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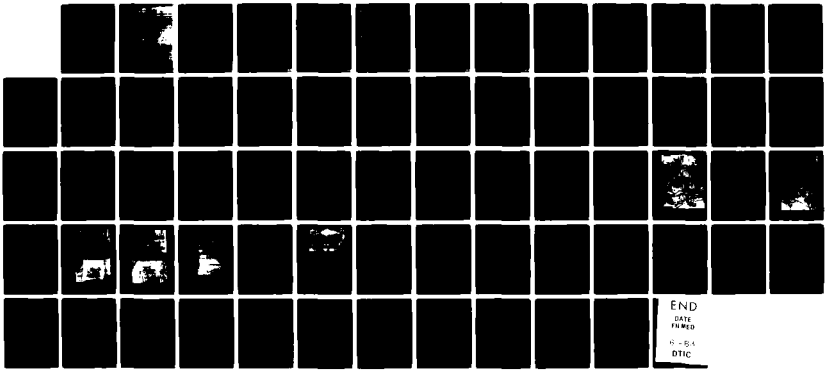

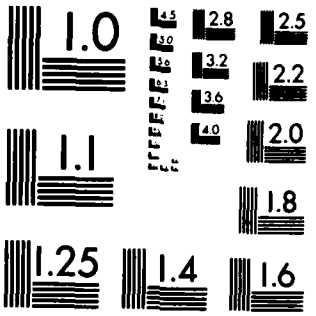

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A CULTURAL RESOURCES RECONNAISSANCE OF THE SUSUPE CHALAN KANOA FLOOD CONTROL STUDY AREA, SAIPAN, MARIANA ISLANDS

Pacific Studies Institute

March, 1980

CULTURAL RESOURCE SURVEY OF THE SUSUPE-CHALAN KANOA FLOOD CONTROL STUDY AREA, SAIPAN ISLAND, COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS

by

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ABSTRACT

Members of the Pacific Studies Institute (PSI) assisted by an architectural historian, conducted an archaeological and historical resource survey of the Susupe-Chalan Kanoa Flood Control Study Area, under contract DACW84-79-C-0028 with the U.S. Army Engineer Division, Pacific Ocean, Honolulu, Hawaii. The project area is located on the west central coast of the island of Saipan, Commonwealth of the Northern Mariana Islands. The survey included a literature search, physical investigation of the project area and limited subsurface testing.

As a result of the investigation three loci of prehistoric material were located within the project area as well as forty-three (43) structures of probable historic significance.

Preliminary subsurface tests in the areas of the deposits of prehistoric material revealed that two of the loci contain sites eligible for nomination to the National Register of Historic Places. In addition, it was determined that all forty-three (43) historic structures are probably eligible for inclusion in the National Register either individually or as a historic district.

Recommendations regarding these findings are that: 1) a data recovery plan be developed for mitigation of the adverse impacts to prehistoric material by project construction, and 2) intensive investigations of the historic structures within the project area be conducted at a level sufficient to completely determine their eligibility for nomination to the National Register of Historic Places.

INTRODUCTION

This is a report of the archaeological and historical survey for the Susupe-Chalan Kanoa Flood Control Study, Saipan, Commonwealth of the Northern Mariana Islands under contract DACW84-79-C-0028 with the U.S. Army Engineer Division, Pacific Ocean, Honolulu, Hawaii. Activities necessary for the completion of the survey were performed by staff members of the Pacific Studies Institute (PSI) and Mr. Jack Jones, an architectural historian, from 20 November to 15 December 1979 according to the Scope of Work of 24 August 1979. Survey activities included: 1) a background literature search, 2) a physical survey of the project area, and 3) limited subsurface testing of archaeological deposits.

The purpose of the survey was to determine presence or absence of any archaeological and/or historical remains within the project boundaries and to determine whether such cultural resources would be eligible for inclusion in the National Register of Historic Places. In addition, the survey was to determine how to avoid or mitigate any adverse impacts to historic properties which might result from the proposed construction activities, thereby assisting the U.S. Army Engineer Division in complying with section 106 of the National Historic Preservation Act of 1966 as amended (PL 89-665) and related authorities.

Description of the Survey Area

The Susupe-Chalan Kanoa Flood Control Study area is located on the west central coast of the island of Saipan, Commonwealth of the Northern Mariana Islands (Figures 1 & 2).

Saipan is the second largest island in the Marianas chain, covering an area of approximately forty-eight (48) square miles. The shape of the island, with its northeasterly trend of ridges and terraces, is related to fault patterns and the orientation of the geanticlinal submarine ridge from which the island rises (Cloud, et al 1956).

The project area itself (Figure 3) is naturally divided into three zones: 1) the marshy area around Lake Susupe, 2) the area between Lake Susupe and the residential development near the coast, and 3) residential Chalan Kanoa and Susupe and the present beach front.

Recent investigations of the Lake Susupe environment (i.e. Shallenberger and Ford 1978, and Tenorio and Associates, 1979) have provided detailed floral and faunal data from the wetlands so that the following outline will be general in nature.

The marshy area around Lake Susupe is dominated by only a few plants, *Phragmites* and *Acrostichum* being the most common. Although the area was under cultivation before World War II, today the marsh is difficult to penetrate because of its dense overgrowth; the only relic of its former orderliness being partially silted-in canals and eroded agricultural mounds. The western edge

of Lake Susupe is fringed with ironwoods (*Casuarina equisetifolia*) which may have been planted as windbreaks, and the western edge of the marsh itself is generally protected by dense thickets of hibiscus (*Hibiscus tileacious*). The marshy environment is home to many species of birds, two of which are federally listed as endangered species; the Nightingale Reed Warbler (*Acrocephalus luscinia*), and the Marianas Mallard (*Anas oustaleti*). In addition to the birds, the marsh also supports many amphibians, fish and small mammals.

Geologically, the old beach zone between Lake Susupe and residential Susupe and Chalan Kanoa is an elevated calcium carbonate sand deposit just west of the limestone platform supporting the Fina-Sisu hills. Whether this deposit developed as a bar which separated what may have been a shallow bay from the ocean creating Lake Susupe is uncertain (Cloud, et al 1956, Spoehr 1957, and Thompson 1977, mention the possibility). If so, it may have occurred during the period of human occupation, as will be discussed below.

As was the case with the marsh around Lake Susupe, the elevated area between the marsh and the coast was under cultivation before World War II. Also as in the case of the marsh, the area is now thickly overgrown despite the fact that a handful of farms remain tenanted. Unlike the marsh, however, the dominant plant is the ubiquitous tangan-tangan (*Leucaena leucocephala*). Today, former farms are marked by the occurrence of coconut palms (*Cocos nucifera*), breadfruit (*Artocarpus incisus*), papaya (*Carica papaya*), banana (*Musa sp.*)

and other cultigens in the midst of dense undergrowth.

The residential section of the survey area is supported on the eastern edge by the old beach deposit discussed above, and on the western edge by the recently developing beach. Buildings in the area date from both the Japanese and more recent periods and include schools, businesses, administrative centers and single family dwellings. Major streets are paved, but smaller interconnecting ones are generally composed of limestone gravel. Flametrees (*Delonix regia*) are common along thorough-fares and bananas, papayas, breadfruit and mangoes (*Mangifera sp.*) are frequently seen in yards, as are small vegetable gardens.

The current beach area is dotted with ironwoods and in places not occupied by businesses or dwellings, access is easy, undoubtedly adding to the popularity of the area for picnicking and recreational activities.

Culture History

The limited archaeological investigations undertaken in the Mariana Islands by Dilatush (1950), Marck (1977), Osborne (1952, 1961), Pellet and Spoehr (1961), Reed (1952), Reinman (1977), Spoehr (1957), Takayama (1971, 1976), Dean Thompson (1977) and Laura Thompson (1932) have led to the suggestion that the prehistory of this area may be divided into two phases. The earlier period, the pre-latte, is characterized by Redware,

a thin, red-slipped pottery type tentatively dated at 1527 B.C. (Spoehr 1957). The second, or latte phase, is primarily characterized by the occurrence of stone building supports (latte) and Plainware, a thick unslipped pottery dated at around 845 A.D.

Reinman's later investigations on Guam generally support the ceramic typology proposed above, but include temper as a method of distinguishing Redware (calcarious sand temper) and Plainware (volcanic sand temper). Whether or not this temper distinction holds for Saipan will be discussed below.

Settlement pattern data for Saipan are superficial at best, but indicate that most villages were located near the shore. Three such sites have been located within the survey area on what was presumably the prehistoric shoreline (Figure 3); Spoehr's Chalan Kija Site and Chalan Piao Site (Spoehr 1957) and Thompson's San Antonio Site (Thompson 1977). Unfortunately, these earlier investigations as well as more recent surveys have produced minimal information about the prehistory of near shore environments. Even less is known about interior settlements, but their infrequency and presumed lack of long occupation has led to the suggestion that they were restricted to "garden house" rather than permanent village use (Dye, Price & Craib 1978).

Based on the above investigations and on comparative information (i.e. Bellwood 1979, Shutler and Shutler 1975) only a very general picture of the culture history of people on Saipan can be given for the prehistoric period. We cannot make suggestions concerning the trade networks which must have existed, although close

ties with people in the Carolines are suspected on the basis of historic information. The original political structure, kinship patterns and religious systems must also be inferred from early written sources until they can be supported or contradicted by archaeological data.

The earliest of these written works begin in 1521 with the islands' discovery by Magellan, but the first detailed information does not come to us until 1668, the period of the first Spanish mission on Guam (Garcia, 1683).

In the middle 1500's the number of inhabitants in the Mariana Islands was estimated at 100,000 with Guam being the most populous. By 1668 the population estimate had become 50,000 and by the first census in 1710 it had been incredibly reduced to 3,539 native islanders (Harvey 1920). Filipino and Carolinian laborers were imported in order to bolster the flagging population and to increase the cultivation of cash crops such as sugarcane, cacao, indigo and cotton. People were also brought together into a number of central villages to ease the Spanish administrative burden, but the unsanitary conditions which prevailed further reduced the population. In fact, in the late 1700's people were reportedly removed from all the inhabited islands in the Northern Marianas so that Guam could continue to serve as the rest and refitting station for the Manila Galleons passing from Acapulco to Manila.

An attempt was made to resettle Saipan, with the founding of a city near Garapan in 1810 by an Hawaiian-American group, but

after five years they were deported by the Spanish. In 1842 the town of Garapan was reestablished by Carolinian colonists marking the permanent return of people to that island. Chalan Kanoa and San Antonio were reestablished shortly afterwards by Chamorro and Carolinian peoples and have remained Saipan's major population centers.

In 1899 Germany purchased the Northern Marianas from Spain and made Saipan their administrative center. Although some attempts were made to organize community services and stimulate both economic and social growth the German period was too short-lived for their plans to bear fruit (McKinney, 1947). In 1914 the Japanese, who were interested in the Marianas as a way of relieving some of their own social and economic problems, took the Northern Marianas from its small German administrative staff. After World War I, Japan's right to develop the islands was granted in the form of a mandate from the League of Nations (Clyde 1967).

Unlike previous administrations the Japanese period is marked by the influx of Japanese, Okinawan, and Korean farmers and laborers to stimulate economic development. By the outbreak of World War II, Saipan was home to approximately 30,000 people the majority of whom were immigrants. Garapan and Chalan Kanoa were the major population centers during this period housing the foreign administrators and many of the laborers, but the workforce remained largely rural. Garapan was a major trade, transportation and communications center boasting almost 6,000 buildings while Chalan Kanoa, equally large, was the hub of the sugar industry.

In 1919 the South Seas Development Company (Nan-yo Kohatsu Kabushiki Kaisha) built the first modern sugar factories on Saipan and sugar remained the island's major cash crop for the next twenty years (Japan 1924). It was to suit this industry that the Chalan Kanoa area was transformed. The marsh around Lake Susupe was almost entirely converted to sugar cane, with only small areas on the western fringes given over to rice and taro. The prehistoric beach front area consisted of small farms producing cassava, taro, rice, and vegetables for local consumption, and the residential area of Chalan Kanoa was built to house sugar company and government employees. The "institutional" regularity is visible in Figure 4, as is the factory itself.

Japanese development plans were interrupted, however, by the war. In the late 1930's the island administrators began spending more time in constructing defensive works than in economic development. In early 1940 the civilian population began to feel the pressure of a wartime economy and by 1944 were physically and emotionally exhausted.

In the American invasion of Saipan the major population centers took the brunt of the attack. Garapan was for all practical purposes totally destroyed and Chalan Kanoa nearly so (for an account of the invasion see Craven, W. and James Lea Cate, ed. 1953; and Crowl, 1960). American reconstruction efforts were largely directed to the Chalan Kanoa area with little if any attention to Garapan.

