ARCHAEOLOGICAL INVESTIGATIONS AND SUBSURFACE TESTING FOR THE CONSTRUCTION OF THE TAFUNA PLAINS SEWAGE COLLECTION SYSTEM, KOKOLAND EXTENSION, TUTUILA ISLAND, AMERICAN SAMOA
MARCH 1996

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ORIGINAL ILLUSTRATIONS AVAILABLE UPON REQUEST

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Abstract

At the request of the American Samoa Power Authority, Wastewater Division, archaeological investigations have been conducted for the purpose of evaluating potential cultural resources and to further assess previously identified cultural resources along the proposed Tafuna Plains-Kokoland Sewer System Extension project, Tutuila Island, American Samoa.

During current investigations five sites with component features were assessed. These sites and features were within or adjacent to the potential impact area along the sewer line. These included a star mound (Site AS-31-41), a raised area with associated stone alignments and walls (Site AS-31-42), and a cluster of stone features with associated lithic implements (Site AS-31-43). These sites were investigated and mapped using a transit, compass and tape. Surface artifacts from Site AS-31-43 were collected and analyzed. Two additional stone mounds were given cursory examination (Sites AS-31-44 and AS-31-45).

The current investigations also included 27 test trenches excavated with a backhoe and four supplemental shovel test pits (STP) to assess potential subsurface cultural resources along the corridors which will be impacted by the proposed sewer line. These trenches and shovel test pits were excavated in order to determine whether significant historic or prehistoric properties are buried beneath the surface. During the course of the excavations expected natural layers and layers of fill from modern disposal and construction activities were encountered. Historic debris was encountered at the surface and stratigraphic upper layers. The lower layers were sterile and barren of cultural materials and deposits.

Archaeological Consultants of the Pacific, Inc. (ACP) has made a "no adverse effect" determination (in accordance with Section 106 of the National Historic Preservation Act and the policies set forth in 36 CFR 800.5 (d) of the Advisory Council Regulations) for Sites AS-31-41, AS-31-42, AS-31-43, and AS-31-44. However, it should be noted that the sewer line right-of-way (ROW) essentially creates a roadway that provides greater access to the sites. This roadway has the potential to facilitate greater and more frequent access to the existing sites. Ultimately, this may open the sites to greater interest, visitation, and possibly "looting and vandalism" (see Herdrich; memo dated 03-08-96). In similar situations, this has been regarded as a potential indirect adverse effect. In the future, this may warrant
data recovery, provided this becomes a future problem in this area. Furthermore, ACP recognizes that these are important historical properties and that additional caution is warranted while conducting construction and maintenance activities in the subject corridor. However, for the purposes of the construction project, sites AS-31-41, AS-31-42, AS-31-43, and AS-31-44 have been adequately investigated and mapped in detail such that a "no adverse effect" determination is justified and no further archaeological work is presently necessary.

Site AS-31-45, however, is located in an area where, due to construction activities and field mechanics, an unavoidable "adverse effect" will occur (36 CFR 800.9 (b)). Therefore, in accordance with Section 106; 36 CFR 800 regulations, ACP recommends further investigation and data recovery for Site AS-31-45 in order to mitigate the effects of construction activities. A memorandum of agreement (MOA) will have to made between the parties involved. A data recovery plan and the field execution of this plan will be necessary.
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Archaeological Investigations and Subsurface Testing for the Construction of the Tafuna Plains Sewage Collection System, Kokoland Extension, Tutuila Island, American Samoa

Section 1: Introduction

At the request of Mr. Bruce Gehrig of the American Samoa Power Authority, (ASPA) Wastewater Division, Archaeological Consultants of the Pacific, Inc., (ACP) conducted an Archaeological Cultural Resource Evaluation for the Tafuna Plains Sewer System-Kokoland Extension located on the Tafuna Plains of the island of Tutuila, American Samoa (see Figures 1 and 2).

The Tafuna Sewer project consists of a system of gravity fed sewer mains and lateral connections that will service existing residences. Septic tanks and cess-pools are currently used for sewage disposal. This potentially threatens the quality of the fresh water supply in the underlying aquifer. Nearby wells are the primary source of fresh water for the immediate area.

The archaeological project included a Phase I (identification phase) and Phase II (evaluation phase) cultural resource evaluation. The purpose of this archaeological resource evaluation was to perform the tasks and meet the requirements specified by the National Historic Preservation Act (NHPA) and the American Samoa Historic Preservation Office (ASHPO). Because the sewer system project is subject to NHPA requirements, ASPA has contracted ACP to conduct the evaluation.

Pedestrian survey and subsurface testing in the form of a series of backhoe trenches along the proposed sewer line was conducted. This also included four shovel test pit (STP) excavations to supplement the backhoe trenches in an area which was impossible to access with the backhoe.

Backhoe testing along existing roads demonstrated that the roadways were highly disturbed. Therefore, additional testing of the subject corridor in locations where the subject corridor was positioned on existing road corridors was deemed unnecessary. Instead, a greater concentration of subsurface testing was placed along areas in the subject corridor which had not been disturbed.

These investigations allow for the evaluation of the significance of historic resources located on the property including their eligibility for inclusion in the National Register of Historic Places. These investigations also allow for the making of recommendations concerning the mitigation of the impact of future construction activities upon potentially significant historic resources.
Figure 1: Project Location on a Map of Tutuila

source: Kirch and Hunt 1993

Tafuna Plains Sewer System - Kokoland Extension

source: University of Hawaii Press 1980
Figure 2: Subject Property on a U.S.G.S. Topographic Map

Tafuna Plains Sewer System - Kokoland Extension

source: U.S.G.S. Topographic Map of Tutuila Island 1989
In addition to the above evaluation of the proposed sewer system, at the request of ASPA and ASHPO, a Phase II cultural resource evaluation was conducted by ACP for previously recognized sites and features located adjacent to or within the immediate area of the subject property (the proposed sewer line extension). These were originally located by Jeff Fentress during a pedestrian survey of the Kokoland-Tongaville sewer project on 5, September 1995 (see Figure 3 and Appendix B). This evaluation included additional assessment and mapping conducted at a cluster of features located behind the Fatuoaiga Church complex (Site AS-31-43) and a star mound (Site AS-31-41) located immediately to the northwest side of manhole 2ME7-1 (note: throughout the text, alphanumeric codes with a dash, such as 2ME7-1, indicate a manhole, while codes without a dash, such as 2ME7, indicate a main), adjacent to the proposed corridor of the sewer extension.

Additional sites and features located adjacent to and within the subject area were also located (Sites AS-31-42, AS-31-44, and AS-31-45). These were briefly assessed for historic significance and potential effects which would warrant future mitigation.
Figure 3: Subject Property with Site Locations

Tafuna Plains Sewer System - Kokoland Extension

Source: ASPA Wastewater 1995
Section 2: Physical Setting

The Tafuna Plains Sewer System project area is located within Tualauta County, Island of Tutuila, American Samoa; geographical grid coordinates 170 43'53"W to 170 44'15"W by 14 19'44"S to 14 20'12"S, and UTM (Universal Transverse Mercator) coordinates 528286mE to 529048mE by 8415762mN. The project area is adjacent to the Pago-Pago International Airport (directly west from the airport). The parcel is at an elevation of between 60 and 120ft AMSL (feet above mean sea level) and approximately 2 to 3km from the coastline. The investigated subject area measures approximately 5650ft long and no more than 30ft wide with the exception of the star mound and the cluster of features behind the Fatuoaiga Church complex.

The subject property consists of a series of corridors which are located within sections of the Tafuna Plain. These sections of the Tafuna Plain are mostly utilized for occasional clusters of residential structures, small gardens and patches utilized for growing scattered fruit tree gardens. A large portion of the area is uncultivated. These areas have a dense vegetation consisting of fruit trees (primarily banana (Musa sp.), coconut (Cocos nucifera), breadfruit (Artocarpus communis), and papaya (Carica papaya), scattered gardens and secondary growth. Larger trees are intermittently scattered throughout the plain. Banyan (Ficus benghalensis), ferns and vines are common. This area has a number of secondary roads which cross cut the residential sections in the Tafuna Plain. The proposed sewer line crosses and follows some segments of these unpaved secondary roads.

The Atlas of American Samoa (Atlas 1981) depicts the expected soils on the Tafuna Plain within and near the subject property as being of three possible types: 1.) Tafuna Extremely Stony Muck; a thin, organic soil that is well drained, extremely stony, highly permeable with an extremely low water holding capacity. The colors range from black to dark brown or dark grayish brown. The soil supports mixed forest. It is underlain by fragmented a’a lava to about 110cmbs (centimeters below surface). Bedrock is reached from approximately 60-155cmbs. 2.) Troporthents; a well drained soil composed of rock fragments, sand, gravel, cobbles and some fine textured material. Some areas are filled with coral, coral sand, cinders and other materials. There is slow to moderately rapid permeability and the available water capacity is low. The underlying composition is fragmented a’a lava and bedrock. This soil supports mixed forest. 3.) Ill’i’i Extremely Stony Mucky Clay Loam; a shallow well drained soil formed from volcanic ash which is underlain by lava flows. It is extremely stony. The surface is usually composed of black decomposed organic materials. The subsurface is very dark grayish brown extremely stony mucky.
clay loam. The soil is highly permeable with a low available water capacity. This soil supports mixed forest.

Pavaʻiaʻi Stony Clay Loam can be found further inland extending to the base of the mountains.

The Atlas further characterizes the Tafuna soils as silty clay loams, sandy clay loams and bouldery loams. It is composed of an R11 Olivine Pahoehoe Basalt Flow. The Tafuna Plain represents a lava delta formed by Holocene volcanic activity (Sterns 1944). There has been no recorded historical volcanic activity on Tutuila. The area is mostly undeveloped land, managed land for fruit and nut trees, disturbed patches of forest and disturbed patches of lowland and montane vegetation. There are remnants of a mangrove swamp located in the neighboring coastal Nuʻuʻuli area. There are virtually no streams or water drainage ditches due to the composition and slope of the soils. Heavy rains cause the area to flood in a sheeting action. There are a few low areas with standing water. However, water is generally quickly absorbed by the stony porous soils.

The actual soils encountered included few deposits atypical of the expected soils. Many of these were determined to be layers of fill. Imported cinder fill is prominent throughout many of the residential areas and used for residential construction as a land leveling and base structuring material. Some of the secondary roads have also included imported fill materials. Deposits which were typical of the expected soils were predominantly encountered.

Mean average rainfall ranges from 3000-4500mm. The mean annual temperature is 23 degrees Celsius. The Tafuna Plain is relatively flat, never reaching an average slope of over eight degrees.
Section 3: Historic Background

The prehistory of Samoa is intimately linked with that of its neighboring islands and Polynesia as a whole. It has been suggested that a seafaring people, travelling from the islands of Southeast Asia, spread eastward throughout the islands of the South Pacific (Kirch & Green 1987; Jennings 1979). Western Polynesia is believed to have been rapidly explored and colonized from about 1000 to 500 B.C. (Kirch & Hunt 1993b:1). These groups developed a unique material culture that has become archaeologically known as the Lapita cultural complex. This name derives from the distinctive pottery that was crafted by these groups from early occupation until at least A.D. 200 (although recent work has indicated the use of ceramics up to one thousand years later (Clark 1993; Kirch and Hunt 1993). This cultural complex has become well documented over the past several years and will not be reviewed further in this paper.

The Lapita groups are believed to be the first inhabitants of Samoa. Over the millennia, these groups have evolved into groups with an adaptation and culture unique to Samoa with its own mythology and cosmology.

Significant changes in Samoan material culture are evident in the archaeological record from about 1000 B.C. and A.D. 1. Ceramics, in particular, became less decorated or undecorated. Ceramic vessel forms became less elaborate and variable. A Polynesian Plain Ware is recognized as dating to about A.D. 1. Ceramic production and use was thought to have ceased after A.D. 300; although recent evidence indicates that ceramics were utilized until later in Samoa's prehistory.

Samoan's late prehistory is characterized by the introduction of architectural monuments (particularly star mounds, also known as tia lava or tia seu lupe, and ridge top fortifications), which not only served ritual, symbolic and defensive purposes, but are also suggested to represent the rise of powerful chiefdoms (Kirch and Hunt 1993b:4).

Tutuila has also been an important source for good quality basalts. The Tataga-Matau basalt quarry and adze production center represents a sophisticated production center for fine-grained basalt preforms and adzes. A system of trade and exchange which likely utilized organized and managed labor as well as craft specialists likely developed in order to produce export quality preforms and adzes. This has implications concerning Samoa's late prehistoric trade networks as well as the organizational configurations, strategies of production and management of resources and goods.
Section 3.1: Previous Archaeology

Buck (1930) reported on Samoan material culture in the first half of this century. Although a few archaeological sites were mentioned by Buck, no systematic surveys or detailed descriptions with site locations were provided. However, Buck did provide descriptions for some of the early Samoan tool kits and other features. There are additional accounts of Samoan material culture by Kramer (1902) and Handy & Handy (1924). Thompson (1927) and Freeman (1943, 1944a, b, and c) provided some descriptions of Samoan field monuments as well. In 1957, J. Golson spent nearly six weeks on the island of Upolo in Western Samoa where initial survey and limited test excavations were conducted (in Green & Davidson 1969:3).

Modern archaeological investigations in American Samoa began with Kikuchi in the early 1960’s. His island wide survey relied heavily on informant testimony. Many of the sites recorded were not visited (Kikuchi 1963). However, a total of 150 sites were identified including villages, house platforms, platforms, walls, roads, commemorative stone-heaps, forts, caves, springs, wells, propitiatory stones (tupua or spirit stones), an adze quarry, petroglyphs, burials, unknown structures, temples and shrines, sacred areas, and whetstones used for grinding and polishing adzes and also for grinding aya (Kikuchi 1963:157–164). Kikuchi (1963:56–62) reported eight platforms or mounds (tia seu lume) for the Tafuna region. Kikuchi (1963:42) also mentioned the abandoned village of Tafuna, which was located near the airport terminal building. Kikuchi and Sinoto conducted test excavations at nine post contact period sites, many in the Leone area of Tutuila (Emory & Sinoto 1965).

Green and Davidson (1969; 1974; see also Davidson 1969a, 1969b and 1974) compiled lengthy volumes covering archaeological investigation in Western Samoa. These include detailed descriptions, diagrams and photographs of numerous sites, field monuments, archaeological collections, excavations, features and artifacts. A typology for Samoan lithic tool kits was also created (Green & Davidson 1969).

A reconnaissance survey of known sites and unexplored areas on Tutuila was undertaken by Janet Frost (1978). Test excavations at seven sites were included. Eight stone mounds near Pava’la’i were located and described (Frost 1978:64–75).

H. Leach, D. Witter and S. Best conducted archaeological excavations as well as intensive survey of sites located on the ridge system above the village of Leone known as the Tataga-Matau adze quarry (Leach & Witter n.d.: 1987; 1990; Best et al. 1989; see also Best et al. 1992 for discussions concerning Samoan basalt adzes found as far as Fiji, Tokelau, and Outer Eastern Solomon Islands). Star mounds, possible
fortifications, trenches and terraces were identified and evaluated. The research also included revisions to previous adze typologies and adze manufacturing technologies.

One of the larger projects conducted since 1985 was the "Eastern Tutuila Archaeology Project" carried out under the direction of Jeffrey T. Clark over two seasons, the first in 1986 (Clark & Herdich 1988) and the second in 1988 (Clark 1989). By compiling and reporting information gathered during this project, including a review of previous studies which focused on bays along the northeastern coast of Tutuila, the researchers were able to substantially increase our knowledge of Samoan prehistory. Herdich (1991; see also Herdich & Clark 1993) has also researched over 151 Samoan star mounds and contributed significantly towards a greater understanding of these rather enigmatic structures.

Clark & Herdich (1988; 1993; see also Clark 1989) conducted a selected reconnaissance of areas on Tutuila. This was conducted to gain further understanding of settlement systems. They recognized 176 new sites, including the only known ceramic residential site on Tutuila located at 'Aoa on the northeast coast. The 'Aoa site revealed two significant periods of occupation. The lower component, occupation beginning around 3000 B.P., contained abundant obsidian and undecorated pottery (Clark & Herdich 1993:157, 170, 177). They also concluded that it was highly unlikely that the Tafuna region supported a dispersed prehistoric settlement similar to those of Western Samoa (1993:171-172).

Several cultural research management surveys have been conducted on Tutuila. Specifically, Simon Best (1992) conducted surface surveys of the proposed main line routes for the Tafuna Plains Sewer System. Thirteen archaeological sites were identified (12 on the Tafuna Plain and one in Malae'imi Valley). These include nine stone mounds or terraces, two stone-faced earthen house-mounds, a rock wall, and a World War II-era coral road or taxiway. Furthermore, W. Shapiro and P. Cleghorn (1994) furnished a report based on initial survey and archaeological consulting services of the Tafuna Plains Sewer System-Phase 1. This included both intensive surface and subsurface surveys. Previously known rock mounds and platforms located in this region were identified and assessed. At least six additional sites were identified (AS-31-35 (T-3), -36 (T-9), -37 (T-11), -38 (T-12), -39 (T-13), and -40 (T-14)). These were described as habitation and tool manufacturing sites (Shapiro & Cleghorn 1994: 43-45) with T-13 holding the greatest archaeological potential for future research. A prehistoric complex representative of an abandoned village was identified (Shapiro & Cleghorn 1994: 45 imply that this is T-13 though it is not specific in their conclusions). However, although this was located on the Tafuna Plain in a nearby area, this complex occurred in a more hospitable soil and vegetation
zone which was likely more suitable for settlement than the property under current investigation in this report.

The first known occurrence of inland pottery on Tutuila was identified by Shapiro and Cleghorn (1994) on the Tafuna Plain. Shapiro and Cleghorn (1994:45) recognized that although the pottery may represent secondary deposition, its presence suggests that there may be nearby sites with pottery in direct association with early occupation deposits.

**Section 3.2: Settlement Pattern and Land Use History**

Since the initial colonization of the Samoan Islands, approximately three millennia ago, there is evidence which suggests that settlement pattern changes have taken place over time. It is suggested that the first settlements on the islands were centered along the coast and that at some time in the past, the loci of habitation spread inland. Following this, around the time of Western contact, the bulk of the population returned to coastal habitation areas.

The archaeological record accords with this suggested pattern. This lead Davidson (in Jennings 1979) to suggest that prior to Western contact, the population was dispersed across the landscape with the historic pattern of coastal settlement believed to be a modern development. Davidson stated,

> The bulk of the modern population lives in coastal settlements, and this has been the case since the 1830’s. There is abundant archaeological evidence, however, that coastal concentration was a response to the beginning of European contact, and that until the early nineteenth century the population was much more evenly distributed over both coastal and inland areas in a form of dispersed settlement, probably with clusters around the residences of people of high status (Davidson in Jennings 1979:96).

