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EXCAVATIONS AT CASTLE HILL

NEWFOUNDLAND IN 1969

by

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TABLE OF CONTENTS

LIST OF ILLUSTRATIONS.....	iv
LIST OF TABLES.....	iv
ABSTRACT.....	v
PREFACE.....	vi
INTRODUCTION	1
Operations Excavated	2
DESCRIPTION OF EXCAVATIONS	4
Sub-operation 2A4A	4
Sub-operation 2A7A	7
Sub-operation 2A8C	10
Sub-operation 2A9M	11
Sub-operation 2A9N	13
Sub-operation 2A10J	14
Sub-operation 2A10K	15
Sub-operation 2A10L	16
STRATIGRAPHY	18
Stratigraphic Synthesis	18
STABILIZATION TECHNIQUES	23
INTERPRETATIONS AND CONCLUSIONS	26
REFERENCES	29
TABLES	30
ILLUSTRATIONS	32
FIGURE	33

LIST OF ILLUSTRATIONS

Figure 1	Plan of excavated areas.....	34
Figure 2	Sub-operation 2A4A, Profile.....	36
Figure 3	Sub-operation 2A7A, Plan View.....	38
Figure 4	Sub-operation 2A8C, Plan View.....	40
Figure 5	Sub-operation 2A9M, Profile.....	42
Figure 6	West Curtain Wall-North.....	44
Figure 7	West Curtain Wall-South.....	44
Figure 8	West Curtain Wall-Top.....	46
Figure 9	West Curtain Wall-Top.....	46
Figure 10	British Hearth Base.....	48
Figure 11	French Fireplace.....	48
Figure 12	French Fireplace.....	50
Figure 13	Entranceway.....	52
Figure 14	Entranceway.....	52

LIST OF TABLES

Table 1	Lot-Layer Correlation.....	30
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ABSTRACT

Archaeological investigations at Castle Hill, Placentia, Newfoundland, were conducted in order to complete the excavation of the previously unexcavated west curtain wall and several smaller units within the redoubt. In conjunction with this aim, the stabilization and restoration of all remaining features was undertaken to prevent further deterioration through vandalism and weathering.

Investigations showed that during the period of British restoration, beginning in 1757, some French structures were incorporated into British repairs and modified to suit immediate needs, rather than being totally destroyed.

PREFACE

Between June 1, 1969 and August 15, 1969, archaeological excavations and stabilization of standing masonry was carried out at Castle Hill, National Historic Park located at Placentia, Newfoundland.

The author and Mr. James Henderson, both of Ottawa, were contract archaeologists in charge of field work. From July 25 until the end of the field season, I supervised the final stages of stabilization.

A crew of ten laborers was hired from the nearby towns of Dunville, Ferndale, Freshwater, Placentia, and Jersey Side. All members of the crew had been employed at the site during the 1968 field season and consisted of Richard Fillier, Aloysius Pittman, Cornelius Traverse, Edward O'Keefe, Harold Healey, Victor Collins, Michael Murray, Francis Fagin, Joe Rodgers, and Pat Bruce.

Four masons from St. John's, working under Mr. Wilson Butler, contracted to do the stabilization and necessary reconstruction, being assisted by Mike Ennis, Alphonsis Lockyer, and Leo Power.

The stabilization project was under the general direction of Mr. Ray Johnson, Newfoundland Area Engineer, although much of the immediate supervision and decisions were made at the site by the archaeologists. Valuable assistance was given by Mr. Kevin O'Neil, Park Superintendent, Signal Hill National Historic Park and Mr. Roland McDonah of regional office in Halifax.

Finally, Mr. Donald O'Keefe, Town Clerk of Jersey Side, assisted us frequently by providing local heavy equipment whenever necessary.

INTRODUCTION

The 1969 archaeological field season was instituted in order to complete previously unfinished work of the 1968 season and, in conjunction with this aim, to finish the stabilization or reconstruction of previously uncovered features.

The major task undertaken was the stratigraphic excavation of the west curtain wall (Figs. 6,7) and its subsequent reconstruction. As well, the interior of the redoubt was re-excavated and features therein were stabilized as found for site development purposes. Similarly, the N.E. corner of the original entrance on the east side of the fortress was re-established and the modern bridge, providing access to the interior of the redoubt over the ditch, was re-oriented for the sake of authenticity and, incidentally, easier accessibility.

Finally, at the request of eastern regional headquarters, some investigations were conducted in attempting to locate features of interest such as old trails within the existing park boundaries.

As in 1968, the excavation of the site was conducted by local laborers using picks, shovels, and trowels. A front end loader was used to remove the cannons from the interior of the redoubt before re-excavation took place and the bridge was moved and re-oriented using the crew members.

Elevations were taken with a surveying level and excavations were plotted with an alidade and plane table. Photographic records were made both in colour and black and white film throughout the course of the field season.

In accordance with the National Historic Sites Service system of recording (Rick), excavations were designated as to operations,

sub-operations, and lots.

Operations Excavated

Sub-operation 2A4A

Sub-operation 2A4A constituted the excavation of the west curtain wall which, because of its' length and state of disrepair, became the major undertaking of the season. Lots in this sub-operation were utilized in such a way as to produce a continuum with those lots designated in 1965 and 1968 by Grange (Grange 1969:74).

Sub-operation 2A7A

This sub-operation was excavated in 1965 and revealed a British hearth base. Subsequent re-excavation revealed a brick fireplace beneath the English hearth base and as a result of this newly found feature, the hearth base was removed. There was good evidence of stratigraphy in conjunction with the fireplace.

Sub-operation 2A8C

The entrance to the redoubt, on the east face of the curtain wall is represented by sub-operation 2A8C. This relatively small area beneath the upper end of the foot bridge was excavated in one lot and enabled the re-establishment of the N.E. corner of the entrance-way (Fig. 4).

Sub-operation 2A9M

Sub-operation 2A9M was applied to the mixed rubble immediately behind the existing portion of the west curtain wall.

Sub-operation 2A9N

This sub-operation was a shallow trench behind the north curtain wall from the N.W. salient angle to the N.W. re-entrant angle of the powder magazine. This was excavated to aid in stabilizing and cap-

ping the north curtain wall.

Sub-operation 2A10J

The excavation of material immediately behind the south and west walls of the redoubt to facilitate stabilization, constituted lots 2A10J14 and 2A10J15 respectively.

Sub-operation 2A10K

Sub-operation 2A10K was designated as the balk running N.-S. in the centre of the redoubt interior. This balk was left unexcavated in 1965 to act as a control device. Unfortunately, when the interior was backfilled, the balk was partially destroyed in some areas due to heavy equipment, but three distinct layers were discernable.

Sub-operation 2A10L

The interior of the redoubt, excavated and refilled in 1965, was re-excavated to bedrock to facilitate stabilization of existing features. The removal of this more or less uniform fill was given the designation of sub-operation 2A10L.

DESCRIPTION OF EXCAVATIONS

Sub-operation 2A4A

In 1965, excavation was begun on the west curtain wall, beginning at the S.W. salient angle and working northward. At that time, lots 2A4A1-3 were utilized. Again in 1968, toward the end of the field season, excavations were continued in the same area and lots 2A4A4-11 were used and as a result of this work, a 27 ft. long section of wall was exposed and partially stabilized. A section of the curtain wall, extending northward for a distance of approximately 6 ft., including the salient angle was totally stabilized in 1968 and the remaining 21 ft. was shored for the winter by banking boulders and earth against the wall face.

