SOUTHWEST REGIONAL OFFICE
DIVISION OF ANTHROPOLOGY DIVISION OF HISTORY

D-29

# THE 1939-1940 EXCAVATION PROJECT AT QUARAI PUEBLO AND MISSION BUILDING

Salinas Pueblo Missions National Monument, New Mexico



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National Park Service
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Professional Paper No. 29

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SALINAS PUEBLO MISSIONS NATIONAL MONUMENT, NEW MEXICO

Wesley R. Hurt

1990

Division of History
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## PREFACE

The site of Quarai Pueblo has seen a great deal of archeological work over the past one hundred years, yet curiously, little has been published. In order to remedy this situation, The National Park Service contracted with Dr. Wesley Hurt, principle investigator of the 1939-1940 excavations at the site, to dust off his already historical notes in 1985.

If Dr. Hurt could have foreseen that it would take fifty years to write up the results of his excavations at the Quarai pueblo and mission, he may never have started work. It may, in fact, be an un-beatable record. The National Park Service is proud to be able to present this volume to Dr. Hurt on the fiftieth anniversery of the WPA sponsored excavations and hopes that it will take its well deserved place among the classics of early Southwestern archeological literature.

John Cook
Regional Director
National park Service
Southwest Region

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# EXCAVATIONS OF THE QUARAI PUEBLO AND CONVENTO, 1939-1940

**Salinas Pueblo Missions National Monument, New Mexico**

**Wesley R. Hurt**

## INTRODUCTION

As one phase of a long-term excavation and stabilization project at the main Quarai Churches, Convento and Pueblo the Museum of New Mexico and the Works Projects Administration undertook in 1939-1940 the work described in this report (Map 1). The site lies about eight miles northwest of Mountainair, New Mexico, and about one mile and a half southwest of the Hispanic village of Punta de Agua. The major objectives of the 1939-1940 Project were to finish uncovering the convento and to stabilize the walls of this structure and the main church, to outline the outside walls of the Pueblo in the sections nearest the main church and to stabilize these walls, to landscape the area by planting trees and building pathways and to construct a visitors center and parking area on the west side of the monument property. To accomplish the latter projects it was necessary to enlarge and gravel an old wagon trail that led to the parking lot. Although it was considered important to reconstruct the history of Quarai, this task had a secondary priority.

### Physical Setting

The Quarai Unit of the Salinas Pueblo Missions National Monument is located in Sapato Canyon in the general region known as the Salinas Province, a name referring to the salt lakes to the east of Mountainair. The site lies in the foothills of the Manzano Mountains to the west, while to the east are terraces of extinct Lake Estancia. Agriculture is possible in the lower reaches of Sapato Canyon by irrigation utilizing the eastward flowing ephemeral

stream that begins near the south side of Mound A (also referred to as the "South Mound").

In the hills surrounding the site are outcrops of red sandstone. In the immediate vicinity of Quarai are forests of the Upper Sonoran Life Zone that include pinon pines, juniper, cottonwood and willow with an undergrowth of wild plums and chokecherries. Cacti are also present. Summer temperatures may range from 95° F. and winter as low as 5° F. To the southeast of Mountainair were the Tompiro-speaking villages of Tabira, Jumanos (Gran Quivira) and Pueblo Pardo, while to the west of this city in Abo Canyon were the sites of Abo and Tenabo. Along the eastern foothills of the Manzano Mountains and north of Quarai were the Tiwa-speaking villages of Tajique and Chilili, the latter being the furthest away. The Indians of Quarai also spoke Tiwa.

## A Brief History of Quarai

Since John P. Wilson has already published an adequate history of Quarai only a summary of the known major events will be given (1977). Much of the information given below has as its source Wilson's work. In addition, research in progress by historians of the National Park Service have added to or revised some of the dates and sequence of events as given by Wilson (James E. Ivey, personal communication, 1986).

Apparently the first Spaniards to visit Salinas Province were those of a small party led by Captain Francisco Chamuscado and Fray Augustin Rodgrigues in A.D. 1581-1582, when they spent a short time visiting five of the Salinas Pueblos. Quarai, however, was not specifically mentioned by a recognizable name. Likewise this site was not referred to by name by the expedition of Captain Antonio Espejo, which in 1583 visited the Pueblos of Abo and probably Tenabo.

In October, 1598, Governor Juan de Onate, after establishing the first permanent Spanish settlement in New Mexico, visited the Salinas Pueblos, but again Quarai was not referred to by a positive name. Wilson, however, suggests that the village called "Acolocu", mentioned by Onate, may have

been Quarai.

Missionary efforts with the Pueblo Indians began as early as 1609 with an order of the Viceroy of New Spain to concentrate these peoples into fewer villages to facilitate their conversion. It is not known whether or not Quarai was one of these villages. There is evidence, however, that the pueblo was enlarged once it became a seat of missionary efforts. There is no doubt that Quarai existed prior to the arrival of the Spaniards, for ceramics at the site indicate a continuous occupation from the Glaze A period (ca. A.D. 1315) to the abandonment in 1676 or early in 1677.

Fray Alonso de Peinado is credited for being the first priest among the Salinas Pueblos when he established a mission at Chilili in 1614 and where he continued to live until sometime in the 1620s. It is not known if he undertook conversions in the other Salinas Pueblos.

Stanley A. Stubbs in 1958 excavated a small church to the southwest of the main church, La Purisima Concepcion, and postulated that this was the first religious structure built at Quarai (1959). He also suggested that this small church was constructed between A.D. 1615-1620 or during the time when Fray Peinado was residing at Chilili. I examined in the Laboratory of Anthropology in Santa Fe in 1985 sherds and other artifacts that Stubbs found beneath the walls of this structure and observed the presence of Glaze F sherds and iron artifacts. Unfortunately, these data indicate only that the small church was constructed sometime after the 1600s. According to James E. Ivey documentary evidence indicates a 19th Century Construction as most likely (personal communication, Nov., 1986).

Fray Alonso de Benavides is credited with being the first priest at Quarai, ca. A.D. 1626-1628, where he was followed by Fray Juan Gutierrez de la Chica, 1629-1633 (Scholes 1945:73-74). Fray de la Chica may have initiated the construction of the main church, for wood samples taken from a viga in the facade dated 1630 by tree ring analysis (Smiley, Stubbs, and Bannister 1953:43).

Fray Esteben de Perea, who went to Quarai in 1633, was the first of the remaining six known priests who served in this village. After his death in 1639 he was followed by Fray Juan de Salas in 1643, Fray Geronimo de la

Llana in 1650-1659 who was buried in the main church, Fray Nicolas de Freitas in 1659-1660, Fray Francisco de Salazar in 1663, 1666, 1668. The dates of the tenure of Fray Diego de Parraga at Quarai are still somewhat uncertain. Apparently he was at this mission between ca.1660 - 1662 and then returned about 1672 (James E. Ivey). A long series of disasters occurred in the Salinas Pueblos during the 1660s, in particular constant raids by the Apache Indians and several years of drought. Fray Francisco de Ayeta's petition to the Viceroy of New Spain in 1679 places the abandonment of Quarai between the spring of 1676 and the end of 1677. The Indians of Quarai first moved to Tajique and soon afterwards migrated to Ysleta del Sur south of El Paso, Texas. Recent documentary information, however, indicates that the Indians of Quarai first moved to Tajique about 1672 and then returned once more before they finally abandoned the site (James E. Ivey. personal communication 1986).

After Quarai was abandoned the site continued to have visitors and at various times the convento was reoccupied by Spanish (and "Hispanic") peoples. During the period of 1751-1754 a summer patrol of regular Spanish soldiers and Indian auxiliaries were stationed at Quarai (then called "Coara") and Tajique in the ancient mission buildings (Jones 1966:128-129). This occupation was probably responsible for the 18th Century Majolica Ware found at Quarai. It is also possible that the torreon (watchtower) in the southeast section of the convento was constructed at this time.

In 1846 Lieut. J. W. Abert and troops visited Quarai to be followed by Major James H. Carleton and company in 1853. Army buttons found in the recent fill on top of the southeast section of the convento may have been lost by these soldiers. Again one of them may have been responsible for the U.S. Army harness ornaments found on the floor of a convento room (Ely 1935:41. Front Cover). The presence of these ornaments on the floor of Convento Room 14 (room in the west section of the convento excavated by Ely and so numbered) also indicates that this structure was still open when visited by these army troops.

One of the best known of the early visitors to Quarai in the last century was Adolph F. Bandelier (Lange and Riley 1966:388). In his description of the

Quarai visit of December 28, 1882, he states that about a dozen rooms were still exposed but he does not make clear whether he was referring to the pueblo or convento (Lange and Riley 1966:388). Bandelier also states that the walls of this house unit were built like those of the main church but were only .025 m thick and 3.0-5.0 m high. The thickness of the walls appears to be too thin for those of the convento. Possibly he was referring to the block of about 12 rooms that lie on top of the eastern end of Mound IB (Maps 7, 8, 9). The walls in this unit are of the same construction as the main church but they are also thicker than Bandelier's measurements. Kubler illustrates a map made by Bandelier that shows what was seen to be exposed walls in this area (1972: Figure 45).

Bandelier also visited Quarai on January 13, 1883, and measured exposed rooms that were 5 by 9 feet, 6 by 9 feet, and 6 by 8 feet with walls about 12 inches high (?) or thick. The size of the rooms suggest that they were in the pueblo, as does the fact that he gives a separate description of rooms exposed in the convento. There the walls were covered with white plaster and had ceilings supported by wood lintels (Lange and Riley 1970: 14-15. The fact that these rooms were intact suggests that they were occupied in the interval between the time Quarai Pueblo and mission buildings were abandoned and Bandelier's visit. Additional evidence of reoccupation of the convento is contained in Ely's statement that he encountered a layer of sheep and goat dung on top of the earlier floor fill of the east hallway (1935:113).

According to an informant who lived in a house adjacent to Quarai in 1939, a Mr. Baca lived in the convento at the turn of this century. Signs of this occupation are evident in the broken glass, tin cans and recent chinaware found in the refuse lying on top of the convento walls. By the time, however, of Ely's excavations at Quarai in 1934-1935 no convento walls were still standing above the surface.

## The Archaeological and Stabilization Projects

The first archaeological excavations at Quarai were made by Edgar L. Hewett who in 1913 supervised a Museum of New Mexico project at Mound A

and removed 22 skeletons (Senter 1935) (Map l). This project was followed in 1916 by a party from the Archaeological Society of New Mexico sent to Quarai to inspect damage done by vandals and to photograph the destruction. Jesse Nusbaum was the photographer.

In 1934 the Museum of New Mexico and the Civilian Conservation Corps sponsored under the supervision of Hewett, with the assistance of Donovan Senter, an archaeological and stabilization project in the main church and in Mound A (Senter 1934). The nave of the church was excavated and the baptistry was restored. Several human skeletons of what appeared to be non-Indians were uncovered above the flagstone floor. In Mound A a section three feet wide at the south end was excavated, Considerable stabilization was done on the main church, in particular along the base of the walls where local people had hauled away many of the stones. Only a brief report on this project was published (Senter 1934). Albert Ely assumed the supervision of this project in September, 1934, and continued working at Quarai until June, 1935. During this time the excavation of of the main church was completed and 17 rooms, one patio and two hallways of the adjoining section of the convento were uncovered. Additional stabilization was accomplished on the religious structures, such as restoring the lintel over the front entrance to the main church and the reconstruction of its west window. The sherds that Ely found are in the Laboratory of Anthropology. He wrote his Masters thesis for the University of New Mexico and a summary of this thesis was published (1935).

Ele M. Baker reopened the Museum of New Mexico's project in the late summer of 1935 and supervised the work at Quarai until February, 1936. Excavated by Baker was the square kiva (No. l) in Patio No. l and Rooms 19 and 20 in the section of the convento that adjoins the main church. Additional rooms in the convento uncovered were Rooms 25, 33, 34 and 35 in the northeast section of the convento, the round kiva (No. 2) in the center of Patio No. 2 and Room 30 in the southeast corner of this patio. In the southeast section of the convento Baker completely or sometimes only partially excavated Rooms 2l, 22, 24, 27, 28, 29, 3l, 36 and 37. He cut a trench through Mound A and in Plaza C of the pueblo and excavated a test pit l2 feet long,

6 feet wide, with a depth varying from 5 to 7 feet. Baker wrote a report on the trench in Mound A and the pit in Plaza C for the Department of Anthropology of the University of New Mexico but this report has not been published. The sherds that he collected are in the Laboratory of Anthropology. While Baker was at Quarai it was declared a State of New Mexico monument.

The next project at Quarai was sponsored by the Museum of New Mexico and the Works Projects Administration under my supervision during the period from January 25, 1939, to August 6, 1940. In addition to stabilization work on the main church and adjacent sections of the convento, excavation was completed in Rooms 25 and 33 in the northeast section of the convento and in Rooms 22, 41, 42, 43, 48, 49, 50, 51, 52, 53, 54 and 55 of the southeast section of the convento (Photos 1 - 3). The walls of the campo santo (cemetery) were uncovered. The outside walls of the sections of the pueblo mound nearest the mission building were outlined (Photo 3). A summary of this project was published (Hurt 1940). During the period from June 1, 1939 - September 21, 1939, John M. Corbett with the co-sponsorship of the Museum of New Mexico and the National Youth Administration dug several rooms in Mound A and some burials. A brief manuscript on his work is in the files of the Maxwell Museum of Anthropology of the University of New Mexico.

In 1958 Ely returned to Quarai on a repair project of the mission buildings. To obtain clay for making mortar he uncovered six rooms of the house tier in Mound IB (Maps 8, 9, 10 ). For future discussion these rooms will be designated as "Room 1 (58)" etc. While I found the sherds and other artfacts from the excavation of these rooms in the Laboratory of Anthropology, his notes were not located. During the following year Stanley A. Stubbs excavated 10 more rooms in Mound IB, hereafter designated as "Room 1 (59)", and uncovered the remains of a small church to the south of this mound. The sherds and other artifacts from Stubbs's project are in the Laboratory of Anthropology but the location of his field notes is not known. Stubbs did publish, however, a description of the small church (1959). Since the termination of this project there have been no additional archaeological excavations made at Quarai.

On October 1, 1981, Quarai State Monument was transferred to the

National Park Service to join Abo and Gran Quivira as the Salinas National Monument.

## Goals and Objectives of the 1939-1940 Project

Beginning on January 25, 1939, a stabilization and excavation project was co-sponsored by the Museum of New Mexico and the Works Projects Administration under my supervision. This project terminated August 6, 1940. Major objectives were (1) to complete the repair and stabilization of the mission buildings (2) to outline the walls of the cemetery in front of the main church (3) to outline the outside walls of the pueblo mounds nearest the mission building (4) to construct a visitors center and parking lot on the west side of the site and (5) to improve the road leading from Punta de Agua to the parking lot and to do general landscaping such as making gravel pathways and planting trees and shrubs.

In the initial phase of the project the outside walls were exposed in sections of Mounds F and G, all the walls of Mound H, the east walls of Mound IA, and all the walls of Mound IB). The purpose of these excavations was to give the visitors an idea of what the pueblo looked like rather than to obtain information on Quarai itself. Thus, no rooms were deliberately excavated while on the whole the middens outside of the pueblo wall were usually uncovered only to a level coincident with the base of the walls, in spite of the fact that in most areas the walls lay on top of older layers of refuse. Nevertheless, in the pueblo middens seven different stratigraphic trenches were dug in arbitrary six inch levels from the top to the underlying sterile strata.

In May, 1939, the crew was shifted to the main church and convento. A movable scaffold was constructed to repair and cap the walls by adding more sandstone blocks. The mortar used was a mixture of red clay obtained locally with a commercial product under the trade name of Bitu-adobe. After the walls of the main church and adjacent sections of the convento were repaired and capped, further repairs were made on the ventilator shaft of the square kiva while the walls that ran through the mid-section of the round kiva were

removed. A drain was also made for the round kiva while the two terrace walls of Patio B were repaired. This work was followed by excavating and repairing the remaining rooms of the southeast section and the northeast section of the convento that had not been excavated previously by Baker.

A visitors center made of sandstone masonry was constructed on the west side of the property and a gravel parking lot was made next to it. From the visitors center a graveled pathway was laid out so as to connect with the main church. In improving the road, formerly a wagon trail, from Punta de Agua that led to the parking lot, an excavated grade was cut through a bench to the southeast of the site. In this road cut were found the bones of a mammoth.

In the final phases of the project the arroyo that lay along the north side of the pueblo was filled in and an earthen diversion wall was built on top of it. Two flood gates were built on the irrigation ditch to the south of the convento to carry off excessive amounts of water and an earthen dike was built along the south fence to prevent the entrance on the property of water from an adjacent wash. Scattered throughout the property 75 Western Yellow Pines were planted as well as 500 wild cherries, wild plums and cottonwood trees. On August 6, 1940, the project was terminated.

The sherds and other artifacts found in the 1939-1940 excavations at Quarai were analyzed and typed in the field . They were then sent to the Museum of New Mexico. At an unknown date they were transferred to the Laboratory of Anthropology . In examining the collections from Quarai in the Laboratory of Anthropology in 1985 I was able to find only two bags of sherds from the convento although there was a crate containing several bags of sherds from the pueblo. The location of the remaining bags of sherds and those containing the artifacts is unknown.

# THE 1939-1940 EXCAVATIONS IN THE AREA OF THE CONVENTO

## Introduction

The major objectives of the 1939-1940 Project in the convento were to complete the uncovering of the rooms and other areas and to repair and stabilize the walls (Map 2). Sixteen areas, most of them rooms, were opened as well as a possible torreon (watchtower) (Photo 6). Some of the rooms and areas such as Rooms 22 and 37 had been excavated previously by Baker. Since no roof timbers were found it was not possible always to state with certainty whether a specific area enclosed by walls had a roof or was an open patio. An example of this category is Room 22, which seemed to be too large and irregular shaped to actually have been a room. Another serious problem was that backdirt from previous excavations at Quarai had been dumped over sections of the convento excavated in 1939-1940. Although an attempt was made as much as possible to remove this backdirt without mixing its contents with that of the underlying original fill in the convento, this task did not always obtain perfect results.

In designating the rooms and other areas uncovered in 1939-1940, the sequence of numbers given by Baker was followed. With the exception of Patio 3, all areas excavated were first labeled as "rooms", even though it was recognized in the field that some of them might have been open areas between rooms. Measurements of the areas and rooms were taken from the center of the walls with a rod and chain, a technique without a high degree of accuracy.

For purposes of descriptive analysis the areas of the convento fall into three distinct units, which were designated as the west convento section, the northeast convento section, and the southeast convento section.

## The West Convento Section

This block of rooms and hallways plus Patio No. 1 that lies adjacent on

the east side of the main church as well as the baptistry on the southwest are assumed because of their location to have been the first units of the convento to have been constructed (Map 2). In this unit are the essential religious structures, such as the sacristy, the reception room, the refectory, the kitchen, and the living quarters of the priests. In the centers of the structures is a square patio containing a square kiva. Although this kiva may have been constructed in prehistoric times it still existed when the convento was built since the walls of the rooms that bound the patio are parallel to the kiva walls. The west convento section was previously excavated by Ely and Baker.

## The Northeast Convento Section

This section was separated from the west convento section by a rectangular patio (No.2) (Map 3). Within the patio are two artificial terraces that are framed by low sandstone walls, construction units that functioned to level the original ground surface that sloped to the east and south. The wall of the highest terrace, the one that was on the west, was built through the mid-section of the round kiva (No.2), a structure that was obviously constructed at an earlier time. In 1939 the portion of the terrace wall that was built across the round kiva was removed.

More than one period of construction is evident in the walls of the rooms and hallways of this section of the convento. For reconstructing these phases the following criteria were used: (l) walls are of equal age if their corners are tied together, (2) walls are of unequal age if their corners abut each other and (3) in the event of superposition, the oldest walls are those underneath. It was impossible, however, to reconstruct with any degree of accuracy the sequence of construction of the rooms excavated by Baker since I neither witnessed his excavations nor was it obvious at the time of the 1938-1939 project. In addition, his notes that I have seen do not show the type of construction at each corner. Therefore, without additional excavations to determine the type of corners I can only make very general remarks.

To enclose the north patio a wall was added on to the northeast corner

of the west convento section. This wall ran all the way to the northeast corner of the northeast convento section (Map 3). Added to this wall were Rooms 23, 25, 32, 34, 35, 37 and 40, undoubtedly over several intervals of time. Tied into this wall at the corners were the west, south, and east walls of Room 23. Also tied in were the east walls of Areas 37 and 40 as well as the diagonal wall on the south of Area 37.

The following is a description of the rooms and areas uncovered in the northeast section of the convento in 1939-1940:

Room 25

This was a small vestibule-like room that lay in the southeast corner of Room 23, the latter having been uncovered by Baker. The main room, No.23 measured 17 feet by 14 feet while the inset room (No. 25) was 7 feet long, 6 feet wide, with walls 3 feet 6 inches high and 10 inches thick.

In the south wall of Room 25 was an opening 2 feet wide that led into an an open area designated as "Room 39" and in the north wall was a similar-sized opening into Room 23. Room 25 had a flagstone floor. Possibly Room 25 had been excavated previously by Baker and later filled in with backdirt for recent items such as tin cans and prehistoric sherds were all mixed together in the fill.

Room 39

Although this feature was designated initially as "Room 39" the lack of a wall on the west side raises the possibility that this was either a porch or an open area between Rooms 23, 25 and 33 (Tables 19, 20).

This structure was bounded on the north by a wall 20 feet long, 4 feet high, and 3 feet thick, by a south wall, 13 feet long, 3 feet high, and 10 inches thick and by an east wall, 13 feet long, 4 feet high, and 3 feet thick.

In the north wall was an opening into Room 25 while in the east wall a break in the masonry may mark a former opening into Area 37. In the southeast corner was a remnant of a sandstone flagstone floor. The fill here,

3 feet deep, consisted mainly of unstratified brown-colored soils mixed with animal bones and potsherds. In the refuse was a porcelain pipe bowl.

Room 33

Prior to 1939 an L-shaped trench was cut along the north and east walls of this room, probably by Baker since he gave the structure a number. The room itself was 19 feet long on the south, 16 feet long on the north, 8 feet 5 inches on the east, and 6 feet 11 inches on the west. There were no openings into this room.

Within the room was an elevated D-shaped structure, the top of which had been uncovered previously (Photo 7). The top which was faced with sandstone slabs, rose 1 foot 8 inches above the flagstone floor. There was also an intermediate stone step between the upper surface of the structure and the floor that ran for half the length. This step was 10 inches high. The structure had a rubble core. The function of this stone platform is unknown but possibly it was the base of an horno (oven) or a wine press.

The type of sherds found within the room do not resolve the age of this D-shaped structure (Tables 19, 20). In the fill was a single example of Casitas Red-on-brown. This type apparently was made no earlier than the beginning of the 1700s, which suggests that the structure was built after the convento was abandoned the first time. Nevertheless, Glaze F sherds were also present which indicates the room itself was occupied during the initial Mission Period. In the fill was found a porcelain head of a saint and a shell pendant. The saint's head had a tall headdress like that of a bishop's miter.

Rooms 23, 32, 34, 35, and Areas 37 and 40

These rooms were all excavated by Baker and their contents are unknown.

Covered, stone-lined drain

In Patio 2, 1 foot 2 inches west of Room 34 was a rectangular, slab-lined

drain segment that was 5 feet 6 inches long, 1 foot 1 inch wide, and 8 inches high (Photo 8). Over the north end was a sandstone cover 3 feet long while on the south was half of a broken sandstone slab.

## The Southeast Convento Section

This section of the convento was constructed in several phases but the time periods are unknown because information is lacking on the features of several rooms excavated by Baker, backdirt from previous excavation projects was thrown on the area, and portions of the rooms had been destroyed by the construction of a recent irrigation ditch (Map 6). The reconstruction that follows, therefore, does not have the highest degree of certainty.

### Period 1 Construction

In the reconstruction given below conclusions regarding the period of construction of most of the rooms excavated by Baker will not be made since I lack sufficient information of his finding. It is evident, however, that these rooms were constructed during a period earlier than those that I excavated. In addition, more than one period was represented in Baker's rooms.

