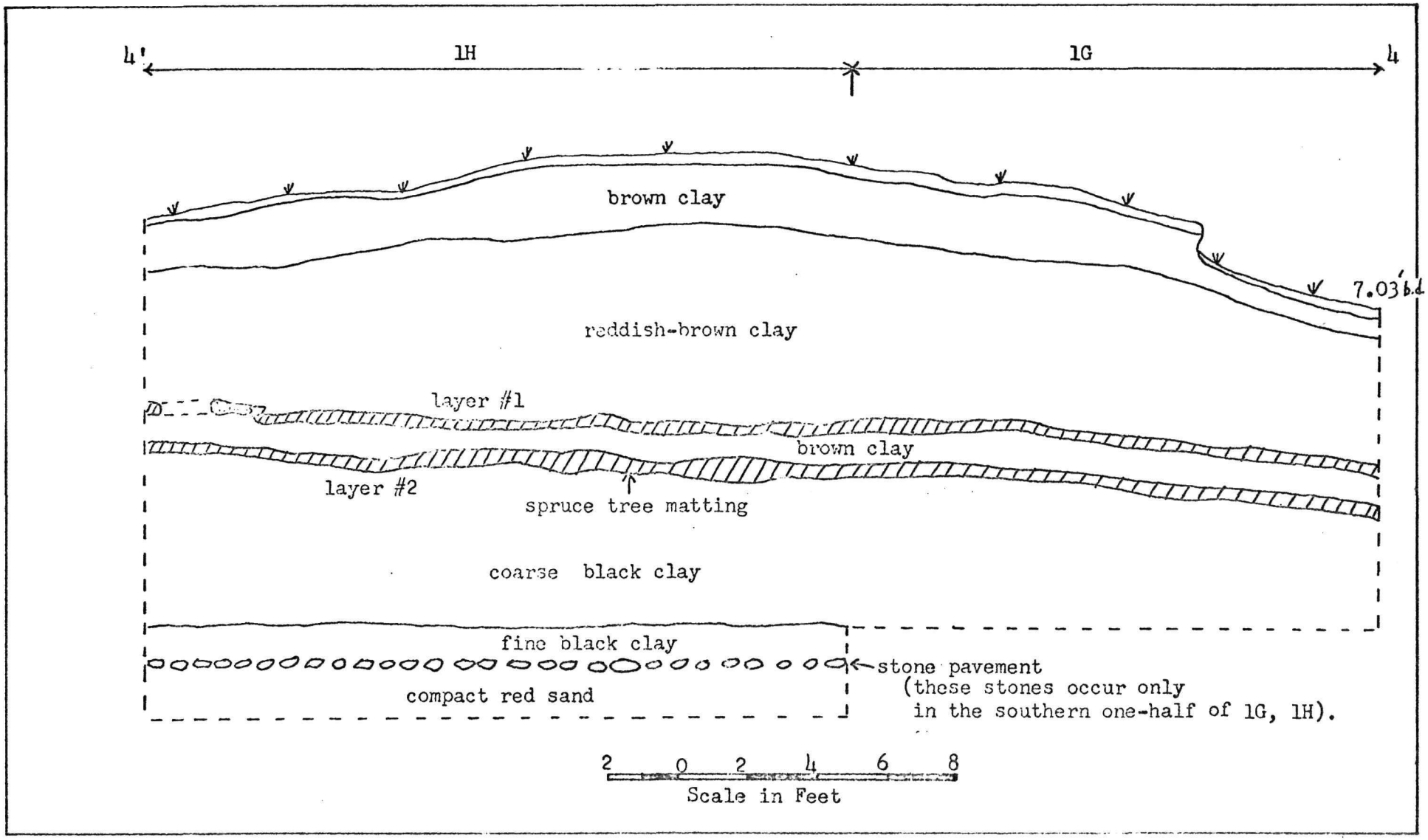


Figure 14. Section 4.