Part of the sugar mill in Chalan Kanoa was incorporated in the construction of the Mount Carmel Catholic Church and School, the former farms of Japanese and Okinawan immigrants were abandoned with their deportation, and the residential areas were rebuilt with earlier structures only rarely being utilized.

Expectations

From the background literature search several expectations arose regarding the archaeological and historical material which might be encountered in the survey.

a. Previous archaeological investigations revealed three (3) sites in the general survey area with material dating from both the pre-latte and latte phases of Marianas prehistory. Because of the nature of these sites, surface and subsurface deposits of prehistoric material were expected throughout the survey area.

b. Because of Japanese pre-war construction in the Chalan Kanoa area, little hope remained that buildings constructed before 1900 were still to be found within the survey area.

c. As a result of the American invasion and subsequent reconstruction few buildings constructed in the Japanese period were expected to remain in the survey area, although some had been identified as a result of a survey conducted during the planning stages of the Chalan Kanoa Redevelopment Project.

RECONNAISSANCE SURVEY

Field Methods

The fieldwork period began with discussion between staff members of the Pacific Studies Institute, Mr. Jack Jones (the architectural historian), members of the Commonwealth of the Northern Mariana Islands Historic Preservation Office, Housing Authority, Office of Transportation and Communications Planning and other government representatives, and the Saipan Museum Society. Throughout the fieldwork period close contact was maintained with representatives of these local offices and agencies to ensure maximum cooperation on the project.

Following these discussions a general reconnaissance of the area was conducted with assistance from the Young Adult Conservation Corps and Historic Preservation Office personnel. On the basis of this general reconnaissance, transects were surveyed in each of four areas: the proposed Texas Road levee alignment, the proposed levee skirting the marsh, the Northern Outlet Channel, and the Southern Outlet Channel.

The first area surveyed was that of the Northern Outlet Channel (Figures 3 & 5). Beginning at the coast a transect was walked by the survey team to the marsh where that proposed channel would begin. As four surveyors were employed, each with an effective visual range of 10 meters, 100 percent of the proposed channel area was covered. In addition to a visual inspection of the ground surface, the surveyors made occasional

trowel tests to determine the presence or absence of midden or other cultural deposits under the humic layer.

For the proposed levee along the western edge of the marsh, and for the proposed Texas Road alignment levee the survey team was divided into two groups. One group cut through the heavy underbrush along the marsh alignment while the second group walked along the existing Texas Road alignment, cut transects through areas where the proposed alignment does not coincide with the existing road, and investigated the proposed fill areas adjacent to Texas Road.

In the area of the marsh alignment the effective visual range of the surveyors was reduced significantly and time and the density of the undergrowth prevented more than one transect approximately 10 meters wide from being covered. As was the case with the Northern Outlet Channel, a visual inspection of the ground surface was supplemented along the levee alignment by trowel testing to determine the presence or absence of sub-humic deposits.

In the Texas Road alignment area the effective visual range varied depending on the location, but was generally between 10 and 20 meters. In addition, as was the case above, trowel tests and the observation of excavations in the area supplemented the visual inspection.

Because of time limitations, the proposed alternative Southern Outlet Channel was surveyed by walking transects from the coast to Beach Road only. Between Beach Road and the marsh the survey team entered the channel alignment at several locations to inspect both

the surface and subsurface deposits, but were unable to walk a continuous transect as in the case of the Northern Outlet Channel.

The second phase of fieldwork began after the transects outlined above had been completed. Based on information obtained from the visual inspection of the project area, a number of shovel tests were made to determine the depth of cultural deposits observed in several areas. Shovel tests consisted of a hole approximately 25 centimeters in diameter being excavated until sterile soil had been encountered. Back dirt was not screened, but artifacts or midden material were noted if present as was the nature of the soil in each test. The final portion of the subsurface investigation were two test excavations in the Southern Outlet Channel alignment.

The test excavations were conducted by PSI archaeologists on 10, 11, and 12 December 1979. Each test consisted of the excavation of a one meter square by trowel from the surface to sterile soil in one case (~125 centimeters), and from the surface to -50 centimeters in the second case. Both squares were dug in arbitrary 10 centimeter levels to speed the excavation, the back dirt from each level being screened (1/4"). All artifacts were collected as was a representative sample of the midden material in each level. In addition, a charcoal sample was obtained in one of the tests and has been retained for possible dating. A more complete discussion of these test excavations will be found below.

The final phase of the fieldwork in Chalan Kanoa was conducted by Mr. Jack Jones. While transects and test excavations were being carried out in other locations, the architectural historian completed a survey of all buildings within the study area. The investigation consisted of visual inspection to identify, map, and describe all buildings of potential historic value which might be impacted by the Flood Control Project. In addition, local people were interviewed with the aid of a translator so that information on the ownership, construction, and use of each of the buildings could be determined as precisely as possible.

Survey Results

Prehistoric Material

No deposits of prehistoric material were found between the coast and the eastern end of the running track along the Northern Outlet Channel. This is virtually the only place in the entire survey area which was not found to contain some physical remnant of the prehistoric population. Because of the wide surface distribution of remains, therefore, a number of loci have been defined based on the density of cultural material and will be discussed in turn (locations indicated in Figure 5).

- Locus A -

Locus A, which includes the Chalan Kija Site (Spoehr 1957) on its southeastern edge (see figure 5), is defined on the basis

of the density of Plainware sherds observed at the surface (more than five sherds per square meter) and the occurrence of dense midden material consisting mainly of *Anadara*, but with occasional *Tridacna* shell. The area of greatest density is that of the Chalan Kija Site itself, with a decreasing number of sherds and shell to the west and south. The site boundary on the east is apparently defined by the edge of the marsh, but this may not be found to be the case with further investigation.

Cursory subsurface probes revealed that the depth of the intact deposit in Locus A rarely exceeds 40 centimeters and decreases in thickness on the western and southern fringes of the locus (see Appendix A for shovel test results). Recent modifications of the surface made definition of the boundaries of the locus indistinct in several areas.

Since Locus A is a relatively thin, surface midden deposit, it is especially vulnerable to both farming and construction activities. As a result, the midden is intact in few places on or west of Texas Road, where previous construction activities have been most extensive (Figure 6). The midden has also been disturbed in the area of the Oleai School, both through construction and more recently by the sale of top soil. North of the school is a relatively large area from which both the top soil and its midden deposit have been stripped. East of Texas Road and south of Oleai School the midden is in relatively good condition in several areas. Disturbance has been generally less severe here so that more of the deposit remains intact.

On the basis of the artifacts observed (Plainware sherds and two *Tridacna* shell adzes) the occupation of the midden is judged to be from the latte phase of Mariana Islands prehistory. From the thickness of the deposit and its areal extent the site was probably that of a village. The fact that no latte remain in the area today may be the result of their removal by more recent inhabitants for decorative or other purposes.

- Locus B -

Locus B is characterized by Plainware occurring commonly at the surface, though the density is not as great as in Locus A. In addition, *Anadara* and *Strombus* shell co-occur in sufficient density to indicate the presence of a midden. Modifications in the area of Locus B have affected the condition of the midden and made the determination of its size difficult. On the north, west, and south the locus has been mostly destroyed by encroaching houses and yards. East of the houses the land was previously used for cultivating rice and sugar cane so that this area was also adversely impacted (Figure 4). Further, shovel tests indicate that the deposit is within 25 centimeters of the surface. Below this point is sterile sand which is concretized at about 35 centimeters and below that is bedrock. Since the deposit is expected to be a rather shallow one (as in Locus A), it may be almost entirely disturbed.

As was true for Locus A, based on the material remains observed on the surface, Locus B may be considered a former

village site occupied during the latte period of Marianas prehistory. Also like Locus A, there were no latte stone in Locus B.

- Locus C -

As in the case of the other loci, Locus C is characterized by a dense scatter of pot sherds and shell. The sherd scatter, while predominantly Plainware, also contains an occational piece of Redware. On the basis of the distribution of Plain and Redware, Locus C was subdivided into two sections: Section 1 and Section 2. C_1, which is east of Beach Road, is composed of an *Anadara* shell midden with Plainware and occasional (less than 10 percent) Redware sherds. C_2, which is west of Beach Road, is a *Strombus* shell midden with sherds of only Plainware at the surface. Between these two sections is a scatter of Plainware and shell of almost equal density, making it quite likely that C_1 and C_2 are components of a single site.

Subsurface testing in the area of Locus C revealed that the depth of the cultural deposits in both sections exceeded one meter.

In Section C_1 the test excavation, although it could not be completed because of the close of the fieldwork period, revealed that the Plainware present at the surface is replaced by Redware relatively quickly in the excavation. Based on the results of this brief test and a comparison of the material with that of Spoehr and Thompson's Chalan Piao and San Antonio sites (see Figure 5) it is suggested that all three excavations have been in the same site.

Subsurface tests in C_2 reveal that the *Strombus* midden may contain only Plainware (excavated to sterile sand at over one meter). As a hearth was discovered in the C_2 test, charcoal samples were removed for dating; hopefully they will reveal the time of occupation. Based on the relative dating method of Red and Plainware, though, the earlier site or component appears to have been C_1 which was occupied during the pre-latte phase of Marianas prehistory and possibly both the transitional and the latte phases as well. C_2, on the other hand, gives evidence of habitation only during the latte period. In view of the distribution of pottery in Locus C it seems likely that it is best considered one site with several components perhaps representing different periods of occupation.

Today Locus C is the site of some residential development on its northern border, but is generally pasture and garden land east of Beach Road. Due to this use the disturbance of the midden has been relatively minor compared with the depth of the deposit. West of Beach Road the deposit has been impacted by the Hopwood School in the north and a housing development in the south. Although the extent of the deposit along the coast is unknown at present, on the basis of material discovered during the construction of the Hopwood School (Scott Russell, personal

communication) it is suspected that the site may extend 1000 feet in the school's direction.

Historic Period

As a result of the survey of buildings within the project area by the architectural historian, several buildings potentially eligible for inclusion on the National Register of Historic Places were located.

Out of forty-three (43) structures or groups of structures which were identified as of probable historic significance (Figure 7), thirty-four (34) may be eligible for the National Register individually, while the remainder may be eligible as part of a Historical Architectural District (see Appendix B for individual descriptions and evaluations). Twenty-three (23) are dwellings or related structures in the Chalan Kanoa-Susupe area, and ten (10) are in a Japanese Communications complex now on the grounds of the Oleai School. In and around the Chalan Kanoa cemetery there are several pre-war Japanese structures including a bunker, toilet, and a concrete ceremonial platform and tori gate, separated by a walk lined with the bases of at least six concrete lanterns. Numerous pre-war water catchment tanks have also been found and are only considered significant when in association with significant structures.

Almost all of the structures date from before World War II and were built during the Japanese administrative period. Structures in the Chalan Kanoa area were related to the sugar industry and were presumably dwellings for Japanese and Okinawan administrators built in the late 1920's and early 1930's (for additional information on all the structures in Chalan Kanoa see Tenorio and Associates, 1979).

Unfortunately, only a few of the structures remain intact and substantially unaltered (as may be seen in the Appendix B), but despite this they remain quite important as will be discussed below.

Discussion

Consideration of the dense scatters of prehistoric material from the point of view of their topographis location reveals several interesting factors. Almost all the material, for example, occurs in areas presently above four feet of elevation in the Susupe-Chalan Kanoa area. Today, there is an abrupt change in the floral and faunal communities at approximately two feet of elevation, with cultigens and tangan-tangan above that mark, and *phragmites* below it. The occurrence of modern cultural material reflects this boundary, as most debris is found in areas presently above two feet of elevation. This observed distribution of modern and prehistoric materials suggests that areas which are now below four feet in elevation may not have been preferred as habitation sites because of their wetness during the prehistoric period.

If this is true, it follows that Lake Susupe and/or its associated marsh may have been more extensive in the recent past than it is today. The decreased density of artifactual material between Loci A and B may in fact be a result of the depression between them being uninhabited due to its wetness rather than the fact that the loci represent two distinct sites. In other words, the two loci may be found to have been inhabited contemporaneously and may in fact be components of the same site. Whether or not the two loci were continuous in the area west of Texas Road is difficult to determine because of the shallow nature of the sites and the extent of construction activities in the area. Without further information from these loci it is difficult to discuss their relationship relative to each other and what was the contemporary coast. Unfortunately the soil investigations carried out in the area have not been sufficiently detailed to shed any light on the development of the coastline or on the relationship of the loci of prehistoric material (see Cloud 1956, McKracken 1953, and Tenorio and Associates 1978). The testing of this "one site" hypothesis must await further investigation, but data from Locus C are suggestively pertinent.