This temporary reinforcing was removed at the beginning of the 1969 field season and work continued along the face of the curtain wall, beginning with lot 2A4A12. Lots 2A4A12-16 were used to complete the excavation of this area and also to remain consistent with lots used previously in this area.

In order to properly stabilize the west curtain wall, excavations were conducted along the total length of the face to bedrock (Figs. 6,7).

At a distance of 4 ft. north of the salient angle, a course of large stones was uncovered, lying on a clay base at an elevation of 319.46 ft. ASL. This line of stones comprised a footer for the south-end of the wall and extended northward for a distance of 19.1 ft. The south end of the footer extended out from the wall for a distance of 0.3 ft. However, as it progressed north toward the central, fallen section of the wall, this extension became more pronounced until at its' termination 23 ft. north of the salient angle, the edge of

the stone course was 0.9 ft. out from the base of the wall. A distance of 3.9 ft. further north brought excavations to the limits reached in 1968.

Excavations for the 1969 season concerning the west curtain wall began from the north and south ends of the wall, working toward the central slumped area. From the N.W. re-entrant angle, running south for a distance of 21.5 ft., two distinct stratigraphic layers were seen which terminated on bedrock, rising to a high point of 328.95 ft. ASL at a distance of 4 ft. south of the re-entrant angle. At this point the west curtain wall completely disappeared in a mass of rubble and continued in this state for a distance of 18.9 ft. This entire 18.9 ft. collapsed section was excavated to bedrock and was completely rebuilt when the wall line was re-established.

A further distance of 3.4 ft. south of the fallen area was excavated to bedrock and completion of this short section constituted the remaining excavation of the face of the west curtain wall.

2A4A12 Lot 12 of sub-operation 2A4A was assigned to the material immediately on top of the west curtain wall and that material in front of the wall. This lot consisted of reddish-brown earth and mixed rubble which coincided with lot 2A4A1 of the 1965 excavations. Artifacts from this lot were too mixed to be of any assistance as dating aids, ranging from modern Coca-Cola bottle fragments to wrought iron nails.

2A4A13 This lot consisted of a mixture of stone, mortar rubble, and brownish clay fill which, in the area immediately in front of the west curtain wall to the north of the collapsed area, ended on bedrock. From a distance of 21.5 ft. south of the re-entrant angle of the N.W.

demi-bastion, this lot continued southward, ending 27 ft. north of the salient angle where excavations were halted the previous year.

In the central area of the west curtain wall it became evident that much of the standing masonry had fallen outward and had been carried down the hill to the west. As a result of this, it was supposed that the majority of artifacts uncovered in this area were deposited from slumped fill from the area between the curtain and redoubt walls.

2A4A14 Lot 14 consisted of a relatively compact brown clay layer mixed with large rock rubble and mortar. In the 18.9 ft. centre section where the wall had collapsed, the hypothesis about much of the wall having been carried down the hill was proven by the presence of large building stones being found at a greater distance west of the wall than in areas of standing masonry. Where the wall was still standing, building rubble was found immediately adjacent to the wall.

2A4A15 Grey mortar and sand with smaller rubble than was found in lot 14, characterized lot 15. In the south section of the curtain wall this material was found at the level of the footer, beginning at a maximum elevation of 321.15 ft. ASL at the north end of the footer and sloping downwards toward the south to an elevation of 318.36 ft. ASL at the salient angle. Excavations in the area of the fallen section of wall showed that this lot extended horizontally for a distance of 10 ft. which further showed that much of the wall in this area had been carried away to the west.

2A4A16 Lot 16 was a thin layer of compact clay, ranging in colour from reddish-pink to a dark purple colour and immediately overlay bedrock as well as filling the fissures in the bedrock itself. This

layer was consistent with the type of fill overlying bedrock in excavations conducted in 1968, for example, sub-operation 2A9F and 2A9G.

Sub-operation 2A7A

In 1965, the interior of the guardroom was excavated and given the designation sub-operation 2A7A. This structure is located adjacent to the east wall of the redoubt and just to the south of the entrance-way. In 1965, a hearth base, built at the time of the English occupation, was uncovered and in order to stabilize this feature, as well as the walls of the guardroom, re-excavation of this structure and its' associated hearth base was undertaken. The guardroom was not a parallel sided structure, but narrowed toward the south end, measuring 8.3 ft. wide on the north interior by 7.5 ft. wide on the south. The sides measured 16.4 ft. in length. When re-excavated, the British hearth base (Fig. 10) was seen to abutt the south wall of the guardroom and extended northward for a distance of 4 ft. It measured 5.8 ft. wide at the front and 5.3 ft. wide where it abutted the wall. During the course of re-excavation, stratigraphy similar to that in 1965 was seen where the digging ceased at that time.

In cleaning the abovementioned profile, several bricks were seen below the level of the British hearth base in the S.E. corner. Subsequent investigation and the decision to remove the hearth base itself revealed a well-preserved brick fireplace built on large, flat limestone blocks (Fig. 11). This was believed to have been from the original French occupation since the limestone blocks rested on a pad of mortar on bedrock.

The mortar area beneath the limestone and brickwork on the west

side of the fireplace extended north for a distance of 3 ft. from the existing south wall of the guardroom and measured 1.2 ft. wide, maximum, being almost parallel-sided. The mortar pad on the east side of the fireplace was more irregularly shaped, extending north for a distance of 2.9 ft. from the wall, measuring 1.2 ft. wide at this point and 2.1 ft. wide at the wall.

On top of the mortar layer on the west side of the fireplace lay a split limestone slab which extended north from the wall for a distance of 2.4 ft. and measured 1.4 ft. wide maximum, tapering to the south where it terminated just beneath the brickwork and measured 1.2 ft. wide. On the east side of the fireplace, a single limestone pad sat on the mortar and extended northward for a distance of 2.4 ft. from the existing south guardroom wall. This stone also tapered toward the south, measuring 1.3 ft. wide at the north and 1.1 ft. wide where it passed beneath the brickwork.

The actual brickwork of the fireplace was set into the south wall of the guardroom as was the brickwork of the hearth remains uncovered in sub-operation 2A10C, excavated in 1965. As a result of the fireplace having been built into the wall, the masonry varied in thickness from 0.2 ft. to 0.5 ft. in the actual area of the fireplace. Elsewhere, the south guardroom wall measured 2 ft. in thickness.

On the west side of the fireplace, the brickwork extended north for a distance of 1 ft. from the south wall (on the west side) and on the east side, was set into the wall core for a distance of 0.7 ft. The brickwork itself measured 1 ft. in width.

The brickwork of the east side of the fireplace extended northward for a distance of 0.9 ft. (on the east side) and on the west

side, extended into the south wall core for a distance of 0.7 ft. Here the brickwork also measured 1 ft. in width.