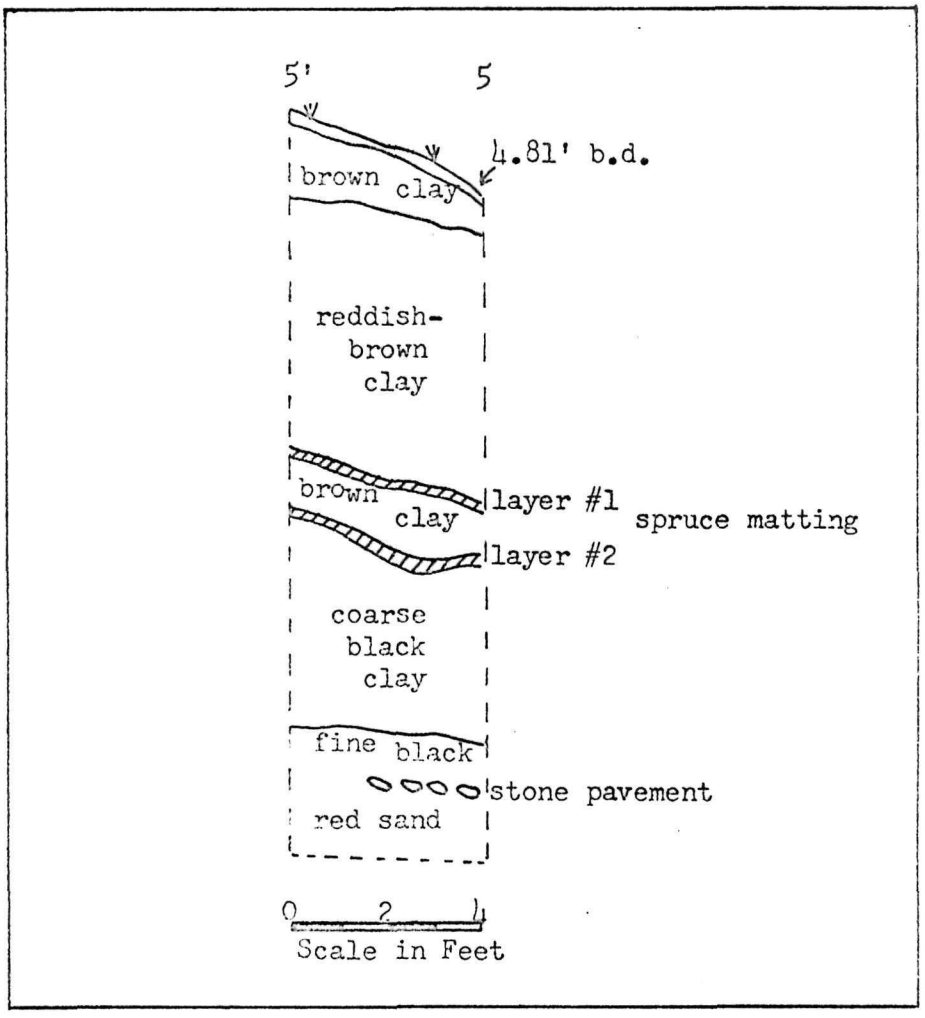


Figure 15. Section 5.
1H, south wall.