Section C_2 of Locus C was inhabited at a later date than C_1 based on the relative chronology of Plain and Redware. Since this is true, it is tempting to regard the two components as earlier and later habitations with the shift in location corresponding to the developing shoreline in the San Antonio area. If westward movement may be suggested to be related to the developing shoreline in this area, it is also tempting to suggest that Loci A and B are

northward movements perhaps related to the same phenomena. The suggestion that the Chalan Piao area was inhabited before the Chalan Kanoa and Susupe areas may also be supported by the fact that limestone/coral bedrock is quite close to the surface in portions of Chalan Kanoa. Subsurface probes (trowel tests) in the housing area north of Fina-Sisu Road revealed as little as 30cm of topsoil in some areas. Assuming there was a north to south longshore current (as is true today), this rise may have resulted in deposition in the Chalan Piao-San Antonio area first, with the development of dry land suitable for habitation proceeding northward before it proceeded to the west. One final bit of evidence along these lines may be found in the composition of the midden in Loci A, B, and C. The midden of A, B, and C_1 are composed mostly of the bivalve *Anadara* while C_2 is mostly the univalve *Strombus*. Thus the environmental conditions during the northern growth of the deposit west of the marsh may have differed from that of the westward development which contains C_2.

Insufficient information was collected in this survey to do any more than pose the above questions regarding the genesis of Lake Susupe and the development of the shoreline in the Chalan Kanoa area. Quite a different scenario from the development of the shoreline from north to south isolating a bay in the area of what is now Lake Susupe, which was proposed by earlier archaeologists, is already possible (i.e. in Spoehr 1957 and Thompson 1977).

A second hypothesis regarding Marianas prehistory may also be questioned by the data obtained in the two test excavations in Locus C: namely that volcanic and calcareous sand temper can be

used to distinguish Plainware and Redware or earlier and later varieties of pottery throughout the Marianas. All the pottery in Locus C was tempered by calcareous sand, which is the sand naturally occurring in the area, although some of it (i.e. that in C_2) was determined to be Plainware on the basis of other morphological characteristics, and some was determined to be Redware (i.e. that of the lower levels of C_1). Thus, Reinman's (1977) hypothesis regarding temper may have to be reevaluated from the point of view of the availability of tempering material at sites producing calcareous and volcanic sand temper wares.

A final point which should be mentioned before proceeding to the historic structures is that the survey revealed material from several phases of Marianas prehistory which suggest questions for further investigation. More subsurface testing will undoubtedly yield much more information regarding the specific nature of each locus and whether or not any two or all three should be considered components of the same site.

In terms of the historic material identified and described by the architectural historian, little was unanticipated. All structures of possible historic value were investigated, but only those of valuable or marginal importance appear in the report. In addition to these structures concrete foundations or slabs were found in the area of the Oleai School and in the area north of Sugar Mill Road and east of Texas Road (in prehistoric material Locus B and adjacent to it). These slabs all date from the post-invasion period, are of American manufacture, and are not considered historically significant. In addition, a few small cement house

supports and wells were found scattered in the area north and west of Lake Susupe. These and other fragments of miscellaneous debris are all that remains of farms that for the most part were constructed during the Japanese administration (visible in Figures 4 & 6). Like the concrete slabs, these remains are not historically valuable in themselves, but further investigation in the area may shed light on the day to day agricultural practices of the pre-war period.

In terms of the investigation of the historic period remains within the survey area then there is little reason to suspect that any structures have escaped investigation.

SUMMARY

Significance of Archaeological and Historical Resources

Based on excavation at the Chalan Kija Site and on the information collected during this reconnaissance, the intact latte period midden in Locus A is considered eligible for nomination to the National Register. It conforms fully to Title 36 (CFR) Part 60.6, Criteria for Evaluation, with regard to its integrity of location, design, setting, etc.; and conforms with subparagraph (d) in that it has "yielded, or may be likely to yield information important in prehistory or history."

As in the case of Locus A, Locus C is also eligible for nomination to the National Register. Whereas Locus A probably represents the remains of a relatively short period of occupation,

previous excavation by Spoehr (1957) and Thompson (1977) in the area, and tests carried out as part of this survey indicate that Locus C has considerable diachronic continuity. This not only makes it a significant source of information on the prehistory of Saipan, but an almost unique one as well (see p. 19-21). The overall importance of Locus C to determining the prehistory of Saipan in particular and the Mariana Islands in general cannot be overestimated.

The significance of Locus B is more difficult to determine, since it is a question of the extent to which the site has already been disturbed. In some areas such as that which is north of Sugar Mill Road, the midden composing the locus has presumably lost its integrity and hence its importance because of severe disturbance. If areas within the locus remain intact, however, they would be considered eligible for nomination to the National Register under the same criteria as are Loci A and C. During the survey no midden was located in Locus B which the archaeologists considered definitely intact. That an extensive, intact midden will be found in the area is, therefore, considered doubtful by the investigators.

In terms of the significance of the historic material lcoated within the project area, the structures have been identified as valuable and marginal in Appendix B. The valuable structures are considered eligible for nomination to the National Register individually, while the marginal ones are considered eligible as elements in a Historical Architectural District.

These structures not only represent an era of development of the island, but architecturally have many features which can serve as guidelines to climate and environment-conscious design appropriate to the Marianas.

Impact of the Proposed Project on Archaeological and Historical Resources

The construction of a levee in the area of Locus A would result in primary impact to the site in the areas to be buried and secondary impact in the areas which would be traversed by construction equipment. Since Locus A contains a relatively shallow midden, exposed at the surface, it is particularly vulnerable to destruction by grading and earthmoving activities. In several areas, however, the site is no longer intact, so that construction in these locations is expected to have minimal impact. The areas of most disturbance are north and east of the Oleai School and in the present alignment of Texas Road. Construction of levees in these areas are expected to have minimal impact on the still intact portion of the locus (the area of the Chalan Kija Site).

The construction of an outlet channel from the marsh in Locus A to the coast would result in primary impact to any deposits along the channel and secondary impact to areas near the channel as a result of heavy equipment movement. As was the case with the levee near the Oleai School, however, such a channel is not expected to impact significant deposits of intact cultural material since it traverses an area already extensively modified.

The proposed Texas Road levee alignment would have a primary impact on any midden material encountered by eliminating it as a result of grading. As in the case of the levee construction discussed above, however, the proposed alignment is not expected to impact an intact site.

In Locus B the construction of levees would have a direct impact on the cultural material discovered as a result of the survey. As in the case of Locus A, Locus B is a shallow deposit and as such is vulnerable to modifications of the ground surface.

The construction of a levee in Locus C would directly and indirectly impact a portion of the site along its presumed eastern border as would be the case in levee construction through Loci A and B.

Major impact would occur as a result of the excavation of an outlet channel from the marsh in the eastern portion of the site to the coast. Primary impact would occur through the complete destruction of that portion of the site within the channel alignment and secondary impact would effect the surface deposits as a result of heavy equipment operation and deposition of spoil.

Primary impact of the project on the historic structures would result from filling the areas indicated on Figure 7. Filling the aforementioned areas would have a negligible impact on prehistoric material and conversely construction of outlet channels and levees would minimally impact most historic material, with the exception of the remains of the farms located north and west of Lake Susupe, and structures number 29 and 30, 0209, and 0073.

These structures would be directly or indirectly impacted by the construction of levees. Direct impact would result from their destruction or movement if they are directly in the levee alignment, and indirect impact would occur as a result of the increased lieklihood of their flooding in cases where they are east of the levee alignment. Obviously, filling large areas in Susupe and Chalan Kanoa would result in the destruction of the historically significant structures listed in Appendix B.

Recommendations

Regarding Locus A, it is recommended that a data recovery plan be developed for the mitigation of the primary and secondary adverse impacts to archaeological remains along the alignment of the proposed levee if one is to be constructed in the area of the Chalan Kija Site. If another alignment is chosen, then it is recommended that further subsurface testing be conducted along the alignment to determine whether intact deposits of cultural material will be impacted. As in the case of the levee it is recommended that subsurface testing also precede construction of an outlet channel in this area and that of the proposed Texas Road levee alignment. In addition, it is recommended that an archaeologist be present during construction to ensure that intact cultural material is not destroyed.

For Locus B it is recommended that an archaeologist be present during construction of the project, as in the case of

A, to ensure against loss of information in the event that an intact deposit is encountered. The nature of the material in Locus B, however, does not indicate that further investigation is necessary before project construction begins.

The important and extensive deposit of cultural material contained in Locus C requires conscientious protection from adverse impact as a result of project construction. A data recovery plan needs to be developed for the mitigation of the primary and secondary adverse impacts associated with the proposed levee construction and the area proposed for the excavation of the outlet channel. The design of the data recovery plan should include enough time to adequately deal with deep, highly stratified deposits.

The historic material found within the project areas is probably eligible for nomination to the National Register of Historic Places according to 36 CFR 60.6. Therefore, intensive investigations of this material should be conducted at a level sufficient to determine its eligibility for such nomination.

In conclusion, many archaeological and historical resources have been located within the Susupe-Chalan Kanoa Flood Control Study Area which are extremely important, and in some cases unique. Every effort should be made to ensure that these resources are protected from adverse impact as a result of the proposed project. If impact is absolutely unavoidable, then data recovery operations should be initiated at the earliest possible moment to ensure proper mitigation of all adverse impacts to the remains.