The back of the fireplace was represented by a line of bricks, three rows wide which was recessed into the wall for a distance of 0.7 ft. In front of this back wall of bricks, and directly beneath it, was a heavy mortar concentration which extended northward for a distance of 0.7 ft. in the S.W. corner of the fireplace and 1.1 ft. in the S.E. corner. Beneath this mortar shell, and extending to the bedrock within the confines of the fireplace interior, was a sterile ash layer. Interior measurements of the fireplace were 3.3 ft. wide by 1.7 ft. in depth (Fig. 12).

Directly adjacent to the east side of the fireplace and extending along the east guardroom wall for a distance of 10.5 ft. was a stone footer, which, in the S.E. corner of the guardroom, extended out from the wall for a distance of 0.8 ft. and terminated at a distance of 10.5 ft. north of the S.E. corner.

2A7A1 Lot 2A7A1 constituted a layer of mixed mortar and brick fragments with beach gravel ranging in thickness from 0.3 ft. at the north end of the sub-operation to 0.5 ft. where the fill overlay the hearth base. This lot proved to be sterile.

2A7A2 Directly beneath lot 1, immediately in front of the hearth base and along the east side of it, lay another sterile layer of red clay and gravel which was designated lot 2. This lot had an average thickness of 0.3 ft.

2A7A3 Lot 2A7A3 was a mixed mortar, clay and gravel layer 0.6 ft. in thickness containing relatively few artifacts. Only one ceramic rim sherd was present in this zone and it has been identified as

being English salt-glazed stoneware. This stratum correlates with Grange's 1965 stratigraphy as being an English occupation level (Grange 1967:47).

2A7A4 Beneath lot 3 was another sterile layer composed of mortar and ash. Within the fireplace itself, this ash layer measured 1.9 ft. in thickness and extended to bedrock.

2A7A5 Finally, a layer of clay and gravel, immediately overlying bedrock and measuring 0.15 ft. in thickness was excavated which produced two pipe stem fragments, bone fragments, several wrought iron nail fragments, and one hollow shot shell fragment.

Sub-operation 2A8C

This sub-operation was an irregularly shaped excavation at the entranceway of the redoubt on the east curtain wall (Fig. 4). The excavation measured 7 ft. on the north, 4 ft. on the south, 7 ft. on the east, and 6.5 ft. on the west side. The excavation of this area was conducted after the foot bridge had been moved and covered that area of the entrance and bedrock on which the west end of the bridge had rested.

The reasons for moving the bridge were twofold. In the first instance, investigations were conducted in the area covered by the bridge and, secondly, reconstruction of the N.E. corner of the entranceway, which fell within the limits of this sub-operation, was undertaken.

By projecting string lines along the remaining masonry faces of the east curtain wall and the north wall of the entranceway, a point of intersection was obtained which appeared suitable for the N.E. corner of the entranceway. When this sub-operation was

completely excavated and the bedrock flushed clean, mortar stains in the N.E. corner of the sub-operation (where the two strings intersected) gave the investigators further proof as to where the N.E. corner of the entranceway had been originally (Fig. 14).

Similar mortar stains on bedrock in sub-operation 2A3A made possible accurate restoration of the east end of the north curtain wall (Grange 1967:88).

Within the previously described limits of sub-operation 2A8C, there was only one uniform layer of brown soil which varied in depth from 0.1 ft. to 0.3 ft. where it had settled in fissures in the bedrock.

Various artifacts were found within this layer and, near the bottom there were three lead-glazed coarse earthenware pottery sherds, two of which undoubtedly came from an early 18th century occupation (Cloutier; personal communication). There were also glass bottle fragments, some of which can be placed in a 20th century context which indicates a rather mixed single layer for this sub-operation.

Sub-operation 2A9M

Sub-operation 2A9M constituted removal of fill behind the length of the west curtain wall and was carried out in conjunction with sub-operation 2A4A. Immediately behind the west curtain wall, excavations were continued to bedrock to facilitate reconstruction.

The excavation measured 56.5 ft. in length, beginning at the back of the face of the S.W. demi-bastion at a point 16 ft. east of the interior of the salient angle and extending northward, ending at the south end of sub-operation 2A9F. Fill from sub-operation 2A9M was used to refill the open area of sub-operation 2A9G, excavated in

1968.

At the south end of the sub-operation it was necessary to extend the excavation limits a distance of 16 ft. east from the interior of the S.W. salient angle due to the severe slope and unconsolidated nature of the rubble fill. Excavation limits at the north end of the sub-operation measured 3.75 ft. east of the back of the curtain wall because of the sharp rise of bedrock and stable nature of the curtain wall (Fig. 5).

2A9M1 Lot 1 consisted of a mixture of topsoil and gravel which increased in thickness as it neared the back of the curtain wall. Thickness varied from 0.3 ft. near the upper limits of the excavation to 1.8 ft. near the back of the wall. The highest concentration of artifacts occurred south of the fallen section of the curtain wall and contained specimens of early earthenware ceramics near the bottom of the layer. Also, a high concentration of large wrought iron nails was noted in the rampart fill. This artifact concentration would help reinforce the historical evidence for a battery of guns being placed on the ramparts in this area.

2A9M2 Reddish-brown clay and medium sized rock rubble characterized lot 2 and continued along the entire length of the sub-operation, ending on bedrock at the north end of the sub-operation. Lot 2 measured approximately 1 ft. in thickness throughout and contained some bone and shell fragments.

2A9M3 A layer of reddish-brown gravel containing a few large wrought nails, brick fragments, and some pipe stem fragments was designated as lot 3. Again, as was the case in the two previous lots, the higher concentration of artifacts came from the south end

of the excavation. Lot 3 varied in thickness from 0.6 ft. at a distance of 16.5 ft. south of the N.W. re-entrant angle to a thickness of 1.8 ft. in the fill behind the S.W. demi-bastion.

2A9M4 Lot 4 consisted of a thick layer of gravel and angular rock rubble containing relatively few artifacts. It was this rubble layer, 4 ft.-5 ft. in thickness, which made the fill behind the curtain wall so unstable.

2A9M5 A layer of black clay, averaging 0.3 ft. in thickness lay directly beneath lot 4 and was designated as lot 5. This lot began at the south end of the excavation and continued north for a distance of 42.3 ft. at which point it disappeared. No artifacts were found in this lot.

2A9M6 Lot 6 was the layer immediately overlying bedrock and measured 0.1 ft. in thickness except in places where it reached into crevices in bedrock where it was naturally thicker. As was the case in the previous layer, there were no artifacts present.

Sub-operation 2A9N

This sub-operation was a trench, 1.5 ft. wide and 85.5 ft. long immediately behind the north curtain wall. It began at the back of the N.W. salient angle and continued eastward to where it terminated at the west side of sub-operation 2A9J. The object of this sub-operation was to facilitate capping and stabilizing of the north curtain wall.

2A9N1 Lot 1 consisted of medium sized rubble and brown earth which lay directly behind the north curtain wall. This lot measured approximately 1 ft. in depth throughout its' entire length. Artifacts in this sub-operation were scanty, consisting of a few large wrought

nails, some fish and animal bones, and three pipe stem fragments.

Sub-operation 2A10J

Sub-operation 2A10J consisted of two trenches 1.5 ft. wide and approximately 1 ft. deep running along the outside of the south and west redoubt walls for respective distances of 54.25 ft. and 24 ft. The object of this sub-operation, as was the case in sub-operation 2A9N, was to facilitate the capping and stabilization of the two previously mentioned walls. In excavating sub-operation 2A10J in 1968, lots 1-13 were used in the interior and exterior of the S.W. corner of the redoubt. In order to maintain the continuum begun the previous year, lots 14 and 15 were utilized. Excavations behind the south wall of the redoubt were designated as 2A10J14 and the excavation behind the west redoubt wall was labelled 2A10J15.