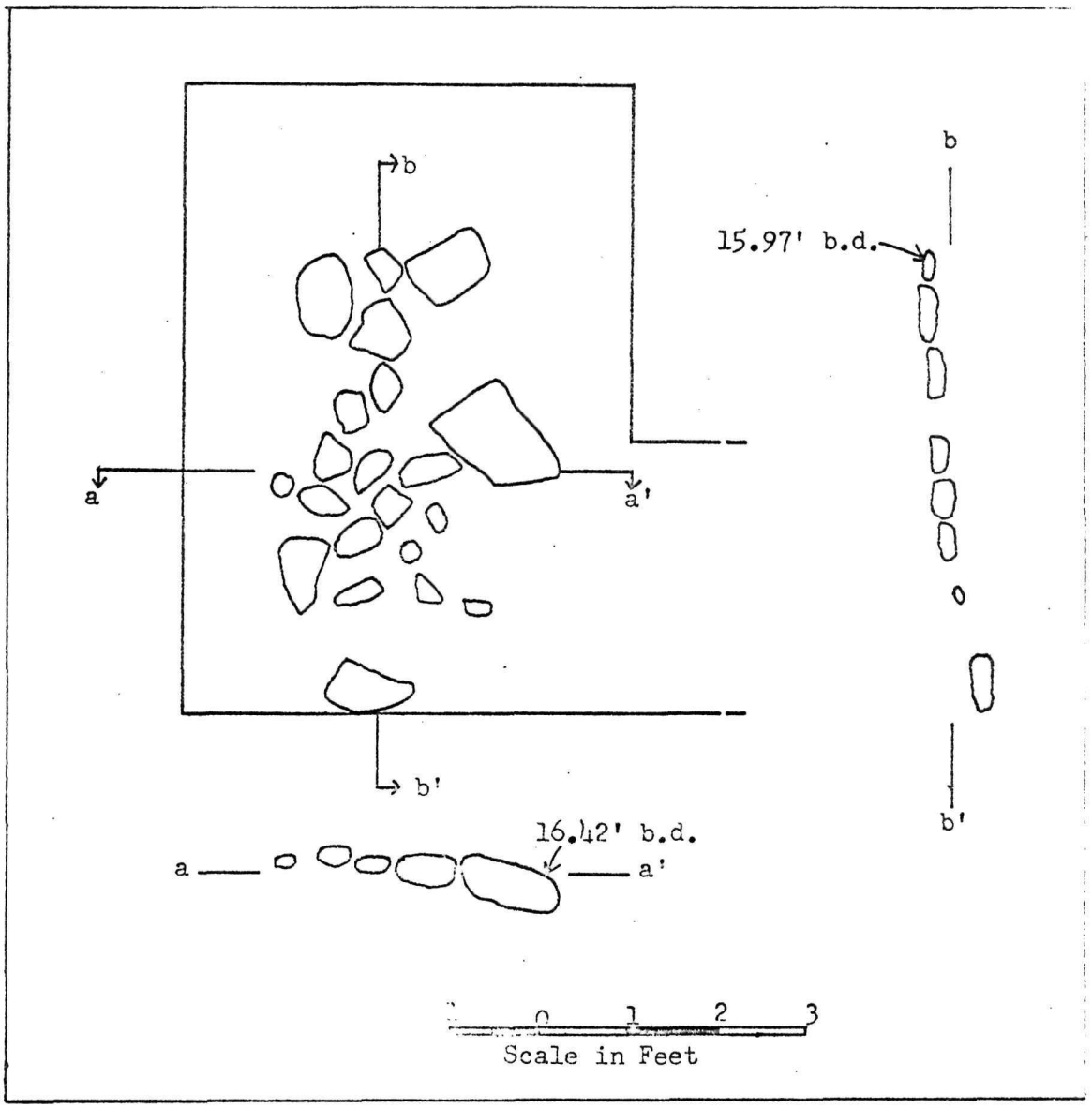