Prior to the construction of the rooms and enclosed areas of the southeast area of the convento the south wall of Patio 2 was built by attaching it to the southeast corner of the west convento section (Map 4). Probably it was built at the same time as the north wall of Patio 2. This may have been the time when the east wall of the cemetery was built but this is an uncertain conclusion. It also was attached to the southeast corner of the west convento section. The northern portion of the east wall of the southeast convento apparently was built at the same time as the south wall of Patio 2, for the walls are tied together at the corner.

### Period 2 Construction

By adding walls to the south wall of Patio 2 and to the east wall of the

southeast convento section, Rooms 28 and 36 were formed. (Map 4) This phase of construction occurred at the same time for the additional walls are tied together at the corners. During this phase or in a later period the walls of Rooms 41 and 42 were added on to the east of Room 28, for the walls of the corners abut each other.

Period 3 Construction

The addition of more walls on the west side of Room 28 and the south side of the south Patio 2 wall formed Rooms 21 and 27 (Map 5). This may have been the phase when a square block of about six rooms was added to the west wall of Room 36. Included in this unit were Rooms 38, 44, 49, 50, 51 and 55. These rooms were built at the same time for their corners are tied together.

Period 4 Construction

This construction phase, while representing the last additions to be built in the southeast section of the convento, occurred either in the final phases of the Mission Period or during one of the more recent times when the convento area was reoccupied (Map 6) The walls of Rooms 38, 44 and 55 were razed nearly to the ground while those of Rooms 49, 50 and 51 were left to a height of about 2 feet 6 inches (Photo 12). Originally the area formerly occupied by Rooms 38 and 44 was thought to have been a more recently constructed room and was designated in the field as "Room 48". Since the area of this room (?) contained within it a circular structure, possibly a watchtower with a probable height of more than one story, it is doubtful that the area was roofed. After the razing of the walls, the wall that borders on the east of the northern segment of Patio 3 was built directly over the top of the western walls of Rooms 49 and 55.

On the south side of the convento two sheds or corrals for livestock were built and tied into the main structure on the north by adding another segment southward of the east wall of Patio 3. The south end of the new

segment in turn was connected to the northwest corner of Room 53. In addition, a short wall was built so that it connected the southeast corner of Room 36 with the northeast corner of Room 54. The construction of all these additional walls resulted in a T-shaped area that was designated in the field as "Room 52". Because of its large size and unusual shape it may always have been an open area.

The time of construction of the probable watchtower in Area 48 (or Room 48) was not determined for its fill included both Glaze F types (ca. l600s), Casitas Red-on-brown and Kapo Black (post-l600s).

The remaining Rooms, 29, 31 and 43, were with the possible exception of the torreon the most recently constructed existing structures in the southeast section of the convento. The conclusion is based upon the fact that some of their walls were built on top of layers of refuse that came from older sections of the convento. Possibly they were built at the same time as the torreon.

The large area, originally designated as "Room 22" is not assigned to any one construction period since there is evidence that each of it walls was built at a different time.

## Description of the Rooms

### Room 36

This room apparently was built during the first phase of construction in the southeast convento section by tying its east, west and south walls into the south wall of Patio 2 (Map 4). The room had the shape of a long rectangle. This room apparently was not separated from Room 28. Only at a later date was the dividing wall added. About two-thirds of the east wall of Room 36 had fallen and in this gap there may have been originally an opening to the east. The north walls, the segment of the east wall and the west wall averaged about 6 feet high while the south wall was 4 feet high. Since the original ground surface under Room 36 sloped to the east the floor had been leveled so that the base of the west wall was even with that of the east wall. In leveling the floor a part of the upper surface of the underlying sterile,

mottled blue and yellow clay strata were removed a depth as much as 2 feet. The opening in the south wall of this room seems to have resulted from the construction of a recent irrigation ditch. In the northwest corner of the room was a low quarter- of-a -circle-shaped wall that may have been an enclosure for a feed bin. This wall lay on top of the floor level, averaged about 1 foot 6 inches high and had a radius of about 13 feet. It abutted the main walls of the room. It should be noted that the blue-yellow clay deposits under Room 36 contained fragments of fossil bone. In appearance these clays resembled deposits laid down in a spring or marsh.

Baker, prior to the 1939 - 1940 Project, had completely excavated Room 28 on the north and the northern two-thirds of Room 36 (which included the bin described above). In the southern one-third of the fill in the room were many fine layers of ash and charcoal that total about 1 foot in thickness (Tables 19, 20). Mixed in were many bones of large animals such as sheep and burros but there was no layer of dung that would indicate that this room was a shed for livestock. Only 11 sherds were found in the refuse, the most common being glaze body sherds followed by Carnue Plain. Also found were two Agua Fria Glaze-on-red and one Chupadero Black-on-white that were undoubtedly scattered over the area from an early occupation of the pueblo. Within the fill also was a Casitas Red-on-brown sherd that may have been tossed into the rooms during one of the reoccupation phases.

Area 22

Although Area 22 was labeled as a room during the field project, its large size and the fact that the walls were built at various times cast doubt that it was ever more than an enclosed open area or patio (Map 6). It was not a corral for no dung was present on its floor. The north wall, which was also the south wall of Patio 2, had fallen in near its western end and may have hidden an opening into Patio 2. The north wall was 26 feet long, while the south wall, Patio 2, was 37 feet 3 inches long. The greatest length of this enclosed space, that is along the west wall which was also the east wall of the cemetery, was 47 feet 6 inches long. The east wall is the west wall of

Rooms 21, 27 and 29.

Baker had excavated previously the fill along the walls leaving a block in the center of the northern part 20 feet long and 10 feet feet wide. This block of fill was excavated in 6 inch levels.

In addition to the possible opening in the north wall there was an opening in the east wall that led into Room 27 and another in the south wall that led into Patio 3. At floor level in the south wall was also a small opening, 1 foot 5 inches high and 1 foot 8 inches wide that was probably a drain that led into Patio 3. In the west wall there was another opening that led into the walkway in front of the cemetery.

The upper 6 inches of the fill in the area, removed in 1939 - 1940, was relatively recent in its deposition since it contained tin, broken glass, iron nails and U. S. Army buttons. Below this was a midden, 2 feet 6 inches thick, composed of dark, unstratified layers of kitchen refuse, sherds, porcelain fragments, charcoal and bones of goat, sheep and buffalo. The area evidently served as a place to throw refuse.

The block of fill excavated in 6 inch levels to the depth of 3 feet 6 inches where the floor was encountered revealed a small number of Agua Fria Glaze-on-red (2.4%) in the upper levels as well as Chupadero/Casa Colorado Black-on-white (6.9%) indicating that sherds from an early occupation of the pueblo were scattered over the area (Tables 23, 24). The fact that they were in the upper levels only indicates that there was no definite Glaze A period refuse or habitation levels below the fill accumulated during the Mission Period. Carnue Plain increased in frequency during the time when the room fill accumulated, for there was 9.1% in the basal level and 57% in the upper. Simultaneously Corona Plain decreased from 54.5% to 15%, Salinas Red Ware also decreased from 28.8% to 6.0% and Casitas Red-on-brown was confined to the upper one foot stratum. Puname Polychrome was in the upper 1 foot 6 inches level and Kapo Black in the upper 1 foot. This is strong evidence that the three latter types were present at Quarai during the end of the Mission Period or during a time of reoccupation. Another type that dates in the post 1600's period is Hopi Yellow Ware represented by two sherds.

Room 49

Since this room was bisected by the construction of the east wall of Patio 3 it originally was twice as wide as it appears on Map 6 (Map 5) When originally constructed it was 10 feet long and 9 feet wide with walls much higher than the present 2 foot 9 inches since they were razed in construction Period 4. The base of the walls was cut into the sterile underlying clay deposits for about 1 foot 6 inches. The original fill of this room was very much mixed with backdirt from previous excavation projects and it was difficult to separate the contents when removed in 1939-1940.

Room 50

Room 50 was adjacent on the east of Room 49. It had all the characteristics of room 49 except it was only 7 feet 6 inches wide (Map 5). The walls were razed to the height of 2 feet 6 inches before Period 4 construction.

Room 51

Room 51 lay between Rooms 50 and 36. After Room 50 was constructed Room 51 was built by adding the north and south walls and placing a dividing wall between it and Room 50 (Map 5). The north and south walls are shared with Rooms 49 and 50. In this room there remained about 1 foot of the original fill in which were found 38 pot sherds (Tables 19, 20) These included those from the Glaze A Period, such as Agua Fria Glaze-on-red, Corona Corrugated and Chupadero/Casa Colorado Black-on-white; Glaze E and F sherds and Salinas Red; and a late Mission Period occupation or reoccupation such as Carnue Plain and Casitas Red-on-brown. The walls of this room also were razed during the Period 4 construction of the convento.

Area 48 (Room 48)

For purposes of isolating the artifacts from this area or room it was designated in the field as "Room 48" (Map 6). After further investigation it was concluded that this was an enclosed open area that contained within a circular structure that was probably a torreon. On the south was the remnant of the razed north wall of Rooms 49, 50 and 51; on the west was the east wall of Patio 3; on the east was the west wall of Room 36; and on the north the south wall of Rooms 29 and 31. The open area as such was 24 feet 4 inches east-west and 20 feet north-south.

In the center of the area was a circular building, 17 feet in diameter, with stone masonry walls (Photo 6). Connecting the structure to the south and to the north walls of Area 48 were two short walls that were remnants of older walls that had been razed in Period 4 construction. The walls of the circular structure when excavated averaged about 1 foot 6 inches high. The floor of the structure as well as the base of the wall lay directly on top of sterile blue and yellow clay deposits. The wall itself was typical of convento type of construction in that it was 2 feet 6 inches thick; that is, thicker than the pueblo walls.

The circular structure is considered to have been a torreon for the following reasons: (1) it lacks diagnostic traits of other circular structures of prehistoric Pueblo cultures such as a central fireplace, a ventilator shaft, and a fireplace deflector and (2) it is above the ground while the other two kivas in the Quarai Convento are subterranean. Since it was probably at least two stories high it could command a view to the east over the top of Room 36, which lies on the east side. Such a view could reveal the presence of enemies coming up the valley.

Against this hypothesis is that watchtowers have not been described for other Spanish colonial missions in New Mexico. On the other hand,watchtowers were present in more recent Hispanic villages such as Manzano and Chimayo. A torreon is also present in an abandoned Hispanic site near Abo Pueblo and Mission (James E. Ivey, personal communication

1985).

In the fill that lay outside of the watchtower walls backdirt was thrown on top of the original deposits. The original fill was about 2 feet 6 inches thick as was the backdirt on top of it. For estimating the date of construction of the structure the most critical sherds were those which lay directly on top of the floor (Tables 19, 20). This included two Agua Fria Glaze-on-red, two Carnue Plain, seven Corona Plain, 104 Salinas Red, and one Casitas Red-on-brown, discounting the Glaze A sherds, which probably came from an earlier occupation at Quarai Pueblo. The large amount of Salinas Red suggests that the watchtower was constructed late in the Mission Period but the Casitas Red-on-brown sherd indicates this structure was probably still standing during one of the later occupations of the convento.

Room 41

This room must have been built after Period 2 construction for its walls abut the walls of the northern segment of the east wall of Room 28 (Map 4). Whether there was ever an east wall in this room could not be determined but at the time of excavation there was no evidence of any such wall. Nevertheless, the building of a nearby irrigation ditch may have destroyed such a wall.

This room or porch was 13 feet 5 inches long and 10 feet wide. The north wall was 3 feet 8 inches high and 2 feet 2 inches thick while the west wall was 7 feet 3 inches high with about the same thickness. The south wall was only 2 feet 4 inches high and 2 feet 2 inches thick. In the west wall there was an opening into Room 28, that had a base 3 feet 2 inches above the floor level and was thus more of a window. The sides of this feature were plastered with adobe.

On the floor was approximately 2 feet 6 inches of refuse, over which was another 2 feet 6 inches of fallen walls. At the depth of 5 feet, on more or less the floor level a nearly complete bowl of San Luis Blue on White was encountered (Photo 18, Plate 24) indicating that Room 41 was constructed in the Mission Period, that is during the time when Spanish colonial missions

were constructed and occupied at Quarai. There were also found on the floor the fragments of another Majolica Ware bowl of the same type and a sandstone slab with a burned surface.

The fill which had accumulated on top of the vestigial walls was separated from that below and the artifacts analyzed into two different groups (Table 25, 26). In the lower fill, that is the refuse lying directly on the floor, was 11.5% Kotyiti Glaze-on-red, 3.8% Kotyiti Glaze-on-on white, 78.8% Carnue Plain and 58% Salinas Red, pottery types indicating that the room was occupied during the Mission Period. It also suggests strongly that Carnue Plain was manufactured during this period. The refuse on top of the walls contained a mixture of Mission Period and early sherds, such as Kotyiti Glaze-on-red, Chupadero/Casa Colorado Black-on-white and reoccupation types such as Casitas Red-on-brown, Kapo Black and an unidentified red on black matte paint on a cream-colored slipped sherd.

Room 42

This room lies to the south of Room 41 and shares its south wall (Map 4). It was 13 feet 5 inches long by 10 feet wide. The south wall, only 8 inches high, was added onto the west wall, also the east wall of Room 28. On top of the walls was recent refuse, such as chinaware, glass and the bones of goat and sheep, while that underneath included 12.2% of Kotyiti Glaze-on-red, 24.4% Carnue Plain, 20.8% of Corona Plain, 0.5% of Corona Corrugated, 1.0% of Chupadero/Casa Colorado Black-on-white and 32.5% of Salinas Red (Tables 19, 20).

Room 43

In final form Room 43 was apparently constructed during one of the late building periods in the southeast convento section (Map 6). About 1 foot 6 inches of midden had accumulated on the ground surface before the south wall was built parallel and adjacent to the north wall of Room 48. Before this wall was added there already existed walls on the west, north, and east.

The room when completed was 15 feet 6 inches long and 9 feet 6 inches wide. The east wall which already existed had a foundation that was laid in a trench cut 2 feet 6 inches deep into the underlying sterile yellow and gray sediments. In exposing this wall to the foundations fragments of fossilized megafauna bones were encountered. The south wall was built parallel and adjacent to the wall that bordered on the north side Area 48. This wall was 9 feet 5 inches long and 4 feet 8 inches high while the west wall, built on top of old midden, was 15 feet long and 6 feet 6 inches high while. The north was 9 feet 6 inches and 1 foot 10 inches high. long and 1 foot 10 inches high.

In the northern part of the room on top of a refuse stratum about 1 foot 6 inches high was a grinding bin with three slab-lined compartments of the type still used by Pueblo Indians for holding metates (Photo 9). The easternmost compartment was 3 feet 5 inches long, 3 feet 3 inches wide, and 1 foot 7 inches high; the middle, 3 feet 7 inches long, 3 feet 9 inches wide, and 10 inches high; and the easternmost, 3 feet 6 inches long, 3 feet 3 inches wide, and 10 inches high. In the fill of the west bin was the head of a copper spoon (Plate 22, 5) that was not as heavily patinated as most other copper artifacts found at Quarai. In the fill underneath the grinding bin was encountered an almost complete pitcher of Salinas Red (Plate 5).

This room was excavated in 6 inch levels until the floor was found at the depth of 4 feet (Tables 25, 26). The following characteristics of the sequence of ceramic types were noticed: (1) in the lowermost fill, between 3 feet 6 inches - 4 feet, all sherds were of the Glaze F Period with 6.3% being Kotyiti Glaze-on-red, 26.6% Corona Plain, 6.3% Corona Corrugated, 40% Salinas Red and 13.3% Kapo Black, although the Corona Corrugated was probably associated with an earlier occupation of Quarai; and (2) in the overlying midden were found the same types but in addition there were five (3.6%) of Kapo Black and 36.1% of Carnue Plain types made in the post-Mission Period at Quarai.

Room 53

At the southernmost part of the southeast convento section are two

adjoining structures, designated as "Rooms 53 and 54", although the layers of animal dung on the floor probably indicate that they were sheds or corrals for livestock (Map 6). None of their walls were tied at the corners to the remaining rooms of the convento, indicating that they were built in the last phase of construction.

Room 53 was tied at the northwest corner by a wall that was added to the east wall of Patio 3. Near the northwest corner of Room 54, the northeast corner of Room 53 was tied in.

Room 53 was 40 feet long and 21 feet wide. The east and west walls averaged 4 feet high and 3 feet thick, while the north wall was 4 feet high and 2 feet 5 inches wide. The south wall was 1 foot 2 inches high. In the north wall was a sealed opening that led in Room (or area) 52, a feature that was 5 feet 3 inches wide. Another opening was in the east wall near the southeast corner. Here was a passageway, 5 feet 6 inches wide, running east and was enclosed on the north and south by two projecting walls, the eastern ends of which were destroyed by the construction of a recent irrigation ditch, so that their 13 foot lengths do not represent their original dimensions.

In the northern part of the room on each side were two long, narrow bins enclosed by low stone walls. The west bin was 18 feet long, 1 foot high, and 1 foot, 4 inches on the interior and the east bin was 22 feet long, 2 feet 1 inch wide and 10 inches high. They were probably used to hold feed for livestock. The bins, however, were not constructed until about 3 feet of gray-colored deposits had accumulated, in turn overlaid by 7 inches of kitchen refuse that contained sherds and animals bones. The bins were filled with dark brown and yellow-brown deposits. Within the fill of the west bin was a fireplace, lined with sandstone, 1 foot 3 inches long, 11 inches wide and 10 inches long, containing kitchen refuse such as sherds and large animal bones. In turn there was a 2 foot overlay of fallen walls mixed with wind-blown and water-washed deposits. In the room fill were the following types of sherds: 1.1% Chupadero/Casa Colorado Black-on-white, 1.1% Corona Corrugated, 2.2% Los Padillas Polychrome (which includes Heshotauthla Glaze-polychrome) that owe their presence to early occupations of the Pueblo, plus 36.9% Carnue Plain, 31.3% Corona Plain, 31.3% Salinas Red, and 1.7% of Kapo Black. (Tables

21, 22). Since the room fill was not excavated in 6 inch levels the stratigraphic sequence of these types was not determined.

Room 54

This room shares its west wall with Room 53 and judging by the dung on the floor it also was a shed or corral for livestock (Map 6). It was attached by a short wall, 5 feet long, connecting the northeast corner of the room with the southeast corner of Room 36. The north wall was a part of the south wall of Room (or area) 52.

Room 54 was 24 feet long and 10 feet 10 inches wide. The east wall was 5 feet high and 3 feet thick while the west wall had similar dimensions. The south wall was 1 foot 6 inches high and abutted the east and west walls indicating that it was constructed at a later time. Once this wall was built there was no longer an entrance into this room other than the roof. With such an entrance livestock could no longer enter the structure.

Along the east wall and abutting the northwest corner of the room was a stone platform, 5 feet long and 5 feet wide, that may have served as a bench. The structure was built after about 2 feet 6 inches of fill had accumulated.

On the floor was 1 foot 9 inches of dung and on top of this layer was about 1 foot 5 inches of dark brown deposits mixed with fallen walls. The sherds in this fill, which was not excavated in 6 inch levels, contains of all the types of the major known occupations at Quarai (Tables 21, 22). From the Glaze A Period were 0.9% Agua Fria Glaze-on-red, 2.8% Los Padillas Glaze-polychrome (including Heshotauthla Glaze-polychrome), 2.6% Corona Corrugated and 0.9% Casa Colorado Black-on-white. Glaze F Period is represented by 15.5% Kotyiti Glaze-on-red. 1.7% Kotyiti Glaze-on-white, 14.7% Carnue Plain, 22.4% Corona Plain, and 14.7% of Salinas Red while the most recent sherds, that is those of the reoccupation periods, include 21.7% Kapo Black and 0.9% of Casitas Red-on-brown. In this room also was 12.1% of unidentified glaze sherds. The presence of the Glaze F sherds suggests that Room 54 was constructed during the Mission Period and that refuse from a

reoccupation period had accumulated over the original fill after the structure was abandoned.

Room 52

Although this area initially was designated as "Room 52", the fact that the walls that surround this space appear to have been built at different times suggests that this was actually an open area surrounded by rooms (Map 6). The south walls were shared by Rooms 53 and 54 and the west wall was the east wall of Patio 3. On the north was the older wall of Rooms 49, 50 and 51 while on the east was the wall that connected Rooms 36 and 54. Refuse had accumulated to the depth of 3 feet 6 inches before this connecting wall was built. The entrance into Room 53 had been sealed at an unknown date.

The fill in the T-shaped structure consisted of an 8 inch layer of brown deposits on the floor over which were about 4 inches of wind-blown deposits covered with 1 foot 2 inches of refuse similar in color with that on the floor while at the very top were layers of fallen walls, goat bones, and broken glass. In the fill were sherds of the Glaze A Period, the Glaze F Period and on the top Carnue Plain of the late Mission Period or a period of reoccupation (Tables 19, 20).

## THE 1939 EXCAVATIONS IN THE QUARAI PUEBLO

### Objectives

The primary purposes in the 1939 excavations in the Quarai Pueblo Mounds were to bare the outside walls in the mounds nearest the church so that the visitors would gain an impression of the architectural features and to repair and stabilize them (Map 1). It was considered sufficient to expose these walls to their foundations by removing the fill that had accumulated against them. In this task several rooms, especially those on corners, were accidentally uncovered since there were no walls visible on the surface of the mounds. Since it soon became evident that many of the walls were laid on

top of older refuse layers, seven trenches were excavated in 6 inch levels to obtain a sample from all the strata in the middens. In the remaining sections of the mounds outside of the walls the contents were removed as a single block to the depth coincident with the base of the walls. Ideally all the middens should have been removed to a depth where the underlying sterile strata were encountered but this task was beyond the scope of the project.

Because a large area of middens adjacent to the outside walls of the houses within the mounds was removed and because refuse from more than one mound was included in the project, the total area excavated was divided into 53 sections. Generally these sections were not of equal size but rather their boundaries were defined by distinct architectural features such as changes in direction of orientation or by walls that projected outward from the main walls. In addition, no walls from two different mounds were incorporated in the same section, with exception of the walls of Mounds H and IA which bordered the passageway between Plazas A and B. The dimensions of the areas excavated were measured by rod and chain as were the features contained therein.

## General Description of the Pueblo Mounds

At Quarai there are nine mounds with Mounds F, G and H connected at the corners. Mound A, also known as the "South Mound", is isolated from the others and was partially excavated by Edgar L. Hewett, Ele M. Baker and John M. Corbett. (Map 1). In 1939 parts of the outside house walls were exposed in Mounds F, G, H and I. Albert G. Ely in 1938 uncovered six rooms in Mound IB and in 1935 Stanley A. Stubbs excavated 10 additional rooms in the same mound.

### Mound F

This rectangular mound is linked in the northwest corner to Mound G. Its north-south axis is ca. 200 feet long and its width east-west is 70 feet. The

east side of this mound forms the west border of Plaza C. Only the outside walls of the northeast corner were exposed. The refuse outside of the walls in this corner was designated as "Area I" and included Sections 40, 43, 46, 47, 52 and 53.

Mound G

Mound G was S-shaped and was connected on the northwest to Mound F and on the northeast to Mound H. A portion of the mound divides Plaza C from Plaza B. Only the outside walls on the north side were uncovered in 1939 in an area designated as "Area H". In this area were Sections 38 and 39.

Mound H

This was another rectangular mound about 200 feet long in its east-west axis with a maximum width of about 50 feet. It was connected on the west to the north side of Mound G and its south side forms the northern border of Plazas A and B. It is separated from Mound IA to the south by a passageway 50 feet long and 15 feet wide. The entire north outside wall as well as all the east outside wall were uncovered in 1939. Only the south wall, however, that faced Plaza A and the passageway were exposed, an area that includes Sections 14 - 21, 42. These section are included in Areas D and E.

The midden that lay along the north wall of the mound east of the masonry break was labeled "Area F" and included Section 26 - 29.

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Mound I

This is an L-shaped mound, with the part running north-south arbitrarily designated as "Mound IA" and the east-west portion as "Mound IB". Mound IA was about 100 feet long and 60 feet wide while Mound IB was 80 feet long and 50 feet wide. The east side of Mound IA borders on Plaza A as does the north side of Mound IB. In the north wall of Mound IB near the corner where it joins Mound IA was a break in the masonry indicating that Mound IB was

added on to Mound IA. The midden that lay adjacent to the east wall of Mound IA was named "Area C" and included Sections 3 - 13, which were excavated in 1939. On the north side of Mound IB the refuse was removed adjacent to the walls in Area B that included Section 2, as was the refuse that lay on the east, west and south of Mound IB lay in Area J, which included Sections 44, 48, 49, 50 and 51. As mentioned previously, Ely and Stubbs excavated 16 rooms in Mound IB (Map 9).