2A10J14 As was stated previously, this excavation measured 1.5 ft. in width and extended for a distance of 54.25 ft. in length, beginning at the S.E. corner of the redoubt and ending 1.75 ft. west of the S.W. exterior corner of the redoubt. The excavation averaged 1 ft. in depth and fill consisted of medium sized rubble and brown earth which produced no artifacts.

2A10J15 Like lot 2A10J14, 2A10J15 measured 1.5 ft. in width and 1 ft. in depth, beginning at the S.W. exterior corner of the redoubt wall and extending north along the exterior of the west wall of the redoubt for a distance of 24 ft., ending at the south limit of sub-operation 2A9F. Fill from this sub-operation consisted of red-brown topsoil and medium sized angular rubble containing no artifacts.

Sub-operation 2A10k

A balk in the approximate centre of the redoubt running on a N.-S. axis was excavated when the interior of the redoubt was re-excavated, and was designated as sub-operation 2A10k. At the north end, the balk measured 1.7 ft. in width and the N.W. corner of the balk was 23.25 ft. east of the interior N.W. corner of the redoubt. The south end of the balk measured 1.5 ft. wide and its' S.W. corner measured 26 ft. east of the interior S.W. corner of the redoubt. The balk was all that remained in the interior from excavations conducted in 1965 and was relatively undisturbed except in a few places where it had been destroyed by heavy equipment which back-filled the redoubt interior at the end of operations in 1965. Good stratigraphy was noted throughout the undisturbed parts of the balk, and it was possible to distinguish separate layers even in the disturbed area.

2A10k1 Lot 1 consisted of a sod layer measuring 0.1 ft. in thickness where still present. Backfilling in 1965 did not completely cover the sod layer in some places and as a result, much of it was worn away by weather and tourist traffic. Where the sod layer remained, there were no artifacts found.

2A10k2 Lot 2 measured between 0.7 ft. and 0.8 ft. in thickness and consisted of reddish-brown earth mixed with small brick fragments and small stones. A large quantity of fish and animal bones was found in this lot as well as pipe stem fragments and wrought iron nails. Also present in this lot was one rim sherd of British white salt-glazed stoneware dating between 1750 and 1775 (Cloutier; personal communication).

2A10K3 Lot 3 consisted of a mixture of brown earth and clay measuring 0.2 ft. in thickness, immediately overlying bedrock. Artifacts uncovered in this lot consisted of animal and fish bone as well as some bottle glass and pipe stem and bowl fragments. Ceramic material from this lot indicated a mixture of both French and English wares ranging from early 18th century French lead-glazed earthenware to late 18th century English creamware (Moussette; personal communication).

Sub-operation 2A10L

Removal of fill overlying all features within the redoubt constituted sub-operation 2A10L. Originally the interior was to have been backfilled with sand in order to protect those features uncovered in 1965. Instead of sand, local beach gravels and excavation backfill were used which contained a mixture of artifacts. Except where the fill overlay a feature, the gravels and backfill extended to bedrock and the overall interior was excavated in one lot. The area excavated as sub-operation 2A10L included all of the redoubt interior as well as sub-operations 2A8A, 2A8B, and a distance of 5 ft. into sub-operation 2A1A.

2A10L1 Lot 1 varied in thickness from 0.05 ft. in thickness, where bedrock was high, to a depth of 1.3 ft. in the area of the S.W. interior corner of the redoubt where bedrock reached its lowest point.

Artifacts recovered in the fill consisted of fish, animal, and bird bones as well as a large number of blue mussel shells, pipe bowls and stem fragments, bricks and wrought iron nails. One small fragment of English white salt-glazed stoneware dating from the

third quarter of the 18th century was also recovered in the
fill (Cloutier; personal communication).

Stratigraphic Synthesis

In all areas excavated during the 1969 field season at Castle Hill, excavations were conducted and lots were assigned as strata became apparent. In all, nine distinct units were excavated in the above-mentioned manner and the desired purpose here is to correlate any relationships there might be between the stratigraphy, as observed, and architectural features present.

The first area to be excavated was that of sub-operation 2A4A, containing five separate stratigraphic units, one above the other, ending on bedrock. Layer 1 (lot 2A4A12) consisted of reddish-brown earth and mixed rubble and continued uniformly along the previously unexcavated extent of the exterior of the west curtain wall. It appeared to have been material deposited latterly, from the upper ramparts, after the collapse of the west curtain wall.

Layer 2 which consisted of brownish clay, mortar rubble and stone lying on bedrock north of the collapsed section of the west wall, appeared to be the result of building activities associated with wall construction during the original French occupation of 1690 (Fig. 2).

Layer 3, consisting of brown clay, large rock rubble, and some mortar, was concentrated in front of the fallen section of the curtain wall and appears to have been original rampart fill, deposited sometime between the final French occupation, ending in 1714, and the time of English repairs, beginning in 1757.

The grey mortar, sand and medium rubble layer which was concentrated at the south end of the curtain wall, in conjunction with the stone footer, was, like layer 2, thought to constitute building

rubble from the original French occupation of 1690 (Fig. 2).

Finally, layer 5 which immediately overlay bedrock and consisted of reddish-pink to dark purple clay and was sterile, appeared to have been undisturbed by either the French or English occupations.

Area 2 which was designated as sub-operation 2A9M, was excavated in six lots, one above the other.

Lot 2A9M1 which consisted of a topsoil and gravel mixture was seen to contain a variety of artifacts including sherds of earthenware which were of exclusive French use. However, positive identification of this lot is difficult at best and most likely originates during the English occupation of 1757-1765.

Directly beneath this lot, lay lot 2A9M2, characterized by red-brown clay and gravel containing only bone and shell fragments. This layer is consistent with lot 2A7A2 which is identified as being late English and therefore is considered to be same period (1757-1765).

Lot 2A9M3, which consisted of a layer of red-brown gravel and brick fragments, lay directly beneath lot 2 and the presence of brick fragments suggests a layer into which useless rubble and debris was discarded. On the basis of this therefore, we suggest that this layer coincides with the late French occupation of 1700-1714, during which period modifications were made to the original barracks, and a second fireplace, using bricks, was erected.

Beneath lot 3 and extending the full length of the excavation, was a thick layer of angular rock rubble and mixed gravel containing wrought nails and pipe stem fragments. This layer is consistent with fill elsewhere in the ramparts, used during the original construction period of 1690-1700.

Lot 2A9M5 consisted of a black clay layer which proved to be sterile. In other excavated areas, this black clay layer has proven to be contemporaneous with an early French occupation and therefore, was considered to have originated during this period.

Beneath lot 5 was a reddish-pink layer directly over bedrock which proved to be sterile. As was the case in sub-operation 2A4A, this layer was undisturbed by either the French or English occupations.

The third area to be excavated was that of sub-operation 2A7A containing five distinct layers.

The first of these layers was a modern deposition of beach gravel, laid down in 1965.