Specifically, in American Samoa, changes in settlement patterns over time and the shifting of the population has become increasingly well documented in the archaeological record. The earliest settlements, thought to be recognizable by the inclusion of ceramics in their cultural deposits, have been recorded at coastal locations (or locations thought to have previously been near the coast) (Clark 1989; Kirch & Hunt 1993). Later prehistoric settlement has been documented in the uplands, along ridges and at the peaks of mountains (Clark and Herdrich 1993). Of the inland sites, a conspicuous feature type along ridges and some plain areas is the tia 'ave (or star mound), although various site types including permanent residential sites, defensive sites and resource exploitation sites have also been identified.
Being located relatively inland, the subject property could have been utilized for a variety of purposes over time. The Atlas of American Samoa depicts the subject area as currently utilized for limited residence and agriculture (largely in the form of small gardens, forestry activities and the management of fruit and nut trees). Most of this region is undeveloped land and not densely populated, although this is rapidly changing. It is possible that the subject area was utilized for scattered settlement and resource exploitation from at least the late prehistoric period. Dense settlement of the Tafuna Plain in the past was unlikely. The only exception would likely have been in areas along the perimeter towards the valleys or along the coast where more accessible and permanent water sources are located and general terrain, vegetation and soils are more suitable for traditional habitation and cultivation.

Several star mounds, other mounds, stone walls, stone features, lithic scatters, stone tools, pottery, and the possible remnants of residential structures suggest that a number of activity areas (including some ritual activity areas), limited settlement, limited agricultural production and resource exploitation, likely occurred in the Tafuna Plain at least by the late prehistoric period. However, intensive and dense prehistoric settlement of the area was, again, unlikely.

Based upon the reviewed information, expected finds should be consistent with the features listed above which have been recognized as a variety of surface features and structures, lithic scatters and implements, possibly some ceramics, and evidence of limited land use and resource exploitation.

Due to the depositional processes occurring at this location on the Tafuna Plain, deep subsurface deposits probably yield very few remains. However, shallow subsurface remains are expected which accord with the previously mentioned and identified cultural remains.
Section 4: Research Design and Archaeological Methods

Section 4.1: Research Design

Archaeological sites have been identified and reported in the project area during previous survey (Fentress 1995). Additional research has taken place in areas near the subject property which have identified and tested archaeological sites and cultural remains (see section 3.1 and 3.2 above for further detail). The list of finds include star mounds, stone platforms, stone walls, additional stone surface features, lithic tools, house mounds, habitation sites, complex activity sites, historic sites (including a World War II coral road or taxiway), and pottery.

Archaeological work conducted in the Samoan archipelago relates to a large variety of research topics. The results of the current work has relevance or potential relevance for four specific research topics discussed below.

The first topic concerns the distribution and nature of star mounds on Tutuila. Star mounds have been identified and documented throughout Tutuila, many of which are located on and near the Tafuna Plain (Herdrich 1991; Herdrich and Clark 1993). These served ritual functions (pigeon snaring) and may have played a symbolic role in Samoan life (see discussion below of the star mound, Site AS-31-41, for further background and details concerning star mounds). Star mounds are believed to have been constructed late in Samoan prehistory. The morphological design and spatial distributions are of particular research concern (see Herdrich 1991). These may have played a significant role in Samoan ideology, mythology and the structure of society.

The second topic of concern is the pattern of settlement distribution. The Tafuna Plain is thought to have never been a location for intensive settlement and land use do to its geological nature, topographical nature, and lack of certain resources. However, limited land use, habitation and the construction of ritual structures (star mounds and platforms) is quite evident. Specific activity areas and sites characterized by lithic assemblages can also be located on the Tafuna Plain. It is obvious that the Tafuna Plain was at least utilized on a limited, if not more intensive, basis. However, little is still known concerning the nature of settlement on the Tafuna Plain and the nature of site distribution. Spatial and temporal data is needed for proper reconstructions of the prehistory and history of the Tafuna Plains. Ultimately, this will play a role concerning settlement, land use, and the distribution of sites throughout Samoa.

The third topic of concern is the distribution of special activity sites and processing sites characterized by
lithic assemblages. The distributions and the nature of lithic assemblages coupled with the assessment of features and sites from which these lithic assemblages are distributed play a vital role in determining site function. Many sites (e.g., lithic workshops, canoe manufacturing sites, habitation sites, garden sites, etc.) have specific lithic assemblages associated with them. These can be assessed through spatial analysis of the lithic assemblage as well as functional and use damage analyses of lithic implements. Furthermore, examining the morphological and functional nature of the lithic assemblage can provide information concerning spatial and temporal distributions and changes in lithic technology. Stone tool analyses may also provide information concerning inter-island trade.

Finally, ceramics play a significant role in research interests. Green (1974a-b) has argued that Samoa has a continuous sequence of pottery which begins with the Lapita pottery, a decorated and statistically thin pottery found in Upolo, Western Samoa. Pottery deriving from Lapita continues through time changing to an undecorated and statistically thicker pottery. There is still considerable debate over when pottery production ceased in Samoa. There may be regional variation both spatially and temporally in the distribution of pottery within the Samoan archipelago.

The primary purpose of the current investigations was to assess the effect of construction activities through the identification and evaluation of historic and prehistoric archaeological sites within the corridor for a portion of the Tafuna Plains Sewer System, Kokoland Extension as required by Section 106 of the National Register of Historic Places as amended, particularly Part 800 concerning the protection of historic and cultural properties. Furthermore, ACP, Inc. was requested to map and further assess significantly important surface features and a star mound. This research is important with regards to both territorial and regional research goals.

**Territorial Goals:**

Territorial goals include the following:

1) Development of an inventory of historic and prehistoric archaeological sites.

2) Evaluation of historic and prehistoric sites relative to the criteria for the National Register of Historic Places.

3) Nomination of eligible properties to the National Register of Historic Places.
4) Protection of significant historic and prehistoric archaeological properties from significant negative impacts.

The research contained in this report contributes to these territorial goals in the following ways: 1) By conducting a systematic survey of the sewer corridor any historic or prehistoric sites within the corridor would be identified, 2) By conducting a systematic evaluation of sites identified in the current survey area, a determination of their significance relative to the National Register of Historic Places criteria will be able to be made, 3) The evaluation of known sites is the first step in the process of nominating sites to the National Register of Historic Places, 4) An assessment of the impact of the sewer system on sites identified as significant will be made and where necessary, recommendations will be made for their protection. In addition, providing the location of significant archaeological sites will contribute to the protection of these sites in the event of future developments.

Regional Goals:

Regional goals include the following:

1) Gaining an understanding of trade relationships between various island groups (Best et al. 1990; Weisler 1993; Clark, Wright & Herdrich in review).

2) Polynesian Origins: Constructing a sequence of migration and colonization of island groups (Kirch & Green 1987).

3) Documenting settlement patterns as evidence of the evolutionary trajectory of island societies in order to gain an understanding of evolutionary mechanisms effecting the development of societies throughout the Pacific (Goldman 1970; Kirch 1984; Graves & Green 1993).

The research contained in this report contributes to these regional goals in the following ways: 1) Any collected pottery and lithic material can be made available for analysis to determine whether they were of local origin or are made of exotic materials thereby indicating the existence and extent of inter-island trade networks with these materials, 2) Future analysis of pottery sites may provide important evidence for understanding the sequence of migration and colonization in the Pacific, 3) The identification and analyses of sites are important contributions in understanding the evolution of Samoan settlement patterns, and 4) Spatial and temporal variation in lithic technology can be assessed as well as helpful for determining site functions. A clearer understanding of
Samoan settlement patterns will eventually lead to a better understanding of regional evolutionary mechanisms and trajectories.

Due to the fact that this investigation is compliance oriented the investigators were not guided by an explicit theoretical orientation other than a very general scientific and evolutionary perspective. Also, given that this is a compliance investigation it was not guided by explicit hypothesis testing. However, some of the current findings may contribute to and have implications for hypotheses that are currently being discussed in the literature. The information collected during this survey has potential implications for the recent work discussed above concerning pottery, basalt tools, additional cultural materials and artifacts, features and sites, settlement and chronology.

Section 4.2: Archaeological Methodology

Fieldwork was conducted from October 23, 1995 to October 27, 1995 and from November 21, 1995 to November 29, 1995. Archaeological investigations being undertaken prior to construction activities associated with the Tafuna Sewer System: Kokoland Extension for ASPA took place under the direction of the Principal Investigator, Joseph Kennedy, M.A. with the assistance of field archaeologists James R. Moore, B.S. and D. Kyle Latinis, M.A. George and Afu Falisi (ASPA employees) aided in archaeological investigations.

There were four stages of field work during the current investigations. These included two field sessions of backhoe testing at locations along the proposed sewer line (this also included four supplemental STP’s), further assessment and mapping of the star mound, Site AS-31-41, and further assessment and mapping of the conglomerate of features, Site AS-31-43, located behind the Fatuoaiga Church. The latter two mapping stages was based on Jeff Fentress’ previous Phase I pedestrian survey (Fentress, September 1995) and were conducted during the second stage of backhoe testing.

The subject property consists of a series of corridors along the proposed sewer line located on the Tafuna Plain. The current investigations studied a corridor approximately 5650ft (1.72km) long and 30ft (9.2m) wide (1.9 acres total). This was the location of 27 test trenches (and four supplemental manual STP’s) which were excavated with the aid of a backhoe. Sections of the subject corridor which were located along existing road corridors were not targeted for extensive subsurface testing. The test trenches which were excavated in existing road corridors indicated that these deposits were highly disturbed. No further subsurface testing in road corridors was necessary. Instead, remaining subsurface testing was limited to areas along the sewer line.
corridor which had not been disturbed. This represented the first two stages of fieldwork. All trenches were excavated to a maximum width of 1.5m and depths which ranged from only a few centimeters below surface to close to three meters below surface. The STP's were excavated to a diameter of approximately 60-100cm but only reached a depth of 20-30cmbs where bedrock was encountered. The total length of all excavated trenches combined was 309.2m (1014.2ft) (approximately 18% of the total corridor length).

Due to the rockiness and composition of the soils which were encountered, screening was impractical. All soils removed from the trenches were thoroughly raked in order to identify potential deposits and recover significant cultural materials. All cultural materials encountered were collected with the exception of large and unwieldy items of which representative samples were collected, or were described and measured in the field.

Following excavation, soils samples were collected from every stratigraphic deposit recognized. The trench stratigraphy was then measured and drawn in profile. All samples collected were sent to ACP's offices for laboratory analyses. These materials remain curated at those facilities, located a 59-624 Pupukea Rd., Haleiwa, Hi., 96712.

The final two stages of field work involved the mapping of two sites (Site AS-31-41 the star mound, and Site AS-31-43 the conglomeration of features located behind the Fatucaiga Church complex). Both sites were located adjacent to impact areas along the proposed sewer system corridor. It was decided that additional mapping would aid in defining the boundaries and cultural significance of these sites. Both sites were partially cleared of vegetation. These sites were then mapped using a transit, compass, stadia rod and 60m tapes. Additional surface survey was conducted while clearing and mapping. Surface artifacts were collected and sent the ACP's laboratory facilities for further analyses. Photographs were taken and additional diagrams were drawn in the field. No subsurface excavations were conducted at these locations. Finally, additional sites and features located within the immediate vicinity of the impact area were identified and given cursory examination.

Overall research contributions are potentially numerous. The mapping of the star mound (Site AS-31-41) will contribute further knowledge and description towards star mounds in American Samoa. Further details concerning star mounds (function, location, historical emergence, significance and symbolism) is provided below in Section 5; description of the star mound: AS-31-41. The mapping, further investigation, and recovery of surface artifacts from Site AS-31-43 will contribute to the knowledge of enigmatic sites which may be
associated with ritual and other activities. Recovery of lithic artifacts will contribute towards and understanding of prehistoric and historic lithic technology as well as elucidating information concerning the nature of sites with associated lithic artifact scatters. The recovery of additional surface and subsurface artifacts will contribute towards an understanding of Samoan material culture and, potentially, temporal or spatial variation in material culture. The potential recovery of ceramic material will substantially aid towards the still temporally and technologically elusive understandings of ceramics in Samoan history and prehistory. Finally, this investigation will contribute towards an understanding of past land use and settlement in the Tafuna Plains area.
Section 5: Archaeological Findings

Section 5.1: Results of Backhoe Testing

Trench Descriptions: Tafuna Plain Sewer System, Kokoland Extension

Backhoe testing was conducted at 27 locations (see Figure 4 for trench locations) which were placed along the proposed sewer line from 19M-6 to 19ME-3 and 2ME-1 to 2ME-7 (including the proposed section from 2ME7-1 through 2ME7-5). Five of these trenches were placed along the proposed sewer line from 19M-6 to 19ME-5. The remaining trenches were located along the section from 2ME-1 to 2ME7-5. The sewer project involves two stages: 1.) laying sewer mains in 5ft-6ft deep by 3ft-4ft wide trenches; and 2.) laying feeder lines from the mains to individual houses in 16’-24’ deep by 16’-24’ wide trenches. D9 excavating machines will be used to dig the main line trenches and will have an impact zone of approximately 30ft in width. Backhoes will dig the feeder line trenches and have an approximate impact area of 10ft in width. Additional impacts to the ground surface may include staging areas, turnarounds, brush clearing and backfill dumping.

The total length of the tested area measured approximately 5650ft. The corridor width of the impacted area measured approximately 30ft. The total acreage was approximately 3.9 acres. All test trenches were excavated to a maximum width of 1.5m. The trenches followed the previously surveyed line for the proposed sewer project. The trenches number from T1 (Trench 1) to T16, and T20 to T30. All excavation was monitored. Artifacts, midden, and/or faunal material were collected from every trench. All cultural material was observed and examined in the field. Significant cultural material and/or cultural material that was noted to be of older historic or prehistoric origin was collected for further description and analyses (refer to Table 1). Screening and sifting of the deposits were attempted when possible. However, the general rockiness and composition of the soils in the Tafuna Plain prevented extensive screening. Therefore, the material removed from the trenches were raked and thoroughly examined for cultural remains.

Soil/sediment samples were taken from each layer encountered in each trench. Each trench was diagrammatically profiled. The trench details are provided below. These include locations of trenches, layer descriptions, descriptions of sediments/soils and brief descriptions of recovered cultural materials. There were no calcareous beach sands in the subject area. All descriptions using the term 'sand' refers to grain size unless otherwise specified. The
Figure 4: Location of Trenches on Subject Property

Tafuna Plains Sewer System - Kokoland Extension  
source: ASPA Wastewater 1995
<table>
<thead>
<tr>
<th>Trench</th>
<th>Historic Materials</th>
<th>Significant Materials</th>
<th>Count</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>Glass&lt;br&gt;Shotgun Shell&lt;br&gt;Wire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T2</td>
<td>Aluminum Cans&lt;br&gt;Land snail Shells&lt;br&gt;Plastic&lt;br&gt;Wire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T3</td>
<td>Recent Garbage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T4</td>
<td>Recent Garbage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T5</td>
<td>Recent Garbage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T6</td>
<td>Recent Garbage</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T8</td>
<td>Glass Fragments&lt;br&gt;Metals Fragments (rusty)&lt;br&gt;Recent Garbage</td>
<td>Marine Shell&lt;br&gt;<em>Nerita pola</em>&lt;br&gt;<em>Turbo spp.</em>&lt;br&gt;<em>Pempheris reticulata</em>&lt;br&gt;Coral</td>
<td>1</td>
<td>7.0g</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>175.5g</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>52.0g</td>
</tr>
<tr>
<td>T9</td>
<td>Ceramic Sherds (modern)&lt;br&gt;Glass Fragments&lt;br&gt;Metal Fragments&lt;br&gt;Rubber</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>T10</td>
<td>Glass Fragments&lt;br&gt;Recent Garbage</td>
<td>Possible Basalt Adze&lt;br&gt;Fragment; Polished on one surface</td>
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<td>4.9g</td>
</tr>
<tr>
<td>T11</td>
<td>Aluminum Cans&lt;br&gt;Metals Spoon&lt;br&gt;Glass Fragments&lt;br&gt;Recent Garbage</td>
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<td></td>
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<td>Coral</td>
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<td></td>
</tr>
<tr>
<td>T13</td>
<td>Glass Bottle&lt;br&gt;Recent Garbage</td>
<td>Coral&lt;br&gt;Basalt Flake (unworked, possible waste flake)</td>
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<td>85.0g</td>
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<td>T14</td>
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<td></td>
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<td>Recent Garbage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T20</td>
<td>Aluminum Cans&lt;br&gt;Iron and Steel (rusty machinery)&lt;br&gt;Glass Fragments&lt;br&gt;Recent Garbage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trench</td>
<td>Historic Materials</td>
<td>Significant Materials</td>
<td>Count</td>
<td>Weight</td>
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<td>--------</td>
<td>-------------------------------------</td>
<td>------------------------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>T21</td>
<td>Recent Garbage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T22</td>
<td>Land Snail Shells</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recent Garbage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T23</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>T24</td>
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<td>T25</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T26</td>
<td>Aluminum Cans</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Cow Bone (pelvis)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>T27</td>
<td>Aluminum Cans</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Plastic</td>
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<tr>
<td></td>
<td>PVC Pipe</td>
<td></td>
<td></td>
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</tr>
<tr>
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<td>Recent Garbage</td>
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<tr>
<td>T28</td>
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<td>Charcoal Flecks (Layer I)</td>
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<td>-</td>
</tr>
<tr>
<td>T29</td>
<td></td>
<td>Charcoal Flecks (Layer I)</td>
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<td>-</td>
</tr>
<tr>
<td>T30</td>
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</tr>
<tr>
<td>STP1</td>
<td>Recent Garbage</td>
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<tr>
<td>STP2</td>
<td>Recent Garbage</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>STP3</td>
<td>Recent Garbage</td>
<td></td>
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</tr>
<tr>
<td>STP4</td>
<td>Recent Garbage</td>
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</tr>
</tbody>
</table>
parent material of these deposits are weathered volcanic rock (vesicular basalt cinder) and organic material.

**Trench 1:** Trench 1 (T1) was excavated in the area directly north of the northernmost point of the Aveina Brother's property, on the gravel road north of Site AS-31-45 (see Figure 4 for trench location). The total length of the trench measured 13.1m. Excavation revealed a surface cover of gravel from the road underlain by two layers followed by the underlying bedrock (see Figure 5).

The uppermost of these layers (Layer I) was encountered from just below the surface gravel at a depth of 5-10cmbs (centimeters below surface) to a base depth of approximately 80cmbs. Layer I measured approximately 70cm thick. Layer I was a black (Munsell 7.5R 2.5/0) loamy sand.

Layer II was encountered from a depth of approximately 80cmbs to a base depth of approximately 165cmbs where bedrock was reached. Layer II measured approximately 85cm thick. Layer II was composed of a dark reddish brown (5YR 3/3) sandy loam. Excavation reached a maximum depth of approximately 165cmbs.

The natural stratigraphy was difficult to discern. The excavated area was primarily composed of fill with some historic debris. The historic debris included wire, glass and a shotgun shell. The deposits were often rocky with a substantial amount of scoria. No prehistoric cultural remains were noted.

**Trench 2:** Trench 2 (T2) was excavated approximately 50m directly northwest of T1 continuing northwest along the road. T2 cut through 2MR-6 (see Figure 4 for trench location). The total length measured 12.5m. Maximum depth reached 190cmbs. The surface cover consisted of gravel from the road and imported cinder. This was underlain by two layers (Layers I and II). Vesicular boulders and cobbles were encountered throughout the layers. Mixture of the layers was noted (see Figure 6).

Layer I was encountered just below the surface cover and reached a depth of approximately 80-100cmbs. Layer I was composed of a black (7.5R 2.5/0) loamy sand.

Layer II began immediately below Layer I. Layer II reached a depth of about 185cmbs. Thickness of Layer II ranged from about 90-110cm. Layer II was composed of a dark reddish brown (5YR 3/3) loamy sand.