### *Masonry Styles at Quarai*

At Quarai there were three different styles of constructing the sandstone walls, which have been designated as "Masonry A, B and C" (Photos 11, 12) Masonry A is characteristic of the mission churches and convento and consists of linear courses of sandstone that may be as much as 3 feet thick in the convento while those of the churches is much more. In contrast, the thickness of the walls of Masonry B and C are usually less than one foot. Masonry B has linear courses of stone on top of a vertical sandstone foundation while Masonry C consists of simple linear courses of masonry.

### Area A, Section 1

Area A included the walls of about a dozen rooms that lie on top of the east end of Mound IB (Map 8). Possibly this was the house block seen by Bandelier in his visit to Quarai on December 28, 1882, which he locates in the northeast corner of the pueblo and states that the walls had a masonry style like that of the mission buildings. He also states that the walls had an average thickness of .25 m - .30 m and a height from 3 - 5 m (Lange and Riley 1966: 388).

With exception of the rooms on the west side, the masonry of this house block indeed was Type A, characteristic of the mission buidings at Quarai. The walls, however, were thicker than the measurements given by Bandelier. On the west side of this house unit the upright slab foundations of Masonry B are all that remain of the walls. Again, this block of houses is not exactly

in the northeast corner of the pueblo but in a general sense they are so located. It should be noted that Bandelier's map indicates these houses to be in the present location (Kubler, 1972, Figure 45).

Lacking any information on the fill and its contents in this house unit, if any ever did exist, I can not assign a definite time of occupation of Quarai to its period of construction. In 1939 the midden that lay on the north side of the houses was excavated to a distance of 20 feet northward into Plaza A. Along the walls where the refuse was about 2 feet deep the upper 6 inches was a layer of water-washed and wind-blown deposits that lay on top of a stratum of fallen walls mixed with kitchen refuse. On the original ground level of Plaza A was a thin layer of white ash. Within the midden, which sloped upwards to the north, the presence of 0.8% of Glaze E and 6.8% of Glaze F would indicate that this house unit was probably constructed during the same period as the house walls in the pueblo to the west that were built during the time when the missionaries lived at Quarai. In addition, pottery types such as Casitas Red-on-brown and Carnue Plain, associated with later occupations at Quarai were not present in the refuse of Area A. The presence of the walls on the west built upon upright slab foundations in the house unit is another trait shared with the sections of the pueblo to the west constructed during the Mission Period. An unresolved problem, however, in reaching such a conclusion, however, is that the base of the walls of this house unit lie on a higher level than the top of the walls in the section of the pueblo to the west, that is, those of Mound IB.

A short distance to the south of the above house unit are the remains of a small church partially excavated by Stubbs in 1959 (1959). Possibly this structure was associated with these houses because they share the mission type of wall construction (Type A). In fact it may have been the first house built for the priest who constructed the small church if Stubbs is correct in his conclusion that it was built before the main church was. I examined in 1985 in the Laboratory of Anthropology the artifacts and sherds that Stubbs excavated in the small church and observed the presence of an iron artifact and several Glaze F sherds found in a midden below the walls. On the basis of this evidence it can be concluded only that the small church was

constructed in the post-1600s.

In the northwest corner of Area A, Section 1, 10 feet north of the house unit and cut into the original ground surface of Plaza A was a double hearth (Map 8). On the north was a basin-shaped pit (No. 2), 1 foot in diameter and 1 foot 6 inches deep filled with white ash, while on the south was a stone-lined firebox (No.1), 1 foot 6 inches long, and 1 foot 2 inches wide, and 8 inches deep.

## Area B (Section 2)

This area encompassed the midden that lay on Plaza A along the north walls of Mound IB from its northeast corner to a point where Strat Trench 1 intersected the walls (Maps 8, 9). The walls in this area were of the simple linear courses of Masonry Type C and reached a maximum height of 3 feet.

The profile of the midden, designated as "Cross Section 1" (Figure 1), revealed the strata that lay within Strat Trench 1. Along the walls the upper 6 inch layer was water-washed and wind-blown deposits that lay on about 1 foot of fallen wall debris; below this was a stratum of kitchen refuse, in which lay a hearth (Fireplace 25) about 3 feet 5 inches north of the house walls.

Judging by the sherds collected from Section 2 as a whole and from Strat Trench 1, the unit of the pueblo was constructed and occupied when Glaze E pottery was still being produced but Glaze F types were predominant. There were, however, small numbers of sherds scattered over the area from Glaze A, C, and D Periods (Tables 5, 6).

## Area C (Sections 3 - 13)

Area C consists of those sections of the midden that lay in Plaza A adjacent to the east walls of Mound A, although a small portion of the north wall that lay in Section 3 was included (Maps 10, 11).

Section 3

Section 3 was separated from Section 2 by Strat Trench 1 while to the north was Section 4. In Section 3 the walls rise to the height of 2 feet on the east to 3 feet on the north where they turn from an east-west direction northward for a distance of 1 foot 6 inches. In this corner is the boundary of the walls of Mound IA and Mound IB. At a distance of about 55 feet west of the northeast corner of the walls of Section 3 is a distinct break in the masonry with evidence that the north walls of Mound IB were attached to those of Mound IA at a somewhat later time than that of the construction of Mound IA. In the northwest corner of the walls of Mound IA, within Section 3, is a wall that projects eastward into Plaza A. Because of this wall the west half of Section 3 is actually enclosed by walls on three sides, north, south and west. Possibly this was an area of a portal (porch).

That the above structure was a cooking area is suggested by the presence of three hearths within it. One firepit, which was clay-lined, lay in the northwest corner, 1 foot 2 inches out from the west wall and 4 feet 9 inches from the north wall. This firepit, No. 3, was 2 feet 5 inches long, 1 foot 2 inches wide, and 1 foot 2 inches deep. The second pit, No. 4, was located 3 feet 5 inches from the west wall and 4 feet 9 inches from the south wall and was 2 feet 4 inches wide, and 1 foot 1 inch deep. Both pits were filled with charcoal, white ash and other refuse. Just below the level of the base of the latter pit and slightly to the west was a completely flexed inhumation of an adult, Burial Bq/106. In the fill near the burial were five hammerstones, a bone awl made of a split rib bone, and a serrated side-notched projectile point (Plate 11, 12). This point was probably a fortuitous association for it is generally dated as being made in the earlier En Medio or Armijo period (ca.1800 B.C -A.D.100) (Irwin-Williams, 1973).

The third fireplace (No. 5) lay 9 inches below the surface, 2 feet 9 inches east and 2 feet south of the east corner of the north wall. This was a stone-lined firebox 1 foot long, and 9 inches wide, and 9 inches deep. It was filled with charcoal and ash. Lying against the east side of this feature was

a sandstone slab while just to the north was an irregular-shaped depression filled with ash. This depression was 2 feet 5 inches below the midden surface.

About midway between the north and south walls that border the west side of Section 3 was a decomposed post standing in a post hole. It was 3 feet 6 inches below the surface. Because of its position this post may have supported a viga that spanned an open-fronted structure.

Section 4

This was a small section of midden bound on the south by the projecting .cw 10 wall that separates it from Section 3 on the south. The west side is also bordered by a short projecting wall that separates it from Section 6 on the west while to the north is Section 7. The walls of the pueblo that bordered Section 4 had a maximum height of only 1 foot 6 inches. Near the southwest corner of Section 4 was a clay-lined firepit, No. 7, that had a diameter of 1 foot and a height of 2 feet. This pit was cut into the original ground surface of Plaza A. Directly on top of this pit were fragments of a large culinary pot of the Salinas Red type and a shoulder blade of a large animal.

Section 5

This section contains a structure, designated as "Room 5", which is inset into the corner where the outside walls of Mound IA join those of Mound IA Its size, only 3 feet east-west and 6 feet north-south, is too small to have served as a living area, although the presence of fireplaces within it indicates that cooking took place. On the north was a door 2 feet 6 inches wide that opened into Plaza A. The walls varied in height from 1 foot 6 inches to 2 feet 2 inches and were of Masonry Type B. No distinct floor level was observed in the room but it apparently coincided with the tops of three firepits. One pit, No. 8. lay adjacent to the north wall and was 1 foot 8 inches in diameter and 1 foot 3 inches deep while the other firepit, No. 9, lay

in the northwest corner of the room and was 1 foot 6 inches in diameter and 1 foot deep (Photo 14). In the latter pit were the charred bones of a human cremation, Burial Bq/110, plus charred animal bones, grains of corn, corn cobs, charcoal and white ash. The remaining firepit, No. 10, had the same measurements as Firepit 9 and above it were the fragments of a Salinas Red pot and the fragments of two Corona Plain ollas. An analysis of the sherds from this room indicated that there was 1.0% of Glaze A sherds that were scattered over the area prior to the construction of this room (Table 4). The presence of 1.4% of Glaze E and 22.8% of Glaze F sherds indicates that this room was still occupied during the time of the Mission Period.

Section 6

This section lay to the north of Room 5 and was bordered on the west by the walls exposed in Mound IA, on the north by Section 7 and on the east by Section 4. The walls, which were only 1 foot high, consisted only of the upright slab foundations of Masonry Type B.

Section 7

This was a large L-shaped area bordered on the south by Sections 4 and 5, on the west by the walls of Mound IA and Section 8, and on the north by Section 9. The walls here had a maximum height of 2 feet and were of Masonry B. In the west wall was an opening, three feet wide, that led for a a distance of at least 5 feet into the interior of Mound IA. Lying in front of the opening was a completely flexed inhumation, Burial Bq/104. About six feet north of the burial was a section of a decomposed log. Both the burial and the log lay on the original ground surface of Plaza A.

Section 8

Section 8 was another small room similar to Room 5 that was inset into the east wall of Mound IA just to the north of the opening in Section 7. For reference this small room was designated as "Room 6". It was much too small to have been a living area, being only 2 feet 5 inches north-south and 2 feet 5 inches east-west. In the floor of this bin-like structure was a clay-lined firepit, No. 6, that was 1 foot 2 inches in diameter and 1 foot deep.

Section 9

This section lies along the walls of Mound IA to the north of Section 8 and terminates where there is a short section of a wall projecting 3 feet eastward into Plaza A. Here the walls consist only of the upright slab foundations of Masonry Type B. Underneath the foundations was a layer of refuse that varied in thickness from 6 inches to 1 foot. Two feet north of the southwest corner of the section and adjacent to the wall was a stone-lined firebox, No. 11, that was 1 foot 6 inches long, 1 foot wide, and 9 inches deep (Plate 14).

Lying in the midden on top of Plaza A in Section 9 were the scattered remains of three human burials. Eight feet east of the walls and scattered over an area of about 3 feet square was Burial Bq/102, consisting of the fragments of an adult skull, a mandible, four long bones, and three ribs. The position of the bones indicates that this was a flexed burial with the skull to the north. In the northwest corner of the section were the fragments of a child's skull, Burial Bq/100. The fragments of another child's burial plus the long bones, Burial Bq/105, lay on the border between Sections 7 and 9, 2 feet 5 inches below the surface. It lay just to the south of Firebox 11.

Section 10

Section 10 lies to the north of Section 9 and is separated by a wall stub

consisting of the upright slabs of Masonry Type B. The wall on the west, however, is of Masonry Type C. The west wall extends northward for a distance of 11 feet where it has fallen in. This wall lies on top of a layer of midden that varied in thickness from 10 inches to 1 foot. Cut into the original ground surface of Plaza A and two-thirds the distance north of the wall stub was a basin-shaped firepit, No. 12, that was 4 inches in diameter and 14 inches deep. On the north side of this hearth were lenses of white ash. Another clay-lined firepit, No. 13, was located near the north border of this section and was also cut into the original ground surface of Plaza A. Lying on top of this hearth was the section of a decomposed post.

A block of midden, shown in Cross Section 13 (Figure 13) was profiled to show the stratigraphy of the midden in Section 10. This block extends eastward into Plaza A for 3 feet, turns north for 2 feet 6 inches, and then turns to the west to join the pueblo wall at a distance of 6 feet. The profile revealed that the underlying original ground surface of Plaza A sloped downwards both to the east and south. The midden adjacent to the pueblo wall of the west had a height of 2 feet 4 inches. Here the upper 6 inch strata consisted of water-washed and wind-blown deposits. Below this was a layer of fallen walls resting upon layers of kitchen refuse.

Near the wall stub in the southwest corner of Section 10 was the semi-flexed inhumation, Burial Bq/101. Adjacent to the burial were burned corn cobs, a projectile point, and a bone bead. Since the burial lay in a layer of refuse some of the artifacts may have been a fortuitous association.

Section 11

This section lay along the walls of Mound IA to the north of Section 10 and to the south of Section 12. The walls here were of the simple, linear coursed masonry, Type C. Parallel to the pueblo wall Strat Trench 2 was excavated in six inch levels and its profile is shown in Cross Section 2 (Figure 2) (Photo 16). Here was an oval-shaped firepit, No.14, with a maximum diameter, cut into the original ground surface of Plaza A. The sides of this pit were burned to a dark red color. In the same stratigraphic position but

further to the north were two more firepits. The largest, No. 15, had a diameter of 36 inches and a depth of 18 inches while the other, No. 16, had a diameter of 18 inches and a depth of 16 inches. Along the northern part of the midden was a complex series of lenses of kitchen refuse, charcoal, and white ash. Judging by the size of these lenses each represented a basket-full of refuse dumped upon the midden. Adjacent to the walls the midden varied in height from 2 feet 4 inches to 4 feet.

Section 12

Section 12 included a layer of midden that lay between Sections 11 on the south and 13 on the north. In the northwest corner of this section the house walls of Mound IA turned from a north-south axis eastward for a distance of 8 feet. The wall that ran north-south was built of Masonry Type C and the wall that ran east-west was of Type B. These walls lay on top of middens of undetermined depth. At least some of the layers of the lower midden were deposited during the time of trade with the Spaniards for 1 foot below the wall foundation was found the head of what appeared to be a large iron rivet or bolt (Plate 20, 4).

Section 13

In the northern border of Section 13 the pueblo wall turns from an east-west direction westward to form the south border of the passageway that leads from Plaza A into Plaza B (Map 11). The walls facing this section are of Masonry Type C. At the southwest corner of the section a wall stub projected eastward for about 1 foot into Plaza A.

## Area D (Sections 14, 15, 17, 42 and 45)

Area D includes the sections that lay at the east entrance and within the passageway between Plazas A and B (Map 11). Section 45 lies in Plaza B at the western edge of the passageway (Map 14). This feature was bordered on the

south with the north wall within Mound IA and on the north with the south walls of Mound H. The north walls were of Masonry Type C and the south, Masonry Type B. The refuse within the passageway had a saddle-shaped configuration, being higher along each of the bordering walls where the walls had fallen in. In the center of the passageway the refuse was only 6 inches deep, a feature to be expected since a passageway is not a desirable place to throw refuse.

Section 14

This section lies at the east entrance of the passageway. Refuse here was less than 1 foot thick and consisted mainly of fallen walls mixed with a small amount of refuse.

Section 15

This section lay entirely in the passageway and was to the west of Sections 14 and 16. On the north was Section 17, which enclosed an open-fronted structure designated as "Room 7". The midden adjacent to the wall was about 2 feet 6 inches high and in the center only 6 inches.

Section 42

This section lay at the west entrance of the passageway and was separated from it by a short buttress-like wall that projected from the north wall of the passageway.

Section 45

This section lay at the west entrance of the passageway and was separated from Section 42 by another short wall projecting into the passageway from the

north bordering wall.

Section 17

Section 17 when excavated revealed a small structure that was designated as "Room 7". It was small, being only 7 feet long and 6 feet wide, and thus does not seem to have been a habitation room. Since it had only three sides with no wall fronting on the passageway it was probably a portal. The side walls lay on top of more than 1 foot of kitchen refuse. Five inches below the base of the north wall was the skull of an adult inhumation, Burial Bq /103 (Photo 15). This was a completely flexed skeleton with the skull on the northwest side. Clearly this burial belongs prior to the time of construction of the wall. On the other hand since Glazes E and F sherds were found in the Room 7 it was probably built and occupied during the Mission Period.

## Area E (Sections 16, 18-25)

This area includes all those sections of midden that lay on the north side of Plaza A adjacent to the south walls in Mound H. Also included in this area was the refuse that lay on the outside of the east wall within the mound (Maps 11, 12, 13).

Section 16

This section lay on the northeast entrance of the passageway between Plaza A and B. To the south was Section 14, to the west, Section 15, to the north, the walls of Mound H, and to the east Section 19. The pueblo walls bordering this section were about 2 feet 6 inches high and constructed of Masonry Type C. The midden consisted mainly of fallen walls lying on top of kitchen refuse such as charcoal and ash.

Section 18

Section 18 was either an open-fronted room or a passageway entering the interior of Mound H. This feature was 5 feet wide and was traced for 6 feet into the mound without encountering the north wall. The only glaze wares found in the fill were Glaze D and F sherds. On the floor was a large, square sandstone flagstone. The fill in the room was about 2 feet thick.

Section 19

This section lay along the walls east of Section 18 and in turn was separated from Section 20 to the east by a short buttress-like wall. The wall on the north stood little more than 1 foot high and was of Masonry Type C. The refuse extended out into Plaza A for about 10 feet and consisted mainly of kitchen refuse and fallen walls.

Section 20

This section was segregated from Section 19 on the west by the short wall. The wall on the north was only about 1 foot high and consisted of little more than the upright slab foundations of Masonry Type B. The foundation lay on top of more than 1 foot of midden. Only Glaze F was represented of the glaze wares.

Section 21

In this section was another portal-like structure that opened into Plaza A. It lay to the east of Section 20 and was separated on the east from Section 22 by a wall that projected 13 feet southward into Plaza A. The west wall was of Masonry Type B and was 9 feet long, 2 feet 6 inches wide and 2 feet 6 inches high while the east wall was of Masonry Type C, was 13 feet long and only 1 foot high. The walls were built on top of a midden of unknown depth. The fill in this structure was mainly fallen walls lying on top of kitchen

refuse.

Section 22

Apparently this section contains another portal-like structure fronting on Plaza A but the presence of a short wall stub projecting eastward from the southeast corner of the west wall may indicate that it was an enclosed room. Section 22 was separated from Section 23 on the east by a wall that projects southward into Plaza A for 14 feet. All the walls were of Masonry Type C and varied in height from 1 foot to 2 feet 6 inches. They were built on top of a midden of undetermined depth. At the base of the north wall about mid-point was a ventilator shaft, about 1 foot square, that opened into an inner room of Mound H.

Section 23

This section was laid out to remove the refuse adjacent to what was thought to be the location of the southeast house tier in Mound H, although no walls were visible on the surface. In removing the fill it was discovered that the walls still continued eastward.

Section 24

This section was laid out to the north of Section 23. In removing the midden it was discovered that the area included two rooms, designated as "Room 1" and "Room 2". The walls of these structures were very low, not standing any higher than 2 feet, and were constructed of Masonry Type C.

Room 1 was 6 feet wide and 16 feet long. The lower part of the wall was present but only a short remnant remained of the north wall. On the east only the base of the wall was present while very little of the south wall was present. Cut into the floor of this room was a square stone-lined firebox, No. 17, that was 1 foot in all dimensions. This feature plus the size of the room indicates it was either a cooking or habitation structure.

Room 2, which adjoined on the north, was 16 feet long and 15 feet wide. Only a small section of the north, south, and west walls was present, while the east wall, that is its foundation, was complete.

The walls of both rooms lay on top of a midden of undetermined depth. The most common glaze ware was Glaze F sherds but there was also found a single Glaze A sherd and another of Glaze E.

Section 25

This section included the midden that lay on the east side of Rooms 1 and 2. It extended eastward for a distance of about 15 feet. The refuse consisted of fallen walls on top of kitchen refuse. Adjacent to the walls at a depth of 1 foot 6 inches below the surface were the scattered remains of an infant, Burial Bq/111.

## Area F (Sections 26 - 29)

This area consists of the midden to the north of the north walls of Mound H from a point on the west where there is a distinct break in the masonry, a feature that is 49 feet 6 inches west of the northeast corner of the house walls (Maps 12, 13). Although the walls on each side of this break are of Masonry Type C, those which lie to the west are much coarser. This break suggests that the walls on the east were added at a later time than when those to the west were built.

Since no walls were visible on the north side of Mound H, a long exploratory trench, later designated as "Section 29" was dug and by chance intersected the pueblo walls just to the west of the break in the masonry. Once the walls were found, the area of the midden to the east of the break was divided into three sections, Nos. 26, 27 and 28.

Section 26

Section 26 consisted of refuse lying on the north side of the north walls

in Mound H that extended from the northeast corner of the houses to the arbitrary border of Section 27 on the west. The walls were not over 1 foot 6 inches high and were built of Masonry Type C.

Section 27

This section extends along the north wall of Mound H to the west of Section 26. Here is another 20 feet of wall of Masonry Type C.

Section 28

Section 28 is bordered by 8 feet of wall of the same masonry type as Section 27. Lying in the refuse at the depth of 4 feet 2 inches was a completely flexed inhumation, Bq/108. The interment had the head to the west and was accompanied by two bone awls. Judging by its depth it was associated with the older midden that underlies the walls.

Section 29

This was a long exploratory trench made to find the north wall of Mound H. A semi-flexed inhumation, Burial Bq/107, lay at the depth of 4 feet 2 inches and was 14 feet 10 inches north of the walls with the head to the east side.

Strat Trench 3

This trench, excavated in 6 inch levels, was bordered on the east by Section 29, on the south by 10 feet of pueblo walls, and on the west by Section 30. A profile, Cross Section 7 (Figure 7) was made of the walls and another was taken along the west side of the strat trench, Cross Section 3 (Figure 3).

Cross Section 7

The profile reveals that the walls were of Masonry Type C. The upper 3 feet of the midden adjacent to the walls was composed mainly of fallen walls mixed with orange-red soils and silts that lay on about 1 foot of dark brown kitchen refuse. Below this and also below the base of the walls was an older midden containing a large basin-shaped pit whose base was cut into the ground surface to the north of the walls.

Cross Section 3

This cross section, which was made at right angles to the walls, shows that the midden adjacent to the walls was as thick as 3 feet and tapered gradually northward. Here the pattern of refuse disposal was clearly visible. Initially the refuse was thrown adjacent to the walls and as the midden grew later refuse was tossed over the far end. Thus the nearer the walls the older the refuse. The midden underneath the walls on the north, however, was actually the oldest deposit.

## Area G (Sections 30-37, 41)

This area includes a large number of sections of refuse that lay along the north house walls in Mound H that lay to the west of Strat Trench 3 (Maps 13, 14, 15).

Section 30

This section lay to the west of Strat Trench 3 and east of Section 31. Here the pueblo wall turns northward from an east-west axis for a distance of 10 feet and then turns once more to the west. The walls were of Masonry Type C and varied in height from 2 feet to 2 feet 6 inches. At the corner where the walls turn west was a short buttress-like wall that projected

northward for 2 feet. All the walls were built upon an older midden of undetermined depth.

Section 31

Near the west border of this section the walls turn southward after running in an east-west direction. At the corner a wall projects northward for 3 feet. The walls were also of Masonry Type C and varied in height from 2 feet to 2 feet 6 inches. They, like the walls in Section 30 to the east, were built on top of a midden of unknown depth.

Section 32

This section, which was to the west of Section 31, is bordered by walls that run east-west until a point where there is a wall projecting northward. The wall was added to the north wall of Mound H after about 1 foot of midden had accumulated in front of the main wall. The wall construction here was of Masonry Type C.

Section 33

This section lies west of Section 32 but is bounded on the south by Strat Trench 6 rather than by the pueblo walls, although along the southeast part of the strat trench was a low wall, not over 1 foot high, that runs in an north- south direction. This section of the wall was superimposed upon old refuse layers of undetermined depth.

Strat Trench 6

This stratigraphic block excavated in 6 inch levels encompasses an area enclosed on the east, south and west by walls, although the east wall is little more than a stub projecting 2 feet northward. Possibly here was another portal-like structure. The east wall was of Masonry Type C and varied in

height from 2 feet to 2 feet 6 inches. The south wall was little more than the upright slab foundation of Masonry Type B that was buried under 2 feet of refuse, while the west wall was of Masonry Type C.