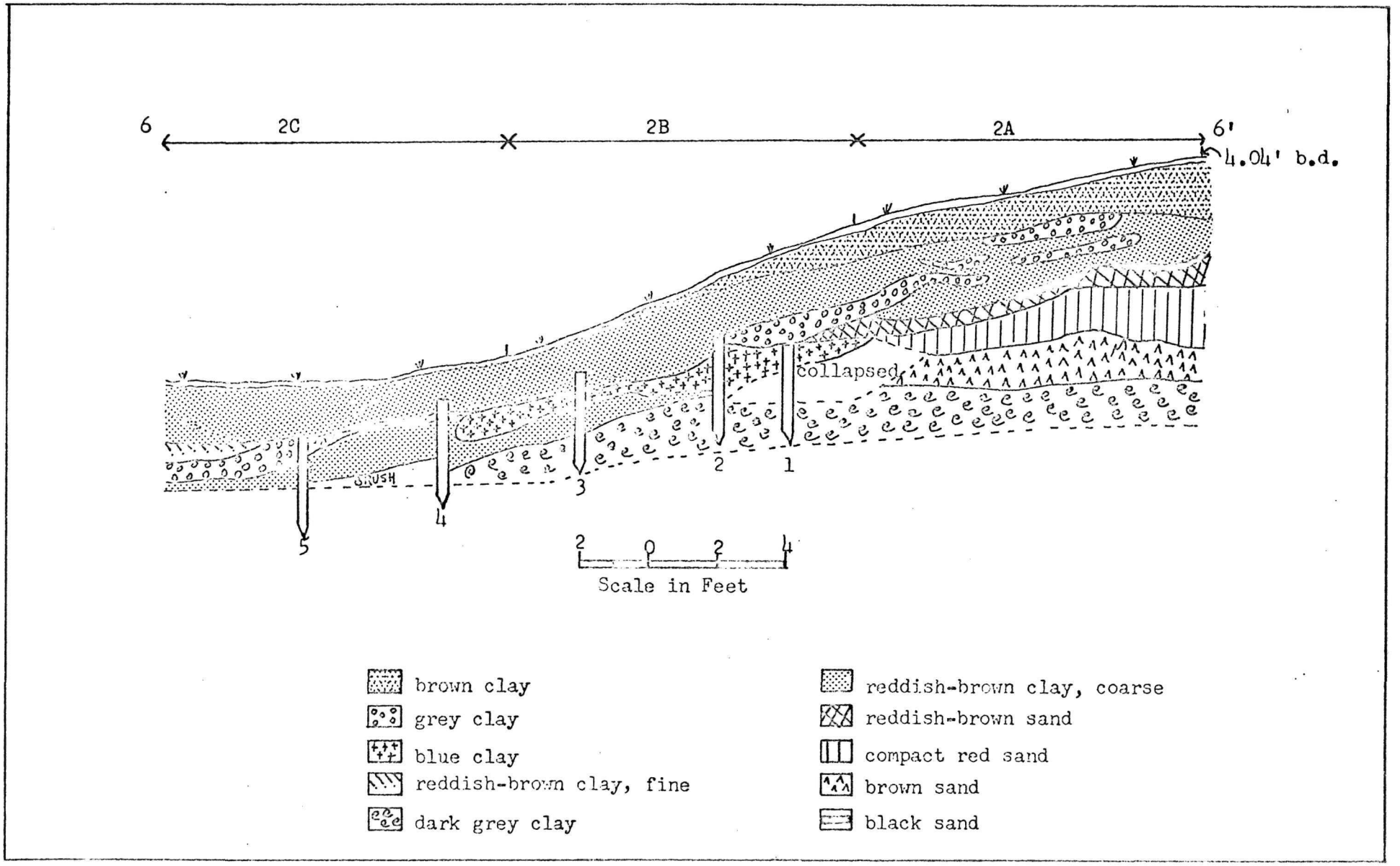