Only contemporary cultural materials were noted from both layers. This included wire, plastic and aluminum cans. Terrestrial mollusk shells were also recovered. No prehistoric cultural materials were noted.
Figure 5: Trench 1

Layer I: 7.5R 2.5/0, black loamy sand.

Layer II: 5YR 3/3, dark reddish brown sandy loam.
Layer I: 7.5R 2.5/0, black loamy sand.

Layer II: 5YR 3/3, Dark reddish brown loamy sand.
Sand mixed with pebbles, and boulder size basalt blocks.
Angular and oblong rocks, also vaicular boulders/cobbles.
Trench 3: Trench 3 (T3) was excavated approximately 60m south of T1 (see Figure 4 for trench location). T3 cut along the north-south fenceline separating the Aveina Brother’s property to the west and the Haleck’s property to the east. The southern end of T3 was due west of the western end of AS-31-43. The total length of T3 was 13.5m. The maximum depth excavated was 150cmbs. The surface was covered with garbage from recent dumping. The debris continued to about 30cmbs. It appeared that the corridor to the east side of the fence line has been used as a dump for debris and garbage. Below the surface layer, two additional layers were encountered before bedrock was reached (see Figure 7).

Layer I sloped downwards from the southern to the northern end. Layer I reached a base depth of 20cmbs at the southernmost end of the trench. However, three meters north of this point, Layer I reached a depth of 130 cmbs. Layer I was composed of a very dusky red (10R 2.5/2) sandy loam.

Layer II began immediately beneath Layer I and followed the same contour in slope. Layer II appeared to be an oxidized, loose bedrock. This deposit was not densely compacted and broke apart readily. This deposit resembled deposits from Layer II in T1 and T2. Layer II only reached a maximum thickness of about 10cm. The base of layer II reached 25cmbs (centimeters below surface) before bedrock was encountered at the southernmost end of the trench. Three meters north from this point the base depth of Layer II reached 140cmbs. Layer II was composed of a dark reddish brown (5YR 3/3) sandy loam.

No cultural material was noted or recovered other than the recent debris and garbage on the surface.

Trench 4: Trench 4 (T4) was excavated about 40m south of T3 (see Figure 4 for trench location). The length of T3 was approximately 4m. The maximum depth was 270cmbs. The surface was covered with debris and garbage similar to T3. This pattern continued to the southern corner directly east of the tennis court for trenches T4-T8. Two layers were encountered below the surface debris (see Figure 5-7; Trenches 1-3 or Figure 15; Trench 16 for representative profiles and stratigraphy).

Layer I extended from the surface to about 65cmbs. The Layer I deposit composition was consistent with the Layer I deposits from T3. Layer I was composed of a very dusky red (10R 2.5/2) sandy loam.

Thin pockets of Layer II were scattered intermittently immediately below Layer I. These were characteristically small, very coarse and rocky. Layer II ranged from the base of the intermixed pockets of Layer I and Layer II to the base depth which ranged from approximately 80cmbs to 270cmbs.
Layer I: 10R 2.5/2, very dusky red sandy loam.

Layer II: 5YR 3/3, dark reddish brown sandy loam. Oxidized bedrock same composition as Layer II in trenches 1 and 2.

Total Length 13.5m
Maximum Depth 150cmbs at North End
although bedrock was dominant below 150cmbs. This is consistent with T4 through T8. Layer II was composed of a dark reddish brown (5YR 3/3) sandy loam.

At the base of the deposits, a soft porous volcanic (basaltic) rock composed the underlying bedrock. However, occasional veins of a dense, bluish, and very hard basalt were scattered throughout the underlying bedrock. The excavator had difficulty breaking through this material.

No cultural material was noted. With the exception of the recent surface debris, trenches T4-T8 appeared barren of cultural remains.

**Trench 5:** Trench 5 (T5) was excavated about 16m south of T4 (see Figure 4 for trench location). The length of T5 was 3.7m. The maximum depth was 220cmbs. The surface was covered with debris and garbage similar to T3-T8. This continued to the southern corner directly east of the tennis court. Two layers were encountered below the surface debris (see Figures 5-7; Trenches 1-3 or Figure 15; Trench 16 for representative profiles and stratigraphy).

Layer I extended from the surface to about 75cmbs. The Layer I deposit composition was consistent with the Layer I deposits from T3-T8. Layer I was composed of a very dusky red (10R 2.5/2) sandy loam.

Thin pockets of Layer II were scattered intermittently immediately below Layer I. These were characteristically small, very coarse and rocky. Layer II extended from 75cmbs to a base depth which ranged from about 90cmbs to 220cmbs. Layer II was composed of a dark reddish brown (5YR 2.5/2) sandy loam.

At the base of the deposits, a soft porous volcanic (basaltic) rock composed the underlying bedrock. However, occasional veins of a dense, bluish, and very hard basalt were scattered throughout the underlying bedrock.

No cultural material was noted other than recent surface debris and garbage.

**Trench 6:** Trench 6 (T6) was excavated about 20m south of T5. The length of T6 was approximately 4.1m. The maximum depth was 230cmbs. The surface was covered with debris and garbage similar to T3-T8. This continued to the southern corner directly east of the tennis court. Two layers were encountered below the surface debris (see Figure 5-7; Trenches 1-3 or Figure 15; Trench 16 for representative profiles and stratigraphy).

Layer I extended from the surface to about 65cmbs. The Layer I deposit composition was consistent with the Layer I
deposits from T3-T8. Layer I was composed of a very dusky red (10R 2.5/2) sandy loam.

Thin pockets of Layer II were scattered intermittently immediately below Layer I. These were characteristically small, very coarse and rocky. Layer II ranged from 65cmbs to a maximum depth which ranged from 150cmbs to 290cmbs. Layer II was composed of a dark reddish brown (5YR 3/3) sandy loam.

At the base of the deposits, a soft porous volcanic (basaltic) rock composed the underlying bedrock. However, occasional veins of the same dense, bluish, and very hard basalt were scattered throughout the underlying bedrock.

No cultural material was noted with the exception of the recent surface debris and garbage.

**Trench 7:** Trench 7 (T7) was excavated about 13m south of T6 (see Figure 4 for trench location). The length of T7 was 3.9m. The maximum depth was 255cmbs. The surface was covered with debris and garbage similar to T3-T8. This continued to the southern corner directly east of the tennis court. Two layers were encountered below the surface debris (see Figures 5-7; Trenches 1-3 or Figure 15; Trench 16 for representative profiles and stratigraphy).

Layer I extended from the surface to about 90cmbs. The Layer I deposit composition was consistent with the Layer I deposits from T3-T8. Layer I was composed of a very dusky red (7.5R 2.5/2) sandy loam.

Thin pockets of Layer II were again scattered intermittently immediately below Layer I. These were characteristically small, very coarse and rocky. Layer II ranged from the base of Layer I to a depth ranging between 140cmbs to 255cmbs. Layer II was composed of a dark reddish brown (5YR 2.5/2) sandy loam.

At the base of the deposits, a soft porous volcanic (basaltic) rock composed the underlying bedrock. However, occasional veins of a dense, bluish, and very hard basalt were again scattered throughout the underlying bedrock.

No cultural material was noted with the exception of recent garbage, aluminum cans and broken glass.

**Trench 8:** Trench 8 (T8) was excavated about 14m south of T7 (see Figure 4 for trench location). The length of T8 was 3.7m. The maximum depth was 240cmbs. The surface was covered with debris and garbage similar to T3-T8. Again, this continued to the southern corner directly east of the tennis court which was also directly west of T8. Two layers were encountered below the surface debris (see Figures 5-7;
Trenches 1-3 or Figure 15; Trench 16 for representative profiles and stratigraphy).

Layer I extended from the surface to about 80cmbs. The Layer I deposit composition was consistent with the Layer I deposits from T3-T8. Layer I was composed of a very dusky red (10R 2.5/2) loamy sand.

Thin pockets of Layer II were scattered intermittently immediately below Layer I. These were characteristically small, very coarse and rocky. Layer II extended to a depth ranging between 95cmbs to 240cmbs. Layer II was composed of a dark reddish brown (5YR 3/3) sandy loam.

At the base of the deposits, a soft porous volcanic (basaltic) rock composed the underlying bedrock. However, occasional veins of a dense, bluish, and very hard basalt were scattered throughout the underlying bedrock.

No cultural material was noted with the exception of broken glass, rusted pieces of metal and recent garbage.

Trench 9: Trench 9 (T9) was excavated along the eastern corner of a church, near Well 66 near 19ME-1 and the road leading to Kokoland and Tongaville (see Figure 4 for trench location). The total length of T9 measured 9.5m. The maximum depth was approximately 125cmbs. The eastern half of the trench had a surface covered with a concentration of clam shell (Periglypta sp.) This appeared to be the remains of a meal. Two layers (Layers I and II) were evident before bedrock was reached at about 100-110cmbs (see Figure 8). Approximately 6m from the eastern end of the trench, the bedrock was only 60cmbs.

Layer I extended from the surface to a depth of 20-30cmbs. Layer I was composed of a dark reddish brown (5YR 3/2) loamy sand.

Layer II began from the base of Layer I and extended to a depth of 100-110cmbs where bedrock was reached. The thickness of Layer II was approximately 70-80cm. Layer II was composed of a dark brown (7.5YR 3/3) loamy sand.

Marine shell (Turbo, Periglypta, and Merita), coral, rubber, glass, metal and ceramic sherds (recent) were also recovered.

Trench 10: Trench 10 (T10) was approximately 75m southwest from T9 (the NE end of T10 is 28.4m from Well 52 bearing 190 degrees from MN (magnetic north)) (see Figure 4 for trench location). The total length of the trench was 14.7m. Maximum depth was 95cmbs. Bedrock reached the surface of the trench in two areas: 11.6m and 3m from the northern end of the trench. There were a substantial amount of modern
Figure 8: Trench 9, North Face

Layer I: 5YR 3/2, dark reddish brown loamy sand.

Layer II: 7.5YR 3/3, dark brown loamy sand.
surface debris and trash mixed in with Layer I. Two layers were encountered before bedrock was reached at approximately 60cmbs (see Figure 9).

Layer I was fairly thin and even, only extending from the surface to about 10-15cmbs. Layer I was composed of black (2.5YR 2.5/0) loamy sand.

Layer II began from the base of Layer I and reached a depth of approximately 60cmbs although there were areas where it sloped upwards; the locations where the bedrock reached the surface (above). Layer II was composed of dark brown (7.5YR 3/3) loamy sand.

One small broken chunk of medium-dark gray, fine-grained basalt with some small polished surface was recovered. This may have been an adze fragment. Historic debris and glass fragments were noted.

**Trench 11:** Trench 11 (T11) was excavated approximately 65m southwest from T10 (see Figure 4 for trench location). The total length of the trench measured 13.9m. The maximum depth was 85cmbs. The trench surface sloped downward from the southwest towards the northeast direction. Bedrock reached the surface at the southwest end of T11. There were also a few other locations where the bedrock reached the surface along the trench. The surface contained modern debris. Below this were two layers followed by the underlying bedrock (see Figure 10).

Layer I was encountered from just below the surface cover to a base depth of approximately 30-40cmbs. The thickness of Layer I ranged from 20-30cmbs. Layer I was composed of a dark brown (7.5YR 3/3) loamy sand.

Layer II was encountered immediately below Layer I and reached a depth of approximately 50-85cmbs where bedrock was reached. The thickness of Layer II ranged from about 40-50 cm. However, Layer II thickness reached a minimum of about 5cm (20-25cmbs) approximately 11m from the southwest corner. Layer II was composed of a dark brown (7.5YR 3/3) sand.

Aluminum cans, glass fragments, a metal spoon and other historic debris were noted from Layer I.

**Trench 12:** Trench 12 (T12) was excavated approximately 60m southwest from T11 (see Figure 4 for trench location). Total length of T12 was 11.5m. The maximum depth reached 180cmbs at a location 10m from the southwest end of T12. Bedrock reached the surface at 5m from the southwest end of the trench. Three layers were encountered (see Figure 11).
Figure 9: Trench 10, South Face

Total Length 14.7m
Maximum Depth 95cmbs
at 6m from East

Layer I: 2.5YR, 2.5/0, black loamy sand.
Layer II: 7.5YR 3/3, dark brown loamy sand.
Layer I: 7.5YR 3/3, dark brown loamy sand.

Layer II: 7.5YR 3/3, dark brown sand.
Figure 11: Trench 12, Northwest Face

Total Length 11.5m
Maximum Depth 180cm
at 10m from SW End

Layer I: 7.5YR 5/2, brown sand.
Layer II: 2.5YR 2.5/0, black loamy sand.
Layer III: 7.5YR 3/3, dark brown sand.
Layer I reached a depth of 10cmbs, but was absent in sections along the trench. Layer I was composed of a brown (7.5YR 5/2) sand.

Layer II extended from the surface to 10-25cmbs in some areas but reached a maximum depth of 160cmbs at about 8m from the southwestern end of T12. Layer II was fairly level from about 6-7m from the southwest end of T12 then sloped steeply downwards. Layer II was composed of a black (2.5YR 2.5/0) loamy sand.

Immediately below Layer II, Layer III emerged. This contoured both the bedrock slope and the slope from Layer II. Layer III began at approximately 30-35cmbs and extended to the bedrock at a maximum depth of 155cmbs. Layer III maintained a thickness of approximately 110cm across towards the upper part of the layer and then gradually thinned to about 60cm across towards the basal bedrock. Layer III was composed of a dark brown (7.5YR 3/3) sand.

Plastic, broken glass, and aluminum were recovered. Some coral was noted but not recovered. No prehistoric cultural material was noted.

Trench 13: Trench 13 was excavated approximately 75m southwest of T12 (see Figure 4 for trench location). The total length of T13 measured 11.0m. The maximum depth reached 120cmbs. Four layers were encountered (see Figure 12). However, Layers I and II were fill layers on the road side. Consequently, Layers III and IV were consistent with Layers I and II respectively from the other trenches.

Layer I extended from the surface to about 10cmbs. Layer I was composed of a brown (7.5YR 5/3) sand.

Layer II followed beneath Layer I and extended approximately 15cmbs. Layer II was only about 5cm thick. Layer II was composed of a dark brown (7.5YR 3/2) sand.

Layer III underlay Layer II. Layer III reached a maximum depth of 50-55cmbs and consistently remained about 35cm thick. Layer III was composed of a black (7.5YR 2/0) loamy sand.

Layer IV began immediately below Layer III. Layer IV reached a basal depth of approximately 115-120cmbs where bedrock was reached. Layer IV was approximately 70-75cm thick. Layer IV was composed of a dark brown (7.5YR 3/4) loamy sand.

One basalt flake, a glass bottle, plastic and coral were recovered.
Figure 12: Trench 13, Northwest Face

Layer I: 7.5YR 5/3, brown sand.
Layer II: 7.5YR 3/2, dark brown sand.
Layer III: 7.5YR 2/0, black loamy sand.
Layer IV: 7.5YR 3/4, dark brown loamy sand.

Total Length 11.0m
Maximum Depth 120cmbs
Trench 14: Trench 14 (T14) was excavated about 60m southwest of T12 and 30m northwest of T2 (see Figure 4 for trench location). The location was adjacent to the road corner. T14 measured a total length of 10.9m. The maximum depth was reached at 170cmbs. The surface contained modern garbage and debris. Two layers were encountered (see Figure 11). Their compositions were typical of the other trenches.

Layer I reached a depth of approximately 5-10cmbs. This layer remained consistently thick (about 5-10cm) and gradually sloped upwards to the northwest end of the trench. Layer I was composed of a black (2.5Y 2/0) loamy sand.

Layer II began immediately below Layer I and reached a basal depth of approximately 150-170cmbs where bedrock was reached. However, at about 7.5m from the southeast end of the trench, the bedrock rose to about 95cmbs and then sloped downward in both directions. Layer II ranged from 90-165cm thick. Layer II was composed of a dark brown (7.5YR 3/3) sand.

Broken glass and metal wire were recovered.

Trench 15: Trench 15 (T15) was located near 2ME-1 at the Fatuoliga Church (see Figure 4 for trench location). The total length of T15 was 24.2m. T15 was excavated to a maximum depth of about 45cmbs. However, some points were only excavated to just a few cmbs due to the bluish, hard volcanic (basaltic) bedrock (discussed above) which emerged in several locations. The surface was covered with modern garbage, debris and detritus. This reached a thickness of 30cm in some locations.

Only one layer was recognized (Figure 14). This was located immediately beneath the cover of debris. Layer I reached a maximum depth of 40-45cmbs but was absent in locations where the bedrock broke the surface. The thickness ranged from 0-40cm. Layer I was composed of a dark reddish brown (5YR 3/2) loamy sand.

A small battery and glass fragments were recovered.

Trench 16: Trench 16 (T16) was located along the angle of the sewer line in front of the Aueina Brother’s property (15.7m from the gate; between T1 and T3) (see Figure 4 for trench location). T16 was excavated to a total length of 6.2m and a maximum depth of 220cmbs. Modern garbage was observed on the surface. Below this, two layers were encountered (see Figure 15). These deposits conformed to the structure of the deposits from the other trenches.

Layer I extended from the surface to about 30-45cmbs, but remained relatively consistent in thickness.
Figure 13: Trench 14, Southwest Face

Total Trench Length 10.9m
Maximum Depth 1.70cmbs

Layer I: 2.5Y 2/0, black loamy sand.
Layer II: 7.5YR 3/3, dark brown sand.
Figure 14: Trench 15, South Face

Total Length 24.2m
Maximum Depth 45cmbs

Layer I: 5YR 3/2, dark reddish brown loamy sand.
Layer I: 10R 2.5/1, reddish black loamy sand.

Layer II: 2.5YR 2.5/2, very dusky red loamy sand.
(approximately 35-40cm). Layer I was composed of a reddish black (10R 2.5/1) loamy sand.

Layer II began immediately below Layer I. Layer II extended to approximately 180-220cmbs where bedrock was encountered. Thickness ranged from 140-180cm. Layer II was composed of a very dusky red (2.5YR 2.5/2) loamy sand.

No cultural remains were noted.

**Trench 20**: Trench 20 (T20) was located 22.8m at 295 degrees MN from 2ME-7 (located approximately in the midpoint of the nearby road)(see Figure 4 for trench location). T20 was excavated to a maximum depth of 95cmbs and a total length of 4.0m. The surface was covered with garbage, broken glass, aluminum cans, and large pieces of rusted iron and steel from abandoned heavy machinery which covered the side of the road. Two layers were recognized (see Figure 16; also described by Fentress (1995) in Appendix B, Fentress report (1995), #10).

Layer I was heavily mixed with the surface garbage. Layer I extended from the surface to about 55 (southwest terminus of the trench) to 70cmbs (northeast terminus of the trench). Layer I was composed of a black (10YR 2/1) loamy sand.

Layer II extended from immediately below Layer I to 95cmbs. Layer II was composed of a dark brown (7.5YR 3/3) sandy loam.

Bedrock was reached from immediately below the surface to 95cmbs. Dense bluish veins of the hard basalt were also encountered. Fill from the roadside was also intermixed within Layer I.

No cultural materials other than the recent garbage, metal fragments and abandoned pieces of heavy machinery were noted.