Cross Section 6

A profile, designated as "Cross Section 6" was taken on the north face of Strat Trench 6 and spanned a distance of 16 feet 6 inches between the east and west walls (Figure 6). The following features were revealed in this profile: (1) the pueblo walls here lay on top of an old midden at least 2 feet thick, (2) the upper 4 inches of the midden that lay adjacent to the walls was a dark brown soil mixed with humus that lay on top of a layer of lighter brown soil, (3) underneath was a stratum of about 1 foot 6 inches of fallen walls, (4) this deposit was on top of a stratum of burned beans whose depth coincided with the base of the walls, (5) underneath the beans was a layer of kitchen refuse that varied in thickness from 1 to 2 feet, composed of alternating strata of charcoal and white ash and (6) in this lower midden was an ash and soil-filled fireplace, No. 18, that was 10 inches in diameter.

Section 34

This section included the refuse that lay along the walls to the west of Section 33. Here the wall continues to run in a general east-west direction. About midway in the section is a short wall stub, about 3 feet long, that projects in a north-south direction.

Section 35

This section included the refuse that lay along the walls to the west of Section 34. Here the wall turns from an east-west direction southward for a distance of 11 feet where it turns once more to the west for about 10 feet. At the first turn there is a wall that projects 2 feet northward. At the next corner the wall runs west and separated by a distance of 6 feet north is a

vestige of a wall, 2 feet long. At one time the latter wall probably joined the main wall. Possibly this area contained another portal enclosed on the east, west and south by walls. In this section the walls were of Masonry Type C.

Section 36

Section 36 was the next section on the west and was bordered on the south by the pueblo wall, while to the west it was bordered by Strat Trench 4.

Strat Trench 4

This was a trench 3 feet wide and 40 feet long that was excavated in 6 inch levels. Its profile is shown in Cross Section 4 (Figure 4).

Cross Section 4

The profile revealed that the midden here was relatively shallow being only 2 feet 6 inches against the wall. The pattern of refuse disposal was similar to that of Strat Trench 3, that is each load of material was dumped at the far end.

Section 37

This section lay to the west of Strat Trench 4 and to the north of Section 41. The only wall was in the extreme southeast corner. This was a small wall projecting 3 feet northward from the main wall which was in Section 41. The short wall was of Masonry Type C.

Section 41

Here the pattern of the walls on the east and south sides of this section

are difficult to determine since in several places they had fallen in completely. Apparently there was either one or more rooms or porches in the area. The wall nearest the Strat Trench 5 was of Masonry Type B and the others of Type C.

Cross Section 10

A portion of the wall on the east between Sections 37 and 41 is illustrated in Cross Section 10 (Figure 10). The profile indicates that the wall here, not over 1 foot high, was of Masonry Type C. The upper 1 foot layer of midden was mainly fallen walls mixed with orange-brown soil below which was a dark brown midden of undetermined depth.

## Area H (Sections 38 - 39)

Area H contains the midden adjacent to the north walls of Mound G and a short section of the mound that connects Mound G with Mound F (Maps 15, 16). Included in this area were Sections 38 - 39.

Section 38

This section was bordered on the east by Strat Trench 5, the south by the pueblo walls, and the west by a line where a profile, Cross Section 11 (Figure 11) was taken. A profile was also drawn of the walls shown in Cross Section 8 (Figure 8). Another profile was made of the midden uncovered in Strat Trench 5. designated as "Cross Section 5" (Figure 5). All the walls in this area were of Masonry Type B.

Cross Section 8

This profile shows the wall here to be from 3 feet 10 inches to 4 feet 4 inches high and of Masonry Type B. These walls were built on a dark brown midden that varied in thickness from 1 to 3 feet. In the underlying older

midden 10 inches below the walls was a clay-lined firepit, No. 6. This pit, 7 feet 5 inches in diameter was filled with white ash overlain by charcoal. About 7 feet north of the wall a large post in a posthole was found. The hole was 1 foot 2 inches in diameter and 10 inches deep. In the base of the hole was a circular slab of sandstone. Possibly the post at one time was a support for a portal viga.

Strat Trench 5

This trench, excavated at a right angle to the pueblo wall, was 40 feet long and 3 feet wide and contained refuse that was a maximum of 3 feet 3 inches at the wall. The depositional pattern of the refuse was the same as that of Strat Trenches 3 and 4, with the exception of the lowermost layer which was horizontally stratified. In the trench 20 feet north of the wall and 1 foot 11 inches below the surface was found a completely flexed inhumation, Burial Bq/109, with its head to the east.

Section 39

Section 39 was bordered on the east by Strat Trench 7, on the south by the pueblo walls and on the west by Section 40. A profile, designated as "Cross Section 9" (Figure 9) was made of the pueblo wall and the underlying midden. This profile revealed that the wall was constructed of Masonry Type C and had a maximum height of 3 feet 9 inches. In the midden underneath the western part of the walls was a large firepit, No. 21, that was 4 feet 6 inches in diameter and 1 foot 9 inches deep . The base of the pit was flush with the original ground surface of the section. In the midden about mid point under the walls was a firebox, No. 19 (Photo 16), that had sides made of vertical slabs of sandstone. This feature was 1 foot 2 inches long and 11 inches wide, and 7 inches deep and was cut into the original ground surface. Adjacent on the north (not shown in Cross Section 9 (Figure 9) was another stone-sided firebox, No. 20, that was 2 feet 6 inches long, 1 foot 3 inches wide, and 7 inches deep. This feature was filled with ash.

Cross Section 12

A segment of the refuse that extended northward for 11 feet 6 inches from the pueblo wall and which lay at the west border of Section 39 is shown in Cross Section 12 (Figure 12). This profile revealed that the wall on the south side was only 2 feet 4 inches high. In the midden next to the wall the upper 1 foot 6 inch stratum was composed mainly of fallen walls which in turn lay on a dark-colored midden containing a large amount of ash and charcoal.

## Area I (Sections 40, 43, 46, 47, 52 and 53)

Area I lay to the west of Area H and included those sections that were adjacent to the mound that connects Mound G to Mound F plus the sections on the northeast corner of Mound F (Map 16).

Section 40

This section was bounded on the west by Section 43, on the east by Section 39 and on the south by the north wall of the mound connecting Mounds F and G. In the southeast corner of this section the wall turns from an east-west direction northward for 40 feet and then turns west once more. In the corner of the first turn on top of the underlying sterile ground surface against the wall were two stone-sided fireboxes that lay side by side. The southernmost box, No. 22, was 1 foot 3 inches long, 1 foot 8 inches wide, and 8 inches deep while the other, No. 23, was 1 foot 11 inches long, 1 foot 8 inches wide, and 8 inches deep.

Section 43

Section 43 lay to the west of Section 42 and to the east of Section 46. In this area the walls on the south continue in an east-west direction.

Section 46

This section lay between Section 43 on the east and Section 52 on the west. In the eastern half of the section the wall on the south turns from an east-west direction southward into Section 47. At the turn a wall 3 feet long projects westward.

Section 47

Only the east pueblo wall and a short segment of the south wall border this section. The remainder of the south wall has fallen in. On the west was Section 52. It is possible that there was another portal inset into the pueblo wall in this section.

Section 52

This section lay to the west of Section 47. Running north-south through this section were the walls on the southeast corner of Mound F. Their junction with the east-west walls in Section 47 was not determined for in the corner the walls had fallen in completely. The walls in Section 52 were only about 1 foot high and were of Masonry Type C.

Section 53

The section was to the north of Section 52. In the southern part the walls of Mound F turn west from a north-south direction. At the turn was a wall 3 feet long that projects east. The walls here were less than 1 foot high and were built of Masonry Type C.

## Area J (Sections 44, 48 - 51)

This area includes the sections of midden uncovered in tracing the walls on the east and south sides of Mound IB (Maps 8 and 9). Prior to 1939 the walls of the two rooms on the east side, designated as "Rooms 3 and 4" had been exposed. The walls of these two rooms consisted of little more than the vertical slab foundations of Masonry Type B. Room 4 was 11 feet long and 9 feet wide while Room 3 was 9 feet long and 7 feet wide. The latter had an opening to the exterior while the former had none.

### Section 44

In this section the wall that ran southward from the corner of Room 3 was uncovered as well as the corner where it turns to the west. These walls of Masonry Type C were less than 1 foot high.

### Section 48

It was not necessary to remove much of the midden in uncovering the walls since the wall itself was present only in the northwest corner of the section. Here the walls turn from an east-west direction southwest. The walls were very much reduced in height being only 1 foot 6 inches high.

### Section 49

In this section the walls of Masonry Type C made two changes in direction from running southward to west. The walls reached a maximum height of 2 feet. While they lay on top of an old midden no excavations were made into these deposits.

### Section 50

Section 50 lay along the west side of Section 49. Here the wall turns northward from an east-west direction. At the turn was a wall that projects 3 feet southward. The walls were less than 2 feet high and were built of Masonry Type C.

Section 51

This was the last section excavated along the south walls of Mound IB. It lies to the west of Section 50. In this section the pueblo walls run east-west along the north border of the section but the corner where the north-south wall joined the former walls was not determined because at this point the walls had fallen in completely. In the west side of the section there was a corner where the east-west wall turned northward. On the west side of this corner adjacent to the wall was a stone-lined firebox, No. 24.

## POTTERY

### Introduction

Since no new pottery types were encountered in the 1939 - 1940 excavations at Quarai, no detailed descriptions will be given. While it is true that at Quarai there seem to have been differences in paste and temper in some of the types these variations have not been analyzed. Examples of such variations include the large amount of dark cores in the Quarai types such as Glaze F and Salinas Red wares. In contrast the majority of sherds from Tenabo and Abo Pueblo lack this trait and when present probably indicate trade with Quarai (Stuart J. Baldwin and K. P. Medlin, personal communication, May 1985).

The sherds excavated in 1939 - 1940 were analyzed in the field with the descriptions by Mera (1933), Hawley (1936) and Kidder (1931, 1936) being the main sources for identification.

Subsequently to these sources written before 1939 there have been several new types added or redefined such as Casitas Red-on-brown (Dick 1968) while

Toulouse has separated Chupadero Black-on-white from a Tabira Black-on-white (1949). In order to bring up to date the pottery types as much as possible in the time permitted, I analyzed 50 bags of sherds from Quarai in the Laboratory of Anthropology in May 1985, with the aid of Stewart Peckham, Regge Wiseman, K. P. Medlin and Stewart Baldwin. This included all the bags of sherds and several artifacts excavated in Mound IB by Stubbs in 1959 and by Ely in 1958, and approximately one-third of the sherds excavated by Ely in the convento in 1934-1935 and by Baker in the same structure in 1935-1936. I was able to find, however, only two bags from the 1939 -1940 excavations in the convento. In addition, we examined but two bags from of sherds from the 1939 excavations in the pueblo.

In the descriptions that follow unique traits of the pottery types at Quarai will be emphasized as well as distributions through time and space when such information exists. In addition, comparison will be made with the ceramics of the Abo, Gran Quivira, Pueblo Pardo, Tenabo, and the Tijeras Arroyo sites.

## Glaze Wares

The first glaze wares were recognized as a distinct type by Kidder in 1911 on the basis of his work at the Agua Fria site near Santa Fe (1936:1). Nevertheless, the Rio Grande area does not appear to have been the locality where the invention of glaze paint was made. According to Haury and Hargrave, the development occurred in the final phases when St. Johns Polychrome was manufactured in the Little Colorado River area of eastern Arizona (1931).

According to Warren the first glaze paint vessels produced in the Rio Grande region, however, was a heterogeneous group named Los Padillas Glaze-polychrome (1980:161). This designation means only that this pottery was produced before Agua Fria and other Glaze A sherds in the Rio Grande Valley while the Eighth Ceramic Seminar in 1966 agreed that Los Padillas Glaze-polychrome is the Rio Grande manifestation of Heshotauthla Glaze-polychrome.

## Glaze A Wares

### Arenal Glaze-polychrome/Los Padillas Glaze-polychrome

Arenal Glaze-polychrome was first named by Mera (1933) but the Eighth Ceramic Seminar suggested that it be included with the Los Padillas Glaze-polychrome. Mera states that the Arenal Glaze-polychrome differed from Agua Fria Glaze-on-red by having a thin white line on the outer surface below the rim. According to Warren the major difference of the general type from Heshotauthla Glaze-polychrome is the paste and temper. She also estimates its age to be A.D. 1315 - 1350 (1980, Table 16). At the Tijeras Pueblo site, Arenal Glaze-polychrome was common athough not as numerous as Agua Fria Glaze-on-red. The type of temper, mica schist, suggests that it may have been made there as well as in the Rio Grande Valley. Baker who sent examples of this type to Mera for identification, states that this type decreased from 2.2% in Strata VII to 0.7% in Strata I in Mound A. He reported none from his pit in Plaza C. In the 1939 excavations a single sherd was found in Area C of Mound IA and another in Area F. In Mound 7, Gran Quivira, there were encountered 173 examples or 0.7% of total, indicating a much greater prevalence there than in comparison with Quarai (Hayes 1981A, Table 17).

### St. Johns Polychrome/Heshotauthla Glaze-polychrome:

In the initial classification of the earliest glaze polychrome sherds at Quarai that I made in the field I classified them all as St. Johns Polychrome. In reexamining the sherds of this type in the collections from Quarai in the Laboratory of Anthropology it was evident that they all could be classified as Los Padillas Glaze-polychrome, and are so indicated on the tables in this report, that is the Rio Grande variant of Heshotauthla Glaze-polychrome. In addition, only Heshotauthla Glaze-polychrome is mentioned in Smiley's, Stubbs', and Bannister's report on Quarai (1953:43).

In 1936 Kidder named and described Heshotauthla Glaze-polychrome as

a type traded into Pecos Pueblo from the west. Warren estimates the date of this type at Zuni to be A.D. 1300 - 1375 (1980:160) or slightly older than the Rio Grande variant Los Padillas Glaze-polychrome.

At Gran Quivira, Mound 7, 181 sherds of Heshotauthla Glaze-polychrome or 7.0% of the total were found, almost the same percent as Los Padillas Glaze-polychrome (Hayes 1981A, Table 17). Hayes notes that in Mound 7 Heshotauthla Glaze-polychrome was gradually replaced by Los Padillas Glaze-polychrome and Agua Fria Glaze-on-red and that this event occurred at Pindi Pueblo near Santa Fe.

In Area F, Mound H, in the midden uncovered in 1939, a single example of Heshotauthla Glaze-polychrome was encountered. In the fill below the floor in Room 1(59), Mound IB, excavated by Stubbs, there was a single example while another example was found by Ely in Room 8 of the convento. At Pueblo Pardo this type also was rare, only four sherds having been found by Toulouse and Stephenson (1960:23).

Agua Fria Glaze-on-red

Agua Fria Glaze-on-red is the most common of the Glaze A wares at Gran Quivira, Pueblo Pardo, Quarai, and Tijeras Pueblo. According to Hayes this type of pottery was introduced into Gran Quivira about A.D. 1315 with Los Padillas Glaze-polychrome being about 15 years earlier (1981A).

In Mound A at Quarai, according to Baker, this type decreased from 2.4% in Strata VII to 0.97% in Strata II, indicative of a great decrease in quantity from Mound A to that of Baker's pit in Plaza C immediately to the south of Mound F.

In the areas of the Pueblo middens excavated in 1939 the greatest frequency (7.1%) was in Area I, the northeast corner of Mound F, evidence that this was one of the oldest mounds I investigated. The second highest (6.1%) occurred in Area H on the north side of Mound G. This mound is attached on the northwest corner to Mound F and may be of equal age. In all the other areas I excavated in the pueblo the frequency was less than 1.0%. It should be noted, however, that the oldest layers of refuse, which lay

below the walls, was systematically excavated only in the strat trenches. In Strat Trench 7, Area H, Mound G, there was 71.4% of this type in level 2 feet to 2 feet 6 inches and 7.4% in Level 1 foot 6 inches. Since there were only seven sherds found in Level 2 feet - 2 feet 6 inches the number was not sufficient to place credence in such a high percentage of Agua Fria Glaze-on-red. In all the other strat trenches the percentage varied from 0.75 to 2.3% with no visible trends.

In the convento rooms excavated in 1939-1940 only nine examples of this type were found in the 6 inch to 1 foot level. A single example (0.6%) was found in the 1 foot 6 inch - 2 foot level and another one (3.6%) in the 2 foot - 2 foot 6 inch level of the torreon. In Room 36 two sherds were encountered of this type as well as another in Room 54. Although not conclusive there was no evidence of a Glaze A midden under the walls of the convento, only scattered sherds of this type.

Cieneguilla Glaze-on-yellow

While present in small numbers in Mound 7 of Gran Quivira, Pueblo Pardo and Quarai, none were found in Tijeras Pueblo. In the general area of the latter site, however, it was present in San Antonio Pueblo (Warren 1980, Table 16). Warren estimates the age of this type to be from A.D. 1350-1475 and that its center of manufacture was in the pueblos of the Galisteo Basin south of Santa Fe.

In the middens of Quarai Pueblo excavated in 1939, this type was found in all middens except those of Area A, which also lacked other types of Glaze A sherds. Because of this absence and for other reasons such as the walls in Area B containing the Quarai church's variety of masonry (Type A), the midden of Area A seems to be among the last refuse deposited in the pueblo.

San Clemente Glaze-polychrome

This type, named by Mera, differs from Cieneguilla Glaze-on-yellow in having a third color added (1933). Mera implies that the age of both types was

the same in his conclusion that San Clemente was not a type transitional to Glaze B sherds. Hayes considers A.D. 1385 to be the beginning date for San Clemente Glaze Polychrome or slightly more recent that the Cieneguilla type (Hayes 1981A, Figure 120). He also states that the probable center of distribution of San Clemente Glaze-polychrome is the lower Rio Puerco area, with 41% of Glaze A sherds at Pottery Mound being of this type. In contrast at Gran Quivira it was only 10% of the total.

At Quarai there were only nine sherds of San Clemete encountered in the middens excavated in 1939 in contrast to the 284 Agua Fria Glaze-on-red sherds, which were, therefore, 31 times more frequent.

## Glaze B Wares

This ware was divided into two types by Mera, Largo Glaze-on-yellow and Largo Glaze-polychrome (1933). He states that they "...became very popular in the Galisteo Basin and adjacent regions but was poorly represented in the southern part of the Glaze Paint area."(1933:5). Hayes estimates the dates of manufacture of Glaze B wares to have ranged in time from A.D.1425-1450 (1981A: 92). In Mound 7, Gran Quivira, 109 sherds of this type were found, fewer than any other type of glaze ware, while Pueblo Pardo produced only two sherds.

At Quarai in the midden uncovered in the Pueblo in 1939 only two examples were uncovered, one in Area F, Mound H, and another in Strat Trench 4, Mound H, 1 foot - 1 foot 6 inch level. None were found by Baker in his excavations in the pueblo. Neither were any reported from the several excavations in the convento.

## Glaze C Wares

Mera divides this ware into two types based upon rim forms and other characteristics as Espinosa Glaze-polychrome and Kuaua Glaze-polychrome (1933). Hayes estimates the beginning date of A.D.1450 for Glaze C pottery and states that this ware occurs in large numbers in Mound 7, Gran Quivira,

since he found three restorable vessels and 318 sherds vs. 109 Glaze B examples (1981A:95 - 96). Toulouse and Stephenson encountered at Pueblo Pardo 14 Glaze C sherds in contrast to two of Glaze B (1960:22). At Abo this ware was the earliest of the glazes (Toulouse, 1941:17).

## Glaze D Wares

Mera defines but a single type of Glaze D Ware in the Rio Grande area, San Lazaro Glaze-polychrome and estimates the time range to have been A.D. 1490 - 1515 (1933). Hayes, however, on the basis of its occurrence on the floor of Kiva N, Mound 7, Gran Quivira, gives a beginning date prior to A.D. 1467 and a terminal date of 1515 (1981A: 96). He also considers that Glaze D pottery at Gran Quivira was obtained primarily from Abo but that 25% came from Tonque. At Pueblo Pardo a somewhat greater number of Glaze D sherds was found than Glaze C, 34 sherds in all (Toulouse and Stephenson 1960:22).

Baker found no Glaze D sherds in the Plaza C test pit at Quarai. This type was found in numbers less than 1.0% in all areas of the pueblo excavated in 1939, with the exception of Areas A and C and Room 5 which contain relatively recent middens.

## Glaze E Wares

This ware has been divided by Mera into four types, Puaray Glaze-polychrome, Trenaquel Glaze-polychrome, Pecos Glaze-polychrome and Tiguez Glaze-polychrome (1933). At Quarai the Glaze E sherds seem to be a transitional type intermediate between the pronounced thickened rims of Mera's types and the thinner rims of Glaze F wares. On the basis of its occurrence with dated architectural features in Mound 7, Gran Quivira, Hayes estimates its time of manufacture to have been ca. A.D. 1500 - 1545 (1981A:97). It was the third most common glaze ware at Gran Quivira. At Abo it was the second most frequent pottery type (Toulouse 1949, Figure 27), while at Pueblo Pardo it was the third most common type (Toulouse and Stephenson 1960:22).

Baker found in the test pit in Plaza C of Quarai Pueblo a decrease from 11% in Strata VII to 4.5% in Strata I. That this glaze was late in time is indicated by the presence of 2.3% of Glaze F sherds in Strata I. It should be noted that the area with the greatest frequency of Glaze E in the middens excavated in 1939 was Area H (3.9%) on the north side of Mound G, which faces Plaza C. With the exception of Room 5 (1.5%) in all other areas of the middens excavated in 1939 the frequency was less than 1.0%. The greatest percent (60%) in the strat trenches excavated in 1939 was encountered in Trench 5, Mound G in the 3 feet to 3 feet 6 inch level but this aberrant percentage can be explained by the fact that but 6 sherds were found. Only in Strat Trench 3, Mound H, was there clear evidence of a decrease of Glaze E through time. Here in the 4 feet 6 inch - 5 foot level 8.9% of the sherds were Glaze E and in the 0 - 6 inch level, 0.4%.

One variety of Glaze E ware from Quarai is Pecos Glaze-polychrome, that differs from the other type in having a shorter, thicker rim with a cross section shaped like a comma. Mera notes that this type was most common at Pecos Pueblo and in other sites in the surrounding area (1933). In the midden at Quarai excavated in 1939 only five examples were found, four examples in Area G and one in Area H while Stubbs found a single example in his Room 1(59), Mound IB.

In the sections of the convento excavated in 1939-1940, only the type transitional to Glaze F was encountered. Of this variety a single sherd was encountered in the 0 - 6 inch level of Room 41, while in Room 22, five examples (1.4%) were encountered in the 1 foot 6 inch level and one (.06%) in level 2 feet - 2 feet 6 inches.

Warren, who analyzed Glaze E and F sherds from Quarai, reached definite conclusions regarding their age, origin and types of temper (1981A:71). Of a total of 112 rims she examined, 76.7% contained hornblende schist temper and were probably locally made. In addition, nearly 10% had a felsitic schist temper that appears in much of Glaze E and F sherds from Gran Quivira. There also were several sherds that had a temper of Bandelier Tuff, which appears in examples near Cochiti. She also noticed that polychrome sherds were confined to late glaze or transitional types and that all the sherds she

examined appeared to have been varieties manufactured in the post-1600 period.

Baldwin, Medlin, and I examined Glaze E and F sherds from Quarai in the collections of the Laboratory of Anthropology and compared them with sherds from Tenabo and Abo. Nearly all the Glaze E and F sherds from Quarai had a dark gray core and a light gray paste. On the other hand those from Abo and Tenabo had a red paste and lacked the dark core.

## Glaze F Wares

Pottery in this series was the most numerous of the glazes found in the Mission Period of the Salinas Pueblos where it was the last type of glaze ware made.

Mera distinguished between seven types of glaze ware made in the Rio Grande region, primarily upon rim form and colors used in decoration, which include Kotyiti Glaze-on-red, Kotyiti Glaze-polychrome, Cicuye Glaze-on-red, Cicuye Glaze-polychrome, San Marcos Glaze-on-red, San Marcos Glaze-polychrome and Rayo Glaze-on-red (1933).This division is not entirely adequate to classify the Glaze F sherds from Quarai, for there should be added a Kotyiti Black-on-white, a variety that has a glaze design on a white or cream slip. In addition, some of the "soup plate" forms of the San Marcos type have these kinds of slips.