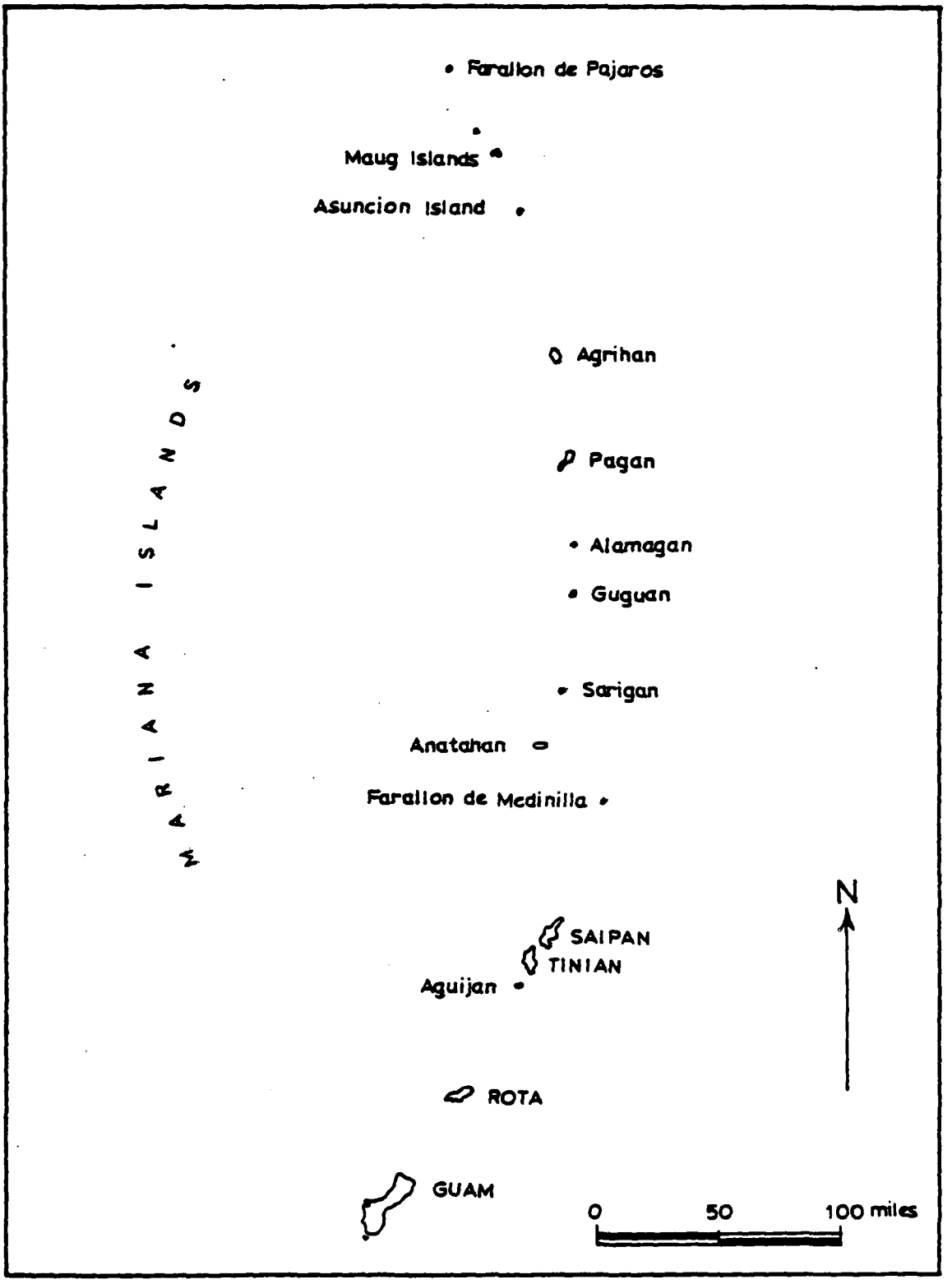


FIGURE 1. THE MARIANA ISLANDS

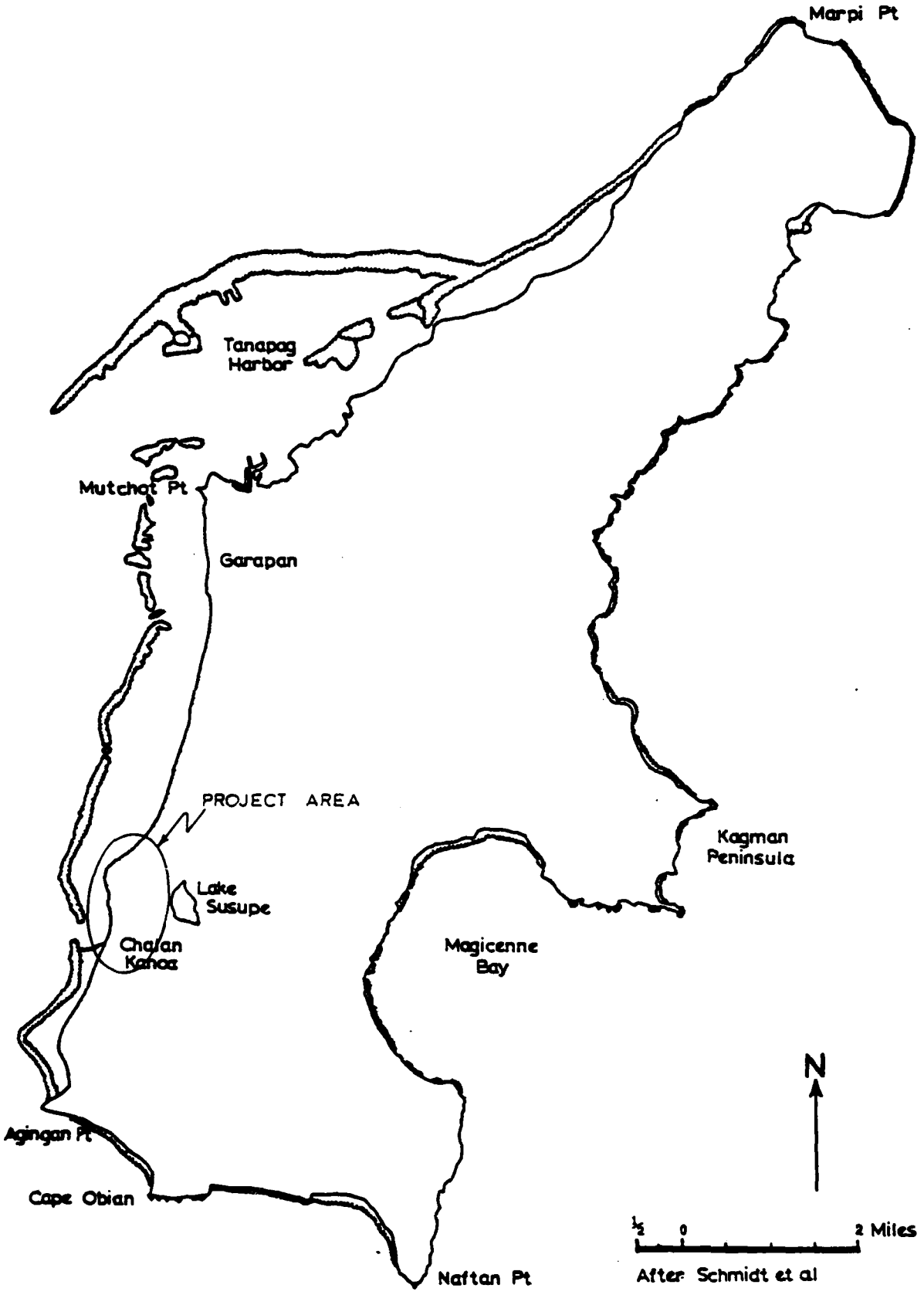


FIGURE 2. MAP OF SAIPAN SHOWING PROJECT AREA LOCATION

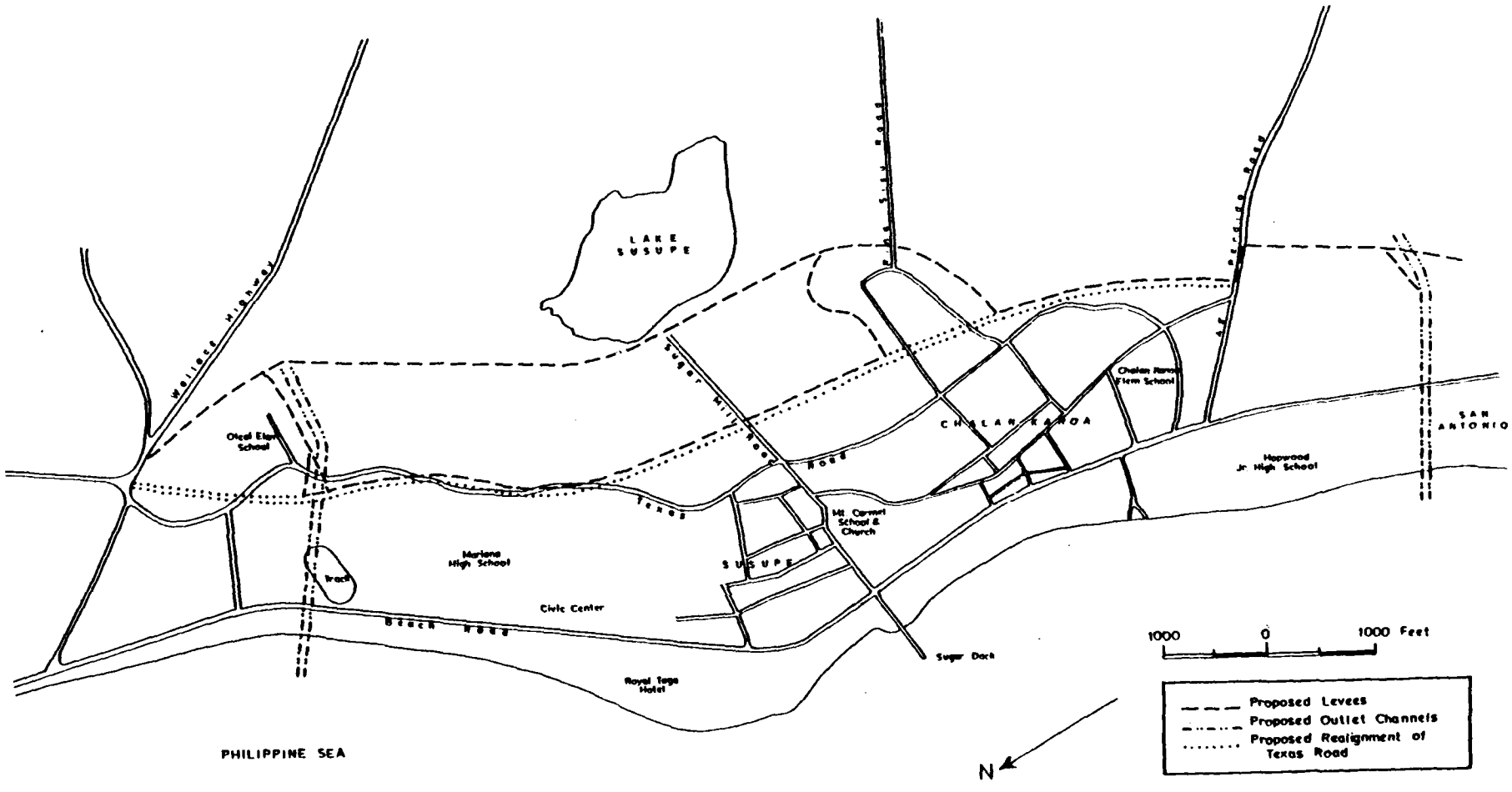


FIGURE 3. MAP OF THE PROJECT AREA SHOWING PROPOSED MODIFICATIONS

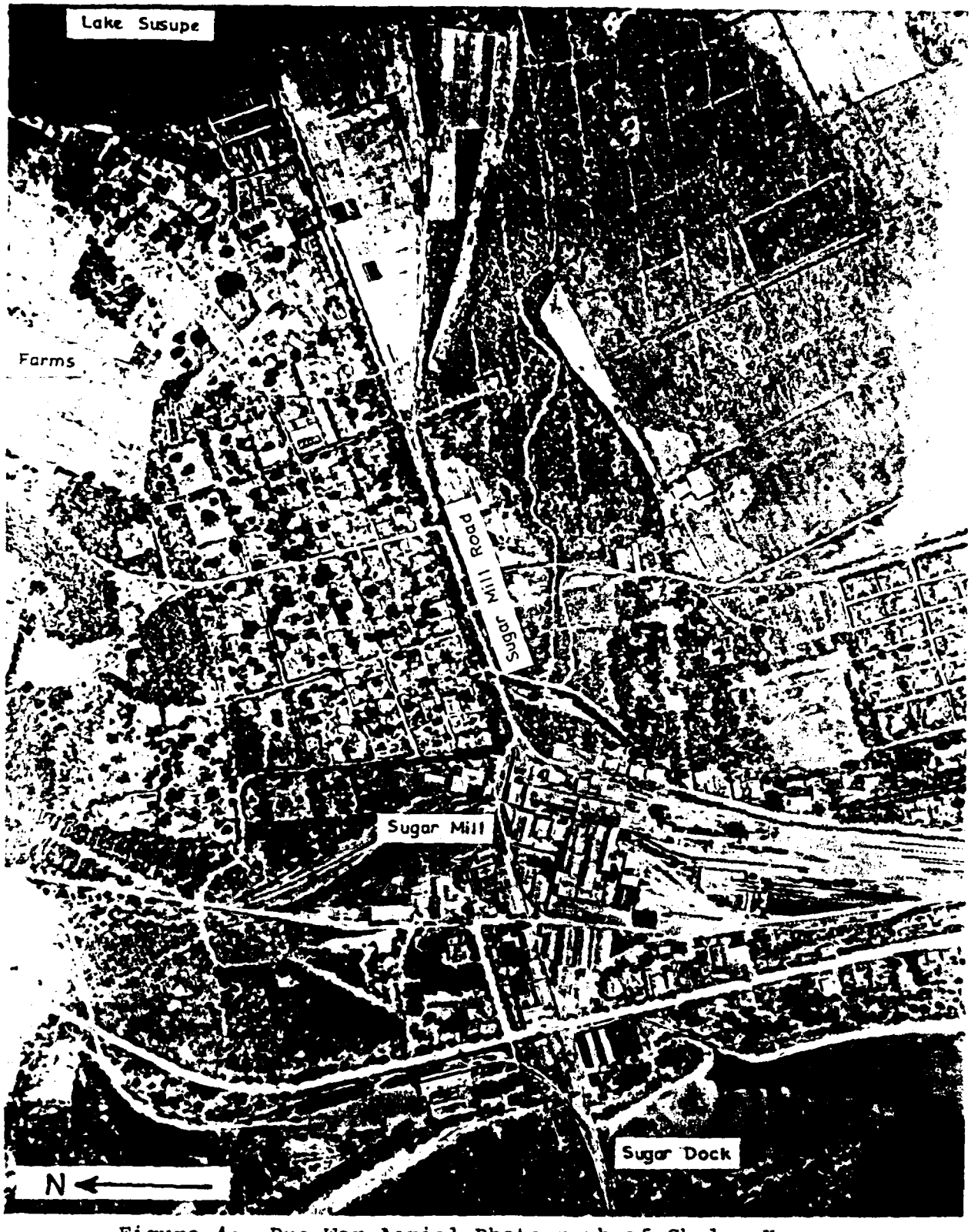


Figure 4: Pre-War Aerial Photograph of Chalan Kanoa Farming Area and Sugar Factory