**Trench 21**: Trench 21 (T21) was located 59m southeast from 2ME7-1 (see Figure 4 for trench location). T21 was excavated to a total length of 19.5m and a maximum depth of 220cmbs. T21 bisected a small berm of rock and historic debris (also described in Fentress (1995) report as a low rock wall (see Appendix B, Fentress report (1995), #11)). The berm measure 4.3m in length, 2.5m wide and had a maximum height of 0.75-1.0m. Two layers were encountered (see Figure 17).

Layer I extended from the surface to a maximum depth of 85cmbs. Layer I had a consistent thickness of 80-85cm. Layer I was composed of a black (7.5YR 2/0) sandy clay loam.

Layer II began immediately below Layer I. The base depth of Layer II ranged from 150cmbs to 220cmbs where
Figure 16: Trench 20, Northwest Face

Layer I: 10YR 2/1, black loamy sand.

Layer II: 7.5YR 3/3, dark brown sandy loam.
Layer I: 7.5YR 2/0, black sandy clay loam.
Layer II: 5YR 3/4, dark reddish brown sandy loam.
bedrock was encountered. Layer II was composed of a dark reddish brown (5YR 3/4) sandy loam.

Only historic debris and garbage were noted. The wall described by Fentress (1995) was likely not a stone wall.

Trench 22: Trench 22 (T22) was located at 33.6m southeast of 2ME7-1 (see Figure 4 for trench location). T22 was excavated to a total length of 14.7m and a maximum depth of 210cmbs. Two layers were encountered (see Figure 18). Both layers were very rocky (filled with scoria). The surface was covered with broken rocks and boulders. This appears to be a remnant from a weathered lava flow. The vegetation at the surface was dense.

Layer I extended from the surface to approximately 60-65cmbs. Layer I was composed of a black (7.5YR 2/0) sandy clay loam mixed with a’a fragments.

Layer II began immediately below Layer I and extended to a depth ranging from 175cmbs to 210cmbs. Layer II was composed of a dark brown (7.5YR 3/3) loamy sand.

No cultural material was noted. However, a small pocket of land snails was noted at 70cmbs below a tree root.

Trench 23: Trench 23 (T23) was located 1.8m southeast of 2ME7-1. The total length of T23 was 13.0m and was excavated to a maximum depth of 260cmbs. A dense bluish vein of bedrock reached the surface at the southeast end of the trench. Two layers were encountered (see Figure 19). Surface vegetation was dense.

Layer I extended from the surface to 75-80cmbs. Layer I was composed of a very dark brown (10YR 2/2) sandy loam.

Layer II began immediately below Layer I and extended from the surface at the southeast end of the trench, then sloped steeply with the slope of the underlying bedrock to reach a maximum depth of 260cmbs. Layer II was composed of a dark brown (7.5YR 3/3) vesicular basalt cinder.

No cultural materials were recovered.

Trench 24: Trench 24 (T24) was located 20m northeast of 2ME7-1 (see Figure 4 for trench location). T24 was excavated to a length of 8.5m and a maximum depth of 220cmbs. The surface was covered with dense vegetation. Two layers were encountered (see Figure 20).

Layer I extended from the surface to 60cmbs. Dense clusters of roots were encountered throughout this layer. Layer I was composed of a black (10YR 2/1) sandy loam.
Figure 18: Profile of Trench 22, Southwest Face

Total Length 14.7m
Maximum Depth 210cmbs

Layer I: 7.5YR 2/0, black sandy clay loam, very rocky filled with scoria looks like a'a on top.

Layer II: 7.5YR 3/3, dark brown loamy sand, very rocky filled with scoria looks like a'a on top.
Figure 19: Profile of Trench 23, Southwest Face

Total Length 13.0m
Maximum Depth 260cmbs

Layer I: 10YR 2/2, very dark brown sandy loam.
Layer II: 7.5YR 3/3, dark brown alveclusary basalt cinder.
Figure 20: Profile of Trench 24, Southwest Face

Total Length 8.5m
Maximum Depth 220cmbs
Profile Between 2.5m and 6.5m

Layer I: 10YR 2/1, black sandy loam.

Layer II: 7.5YR 3/3, dark brown vasicular basalt cinder.

KEY
/
Root
Layer II began immediately below Layer I and extended to 175 cmbs at the southeast terminal end of the trench, then sloped downwards to a depth of 220 cmbs where bedrock was encountered. Layer II was composed of a dark brown (7.5YR 3/3) vesicular basalt cinder.

No cultural materials were recovered.

Trench 25: Trench 25 (T25) was located 50 m southeast from 2ME7-2 on the tongue of a remnant lava flow which was elevated above the surrounding terrain (see Figure 4 for trench location). T25 was excavated to a length of 11.8 m and a maximum depth of 240 cmbs. The surface vegetation was dense. Two layers were encountered (see Figure 21).

Layer I extended from the surface to 70-80 cmbs. Dense clusters of roots extended throughout Layer I. Layer I was composed of a very dark brown (10YR 2/2) sandy loam.

Layer II extended from the base of Layer I to a depth of 240 cmbs. Layer II was composed of a dark brown (7.5YR 3/3) vesicular basalt cinder.

No cultural remains were noted.

Trench 26: Trench 26 (T26) was located 3.4 m southeast of 2ME7-2 (see Figure 4 for trench location). T26 was excavated to a maximum length of 11.2 m and a maximum depth of 40 cmbs where bedrock was encountered. The hard bluish bedrock extended to the surface throughout most of the trench. T26 ran through the small garden owned by the nearby resident. The surface was covered with aluminum cans. A cow innominate (Bos taurus) was recovered. The local resident stated that he had slaughtered a cow in the location within the last few years. Only one layer was encountered.

Layer I extended from the surface to a maximum depth of 40 cmbs. Layer I was composed of a very dark brown (10YR 2/2) sandy clay loam.

No cultural remains were recovered other than the aluminum cans and the cow bone.

Trench 27: Trench 27 (T27) was located 17.8 m northeast of 2ME7-5 (see Figure 4 for trench location). T27 was excavated to a maximum length of 15.3 m and a maximum depth of 170 cmbs. Recent debris and garbage were noted on the surface. Three layers were encountered (see Figure 22).

Layer I extended from the surface to 60-70 cmbs. Plant roots and garbage were mixed in with the upper portion of Layer I. Layer I was composed of a very dark brown (10YR 2/2) silty clay.
Figure 21: Profile of Trench 25, Southwest Face

Layer I: 10YR 2/2, very dark brown sandy loam.
Layer II: 7.5YR 3/3, dark brown vasicular basalt cinder.

Total Length 11.8m
Maximum Depth 240cm
Profile Between 3m and 7m
Figure 22: Profile of Trench 27, Northwest Face

Layer I: 10YR 2/2, very dark brown silty clay.
Layer II: 7.5YR 3/3, dark brown sandy clay.
Layer III: 7.5YR 3/3, dark brown silty clay.
Layer II extended from the base of Layer I to a depth of 165cmbs. Large rocks were scattered throughout Layer II. Layer II was composed of a dark brown (7.5YR 3/3) sandy clay.

Layer III extended from the base of Layer II to a depth of only 170cmbs. Layer III was about 5-10cm thick. Bedrock protruded through Layer III in several locations. Layer III was composed of a dark brown (7.5YR 3/3) silty clay.

Aluminum cans, plastic, PVC pipe and plastic bottles were noted on the surface and in Layer I. No other cultural materials were recovered.

Trench 28: Trench 28 (T28) was located 5.3m northeast of 2ME7-4 (see Figure 4 for trench location). The total length of T28 was 17.6m. T28 was excavated to a maximum depth of 190cmbs. Two layers were encountered (see Figure 23).

Layer I extended from the surface to a depth of 175cmbs. At approximately 110cmbs charcoal flecks appeared to be mottled throughout Layer I to its base depth at 175cmbs. Two sediment samples were collected. Both samples were consistent. These were composed of a very dark brown (10YR 2/2) silty clay, although the sample taken from below 110cmbs had flecks of charcoal throughout.

Layer II extended from the base of Layer I to 190cmbs where bedrock was encountered. Layer II was composed of a dark brown (7.5YR 3/3) sandy clay loam.

While a light charcoal mottling was noted in Layer I, no additional cultural remains were recovered.

Trench 29: Trench 29 (T29) was located 1.0m west of 2ME7-3 (see Figure 4 for trench location). T29 was excavated to a total length of 15.6m and a maximum depth of 225cmbs. Four layers and one lens were encountered (see Figure 24).

Layer I extended from the surface to approximately 90-120cmbs. Flecks of charcoal were noted to be lightly scattered throughout the base of Layer I. Layer I was composed of dark brown (7.5YR 3/3) silty clay.

Layer II extended from the base of Layer I to a depth of approximately 145-110cmbs. Layer II was composed of dark brown (7.5YR 3/3) sandy loam.

Layer II surrounded a lens (lens "i") which began 9.3m from the eastern end of the trench and extended to the western end of the trench. The lens was tapered at both ends. The lens reached a maximum thickness of 35cm. The upper depth at this point was 120cmbs while the lower depth was 155cmbs. The lens was partially mixed with Layer II.
Figure 23: Profile of Trench 28, Southeast Face

NE
(9.6m)

0  50  100  150  200  250  300cm

SW
(12.6m)

0

surface

Layer I

Layer II

unexcavated bedrock

Total Length 17.6m
Profile Between 9.6m and 12.6m
Maximum Depth 190 cmbs

KEY

Layer I: 10YR 2/2, very dark brown silty clay.

Layer II: 7.5YR 3/3, dark brown sandy clay loam.

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Figure 24: Profile of Trench 29, South Face

Layer I: 7.5YR 3/3, dark brown silty clay.

Layer II: 7.5YR 3/3, dark brown sandy loam.

Layer III: 7.5YR 2/0, black sand.

Layer IV: 7.5YR 2/0, black silty loam.

Lens (i): 7.5YR 2/0, black vasicular basaltic cinder.

Total Length 15.6m
Profile Between 7m and 10m
Maximum Depth 225cmbs
The lens was composed of black (7.5YR 2/0) sand (vesicular basaltic cinder).

Layer III extended from the base of Layer II to 175-180cmbs. Layer III was composed of black (7.5YR 2/0) sand.

Layer IV extended from the base of Layer III to 225cmbs. Layer IV only appeared in the western end of the trench (from 9m west of the eastern terminus of the trench). Layer IV was composed of black (7.5YR 2/0) silt loam.

While light charcoal mottling was noted at the base of Layer I, no other cultural remains were recovered.

**Trench 30**: Trench 30 was located 46.4m west from 2ME7-2. T30 was excavated to a maximum length of 15.6m and a maximum depth of 85cmbs. Two layers were encountered before bedrock was reached (see Figure 25).

Layer I extended from the surface to 40cmbs. Layer I was composed of dark brown (7.5YR 3/3) silty clay.

Layer II extended from the base of Layer I to 85cmbs. Layer II was composed of dark brown (7.5YR 3/3) silty clay loam.

No cultural materials were recovered.

**Shovel Test Pits 1-4**: The Shovel Test Pits (STP1-4) were excavated between T8 and T15 along the proposed sewer extension line. The backhoe was unable to penetrate the area. Following this, an excavator cleared the area of surface vegetation. Piles of rock further prevented backhoe testing. Therefore, manual shovel test pits were excavated to supplement the sub-surface testing (note: a backhoe with tracks rather than wheels was utilized for trenches T20-T30, while trenches T1-T16 were excavated with a wheeled backhoe). These were located approximately 30m and 55m east of T8 between 2ME-3 and 2ME-2. They were clustered in two sets of two. The two clusters were spaced about 25m apart down the center of the proposed line. The two STP’s within each cluster were approximately 4m apart (each along the proposed sewer extension line).

These STP’s supplemented the backhoe trenching. Due to the difficulty of maneuvering the backhoe into this area along with the apparent lack of subsurface deposits (evident by the emergence of bedrock at the surface along this corridor), it was decided that STP’s would be placed along this corridor.

The maximum depth of the STP’s was approximately 30-40 cm. Only debris from the surface was noted. This was recent historic garbage. Bedrock was immediately encountered below
Figure 25: Trench 30, South Face

Total Length 15.6m
Maximum Depth 85 cm

Layer I: 7.5YR 3/3, dark brown silty clay.
Layer II: 7.5YR 3/3, dark brown silty clay loam.
the debris. No soil samples were collected due to the lack of any natural deposit or soil. No significant artifacts or other cultural materials, features, etc. were noted or recovered.

Generally, the profiles from most of the trenches appear fairly consistent. There were few significant cultural remains noted or recovered (refer to Table 1). There was no evidence of extensive settlement and land use throughout these corridors.

Section 5.2: Site and Feature Descriptions

Five sites were recognized either within or adjacent to the project area (see Figures 3 and 4). These are 1.) AS-31-41, a star mound, 2.) AS-31-42, a platform (raised area with stone facings and stone wall segments possibly connected with the star mound; Site AS-31-41), 3.) AS-31-43, a conglomeration of stone features, stone alignments and paths behind the Fatucaiga Church complex, 4) AS-31-44, a rock mound or possible star mound behind Haleck's Dairy, and 5.) AS-31-45, a rock platform. Sites AS-31-41, -43, and -45 were initially recognized and reported by Jeff Fentress (Fentress 1995) during a archaeological pedestrian reconnaissance survey of the Kokoland-Tongaville extension of the proposed Tafuna Plains Sewer System during 1995 (see Appendix B). AS-31-42 and -44 were identified by ACP during current investigations. At the request of ASPA and ASHP, AS-31-41 and AS-31-43 were further mapped and surveyed. These are detailed below.

Site AS-31-41: Star Mound

A star mound (Site AS-31-41; see Figures 3, 4, 26 and 27; see also Appendix A for photographs), was located 96m northwest (305 degrees) of a point on the road between 2ME-7 and 19ME-5, approximately five meters northeast from the location of Well 61. This is approximately the center point of the top platform of the star mound. The star mound was cleared and subsequently mapped using a transit, compass and tape. Three levels were apparent; a top structure, and immediate base structure and an extended base structure. The star mound was surface surveyed for additional cultural material on the upper platform, the encircling base area and the extended base area following initial clearance of dense vegetation. Numerous banana trees were located on the top of the structure. Clearing was restricted to minimal removal of vegetation in order to avoid damaging fruit trees. No attempt was made to clear the extended base area due to time restrictions and dense vegetation. No sub-surface testing was conducted.
Figure 27: Plan of Star Mound (Site AS-31-41 and Site AS-31-42)

- **KEY**
  - X Banana Tree
  - ∞ Coconut Tree
  - O Rock

- **Note:** Exact locations and boundaries of high and low areas were not determined. Only estimations are provided on this map based on cursory survey.

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Star mounds and pigeon catching mounds have been noted in parts of Oceania. Numerous star mounds have been documented in the Samoan islands. Several star mounds have been located on Tutuila, some of which are located on the Tafuna Plain less than one kilometer from this site.

Star mounds have been categorized as specialized sites (Davidson 1974b). However, Herdrich (1991:387) suggests that star mounds and single-rayed mounds belong to a single category which has internal "varietal" membership. These structures are suggested to have been utilized for the competitive chiefly ritualistic Samoan sport of pigeon-catching (Davidson 1974a; Peters 1969; Buist 1969; Herdrich 1991; see also Scott 1969; Davidson 1974b; Frost 1978; Pritchard 1866; Buck 1930; and Kramer 1902). The name, tia sceu lupe (pigeon-catching mound) is indicative of this utilization. That this activity is associated with star mounds is further supported by evidence from Tonga (Ferdon 1987; Martin 1981; Herdrich 1991; McKern 1929) and has implications concerning the ritual use of star mounds in Samoa, especially in light of the cultural and historical links between Samoa and Tonga (Kaepler 1978).

Star mounds likely served additional ritual purposes as well. The design and function of these structures may be symbolically associated to village spatial organization, village social structure, and to the morphology of certain Samoan gods (Herdrich 1991). Star mounds may also have served as a link to the supernatural realm due to location and associated ritual activities which places them in the context of the supernatural from the Samoan perspective (Herdrich 1991:407). However, symbolic analyses of star mounds remain limited to only a few studies and comments (Herdrich 1991; Kikuchi MS n.d.:13; Hunt and Kirch 1988:179).

Star mounds are generally thought to have been constructed late in Samoa's prehistory (Davidson 1974c:243; Herdrich 1991:390; Holmer 1976a:31; Frost 1978:75), though future studies may indicate otherwise. Little evidence has been recovered concerning the temporal distribution of star mounds.

Excavations of star mounds in Samoa (Peters 1969; Holmer 1976b; Frost 1978; Hewitt 1980; Best et al. 1989) have suggested that these structures were not utilized as burial mounds or residential structures. Star mounds have been suggested to play a role in defensive fortifications (Best et al. 1989:7; see also Davidson 1974a:191-3; Clark and Herdrich 1988:51 and Clark 1989:143-4 for further information concerning defensive ditches which may be associated with star mounds). However, the lack of strategic positioning and construction (usually some distance from associated settlements and often no more than 30cm in height) of many star mounds contradicts this hypothesis (Herdrich 1991:390-
1). Finally, there is no ethno-historical evidence in Samoa nor other supporting evidence which suggests that star mounds were utilized as territorial markers (Herdrich 1991:391).

Site AS-31-41 does not appear to provide any evidence that it was utilized as a fortification. It is also unlikely that the location and design was strategically engineered for defensive purposes. Additional research is necessary to determine the nature and function of Site AS-31-41 and associated features.

The star mound (Site AS-31-41) appears to have been constructed with boulders, rocks and fill, 5-40cm in diameter, obtained from the local area. These materials may have been obtained from the ditch or small gully which is located on the northern side of the star mound. Three levels are evident which define the star mound.

The first level consists of an extended base area which has been aligned with large rocks and boulders. This appears to be retaining rock fill. The second level is completely encircled by the first level. This second level consists of a base structure, in some places deteriorated and slumping, but having a shape which closely follows the contour of the upper platform. The third level is the upper platform of the star mound. This was constructed of rock boulders and fill 5-40cm in diameter, forming a level surface.

The upper platform of the star mound has a maximum diameter of approximately 21m. The next level or immediate base supporting the upper platform has a maximum diameter of approximately 26m. The extended base has a maximum diameter of approximately 45m.

There are approximately 4-6 rays. The exact number of rays is somewhat problematic to assess. There are two reasons for this difficulty. First, there is a notch on the western side of the upper platform which leads down to the extended base of the structure. This appears to be the remnants of a staircase which leads to the top of the platform. However, it is severely deteriorated. This feature may be resultant from the wall having crumbled and fallen over time. The upper platform extends to two points on either side of this notch. This may be due to the initial construction of two separate rays in this location (the staircase bisecting these two rays). However, this may have been designed as a single ray, and due to severe disturbances, it now appears to be two separate rays.

The second problem arises from the present condition of various sections of the outer walls or faces of the top platform. Some sections are severely disturbed. In these areas, the rocks from the supporting faces have fallen away, leaving sections of the original upper platform missing.
Thus, it is difficult to determine with accuracy the original dimensions and shape of the upper platform from a plan view.

There is a depression approximately in the center of the upper platform. The depression is about 1.5m in diameter. With this exception, the surface of the upper platform remains consistently level. It was suggested that the depression is somewhat similar to Tongan style pigeon catching mounds (Herdrich-Personal Communication; see also McKern 1929; Ferdon 1987; Scott 1969). It was further suggested that this may have been the location for the release of decoy birds during bird-snaring activities.