Figure 16. Plan of Portion of Stone Pavement in square 1J. (see Plate 19).

Figure 17. Section 6 in operation 2.
Pickets 1-5 occur slightly to the south
of this section (see Fig. 21)



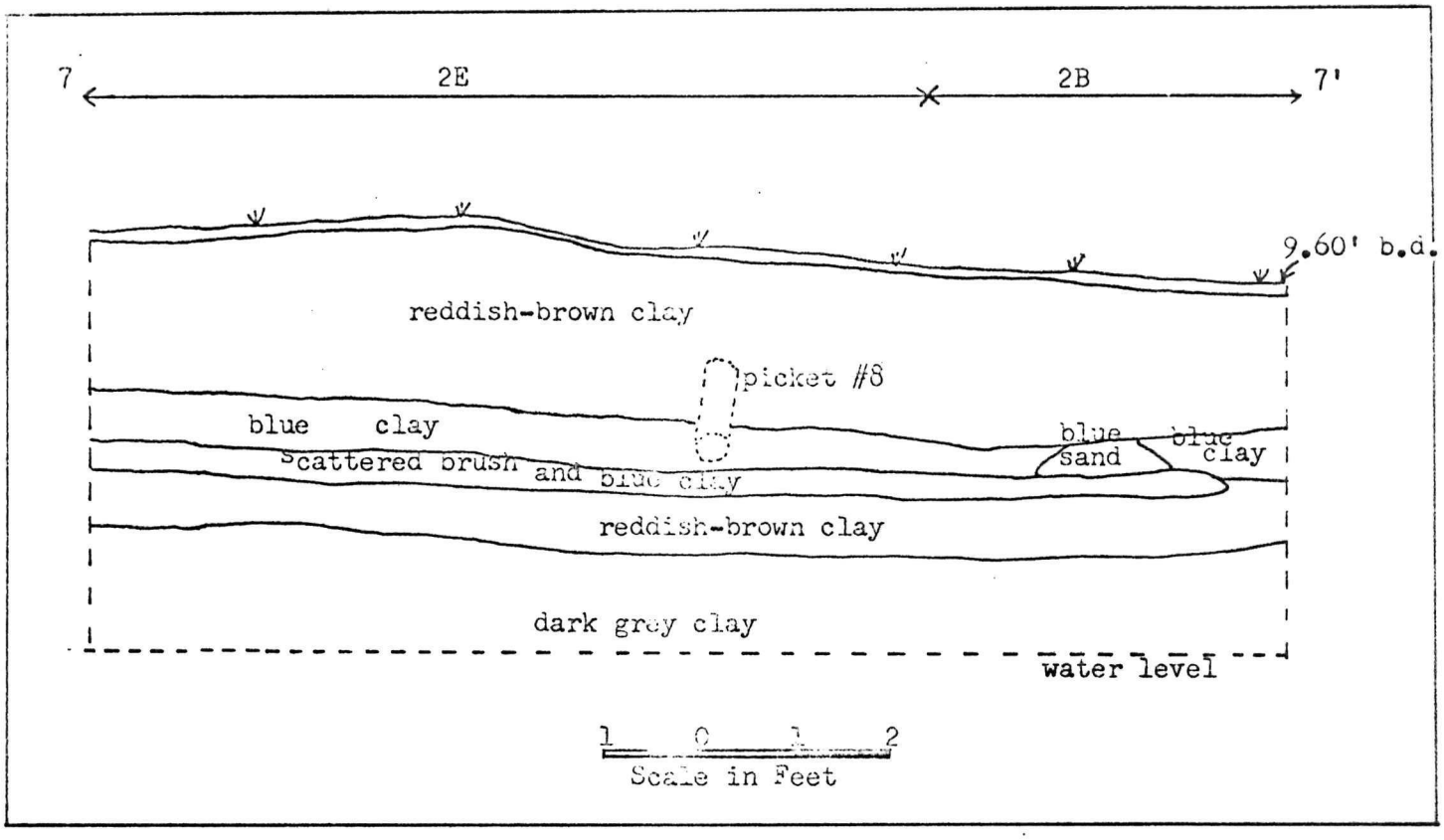


Figure 18 Section 7 in Operation 2.