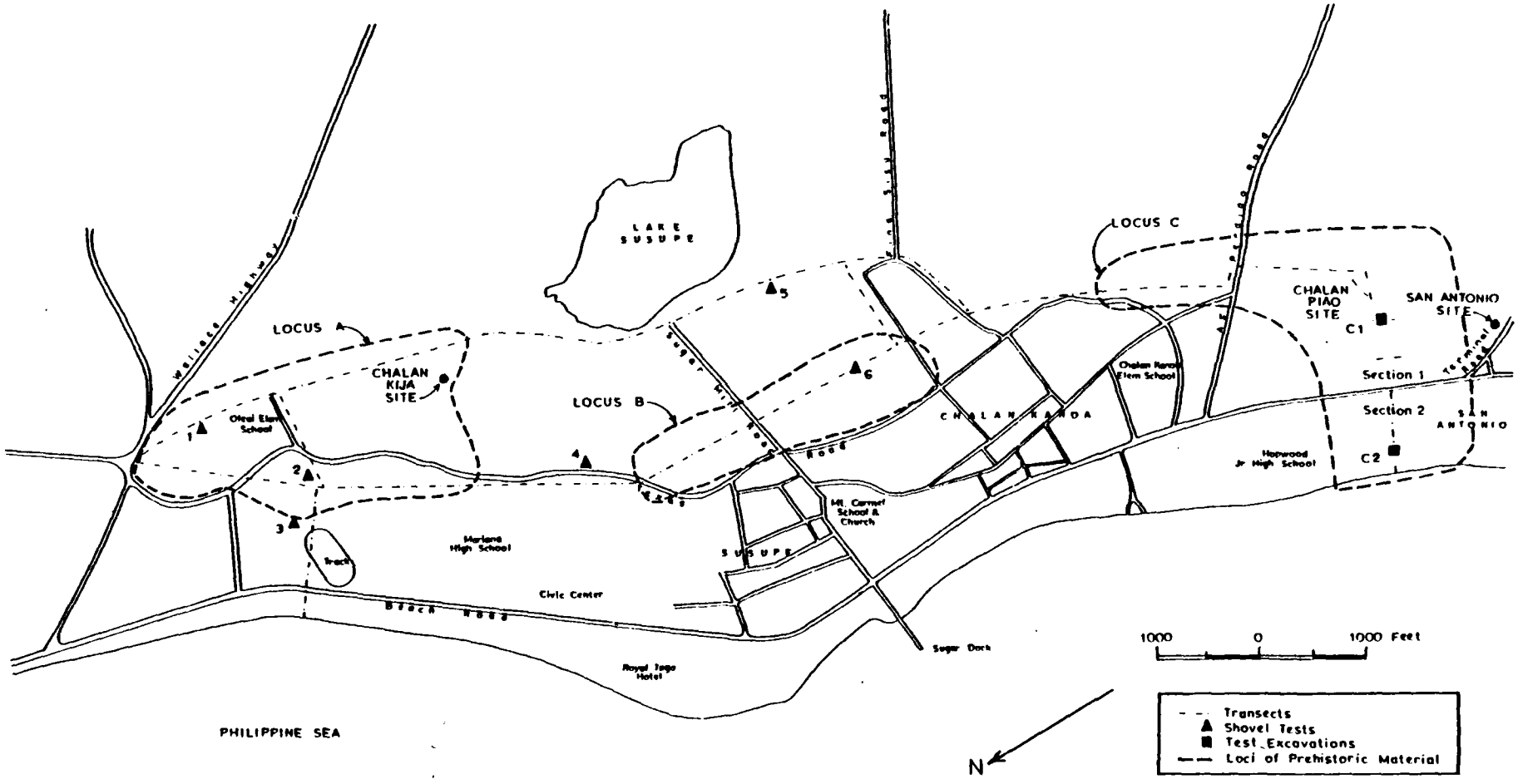


FIGURE 5. MAP OF THE SURVEY AREA SHOWING TRANSECTS, LOCI OF PREHISTORIC MATERIAL, AND THE LOCATIONS OF SUBSURFACE TESTS

Figure 6: Post-Invasion Photograph Showing Extensive Construction West of Texas Road During the American Military Period.

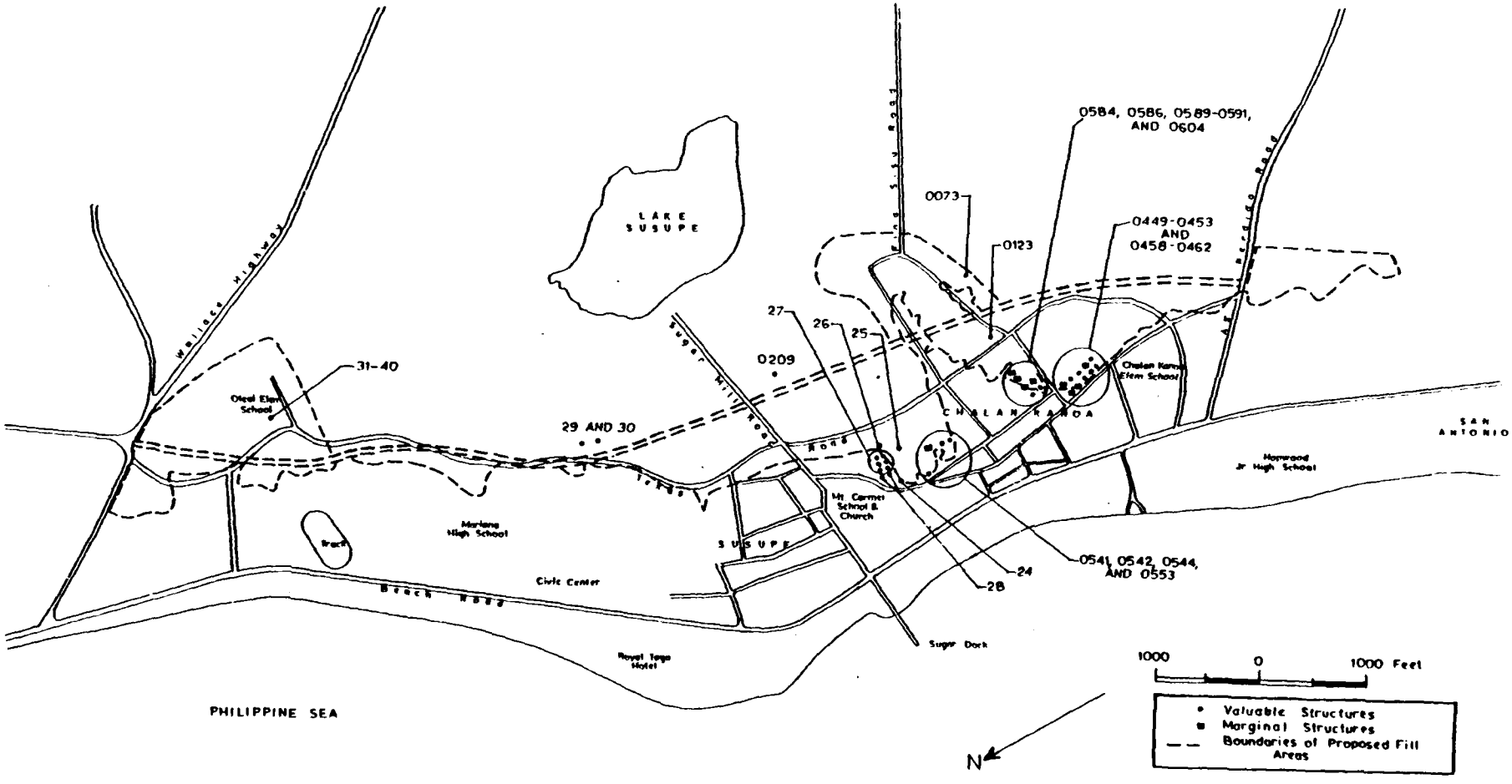


FIGURE 7. MAP SHOWING THE LOCATION OF STRUCTURES OF PROBABLE HISTORIC SIGNIFICANCE

Figure 8: Photograph of the Area in which Test Excavation 1 was Conducted (Facing Northeast)

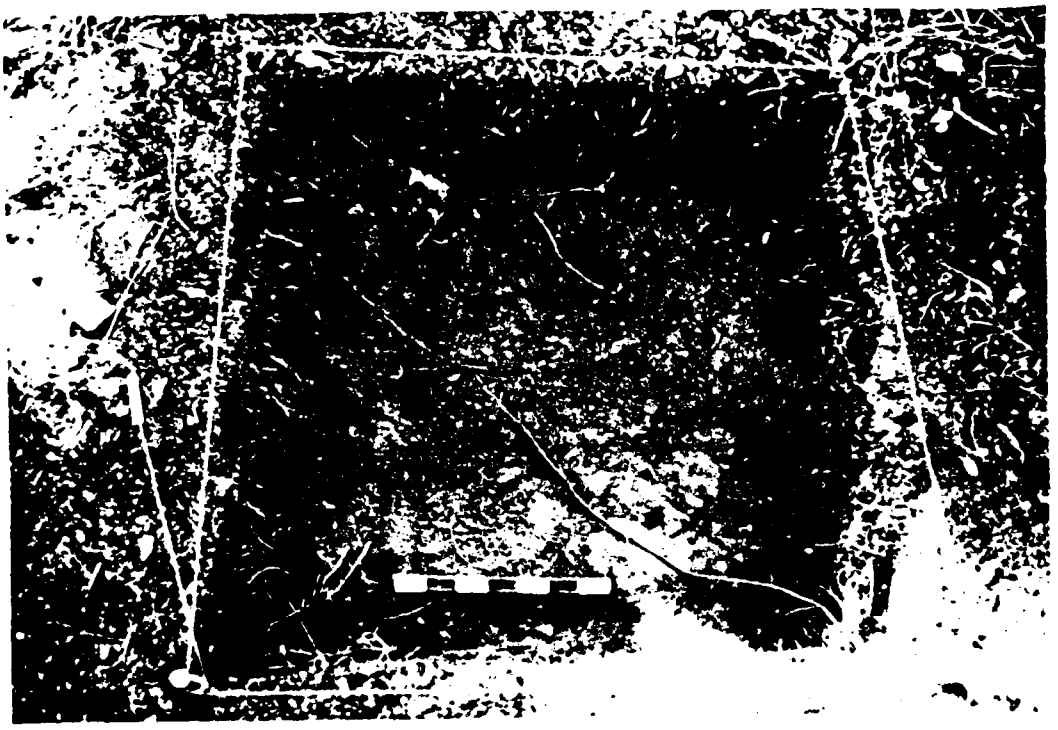


Figure 9: Test Excavation 1: Level 3 Showing Hearth Stones in the Southwest Corner of the Square (Facing West).