Beneath this layer lay a sterile layer of red clay and gravel which correlated with lot 2A9M2 and likely originated during the English occupation period of 1757-1765.

Lot 2A7A3 consisted of a layer of mixed mortar, clay and gravel and was found in conjunction with a hearth base from the British occupation.

Beneath the hearth base, a brick fireplace was uncovered, the centre part of which contained a sterile mortar and ash layer designated as lot 2A7A4. Because of its' position, relative to the hearth base, this layer predates the English occupation and therefore must be assumed to have originated during the late French period (1700-1714) (Fig. 3).

Dark clay and gravel overlying bedrock in the sub-operation constituted layer 2A7A5 and correlated with similar strata in the site. Elsewhere, this layer has been associated with an early French context and therefore should be considered to be similar in this

sub-operation.

The fourth area to be excavated was the balk within the redoubt interior designated 2A10K. In this sub-operation, three distinct layers were excavated.

Lot 1 was a thin sod layer which proved to be sterile.

Lot 2 consisted of a layer of red-brown earth and gravel which contained various ceramic artifacts and corresponds to lots 2A4A12, 2A10J15, and 2A8C1. This layer corresponds with certain British features within the interior of the redoubt and ceramic materials have been dated during the period of English occupation (1757-1765).

Beneath lot 2 lay a layer of brown earth and dark clay immediately overlying bedrock. This layer corresponds to lots 2A7A5 and 2A9M6 which have been considered as being early French in origin. Unfortunately, artifacts from this layer present a varied picture. We suggest however, an early French date of 1690 for this layer with later ceramic materials being intrusive.

Sub-operation 2A9N constituted area 5 and consisted of brown earth and medium rubble which correlated with lot 2A10J14. Although not identical to 2A9M4, we would suggest that this layer constitutes major rampart fill and therefore should be considered to be French of the 1690-1700 period.

Like the abovementioned sub-operation, 2A10J14, consisted of brown earth and medium sized rubble. Since this lot corresponds with lot 2A9N1, we have placed this layer in an early French context.

Sub-operation 2A10J15, area 7, consisted of a mixture of red-brown topsoil and angular rubble which corresponded to lots 2A4A12, 2A10K2, and 2A8C1. Lot 2A10K2 is almost certainly a result of the English occupation of 1757-1765, therefore, we would place this

layer in a similar context.

Sub-operation 2A8C has been designated as area 8. This one layer excavation of red-brown earth and rubble contained a mixture of artifacts and correlates with 2A4A12, 2A10J15, and 2A10K2. This would place this layer in an English context of 1757-1765. Early earthenware found at the bottom of this layer however, would place it in a late French context of between 1700-1714 which seems, to us, to be a more accurate interpretation for this layer (Fig. 4).

Finally, area 9, designated as sub-operation 2A10L consisted of a layer of brown earth and beach gravel known to have been deposited in 1965. Unfortunately, the brown earth turned out to be backfill from 1965 excavations at Castle Hill and as a result of this, artifacts were uncovered which spanned the entire occupation period of the site.

Taken area by area, each sub-operation presents itself in a one-to-one correlation as far as lots and layers are concerned. For the overall stratigraphic synthesis of the excavations see Table 1.

STABILIZATION TECHNIQUES

During the course of stabilization at Castle Hill, a Polaroid camera was used to advantage for recording sections of wall which had popped but not collapsed due to frost and water action. In these areas, out-of-place stones were numbered with a felt marker and then a photograph was taken. In this way, any numbered section of wall could be immediately removed, the core cleaned off and stabilized, and the face could be restored to its' original position without misplacing the face stones.

A mixture of masonry cement and sand, arrived at by the masons and engineering staff, was used exclusively throughout the site for initial stabilization.

Since the abovementioned mixture did not coincide with the colour of the original remaining mortar, being too dark and fine in texture, a final wash of Medusa cement was applied to the joints between the stones and was allowed to cover, partially, the face of the stones as it was seen to do in remnants of original wall. Into the Medusa facing, while it was still soft, large amounts of small gravel and large grained sand were applied by hand to give an overall appearance of the original coarse masonry.

In the case of the west curtain wall, the only actual reconstruction occurred in the central area where the wall had been carried away. Here all wall core remains and building rubble were removed and bedrock was well cleaned of any earth and clay. When this job was completed, a line was stretched from the S.W. salient angle, along the remaining wall face, to the N.W. shoulder angle. Along this line the face of the west curtain wall was established. Similarly,

a line was extended along the back of the west curtain wall, starting at the wide section of wall to the south and extending north to the back of the N.W. shoulder angle. This line constituted the line on which the back of the wall was to be re-established. Drainage pipes were then placed on bedrock and reinforced with limestone covers in the south end of the wall where drainage was a serious problem.

Several courses of stones were laid both along the back and face lines in the central area and the core was built up with stone rubble and large quantities of masonry cement. The central portion was rebuilt in this manner until its height came into line with already standing masonry. At this point, the face of the standing masonry at the north and south ends of the west curtain wall was raised to the highest point of remaining wall core at any given point. When the desired wall height was attained, the top was capped and Medusa and sand were applied to the face.

The result was a partially rebuilt, partially stabilized curtain wall with adequate hidden drainage, having a straight face line and solid core. Finally, rampart fill was again banked against the back of the curtain wall until only about 1 ft. along the back was still exposed to view.

Stabilization of features within the redoubt was accomplished with the aid of field photographs and on-the-spot Polaroid photographs. After re-excavation, a feature was thoroughly cleaned and, with reference to photographs, the feature was then taken apart and all loose mortar and rubble beneath was removed and replaced with masonry cement. The stones of a feature were then replaced in this matrix and when set, were coated with Medusa cement and small gravel.

Sections of redoubt wall which had bulged were numbered, photographed, removed and the core behind was cleaned and solidified. The bulged sections of wall were then replaced and brought into line. As was the case with other walls, when stabilized, the top was capped and a finishing coat of Medusa and small gravel was applied.

Stabilization of the French hearth involved removal of old mortar from between the bricks and then replacing them where they had been. Medusa cement and small gravel was used exclusively for the stabilization of this feature because of small surfaces involved, for example, the narrow spaces between the bricks. As the bonding agent was applied, quantities of gravel were pressed into it by hand to give the proper aged effect.

Existing flagstones in the entranceway area were both level and slightly above the height of the foot bridge. Although no evidence exists as to the original positioning and orientation of the flagstone entranceway, it was hypothesized that the entranceway was indeed level rather than being sloped down to the bridge. With this in mind, the existing flagstones were lifted and the area beneath them was washed. They were then replaced on a bed of masonry cement. Several more flagstones were added at this time to make a more complete picture and were also mortared in the abovementioned manner. Finally, Medusa and gravel were applied to all surfaces and the foot bridge was replaced and elevated slightly to provide more easy access to the interior.

Investigations in the area of the west curtain wall showed that what was originally thought to be an internal buttress (Grange 1969:97) was in fact all that remained of original French construction. It appeared that repairs carried out during the English occupation took the form of refacing the west curtain wall where the core was solid and then following this line, rebuilding on more or less solid French wall core.

When operations around the west curtain wall neared bedrock, it was seen that immediately south of the fallen section, construction was on solid bedrock which accounts for the relatively stable condition of the wall.