At Gran Quivira, Mound 7, Kotyiti glazes were second to Agua Fria Glaze-on-red among the total glazes. Here only 17% were locally made, that is, the ones with biotic felsite temper, while 52% were imported from Quarai, the ones with hornblende schist temper (Hayes, 1981A:99). Hayes cites reasons for estimating that Glaze F was first manufactured at Gran Quivira at about A.D. 1625 and that it continued to be made until their abandonment in the 1670s.

Baker, who did not separate Glaze F into Mera's types, observed that in the lowermost Strata VII in his pit in Plaza C there was 5.5% of Glaze E associated with 9.4% of Glaze F and that Glaze E decreased to 4.5% in Strata I. Glaze F increased to 11% in Strata I. To determine whether or not the same

trend existed in the pueblo middens excavated in 1939, the Glaze F sherds from all the levels of the strat trenches were combined to obtain a larger sample. I noticed that there was an over-all increase from the basal levels to the 1 foot 6 inch level followed by a decrease. Thus, there was 3.0% of Glaze F sherds in the 5 foot 6 inch level which increased to a peak of 44.4% in the 3 foot 6 inch level to 36.1% in the 1 foot 6 inch level and then a decrease to 12.3% in the 0 - 6 inch level.

The Glaze F sherds were combined also by areas of the 1939 excavations and it was noted that the highest percentage, 19.3%, was in the passageway, Area D between Plazas A and B while the lowest was in Area A at 6.8%. These high percentages seem significant since they indicate that the midden in Area A was one of the most recent deposits of the pueblo. In all the other areas there was no apparent time sequence according to horizontal position, with Glaze F sherds varying from 19.5% to 14,7%. The combined areas showed that the most common type of Glaze F Ware was Kotyiti Glaze-on-red bowls (8.3%), followed by Kotyiti Glaze-on-red ollas (6.0%) and the least common Kotyiti Glaze-on-white, with the exception of very rare types such as San Marcos Glaze-on-red and Cicuye Glaze-on-red, all of which were less than 0.1%. In the rooms of the convento excavated in 1939-1040 Glaze F sherds were the major type encountered, evidence that this ware was manufactured during the Mission Period. Room 22, which had a block of fill removed in 6 inch levels, did not show any consistent trend in frequency but instead had a curve with two peaks and two dips, indicative of a lack of an over-all trend. Frequency of Glaze F varied here from 22% to 4.0%. Likewise, there was a great variation in frequency in the other rooms, with a range of 5.9% in Room 48 to 17.2% in Room 54. In the convento the average frequency of Glaze F sherds is 11.8% or about one-half the average frequency, 19.5%, in the areas of the pueblo excavated in 1939.

The influence on Glaze F vessel forms by the Spaniards was marked, with shapes such as the soup plate, the ring-bottomed vessels, cups, cups with handles and spherical bowls with narrow openings.

## Black-on-white Wares

In this category is included only the non-glaze black-on-white wares, such as Chupadero Black-on-white, and not types of the Historic Period, such as Santo Domingo Black-on-white.

### Chupadero Black-on-white/ Casa Colorado Black-on-white

Chupadero Black-on-white was first defined by Mera in 1931 and later separated from a type he named Casa Colorado Black-on-white because the latter lacked the scored interiors of the former. Since these two types were about equal in frequency and occupied the same stratigraphic position in Mound 7, Gran Quivira, Hayes has suggested that they be given the single name of the original type Chupadero Black-on-white (1981A:67, 68). In the classification at Quarai made by Baker and myself these two types were distinguished. It is relatively easy to separate Chupadero Black-on-white from northern Rio Grande types such as Galisteo Black-on-white which has a carbon rather than an iron paint, while black-on-white types from the Zuni area have a much finer white paste with a sherd temper.

According to Hayes the center of manufacture of Chupadero Black-on-white was the pueblos of the Chupadero Mesa area, where it was first manufactured ca. A. D. 1175. It was replaced by Tabira Black-on-white about A. D. 1545 (1981A:67-68). In older levels of Mound 7, Gran Quivira, it ran from 64 - 75% of total sherds while at Pueblo Pardo, which seems to be later in time, it averaged 15.1%. In Abo the frequency varied from 1.7% - 10.9%.

In Baker's analysis of the sherds from the trench he made in Mound A the combined frequency of Chupadero Black-on-white and Casa Colorado Black-on-white was the second largest in the lower Strata VII (34.6%) with Corona Corrugated being the most common (49.7%). The combined black-on-white type decreased through time until there was only 12% in Strata I. Because there were also Glaze A sherds in Strata VII (7.5%) it would appear

that Mound A was not occupied before the introduction of this group of pottery (before A.D. 1350), that is, the theoretical beginning date of manufacture of the Los Padillas Glaze-polychrome. Until a study of temper is made it is not possible to determine the origin of Chupadero Black-on-white at Quarai. The high percent in Strata VII does, however, suggest local manufacture.

There was a marked difference in the frequency of the combined Chupadero Black-on-white/Casa Colorado Black-on-white in Baker's test pit in Plaza C, where there was only 2.2% in the lower Strata VII, an amount that decreased to 0.8% in Strata I. The only area of middens that lacked these pottery types in the 1939 excavations was Area A, that also lacked sherds of Glaze A wares. In all the other areas the combined count of these two types was less than 1.0% with the exception of Area H, Mound G, that produced 2.4%. Likewise the greatest frequency was less than 1.0% with the exception of Strat Trench 5, 6 inch - 1 foot level where there was 1.1%. Although there was 20% in the 3 foot - 3 foot 6 inch level only 6 sherds were found there.

In the convento rooms excavated in 1939-1940 there was no stratigraphic pattern in the occurrence of the combined total of these two black-on-white types which because of their relative age would be expected to occur in the lowermost strata. Yet in the torreon 0.6% were found in the upper 0 - 6 inch level and also in Room 41 where they were encountered only in the same upper level. In Room 22 they were absent in the lowermost level but present in levels 0 - 6 inches (2.1%), 6 inches - 1 foot (2.5%) and 1 foot - 1 foot 6 inches (2.3%). This stratigraphic pattern suggests that in the rooms of the convento excavated in 1939-1940 there was no underlying prehistoric midden but only sherds scattered over this area from some other part of Quarai Pueblo. Chupadero Black-on-white was found in the fills of Rooms 42, 43 and 52 (total of 3 sherds) and Casa Colorado-Black-on-white was encountered in Rooms 36, 41, 42, 48, 52 and 54 and the torreon (11 sherds). Chupadero Black-on-white was also present in Convento Room 3A (one sherd), Room 8 (three sherds), Room 12 (four sherds) while Casa Colorado Black-on-white was present in Room 8 (one example) and Room 12 (two examples).

Black-on-white trade wares

Santa Fe Black-on-white occurred in Baker's trench in Mound A where it decreased from 5.5% in Strata VII to 0.04% in Strata I while in the test pit in Plaza C it decreased from 0.11% in Strata VII to 0.04% in Strata I. In the strat trenches made in 1939 its greatest frequency was 2.3% in the 2 feet 2 foot - 6 inch level, Strat Trench 3, Mound H. In the other middens of the pueblo excavated in 1939, it occurred in numbers less than 1.0% in Areas D - H. Smiley, Stubbs and Bannister estimate the time range of this type to have been A. D. 1175-1350 (1953. Figure 4).

Galisteo Black-on-white has distributional pattern and stratigraphic location similar to that of Santa Fe Black-on-white. In Baker's trench in Mound A this type decreased from 2.4% in Strata VII to 0.7% in Strata I. It also decreased from 0.9% in Strata VII to 0.3% in Strata III in Baker's pit in Plaza C and was absent in Strata II and I. In the pueblo middens excavated in 1939 only four examples were encountered, two (0.01%) in Area E and another two (0.01%) in Area F. In the strat trenches it was too rare to manifest any significant pattern, where this type varied from 1.7% in level 1 (1 foot 6 inches - 2 feet in Strat Trench 6) and 0.7% in level 0 ( 6 inches in Strat Trench 6 of Mound H). In Strat Trench 3 it represented 0.1% of the sherds in level 1 (1 foot - 1 foot 6 inches). Hawley postulates that this type may have been derived from Mesa Verde influence on Santa Fe Black-on-white (1936:69). The Galisteo pueblos may have been the source of this type.

Tularosa Black-on-white was a rare type that was traded to Quarai from the Little Colorado River region to the west. Three examples were found under the walls of the small church by Stubbs and a single sherd was encountered in Area H of Mound G. Smiley, Stubbs, and Bannister estimate the beginning date for this type to have been ca. A.D. 1100 but give no terminal date (1953, Figure 4).

Wiyo Black-on-white is represented by a single sherd found in Strat Trench 2, Mound IA, in the 1 foot - 6 inch level. This type follows in

sequence Santa Fe Black-on-white at about A.D. 1300 and terminates ca. 1400 (Smiley, Stubbs and Bannister, 1953).

Chaco Black-on-white was present (two sherds), according to Baker, in his trench in Mound A, one in each of Strata I and Strata VII. According to Florence Hawley, who identified the sherds, they were of Type III. The source of this type was problematic since the Chaco Pueblos were abandoned (ca.A.D.1300) at about the time when Mound A was beginning to be formed.

Socorro Black-on-white was found at Quarai according to Smiley, Stubbs, and Bannister, presumably in Stubbs's excavation of house units in Mound IB (1953:43).

Tabira Black-on-white was a type separated from Chupadero Black-on-white and given a distinct name by Toulouse on the basis of his excavation in the mission building at Abo (1949:19). Major differences include broad line designs, zoomorphic and anthropomorphic and other life forms with a feather design being common, and a large variety of vessel forms of Spanish sources, such as candlesticks, soup plates and canteens. At Gran Quivira Tabira ware supplanted Chupadero Black-on-white at about A.D. 1545 and continued to be made until the pueblo was abandoned a short time before 1672 (Hayes 1981A).

According to Hayes, Tabira ware was made only in the Jumanos Pueblos, such as Gran Quivira, Tabira, and Pueblo Pardo and by implication they were the sources of this ware at Abo and Quarai (1981A). In the last phase of occupation of Mound 7, Gran Quivira, Tabira ware made up 73% of the white wares while at Pueblo Pardo it was 72.9% (Toulouse and Stephenson 1960). From the mid-16th century it and a brown culinary ware were the only indigenous pottery made at Gran Quivira while at Abo the total black-on-white wares made up only 3.1% of the total ceramics.

When I made the original classification of pottery from Quarai the Tabira ware had not been defined and separated from Chupadero and Casa Colorado Black-on-white. It is, therefore, possible that some of these types, in particular Casa Colorado with its unscored interiors, was actually Tabira Black-on-white. In order to test this possibility all the sherds from the rooms in Mound IB excavated by Stubbs and Ely were examined. In the black-on-

white series only two examples of Tabira Black-on-white were represented. These occurred in Room 3 (59) excavated by Stubbs.

In the 1939 Project, Section 14, there was found a single Tabira Black-on-white sherd which had a feather motif, plus one sherd of Chupadero Black-on-white; while in Section 38 there was one sherd with wavy line design of Tabira Black-on-white plus 16 examples of Chupadero Black-on-white. Sherds from 19 rooms in the convento excavated by Ely and Baker were also examined and only a single Tabira Black-on-white and one Casa Colorado Black-on-white were represented. In Room 12 there was one Tabira Black-on-white sherd and three Casa Colorado Black-on-white sherds. According to Hayes, "In the house mound at Quarai, although most of the black-on-white was Tabira, all the white ware was less than 2 percent of the total" (1981A:73). Because of the discrepancy in these two reports further study of the collections from Quarai in the Laboratory of Anthropology of the relative frequency of Tabira Black-on-white and Chupadero/Casa Colorado Black-on-white is warranted. Nevertheless, this pottery type is so uncommon at Quarai and so frequent in the Jumanos Pueblos that there is no question as to its place of manufacture.

## Biscuit Ware

Biscuit ware had its origin in the Pajarito Plateau in north central New Mexico and was found as a trade ware in Pecos Pueblo (Kidder 1931:73). There were two types, Biscuit A with designs only on one side of bowls, and a later type B with designs on both sides. Biscuit A follows in time Wiyo Black-on-white and, according to Smiley, Stubbs, and Bannister, was made in the time period A.D. 1350-1435 (1953:4). In turn it was supplanted by Biscuit B in the time period 1400-1480.

In the middens of Quarai Pueblo excavated in 1939 Biscuit B ranges in numbers from one to four sherds with a frequency less than 0.02% in Areas B, D, F, G and H. In addition, one body sherd was present in Area G and another one in Area H.

## Matte Paint Wares

In this category is included only the pottery made with matte paint decorations that was manufactured during the Historic Period. It is most difficult to identify with certainty any of the sherds of this type found in the Quarai Pueblo and Convento in 1939-1940. The difficulty results from the small size of the sherds so that a complete design motif is not always present nor are all the colors of what may have been a polychrome vessel necessarily preserved. Again, the small size of the sherds makes the identification of the complete vessel forms problematical. This is exemplified in the difficulty in identifying polychrome types such as Tewa Polychrome. For example, a small sherd that had only two colors might be identified as Santo Domingo Black-on-white. Yet, if this sherd were larger it might show three colors and, therefore, be one of the polychrome wares such as Tewa Polychrome. Some sherds which share only two of the colors such as Santo Domingo Black-on-white are so identified that may actually have come from a Tewa Polychrome vessel.

### Casitas Red-on-brown

This is a major pottery type found in the Hispanic and Spanish Colonial sites which are located in the Rio Grande area and its tributaries from Mesilla on the south to Las Sauces in the San Luis Valley, Colorado, on the north, and in the villages in the mountains and the foothills that parallel the Rio Grande Valley from Trinidad, Colorado to Manzano, New Mexico (Dick, 1968). Dick estimates the time range from perhaps prior to A.D. 1672-1900 while Warren gives A.D. 1720-1900 (1979). As proof of her estimated beginning date she cites its absence from the Spanish homestead site (La 591) near Cochiti, that dates A.D. 1620-1680. On the other hand Casitas Red-on-brown was present in the nearby Spanish Colonial sites (La 10114 and La 11138) in White Rock Canyon that are known to date in the late 18th to late 19th centuries.

The age and makers of Casitas Red-on-brown in the Salinas Pueblos is uncertain. Toulouse postulates that it was made during a reoccupation phase after these pueblos were abandoned, for at Abo the sherds of this type lay in the midden outside the convento rooms rather than in their fill (1947). Hayes reports a single sherd of this type from Mound 7, Gran Quivira, but does not assign it a date (1981A). On the basis of its stratigraphic position in the Quarai Convento, Casitas Red-on brown appears late in the sequence of pottery types. Since it was associated in the same levels with Kotyiti Glaze types, the possibility exists that it was manufactured before the site was abandoned. In Room 37, one percent of total sherds was this time on the 0-6" level and eight percent in the 6" - 1 foot level. On the other hand, it was confined to the 0-6" level in Room 41, where it was one percent. In the fill of the Torreon it occured 8.87 percent in level 0-6", five percent in level 6"-1', and .8 percent in the 1' to 1'6" level. It also occured in the fill of Convento Rooms 12,25,27,33,48,51,54. In the pueblo midden areas excavated in 1939, this type was rare, occuring as .1 percent in Area G, Mound H, and .1 percent in Area J, Mound IB.

Red, brown on cream wares with matte paint

Present in the convento were two types or varieties that have brown and red mineral paint designs on a cream-colored slip (Plate 4, 3-4, Plate 3, 2). In the original classification of the pottery from Quarai I classified this type as Zia Polychrome but as Toulouse has pointed out, if it were indeed made at Zia Pueblo, it should have been classified as Puname Polychrome (1949:20). This ceramic type was first defined by Mera (1939) and assigned to a time range of A.D. 1680 - 1700 by Warren (1979, Table 12.1). Evidently it was made in a reoccupation phase in the Salinas Pueblos.

This type, Puname Polychrome (?), at Quarai has lines, bands and triangles of a reddish-brown paint that are outlined with red lines or the reverse (Plate 3, 2, Plate 4, 3, 4). The slip is a dull cream or white color that is smoothed. The paste was brick red with a dark core on some sherds while the paste has a medium texture and fracture. Temper is a mixture of sherds

and sand. Seven sherds of this type were encountered in the block excavated by 6 inch levels in Room 22. They were here confined to the upper 0 - 1 foot 6 inch levels. Another example was found in Room 48 while none were present in the midden excavated in the pueblo in 1939.

Another variant had the designs on both sides of a bowl with broad bands of a dull red paint outlined with very dark brown lines. A single sherd of this type came from the fill in Room 17.

Red and black on cream-colored slip with matte paint

This ware differs from the type described above in that the black paint is made from carbon (Plate 32). The examples from Quarai are too small to determine the complete vessel form or entire design motif. There are black lines or dots on a cream-colored slip while along the rim there is a red line. Three examples (1.5% of total sherds) were in the 0 - 6 inch level of Room 41 while in Room 22 4 (3.0%) were in the 0 - 6 inch level and 1 (0.3%) in the 6 inches - 1 foot level.

Black on white matte paint ware

The possibility exits that the pottery classified as black-on-white matte paint ware may have had an additional color and only appeared duochrome because of the small size of the sherds (Plate 4, 2). If the sherds from Quarai are indeed bichrome they may be the type classified by Chapman as Santo Domingo Black-on-white (1936). The specimens from the Quarai Convento have designs made of a mineral paint that has a reddish-brown to black color on a cream-colored slip that is cracked on some specimens and is lightly smoothed. Paste varies from tan, brown and light gray and is hard with a rough fracture. Temper is a mixture of ground sherds and sand. Thickness is 5 mm or less and the designs consist of a checkerboard alternating with broad lines. This type was probably traded from one of the Rio Grande Pueblos but it is undetermined when this transaction took place. Only four examples were found at Quarai, two from the 6 inches 1 foot level in the

torreon (7.0% of total) and one each in Rooms 33 and 48.

Other matte paint wares

In the middens excavated in the pueblo in 1939 there were three varieties of polychrome matte paint ware that seem to have been made in historic times, but this is not certain since they were not identified as known types. In Area C there were three sherds (0.1%) and in Area G two examples (0.1%) that had a black design on a white slip on the inside and a yellow slip on the outside. In an unknown area there was a sherd with a black design on white slip on the inside and a red slip on the outside while in Area F a sherd had a red design on the outside and a yellow slip inside.

## Culinary Wares

### Corona Corrugated Wares

Within this ware Mera defined the types present in the Middle Rio Grande District, as Corona Rubbed-ribbed and Corona Rubbed-indented (1935). Since they form a continuum of corrugated wares based upon their degree of rubbing, I will consider them as a single type at Quarai. The type Hayes named "Corona Plain" is part of the same continuity but at Quarai, Pueblo Pardo and Gran Quvira there is a different stratigraphic frequency warranting a separation into two major types (Hayes 1981A). The time range for Corona Corrugated is estimated to have been A.D. 1225 to 1460 (Hayes, 1981A).

In Baker's trench in Mound A this was the most common type of pottery in the lowermost level, Strata VII, where it included 48% of the total sherds. Through time it decreased to 22.8% in Strata I. Chupadero Black-on-white and Casa Colorado Black-on-white at the same time decreased while Glaze A increased as did Corona Plain. Since the earliest appearance of Corona Corrugated occurs at the same time as Glaze A, the initial deposition of the mound was about A.D 1315 or about 75 years later than it appeared in the Jumanos Pueblos. The high frequency in the lower levels suggests that Corona

Corrugated was made at Quarai but the brown paste shared with the Jumanos Pueblos indicates it may have been a trade ware made in the Chupadero Mesa area.

There was a marked decrease through time in the frequency of Corona Corrugated in Baker's test pit in Plaza C. There it decreased from 2.4% in Strata VII to 0.2% in Strata I.

To determine if there were any trends in the frequency of Corona Corrugated in the strat trenches of the pueblo excavated in 1939, all the levels were combined. No sherds of this type were encountered below the depths of 3 feet 6 inches but above that there was a decrease from 20.0% in level 3 feet - 3 feet 6 inches to 1.4% in 0 - 6 inches. The large frequency of Corona Corrugated in the lower level is distorted because it was a single sherd in a total of five. Corona Corrugated was found in all the middens excavated in 1939 and varied in frequency from 0.7% to 0.1% with an average of 0.53%. In the convento this type was found in all the levels of Room 22 and the upper levels of Rooms 41 and 42. It was also encountered in Rooms 43, 48, 52, 53 and 54 and in all the levels in the torreon. The average frequency of Corona Corrugated was 0.3% or a little more than one half of that in the pueblo midden excavated in 1939.

Los Lunas Smudged

This variety of corrugated ware, originally described by Mera (1935), has according to Hawley, the same area of manufacture as Socorro Black-on-white, that is, the region of the Rio Grande district near Socorro (1936). In age, these two pottery types are similar. Los Lunas Smudged occurred in Baker's trench in Mound A in Strata II, III and V with the largest amount in the lowermost layer, Strata VII. Three examples were also found in Area H, Mound G and one in Area J, Mound IB.

Unidentified corrugated ware

In Area D, the passageway between Plazas A and B, a single sherd was

encountered which had a corrugated exterior and a black design on a white slipped interior.

Corona Plain

This type is one of the Corona wares and differs from the corrugated types in that the corrugations have been so smoothed that on most specimens they are barely visible to the naked eye. The paste is similar to the other examples of Corona ware at Quarai in that it has a brownish color but when heavily fired changes to a dark gray or black color. Depending upon the vessel form the surfaces are lightly smoothed and smudged. On about 10% of the specimens scoring marks appear on the surface.

Warren analyzed 51 Corona Plain sherds at Quarai and concluded that 86.3% had a calcareous sandstone temper with the light grains contrasting sharply with the black clay matrix (1981A:71). This differs from the temper used at Gran Quivira where the main type was biotic felsite (Hayes, 1981A). Hayes estimates the time range for Corona Plain at Gran Quivira from the mid-1440s to the time when the Salinas Pueblos were abandoned in the 1660s and 1670s.

In Baker's trench in Mound A the only culinary ware present in the lowest level, Strata VII, was Corona Corrugated. In Strata VI there was 6.0% of Corona Plain, a type that increased to 43.5% in Strata I. Simultaneously Corona Corrugated decreased to 22.8%. from 48.0%. In this same trench Arenal (Los Padillas) Glaze polychrome and Agua Fria Glaze-on-red appeared in Stratum VII, that is, prior to Corona Plain.

Baker's test pit in Plaza C, however, showed no significant trend in frequency of Corona Plain, with Strata VII having 58% and Strata I with 54.4%. In between were troughs and peaks with a maximum frequency of 76.1% in Strata V.

The same erratic pattern was present in the relative frequency of Corona

Plain in the various combined levels of the strat trenches excavated in 1939. There the frequency varied from 43.5% to 82.7% with an average of 65.6%. This average, however, is significant if compared with the average of Corona Plain encountered in the convento rooms excavated in 1939-1940. There the average was 26.6%. This difference is complicated by the fact that in the convento, many of the sherds were from reoccupation periods so that the real difference between Corona Plain in the convento and the pueblo is obscured. It should be noted also that in the convento area, but not necessarily during the Mission Period, Carnue Plain was a competing type of culinary ware. Unfortunately the date of appearance of this pottery type is unknown. On the other hand Carnue Plain is rare in the pueblo, with an average of only 0.3% in the areas excavated in 1939.

Carnue Plain

On the basis of sherds from Quarai and Hispanic villages such as Manzano, Hurt and Dick defined a thick type of coarse culinary ware and named it "Manzano Coarse Ware" (1946A, 1946B). At the same time Toulouse described a similar type of pottery from Abo under the informal label of plain red "brick ware" (1949:1920). Dick later renamed this general type as "Carnue Plain" (1968).

According to Dick, Carnue Plain is located throughout central New Mexico in Hispanic sites from a line east-west through Trinidad to Antonito, Colorado and southward to below Mesilla, New Mexico. Toulouse states the the "brick red" sherds at Abo were found in the midden outside of the convento walls and thus belong to a Hispanic reoccupation of the site (1947). Warren concurs in the age of this type as being made after the abandonment of the Salinas Pueblos on the basis of her excavations of Hispanic settlements in the Cochiti area (1979).