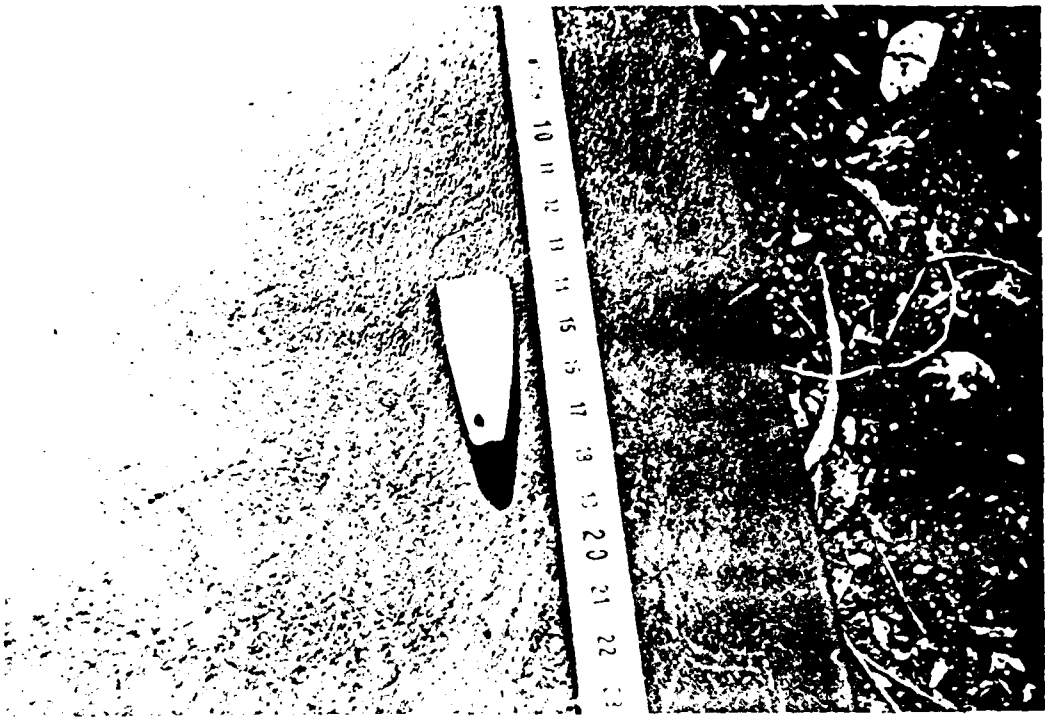


Figure 10: *Tridacna* Shell Pendant Recovered From Level 3 of Test Excavation 1

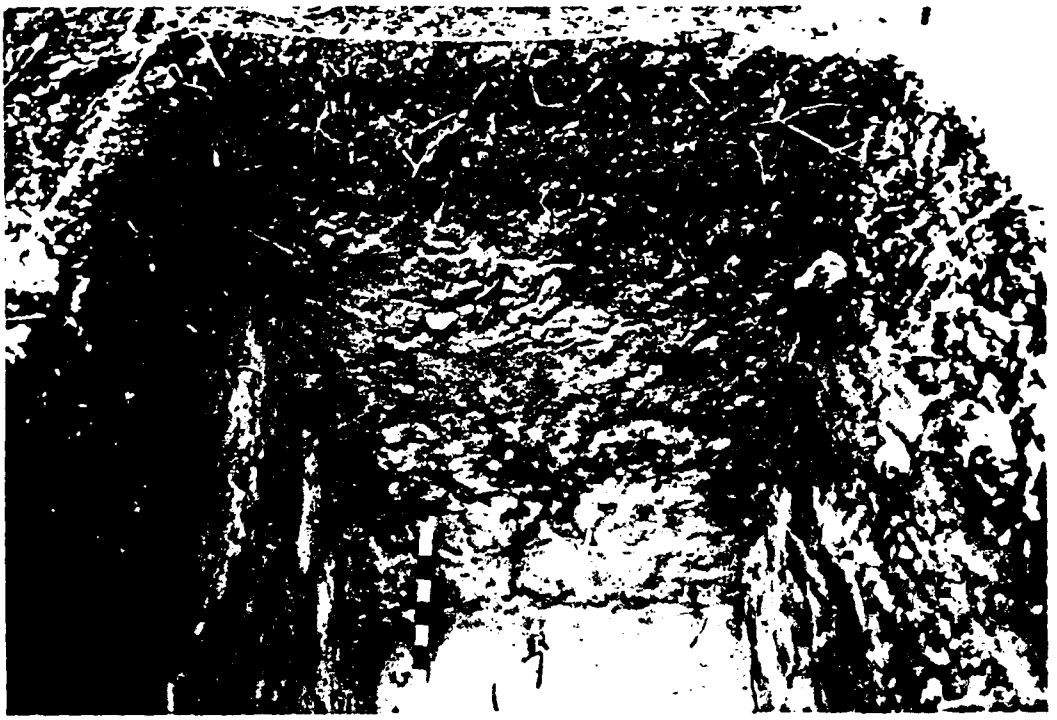


Figure 11: Soil Profile in Text Excavation 1 (Facing North)

Figure 12: Soil Profile in Test Excavation 1
(Facing West)

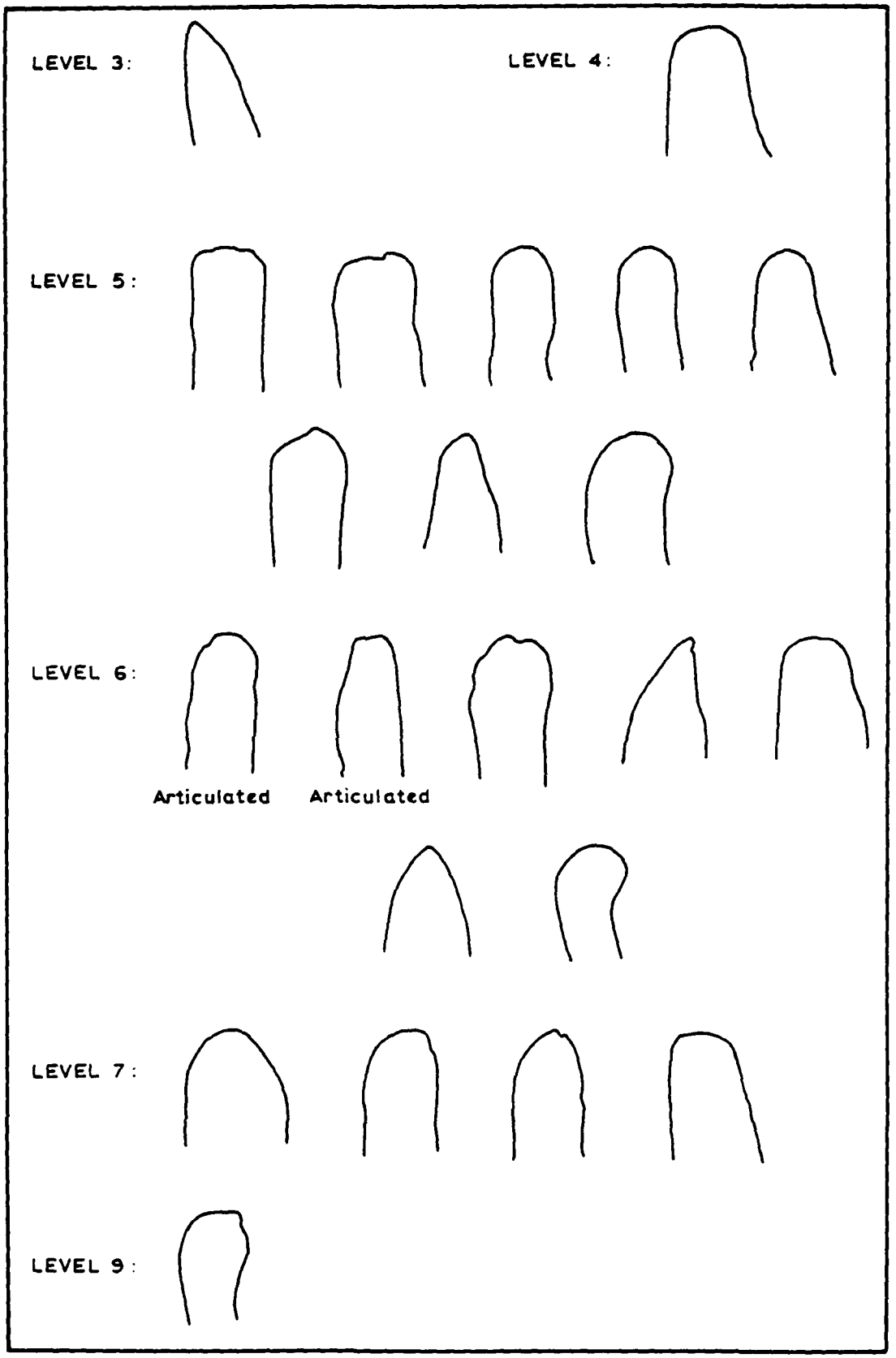
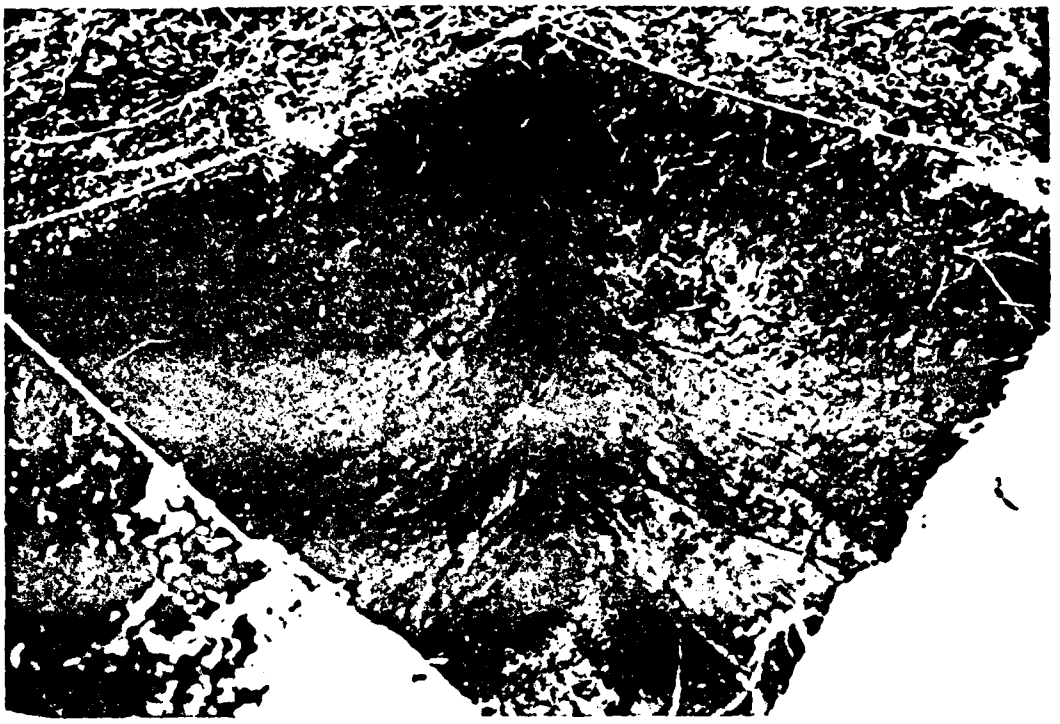
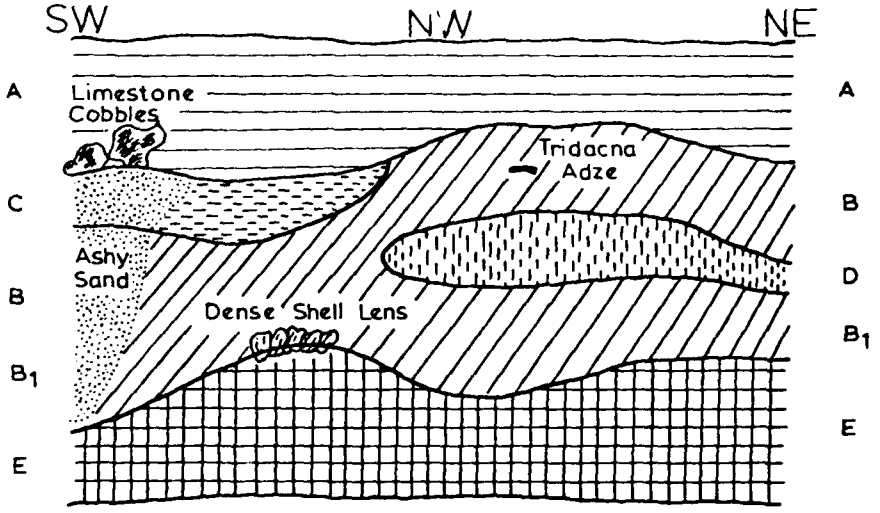


FIGURE 13. RIM SHERDS RECOVERED FROM TEST EXCAVATION 1





A -- 7.5 YR 5/2 Sandy loam containing Plainware, shell, and modern debris.

B -- 10 YR 6/2 Loamy sand containing Plainware and shell.

B_1 -- 10 YR 7/3 Sand containing Plainware, shell, and charcoal fragments.

C -- 7.5 YR 7/2 Sand containing Plainware, shell, and occasional fire cracked limestone cobbles.

D -- 2.5 Y 7/4 Compacted sand containing occasional shell and Plainware.

E -- 2.5 Y 8/4 Loose sand containing occasional Plainware and shell.