Where the west wall had collapsed, investigations showed that although the wall may originally have been constructed on bedrock, large sections had sheared off, likely from the weight of the wall itself and through frost and water action since natural drainage tends toward the S.W. on the west side of Castle Hill.

Work in the entranceway of the fort showed there to have been flagstones mortared to bedrock. Several of these were found in situ and in the course of our stabilization work, these were cemented in place and several more were added in order to produce a more consolidated picture in this area (Fig. 13).

In conjunction with the above, and after the N.E. corner of the entrance was re-established, the foot bridge was replaced on an axis thought to be more in line with the original. At present it provides adequate access to the interior of the redoubt and has been adjusted so as to be level with the restored flagstones in the entrance.

This structure will suffice for the present but it is thought that a more historically representative bridge should be installed in the future (Grange 1967:49; Plate 15).

Investigations of trails were carried out for future development at the request of the Park Superintendent and several of these have been outlined. The original trail providing access to Castle Hill from the town of Placentia was investigated and seen to terminate in what is now the Jersey Side town dump. If this is to be developed for use as a tourist feature, long range plans should include re-location of the dump area.

A second trail leading to a detached gun emplacement was also investigated. Located immediately behind the Castle Hill interpretation centre, this relatively accessible trail leads to a knob of rock, now overgrown, on which stood a secondary battery of guns overlooking the beach of Freshwater. Remnants of dry stone masonry can still be seen here and this area would afford another view of Castle Hill and its' related defences without too much clearing.

Finally, on the easternmost boundary of Castle Hill National Historic Park stands a redoubt, referred to by the French as the Gaillardin. Investigations of this structure during 1969 showed the structure to be of dry stone masonry, overgrown with shrubs and surrounded by trees. Without too much difficulty this structure can be reached by a short trail immediately behind the water tower which serves the town of Jersey Side. Should a decision be made to develop this structure as a tourist attraction, plans should first be made to stabilize the Gaillardin because of its' deteriorated nature. Local informants told us of a similar structure, restored some years

ago, on U.S. Naval property but investigations failed to turn up any evidence of this structure. Further investigations however might prove fruitful if plans to restore the Gaillardin and its' associated trail are being considered for a future date.

As for the end of the 1969 field season, archaeological investigations of the redoubt and surrounding revetment walls were completed. Should further park development be anticipated in future, however, archaeological investigations might be advisable for structures and features related to the defence of Castle Hill.

REFERENCES

GRANGE, ROGER T., JR.

1967

Excavations at Castle Hill. National Historic Sites Service
Report No. 285, Ottawa.

1969

Excavations at Castle Hill, Newfoundland, Structural Report 1968.
National Historic Sites Service, Report No. 406, Ottawa.

RICK, JOHN

1965

Archaeological Excavation System of the Natural and Historic
Resources Branch, National Historic Sites Service, Report No. 209,
Ottawa.

TABLE 1

Lot-Layer Correlation

Layer	Lot
1 Sod Modern, 20th century	2A10K1
2 Reddish-brown earth and mixed rubble English 1757-1765	2A4A12, 2A8C1, 2A10K2, 2A10J15
3 Brown earth and medium rubble French 1690-1700	2A9N1, 2A10J14
4 Topsoil and gravel English 1757-1765	2A9M1
5 Brownish clay, mortar rubble and stone French 1690-1700	2A4A13
6 Brown clay, large rock rubble, and mortar 1714-1757 deterioration between occupations	2A4A14
7 Grey mortar, medium rubble, and sand French 1690-1700	2A4A15
8 Reddish-pink to dark purple clay pre-1690	2A4A16, 2A7A5, 2A10K3, 2A9M6
9 Red-brown clay and gravel English 1757-1765	2A9M2, 2A7A2
10 Red-brown gravel and brick fragments French 1700-1714	2A9M3
11 Gravel and angular rock rubble French 1690-1700	2A9M4
12 Black clay French 1690-1700	2A9M5
13 Mixed mortar, clay and gravel English 1757-1765	2A7A3

TABLE 1 (Cont'd)

Layer		Lot
14 Grey mortar and ash French 1690-1700		2A7A4
15 Beach gravel and earth Modern fill 1965 and mixed fill 1690-1969		2A7A1, 2A10L1

FIGURES

Figure 1.

Map of site 2A showing limits of excavations
with reference to Sub-operations excavated in
1965 and 1968.

FIGURE 1

DRAWING No. 2A-68-102-4

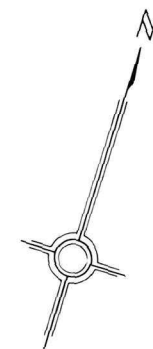
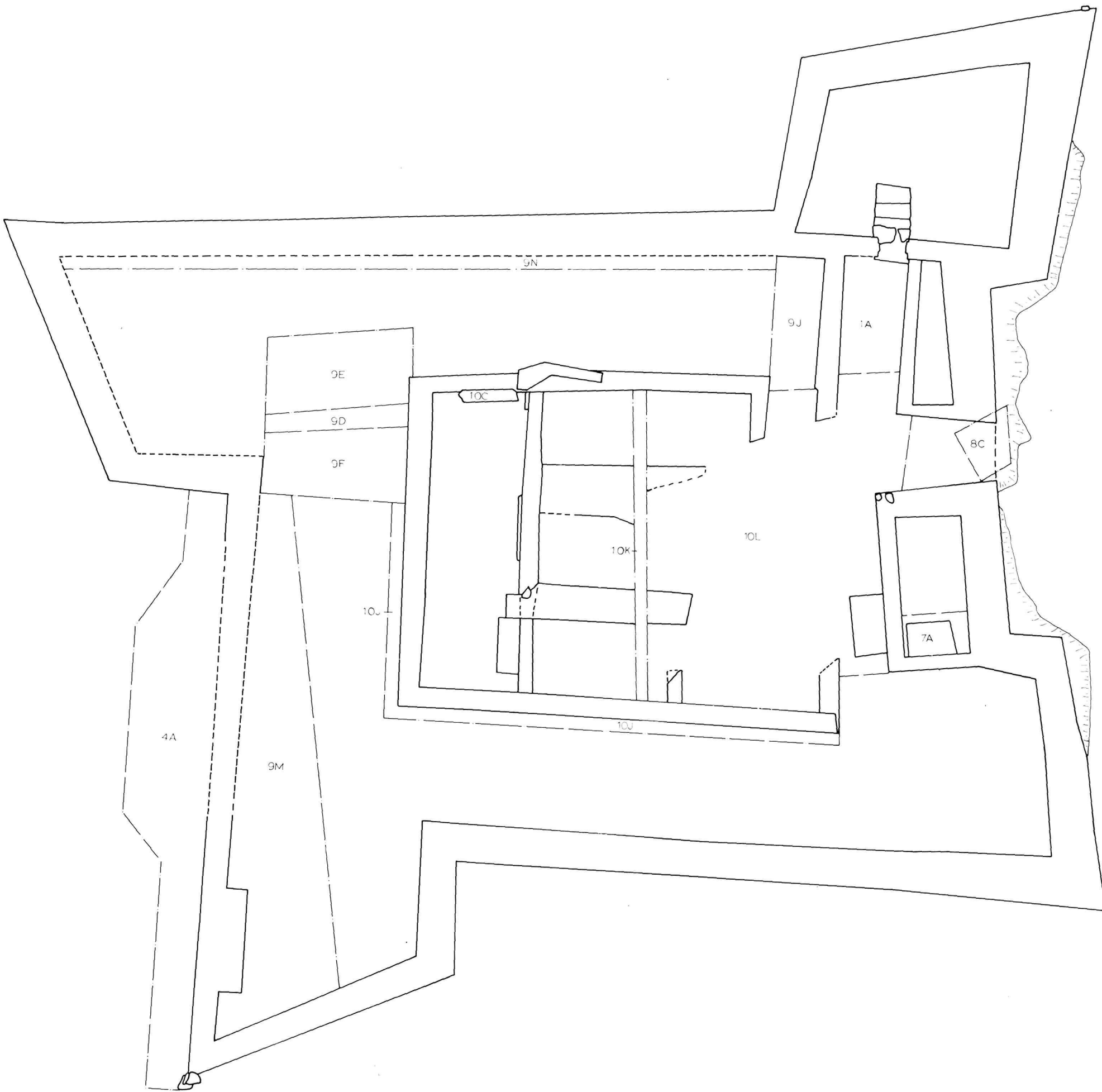