The elevation of the upper platform above its immediate base structure is approximately 2.0-4.0m. This remains consistent along the circumference of the immediate base structure except in the north and northwest sections where it is 4.5-6.5m above the immediate base structure due to the sloping down of the base structure in these locations.

The condition of the faces from the top of the upper platform to the immediate base structure varies considerably. In a few sections, the condition is excellent. The faces in these sections are nearly vertical. The condition of the faces in most of the sections is moderate. Along these sections, portions of the rock faces have partially fallen. Finally, the condition of the faces in the remaining sections is poor. These sections are characterized as severely disturbed, fallen and crumbled.

The elevation of the upper platform above the perimeter of the extended base structure is approximately 3.5-7.0m agl (meters above ground level). The greatest difference in elevation is located on the western and northern slopes of the star mound. This is also the location of the notch and possible staircase. Beyond this point is a ditch or small gully which extends further northwest and east. This is the lowest elevation in the surrounding area. There are additional stacked rock features in nearby areas as well. This may have been an area where material was retrieved for the construction of the star mound.

The areas on either side of the gully appear to be flat, raised areas which may have rock features or alignments. A stack of rocks was noted on one of these areas. However, the vegetation was too dense to assess surrounding rock features with any accuracy. These possible features were unfortunately beyond the area of study for the current investigation and detailed mapping was not conducted.

The area immediately to the east and south of the mound is fairly level. This area extends to the road. It is
covered with dense surface vegetation and scattered fruit
trees belonging to a nearby resident.

The perimeter of the extended base structure appears to
have been aligned with fairly large rocks and small boulders.
This appears to have been designed to retain rock, gravel and
fill. Several large boulders and possible stacked rock
features occur along the southern border of the extended base
structure.

Finally, the star mound itself may be associated with
Site AS-31-42; Features A, B and C. The star mound is
positioned within close proximity to Site AS-31-42. It is
unclear due to the dense vegetation whether or not these two
sites are physically connected. It is also unclear whether
or not other nearby raised flat areas are constructed similar
to Site AS-31-42 and inter-connected with Site AS-31-42 and
the star mound (AS-31-41) such that a unique configuration of
sites were formed which inter-linked as parts of a greater
site complex. However, it has not been determined whether
Site AS-31-42 is contemporary with the star mound and other
possible sites represented by the surrounding raised level
areas.

Herdrich (1991:392) discusses maloloca sites in
association with star mounds (from Buck 1930:544). These
were generally camp sites associated with star mounds and
classified by the presence of oven sites and cooking
stones. It is possible that Site AS-31-42 may have served
this function.

A small opening to what appears to be a possible small
cave or hole (the opening measures 50 X 100cm) is located on
the north-western slope of the star mound (AS-31-41), near
the ditch, past the extended platform of the mound. This may
have been a possible storage area. It was probed with the
stadia-rod to determine the depth. However, after 1.5m it
was blocked with rock.

Several non-local stones were noted in the vicinity
surrounding the star mound (AS-31-41). One large tabular
non-local broken basalt block (40cm X 10cm X 18cm) was also
noted on the northeast to east slope of the base structure
(see Appendix A). Several large boulders, possible stacks of
rocks, possible rock alignments, possible rock walls and
raised flat areas were noted in the surrounding vicinity.

In accordance with the discussion above, it is highly
unlikely that this star mound (AS-31-41) served any defensive
purposes. However, further research is needed to support
or contradict this conclusion in light of additional
surrounding features and possible ditches which may have been
designed for defensive functions. It is also unlikely that
this site is associated with burials or residential
structures. Further sub-surface testing would qualify this assumption. It is reasonable to suggest that this site accords with Herdrich's interpretations (1991) of Samoan star mounds. This site likely served as: 1.) a location for pigeon-catching and ritual activities, 2.) a symbolic representation of mythological entities, and 3.) a representation of village social structure and spatial organization (Herdrich 1991:423-4). This site is unique in that it has an extended base area with rock alignments which appears to be retaining rock and fill. It is also unique because of the central depression, which may have affinities to Tongan-style pigeon catching mounds. Finally, this site is unique due to the possible association with Site AS-31-42 which is defined by a raised flat area with bordering rock wall segments.

**Site AS-31-42: Raised Level Area and Wall Segments**

Site AS-31-42 (Figure 28) is composed of three features: Feature A is a raised level platform with intact and deteriorated segments of faced stone alignments retaining the fill, Feature B is a rock wall, and Feature C is a remnant rock wall segment (see Appendix A for photographs).

Feature A is located approximately 45m west to southwest (at the approximate center-point of Feature A, 250.5 degrees from MN) from the center of the upper platform of the star mound (AS-31-41) (see Figures 3 and 27). It is about 3.5m below the upper platform of the star mound (AS-31-41). Feature A is a raised level platform covered in dense, grassy vegetation with a few coconut trees. It is roughly oval in shape from the plan view with the longest diameter (approximately 27-30m) running in an east-west direction. The north-south diameter is the shortest (approximately 14-15m). This feature is retained by a faced rock alignment made from locally available rock on its northern border, part of an extended rock wall also made from locally available rock (Feature B) on its western border, and deteriorated rock facing and a small ditch along the southern perimeter. Occasional boulders and larger rocks were also noted along the perimeter.

The area was surveyed and mapped. No sub-surface testing was conducted. No additional surface artifactual or cultural material was noted. However, vegetation was dense and the entire area was not cleared. It is unclear whether this feature is connected to or associated with the star mound (AS-31-41). Additional features similar to Feature A may be located in the surrounding area. A brief survey of this area suggested there may be at least two additional similar features extending around the western and northern area of the star mound (AS-31-41). These appear to contain rock features and may be bordered by small ditches and rock alignments as well. This was not explored with great detail.
Figure 28: Top Plan of Feature A, B, and C (Site AS-31-42)

Key:
- Rock
- Faced Rock
- Coconut Tree
- Possible Wall Segment

Feature A
- Raised Level Area
- Point shot from starmound
- Level with ground surface

Feature B
- Roughly Constructed Wall
- 40cm AGL
- 1m AGL

Feature C
- Star Mound
- 30cm AGL
- 50cm AGL
- 35cm AGL
- 60cm AGL
- Wall continues

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due to time restraints and spatial restraints dictated by the limits of the project area.

Feature B is a rock wall which runs in a north to northwest direction (approximately 120-330 degrees from MN). However, it slightly bows along the northern length. The wall is composed of locally available rock. It is stacked from two to five courses high and three to four courses wide. A 30m segment of the wall was measured. It was unclear whether any of the terminal ends were encountered. This section ranged from good to moderate condition. Some portions were extremely weathered and had crumbled and fallen away. A section of this wall formed the western border of Feature A. The wall ranges from 0.5-1.0m in height. The width remains relatively consistent at about 1.0m.

No additional cultural materials were recovered near Feature B. However, intensive surface survey was not undertaken due to time constraints and dense surface vegetation.

Feature C is a remnant wall segment. This wall segment is approximately 13m north of the midpoint of Feature 42A. It is approximately 4m in length and is oriented in an east-west direction. This feature was also constructed with locally available rock. The condition of the wall segment was poor.

No additional cultural materials were recovered near Feature C. However, intensive surface survey was not undertaken due to time restrictions and dense surface vegetation.

**Site AS-31-43**

Site AS-31-43 was located behind Fatuonaiga Church, at the church's western end in the vicinity marked Main 2ME (see Figure 3; see also Appendix A for photographs). This site was surface surveyed and mapped. Vegetation was dense. The area was minimally cleared to avoid extensive damage to fruit trees.

The site encompassed an area covering approximately 1800 square meters whose limits were defined by the church grounds, a modern wall, the sewer line and a boulder field. Additional sites bordering Site AS-31-43 may exist past the modern wall or boulder field on the site's southern and western sides as well as across the sewer line towards the northeast. However, these outlying areas were given only cursory reconnaissance examinations due to the spatial restraints of the project.

Site AS-31-43 is rather enigmatic in design in that it consists of a conglomeration of features which are composed
of ditches, depressions, rock aligned paths, rock alignments, rock facings, stacked rock facings (usually encircling one or two large trees), and small circular rock platforms and mounds (see Figure 29).

The site is heavily covered in dense vegetation and extends to a boulder field and remnants of a lava flow. This boulder field/lava flow area extends into a rather large, complex pig pen (currently utilized) which is built up with extensive rock walls. It is possible that additional features are present in the surrounding area.

One informant claimed that this location had been built during the construction of the church in 1980. However, several lithic artifacts were recovered which suggests that there was a prior existing site at this location. At the time of the church construction, this site was likely re-built and slightly altered from the remnants of the prior existing site. Sections of this site are now utilized as a garden for fruit trees and also a dumping ground for garbage.

The existing features are in close proximity to one another. The overall design is complex, intricate and unique. Some of the rock facings are well designed and measure from 0.5m to over 2.0m in height. There are significant elevation differences among the features.

There are at least five large depressions, pits or trenches. These appear to have been excavated and leveled. These are aligned with rocks and rock facings along the perimeter. One of the deeper pits has been utilized as a dumping area for garbage.

There are approximately 10-15 stacked rock features. Many of these appear to be small circular piles or small platforms of rock which encircle one to two trees. These have been leveled off at the top. The outer facings are frequently perpendicular and fairly well designed. Most of these measure between 1.5-2.5m in diameter. The height ranges from about 0.5-1.5m. Many of these are filled with smaller rocks and rubble. This is a common feature present around trees for many contemporary Samoan residences, parks, gardens and buildings.

Several of the remaining stacked rock features appear to be small circular platforms. These range in diameter from about 2-10m. Some of these are level at the top. Others are slightly rounded at the top. All of these features are filled with rock and rubble. The facings of many of these features are perpendicular and in fairly good condition. The height ranges from about 0.5m to over 2.0m.

There is a network of small footpaths interweaving the above mentioned features. These range from about 1.0-2.5m in
Figure 29: Fatuoiga Plan: Site AS-31-43

**KEY**
- Rock
- Pahoehoe
- Tree
- Slope
- Pathway
- Transit

18.6m to 2ME-3
335 MN
(see Figure 4)

Boulder Field
50-100cm diameter

Possible small cave entrance

Point 4
1.67m below T

Point 8
1.18m below T

Point 2
1.64m below T

Point 3
2.46m below T

Depression

Trash Pit

Rock Fill

Fale

level

modern umu

trash and solid bags of concrete/cement

rock/concrete wall

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width. Most of these paths are either bordered by feature facings or have rock alignments bordering the path edges. The paths have been filled with cinder and dirt.

Several additional features are present. These appear to be remnants of small platforms, small mounds, rock walls, rock alignments, rock facings and additional footpaths. However, the conditions of these features are generally poor. Furthermore, the dense vegetation and spatial restrictions prevented further assessment in order to better elucidate nature of these additional features.

No significantly large or monumental rock structures (such as found elsewhere on the Tafuna Plain within a kilometer of this site) were noted in the immediate survey area. An area containing additional possible features (other than those speculated to exist to the south and west of the site) was identified northeast of the site within the forest on the northern side of the Fatuoaiga Church grounds (see Figure 3).

During the initial pedestrian survey of the sewer line extension conducted by Fentress in September of 1995, a feature was identified adjacent to Site AS-31-43 which was described as a "Ten foot high basalt wall (natural)" (identified as area #6 by Fentress 1995; see Appendix B). This natural geological formation occurs as a topographic rise in the northeastern corner of Site 43 and takes the form of an exposed basalt outcropping as the formation extends to the northeast. The basalt outcropping forms the "wall" encountered by Fentress. The wall formed by the outcropping extends into the forest on lands owned by the Haleck family north of Fatuoaiga Church.

During a cursory examination of this area it appeared that the outcroppings formed a series of ridges interspersed by depressions or ditches. While it is probable that these formations are natural, the possibility that these natural formations may have been modified to form defensive fortifications should not be discounted without further study.

The list of surface artifacts recovered include several broken basalt adzes and/or preforms, a complete basalt adze preform (this may have been a utilized tool), a ground cutting edge from a basalt adze and a stone pounding implement. Two of the artifacts recovered were the butts of significantly large triangular sectioned adzes (having suffered transverse fracture). Traces of polishing suggest that these may have been finished adzes which were likely broken during use.

The ground adze cutting edge appears to have been intentionally flaked from the adze. A broken corner section
of the cutting edge further suggests that the cutting edge was damaged during use. Following this, the cutting edge was likely flaked off the adze in order to prepare a new cutting edge for the damaged adze.

The surface artifacts suggest that this site may have been a significant activity area. Although at least one possible preform was recovered, there were no evident lithic scatters nor grinding stones that would suggest that this may have been a finishing workshop for adze production.

The construction of this site must have taken considerable effort, planning and labor. This indicates that this site may have had considerable significance. The present features, coupled with the presence of stone tool artifacts suggest that this area may have been a significant garden or ritual activity area. No sub-surface testing was conducted.

Site AS-31-44: Stone Mound/Possible Star Mound

Site AS-31-44 is located along the southern edge of the road extending southwest from Haleck’s Dairy, approximately 210m due east of 2ME-7 (see Figures 3 and 4). This site was on the border of the project area. Site AS-11-44 was identified and given cursory examination to assess its significance.

The site is a large stone mound. The site is approximately 22 X 10m with the longest extension running in an east-west direction. The site was covered in dense vegetation. The rock facings seemed relatively intact. These measure up to 2.5m in height. There appears to be a gradual ramp which runs up the western face which. This ramp may have formed due to deterioration.

Site AS-31-45: Rock Platform

Site AS-31-45 is located between 2ME-4 and 2ME-5, approximately 150m southeast of 2ME-7 and 160m north of 2ME-8 and the tennis courts (see Figures 3 and 4). It was initially identified by Fentress during the pedestrian survey of the sewer extension corridor (see Appendix B).

Site AS-31-45 consists of an oval raised earth and stone platform. It measures approximately 15 X 8m. The longest extension runs in an east-west direction. The height of the platform ranges from about 50-100cm agl.

Due to the positioning of this site in relation to the construction corridor, the nature of construction activities, and the maneuvering of machinery within the narrow stretch of the subject corridor in this location, there will be an unavoidable “adverse effect” (36 CFR 800.9 (b)). Data
recovery is recommended in order to mitigate effects of construction activities.

Section 5.3: Lithic Artifacts Recovered From Fatuoaiga

A variety of lithic materials were collected from Site AS-31-43 (Fatuoaiga) during the current investigations and subsequent mapping (refer to Table 2). These include broken basalt adze(s), a complete basalt adze preform, broken basalt adze preform(s), the polished cutting edge removed from a basalt adze, a broken basalt pebble pounding implement, and a basalt waste flake.

These items were collected during the course of clearing, additional survey and mapping of the conglomeration of features located behind Fatuoaiga Church. These artifacts were collected in the vicinity of points 3 and 2 with the exception of the complete preform (KLE-007) which was collected from a small runway of rock fill and 'ili 'ili aligning the sidewalks along the back sections of the resident building of Fatuoaiga Church. Portions of this rock fill were obtained from the subject area behind Fatuoaiga Church.

Due to the nature of the surface lithic assemblage recovered from the Fatuoaiga area combined with the spatial location which associates these lithic artifacts with the unique cluster of features, a separate lithic analysis with detailed descriptions is provided below for this lithic assemblage. The lithic artifacts are likely utilized and exhausted tools which were broken during use.

The two larger, triangular sectioned broken adzes may have derived from significant export quality or ritual adzes. It is unclear whether or not some of the other implement(s) which may be discarded preform(s) were actually utilized tools. What is clear, however, is the fact that the lithic assemblage recovered from this area is not typical of an adze manufacturing or finishing workshop, but is more typical of exhausted and discarded implements from a processing area in which these tools were utilized (presumably for the working of wood such as canoe building or the preparation of construction materials for house structures).

The uniqueness and complexity of the site features adds further significance to this area. This may be indicative that significant ritual activities occurred at this site. Some of these activities may have included the processing of large amounts of wood and the construction of important items which may have had ritual significance or were processed in a ritual context. This possibility warrants the detailed description and analysis provided below.
<table>
<thead>
<tr>
<th>Artifact #</th>
<th>Description</th>
<th>Weight</th>
<th>Cross Section</th>
<th>Evidence of Polishing/ Grinding</th>
<th>Type (Leach, Witter and Best)</th>
<th>Type (Green and Davidson)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KLE-001</td>
<td>Adze (broken)</td>
<td>1050.0g</td>
<td>Triangular</td>
<td>Yes</td>
<td>C</td>
<td>VI or VII</td>
</tr>
<tr>
<td>KLE-002</td>
<td>Pounder (broken)</td>
<td>513.0g</td>
<td>Oval</td>
<td>No</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>KLE-003</td>
<td>Adze (broken)</td>
<td>378.0g</td>
<td>Triangular</td>
<td>Yes</td>
<td>C</td>
<td>VI or VII</td>
</tr>
<tr>
<td>KLE-004</td>
<td>Adze Cutting Edge (broken)</td>
<td>23.5g</td>
<td>Indeterminate (IND)</td>
<td>Yes</td>
<td>IND</td>
<td>IND</td>
</tr>
<tr>
<td>KLE-005</td>
<td>Waste Flake</td>
<td>8.0g</td>
<td>-</td>
<td>No</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>KLE-006</td>
<td>Preform/Other Implement</td>
<td>151.5g</td>
<td>Trapezoidal</td>
<td>No</td>
<td>IND</td>
<td>IND</td>
</tr>
<tr>
<td>KLE-007</td>
<td>Adze/Preform</td>
<td>186.0g</td>
<td>Trapezoidal or Diamond</td>
<td>No</td>
<td>B</td>
<td>II</td>
</tr>
</tbody>
</table>
Artifact #KLE-001: KLE-001 is a large triangular sectioned broken basalt adze (see Figure 30). KLE-001 is composed of a hard dense medium-fine grained dark gray basalt. There is no apparent evidence of peppering, banding or large phenocrysts. There are no cortical surfaces present. The adze has suffered transverse fracture which probably occurred during use or re-modification but not initial production. The cutting edge and bevel end is missing.

KLE-001 has a near equilateral triangular cross section. KLE-001 expands from the butt towards the cutting edge when viewed from a plan view. Butt width is 4.44cm. Mid-section width is 6.35cm. Butt thickness is 4.54cm. Mid-section thickness is 5.49cm. The maximum length is 17.4cm. The weight is approximately 1050g.

It appears that the initial blank was removed from a large core of basalt (possibly from the converging sides of a large tabular core). This conforms to the Leach and Witter (1987, 1990) and Best et al. (1989) Type C blank form for Samoan adze manufacture.

Type C blanks were formed by utilizing a flake-blank technology rather than a reduced core-blank technology. A large triangular-sectioned blade-blank was removed from suitable shaped and prepared angular basalt blocks (Leach and Witter 1987:41-42). The resulting form of adze has been classified as a Green and Davidson (1969:26-28) Type VI or Type VII Samoan adze.

Green and Davidson (1969:26-28) suggest that the proper orientation is achieved such that the apex formed by two of the converging sides is the front surface of the adze; thereby leaving a frontal or facial ridge running partially down the front of the adze from the butt towards the mid-section or cutting edge of the adze. This follows an earlier adze typology created by Buck (1930). This orientation cannot be confirmed for KLE-001 due to the absence of the cutting edge and bevel section of the adze. It is possible that KLE-001 was hafted in a manner such that the apex formed the back of the adze.