FIGURE 14. STRATIGRAPHY FOR TEST EXCAVATION 1

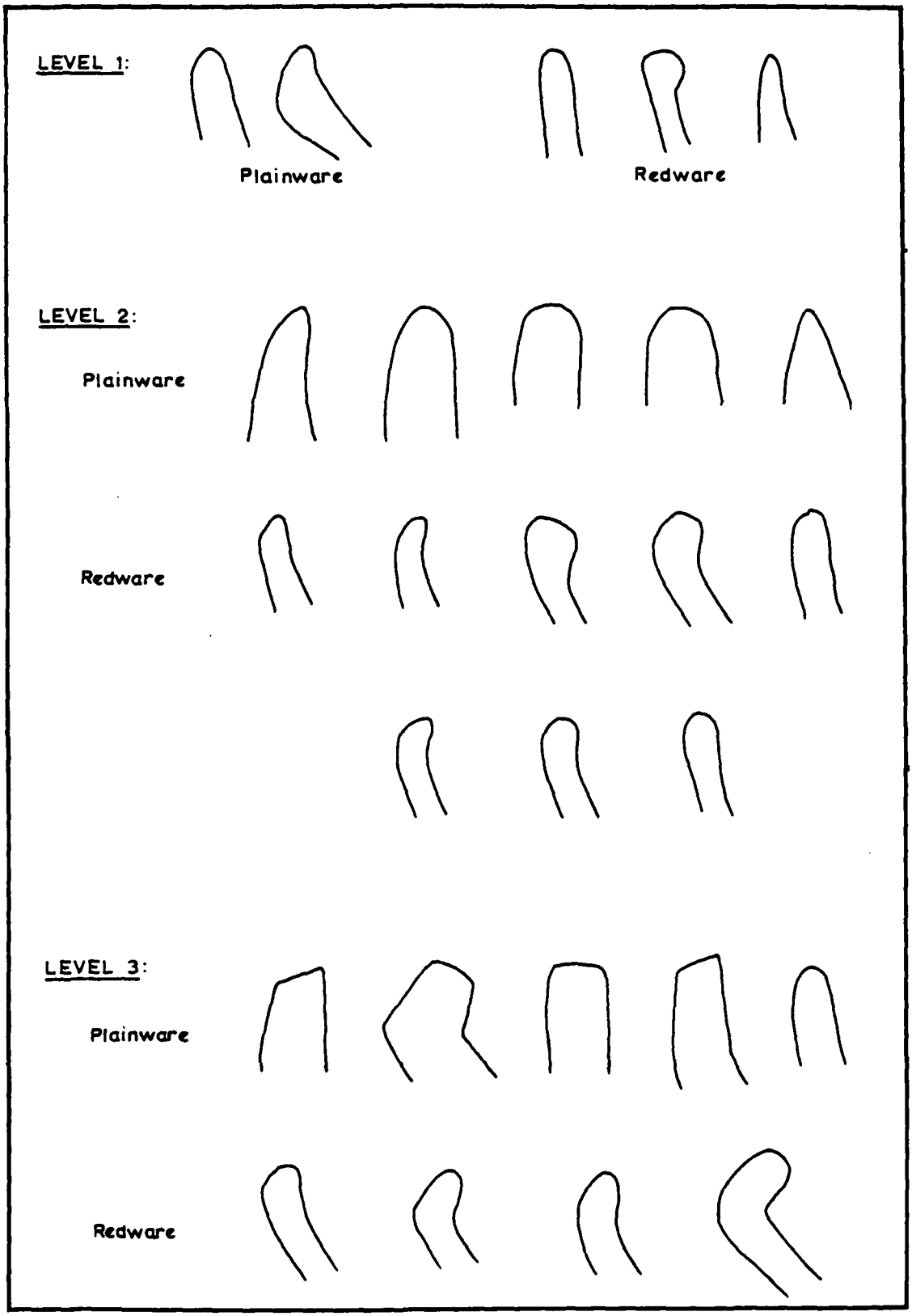


FIGURE 15. RIM SHERDS RECOVERED FROM TEST EXCAVATION 2.

APPENDIX A

RESULTS OF SUBSURFACE TESTS

APPENDIX A

Results of Subsurface Tests

Test Number 1: Near the Oleai School (shovel test)

Depth	Soil Type	Cultural Material
surface	humus	Plainware sherds, Anadara shell, modern debris (unidentified glass and metal fragments)
0-35 cm	(A horizon) 7.5 YR 5/2 sandy loam, slightly plastic when moist friable when hard, no ped structures observed	Plainware sherds, Anadara shell, modern debris
35-70 cm	(C horizon) 2.5 Y 8/4 partially concretized calcareous sand, small mollusk and bioelastic material inclusions	No cultural material
70+ cm	watertable	

Test Number 2: Formerly cultivated area west of Texas Road

surface	humus	Plainware sherds, Anadara shell, modern debris
0-30 cm	(A horizon) 7.5 YR 5/2 sandy loam, slightly plastic when moist, loose to friable when dry	Plainware sherds, Anadara shell, occasional Tridacna shell, modern debris
30-50 cm	(C horizon) 10 YR 8/3 sand	No cultural material

Test Number 3: Behind Poppy's Club, notes made of a shallow excavation for an addition to the club.

surface	sand, 10 YR 8/4	Plainware sherds, 2 Tridacna adzes, Anadara shell, Tridacna shell, modern debris

Depth	Soil Type	Cultural Material
Test Number 3 continued		
0-25 cm	(A horizon) 7.5 YR 5/2 clay loam plastic to sticky when moist, hard when dry	Dense Anadara shell midden, plainware sherds, occasional basalt fragments
25+ cm	not observed	
Test Number 4:	Texas Road alignment behind the Nauru Building	
surface	humus	Modern debris, occasional plainware sherd
0-25 cm	(A horizon) 10 YR 5/3 sandy loam	No cultural material
25-40 cm	(C horizon) 10 YR 8/3 sand	No cultural material
Test Number 5:	In the marsh between Sugar Mill Road and Fina-Sisu Road	
surface	humus	No cultural material
0-30 cm	peat	No cultural material
Test Number 6:	Behind the Community Center	
surface	7.5 YR 5/4 clay loam, plastic to sticky when moist, hard when dry	Occasional Anadara and Strombus shell, occasional plainware
0-25 cm	same as above	Occasional plainware, Anadara and Strombus shell
25-35 cm	(C horizon) 2.5 Y 8/2 partially concretized calcareous sand	No cultural material
35+ cm	Coral/limestone bedrock	No cultural material

Test Excavation 1

Test Excavation number 1 was conducted between a San Antonio housing development and the Hopwood School; in the Southern Outlet Channel alignment approximately 100 m east of the coast.

A one meter square was marked out in a north-south orientation (Figure 8) and was excavated by trowel in arbitrary 10 cm levels. The backdirt was screened (1/4") and all artifacts were collected by level. In addition, a representative shell sample was taken to indicate the relative proportions of each type. All artifacts and shell were left in the possession of the Historic Preservation Office in Saipan.

Level 1: 0-10 cm, soil - 7.5 YR 5/2 sandy loam, Level 1 contained many rootlets, plainware sherds, shell, and modern debris in the form of glass and metal fragments, old shoes, screen, and scraps of tin roofing.

Pottery - 28 body fragments of plainware which were all calcareous sand tempered, the average thickness being approximately 1 cm.

Shell - 121 Strombus, 31 Terebra, 18 Fragum

Level 2: 10-20 cm, soil - 7.5 YR 5/2 sandy loam, Level 2 was similar to level 1 in content; modern debris occured throughout along with plainware sherds and midden material.

Pottery - 23 body sherds, all calcareous sand tempered plainware, average thickness 1 cm.

Shell - 56 Strombus, 24 Tellina (?), 9 Fragum

Level 3: 20-30 cm, soil 7.5 YR 5/2 and 10 YR 6/2, loamy sand, Level 3 revealed the upper portion of a probable hearth (visible in the south-west corner of the excavation in Figure 9).

At the bottom of the level (27 cm) the soil lightened in color and became slightly more sandy. Several chert flakes were found at this level, along with 2 ground basalt fragments (possibly from a mano hammer stone based on their size). In addition, a Tridacna shell pendent was also recovered from the 27 cm level (Figure 10). It is possible that this artifact cluster and coincident soil change represents a former living surface, but it is also possible that the soil

Test Excavation 1
Level 3 continued

has been mixed to this depth, the underlying soil being the original, undisturbed deposit.

Pottery - 30 plainware body sherds and 1 rim sherd (see Figure 13 for a diagram of the rim sherds) all calcareous sand temper, with an average thickness of 1.3 cm.

Shell - 63 Strombus, 30 Tellina (?), 4 Fragum

Level 4: 30-40 cm, soil- 10 YR 6/2 slightly loamy sand, Level 4 contained soil very similar to that in the lower portion of level 3, and as the depth increases it becomes more sandy. Shell in this level was generally more dense than in the preceding ones, and pottery about the same. Only one chert flake was recovered along with one additional basalt fragment (similar in size and shape to those in level 3) A Tridacna shell adze was found in the North wall of the excavation and left in place.

The hearth area in the south-west corner of the excavation contained very loose, sandy soil with an apparently high ash content judging from it's greyish color, but no charcoal was seen in this level. It was apparent, due to the limited area of the stones and ash, that the excavation was only revealing a corner of the hearth. The majority of it is to the immediate south-west of the test pit.

Pottery - 25 plainware body fragments and one rim sherd, calcareous sand temper, with an average thickness of 1.2 cm.

Shell - 126 Strombus, 110 Tellina (?), 33 Terebra

Level 5: 40-50 cm, soil - 10 YR 6/2 and 2.5 Y 7/4 sand, Both pottery and shell were denser in level 5. The ashy area in the south-west corner of the excavation continued, but no charcoal was located. Soil lightens at the bottom of the level.

Pottery - 57 plainware body sherds and 8 rim sherds, calcareous sand temper, average thickness 1.3 cm.

Shell - 220 Tellina (?), 160 Strombus, 43 Terebra, 31 Fragum

Bone - 5 fragments of unidentified fish bone
1 crab claw

Stone - 1 pumice fragment, 1 basalt fragment, 2 chert flakes

Test Excavation 1 continued

Level 6: 50-60 cm, soil - 2.5 Y 7/4, sand. Scattered charcoal was found throughout level 6 in the center and southwest corner of the excavation. The charcoal was very fugitive, but samples were taken. The loose ashy sand in the southwest corner continues to be present but does not extend into the excavation for more than 15 cm.

Pottery - 78 plainware body sherds, 6 rim sherds calcareous sand tempered, average thickness 1.3 cm.

Shell - 219 Tellina(?), 72 Strombus, 46 Fragum, 43 Terebra

Bone - 2 crab claws

Level 7: 60-70 cm, soil - 10 YR 7/3 changing to 2.5 Y 8/4 at bottom, sand. More charcoal was recovered from the lower portion of level 7 (before the soil change), but pottery and shell are generally less dense. The ashy area continues to be present in the southwest corner but is now even less pronounced (extending into the excavation only a few centimeters). Sand is generally looser in this level.

Pottery - 40 plainware body sherds and 4 rim sherds with an average thickness of 1 cm, calcareous sand temper.

Shell - 232 Tellina (?), 64 Strombus, 57 Fragum , 44 Terebra

Level 8: 70-80 cm, soil - 2.5 Y 8/4, sand. At the bottom of level 8 is a layer of hard packed shell (Strombus) in the southwest corner of the excavation adjacent to the ashy sand associated with the hearth. The shell is quite fresh looking which indicates that it did not weather as shell previously encountered. This may be due to its being buried by the back dirt of the hearth excavation.

Pottery - 44 plainware body sherds, calcareous sand temper, average thickness 1 cm.

Shell - 327 Tellina, 202 Terebra, 118 Strombus, 85 Fragum

Level 9: 80-90 cm, soil - 10 YR 7/3, sand. The sand is very soft and loose in level 9. Shell is still quite dense, but the pottery has decreased sharply in numbers. The lens of dense shell reported in level 8 is only 5 cm thick and occurs at the interface of two soil strata (10 YR 7/3 above and 2.5 Y 8/4 below).

Test Excavation 1
Level 9 continued

Pottery - 12 plainware body sherds and 1 rim shed, calcareous sand temper, average thickness 1.2 cm.

Shell - 120 Fragum, 95 Tellina (?), 89 Strombus 67 Terebra

Level 10: 90-100 cm, soil - 2.5 Y 8/4 loose sand. There is abundant shell in level 10, but pottery is quite rare. The shell in this level is unweathered as is the shell in level 9. The concentration of shell possibly associated with the hearth is no longer present, nor is the hearth itself, as may be seen in the profile (Figure 14).

Pottery - 4 plainware body sherds, calcareous sand temper, average thickness .8 cm.

Shell - 225 Tellina (?), 128 Terebra, 94 Strombus, 82 Fragum

In summary, the test has revealed the depth of the deposit in this area to exceed 1 m (though not by much). The nature of the material recovered indicates a latte period occupation with variations in the exploitation of the reef flat reflected in the relative frequency of different shell in the midden. In addition, the stratigraphy observed providing the key to stratigraphic excavations which should now be conducted in the area. The method of excavation was much too gross to answer the more intriguing questions regarding the latte period on Saipan, but enough exploratory information was obtained to plan a more comprehensive and detailed excavation.

Test Excavation 2

Test excavation number 2 was conducted at the eastern end of the proposed Southern Outlet Channel alignment where the proposed levee alignment and channel alignment intersect. It is approximately 50 m southeast of a small housing development and is in a starfruit and tangerine orchard.