Figure 2.

Sub-operation 2A4A, exterior of the west curtain wall after excavation and before stabilization.

FIGURE 2

DRAWING No. 2A-70-102-1

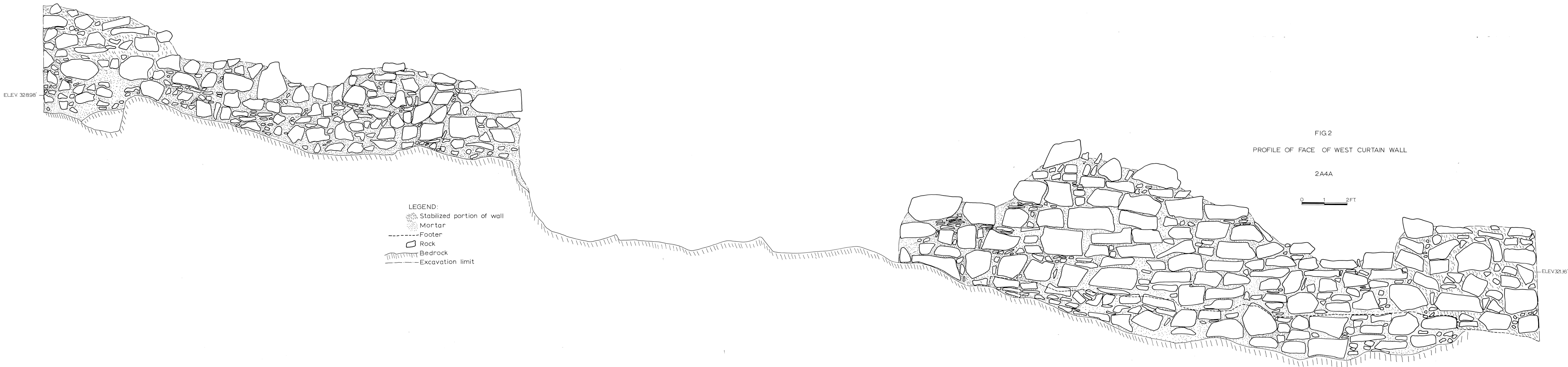


Figure 3.

Sub-operation 2A7A, showing a plan view of
the French fireplace before stabilization.

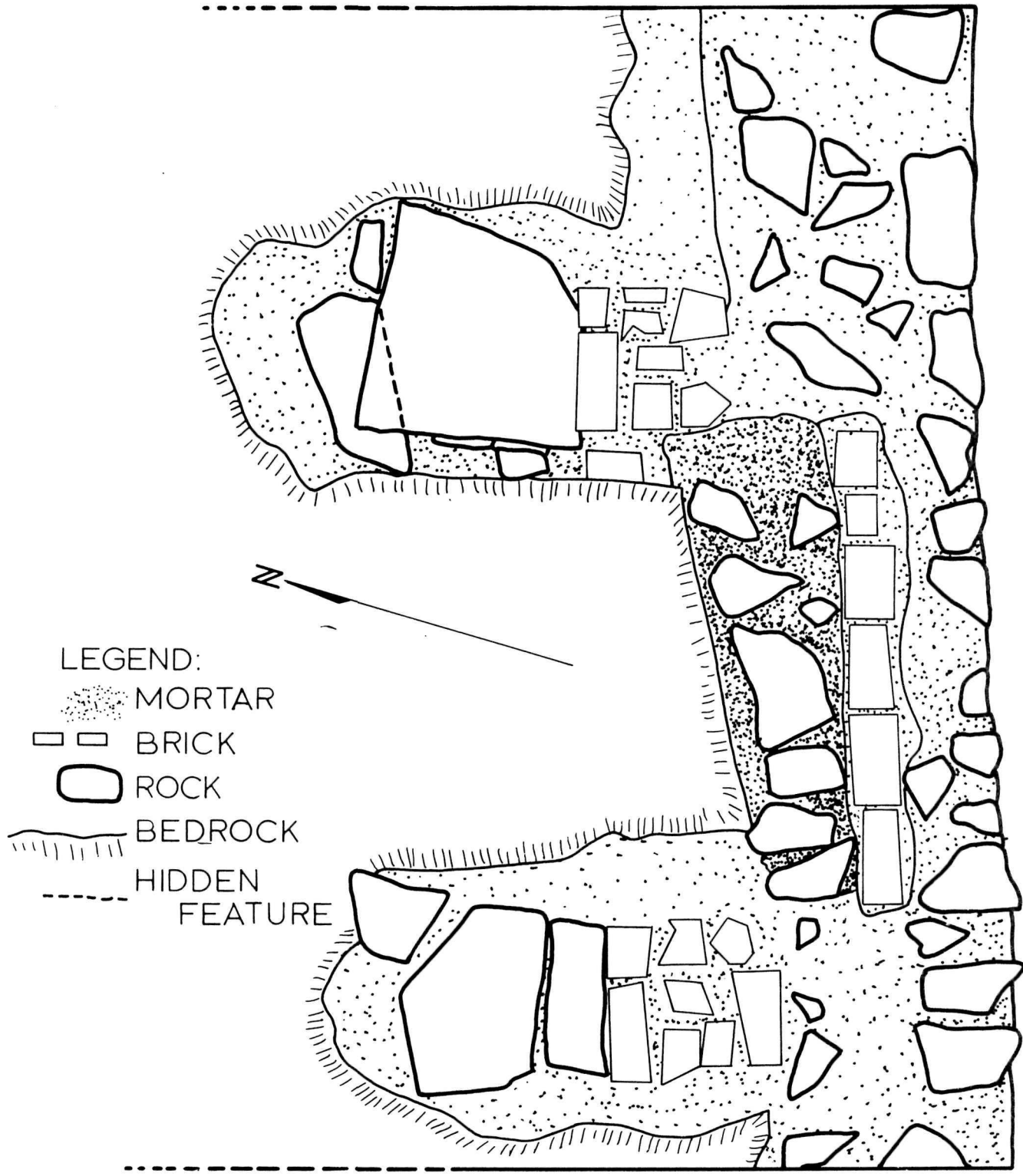


FIG.3
PLAN VIEW OF FIREPLACE
2A7A



Figure 4.