However, in the following description, KLE-001 is oriented in accordance with Buck’s (1930) and Green and Davidson’s (1969) classification in which the apex is located on the front of the adze.

The initial core and striking platform for the removal of the blank/preform was likely partially prepared. Platform preparation has been noted for Samoan adze manufacture sequences (Leach and Witter 1987:43). The butt was used as the striking platform to remove the blank/preform. Remnants of a diffuse percussion bulb are evident on the back near the
Figure 30: Fatuonaiga Adze, Artifact #KLE-001

Plan View of Front/Face

0 1cm

Plan View of Back

(orientation based on Green & Davidson 1969)
Figure 30 (continued): Fatuoaiga Adze, Artifact #KLE-001

Side View

Cross Section

0  1cm
butt end. The pattern of negative flake scars indicates that the back and the ridge along the face were utilized as platforms to remove flakes from the sides and front. The removal of flakes from the back is not evident. However, subsequent grinding and polishing may have obliterated evidence of flake removal from some surfaces.

There are areas along the sides, front ridge and back which indicates that the adze had been partially ground and polished. These are generally protuberances which would have been partially polished during the grinding process of the cutting edge, bevel, back and face (near the cutting edge). Most of the surface area of the adze was never fully polished.

There is evidence in the form of negative flake scars which suggests that this piece may have undergone episodes or re-sharpening and re-modification. This may have been the cause of transverse fracture and subsequent discard of KLE-001.

The large size of KLE-001 indicates that it was likely utilized for heavy duty wood-working activities. This form of adze may have been associated with a specialist tool kit and/or may have been associated with uncommon, non-mundane or ritual activities (Leach and Witter 1987; see also Leach 1993 for comments concerning adze’s with ritual associations or powers).

Artifact #KLE-002: KLE-002 is a large spherical or rod-shaped broken basalt pounding implement made from a smooth water-worn pebble (see Figure 31). KLE-002 is composed of a hard dense medium-fine grained dark reddish brown basalt. The non-broken surfaces are entirely composed of cortex. There is no apparent evidence of peppering, banding or large phenocrysts.

This piece has suffered what appears to be transverse fracture. KLE-002 is also cracked longitudinally in several places. These breakage patterns are common for pounding implements in which the ends of a rod-shaped or spherical water-worn pebble has been used for repetitive pounding action against a stationary hard contact material.

There are a few pecking scars at the end. This is also the location where the cracks originate. There is also a smooth concave depression (2.49cm X 3.21cm) near this end. This depression is slightly raised or buttressed along the circumference. This feature may or may not have resulted from pounding action. However, it appears to be more of a natural feature rather than the result of tool use.

The maximum width is 7.35cm. Maximum thickness is 5.41cm. Maximum length is 8.85cm. The weight is 513g.
KLE-002 is similar to hammerstones utilized for adze manufacture noted in other Samoan tool kits (Leach and Witter 1987:43).

Artifact #KLE-003: KLE-003 is a large triangular sectioned broken basalt adze (Figure 32). KLE-003 is composed of a hard dense medium-fine grained gray basalt. There is no apparent evidence of pepperling, banding or large phenocrysts. There are no cortical surfaces present. The adze has suffered transverse fracture which probably occurred during use or re-modification but not initial production. The cutting edge and bevel end is missing.

KLE-003 has a near equilateral triangular cross section. KLE-003 expands from the butt towards the cutting edge when viewed from a plan view. Butt width is 3.81cm. Mid-section width is 5.76cm. Butt thickness is 2.89cm. Mid-section thickness is 3.76cm. The maximum length is 12.24cm. The weight is approximately 378g.

It appears that the initial blank was removed from a large core of basalt (possibly from the converging sides of a large tabular core). This conforms to the Leach and Witter (1987, 1990) and Best et al. (1989) Type C blank form for Samoan adze manufacture.

Type C blanks were formed by utilizing a flake-blank technology rather than a reduced core-blank technology. A large triangular-sectioned blade-blank was removed from suitable shaped and prepared angular basalt blocks (Leach and Witter 1987:41-42). The resulting form of adze has been classified as a Green and Davidson (1969:26-28) Type VI or Type VII Samoan adze.

Green and Davidson (1969:26-28) suggest that the proper orientation is achieved such that the apex formed by two of the converging sides is the front surface of the adze; thereby leaving a frontal or facial ridge running partially down the front of the adze from the butt towards the mid-section or cutting edge of the adze. This follows an earlier adze typology created by Buck (1930). This orientation cannot be confirmed for KLE-003 due to the absence of the cutting edge and bevel section of the adze. It is possible that KLE-003 was hafted in a manner such that the apex formed the back of the adze.

However, in the following description, KLE-003 is oriented in accordance with Buck’s (1930) and Green and Davidson’s (1969) classification in which the apex is located on the front of the adze.

The initial core and striking platform for the removal of the blank/preform was likely partially prepared. Platform preparation has been noted for Samoan Adze manufacture.
Figure 32: Adze, Artifact #KLE-003

Plan View of Front/Face

Plan View of Back

0 1cm

(orientation based on Green & Davidson 1989)
Figure 32 (continued): Adze, Artifact #KLE-003

Side View

Cross Section

0 1cm
sequences (Leach and Witter 1987:43). The butt was used as
the striking platform to remove the blank/preform. Remnants
of a diffuse percussion bulb are evident on the back near the
butt end.

The pattern of negative flake scars indicates that the
back and the ridge along the face were utilized as platforms
to remove flakes from the sides and front. Flakes were also
removed from the back using the sides as platforms.
Subsequent grinding and polishing may have obliterated
evidence of flake removal from some surfaces.

There are areas along the sides, front ridge and back
which indicate that the adze had been partially ground and
polished. These are generally protuberances which would have
been partially polished during the grinding process of the
cutting edge, bevel, back and face (near the cutting edge).
Most of the surface area of the adze was never fully
polished.

There is evidence in the form of negative flake scars
which suggest that this piece may have undergone episodes of
re-sharpening and re-modification. This may have been the
cause of transverse fracture and subsequent discard of KLE-
003.

The relatively large size of KLE-003 indicates that it
was likely utilized for heavy duty wood-working activities.
This form of adze may have been associated with a specialist
tool kit and/or may have been associated with uncommon, non-
mundane or ritual activities (Leach and Witter 1987; see also
Leach 1993 for comments concerning adze’s with ritual
associations or powers).

KLE-003 appears to be a morphologically smaller version
of KLE-001, although it appears that more flakes were removed
during initial manufacture of the adze and more surface area
appears to have been ground and polished.

Artifact #KLE-004: KLE-004 is the ground and polished
cutting edge from a basalt adze (see Figure 33). This piece
appears to be a flake which was removed from the cutting edge
and bevel end of the parent adze. KLE-004 is composed of a
hard dense medium-fine grained gray basalt. There is no
apparent evidence of peppering, banding or large phenocrysts.
There are no cortical surfaces present.

KLE-004 includes the cutting edge, a section of the
face, and a small section of the bevel. Grinding striations
are present on the face and bevel which run perpendicular to
the cutting edge. A small chunk has broken off one side of
the cutting edge. There is a small spall missing from the
center of the bevel at the margin where the remaining bevel
Figure 33: Ground Cutting Edge Flake From Adze, Artifact #KLE-004

Plan View of Back

Plan View of Front/Face

Side View

Cross Section

0 1cm
section is missing. The majority of the cutting edge is intact and in good condition.

KLE-004 appears to be a flake which was removed from the bevel of the parent adze (using the center of the bevel surface as the striking platform as indicated by the morphology of the artifact and the negative spall scar emanating from the bevel surface). This piece was the cutting edge of an adze. This piece may have become defective during use, as indicated by the chunk missing from the cutting edge. The remainder of the cutting edge may have subsequently been removed in order to recycle, re-modify or re-sharpen the adze.

The bevel has an angle of about 45-55 degrees from the cutting edge. The section of the face just beneath the cutting edge has an angle of approximately 30 degrees which extends less than 0.5cm from the cutting edge. The face then rounds and flattens to a slightly convex curvature further from the cutting edge.

The maximum width of KLE-004 is 4.31cm. Maximum thickness is 1.33cm. Maximum length is 4.94cm. The weight is 23.5g.

All original surfaces of the parent adze near the cutting edge as represented by this piece have been extensively ground and polished. All evidence of initial preform flaking has been obliterated. Determining the cross section of the parent adze from this piece is not possible with any degree of accuracy. KLE-004 may have been trapezoidal or rectangular in cross section at the cutting edge.

Artifact #KLE-005: KLE-005 is a small basalt waste flake. KLE-005 is composed of a hard dense medium-fine grained dark gray basalt. There is no apparent evidence of peppering, banding or large phenocrysts.

KLE-005 has no evidence of use damage which would indicate that it was a utilized flake. This piece has been snapped at opposite ends (not use related). There are two dorsal ridges along the dorsal surface from prior flaking. There is no bulb of percussion. There are no cortical surfaces present. This piece likely resulted from tool manufacture or re-modification. The parent tool is unknown. It is possible that this piece may have resulted from breakage on a pounding implement such as a hammerstone. However, the morphology indicates that this was likely not the case.

The maximum width of KLE-005 is 4.95cm. Maximum length is 2.65cm. Maximum thickness is 0.59cm. The weight is 8.0g.
Artifact #KLE-006: KLE-006 is a basalt tool preform (possible adze preform; Type D2 from Best et al. 1989:62) (see Figure 34). KLE-006 may be an exhausted tool although this is difficult to determine with any degree of accuracy.

KLE-006 is composed of a hard dense medium-fine grained dark gray basalt. There is no apparent evidence of peppering, banding or large phenocrysts. The outer surface is significantly weathered, but does not appear to be original cortical surface from the parent material. There is evidence of transverse fracture. The working edge end is apparently missing. This may have occurred during manufacture of the preform. However, this may have resulted from tool use if this piece was once a completed tool. There is evidence of recent breakage in the form of a few negative flake scars along one side. This appears to be accidental (e.g., resultant from post-depositional disturbances such as trampling).

KLE-006 was likely derived as a flake from an initial parent basalt core block. There may be a possible percussion bulb on the face near the butt end. Due to subsequent flaking and weathering, this is difficult to confirm.

Long longitudinal flakes or blades have been removed from the back and sides. This gives the piece a trapezoidal cross section (concave along the back). The curvature of the face is convex. These flakes or blades may have been removed prior to removal of the blank/preform from the parent block. Flakes have been removed from the face using the sides as a platform. There are heavy battering marks at this location. A few flakes have been removed along the back using the butt as a platform. Almost no other flakes have been removed from the sides or back of the piece with the exception of the recent post-depositional breakage. There is no apparent use damage. There is no evidence of polishing or grinding.

KLE-006 has a maximum thickness of 2.47cm. Maximum width is 4.91cm. Maximum length is 8.28cm. The weight is 151.5g.

Artifact #KLE-007: KLE-007 is a complete trapezoidal/diamond sectioned basalt adze preform (see Figure 35). KLE-007 is composed of a hard dense medium-fine grained dark gray basalt. There is no apparent evidence of peppering, banding or large phenocrysts. This piece appears to be a finished preform from a Type B blank (Leach and Witter 1987:47; Best et al. 1989:58-63). This conforms to the Green and Davidson (1989:23) Type II adze. There is no evidence of grinding or polishing along any surface (especially along the bevel and cutting edge which would indicate that this may have been a finished form). The right side along the back is composed of cortex. A section of the butt is also composed of cortical surface.
Figure 34: Fatuoaiga Basalt Tool / Preform, Artifact #KLE-006

Plan View of Front/Face

Plan View of Back

Side View

Cross Section

0 1cm
The blank/preform has been manufactured from a flake which was likely derived from a moderately prepared tabular core of basalt. The cortical section along the back was used as the striking platform. Remnants of a percussion bulb are evident along the opposite back surface. This surface would have been the ventral surface of a broad, short and thick flake. The cutting edge and butt of the preform has been manufactured on the left and right margins of the flake rather than the distal or proximal margins. The distal and proximal margins of the flake form the sides of the preform.

Extensive flaking has occurred along the sides and back using the sides as a platform. The cutting edge and bevel has been formed using the cutting edge as a platform (removing small flakes along the back surface to form the bevel). No flakes were removed using the cutting edge as a platform to remove flakes from the underside of the back bevel (along the face). Flakes have been removed along the face only to form the sides of the adze extending about 1.0-1.5cm into the surface of the face. The remaining face has not been modified.

The back forms a center ridge along the butt half of the preform. From the center point along the back, the ridge expands in a V-shape towards the cutting edge when viewed in plan view. The sides along the face of the adze extend in 1.0-1.5cm at about a 45 degree angle until the face surface is reached. The face surface expands from the butt (its most narrow width) towards the cutting edge (equivalent to the width of the cutting edge).

The preform expands from the butt towards the cutting edge when viewed in plan view. The maximum length is 10.63cm. Butt width is 3.11cm. Mid-section width is 4.64cm. Cutting edge width is 5.04cm. Butt thickness is 1.27cm. Mid-section thickness is 2.35cm. Cutting edge thickness is 1.56cm. The weight is 186.0g.

The cross section is triangular along the back along the butt half, and trapezoidal along the cutting edge half. The cross section along the face is trapezoidal (converging).

The cutting edge is straight. The angle formed along the bevel from the cutting edge is approximately 45 degrees. The angle formed along the face immediately from the cutting edge is approximately 30 degrees. The face extending from the cutting edge is convex. The face has a bowed or belly appearance from the cutting edge until the mid-section of the preform is reached. There are battering marks and spall scars along the cutting edge.

Although the cutting edge has not been ground, it is extremely well formed. This piece potentially could have been utilized as a wood-working tool despite the lack of
grinding. Use damage analyses are inconclusive. The damage to the cutting edge could have just as easily resulted from manufacture rather than use. There are no polished areas along the butt end which would indicate wear resulting from lashing and use. However, it is not unreasonable to suggest that this piece may potentially have been a utilized, non-ground or non-polished adze.

Section 5.4: Cultural Materials Recovered From Test Trenches 1 through 30

Most of the cultural materials recovered from Trenches 1-30 were recent historical debris and garbage. This included aluminum cans, steel and iron parts from automobiles and heavy machinery, tin (from corrugated roofing), a variety of plastics, paper, cloth, etc. There was very little subsurface historical debris except in locations where there was evidence that the area was recently excavated or filled for other purposes.

Subsurface remains on the Tafuna Plain were expected to be minimal due to the depositional processes and nature of the Tafuna Plain soils. The excavated trenches yielded little subsurface remains; nor were there any significantly deviant profiles which might have indicated cultural or occupational layers of significant antiquity. Exceptions may occur in T28 and T29 in which some charcoal flecking was noted at the lower half of Layer I. However, there were a few subsurface cultural remains recovered which may have significant historical value (e.g., the polished flake/possible adze fragment recovered from T10; refer to Table 1).

Although it was stated that subsurface remains were expected to be minimal, and that the majority of the testing accorded with this prediction, it is evident that small pockets or areas within the Tafuna Plain were likely utilized by at least the late prehistoric period. It is also likely that cultural deposits of great antiquity exist. However, these are probably sparse and difficult to find given the dense vegetation within this area. Furthermore, utilized areas for settlement or frequent land use were likely located at sections of the Tafuna Plain which were more hospitable (e.g., nearby water source, more suitable soils and topography for cultivation, etc.).
Section 6: Discussion

Archaeological investigations on the subject property identified several significant cultural remains, features and sites.

The first of these is Site AS-31-41. This site, a star mound, was mapped and further evaluated. The site proved to be more extensive than previously thought. It consisted of a level upper platform which was built on a base platform. The base platform appears to be built upon a larger extended base structure with rock alignments and facings. These appear to have been constructed to retain rock fill, additional boulders and gravel. The overall condition of the star mound is moderate (good in some sections and extremely poor in others). There are between four and six rays. There is also a notched feature leading to the upper platform which may have served as a ramp or staircase. Star mounds are associated with ritual activities and are thought to belong to a late prehistoric period in Samoa.

The star mound (Site AS-31-41) may also be associated with a nearby series of features (Site AS-31-42). Site AS-31-42 includes rock alignments, a rock wall, and a sizeable level platform which may be circumscribed by rock alignments, facings and small ditches. This is in close proximity to the star mound. It is unclear whether or not these two sites are contemporaneous.

In addition to Site AS-31-42 and the associated features, at least two more similar elevated level platform-like areas which appear to be separated by small ditches and rock features may be associated with Site AS-31-41 and Site AS-31-42. This was difficult to determine with any accuracy due to the dense vegetation, time restraints and spatial limitations dictated by the boundaries of the project area. These additional areas are, furthermore, outside of the impact area of the proposed sewer system and will not be affected by the construction. However, Site AS-31-41 and Site AS-31-42 are in close proximity to the proposed sewer line and damage to the existing features should be avoided.

Due to the extensive mapping and assessment of Sites AS-31-41 and AS-31-42, ACP has made a "no adverse effect" determination for these sites (36 CFR 800.5(d)). Construction activities will avoid damage to these sites. However, additional caution is again recommended concerning construction activities such that there will be no "accidental" damage. Furthermore, the sewerline creates a corridor which opens the sites to greater access. In similar cases, this has resulted in an indirect adverse effect in the form of increased visiting and sometimes "vandalism and theft". In the future, these issues may warrant further investigations and mitigation if this becomes a problem.
A cluster of features was noted behind the Fatuoaiga Church (Site AS-31-43). This included a sizeable distribution of rock features, rock mounds, rock facings, rock alignments, filled paths and faced depressions or pits. This site was mapped and further investigated. Surface artifacts were recovered. The artifacts included damaged and exhausted adze fragments, a pounding implement, a waste flake and possible preform(s). The possible preform(s) may have been utilized tools. It is highly likely that significant activities (perhaps ritual activities) were performed at this site. The majority of the site is outside of the impact area of the proposed sewer line. However, caution should be taken to avoid damage to areas within close proximity of the proposed sewer line. ACP has made a "no adverse effect" determination for Site AS-31-43 for the same reasons listed above for Sites AS-31-41 and AS-31-42. The same recommendations and cautions discussed above concerning Sites AS-31-41 and AS-31-42 apply to AS-31-43 as well.

Two additional platforms (one of which is a possible star mound) were noted (Sites AS-31-44 and AS-31-45). These were only briefly assessed. ACP has made a "no adverse effect" determination for Site AS-31-44. However, the same cautions and recommendations discussed above should be followed for Site AS-31-44. On the other hand, Site AS-31-45 is adjacent to the proposed sewer line and, due to the nature of construction activities and field mechanics at this location, further investigation is recommended to determine the historical significance and the nature of the site. This site will be adversely affected by these construction activities because of its location, the nature of construction activities, and the restricted corridor at this location in which to maneuver construction equipment. Data recovery is recommended in order to mitigate effects of construction activities.

Finally, the 27 test trenches and four supplemental STP's which were excavated along the proposed sewer line on the Tafuna Plain yielded few to no significant cultural materials. Due to the depositional processes occurring at this location on the Tafuna Plain, few deeply stratified subsurface remains were expected. The rockiness, low slope and porosity of the soils prevents extensive alluvial depositional build-up. However, an organic build-up is present due to the dense vegetation.

