ARCHAEOLOGICAL RESEARCH AT FORT ALEXANDER, HANALEI, KAUAI

by

Patrick McCoy

with

Appendix. A Brief Historical Sketch of Fort Alexander

by

Catherine Stauder, Kauai Museum

Prepared for:
Princeville Corporation
Hanalei, Kauai

and

Lalakea Corporation
Honolulu, Hawaii

December 1973

Department of Anthropology
BERNICE P. BISHOP MUSEUM
Honolulu, Hawaii
PREFACE

Plane-table mapping and test excavations were undertaken at Fort Alexander by the Department of Anthropology, Bernice P. Bishop Museum, through a contract provided by Princeville Corporation and Lalakea Corporation. Mr. Dorn A. Carswell, Project Manager for Princeville Corporation's Hanalei Development, was instrumental in requesting archaeological research at the fort prior to finalizing commercial development plans for the land it occupies. Mr. Carswell is sincerely thanked for furnishing several hand tools and a backhoe used in the excavation of the fort wall. Gratitude is also expressed to the contractors for the comfortable house and vehicle provided us.

To my field assistants, Paul Cleghorn, Neal Oshima, and Aki Sinoto, I am most grateful for their pleasurable company and fine efforts in completing the work.

Aki Sinoto and John McLaughlin drafted the illustrations. Bonnie Greene edited the report, and with Dr. Yoshihiko Sinoto provided useful remarks on improving the format.
## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>SITE LOCATION</td>
<td>1</td>
</tr>
<tr>
<td>GENERAL DESCRIPTION</td>
<td>1</td>
</tr>
<tr>
<td>EXCAVATIONS</td>
<td></td>
</tr>
<tr>
<td>Structure 1</td>
<td>2</td>
</tr>
<tr>
<td>Structure 2</td>
<td>5</td>
</tr>
<tr>
<td>Backhoe Trenches</td>
<td>6</td>
</tr>
<tr>
<td>SITE USAGE</td>
<td>7</td>
</tr>
<tr>
<td>COMPARISON WITH FORT ELIZABETH</td>
<td>7</td>
</tr>
<tr>
<td>RECOMMENDATIONS</td>
<td>8</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>8</td>
</tr>
<tr>
<td>APPENDIX. A Brief Historical Sketch</td>
<td>26</td>
</tr>
</tbody>
</table>

## ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Map of Kauai, Showing Fort Alexander Project Area.</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Portion of Map Drawn in 1887 by George Jackson.</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>a. Plan View of Fort Alexander.</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>b. Profiles of Fort Alexander.</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>Plan View of Structure 1, Stone Outline in Fort Alexander.</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>View of Structure 1, Fort Alexander</td>
<td>14</td>
</tr>
<tr>
<td>6</td>
<td>Plan View of Structure 1 Excavations</td>
<td>15</td>
</tr>
<tr>
<td>7</td>
<td>Oval Hearth Excavated in Center of Structure 1.</td>
<td>16</td>
</tr>
<tr>
<td>8</td>
<td>Detail of Excavation in Center of Structure 1.</td>
<td>17</td>
</tr>
<tr>
<td>9</td>
<td>Stratigraphic Profiles of Structure 1 Excavations.</td>
<td>18</td>
</tr>
<tr>
<td>10</td>
<td>Anchor Stone Found in Structure 1</td>
<td>19</td>
</tr>
<tr>
<td>11</td>
<td>Plan View of Structure 2</td>
<td>20</td>
</tr>
<tr>
<td>12</td>
<td>Plan View of Structure 2 Excavations</td>
<td>21</td>
</tr>
<tr>
<td>13</td>
<td>Stratigraphic Profile of North Face of Structure 2 Excavation.</td>
<td>22</td>
</tr>
<tr>
<td>14</td>
<td>Stratigraphic Profile of East Face of Backhoe Trench 1</td>
<td>23</td>
</tr>
<tr>
<td>15</td>
<td>Stratigraphic Profile of East Face of Backhoe Trench 2</td>
<td>23</td>
</tr>
<tr>
<td>16</td>
<td>Diagrammatic Sketch of Fort Wall Construction</td>
<td>24</td>
</tr>
<tr>
<td>17</td>
<td>Stratigraphic Profile of North Face of Backhoe Trench 3.</td>
<td>25</td>
</tr>
</tbody>
</table>
INTRODUCTION

Mapping and test excavations were undertaken by the Department of Anthropology, Bernice P. Bishop Museum, between October 1 and 6, 1973, at Fort Alexander, Kauai, with the aims of determining:

(1) the technique of wall construction and stage of completion of the fort at the time of abandonment;

(2) the function of two structures within the fort.