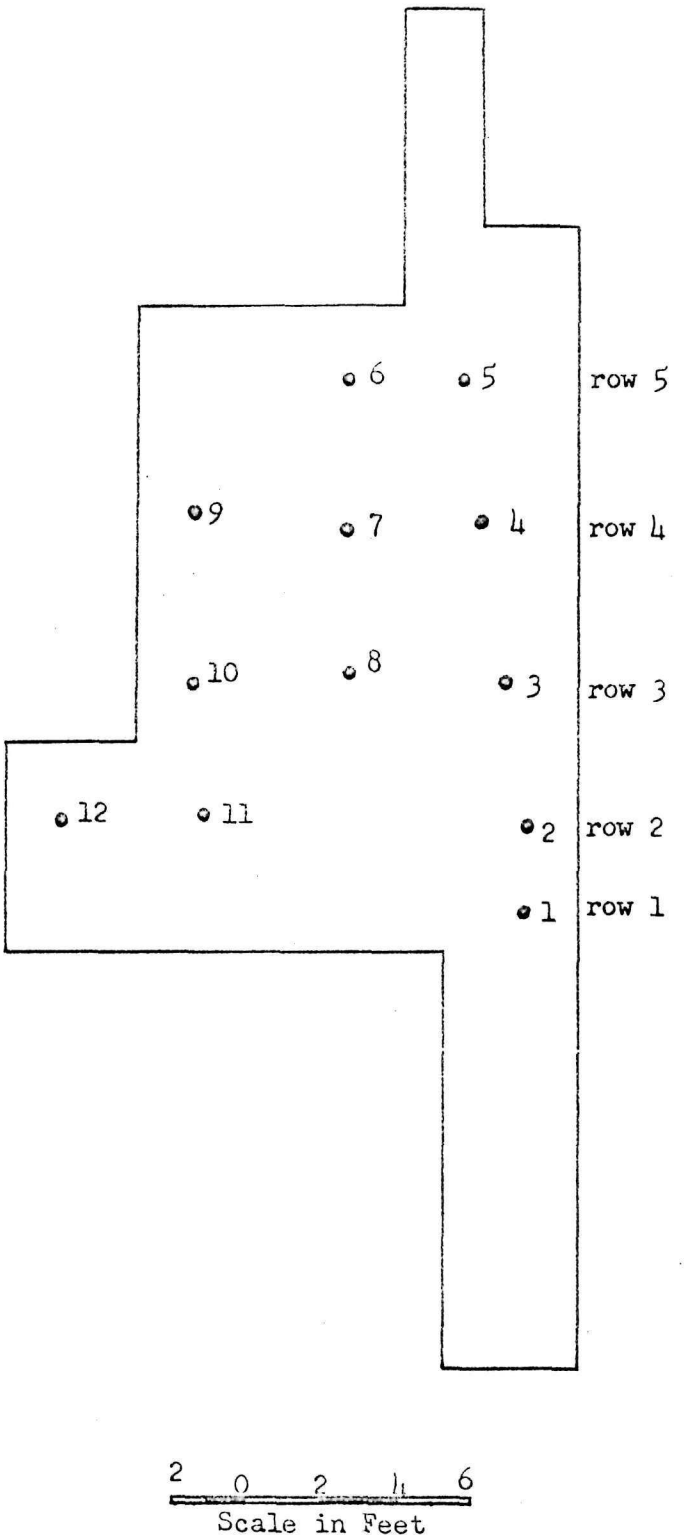


Figure 19. Plan of Pickets in Operation 2.

PLATES

Plate 1. View of La Coupe River, upstream from the site. (4E-1 X)

Plate 2. The La Coupe site, looking west into interior. (4E-2 X)

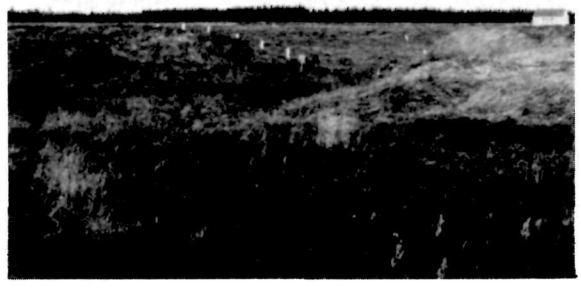


Plate 3. Interior of site, looking southeast. (4E-3 X)

Plate 4. View of dykes at river end, looking northwest. (4E-4 X)