It is unlikely that this portion of the Tafuna Plain was ever densely populated or extensively utilized for resource exploitation other than limited gardening and the management of fruit and nut trees. The subsurface testing and soil analyses accorded with this prediction. However, there is evidence which suggests that there may have been at least limited land use and habitation. Assessment of surface features and sites supports this conclusion.
At least by the late prehistoric period, the areas near the subject area were utilized for at least ritual activities. This is supported by the existence of star mounds, other mounds and other surface features.
Section 7: Conclusion

Archaeological investigations have been conducted along the proposed sewer extension (Kokoland Extension) on the Tafuna Plain, Tutuila Island, American Samoa at the request of ASPA and ASHPO. The purpose of these investigations was to determine if surface and buried cultural resources existed along the proposed sewer line impact area and to evaluate those resources. Furthermore, cultural resources have been identified adjacent to the proposed sewer line in a previous reconnaissance survey. These were a star mound (Site AS-31-41), a conglomeration of features located behind the Fatuvaiga Church complex (Site AS-31-43) and two additional mounds (Sites AS-31-44 and AS-31-45). ACP was requested to re-identify the locations of these sites and conduct further assessments and mapping (refer to Table 3 for final assessment).

During the current investigations, 27 test trenches and four supplemental STP's were excavated at locations along the proposed sewer line. These excavations encountered layers of fill and some surface and subsurface historical debris, garbage and abandoned machinery. The underlying layers were predominantly barren of cultural remains. The deposits accorded with expected deposits characteristic of the Tafuna Plain.

Following the excavation of the test trenches, Sites AS-31-41 and AS-31-43 were mapped with a transit, compass and tapes. These were respectively a star mound and a unique cluster of features: depressions, mounds, paths and other stone works. Surface artifacts were recovered and analyzed.

The star mound (Site AS-31-41) was likely a location for important ritual activities and was furthermore, symbolically significant to late prehistoric Samoan groups. The lithic artifacts (exhausted and broken adze pieces, possible preform(s) and a pounding implement) recovered from Site AS-31-43 coupled with the unique features encountered at Site AS-31-43 indicate that this site may have been a location for important and ritual activities. Sites AS-31-41 and AS-31-43 meet criteria (Criteria A; Site reflects major trends in history, and Criterion D; significant for information content: Site likely to yield important scientific data) for inclusion into the National Register of Historic Places. Furthermore, Site AS-31-41 meets additional criteria (Criteria C; Site is an excellent example of a site type). No impacts on these sites are anticipated as long as construction activities are conducted in compliance with cautionary recommendations. Furthermore, because Sites AS-31-41, AS-31-42 (discussed below), and AS-31-43 were mapped and investigated in detail, ACP has made a "no adverse effect" determination for these sites (36 CFR 800.5 (d)). At
this time, no additional archaeological investigation is needed for these sites.

Sites AS-31-44 and AS-31-45 were given cursory assessment. These are a platform and possible star mound and deserve further attention. Sites AS-31-44 and AS-31-45 may meet criteria (Criteria A and D) for inclusion into the National Register of Historic Places. ACP has made a "no adverse effect" determination for Site AS-31-44 (36 CFR 800.5 (d)). However, ACP recommends data recovery for Site AS-31-45 as construction activities will have an unavoidable "adverse effect" (36 CFR 800.5 (e); 800.9 (b)). This will require an MOA between concerned parties as well. Site AS-31-45 will be unavoidably affected due to its location within the subject corridor and the nature of construction activities and field mechanics at this location.

An additional site (Site AS-31-42) was discovered and mapped. This site consists of a raised area bordered by a rock wall, rock facings and possibly other rock features and small ditches. Site AS-31-42 also meets criteria for inclusion into the National Register of Historic Places (Criteria A and D). Damage to this site should be avoided.

No significant cultural sites or deposits were encountered in the direct impact area of the proposed sewer line as indicated by the relative sterility of the 27 test trenches. However, it is noted that several important historical sites exist adjacent to the proposed impact corridor of the proposed Kokoland Sewer Extension. In addition to the recommendation for data recovery at Site AS-31-45, it is again stressed that caution should be exercised during construction activities in order to avoid accidental damage to sites.
Table 3: Summary of Site Significance Evaluations

<table>
<thead>
<tr>
<th>Site Feature</th>
<th>Description</th>
<th>Function</th>
<th>Significance Evaluations Prior to IS</th>
<th>Significance Evaluations After IS</th>
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<tbody>
<tr>
<td>AS-31-41</td>
<td>Star Mound</td>
<td>Ceremonial/Religious</td>
<td>A,C,D</td>
<td>A,C,D</td>
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<tr>
<td>AS-31-42</td>
<td>Raised Area with Rock Features</td>
<td>Possible Habitation/Unknown</td>
<td>A,D</td>
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<tr>
<td>A</td>
<td>Raised Area</td>
<td>Possible Habitation/Unknown</td>
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<tr>
<td>B</td>
<td>Rock Wall</td>
<td>Border, Other</td>
<td></td>
<td></td>
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<tr>
<td>C</td>
<td>Rock Facings/Alignments</td>
<td>Border, Other</td>
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<tr>
<td>AS-31-43</td>
<td>Rock Mounds, Rock Features, Paths, Depressions, Facings, Walls, Alignments, and Lithic Artifacts</td>
<td>Important Activity Area, Ceremonial/Religious</td>
<td>A,D</td>
<td>A,D</td>
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<tr>
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<td>Rock Mound</td>
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<td>Rock Mound</td>
<td>Ceremonial/Religious</td>
<td>A,D</td>
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</table>

**Code For Significance Evaluation Criteria**

- **NS** = Not Significant
- **NLS** = No Longer Significant
- **A** = Site Reflects Major Trends in History
- **B** = Site is Associated with the Life of a Significant Person
- **C** = Site is an Excellent Example of a Site Type
- **D** = Site Likely to Yield Important Scientific Data

*note: IS = Inventory Survey*
## Bibliography

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Appendix A: Photographs/Plates
Plate 1: Fatuoaiga (AS-31-43); note rock walls, facings, and mounded areas (lower right and center left).

Plate 2: Fatuoaiga (AS-31-43) note aligned and filled path (lower right) and stacked rocks/small mound (center).
Plate 3: Fatuaiga (AS-31-43): Note path area (right); several 'turret-like' stacked rock features (top center), and stacked rock feature (lower left).

Plate 4: Fatuaiga (AS-31-43): Note aligned path with fill (bottom center) and additional rock features. George (to right) is standing in aligned and filled depression near point 2. Alu (left) is standing on pathway.
Plate 5: Fatuaiga (AS-31-43) Note stacked rock encirclement around depression and mounded area in background.

Plate 6: Hole / small cave near star mound (AS-31-41)
Plate 7: Hole / small cave near star mound (AS-3I-4I).

Plate 8: East face of star mound (AS-3I-4I).
Plate 9: Northeast face of star mound AS-31-41.

Plate 10: Fallen tree on top platform of star mound (AS-31-41)
Note: Depression to right in front of the fallen tree.
Plate 11: Stack of rocks beyond hole near AS-31-41 in the ditch north of the star mound (AS-31-41).

Plate 12: Northwest face of star mound (AS-31-41). The elevational difference is significant though it appears to be gradually sloping upwards.
Plate 13: Northwest face of star mound (AS-31-41).

Plate 14: Southwest face of star mound (AS-31-41). Note relatively well preserved condition of walls and position of rays.
Plate 15: Southwest face of star mound (AS-31-41).

Plate 16: Southwest face of star mound (AS-31-41).
Plate 17: South face of star mound (AS-31-41).
George standing on extended base structure.

Plate 18: Tabular block located on east slope of star mound (AS-31-41).
Plate 19: Feature B: Rock wall in site AS-31-42.
Appendix B: Correspondence
DATE:  9/8/95

TO:  Bruce Gehrig

FR:  Jeff Pentress, Staff Archaeologist

RE:  Pedestrian survey of Kokoland-Tongaville sewer project

Project Description

On 9/3/95 Salaotoga Gisa and I conducted an archaeological reconnaissance of the Kokoland-Tongaville section of the proposed Tafuna Plains System. The sewer project will involve two stages: laying sewer mains in 5'-6' deep by 3'-4' wide trenches; and feeder lines from the mains to individual houses in 16'-24' deep by 16'-24' wide trenches. D9 excavating machines will be used to dig the main line trenches and will have an impact zone of ca. 30'. Backhoes will dig the feeder line trenches and have a ca. 10' impact area. Additional impacts to the ground surface may include staging areas, turnarounds, brush clearing and backfill dumping.

The southernmost point of the proposed sewer project begins at the Tia Seu Lupe park and extends west past the Tafuna Catholic Diocese. The line shifts north and passes through a preserved natural area composed of lava fields and jungle. The line trends northeast passing along existing roads and entering another preserved jungle area. This north-northwest line is crossed by a westerly trending line which runs along the existing main road that runs from the Ottoville area to Tongaville. The feeder lines extend for generally short distances up driveways from the main road(s) to individual land holdings.

Methodology

The purpose of the survey was to identify surface cultural materials and develop plans for mitigation of impacts to archaeological sites along the proposed sewer line.

Standard pedestrian survey techniques were employed. The two man crew walked along the proposed route at a spacing of 10-15 meters. The ground surface of the proposed sewer route was examined visually. In addition, all exposed road cuts, cut banks, treefalls, eroded drainages and lava fields adjacent to the project area were inspected. The inspected ground surface falls into three broad categories: heavily overgrown jungle with a ground surface of aa type vesicular lava flows, exposed road and house driveways/yards. Much of the jungle area had less than 30 percent visibility due to plant growth. The plants were cut back with machetes when distinct mounds or regular forms appeared to exist under the plant cover.

Survey Results

No cultural materials were found along any of the exposed road surfaces or in any of the house driveways. Extensive fill materials covered much
of the road surface and most of the house areas. Several distinctive rock features were encountered along or in the vicinity of the proposed sewer extension, primarily in the open preserve which extends north of the Fatucaiga Catholic Church.

Project Map:

1. Area of a'a basalt flows.

2-3. Two rock circles ca. 1.5 m diameter are located along the stone wall that runs west from the Tia Seu Lupe Park. These are probably recent umu.


5. Stone wall around a phone pole.

6. Ten foot high basalt wall (natural).

7. A series of circular rock walls, pathways and alignments are located on the west end of the Catholic Church, in the vicinity of the point marked "Main 2ME" on project maps. Some of the pathways are raised and contain cinder fill. Most of the stone walls surround ironwood trees. These rock features run from the back of the church and along the chainlink fence which runs north from the point marked "Main 2ME" on the project map. The area of stone features within the proposed project area is ca. 15 m. in length. The width is unknown as the area is heavily overgrown.

These features appear to be historic and may have significance to the church. They should be avoided.

8. A circular raised earth and stone platform is located ca. 35 m east of the chain link fence and ca. 50 m south of the first east-west dirt road north of the church. The stone work has been extremely disturbed. This feature was flagged and should be avoided.

A concentration of stone features occurs around the juncture of the northerly trending sewer line and the line that passes east-west along the main road in this area of Tafuna.


10. Historic tractors, metal parts and debris,

11. A low (ca. 1 m) rock wall runs parallel and ca. 20 m north of the main east-west road, east of the juncture.

12. Raised mound with possible remains stone work.

13. A large pit lined with lava rubble and with a constructed wall on one side is located just south of the east-west road, east of the juncture.
14. A raised mound is located in Tongaville just east of the line that runs northwest from the point marked "Main 2ME" in this vicinity. The mound was heavily overgrown and its character is problematic.

15. The most significant rock feature encountered on the survey is a Tia (starmound) located ca. 100 m north of the main road near the transect of the proposed north west sewer line. The Tia is locate at a bearing of 320 degrees. The proposed line runs at 310 degrees. However, the point of departure from the main road was not apparent at time of survey. We shot the bearing from ca. 15 m east of the pumping station at the main road.

The starmound is completely intact. The height of the mound ranges from 2 m. to ca. 10 m. where it appears to have been built to incorporate a natural ridge slope. There are 6-7 arms extending to the north and west. There appear to be terraced platforms extending to the north and west of the site as well. The area is very heavily overgrown.

I returned to the Tia on 9/7 with Epi Suavo'a. We flagged the main mound feature, took photographs and videotaped the site.

The Tia is remarkably well preserved and can be considered a significant site which may be eligible for inclusion into the National Register of Historic Places. Extreme care should be taken to avoid this site during any construction activities.

16. A low (ca. 1 m) stone wall runs north of the juncture point. The wall begins ca. 20 m north of the road. The visible portion is ca. 10 m in length.

**Compliance Recommendations**

The Phase I identification of cultural materials along the proposed Kokololand-Tongaville Sewer Project has been accomplished by the pedestrian survey. However, any realignments to the proposed route, and uninspected staging, parking and other impact areas not covered by the survey will have to be surveyed by a qualified archaeologist.

It is recommended that the walls west of the Catholic Church, the earth and rock mound feature north of the church and the Tia be avoided.

It is recommended that subsurface identification of cultural materials be accomplished by trench monitoring. Monitoring can be done either at time of excavation or afterwards. If cultural features are found along the trench they will be photographed, located on maps and staked at the edge of the trench. Once the features are marked construction can continue and test excavations (50 x 50 cm test probes) at the marked points can proceed to evaluate these find for significance.

If any significant subsurface features are encountered during the Phase II testing, 1 x 1 m units should be excavated to examine cultural and soil stratigraphy. If any of the subsurface features or any of the three surface features identified as possibly significant cannot be
avoided, a data recovery plan to mitigate the damage to these deposits will have to be agreed upon between ASPA and American Samoa Historic Preservation Office.

It is recommended that the area around the star mound be cleared, the site mapped to scale and the site recorded on ASHPO site forms. It is also recommended that a protection plan be developed for the site to protect it from quarrying of the stones for wall or house building. The ASHPO should be involved and/or initiate the recording and protection plans.
Comments on Areas Identified by Fentress (1995)

1. Area of a'a basalt flows was identified and confirmed.
2-3. Two rock circles were not re-identified or re-confirmed.
4. Conical rock pile was not re-identified or re-confirmed.
5. Stone wall around phone pole was not re-identified or re-confirmed.
6. Basalt wall (natural) was re-identified and confirmed.
7. Group of features located by Fatuoaiga Church was assessed and given a site number: Site AS-31-43.
8. Circular raised earth and stone platform was assessed and given a site number: Site AS-31-45.
9. Raised mound covered with vegetation was not assessed.
10. Historic tractors, metal parts and debris was noted (see trench description for T20 and T21).
11. A low rock wall (near T20 and T21) was assessed and deemed to be a small berm created by road construction activities.
12. Raised mound with possible stone work remains was not assessed.
13. Large pit and wall were not assessed.
14. Raised mound in Tongaville was not assessed.
15. The star mound was assessed, mapped and given a site number: Site AS-31-41.
16. Low stone wall was not re-identified or re-confirmed.
Dear Mr. Kennedy,

ASPA would like to thank you for the expeditious completion of your survey of the Kokolanda Sewer Extension project. Using the results of your survey and having consulted with your archaeologist, Jim Moore, the ASHPO has determined that there is one additional portion of the sewer project that still needs to be investigated. If possible, I would like to add this work to your original proposal so that one consistent report can be written for all of the archaeological work.

The remaining work in question is between MH 2ME-7 and MH 2ME7-4 as shown on the attached drawing. This is line about 1200 feet long and runs adjacent to a star mound type feature near MH 2ME7-1. Therefore, I foresee the need for about seven backhoe test trenches plus some more definitive boundary delineation around the star mound. Now that I know what type of equipment is required to clear the bush from the area, the work shouldn't require more than two or three days.

Obviously, I am hoping that you still have an archaeologist on-island somewhere in Samoa so that we could avoid additional airfare costs but if not, then we will just have to pay someone down. Unfortunately, despite the Thanksgiving holiday, it appears that we will need someone by next week. If you could prepare a cost estimate for this work, it would be appreciated.

Also, the ASHPO has requested (not required) that some mapping be performed of a feature encountered behind the Fatu-O-Aiga Catholic Church complex. Since the site lies outside the actual sewer project corridor, ASPA does not want to commit to performing this work without first knowing what the costs may be. So, if you could prepare a separate cost estimate for this mapping work, it would helpful in our decision making.

Please contact me at 684-733-2282 or FAX 684-699-5390 to discuss your availability to perform this additional work.

Sincerely,
Bruce Gehrig
FAX TRANSMISSION

TO: Joseph Kennedy, M.A.
Archaeological Consultants of Hawaii

FROM: Bruce Gehrig, ASPA-Wastewater

SUBJECT: Request for Proposal
Tafuna Plains Sewer Project

FAX NO. 808-638-7442
DATE: October 12, 1995
PAGES: 3

Dear Sirs:

Attached for your information is a Request for Proposal for archaeological consulting services. If you have any immediate questions please call me at 684-733-2282. However, starting tomorrow I will be off Island until Tuesday, therefore, during this time please forward any questions to the individuals listed in the RFP.

Your consideration of this Request for Proposal is greatly appreciated.

Sincerely,

Bruce Gehrig
Resident Construction Manager
American Samoa Power Authority
REQUEST FOR PROPOSAL
FOR ARCHAEOLOGICAL CONSULTING SERVICES
ON THE TAFUNA PLAINS SEWER SYSTEM - KOKOLAND EXTENSION

AMERICAN SAMOA POWER AUTHORITY WASTEWATER DIVISION

The American Samoa Power Authority's Wastewater Division (ASPA) seeks proposals from qualified consultants to provide professional archaeological services required for the design and construction of the Tafuna Plains Sewer System - Kokoland Extension located on the island of Tutuila, American Samoa. The sewage collection system is being funded by a grant from the United States Environmental Protection Agency and, therefore, is subject to the requirements of the National Historic Preservation Act (NHPA). As a result, ASPA is required to undertake various archaeological surveys and evaluations in order to satisfy the demands of the NHPA regulations.

SCOPE OF WORK

PROFESSIONAL QUALIFICATIONS

All work under the proposed contract shall be performed by an archaeologist with the following minimum professional qualifications:

1. Background meeting the standards of 36 CFR 61 for a professional archaeologist.
2. Demonstrated previous experience in performing similar surveys and evaluations in a South Pacific tropical island environment.
3. Demonstrated knowledge of Samoan prehistory and archaeology.
4. Demonstrated previous experience in working with NHPA Section 106 Regulations.

SERVICES TO BE PROVIDED BY THE ARCHAEOLOGICAL CONSULTANT

As a minimum, the consultant will be required to:

1. Layout, monitor, survey, and evaluate for potential cultural materials a series of backhoe test pits dug at 50m intervals along the proposed alignment of the sewer lines. The total length of sewer line to be surveyed will be approximately 1000m. A pedestrian archaeological survey of the area has been previously performed which did not indicate the presence of any significant surface features.
2. Evaluate all properties identified during the course of the survey to determine National Register eligibility and submit results of evaluations to the American Samoa Historic Preservation Office (ASHPO) for review and comment.

3. Evaluate project effects on all identified National Register eligible properties and submit results of evaluations to the ASHPO for review and comment.

4. Prepare weekly standardized reports for surveyed areas and submit all such reports to the ASHPO for review and comment.

Interested parties are encouraged to contact David Harbrich, ASHPO Territorial Archaeologist, at 684-699-9513 for more detailed information on survey and reporting requirements.