In addition, it was hoped that artifacts would be recovered to provide a basis for informative statements on site usage to complement the sketchy nature of existing written accounts.

SITE LOCATION

Fort Alexander is located on Puu Poa Point on the E side of Hanalei Bay at 159°50' W longitude and 22°15'50" N latitude (Fig. 1). The point commands a broad view of the bay, the mountains surrounding it, and a wide expanse of ocean. The W wall of the fort runs along the edge of a high, precipitous cliff. This cliff and the walls of a gully on the S (Fig. 2) act as barriers to access, and must have been major criteria, along with elevation, in site selection. These combined factors make the site a strategic location for a fort.

The fort is also in an advantageous position with regard to acquisition of foodstuffs and water, since fish and shellfish are readily available in the waters below. Information presented in the historical sketch suggests that the marshland below the fort on the S was a fishpond prior to 1849, a view independently communicated to me by Bill Kikuchi (personal communication). If this is true, then there would have been another ready source of protein. It is possible that the plateau on which the site is located was also planted in gardens at the time of fort occupancy.

GENERAL DESCRIPTION

The fort is a roughly oval, earthen-wall outline with a maximum interior diameter of 110 meters along a NE-SW axis. The maximum interior breadth perpendicular to that line is about 80 meters. A modern road runs through the fort and intersects the walls at three points (Fig. 3). The wall varies little in width at the base, averaging 7 to 8 meters. This dimension and the precise height of the wall are difficult to establish because the site has been plowed, both inside and outside of the existing walls. At the highest point on the SW rim (backhoe trench 2 location) the wall is 1 to 1.1 meters above present ground surface. On the NE (backhoe trench 3 location) the top of the wall is 85 to 95 cm above ground surface. These figures correlate well with the mid-nineteenth-century descriptions. Two accounts in the 1840s, by Chester Lyman and William Dowitt Alexander (see historical appendix), are consistent in estimates of wall height at 3 to 4 ft. Gorham Gilman

1
observed in 1845, however, that the walls had fallen and that only a slight ridge remained; it is possible that the walls were originally higher than indicated by the reports of the 1840s.

With the exception of the unique W portion bordering the cliff, the wall is a smooth curve in profile (Fig. 3) with no flat-topped surface for the placement of large artillery. This may, of course, be a function of plowing. The W wall exhibits along part of its course a narrow, raised embankment, also a smooth curve in profile. Unlike the rest of the wall, however, the peak is set not in the center of the wall, but toward the outer margin—the edge of the cliff. The raised embankment on the seaward side must have been designed to retard shell bombardment from ships offshore, since the fort occupants could hardly expect ground attack from the cliff side, which is difficult to scale and easy to defend. The shallow coral reef below the fort acted in favor of the fort occupants since it would have forced ships to lie further offshore, thereby increasing the range of cannon fire. In terms of defense, one would expect a higher embankment on the E half of the fort, which is the most vulnerable to attack.

On the W wall are several small depressions which have been regarded by casual observers as possible gun emplacements. It appears that these holes may be products of World War II activity at the fort, since the excavations appear to be relatively recent. The holes are also much too small for setting a cannon—they measure at most 1 meter by 50 cm and 50 cm deep.

Within the fort walls are two stone outlines, situated on low earth mounds. These structures were subjected to excavation and are described in detail in the following section.

EXCAVATIONS

Using trowels and a small pick, test trenches were cut through the two structures inside the fort. In addition, a backhoe was used to cut two trenches through the fort wall and to excavate a stratigraphic control pit adjacent to one of the structures. The excavated material was examined carefully for midden and artifacts, but was not screened due to the almost complete absence of such materials. The structure walls and features were left intact at the conclusion of the excavations, and the trenches were backfilled. All excavation records, including plans, feature descriptions, stratigraphic profiles, and the artifact inventory, in addition to photos and the artifacts themselves (except a large stone anchor which is now stored in Kauai Museum) are housed in the Department of Anthropology, Bernice P. Bishop Museum.

Structure 1

The southernmost of the two stone outlines was designated Structure 1. It is a rectangle measuring 5.3 by 3.3 meters, situated on a low, earth mound roughly 8.4 by 6.0 meters (Figs. 4 & 5). The mound has been disturbed by plowing, which extends up to the stone outline. At most the mound appears to have been elevated 30 to 50 cm above the uniformly
flat ground surface. The stones outlining the structure project a maximum of 22 cm above present ground surface; most of them are only 10 to 15 cm high and are well-rounded-to-subangular stones averaging about 20 cm in diameter.