Sub-operation 2A8C, showing excavation limits
and restored flagstones in the entranceway.

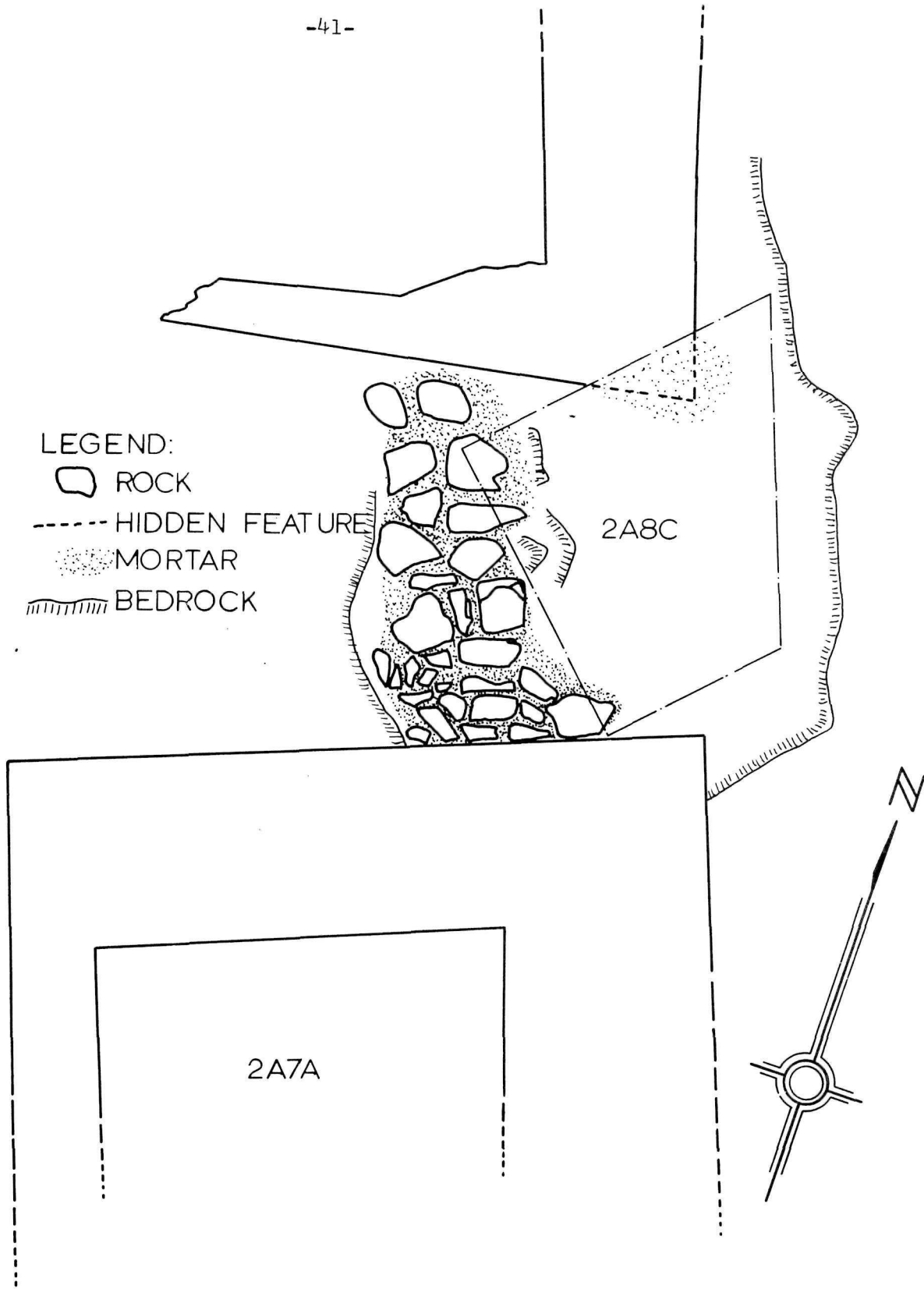


FIG. 4
PLAN VIEW
2A 8C

0 1 2 3 4 5 FT.

Figure 5.

Sub-operation 2A9M, interior of the west curtain wall after excavation and before stabilization.

FIGURE 5

DRAWING NO. 2A-70-102-2

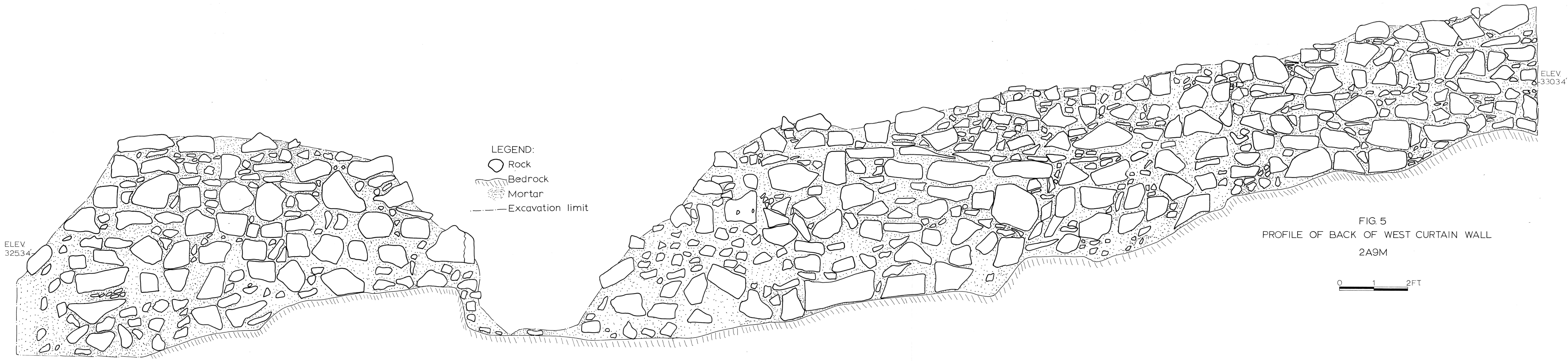


Figure 6.

2A-26 M: North end of west curtain wall looking east
before excavation. Sub-operation 2A4A.

Figure 7.

2A-27 M: South end of west curtain wall looking S.E.
before excavation. Sub-operation 2A4A.



Figure 8.

2A-7 X: Top of west curtain wall looking south during excavation. Sub-operation 2A4A.

Figure 9.

2A-24 X: Top of west curtain wall looking south at the centre section being rebuilt. Sub-operation 2A4A.



Figure 10.

2A-14 M: British hearth base looking south as uncovered
in 1969. Sub-operation 2A7A.

Figure 11.

2A-18 M: French fireplace looking south as found beneath
British hearth. Lot 2A7A4.



Figure 12.

2A-10 M: French fireplace restored, before final levelling looking south. Sub-operation 2A7A.



Figure 13.

2A-7 T: Flagstones in entranceway looking east.
Sub-operation 2A8C.

Figure 14.

2A-8 T: Restored N.W. corner of entranceway and flagstones
looking west. Sub-operation 2A8C.