SERVICES TO BE PROVIDED BY ASPA

ASPA will provide or make available to the consultant the following:

1. Office workspace including access to computer, telephone, copier, and facsimile machine.

2. Backhoe and operator.

3. If requested, ASPA has available two laborers that have experience in archaeological field work.

BASIS OF SELECTION

In order to avoid delays to construction, time is of the essence. Proposals will be considered from only those firms or individuals who can deliver a qualified archaeologist on-island no later than October 29, 1995 (October 20 is preferable). Qualified firms and individuals have already been short-listed and those receiving this Request for Proposal have been personally recommended by the ASHPO.

ASPA proposes to pay for the consultant's services through mutually agreed daily or weekly rates and ASPA reserves the right to terminate the consultant's services at anytime and for any reason. ASPA's terms of payment are net 30 days after receipt of certified invoice from the consultant.

Due to the limited time available to respond, proposals shall be delivered to ASPA at FAX No. 684-699-5910 or FAX No. 684-699-2282 by no later than 3:00 p.m. American Samoa time on October 16, 1995. Proposals should be sent to the attention of Bruce Gehrig, Wastewater Division.

Proposals will be evaluated and any necessary interviews or negotiations will be conducted by phone on October 17. Award of the contract will be made no later than October 18, 1995.

Inquiries concerning this Request for Proposal should be directed to Brent Hauser at 684-699-1333 or Mike Dworsky at 684-633-1462.
5 Jan. 1996

TO: Kehau Kennedy, President
Archaeological Consultants of the Pacific

FAX: (808)638-7442

FROM: DAVID J. HERDRICH, Territorial Archaeologist

Dear Kehau,

Hi, here is another answer to one of the questions (# 1) in your FAX of 3 Jan. 1996. For your general information I have assigned the sites found in the Biosystems 1994 draft report the following site numbers: T-3=AS-31-35; T-9=AS-31-36; T-11=AS-31-37; T-12=AS-31-38; T-13=AS-31-39; and T-14=AS-31-40. This means that you may start assigning your 5 sites with numbers starting with the number AS-31-41. When you have assigned the site numbers please send me a list of them along with the site types and the names of the sites so I can enter them into our database, thanks.

I hope all is well in Hawaii, give Joe and the gang my regards, thanks.

Sincerely,

David J. Herdrich
Territorial Archaeologist
Appendix C: Project Maps

COPY
ORIGINAL ILLUSTRATIONS
AVAILABLE UPON REQUEST

APPENDIX C
Appendix D: Site/Feature Forms
AMERICAN SAMOA HISTORIC PRESERVATION OFFICE
SITE/FEATURE FORM (SFF)

(Annotated)

I. IDENTIFICATION

SITE DESIGNATION 60-(CONO)-(SINO): AS-31 - 41
Previous Designation (PRNO): None
Site Name (SNAM): No formal name given
County Name (CONA): Tulagi
Village Name (VILL): N/A (Kokoland extension-Tafuna Plains Sewer System)
Owner (LOWN): _
Address (ADDR): _

FEATURE DESIGNATION (FEAT):
ANHPO Project Number (PROJ):

II. DESCRIPTIVE INFORMATION

Formal Site/Feature Type (POTY): Star mound
Formal Site/Feature Description (PODE): AA-31-41 is a star mound. There are 6-6 rays.
The structure is built of locally available stone. There is a top
platform supported by an immediate base structure. An extended base
structure is located beyond this, circumscribing the mound. Overall,
the condition is moderately well preserved.

Number of Features (NOFE): Considered a single feature/site
Portable Remains (FORE): One basalt block was described; located on base stone.
Absolute Date (ADAT): N/A Lab Number (LANO): N/A
Dating Method (HOWD): Star mounds are assumed to be late prehistoric.
Area (AREA): 1600 m² Max. Length (LONG): 45 m Max. Width (WIDE): 45 m
Max. Depth (DEEP): N/A m Max. Height (HIGH): 4.5-6.5 m

How was depth determined (HIDE): Transit and stadia rod (max. height was determined
from the lowest surrounding ground level)

III. LOCATIONAL DATA

UTM Easting (EAST): 520573 m UTM Northing (NORT): 6415658 m
AS Coord./Easting (ASCE): _ AS Coord./Northing (ASGN): _
Verbal Locational Description (LOCA): Star mound is located approximately 96 m
northwest of the road between 2ME-7 and 19ME-5 (near Well #1)

IV. ENVIRONMENTAL DATA

Lowest Elevation (LELE): 24 m Highest Elevation (HELE): 37 m
Distance to Sea (DSEA): 2000 m Distance to Potable Water (DWAT): 0.5 - 1.0 km
Direction to Sea (DIRS): 90 - 180 deg. Direction to Water (DBWA): 270 - 360 deg
Minimum Slope (MISL): 0 deg. Maximum Slope (MASL): 5 deg.

SCS Soil Type (SOIL): Tafuna Extremely Stony Muck
Geology (GEOL): Holocene R11 Olivine Pahoehoe Flow
Geomorphology (GEOM): N/A
Vegetation (VEGE): Mixed forest, fruit trees, occasional gardens

V. INTERPRETATIONS

Functional Site/Feature Type (FUTY): Star mound
Functional Site/Feature Interpretation (FUIDE): Ceremonial (pigeon-snaring), Symbolic
Temporal Interpretation (TIRA): Late prehistoric, Samoan
Cultural Affiliation (CART): Samoan
VI. REFERENCES

Survey Report (SREP): Archaeological Investigations and Subsurface Testing for... (Latinis, Moors & Kennedy 1995)
Evaluation Report (EREPI): 
Mitigation Report (MREP): N/A

VII. STATUS

Condition (COND): Moderate-good preservation
National Register Eligibility (NREG): Yes
Recommendations (REC): Data recovery and preservation

VIII. RECORDER INFORMATION

Report Title (REPT): Archaeological Investigations and Subsurface Testing
Name of Recorder (RNAM): ACP, Inc.
Organization (ONAM): ACP, Inc.
Project Name (PROJ): Tafuna Plains, Sewer-Kokolau Ex Post Recorded (RDAT): Dec. 1995

IX. LOCATION MAP

(Attach, below, a copy of the section of the USGS Quadrangle showing location of the historic property documented on this form)

See attached map

Include north arrow, scale, and name of quadrangle
AMERICAN SAMOA HISTORIC PRESERVATION OFFICE
SITE/FEATURE FORM (SFF)

I. IDENTIFICATION

SITE DESIGNATION: 60-(CONO)-(SINO): AS-31 - 42
Previous Designation (PRNO): None
Site Name (SNAM): No formal name given
County Name (CONA): Tualauta
Village Name (VILL): N/A (Kokoland Extension - Tafuna Plains Sewer System)
Landowner (LOWN): Phone (PHONE): 
Address (ADDR): 

II. DESCRIPTIVE INFORMATION

Formal Site/Feature Type (FOTY): Raised level area, possible temporary habitation
Formal Site/Feature Description (FODE): Foundation or low platform.
AS-31-42 is a raised level area bordered by a stone wall (Feature B) and associated with another stone wall remnant (Feature C). The level area (Feature A) is also bordered by rock facings and alignments. These are no more than one to two courses high. The plan is oval.
Number of Features (NOFE): 3
Portable Remains (PORE): None
Absolute Date (ADAT): N/A
Lab Number (LANO): N/A
Dating Method (HOWD): N/A
Area (AREA): 450 m² Max. Length (LONG): 30 m Max. Width (WIDE): 15 m
Max. Depth (DEEP): N/A m Max. Height (HIGHT): 1.0 m
How was depth determined (HDEF): N/A

III. LOCATIONAL DATA

UTM Easting (EAST): 529543 m UTM Northing (NORT): 8415658 m
AS Coord./Easting (ASGE): AS Coord./Northing (ASGN):
Verbal Locational Description (LOCA): Next to star mound (Site AS-31-41).

IV. ENVIRONMENTAL DATA

Lowest Elevation (LELE): 24 m
Distance to Sea (DSEA): 2000 m
Direction to Sea (DIRS): 90-180 deg.
Minimum Slope (MISL): 0 deg.
SCS Soil Type (SOIL): Tafuna Extremely Stony Muck
Geology (GEOL): Holocene Rift Diavine Pahoehoe Flow
Geomorphology (GEOM): N/A
Vegetation (VEGE): Mixed forest, fruit trees, occasional gardens

V. INTERPRETATIONS

Functional Site/Feature Type (FUTY): Temporary habitation (Maloloa)
Functional Site/Feature Interpretation (FUDI): Indeterminate
Temporal Interpretation (TRA): Indeterminate (Late prehistoric if associated with)
Cultural Affiliation (AFFA): Samoan

AS-31-42, star mound
VI. REFERENCES
Survey Report (SREP): Archaeological Investigation and Subsurface Testing for...
Mitigation Report (MREP): N/A

VII. STATUS
Condition (COND): Poor-moderate preservation
National Register Eligibility (NREG): Yes if associated with AS-31-42 (star mound)
Recommendations (REC): Data recovery, preservation

VIII. RECORDER INFORMATION
Report Title (REPT): Archaeological Investigation and Subsurface Testing...
Name of Recorder (RNAM): ACP, Inc
Organization (ONAM): ACP, Inc
Project Name (PROJ): Lufung Plains Sewer-Kokol and Est Date Recorded (RDAT): Dec. 1995

IX. LOCATION MAP
(Attach, below, a copy of the section of the USGS Quadrangle showing location of the historic property documented on this form)

See attached map

Include north arrow, scale, and name of quadrangle
American Samoa Historic Preservation Office
Site/Feature Form (SFF)

I. IDENTIFICATION

SITE DESIGNATION: 60-(CONO)-(SINO): AS- 31 - 43
PREVIOUS DESIGNATION (PRNO): None
FEATURE DESIGNATION (FEAT):
ASHP Project Number (PROJ):__
SITE NAME (SNAM): Fatuugaiga
COUNTRY NAME (CONA): Tualauta
VILLAGE NAME (VILL): N/A (located by Fatuugaiga Church Complex)
LANDOWNER (LOWN): __________ Phone (PHON):__
ADDRESS (ADDR): __________

II. DESCRIPTIVE INFORMATION

Formal Site/Feature Type (POUTY): Indeterminate
Formal Site/Feature Description (POFDE): A conglomeration of small stone mounds, depressions, stone facings, stone alignments, filled and aligned paths, pits and other stone features. A surface lithic assemblage consisting of primarily adze fragments were recovered.

Number of Features (NOFE): Not determined
Portable Remains (PORE): 7 lithic artifacts recovered (probably several more
Absolute Date (ADAT): N/A Lab Number (LANO): N/A remain at site).
Dating Method (HOWD): None
Area (AREA): 1800 m² Max. Length (LONG): 50 m Max. Width (WIDE): 30 m
Max. Depth (DEPTH): N/A m Max. Height (HIGH): 0 - 2.5 m
How was depth determined (HDEE): N/A

III. LOCATIONAL DATA

UTM Easting (EAST): 528756 m UTM Northing (NORT): 8415183 m
Verbal Locational Description (LOCA): Site located behind the Fatuugaiga Church Complex, in the vicinity marked Main 2ME.

IV. ENVIRONMENTAL DATA

Lowest Elevation (LELE): 24 m Highest Elevation (HELE): 37 m
Distance to Sea (DSEA): 2000 m Distance to Potable Water (DWAT): 500 - 1000 m
Minimum Slope (MISL): 0 deg. Maximum Slope (MASL): 5 deg.
SCS Soil Type (SOIL): Tafuna Extremely Stony Muck
Geology (GEOL): Holocene R11 Olivine Pahoehoe Flow
Geomorphology (GEOM): N/A
Vegetation (VEGE): Mixed forest, fruit trees, occasional gardens

V. INTERPRETATIONS

Functional Site/Feature Type (PUTY): Significant activity area (ritual?)
Functional Site/Feature Interpretation (FUDE): Same
Temporal Interpretation (ERA): Indeterminate
Cultural Affiliation (AFFI): Samoan

D-5
VI. REFERENCES
Survey Report (SREP): Archaeological Investigations and Subsurface Testing for...
Mitigation Report (MREP): N/A

VII. STATUS
Condition (COND): Moderate-good preservation (a few locations are bad, being
National Register Eligibility (NREG): Yes
Recommendations (REC): Data recovery, preservation

VIII. RECORDER INFORMATION
Report Title (REPT): Archaeological Investigations and Subsurface Testing
Name of Recorder (RNAM): ACP, Inc.
Organization (ONAM): ACP, Inc.
Project Name (PROJ): Fatumaiga
Date Recorded (RDAT): Dec. 1995

Please use continuation sheets for comments or for any additional information you need or want to include with this form.
Each SFF must be accompanied by a scaled and oriented Site Feature plan and section or elevation where appropriate.

IX. LOCATION MAP
(Attach, below, a copy of the section of the USGS Quadrangle showing location of the historic property documented on this form)

See Attached Map

Include north arrow, scale, and name of quadrangle
I. IDENTIFICATION

SITE DESIGNATION 60-(CONO)-(SINO); AS-31 - 44

FEATURE DESIGNATION (FEAT):

Previous Designation (PRNO): None
ASIHPO Project Number (PROJ):

Site Name (SNAM): No formal name given
County Name (CONA): Tualauta
Village Name (VILL): N/A
Landowner (LOWN): Phone (PHON):
Address (ADDR):

II. DESCRIPTIVE INFORMATION

Formal Site/Feature Type (FOTY): Stone mound/possible star mound
Formal Site/Feature Description (FODE): This is a stacked rock platform or mound, oval in plan view and approximately 2.5m high.

Number of Features (NOFE): Not determined
Portable Remains (PORE): Unknown
Absolute Date (ADAT): N/A
Lab Number (LANO): N/A
Dating Method (HOWN): N/A
Area (AREA): 220 m²
Max. Length (LONG): 22 m
Max. Width (WIDE): 10 m
Max. Depth (DEEP): N/A
Max. Height (HIGN): 2.5 m

How was depth determined (HDEE): N/A

III. LOCATIONAL DATA

UTM Easting (EAST): 5288.55 m
AS Coord. Easting (ASGE):
UTM Northing (NORT): 84155.06 m
AS Coord./Northing (ASGN):

Verbal Locational Description (LOCA): At the southern edge of the road leading to Haleck's Dairy facilities, approximately 210m due west of 2ME-7.

IV. ENVIRONMENTAL DATA

Lowest Elevation (LELE): 24 m
Highest Elevation (HELE): 37 m
Distance to Sea (DSEA): 2000 m
Distance to Potable Water (DWAT): 500-1000 m
Direction to Sea (DIRS): 90-180 deg.
Direction to Water (DIRW): 270-360 deg.
Minimum Slope (MISL): 0 deg.
Maximum Slope (MASL): 5 deg.

SCS Soil Type (SOIL): Tafuna Extremely Stony Muck
Geology (GEOI): Holocene R11 Olivine Pahoehoe Flow
Geomorphology (GEOG): N/A
Vegetation (VEGE): Mixed forest, fruit trees, occasional gardens

V. INTERPRETATIONS

Functional Site/Feature Type (FUTY): Platform/possible star mound
Functional Site/Feature Interpretation (FUDF): Ceremonial, ritual, symbolic
Temporal Interpretation (ETMN): Not determined (late prehistoric if it is a star mound)
Cultural Affiliation (AFFI): Samoan
ASHP Site/Feature Form (SFF) Page 2

VI. REFERENCES
Survey Report (SREP): Archaeological Investigation and Subsurface Testing for...
Mitigation Report (MREP): N/A

VII. STATUS
Condition (COND): Moderate-good preservation
National Register Eligibility (NREG): Yes
Recommendations (REC): Data recovery, further investigation, preservation

VIII. RECORDER INFORMATION
Report Title (REPT): Archaeological Investigation and Subsurface Testing
Name of Recorder (RNAM): ACP, Inc.
Organization (ONAM): ACP, Inc.
Project Name (PROJ): Mڵafina Plains Sewer-Kokkola Ext.
Date Recorded (RDAT): Dec. 1995

Please use continuation sheets for comments or for any additional information you need or want to include with this form.
Each SFF must be accompanied by a scaled and oriented Site Feature plan and section or elevation where appropriate.

IX. LOCATION MAP
(Attach, below, a copy of the section of the USGS Quadrangle showing location of the historic property documented on this form)

See Attached Map

Include north arrow, scale, and name of quadrangle

D-8
I. IDENTIFICATION

SITE DESIGNATION 60-(CONO)-(SINO): AS-31-45

FEATURE DESIGNATION (FEAT):

Previous Designation (PRNO): None

ASHPO Project Number (PROJ):

Site Name (SNAM): No formal name given.

County Name (CONA): Tualauta

Village Name (VILL): N/A

Landowner (LOWN): Phone: (PHON):

II. DESCRIPTIVE INFORMATION

Formal Site/Feature Type (FOTY): Stone platform

Formal Site/Feature Description (FODE): Oval raised stone platform approximately 56-75cm high.

Number of Features (NOFE): Not determined

Portable Remains (PORR): Unknown

Absolute Date (ADAT): N/A

Lab Number (LANO): N/A

Dating Method (HOWD): N/A

Area (AREA): 120 m²

Max. Length (LONG): 15 m

Max. Width (WIDE): 8 m

Max. Depth (DEEP): N/A

Max. Height (HEIGHT): 0.75 - 1.0 m

How was depth determined (HDEE): N/A

III. LOCATIONAL DATA

UTM Easting (EAST): 528756 m

UTM Northing (NORT): 3415335 m

AS Coord./Easting (ASGE): N/A

AS Coord./Northing (ASGN): N/A

Verbal Locational Description (LOCA): Located between 2ME-4 and 2ME-5 along the sewer line corridor.

IV. ENVIRONMENTAL DATA

Lowest Elevation (ELE): 24 m

Highest Elevation (HIELE): 37 m

Distance to Sea (DSEA): 2000 m

Distance from Potable Water (DWPW): 800 - 1000 m

Direction to Sea (DIRS): 90 - 180 deg.

Direction to Water (DIRW): 270 - 0 deg.

Minimum Slope (MISL): 0 deg.

Maximum Slope (MASL): 5 deg.

SCS Soil Type (SOIL): Tafuna Extremely Strong Muck

Geology (GEOL): Holocene E11 Pahioho Flow

Geomorphology (GEOM): N/A

Vegetation (VEGE): Mixed forest, fruit trees, occasional gardens

V. INTERPRETATIONS

Functional Site/Feature Type (FUTY): Stone platform

Functional Site/Feature Interpretation (FUIDE): Ceremonial/ritual

Temporal Interpretation (TERT): Not determined

Cultural Affiliation (AFFC): Samoan
VI. REFERENCES
Survey Report (SREP): *Archaeological Investigations and Subsurface Testing for...*
Mitigation Report (MREP): N/A

VII. STATUS
Condition (COND): Partially destroyed in some sections
National Register Eligibility (NREG): Yes
Recommendations (REC): Data recovery, restoration, preservation

VIII. RECORDER INFORMATION
Report Title (REPT): *Archaeological Investigations and Subsurface Testing*
Name of Recorder (RNAM): ACP, Inc.
Organization (ONAM): ACP, Inc.
Project Name (PROJ): Tafuna Plains Sewer-Kokoland Ext
Date Recorded (RDAT): Dec. 1995

IX. LOCATION MAP
(Attach, below, a copy of the section of the USGS Quadrangle showing location of the historic property documented on this form)

See Attached Map

Include north arrow, scale, and name of quadrangle
Figure 4: Location of Trenches on Subject Property

Tafuna Plains Sewer System - Kokoland Extension

source: ASWA Wastewater 1995