In the SE and NE corners of Structure 1 are traces of two parallel courses of stones, a type of feature that was found elsewhere in the excavations. Perpendicular to the S wall and adjoining it is a single course of stones extending 1.5 meters to the center of the structure, at which point it is joined by a stone at a nearly right angle, suggesting a corner.

Initially, a 1-by-7-meter trench was cut perpendicular to the N-S walls, extending from the earth mound base on the S through the interior stone alignment to the limits of the mound on the N (Fig. 4). This trench was intended to provide information on the vertical relationship of the foundation of Structure 1 to the mound, the technique of wall construction, the nature and contents of the floor, and the function of the short interior wall. For convenience in description the trench was divided into seven 1-meter squares. (Discovery of a feature in square 4 made it necessary to open a larger area for full exposure.) Three additional 1-meter squares were excavated in a second trench, perpendicular to the first. Squares 8, 9, and 10 (Fig. 4) were designed to expose more of the floor and to test our speculation that the gap between the two large stones on the N wall marked the doorway.

Excavation revealed that the walls were built in three courses of stones, up to a maximum height of 30 to 35 cm. The walls are slightly battered--sloping inward from the base--and selection for rounded stones is evident. The lowest course is made up of the largest stones (35 to 40 cm average length), which are also better fitted than the two courses above. The stones of the exterior face are neatly aligned (Fig. 6). Smaller stones were placed against the interior side of the lowest course to provide a wider base on which to stack the second and third courses. There is no indication in the stratigraphic profiles that a small trench was dug in which to set the bottom course of stones; rather they appear to have been placed against the edge of the mound and earth packed in around them.

Three features are apparent amongst the jumble of stones in the center of the structure. The most obvious is an oval-shaped stone outline with interior dimensions of 95 by 65 cm. In the NW portion of this outline is a charcoal deposit, 5 cm maximum in thickness (Figs. 7 & 8). No fire-cracked rock was found with the charcoal and the feature is thus interpreted as a hearth used for warmth, rather than for cooking.

On the E side of the charcoal concentration is a postmold measuring 19.20 cm in diameter at the top, 11 cm in diameter at the bottom, and 48 cm deep. The top of the mold is level with the surface of the charcoal deposit. The postmold must postdate the hearth since it was cut into it. This might have been the location of the flagpole to which Shaffer alluded in a description of an uprising (see historical appendix). The location is appropriate--almost in the center of the fort.
Bordering the posthole on the S and E is part of another stone alignment that, with the S wall of the hearth and end stone of the interior wall, encloses a 35-cm-square space. The enclosed area is filled with small, loose stones. Below that fill is a layer of intact stones suggesting a paving, lying horizontally and extending beneath several of the alignment stones. Between this "paving" and the loose fill several pieces of charcoal were found; the charcoal and the size of this stone outline indicate that this area was a second hearth (Fig. 8).

A variety of evidence exists that suggests a series of events in the center of Structure 1. The principle of superposition is the basis for distinguishing the sequence of five events:

(1) construction of an interior wall adjoined on one end to the S wall of Structure 1, perhaps originally extending across the full width of its interior;
(2) construction of a large oval hearth;
(3) placement of a post cutting through the hearth;
(4) construction of a small square hearth with a lining of flat stones on the bottom;
(5) abandonment of the structure and filling of both hearth areas with small stones.

Location of the "paving" stones in the later hearth beneath the alignment of the earlier hearth does not negate the temporal sequence proposed here. It appears that the stones forming part of the S wall of the lower hearth were removed while the paving stones were laid, and then set back in place. The minimal vertical separation between the features suggests that they are close in time, perhaps within a span of only a few years. Assuming that the posthole represents the flagpole indicates the possibility that the structure with a central fire hearth was occupied prior to raising the flag, and that the structure was re-occupied as a dwelling, and a second hearth was constructed, following the removal of the flagpole.

Excavation of square 10 through the W wall of Structure 1, while not conclusive, did lend some support to our assumption that the open space between the two long stones was the doorway. Only a few stones were located inside of the wall, two of which are large flat slabs resting almost horizontally on the floor. They might well have been originally juxtaposed to the other smaller stones, and functioned as a doorsill.

Profiles of the trenches (Fig. 9) indicate that the walls and interior features of Structure 1 are set in layer I, a dark-brown-to-dark-yellowish-brown (10YR 3/3.5)* silty clay. Layer II, of undetermined thickness, is a dark-yellowish-brown (10YR 4/4), silty clay differing from the top layer in the absence of rootlets and presence of weathered pebbles. The soils on the site are part of the Makapili silty clay series (Foote et al., 1972).