Plate 5. The southwest dyke. (4E-5 X)

Plate 6. Excavations in the southeast dyke. (4E-6 X)

Plate 7. Layer #1 of spruce matting in squares 1D, 1E, 1F. (4E-7 X)

Plate 8. Closeup of angling brace #6. (4E-8 X)

Plate 9. Plan of angling brace #6 and spruce matting. (4E-9 X)

Plate 10. View showing portions of squares 1A and 1E, and angling braces #6 (background) and #7 (foreground). (4E-10 X)

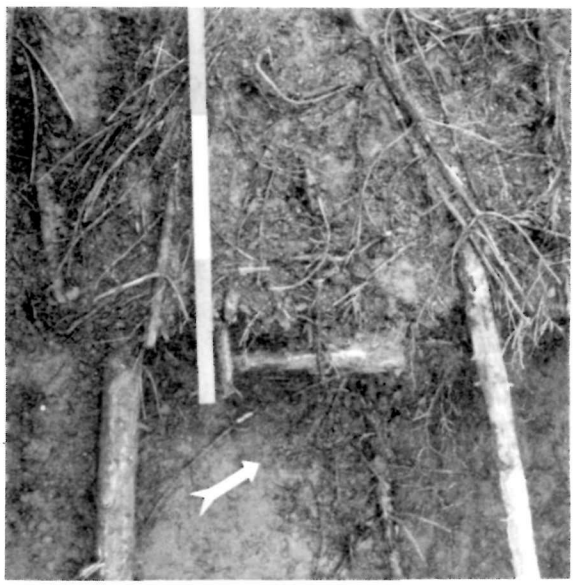


Plate 11. North wall of square 1A, with angling brace #7 *in situ* and layer #2 of spruce matting. (4E-11 X)

Plate 12. Square 1A looking north, showing angling braces #4 and #7 (background). (4E-12 X)

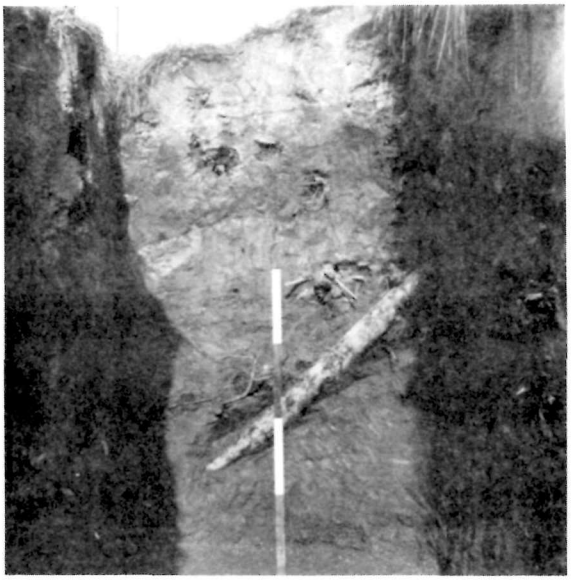
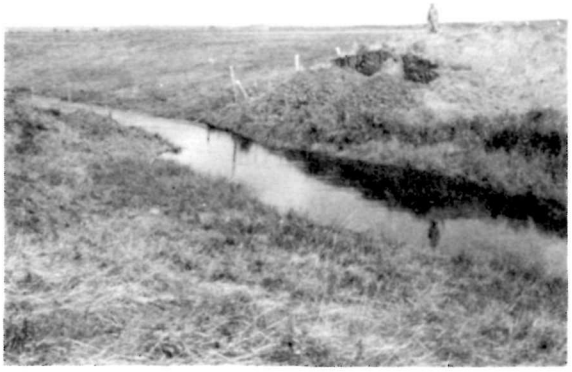


Plate 13. View of river end of northeast dyke and excavations, looking north. (4E-13 X)

Plate 14. Excavations in the northeast dyke. (4E-14 X)