A diagnostic trait of Carnue Plain in comparison with other culinary wares such as Corona Plain is the fact that its thickness varies between 6mm - 12mm while the latter has a thickness of about 6mm. Warren analyzed 123 Carnue Plain sherds at Quarai and observed that 87% had a coarse sandstone

or siltstone temper or a combination of both. This sets them apart from the Salinas Red Ware which had a hornblende schist temper. Surfaces are either very lightly slipped or not at all while the color of the paste and surfaces varies from brick red to orange - although vessels that have been used for cooking have a carbonized black exterior. The type from Quarai, as a whole, has a dark core, a trait absent from Abo and Tenabo. Two sherds from Quarai in the Laboratory of Anthroplology have a paste similar in color to those from the former two sites. Some of the vessel forms of Carnue Plain have Spanish influence as exemplified in cylindrical vases (Plate 7).

The 1939-1940 excavations at Quarai did not resolve the age of Carnue Plain. In Strat Trenches 1 and 3 a single sherd of this type was found in each of the 2 feet 6 inches level while in all areas of the midden the frequency was less than 0.1% with a grand total of 14 sherds. In spite of their depth this evidence alone does not aid in determining the age of Carnue Plain, for the number of the sherds is too small.

In the convento rooms excavated in 1939-1940 Carnue Plain was the most common pottery type found, 29.1% in contrast to 27.2% of Corona Plain. This type, however, increased in frequency through time judging by the number of sherds per level in the strat block in Room 22. There in the fill on the floor (level 3 feet-3 feet 6 inches) the frequency of Carnue Plain was 9.1% and Corona Plain, was 55.5% and in the torreon on the floor, 1 foot - 1 foot 6 inch level, Carnue Plain was 1.8% and Corona Plain was 6.1%. Again in Room 47 no Carnue Plain was in the lowermost fill, (3 foot 6 inch 4 foot level), although there was 33.3% of Corona Plain. On the other hand, in 0-6 inch level of Room 22 the frequencies were 57% Carnue Plain, 15% of Corona Plain; in the torreon, 50% of Carnue Plain, 15% of Corona Plain; and in Room 47, 39.9% of Carnue Plain and 34.5% of Corona Plain. This evidence suggests that Carnue Plain was manufactured as early as the Mission Period at Quarai, although its site of fabrication could have been in another locality. It should be noted also that in the convento, Carnue Plain apparently was associated in time with Glaze F pottery.

Micaceous Ware

A rare pottery type at Quarai is a micaceous ware found in the convento rooms excavated in 1939-1940, in which there were 29 sherds from three different rooms. These sherds are relatively thin, ranging from 3-6 mm and have a slightly scored or striated surface that is lightly smoothed. In color the surfaces vary from a light copper, to brown to black. Paste is fine, homogenous, and soft with mica flecks visible. With exception of one scalloped rim, the vessels are undecorated.

Superficially this type from Quarai resembles pottery still made at Taos and Picuris but until these sherds are compared in detail to several types of micaceous ware from the Rio Grande region their identity remains uncertain (Warren, 1981B).

Eighteen sherds of this type were found in the 0 - 6 inch level in the torreon (11.3%) while two examples (0.13%) lay in Room 25 and nine (4.4%) in Room 48. Although their numbers are small, their occurrence in the torreon suggests that this structure may have been standing during one of the reoccupation phases. This conclusion is also supported by the lack of micaceous sherds in the middens of the pueblo excavated in 1939.

## Plain Wares

### Salinas Red Ware

This ware was first defined by Toulouse in his analysis of the pottery at Abo, where it was the second most common type (37.0%) of total sherds (1949) (Plates 1, 1; 2 3, 4; 3, 1, 3, 5; 6, 1, 2 ,3, 4). He also concluded that this type was a derivative of Kotyiti Glaze-on-red, differing only in the lack of decoration. At Gran Quivira, Mound 7, however, it made up only 0.4% of the sherds (Hayes 1981A). It should be noted that Glaze A sherds were very common in this mound, which partially explains this low frequency. Nevertheless, Vivian notes that in the Mission of San Isidro at Gran Quivira the frequency was only 1.6% (1964). He also states that it is probable that plain red ware was a late development at Abo and Pecos and reached its peak after Gran Quivira was abandoned (either A.D. 1671 or 1672) (Vivian 1964:110). At

Quarai, apparently, Salinas Red Ware appeared early in the Mission Period, for it was found at the depth of 5 feet - 6 inches in the middens (frequency 0.3%) and was associated with late Glaze E sherds.

In combining the pottery, level by level, in the strat trenches cut in the pueblo in 1939, an erratic pattern was obtained in the frequency of Salinas Red, with the only significant figure being the small percentage found in the lowermost strata. Above this deposit the frequency varied from 18.5% in the 4 foot 6 inch - 5 foot level and 19.9% in the 0 - 6 inches level, with peaks of 48% in 4 foot - 4 foot 6 inch level and 34.1% in the 2 feet - 6 inch level. Such an irregular frequency through time does not indicate a definite trend in popularity.

Salinas Red Ware showed a decrease in frequency in the strat block in Convento Room 22, where it was 28.8% in the lowermost stratum, 3 foot - 3 foot 6 inch level to 6.0% in the 0 - 6 inch level. The same decrease can be explained by the increase in the popularity of Carnue Plain. Nevertheless, the average frequency for Salinas Red Ware in all the convento rooms excavated in 1939-1940 was 23% or only slightly less than the 26.6% in the pueblo. Noteworthy among the Spanish vessel forms of Salinas Red Ware in the convento was the rectangular or pan-shaped form. Other types such as "soup plates" are shared with Glaze A pottery.

Kapo Gray

In the original classification of the pottery types from Quarai that I made, Salinas Red ware was considered to range from red to reddish-brown to gray. In reexamining the sherds from this site it was observed that some of the examples were gray colored but if the sherds were large enough this color resulted from firing clouds. There were also large sherds that were indeed gray colored but which on closer examination were different in several of their traits and fell into a type called "Kapo Gray" by Harlow (1973). These sherds were much more smoothed than Salinas Red Ware from Quarai, had a fine, very hard gray paste rather than the rough red paste with a dark core, and the vessel forms included soup plates and ollas (Plate 2, 1, 6). Thus, some

of the sherds classified as Salinas Red Ware at Quarai were most probably Kapo Gray obtained by trade from the Rio Grande region north of Santa Fe. Harlow notes that Kapo Gray was present at Cuyumungue Pueblo north of Santa Fe and estimates its time range to have been A.D. 1650-1720, or well within the Mission Period occupation at Quarai.

In Stubbs' excavation of rooms in Mound IB there were 10 examples of Kapo Gray in Rooms 3(59) and 53 in Room 5(59). Possibly the sherds from Room 5(59) came from a single vessel. In Room 5 that I excavated in Mound IA, there were two examples. This type was also present in the convento, with a single sherd found in Room 12 and two in Room 20.

Kapo Black

This type of polished black ware was first named by Mera (1939) (Plate 2, 5, 9, Plate 6, 5). At a later date a similar type found at Quarai and in the Hispanic village of Manzano was named "Manzano Burnished Black" by Hurt and Dick (1946A, 1946B). Dick estimates the time range to have been A.D 1700 - present (1968) while Harlow, noticing its absence at Cuyumungue Pueblo, agrees with the beginning date of A.D. 1700 (1973). It is distributed in Indian and Hispanic villages from Antonito, Colorado, southward along the Rio Grande and its tributaries and in historic sites from Pecos to Quarai along the mountains east of the river.

In the pueblo middens excavated in 1939 this was a rare type with only 10 examples being found in Areas C, D, H, I and J. Its stratigraphic position is unknown since none were found in the strat trenches.

In the convento rooms excavated in 1939-1940, Kapo Black apparently appeared late in the sequence, possibly during a time when Quarai was reoccupied. It was present in the 6 inch - 1 foot level in Room 22 but not in the lower levels. In Room 41 it was confined to the 0 - 6 inch level. However, in the torreon it was found in the levels between 1 foot 6 inches - 3 feet while in the Room 43 two examples were in the lower 3 foot 6 inch - 4 foot stratum. Kapo Black was also encountered in Convento Rooms 25, 33, 36, 39, 41, 48, 51, 53 and 54. What causes a problem in interpreting the frequency

trend is the possibility that the rooms and torreon in the convento may have remained open and been reutilized by later inhabitants at the site.

Potsuwi'i Incised

Potsuwi'i Incised was first described by Mera as a pottery type in the north central Rio Grande area (1932) and according to Kidder is most common in the Pajarito Plateau and the Chama District (1936:370, Figure 293). Harlow estimates that this type was made as early as A.D. 1450 (1973). A single example was found in Area H, Mound G, of Quarai Pueblo.

Unidentified Incised

A single sherd of this type was found in one of the convento rooms excavated in 1939-1940 that may be a unique variety of Salinas Red Ware. (Plate 2, 7). It was from an olla with a band of incisions alternating with thumb- nail impressions.

Unidentified Yellow-slipped Ware

This ware was exceedingly thin, less that 4 mm, and has a highly polished yellow slip. Two examples were found in the 0 - 6 inch level of Convento Room 22. Its stratigraphic position suggests that it was from a reoccupation period at Quarai and probably traded from one of the pueblos further to the west.

Unidentified Scored-yellow Ware

This ware has a yellow slip and a yellow paste with a scored exterior. One example was encountered in Area B, another in Area C and three in Area E.

## CLAY ARTIFACTS

### Button or Bead

This is a cylindrical object with rounded ends and an encircling groove in mid section (Plate 8, 12). It is black in color and was 25 mm in length and 12 mm in diameter. It is from the depth of 6 inches in Section 23 of the pueblo.

### Candle Holder

At Quarai there was found a candle holder with an expanded base, cylindrical in form that is 35 mm long, with a stem diameter of 20 mm and a basal diameter of 25 mm (Plate 8, 2), It was from 2 foot 6 inch - 3 foot level of Strat Trench 1 of the pueblo. An example with an identical shape was found in Room 4 of the convento by Ely.

### Cone

Two cone-shaped clay objects of unknown function came from the depth of 1 foot 3 inches in Section 37 of the pueblo (Plate 8,9). They were 20 mm long and 17 mm in diameter at the base. These were not pipes since they had no holes drilled through them.

## Effigies

### Birds

A bird's head broken from a larger figurine was found at the depth of 3 feet in Section 32 of the pueblo (Plate 9, 9).

A fragment of a bird's body containing the wings and back came from Section 32 of the pueblo (Plate 9, 7). It was black in color and 45 mm long,

25 mm wide, and 5 mm thick.

Mammals

In the pueblo was found an effigy which resembles a bear and has the tail and lower part of the limbs missing (Plate 9,2). The artifact was 75 mm long, 30 mm high, and 30 mm wide and was from the depth of 2 feet 9 inches in Section 37 of the pueblo.

Another figurine shaped like a bear had the head, tail and lower limbs missing (Plate 9 5) and came from the depth of 2 feet 5 inches in Section 39 of the pueblo. It was 55 mm long, 25 mm wide, and 23 mm thick.

A similar effigy was missing the same parts (Plate 9, 3). It was from the depth of 1 foot 6 inches in Section 48 of the pueblo and was 35 mm long, 27 mm wide, and 30 mm thick.

Three animal figurines were found by Toulouse at Abo (1939, Plate 31, a, b, c).

Mammal foot

A red-colored foot from what was probably a large animal figurine came from the depth of 6 inches in Section 36 of the pueblo (Plate 9, 8). It was 50 mm long, 32 mm wide, and 15 mm thick.

Human figurine

This is a highly stylized human effigy with a cylindrical form at one end on which is an incised human face depicting the hair, eyes, and mouth (Plate 9, 6). It was from the depth of 1 foot in Section 48. It is brown in color and 32 mm long and 13 mm wide.

Ely encountered in the convento five clay hands from a Spanish bulto (figurine of a saint). He indicated that these hands were probably from a reoccupation period (1935).

## Pipes

### Tubular and trumpet-shaped pipes

One variety of pipes from the Quarai Pueblo had a tubular stem with an expanded bowl, resulting in a trumpet shape (Plate 8, 8). A part of the mouth and a portion of the rim of the bowl was missing. It was from the depth of 10 inches in Section 37 and is 40 mm long and 30 mm in diameter.

There were also two fragments of the stem of a tubular or trumpet-shaped pipe. One was from the depth of 2 feet 7 inches in Section 37 and the other from the depth of 2 feet 6 inches in Strat Trench 1 of the pueblo (Plate 8, 6,7).

Tubular pipes were also found at Abo (Toulouse 1949, Figure 28) and in Mound 7, Gran Quivira (Hayes 1981A, Figure 21,d). The major difference was that the pipes from these two sites had incised decorations.

### Pipes with bowls

The identification of these two artifacts as pipe bowls is uncertain because of their fragmentary condition. In addition, pipes with bowls were not common among the prehistoric Pueblo sites although Hayes observes that this type was found in the Four Corners Area about 950 A. D. (personal communication September, 1985). One is made of gray clay and the other of brown clay. One specimen was 30 mm long, 28 mm wide, and 10 mm thick and came from the depth of 1 foot 9 inches in section 14 of the pueblo (Plate 8, 13). The other was broken into two fragments, each about 45 mm x 25 mm x 15 mm and were from the depth of 2 feet 9 inches in Section 26.

## Worked sherds

A common type of artifact at Quarai were worked sherds. A large variety of pottery types were utilized which included Chupadero Black-on-white, Agua Fria Glaze-on-red, Salinas Red, Kotyiti Glaze-on-red, Kotyiti Glaze-on

white and Casitas Red-on-brown.

Discs

One of the most common worked sherds at Quarai were discs that had a perforation in the center, an artifact that may have been a spindle whorl. There were seven complete specimens and six fragmentary ones (Plate 10, 3). They were encountered in several areas of pueblo middens, having been found in Strat Trench 1 and areas 21, 30, 36, 38, 41, 42, 45, 46 and 48 in depths varying from 8 inches to 5 feet. Their diameters varied from 40 mm - 760 mm. Pottery types included Chupadero Black-on-white, Agua Fria Glaze-on-red, Glaze F, and Casitas Red-on-brown.

In Sections 33 and 36 were found two pottery discs that may have been gaming pieces. One was from the depth of 1 foot 3 inches in Section 36 and was 50 mm in diameter and 5 mm thick (Plate 10, 1) while the other was from the depth of 1 foot in Section 33 and had the same dimensions.

Pendant-shaped artifacts

Three artifacts had a triangular shape with rounded corners. One was from Section 4 and was 25 mm long and 5 mm thick and was made of a red sherd. Another came from Section 30, was made from an Agua Fria Glaze-on-red, and was 42 mm long, 33 mm wide and 6 mm thick. The third one was from Section 28, made from a Salinas Red sherd and was 32 mm long, 22 mm wide, and 6 mm thick (Plate 10, 7).

Rectangular-shaped sherds

Three sherds were rectangular in shape. One was from the 2 foot - 2 foot - 6 inch level of Strat Trench 3 and was made of a Kotyiti Glaze-on-red sherd measuring 80 mm long, 45 mm wide, and 8 mm thick. Another came from the 5 foot - 5 foot 6 inch level of Strat Trench 3 and was probably made from a Salinas Red sherd. This sherd was red in color and measured 40 mm long,

30 mm wide, and 8 mm thick. The last sherd was from the same strat trench but in the 6 inch - 1 foot level and measured 55 mm long, 40 mm wide, and 5 mm thick. It was red in color and was made probably from a Salinas Red sherd (Plate 10, 2, 4, 9).

Worked base of a bowl

One half of a brown-colored bowl had margins rounded by grinding. It was from the 1 foot - 1 foot 6 inch level of Strat Trench 6. The measurements were 83 mm in diameter, 66 mm high, and 8 mm thick.

Irregular-shaped sherd

A single sherd had a rectangular shape with a notched base and two corner notches (Plate 10, 10). It was made from a Agua Fria Glaze-on-red sherd and was from the depth of 2 feet 10 inches in Section 42. It measured 47 mm long, 25 mm wide and 5 mm thick.

Grooved plummet-shaped sherd

A black sherd had a plummet shape and a longitudinal groove on one side. It was from the 5 foot - 5 foot 6 inch level of Strat Trench 6 and, therefore, was from the Glaze A occupation of the pueblo. The specimen was 40 mm long and 20 mm in diameter at base.

Worked sherd with a handle

A single sherd had a portion of the handle attached to it. The edges were rounded. It was from Section 30, was red in color, and measured 53 mm x 50 mm thick.

Miscellaneous Clay Artifacts

This was a fragment from an artifact of an undetermined shape with one end rounded (Plate 9, 4). Encircling the artifact are two parallel grooves. It is gray colored, from the 2 foot - 2 foot 6 inch level of Strat Trench 4 and was 35 mm long and 19 mm in greatest diameter.

Miniature Vessels

Twelve miniature vessels were found at Quarai, nine of which were so poorly-made that they may be the work of children. On the other hand, three were as well made as any of the larger vessels.

One was a fragment of a cylindrical artifact with rounded base that came from the 2 foot 6 inch - 3 foot level of Convento Room 37. It was gray-colored and measured 42 mm high, 25 mm wide, and 10 mm thick. It was poorly made. Another with a similar shape, but tan colored, was from the 1 foot 7 inch depth of Section 32 in the pueblo.

The three finely made vessels had the form of ollas and one example came from the depth of 6 inches in Section 39 and the remainder from Strat Trench 3 at the depth of 3 feet - 3 feet 6 inches. The largest example was 65 mm high and the smallest, 35 mm.

The other poorly made specimens had a bowl shape and came (two examples) from the depth of 4 inches in Section 13 and the other from Section 21. A unique vessel had a rough bowl shape with exceedingly thick walls, being over 20 mm thick. On the inside are horizontal, parallel striations like those of vessels turned on a potter's wheel. Its paste and form does not resemble any of the other pottery made at Quarai. The color is buff and it was found at the depth of 2 feet 8 inches in one of the convento rooms.

## STONE ARTIFACTS

### Abrader

This was a triangular slab of sandstone with two ground faces (Plate 12, 6). On one face are two V-shaped incisions in the form of an X. These incisions may have been the result of sharpening bone awls. It measured 170 mm x 145 mm x 165 mm and was from Section 37 of the pueblo in the 1 foot 2 inch level. This type of abrader was also present in Mound 7, Gran Quivira (Hayes 1981A, Figure 155).

### Arrowheads, Dart Points and Spear Heads

Corner-notched dart points

There were 16 examples of this type that varied in length from 18 - 55 mm with an average of 39 mm and in width from 19 - 31 mm with an average of 24 mm. Five were made of obsidian, three of jasper, four of chert, two of quartz, one of chalcedony and one of basalt. Fourteen were found in the Glaze E and F middens of the pueblo with the exception of one from the 3 foot - 3 foot 6 inch level of Strat Trench 1 and thus may have been deposited by an earlier occupation. A single example was encountered in Room 43 of the convento at the depth of one foot. The examples illustrated in Plate 11, 5 -7 fall within the type name En Medio of the Oshara Tradition of the northern Rio Puerco region of New Mexico by Irwin-Williams, with an estimated time range of ca. 800 B.C. - A.D. 400 (1973, Figure 7). The example, No. 8, from Quarai with the barbs as long as the stem appears to be a unique type.

Side-notched arrowheads and dart points

Among the 14 specimens found, eight have a straight or convex base and six have a V notch in the center of the base (Plate 11, 4, 9, 10, 14). They vary in length from 19 - 31 mm with an average of 23 mm and in width, 11 - 18 mm, with an average of 12 mm and thus are on the average about one half the size of the corner-notched points. Seven were made of obsidian, three of quartz, three of chert and one of chalcedony. Eleven of the specimens were encountered in the Glaze E and F middens of the pueblo while two were found at the depth of 4 feet 6 inches - 5 feet of Strat Trench 3 and were probably associated with an older occupation. A single specimen came from the depth of 4 feet 6 inches in Section 39 and was also from an earlier occupation. The eared, indented base specimens, named by Irwin-Williams as Armijo dart points, has an estimated time range of ca. 1800-800 B. C. (1973, Figure 7). The rounded base example from Quarai shown in Plate 11, 14 resembled the San Pedro Cochise type that has an estimated time range of 3000 B. C.-A. D. 100 (Haury 1950, Plate 22, Figure 117). On the other hand those with an expanded stem, narrow notches, straight and indented bases (Plate 11, 9, 10) are classified by Kidder as the typical projectile point type at Pecos Pueblo (1932, Figure 4).

Square-shouldered, square-stemmed dart points

There were two examples. One of the examples was made of red jasper, was 40 mm long, 20 mm thick and came from the depth of one foot in Section 30 of the pueblo (Plate 11, 11). The other, made of obsidian, measured 25 mm long, 35 mm wide, and 6 mm thick, and came from the depth of 1 foot in Section 1. Irwin-Williams has classified this type as a variety of the San Jose dart points with an estimated time range of 3200-1800 B. C. (1973, Figure 7).

Serrated, square-stemmed point

A single example of a serrated arrowhead with square shoulders was found in Section 3, depth 4 feet 7 inches (Plate 11, 12). It was made of brown

chert and measured 32 mm long, 6 mm wide, and 3 mm thick. The depth indicated that it was associated with one of the early occupations of the site. Serrated points also were associated with the San Jose and Armijo complexes, with an estimated time range of ca. 3200-800 B. C. (Irwin-Williams 1973, Figure 7).

Parallel-flaked, lanceolate point

The base of a lanceolate point made of brown chert was 25 mm long, 25 mm wide, and 3 mm thick (Plate 11, 17). It was encountered in the 6 inch - 1 foot level of Strat Trench 4. It falls into the general class of Jay points, estimated to have a time range of ca. 6000-5000 B. C. (Irwin-Williams 1973, Figure 2, a).

Triangular arrowheads

Triangular arrowheads were the most numerous type found in the pueblo middens that were excavated in 1939, there being 30 examples (Plate 11, 1-3, 15, 16). They ranged in length from 14 - 47 mm, averaging 28.38 mm, and in width 10 - 16 mm, averaging 16.55 mm. Eleven had a concave base, 10 a straight base, three an expanded straight base, one an expanded slightly eared base, two had an indented V-shaped base while four were too incomplete to determine their basal shape. Eleven specimens were made of quartz, 10 of obsidian, four of chert, three of chalcedony and two of red jasper. With the exception of one specimen they all came from the Glaze E/F occupation of the pueblo.

Single-side-notched arrowhead

This artifact has a triangular shape with a single-side notch and a V-shaped indented base. It was made of quartz and measured 25 mm long, 15 mm wide and 2 mm thick. It came from the depth of 1 foot 8 inches in Section 10.

Spear point or knife

The single specimen found in the pueblo had flaking and retouching only along the sides (Plate 11, 29). In shape it was lanceolate and had one edge ground possibly from use as a knife. It was made of yellow quartz and measured 82 mm long, 40 mm wide, and 13 mm thick. The artifact came from the 1 foot - 1 foot 6 inch level of Strat Trench 4.

Comparative analysis of projectile points

Jay, San Jose, Armijo, San Pedro and En Medio points in the pueblo middens most probably were fortuitous associations resulting from the presence of non-Pueblo peoples as early as 6000 B. C. attracted to Quarai by the springs on the southwest side of the site. According to Hayes, even the corner-notched points were associated with Basketmaker III and Early Pueblo sites and were supplanted by side-notched points in the Great Pueblo or Pueblo III sites (1981A:109). At Gran Quivira the least numerous type was corner-notched points followed in turn by side-notched and triangular types, the latter being the most numerous. In the middens of the Quarai pueblo excavated in 1939 the corner-notched points (16 examples) were slightly more common than the side-notched type (14 examples) while the triangular points (31 examples) were most numerous.

In Baker's trench in Mound A at Quarai the same relative frequency as those of Mound 7, Gran Quivira, occurred with four examples of corner-notched points, six of side-notched points, and 10 of triangular types. The frequency of projectile point types, however, in his test pit in Plaza C did not follow this relative frequency, for side-notched points were the most numerous kind with 25 examples. This type was followed by 15 triangular points and eight corner-notched examples.

On the other hand in the middens excavated in Quarai in 1939 the corner-notched and side-notched points were about equal in number but triangular

types were twice as frequent. The only relative frequency in common with the four occurrences cited above was the predominance of triangular points.