Three artifacts and one piece of unworked coral were recovered in the Structure 1 excavation. Two of the artifacts, a piece of brass and
a broken fragment of a basalt abrading stone, were found between the hearth area and S wall at the same level as the wall. Their locations are noted in Fig. 6. The third artifact is a stone anchor, located in the excavation plan (Fig. 6) and illustrated in Fig. 10. It is an oddly shaped anchor, weighing 75 pounds. The hole for line attachment was bi-conically drilled; however, it is broken and rounding of those surfaces shows that this occurred some time ago. It appears to have been unknowingly collected with the other stones used in the construction of the walls.

Structure 2

Structure 2, about 18 meters to the N of Structure 1, is a similar, rectangular, stone outline, situated on a low earth mound measuring 8.1 by 7.5 meters. The outline measures 4.3 by 3.2 meters maximum (Fig. 11). While it is smaller than Structure 1, and there are fewer visible stones in the foundation, there are a greater proportion of larger stones (40 to 50 cm in length); almost all are well rounded stones. No structural features were apparent in the center of the outline before or after excavation.

The approach to excavation followed the aims described for Structure 1, except that in this case there were no internal features dictating the placement of the trench. A trench 1 meter wide and 7 meters long was put through the E and W walls where the alignment was still intact.

The walls of Structure 2 are similar to those of Structure 1--large stones were used to form the exterior face, with small stones placed against the inside of this primary alignment. Structure 2 walls differ, however, in that there is only a single course of stones which is not as neatly constructed and does not exhibit a batter. Excavation revealed that the W wall was set into a small trench that was then filled (Fig. 12).

The stratigraphic profile of the N wall of the Structure 2 excavation (Fig. 13) shows that the walls lie in layer I, which is the same soil as that described for the top layer of Structure 1. Layer II is likewise similar in its physical properties to the second layer at Structure 1, except that it differs a bit in color--it is yellowish-red (10YR 4/8). This is a function of lateral variation in color, which is also evident in the Structure 2 trench itself.

One piece of aluminum was found just below the surface in the center of the foundation. The metal is twisted, apparently as the result of an explosion; it has been suggested that it might have been the fuse of a World War II mortar, since there are some reports of target practice in the area at that time.

*Munsell color chart notation
Backhoe Trenches

Backhoe trench (BT) 1, adjacent to Structure 2, exhibits a simple profile of four natural layers (Fig. 14). Disturbances are apparent in the SE corner of the pit. Pedological descriptions of the layers follow:

<table>
<thead>
<tr>
<th>Layer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Dark-yellowish-brown (10YR 4/4) silt; subangular blocky; friable, non-sticky, slightly plastic; fine-to-medium rootlets; abrupt, smooth boundary</td>
</tr>
<tr>
<td>II</td>
<td>Yellowish-red (5YR 4/6) silty clay; subangular blocky; friable, sticky, plastic; abrupt, smooth boundary</td>
</tr>
<tr>
<td>III</td>
<td>Yellowish-red (5YR 4/6) silty clay; subangular blocky; firm, sticky, plastic; few weathered red pebbles; abrupt, smooth boundary</td>
</tr>
<tr>
<td>IV</td>
<td>Yellowish-red (5YR 4/6) silty clay; subangular blocky; firm, sticky, plastic; weathered pebbles less than 5 cm in diameter; thickness unknown</td>
</tr>
</tbody>
</table>

Three major stratigraphic layers and a series of five lenses were found in the BT2, cut through the fort wall on the S (Fig. 15). The basal layer, III, is a silty-clay B-horizon soil of unknown thickness and within which several subdivisions can be recognized. Layer II, an artificial fill of topsoil (maximum 1 meter thick) and interbedded lenses of reddish-brown and yellowish-red silty clay forms the wall. Laboratory analysis of a column of soil (a monolith) would be required to determine the boundary between the B horizon and original A horizon developed over it. From the center of the mound to the S side, layer II is homogeneous. It is significant that the silty clay lenses are found only on the N side of the wall, all truncating in the center, and that they are progressively smaller in horizontal extent from bottom to top. This arrangement and the fact that layer II is thickest on the S suggests that the outer slope of the wall was built up first to the center of the wall at which time loads of firmer silty clay were spread out, compacted, and looser topsoil put on top in alternating fashion to complete the wall. This postulated sequence of events is illustrated in Fig. 16. An A-horizon soil (30-cm maximum thickness) has developed over the wall since its construction.