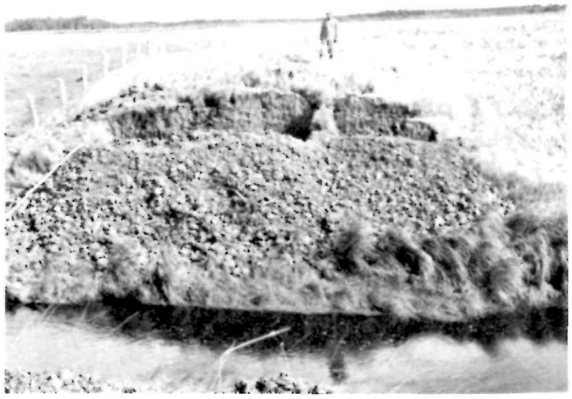


Plate 15. View of square 1H in process of excavation. (4E-15 X)

Plate 16. Layer #1 of spruce matting in square 1G. (4E-16 X)

Plate 17. The northwest dyke. (4E-17 X)

Plate 18. Excavation squares in northwest dyke. (4E-18 X)

Plate 19. Portion of stone pavement in 1J. (4E-19 X)

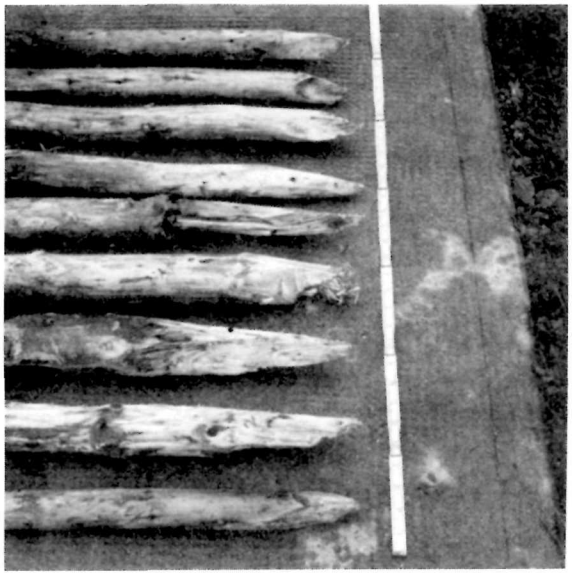
Plate 20. View of interior of site, looking northeast. Three different levels can be seen: right, top of east dyke; middle, level O(see Fig. 5); left, level N. (4E-20 X)

Plate 21. Operation 2 excavations in interior of site, looking east. (4E-21 X)

Plate 22. View of pickets in Operation 2. (4E-22 X)

Plate 23. in operation 2. (4E-23 X)

Plate 24. Closeup of pickets from operation 2 showing axe cut ends. (4E-24 X)



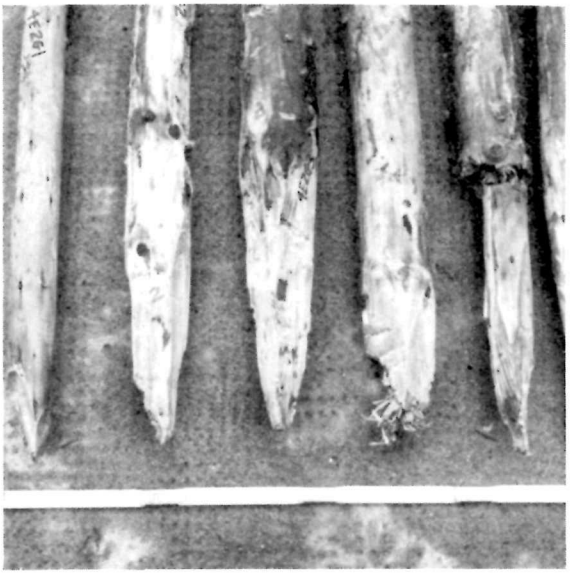


Plate 25. Two log braces from operation 1, southeast dyke. (4E-25 X)