A one meter square was marked out in a north-south orientation and was excavated by trowel in arbitrary 10 cm levels from the surface to 30 cm. The backdirt was sifted through a 1/4 inch screen and all artifacts were collected by level. In addition, a representative shell sample was collected for each level to indicate the relative proportions of each type. All artifacts and shell are in the possession of the Historic Preservation Office in Saipan.

At -30 cm the level by level excavation was abandoned due to time limitations and inclement weather. Beginning at this level a shovel test was dug to determine the depth of the deposits. The shovel test consisted of a 25 cm square being excavated in the northwest corner of the excavation unit to a depth of 125 cm. At this depth a layer of concretized calcareous sand was encountered and further excavation was not attempted. Backdirt from this shovel test was not screened and artifacts were not collected, but the occurrence of artifacts was noted throughout the excavation. In fact, it is likely that artifacts continue to occur even into the concretized sand, as this was found to be the case at the nearby Chalan Piao site by Spoehr (1957).

Level 1: 0-10 cm, soil - 7.5 YR 3/2 clay loam. Level 1 contains many rootlets, plainware sherds, shell and modern cultural debris in the form of miscellaneous glass and metal fragments and shell casings.

Pottery - Plainware: 41 body sherds, 2 rim sherds average thickness .9cm. Redware: 30 body sherds, 3 rim sherds average thickness .4cm.

Shell - 118 Anadara, 4 Strombus, 2 Terebra

Level 2: 10-20 cm, soil - 7.5 YR 3/2 clay loam. Level 2 is similar to level 1 above in that it contains many rootlets, plainware sherds, shell, and modern cultural debris. At the bottom of this level a lighter colored sandy loam replaces the clay loam and is described in level 3.

Pottery - Plainware: 25 body sherds, 9 rim sherds, average thickness 1cm. Redware: 53 body sherds, 4 rim sherds, average thickness .4cm.

Shell - 168 Anadara, 2 Strombus, 4 Terebra

Level 3: 20-30 cm, soil - 10 YR 7/4 sandy loam. Level 3 contains an increased amount of pottery and shell, and as is seen in the counts below the pottery includes both plain and redware. As this level contained no modern debris it is possible that it is undisturbed.

Pottery - Plainware: 31 body sherds, 5 rim sherds, average thickness 1cm. Redware: 72 body sherds, 4 rim sherds, average thickness .4cm.

Shell - 210 Anadara, 11 Strombus, 1 Terebra

Level 4: 30 cm - 120 cm, soil - 10 YR 7/4 sandy loam. The soil description from level 4 is general in nature and with more detailed investigation may be found to consist of more than one stratum. Anadara shell continued to occur in great number throughout this level and is the dominant shell type throughout the test. Although an exact count of the pottery from this level was not made, plainware appears to decrease in frequency with increasing depth and redware appears to occur more frequently. Whether or not this is actually the case must be determined by more systematic excavation.

Level 5: 120-125 cm, soil - 2.5 Y 8/4 partially concretized calcareous sand. Excavation was discontinued in level 5, but artifacts may still be present in the concretized layer. A sharp decline in shell was noted at the interface of levels 4 and 5.

APPENDIX B

RESULTS OF THE SURVEY OF HISTORIC STRUCTURES

NO.	LOT NO. BLK	LOT	CR. NO.	DESCRIPTION * FOR DESCRIPTION OF TYPLICAL ORIGINAL DUPLEX STRUCTURE SEE BLDG. 8, BLK 16, LOT 10. CR. NO. 0459	IMPORTANCE VALUABLE	MARGINAL
1	16	3	0462	Pre-war Japanese structure; typical duplex. Modified with concrete additions; currently used as residence.		X
2	16	4	0449	Pre-war Japanese structure; typical duplex; ruins with concrete shell intact. Abandoned.		X
3	16	5	0450	Pre-war Japanese structure; typical duplex; majority of original concrete structure intact; currently used as residence.	X	
4	16	6	0461	Pre-war Japanese structure; typlical duplex modified with wood additions; portion of north walls remains exposed; currently used as residence.		X
5	16	7	0460	Pre-war Japanese structure; typlical duplex modified with wood addition; north portion remains intact; currently used as residence.	X	
6	16	8	0451	Pre-war Japanese structure; 1 story residential structure portion wood structure. Determination of portion of structure which is original construction would require detailed study; currently used as residence.	X	
7	16	9-1	0452	Pre-war Japanese structure: Typical duplex modified with wood addition to south; north portion remains without roof; currently used as residence.		X
* 8	16	10	0459	*Pre-war Japanese structure: Typical duplex ; concrete structure for walls; raised wood floor; wood framed roof; metal roofing; 4.83 m x 12.1 m; floor approximately 0.8 m above ground; peak of roof approximately 4.2 m above ground. Originally used as housing for Japanese or Okinawan employees of the sugar cane industry. Estimated date of construction late 1920's or early 1930's. Currently used as residence.	X	
9	16	11-1 11-2	0458	Pre-war Japanese structure; typical duplex modified with wood additions at both north and south ends; main portion remains intact. Currently used as duplex.	X	

NO.	LOT NO. BLK	LOT	CR. NO.	DESCRIPTION * FOR DESCRIPTION OF TYPICAL ORIGINAL DUPLEX STRUCTURE SEE BLDG. 8, BLK 16, LOT 10. CR. NO. 0459	IMPORTANCE VALUABLE	MARGINAL
10	16	12-1 12-2	0453	Pre-war Japanese structure; typical duplex with wood additions to north and south. Currently used as residence.	X	
11	27	1	0604	Pre-war Japanese structure; typical duplex; ruins with concrete shell intact. Abandoned.		X
12	27	2	0591	Pre-war Japanese structure; typical duplex with concrete addition, northeast rear of structure. Currently used as residence.	X	
13	27	3	0590	Pre-war Japanese structure; typical duplex with wood addition to south; currently used as residence.	X	
14	27	4	0589	Pre-war Japanese structure; typical duplex; ruins with concrete shell intact. Abandoned.		X
15	27	5	0584	Pre-war Japanese structure; originally a dwelling: One story wood construction; raised wood floor; approximately 5 m x 10 m; some precast concrete foundation blocks remain in place; slab for original to:let remains in place: much of the wood has been replaced. Currently used as a residence.		X
16	29	6	0586	Pre-war Japanese structure; originally a dwelling: One story wood construction; raised wood floor; approximately 5 m x 10 m; some precast concrete foundation blocks remain in place; slab for original to:let remains in place: much of the wood has been replaced. Currently used as residence.		X

NO.	LOT NO. BLK	LOT	CR. NO.	DESCRIPTION * FOR DESCRIPTION OF TYPLICAL ORIGINAL DUPLEX STRUCTURE SEE BLDG. 8, BLK 16, LOT 10. CR. NO. 0459	IMPORTANCE VALUABLE	MARGINAL
17	48	1	0541	Pre-war Japanese structure; one story concrete structure 3.9 m x 3.9 m with a 1.5 m x 1.5 m appendage to the south; concrete roof approx. 4.5 m above ground. Appears to have been entry foyer for adjacent wooden structures which no longer remains.	X	
18	54	2	0542	Pre-war Japanese structure; one story concrete structure 3.9 m x 3.9 m with a 1.5 m x 1.5 m appendage to the south; concrete roof approx. 4.5 m above ground. Appears to have been entry foyer for adjacent wooden structures which no longer remains.	X	
19	60	6	0544	Post-war construction; 2 story structure approximately 10 m x 7.5 m in L-shaped plan construction; built 1955+, originally a residence; later became Marianas School for Music and Arts currently a residence.		X
20	65	7	0123	Post-war construction; 2 story structure, approximately 14 m x 15 m; center portion at lower level is concrete surrounded by an arcade of wood columns; upper portion wood construction; metal roof. Circa 1955; has been used for residential and commercial; current use unknown.	X	
21	73	14	0209	Pre-war Japanese structure; located near the fields near the road leading to Lake Susupe: 1 story concrete walls; raised wood floor; wood framed roof, metal roofing; structure is slightly smaller than the duplex structures; may have originally been used for farming supply storage: Used as residence since the war.	X	
22	87	3	0073	Pre-war Japanese structure; 1 story concrete portion of structure - 8 m x 5 m; rough formed concrete; may have been for storage, not housing; circa 1935-1940.	X	
23	89	8	0553	Pre-war Japanese structure; 1 story concrete structure; irregular shaped plan 12.3 x 10.9 m; raised concrete floor and platform; concrete roof approximately 4 m above ground originally used as office space for the sugar cane industry; now used as municipal library. Circa 1930	X	

NO.	LOCATION	DESCRIPTION	IMPORTANCE	
			VALUABLE	MARGINAL
24	South of cemetery	Pre-war Japanese structure: Exterior toilet concrete structure 1.75 m x 4.3 m; 2.75 m high. Structure has curved wall entrance and was a two squatter. Abandoned.	X	
25	South of cemetery	Pre-war Japanese structure: Bunker. Concrete bunker almost completely intact; front wall is 9.75 m wide; concrete vault appears to be 5.8 m long; 5.5 m wide. Steps lead down into bunker; front wall slightly damaged; vault 0.27 m thick: Circa 1940's. Abandoned.	X	
26	Center of cemetery	Pre-war Japanese structure; ceremonial platform. Concrete platform with battered concrete walls; steps lead up to structure; Sides 1.5 m high. 7.7 wide x 9.7 m long; used as a Christain shrine. Two broken laterns are on top of the platform.	X	
27	Cemetery	Pre-war Japanese structures; various concrete lanterns. There are at least six lantern bases plus the two on the platform. Only one remains intact. The concrete lanterns are 1.8 m square at the base and are 2.5 m high.	X	
28	Cemetery	Pre-war Japanese structure: Tori Gate; 4.1 m wide concrete entrance gate approximately 4.5 m high. Remains in good condition.	X	
29	North East of Nauru Bldg.	Pre-war Japanese structure: Open water reservoir. Depth of tank and base unknown; 4.5m diameter concrete walled tank. Built circa 1930's. Abandoned.	X	
30	North West of Nauru Bldg.	Pre-war Japanese Structure: Tower 4.9 m x 4.9 m concrete structure, approximately 4.8 m high. Originally has been assumed to be water catchment. Circa 1930's. Abandoned.	X	

NO.	LOCATION	DESCRIPTION	IMPORTANCE	
			VALUABLE	MARGINAL
31	Near school - Oleai - north of main structures	Structures 31 through 38 are part of a Japanese Communications Station. Bunker - exact size unknown. Abandoned.	As an entire complex, structures 31 through 39 are considered valuable.	
32	North East of main structures	Cylindrical concrete catchment 6.4m diameter; 2.25 m high. Abandoned.		
33	East of main structures	Cylindrical concrete catchment 6.4m diameter; 2.05 m high. Abandoned.		
34	Center of complex	Main Office Structure: Two story concrete frame structure; 56 m long x 9.6 m wide. With a two story extension to the south 12.5 m x 9.6 m wide. Structures are approximately 6 m high. There are a large number of window openings with several skylight size openings in the roof. The concrete frames have spalled greatly.		
35	West of Main Office structure	Concrete catchment 4.25 m x 3.0 m , approximately 10 m high. Four openings in roof. Abandoned.		
36	Southwest of office structure	Large industrial structure: One level with a steel mezzanine in east portion. Concrete frame, walls, floor and roof. Beams have spalled badly; structure 23.45 m x 20.3 m approx. 6 m high. Abandoned.		
37	West of industrial building	Fuel storage tanks. Concrete walled tanks 13.0 m x 16.0 m 2.65 m high. Structure divided into 4 sections. Open now but top indicates covering was once present. Abandoned.		
38	South of industrial building	Fuel storage tank: Concrete walled and roofed structure. 4.7 m wide x 10.45 m long, 2.93 m high. Enclosed roof, steel flanged openings on roof. Abandoned.		
39	South of main office structure	Bunker - exact size unknown - access restricted. Abandoned.		
40	Southeast of Main Office	Concrete catchment - as per aerial photo, Assumed diameter 6,4.		

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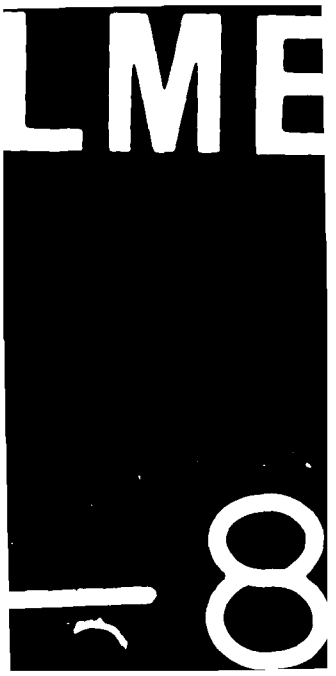
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