## Drills

### Lanceolate (plain-shafted) drills

This type of drill, more than 5 mm thick, seems to have been too thick to have served as a lanceolate projectile point (Plate 11, 25, 28). There were three complete examples and five tips from broken tools. One example was made of chalcedony, measured 90 mm long, 15 mm wide, and 7 mm thick, and came from Section 39, 3 feet 10 inches deep while the second also was made of chalcedony, measured 83 mm long, 7 mm wide, and 13 mm thick and came from Section 33, 7 inches deep. The third specimen, made of jasper, is 50 mm long, 11 mm wide, and 5 mm thick and came from Section 38, depth of 3 feet. One of the five tips is made of chert, one of basalt, one of quartz, and two of chalcedony. Four were found in the pueblo middens between the depth of 1 foot - 4 feet 4 inches and the fifth one was 1 foot deep in Convento Room 43.

One artifact of this type was encountered by Baker in his trench in Mound A and another in his test pit in Plaza C. In Mound 7, Gran Quivira, this was the most common type of drill (Hayes 1981A).

### Diamond-shaped drill

This artifact has a long, slender, diamond shape and since it is only 4 mm thick it also may have been used as a projectile point. It was 40 mm long and 15 mm wide and made of chalcedony. Only the edges have been flaked and retouched. It came from the depth of 3 feet 5 inches in Section 39.

### Asymmetrical-shaped drill

A single artifact of this type is made from an elongated obsidian flake

which is retouched on one end to form a narrow drill point (Plate 11, 20). It was 40 mm long, 25 mm wide, and 7 mm thick and came from Section 4, 1 foot 8 inches deep. Because of its shape it falls into the general class of expanded drills of which two more examples were found in Baker's test pit in Plaza C and three in his trench in Mound A.

## Knives

### Asymmetrical, triangular-shaped knife or scraper

The single example has two flat faces with only the edges retouched (Plate 11, 23). It is made of red jasper, is 79 mm long, 40 mm wide, and 8 mm thick, and came from the depth of 1 foot 6 inches in Section 41.

## Scrapers

For unknown reasons flaked stone scrapers were rare in the pueblo middens excavated in 1939, for only five examples were found (Plate 11, 18, 19, 26) while Baker encountered only two specimens in his test pit in Plaza C. They were, however, more numerous in Mound A of the Glaze A occupation at Quarai. Four end scrapers and five side scrapers were found in Bakers's trench while only two side scrapers came from the pit in Plaza C.

One specimen from the 1939 project was made from an ovoid quartz flake and had only the edges chipped. It was 38 mm long, 25 mm wide, and 7 mm thick and came from Section 29, 1 foot 3 inches deep. The other had a similar morphology, was made of jasper, measured 35 mm long, 30 mm wide, and 5 mm thick and came from an unknown section at the depth of 2 feet.

There were also three fragments of side scrapers made from quartz flakes. They came from Section 32, 1 foot 8 inches deep, and from Section 2, unknown depth.

In Mound 7, Gran Quivira, scrapers of several types were fairly numerous, 375 examples found in all (Hayes 1981A:110-111).

## Flaked Stone Effigies

### Turtle effigy

There was one example of a chipped effigy made from a black chalcedony flake that had the shape of a turtle. It measured 40 mm long, 38 mm wide, and 5 mm thick and was from the depth of 2 feet 6 inches in Section 38 (Plate 11, 27).

### Unidentified flaked stone artifact

A single flaked stone artifact made from an obsidian flake has a rectanguloid shape with rounded corners. On one edge there is a hook-shaped projection and on the opposite side was a semi-lunar projection (Plate 11, 21). It measured 33 mm long, 25 mm wide, and 2 mm thick and came from Section 29, 2 feet 6 inches deep. It resembles in a general way an artifact from Pecos but on the latter specimen there are two semi-lunar projections rather than a hook (Kidder 1932, Figure 12,a).

## Axes

### Variety A

This was a full-grooved axe that had on one face an incised X, a mark present on some of the spirally-grooved axes from Mound 7, Gran Quivira (Hayes 1981A:106) (Plate 13, 4). The Quarai specimen is made of a granitic stone, was 90 mm long, 53 mm wide, and 33 mm thick. It came from the depth of 1 foot 6 inches in Section 43 of the pueblo.

### Variety B

This variety was roughly made of quartzite, had a broad shallow groove and was double-bitted (Plate 13, 6). It measured 95 mm long, 50 mm wide, and 30 mm thick and came from the depth of 2 feet in Section 37.

Variety C

In Convento Room 28 a single-full-grooved, single-bitted axe was found. It was made of a dark mafic rock with red flecks. This type of axe was the second most common variety encountered in Mound 7, Gran Quivira (Hayes 1981A, Table 20).

Variety D

This type is similar to that above except it also has across the top another groove that ran at right angles to the lower ones. It also was made of a mafic rock. Senter found this type of axe in an area he designated as "RHNR#2", presumably in the main church. Hayes illustrates this kind of an axe from Mound 7, Gran Quivira (1981A, Figure 128, Example f).

Variety E

Variety E was the poll of a broken axe with double three-quarters grooves. It was made of basalt and was 55 mm x 55 mm x 50 mm and came from the depth of 2 feet in Section 43 (Plate 13, 3).

Variety F

This was a three-quarter grooved axe made of a granitic rock with a bit much rounded from use. The possibility also exists that this was a maul. It was made of a granitic rock that measured 120 mm x 90 mm x 40 mm and came from the depth of 2 feet in Section 40 (Plate 13, 5). A single example also found in Mound 7, Gran Quivira, and according to Hayes this was a rare type in the Eastern Pueblo cultures (1981A:106). On the other hand it was

common in the Mogollon and Western Pueblos suggesting that the specimens found in the Salinas Pueblos were obtained by trade.

## Choppers

An ovoid chopper with both faces of one end flaked by percussion and made of quartzite came from 2 feet in Section 25. Its small size, 85 mm long, 80 mm wide, and 30 mm thick, is unusual for a chopper, if indeed it was one. Choppers were present in Pueblo Pardo but were disc shaped and slightly larger (Toulouse and Stephenson 1960:30). In Mound 7, Gran Quivira, there were many small-sized choppers with a bi-faced cutting edge, 170 in all (Hayes 1981A:105). The major difference from axes is that their cutting edges were not ground and that they were held in the hand rather than being hafted with a handle.

## Grooved Mauls or Hammers

### Variety A

This type of a maul has a three-quarters groove (Plate 13, 2). One specimen was made of a granitic rock, measuring 120 mm long, 90 mm wide, and 40 mm thick. It was found in Section 40, 2 feet deep. The other example, which lacked one end, was made from a granitic rock and measured 150 mm long, 100 mm wide, and 75 mm thick. It was encountered in Section 6, depth of 2 feet.

### Variety B

It is similar in shape with those above except it has a full groove (Plate 13, 1). The single specimen was made of a granitic stone, measuring 85mm x 45mm x 40 mm and was found in Section 51, 1 foot deep. It was present in Mound 7, Gran Quivira, and at Pecos Pueblo. This artifact is very numerous in the Late Woodland and Mississippi cultures of the Plains.

## Discs and Pot Lids

In general there are four varieties of stone discs. One kind is too small serve as a lid for a pot other than a miniature type while others are large enough to have functioned as lids on ollas. They were all made of sandstone, had two flat faces, and chipped edges, with the exception of a single plano-convex specimen.

Variety A

In diameter these discs are all less than 70 mm and conceivably could have served as gaming counters. However, they all can cover the mouth of a narrow-necked Chupadero Black-on-white pitcher. There were five examples of this type found in several areas of the pueblo middens in depths varying from 1 foot - 2 feet 6 inches while the single example was encountered in Convento 22, depth of 2 feet - 2 feet 6 inches.

Variety B

This type is similar to those above with the exception that their diameters were much greater (70 - 375 mm) (Plate 12, 1). They had a similar distribution in the pueblo middens. At Gran Quivira, Mound 7, pot lids were the most common artifact (Hayes 1981:171). They were also present at Pueblo Pardo (Toulouse and Stephenson 1960:30).

Variety C

This variety differs from those above in having a plano-convex cross section. Two examples came from the depth of 1 foot 6 inches in Section 13. This type was also present in Gran Quivira, Abo, and Pueblo Pardo.

Variety D

In Convento Room 41 there was found a large circular sandstone slab that measured 485 mm in diameter and 120 mm thick. It seems to have been much too large for a pot lid.

### Stone Beads

In the middens excavated in the 1939 project in the pueblo three stone beads were found. One was an ovoid piece of turquoise with a hole drilled in one end. It measured 10 mm long, 5 mm wide, and 3.5 mm thick and was from the depth of 1 foot in Section 25. The another was a circular piece of turquoise with a hole drilled through the center, measuring 6 mm in diameter and 1 mm thick. It was from Section 50, 3 feet 10 inches deep. The third was a tubular bead of green serpentine, 14 mm long, and 8 mm in diameter and was from Section 50, 9 inches deep (Plate 14, 2).

### Pendant

This pendant had an ovoid shape with a perforation in one end. It was made of selenite that had been burned (Plate 15, 5). The artifact came from Section 50, 2 feet 5 inches deep, and was 60 mm long, 45 mm wide, and 8 mm thick. Hayes notes that selenite pendants were also present in Mound 7, Gran Quivira (1981:127, Figure 163, f).

### Shaft Tools

Six tools, one of which was broken, that served apparently for smoothing projectile shafts and wood handles, were found in the pueblo middens.

Type A

These artifacts have a rectangular shape with two U-shaped longitudinal grooves and a transverse groove at one end or through the middle (Plate 16, 1, 2, 4). The surfaces of these artifacts were polished and the corners

rounded. One specimen, made of granite, was 130 mm long, 100 mm wide, and 40 mm thick and came from the depth of 2 feet 4 inches in Section 35 while another was made of limestone, was 90 mm long, 70 mm wide, and 35 mm thick and was found in Strat Trench 3, 0 - 6 inch level. A third specimen and a fragment came from an unknown provenience in the pueblo. Artifacts of this type were also encountered at Pueblo Pardo (Toulouse and Stephenson 1960, Figures A, B) and in Mound 7, Gran Quivira (Hayes 1981A, Figure 157, d).

Type B

This type has a single groove in combination with a T-shaped raised portion on one face (Plate 16, 3). It is rectangular shaped with rounded corners and is well made and polished from a chunk of hornblende. The artifact measured 70 mm long, 55 mm wide, and 23 mm thick and was from Section 37, 1 foot 8 inches deep. Hayes illustrates several types of shaft tools, which while not identical, have raised parts on one face from Mound 7, Gran Quivira (1981A, Figure 157, b, c).

Type C

This artifact, a rectangular pieces of limestone with a triangular cross section, had near one end a transverse groove. It is 73 mm long, 55 mm wide and 30 mm thick and came from Section 2, 2 feet 3 inches deep.

## Metates

Slab metates

This is the most common type at Quarai, eight examples having been found (Plate 17, 3, 4, 6). They all have a slab shape with rounded corners and a slightly concave grinding surface in a longitudinal plane. Raw materials include sandstone and quartzite. They vary in length from 410 - 455 mm, in

width from 210 - 310 mm, and in thickness from 40 - 70 mm. They were encountered in Sections 11, 13, 14, 16, and 44 and varied in depth from 9 inches - 2 feet 4 inches. This was also the most common type in Mound 7, Gran Quivira (Hayes 1981A, Figure 143) and at Abo (Toulouse 1949:23). In the metate sequence in the Rio Grande Pueblos this was the last type to appear.

Metates with a circular grinding surface

This type is transitional between the slab and basin types of metates (Plate 17, 5). Originally these metates had a horizontal grinding surface but their use with a circular grinding action resulted in a low concave depression. Two were made of sandstone and one of a granitic rock, with lengths varying from 420 - 557 mm, width from 203 - 305 mm, and thickness from 48 - 100 mm. One was from Section 25, 1 foot 6 inches deep, another from the same section, and the remaining one from Section 11, 1 foot deep.

Slab metates with two grinding surfaces

There was only one example of a slab metate with two grinding surfaces. The surface indicates that it was used for a back-and-forth grinding motion. It was made of sandstone, was 350 mm long, 282 mm wide, and 35 mm thick and came from Section 53, 2 feet 6 inches deep.

Trough metates

There were three trough metates encountered at Quarai (Plate 17, 1, 2). One variety had a flat bottom with a trough-shaped grinding depression in the upper surface with both ends open. This specimen, 490 mm long, 360 mm wide, and 90 mm thick at the shoulder, was encountered at the depth of 2 feet 10 inches in Section 19. The second variety differed in having only one end open, was made of quartzite, measured 315 mm long, 315 mm wide, and 78 mm at the shoulders, and was found at the depth of 3 feet in the refuse adjoining the east wall of the southwest section of the convento. The third

example was similar but better fabricated, measuring 500 mm x 360 mm x 10 mm, was made of quartzite, and lay on the floor level of Convento Room 22. Trough metates are generally considered to have preceded the slab metates in the Rio Grande Pueblos. In Mound 7, Gran Quivira, trough metates were the second-most common type (Hayes 1981A:114, Table 22) as they were at Pueblo Pardo (Toulouse and Stephenson 1960:26), while only a single example was encountered at Abo (Toulouse 1949:23).

Metate fragment

Two feet deep in Convento Room 22 was found a fragment of a metate that had a rounded base and a single grinding surface. It was made of a granitic stone.

## Manos

Manos or hand held grinding stones used on metates were among the most common artifacts at Quarai Pueblo, 47 examples in all.

Two-handed manos

Manos of the type that needed two hands for grinding were the most numerous variety, 32 examples in all (Plate 12, 10, 12). There were two varieties of this kind of mano (A) a rectangular form with a rectangular cross section with two relatively flat grinding faces and (B) a rectangular form with a flat lower grinding surface and a double-beveled upper grinding surface, with a triangular cross section. In length they varied from 260 - 420 mm long, too long to be held in one hand. Both were used apparently in a back-and-forth motion on a slab metate. The first type probably was used with the wrists held straight and the latter with a rocking motion of the wrist. There were 22 examples of Variety A and 10 of Variety B. Twelve of these manos were made of granite, 12 of quartzite and eight of sandstone. Variety A was found in all sections of the pueblo middens from the depth

of 3 feet to the surface while Variety B had a similar distribution with exception that the greatest depth was 2 feet 6 inches. A single example of Variety B was found on the floor of Convento Room 22 as was another of Variety A. Variety B was the most common type of manos found in Mound 7, Gran Quivira (Hayes 1981A:117).

Single-handed manos

There were 15 examples of manos which because of their size could be held with one hand, all being less than 130 mm in length, 110 mm in width, and 80 mm in thickness (Plate 12, 11). Their shape was rectangular with a grinding surface on both faces. Most examples have longitudinally a slightly convex surface resulting from a rocking grinding motion. They were made of sandstone, quartzite, and a granitic stone. They were probably used on the slab type of metate that had a concave grinding upper surface and on the trough variety. This type came from the depths of 1 foot - 3 feet 6 inches in the pueblo middens while two examples were found on the floor level of Convento Room 53.

### Sandstone Tablet

This artifact was made from a tablet-shaped sandstone slab that has two smooth grinding surfaces. Possibly this was used as a metate but lacks the slightly concave upper grinding surface of slab metates. It, however, may have been used for grinding different type of material than were the ordinary metates. It was 350 mm long, 282 mm wide, and 35 mm thick and came from the depth of 2 feet 6 inches in Section 42.

### Limestone Tablets

Of unknown function were two thin, rectangular tablets of limestone that had two smoothed faces (Plate 14, 7). The largest specimen was 90 mm long, 53 mm wide, and 19 mm thick and came from the depth of 3 feet 7 inches

in Section 37. The other specimen was 75 mm long, 40 mm wide, and 20 mm thick and was from Strat Trench 1, 6 inches - 1 foot level. Since there are no limestone outcrops in the vicinity of Quarai the raw material must have been obtained in the Chupadero Mesa area or on top of the Manzano Mountains where this stone outcrops.

### Selenite Artifacts

In addition to the previously described pendant made of selenite there were two other artifacts of this same material that may have been sewn on clothing or suspended from the neck (Plate 15, 3, 4).

### Ritual Objects

Two problematic stone objects from Quarai Pueblo may be representations of the two upper terraces of a Pueblo rain altar (Plate 12, 8; Plate 15, 2). One specimen was made of a flat piece of mica schist, measuring 38 mm long, 32 mm wide, and 2 mm thick. It was incomplete and came from Strat Trench 1, 6 inches - 1 foot deep while the other was also incomplete, made from a thin section of slate, measuring 72 mm long, 70 mm wide, and 5 mm thick and was from the depth of 3 feet 2 inches in Section 31.

Hayes found in Mound 7, Gran Quivira, a large terraced schist pendant which also shows what a complete effigy of a rain altar may look like (1981A, Figure 163, f). He also mentions the similarity of this artifact to a Pueblo "cloud image".

### Stone Ball

This artifact has a rough globular shape with a hole drilled through the center and made of quartzite (Plate 15, 1). It was 60 mm in diameter and seems too thick and heavy to have been a bead. It was from the depth of 1 foot 7 inches in Section 14.

## Ground Stone Effigies

One artifact resembles in shape a bird's head but has in place of the eyes a hole drilled through it (Plate 15, 6). The shape appears to be natural. It was made from a chunk of kaolin and was 55 mm long, 55 mm wide, and 37 mm thick and came from the depth of 1 foot 7 inches in Section 43.

The other effigy made of gneiss has the shape of a penis and is 85 mm long,15 mm wide, and 15 mm thick (Plate 12, 9). The basal part is missing. It was found in Strat Trench 5, 1 foot 6 inches deep.

## Nutting Stones

These are three sandstone slabs that have cup-shaped depressions probably for holding nuts for cracking (Plate 12, 3, 5, 7). One has a pecked upper surface and four depressions and measured 285 mm long, 220 mm wide, and 72 mm thick and came from the depth of 1 foot 10 inches in Section 43. The other has 15 cup-shaped depressions in one surface, is 660 mm long, 300 mm wide, and 50 mm thick. It was found in Section 19, 1 foot deep. The third artifact has a pecked flat face on which is an incised X, a single cup-shaped depression, three cup-shaped depressions each with a pendant groove and a semi-lunar groove. It measured 700 mm long, 290 wide, and 68 mm thick and came from Section 21, 7 inches deep.

## Polishing Stones

There were eight examples of artificially polished pebbles that were used apparently for smoothing pottery (Plate 14, 10, 11). Three were made of basalt, two were of jasper, one of an igneous rock, one of chalcedony, and one of serpentine. They were small enough to be held in one hand. All were from the pueblo middens in depths varying from 4 feet 1 inch - 1 foot 10 inches.

## Paint Stones

In this category are minerals with one or more ground faces resulting from their use to obtain paint for pottery and other decorations (Plate 14, 4, 8, 9). The most numerous were hematite of which there were 12 examples, followed in turn by six specimens of malachite, two pieces of limonite, one of lead and another of hornblende. They were found in several sections of the pueblo middens in depths varying from 6 inches - 2 feet 3 inches while none were obtained from the convento.

## Minerals and Ores

A single stalactite and a cone-shaped object of travertine were found in Strat Trench 1, 1 foot - 1 foot 6 inches deep (Plate 14, 1).

## Hammerstones

Nine hammerstones were encountered in the pueblo middens, made of hand-sized pebbles of quartz, quartzite, and basalt. On the surface are facets formed by hammering. If sufficiently used they tend to have a spherical shape. They varied in depth from 6 inches to 3 feet.

## Pipe

This was a flat tubular pipe made from a buff slate-like material (Plate 14, 3). Drilled longitudinally through the center was a perforation. A tubular part that held tobacco projected from one end. The object had a unique shape and was highly polished. It came from the depth of 1 foot 4 inches in Section 40.

### Quartz Crystals

A complete quartz crystal with a small amount of grinding on the ends came from the depth of 2 feet in Section 10 (Plate 14, 5). The end of another crystal was found in the same section at the depth of 2 feet. Possibly they were ritual objects kept in a medicine bundle.

### Fireplace Cover

In Convento Room 41 there was found a section of a sandstone slab that may have served as a cover for an oven or fireplace. On one side was a curved surface, possibly for fitting up against a chimney (Plate 12, 4).

## BONE ARTIFACTS

### Awls

Awls made of deer ulna with proximal articulation intact

Four examples of this type came from the pueblo middens (Plate 18, 20). They came from Section 28, depths of 4 feet 6 inches and 4 feet 2 inches; in Section 41, 2 feet 3 inches deep; and Strat Trench 4, 1 foot 6 inches deep.

Awls made from deer metapodials with proximal articulation intact or slightly altered

Four examples examples varying in length from 65 - 125 mm were represented (Plate 18, 7). They came from Strat Trench 3, 2 feet 6 inches deep - 3 feet; Section 9, 2 feet 6 inches deep; and Strat Trench 1 between the depths of 1 foot - 1 foot 6 inches.

Awls made from long bones of large birds with proximal end intact

Two examples were encountered (Plate 18, 16). One was was 125 mm long and the other 130 mm. One came from Section 38, 2 feet 3 inches deep and the other from Section 35, 1 foot 5 inches deep.

Awls made from bone splinters with completely-worked surfaces

There were eleven specimens that have a part of the articulating end intact or not at all (Plate 18, 5, 13, 14, 15, 21). They vary in length from 65 - 120 mm and in width from 6 - 12 mm. Two were in Strat Trench 2 in the 4 foot - 4 foot 6 inch levels; four were in Strat Trench 3 in the 6 inch 1 foot level, 2 foot 6 inch - 3 foot level, and 3 foot - 3 foot 6 inch level; three were in Section 10, 25 and 33 in the 1 foot 6 inch level; and 2 in Strat Trench 4, 6 inch - 1 foot level.

Split bone awls

Thirteen specimens were made by splitting lengthwise a long bone or rib bone and then sharpening one end for a tip; opposite end may be rounded or left intact either as a fracture or a cut; vary in length from 55 - 100 mm (Plate 18, 22). They came from the depth of 4 feet 6 inches in Strat Trench 6 and in all other levels of this trench and from Strat Trench 4 from the depth of 6 inches to 1 foot.

Stemmed bone awls

Two examples were fabricated by cutting a single shoulder at one end. Possibly they were inserted into a handle. One is 70 mm long, 15 mm wide, and 6 mm thick and came from Section 26, 1 foot deep and the other, 70 mm x 6mm x 6 mm was from Section 25, 1 foot deep.

Awls made from segments of long bones with one end sharpened for a tip

Fifteen specimens were made by cutting a segment from a long bone and sharpening one end for a tip. They vary in length from 45 - 179 mm and came from a maximum depth of 4 feet 5 inches in Section 3 to the height of 0 - 6 inches in Strat Trench 5.

Tips from broken awls

There were nine examples that came from a maximum depth of 4 feet 6 inches in Section 39 to the height of 1 foot 10 inches in Section 28.

Awls with tips missing

This was the rounded base of an awl that came from the depth of 6 inches 1 foot in Strat Trench 1.

Bone Handle

This was a handle made from a segment of a long bone that has a conical hole drilled through one end for an insertion of an iron bit. In final form it probably resembled the tool described in the section on iron artifacts (Plate 18, 19). The handle was 55 mm long and 10 mm wide and came from Strat Trench 1, 6 inches - 1 foot deep.

Bone Beads

Tubular beads

In Quarai Pueblo tubular bone beads were the most common type, 49

examples in all. They vary greatly in size from 8 mm long and 5 mm in diameter to examples as large as 117 mm long and 10 mm wide. They were found in nearly all the sections and levels of Quarai Pueblo and manifest no stratigraphic sequence (Plate 18, 9, 11, 18).

Tubular bead with an incised decoration

A bead with parallel V-shaped incision. was 60 mm long, 6 mm in diameter and came from Section 51, 9 inches deep (Plate 18, 9).

Flageolets

Two broken examples were made of hollow bird bones. Each has three holes but since the ends are missing there may have been more perforations. One was from Section 37, 1 foot 5 inches deep and the other from Section 24, depth unknown (Plate 18, 6).

Decorated Bone Tube

A tube made from a hollow bird bone that may have been either a large bead or a handle. It had two incised encircling lines at each end. It was 115 mm long and 20 mm in diameter and came from Strat Trench 3, 1 foot - 1 foot 6 inch level (Plate 18, 8).

Cut Segments of Mammal Ribs

One example has convex cuts on both ends and a smoothed surface that may have resulted from use as a smoothing tool (Plate 18, 1). It was 95 mm long, 50 mm wide, and 10 mm thick and came from Section 43, 1 foot 4 inches deep. Another specimen of unknown provenience had straight cut at the ends (Plate 18, 3).