The BT2 soil profile is described:

<table>
<thead>
<tr>
<th>Layer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Dark-brown to dark-yellowish-brown (10YR 3/3.5) silty clay; crumb-blocky; friable, non-sticky, slightly plastic; abrupt, smooth boundary</td>
</tr>
<tr>
<td>II</td>
<td>Dark-brown to dark-yellowish-brown (10YR 3/3.5) silty clay; blocky; friable, non-sticky, slightly plastic; abrupt, wavy boundary on N side, otherwise smooth</td>
</tr>
</tbody>
</table>
III

Reddish-brown (10YR 4/3) silty clay; subangular blocky; friable, sticky, plastic; vertical and lateral variation in color; weathered pebbles; thickness unknown.

The stratigraphic profile of the wall on the N (BT3) shows the same major units, but there is only one large lens of reddish-brown silty clay in the center of the wall (Fig. 17). Too, the fossil A horizon developed on the basal layer, IV, is distinguishable on most of the section from the fill of topsoil overlying it. On this part of the wall the layer II fill is again thickest on the outer slope, suggesting that the side of the wall perhaps was built up first. The soil descriptions from BT2 apply here.

SITE USAGE

The presence of only two small structures on the fort grounds, and the paucity of artifacts on the surface and in the excavations, are evidence that the fort was never completed—a view confirmed by a hunter-trapper with the Russian-American Company (see historical appendix). There is little material evidence for many troops and lengthy occupation. A dump has yet to be located, but if one existed and is intact, it would obviously provide a substantially greater amount of information than is presently available.

A unifacially flaked basalt scraper, found on the surface, is in all probability Hawaiian in origin. It introduces the question of earlier Hawaiian utilization of Puu Poa Point. Except for this flake there is no positive indication of such use.

COMPARISON WITH FORT ELIZABETH

In view of scanty artifactual and structural data there is little basis for comparison of events and activities at Fort Alexander and Fort Elizabeth at Wai'anae. The Hanalei fort is nearly as large as Fort Elizabeth, but the oval plan and wall construction are markedly different [McCoy 1972]—the walls of Fort Elizabeth are high (3 to 4 meters) and faced with stone, as contrasted to the low, earthen walls of Fort Alexander. No part of the wall, which is complete, is even partially faced with stones, or are there stockpiles of stones ready for such work. Despite its strategic location, Fort Alexander exhibits none of the defensive characteristics, such as steep walls and star-like projections, of Fort Elizabeth. According to Shaffer, however, the fort was palisaded (see historical appendix).
RECOMMENDATIONS

The importance of Fort Alexander as an historical site rests not so much in its appearance and the structural and artifactual materials contained within it, but in the fact that it is one of two surviving Russian forts in Hawaii. Despite its poorer visual appeal, Fort Alexander provides an interesting contrast to Fort Elizabeth, and the two together represent a unique part of Hawaii's post-contact-period history. Based on this historical appraisal, it is recommended that the fort, including the two structures inside it, be left intact for public viewing.

REFERENCES


Fig. 2. PORTION OF MAP DRAWN IN 1887 BY GEORGE JACKSON. Location of Fort Alexander is labeled "Old Russian Stockade".
KA - D10 - 11
Structure 1

Fig. 4. PLAN VIEW OF STRUCTURE 1, STONE OUTLINE IN FORT ALEXANDER.
Fig. 5. VIEW OF STRUCTURE 1, FORT ALEXANDER, FROM NE, AFTER EXCAVATION.
FIG. 6. PLAN VIEW OF STRUCTURE 1 EXCAVATIONS, SHOWING LOCATION OF ARTIFACTS.
Fig. 7. Oval hearth excavated in center of structure 1.
Fig. 8. DETAIL OF EXCAVATION IN CENTER OF STRUCTURE 1, SHOWING HEARTH AND POSTHOLE.
a. East face of squares 1 through 7

b. South face of squares 8, 4, 9, and 10

Fig. 9. STRATIGRAPHIC PROFILES OF STRUCTURE 1 EXCAVATIONS.
Fig. 10. ANCHOR STONE FOUND IN STRUCTURE 1.
KA-D10-II
Structure 2

Fig. 11. PLAN VIEW OF STRUCTURE 2.
Fig. 14. STRATIGRAPHIC PROFILE OF EAST FACE OF BACKHOE TRENCH 1.

Fig. 15. STRATIGRAPHIC PROFILE OF EAST FACE OF BACKHOE TRENCH 2.
Fig. 16. DIAGRAMMATIC SKETCH OF FORT WALL CONSTRUCTION.
Fig. 17. STRATIGRAPHIC PROFILE OF NORTH FACE OF BACKHOE TRENCH 3.