There were five segments of mammal bones with at least one sharp end or side that may have been used as scrapers (Plate 18, 2, 4). Two were made

from ribs with one having two sharpened ends and the other with a single sharp end. They varied in length from 95 - 150 mm, in width from 14 - 50 mm, and thickness from 3 - 10 mm and came from Section 41, 1 foot 4 inches deep and Section 39, 1 foot 10 inches deep. Another was fabricated from a split hollow bone that has one end sharpened. It was 85 mm long, 42 mm wide, and 2 mm long. The third has a sharp tip cut at right angles to the sides with a single side shoulder on one side and may have been a scraper inserted into a handle. It was 30 mm long, 15 mm wide, and 2 mm thick and came from Section 38, 6 inches deep. The fifth example was a segment with two tapering sides, one of which was sharpened. It was 39 mm long, 20 mm wide, and 3 mm thick and was from the depth of 2 feet 11 inches in Section 38.

### Needles

Two needles were made from long, thin bone splinters with bi-pointed ends that vary in length from 43 - 90 mm (Plate 18, 15). One was from Section 33, 1 foot 5 inches deep and the other from Section 14, 1 foot 9 inches deep.

### Perforated Animal or Human Skull Fragment

A fragment of a skull, either human or that of a large animal, had a single perforation (Plate 19, 11). It was 37 mm long, 32 mm wide, and 3 mm thick and was found at the depth of 1 foot 6 inches in Section 25.

### Cut bones

Cut fragments of animal and bird bones were frequent. They probably were debitage resulting from the making of tools such as awls and bone beads (Plate 18, 17, 20)

# SHELL ARTIFACTS

## Disc Beads

Shell beads are scarce in comparison with bone beads undoubtedly caused by the fact that they had to be obtained by trade (Plate 19, 8). They have a flat circular form with a central perforation. One was 20 mm in diameter and 2 mm thick and the other 12 mm in diameter and 2 mm thick. Both came from the depth of 4 feet 1 inch in Section 26, the older midden beneath the walls.

## Olivella Shell Beads

A single example of an olivella shell with one perforated end came from Section 40, 1 foot 10 inches deep (Plate 19, 10).

## Pendants

One variety of pendants had the shape of a quarter circle with a perforation near the apex. These were made of univalves. One was 43mm x 40mm x 1 mm and came from the fill of the D-shaped structure in Convento Room 33. Two others were from the following locations: Strat Trench 3, 2 feet 6 inches deep and Section 35, 1 foot 8 inches deep (Plate 19, 4, 9). Another differed in having two perforations near the apex (Plate 19, 5).

Another variety lacked the perforations and was from Strat Trench 1, 0 - 6 inch level. 0 - 6 inches.

The third variety has an asymmetrical shape but has a single perforation near one tip. One example came from the depth of 1 foot 7 inches in Section 41 and the other from Section 12, 2 feet 8 inches deep (Plate 19, 1).

## Ovoid-shaped Shell Artifact

A section of a shell was cut into an ovoid shape. It may have been a pre-form of a pendant. It came from the depth of 4 feet 1 inch in Section 26.

### Irregular-shaped Fragments of Shell

There were seven examples of cut shells with irregular shapes that may have been pre-forms or debitage for making beads or pendants (Plate 19, 2, 3, 6, 7).

## MISCELLANEOUS ARTIFACTS

### Antler Tools

Flaking tools

In all there were 10 flaking tools made from deer tines encountered in the pueblo middens (Plate 19,13, 14, 15, 19). Four were made by snapping off the tine from the main antler, one has a beveled end from being cut from an antler, four have the tines worked into a lanceolate shape, another has an encircling groove at the butt end (Plate 19, 17), while the last one was broken and has a rounded butt (Plate 19, 16). They were found in Strat Trench 1, Strat Trench 3, Section 15, Section 24, Section 26, Section 32, Section 35, Section 41 from the depth of 3 feet 5 inches - 6 inches.

### Buffalo Horn

A single buffalo horn came from the depth of 1 foot 1 inch in Section 10. Because of its highly weathered condition and its depth it probably was associated with the Glaze F occupation of the pueblo.

### Peach Stone

A single peach stone was found 1 foot 1 inch deep in Section 28. Its highly weathered condition and depth indicates that it was associated with the Glaze F occupation of the pueblo.

### Wood Artifact

This tool was a bi-pointed piece of wood with a smooth surface. It was partially charred and the wood appears to be juniper. It was 75 mm long, 24 mm wide, and 15 mm thick and came from Section 41, 2 feet deep. It may have been a shuttle or a bodkin used in weaving.

### Boar's Tusk

A single boar's tusk came from an unknown provenience (Plate 19, 18).

## METAL AND GLASS ARTIFACTS

These artifacts are considered to have been manufactured by the Spaniards, Hispanic peoples and Americans and brought to Quarai as trade items. One possible exception were iron arrowheads which may have been made locally but the iron itself was brought to Quarai from an outside source. These artifacts were found both in the pueblo and convento.

### Iron Artifacts

#### Nails

The most common iron artifacts were the hand-wrought, square-headed, and square-stemmed nails (nine examples) (Plate 21, 8). Seven examples were found in the pueblo middens and two in the convento. They varied in length 25 - 78 mm.

The deepest found in the pueblo was one in Section 27, 2 feet deep,

indicating their use during the time of Indian occupation. The other six specimens came from Strat Trench 2, from the border between Sections 38 and 41, Section 43, and Section 48. Another was from the refuse on top of the torreon in the convento and the last one in level 0 - 6 inches, Room 43 of the convento. All were very much rusted. Nails of this type were common at Abo (Toulouse 1949:24).

A single round-headed nail came from an unknown provenience (Plate 21, 11).

Spikes

Spikes were distinguished from the nails by their much larger size (Plate 21, 6, Plate 20, 2). One was a square-stemmed, square-headed spike that lay at the depth of 10 inches in Section 35. The tip was missing and its remaining length was more than 123 mm while the width of the stem was 13 mm. The tip of what appears to have been another similar type of spike came from the depth of 3 feet 3 inches in Section 37 and was 10 mm in diameter. Another tip lay at the depth of 1 foot - 1 foot 6 inches in Strat Trench 2 and was 15 mm in diameter, while the third tip that had a cylindrical stem came from the depth of 1 foot 10 inches and came from an unknown provenience in Quarai Pueblo. The depth of 3 feet 3 inches for one of the tips indicates that spikes were used by the Quarai Indians. All these tips were highly rusted.

Pin

A complete artifact appears to have been a pin. It lay at the depth of 2 feet 5 inches in Section 7 and was 104 mm long and 18 mm in diameter. It was badly rusted.

Ball

A small iron ball with a highly scaled surface was encountered in Section 2 at the depth of 14 inches (Plate 20, 6).

Ladle

A badly rusted handle of a ladle and a part of the bowl was found at the depth of 1 foot 7 inches in Section 1 (Plate 20, 3). The handle was 100 mm long and 5 mm in diameter.

Disc

A large disc with a plano-convex cross section was encountered at the depth of 3 feet in the midden under the outside pueblo wall in Section 12 (Plate 20, 4). The fact that it lay under the wall indicates that refuse of the Spanish Colonial Period had already accumulated prior to the construction of this wall. On the flat side of the disc, 60 mm in diameter, was a raised square-shaped projection that was 20 mm wide.

Wire

Two clumps of highly oxidized wire lay at the depth of 6 inches in Section 25 (Plate 2l, 4).

Arrowheads

Three badly rusted arrowheads were found at Quarai. One was a point with tangs and a contracted stem that was 40 mm long, 255 mm at the shoulders, and 1 mm thick. It came from the 6 inches depth in Section 20. Another had beveled shoulders and a contracted stem and was 4 mm long, 15 mm at the shoulders, and 2 mm thick (Plate 2l, 3). It came from the fill in Convento Room 4l. The third point had a square stem and one beveled shoulder and was 40 mm long, 15 mm wide, and 1 mm thick. It was found in the 0 - 6 inches level of Convento Room 22.

The scarcity of iron arrowheads and the fact that they were found only

in the upper strata of the pueblo and convento suggests that they were not made at Quarai. Possibly they were made by the Apaches who attacked the site during the Spanish Colonial Period or were made by peoples who reoccupied the site.

Plummets

Two pear-shaped, highly oxidized iron objects that may have been plummets were taken from the pueblo middens. One was 40 mm long, 15 mm in diameter at the base, and came from the depth of 1 foot 2 mm in Section 33 while the other, 25 mm long and 13 mm in diameter at the base, lay at the depth of 1 foot 9 inches in Section 35.

Hooks

Four badly rusted iron artifacts may have been hooks. They varied in length from 30 - 70 mm (Plate 21, 9). They were found in Section 33, depth of 2 feet 3 inches; Section 37, 3 feet - 3 feet 6 inches; Strat Trench 2, 1 foot - 1 foot 6 inches.

Tube or Pipe

This artifact is one half of a tube that has been split longitudinally (Plate 20, 9). It was highly rusted and is 75 mm long, 30 mm in diameter and 4 mm thick and was from the depth of 1 foot in Section 31 (Plate 20, 9).

Bands

This category includes two iron bands that may have been sections of barrel hoops (Plate 20, 7). They are badly oxidized and are 30 mm wide. One was from the depth of 1 foot 11 inches in Section 43 and the other from Section 36, 1 foot 10 inches.

Bar

A fragment of a cylindrical bar that is 12 mm in diameter. It was from the depth of 6 inches - 1 foot in Strat Trench 2 and was highly rusted.

Bolt

A fragment of a cylindrical-stemmed bolt with a winged head came from Section 48, depth of 1 foot (Plate 21, 10). It was rusted, had a stem 15 mm in diameter, and a width of 25 mm across the wings.

Bell Tongue

There was found a highly oxidized tongue of a small bell with one perforated end while the opposite end was globular. It came from the 2 foot - 2 foot 6 inch level in Convento Room 22. The length was 40 mm.

Crescent-shaped Artifact

This artifact had a crescent shape similar to a copper knife blade found at Quarai but seems too thick to have been used for cutting. It was 65 mm long, 20 mm wide, and 5 mm thick and came from the depth of 3 feet 9 inches in Section 31.

Awl

A bi-pointed tool made from an iron sliver that was probably an awl (Plate 21, 5). It was 103 mm long and 5 inches in diameter and was found in the 6 inch - 1 foot level in Strat Trench 1.

Cup or Miniature Bowl

A small cup or bowl of unknown function came from Convento Room 5 (Plate 21, 2). It was 25 mm in diameter, 7 mm high, and 2 mm thick.

Strap

This artifact of unknown function had the shape of a band and was doubled over at one end (Plate 21, 1), It was 50 mm long, 21 mm wide, and 10 mm thick and came from Strat Trench 4, 3 feet deep.

Unidentified Artifact

This was a highly rusted rectangular artifact with a transverse groove across one face. It measured 40 mm long, 19 mm wide, and 12 mm thick and was encountered in the depth of 2 feet 6 inches in Section 18.

Ornament

A tulip-shaped flat iron object that may have been used as a corner ornament on a picture frame came from the convento (Plate 20, 5). It had four "petals" and was 100 mm long, 80 mm greatest width, and 2 mm thick. It was found in the fill in Room 41.

Bolt with a Plano-convex Head

This artifact with a plano-convex head and a cylindrical stem appears to be a bolt (Plate 20, 1). The head was 76 mm in diameter and had a maximum thickness of 30 mm. Its degree of oxidation is similar to that of other iron object found at Quarai. It came from the backdirt that lay over the southeast section of the convento.

Unidentified Iron Fragments

There were 12 chunks and sheets of iron in such an oxidized and

fragmentary condition as to make their original shape undeterminable. All were encountered in the middens removed in tracing the outside wall of the pueblo in 1939. Their depths varied from 3 feet 6 inches in Section 43 to the 0 - 6 inches level in the middens (Plate 21, 7, 12).

Iron Drill with a Bone Handle

This was an iron drill bit set into a conical depression in a bone handle (Plate 18, 19). It was found at the depth of 2 feet 9 inches in the midden of Section 31, 1 foot below the base of the outside wall of the pueblo.

Slag

A chunk of porous gray-colored slag that may have come from a smelter for iron came from the depth of 2 feet 6 inches in Section 43. Its depth indicates that it was associated with the Indian occupation at Quarai.

## Copper and Brass Artifacts

A total of nine copper artifacts were found in the convento and five in the pueblo middens in the 1939 - 1940 Project.

Bells

In this category were two fragments that may have come from small copper bells. One has a raised encircling ring near the base and was 20 mm long, 13 mm wide, and 1 mm thick. It was oxidized and came from Section 21, depth 1 foot 6 inches. The other was from a bell of similar size that had a part of the top bent over and lacked the raised ring at the base. It was 37 mm long, 35 mm in greatest width, and 3 mm thick and came from Section 45. Small bells of this type may have been attached to clothing.

Knife Blade

This artifact had a slight crescent shape and probably had a wood or bone handle (Plate 22, 10). It was oxidized, measured 66 mm long, 10 mm wide, and 1 mm thick and came from the depth of 1 foot 9 inches in Section 41.

Sheet Metal

Included in this category were five fragments of copper sheets (Plate 22, 1, 3, 4, 6, 9). One came from the depth of 2 feet in Section 41, another from the depth of 1 foot 6 inches in Section 44 and the third one from the depth of 1 foot in Convento Room 22. The provenience of the remaining two specimens is unknown.

Nail or Pin

A bent copper nail or pin came from the depth of 1 foot 6 inches in Convento Room 22. It was 30 mm long and 10 mm in diameter.

Cylindrical Bar

This was a bar with both ends battered from being pounded (Plate 22, 7). It was 120 mm long and 10 mm in diameter and came from the depth of 1 foot 2 inches in Convento Room 22.

Spoon

This artifact included mainly the bowl part but a very small piece of the handle was present (Plate 22, 5). It measured 75 mm long, 50 mm wide, and 2 mm thick. Judging by the degree of oxidation relative to other copper

artifacts it does not appear to be old. Yet it was found in the west bin of Convento Room 43 and thus appears to be contemporary with the occupation of the room itself.

Unidentified Artifact

This rectangular sheet of copper has a hole drilled through one end as well as two small notched holes (Plate 22, 2). Portions of one edge are bent over. It was oxidized to a green color and was 88 mm long, 47 mm wide, and 2 mm thick and came from the depth of 1 foot in the fill between the north wall of Convento Room 48 and the north wall of the torreon. Possibly it was a type of a buckle.

Ladle

An upper rim fragment of a bowl with a small T-shaped riveted handle came from the depth of 1 foot 7 inches in Convento Room 37. It was oxidized to a green color and was 45 mm long, 45 mm wide, and 2 mm thick.

U. S. Army Buttons

Three brass U. S. Army buttons lay in the southeast section of the convento. Possibly they were lost during the visit of Lieutenant J. W. Abert in 1846 or Major J. H. Carleton in 1853.

One button has a plano-convex cross section on which is an eagle with spread wings in relief (Plate 22, 8). On the chest of the bird is a shield in which is an undecipherable letter. It was encountered in a pile of relatively recent appearing refuse outside of the east wall of the southeast section of the convento. It was oxidized to a green color and measured 20 mm in diameter and 7 mm thick in the center.

Another button had the letter "A" in the shield of the eagle's chest while the left leg grasped three arrows. On the artifact also was inscribed the name

of the manufacturer "Covilles & Co.". Since the correct name of the company is "Scovilles" the "S" was apparently eroded away. It was less weathered than the above button and measured 16 mm in diameter and 7 mm thick at the center. It was found in the 0 - 6 inches level of Convento Room 22.

The third button had a design similar to the second one but was larger, being 20 mm in diameter. In the right foot is an incised design that seems to be a snake. In the second button no snake was visible. The third button was marked with the name "Waterbury, Covilles and Co." It was the least weathered of the three buttons and had a yellow-green color. It came from the depth of 6 inches - 1 foot in Convento Room 22.

Harness Decoration

Ely found a brass heart and a brass buckle on which were the initials "U.S. Army" (1935: 141, Front Cover). They lay on the floor of Convento Room 14 indicating that this structure had remained open for a long time.

Glass Bead

Only a single glass bead was found in the 1939 project at Quarai. This was blue colored, cylindrical in shape with a longitudinal perforation through the center. It was highly patinated and came from the depth of 9 inches in Section 48 of the pueblo. The scarcity of glass beads was also noted by Toulouse at Abo (1949:24) This suggests that few ornaments of European manufacture were traded by the Spaniards to the local Indians.

## MAJOLICA, PORCELAIN, AND CHINAWARE

A sample of 27 sherds of Majolica Ware and more recent porcelain from the 1939-1940 project in Quarai was sent to John M. Goggin for identification. Another sample was sent to Arthur Woodward for identification. Goggin, who has named and described several types of Majolica Ware, gave the following identification of the sample sent to him (1968):

| 17th Century Types | Number of Examples |
|---|---|
| Fig Springs Polychrome | 13 |
| Abo Polychrome | 1 |
| San Luis Blue on White | 1 |
| Tallahassee Blue on White | 2 |
| **18th Century Types** | |
| Puebla Blue on White | 3 |
| **19th and 20th Century Types** | |
| Oaxaca Polychrome | 1 |
| Unclassified blue on white | 3 |
| Unclassified green and manganese on white | 1 |
| Unclassified green exterior, white interior | 1 |

Majolica Ware

Although there are differences in the 17th Century Majolica Wares classified by Goggin, in particular in the paint color and design elements, there are also shared traits. In contrast to the wares of the following

centuries they tend to have a heavier slip that is cream colored and which tends to have a large-sized crackle. Paint is thicker, the paste varies from tan to cream to reddish in contrast to the whiter color of the later wares. The fracture is rougher and more grainy. In addition, the more recent porcelain and china wares have a higher degree of polish and the vessels walls are more even in width. The Majolica pottery was made in central Mexico, in particular the city of Puebla. and as far south as Oaxaca. As trade items the Majolica ceramics are widely distributed in Spanish Colonial sites of Mexico and in the southeastern and southwestern states of the United States and also are present in the Caribbean Islands (Goggin, 1968). The following is a summary of the types defined by Goggin and which were excavated at Quarai:

Fig Springs Polychrome

In this type the designs are painted in blue, yellow, or orange on a ground color that varies from cream to gray white; surface is covered with a heavy opaque enamel that is often crackled; paste is terra cotta to dark cream. Design elements include flowers, framed by a ribbon band of blue paint on the rim. Vessel forms are varied and include cups and soup plates that often have a ring base. The date of manufacture is estimated by Goggin to have been the period A.D 1600-1660. The provenience of the 13 specimens sent to Goggin is unknown since the notes on this transaction are lost but an example of this type came from the depth of 2 feet 6 inches in Section 47 of the pueblo (Plate 23, 10).

Abo Polychrome

A much greater variety of color and design motifs are present in this type of Majolica Ware (Photo 18). Colors include yellow, orange, blue, green and brown. Brown is usually the color of the lines that frame the design motifs. Immediately below the rim is a yellow band outlined with brown or black lines while the remaining parts of the interior of the vessels were

decorated with flowers and animals such as deer and rabbits. Goggin guesses that this type may have been a Mexican adaptation to the Spanish Talavera Ware and estimates its period of manufacture to have been the last half of the 17th Century. The type site for this ware is Abo (Toulouse 1949, Plates 27, 28). Three partially restorable vessels of this type were found by Baker in Convento Room 16. One example, a soup plate, had in the interior base the design of a rabbit while another, a floral motif. The provenience of the specimens from Quarai is unknown.

Four examples, and possibly a fifth, came from the pueblo middens. One doubtful example is a small sherd that has the green-crackled surface characteristic of Abo Polychrome but lacks the other colors which, however, might have been on the complete vessel. A single specimen is the base of a ring-bottomed cup that has a hole drilled through one section probably for repairing the vessel. It came from the depth of 1 foot in Section 38 of the pueblo. Another example was found at the depth of 9 inches in Section 45. A fourth sherd was found the depth of 2 feet 7 inches in Section 42 and the last specimen was from the 0 - 6 inch level in Strat Trench 1 (Plate 23, 7).

San Luis Blue on White

The paint of this ware that varies in color from blue to grayish-blue is so thick that it stands out above the cream-colored ground enamel (Photo 22). Below the rim on the interior is a broad band of simple design motifs, such as highly conventionalized floral and geometric elements combined with broad lines and dots (Plate 23, 5, 6, 8). At the interior base are stylized flowers. It was made mainly in the last half of the 17th century but some were produced as early as A.D. 1630.

In the pueblo middens there were six examples of this type encountered plus one sherd that may have been a variant. They had the following distribution: one specimen in Strat Trench 1, 2 feet - 2 feet 6 inches deep; two sherds in Section 25, 2 feet deep; one in Section 34, 2 feet 1 inch deep; and one in Section 40, 2 feet 9 inches deep. A variant sherd had a white cross section rather than the more common buff or cream color and was from the

depth of 2 feet 9 inches in Section 40, Strat Trench 1, 2 feet - 2 feet 6 inches deep.

In Convento Room 41 there was found at the depth of 5 feet a restorable vessel with a ring base that measured 111 mm in diameter at the rim and 52 mm at the base and had a height of 165 mm (Plate 24, Photo 17). In the same room several sherds of a soup plate of this type were found also (Plate 23, 5, 6, 8).

Tallahasee Blue on White

According to Goggin this type is closely related to San Luis Blue on White but differs in having an over-all floral design, often with pinnate leaf patterns; in the interior base is a medallion framed by bands. The paint has a deeper blue color and a higher gloss. The period of manufacture is estimated to have been A.D. 1635-1700. The provenience of the specimen identified by Goggin is unknown.

Puebla Blue on White

If compared with San Luis Blue on White this is a finer-made Majolica pottery. Designs are painted in several shades of blue and are sometimes outlined with a black on a white enamel background. There are black lines on the rim with lines of this color that sometimes frame a great variety of animal and floral motifs. The paste like that of all true Majolica ceramics is cream colored. The manufacture of this pottery begins in the 18th Century and thus the three sherds from Quarai identified by Goggin of this type must have been associated with one of the post-Colonial periods of reoccupation.

Chinese porcelain and imitation of Chinese porcelain by Mexican potters

Four sherds from the pueblo midden were identified by Woodward as Chinese porcelain but Goggin considered them to be Mexican imitations. (Plate 23, 1, 4). Woodward also identified two sherds from Abo as Chinese Porcelain

(Toulouse, 1949).

Barber describes the Mexican imitations in these words, "The imitation of Chinese painting was usually in a flat color. The Oriental blue and white porcelain, which served as models, were painted level with the surface in monochrome or camaieu in different shades of blue - and when the Mexican artists attempted to reproduce these effects alone, he usually employed a thinner color and applied it lightly and evenly... The outlines of figures were traced in a pale thin blue and afterwards filled in by one of the previously described methods" (Barber, 1915, 5-9). A single sherd from the depth of 2 feet 2 inches in Section 42 had these characteristics and if this identification was correct it would indicate that this ware was traded into Quarai during the time when the Indians still occupied the site. Another example was found by Stubbs in his excavation of Room 1 (59) in Mound IB.

Undecorated ware

Three sherds without any decoration were found in the pueblo middens and these specimens were large enough that it seems certain that they indeed lacked any decoration. In all their other characteristics they are similar to those of San Luis Blue on White. One was from the 0 - 6 inch level of Strat Trench 1, another from the 0 - 6 inches of Strat Trench 2, and the third from the depth of 2 feet 4 inches in Section 25.

Unidentified chinaware and porcelain

A large number of sherds of chinaware and porcelain was found at Quarai but none of the examples could be identified by Goggin and Woodward. (Plate 23, 2, 3). They guessed, however, that these sherds were made during the 19th and early 20th centuries. Although there is a great variation in this ware in comparison with the Majolica Wares it is finer made, thinner, harder, has a whiter paste, a more even fracture, and a more glossy slip. The paint generally does not rise above surface and some specimens have the designs framed with grooves. These sherds were always found in the

upper layers of the convento and pueblo.

### Porcelain Saint's Head

A head from a bulto (image of a saint) has a high headdress decorated with zig-zag incisions. The headdress itself resembles a bishop's miter. The paste is fine-grained and buff colored; surface is glazed. It came from Convento Room 33. Baker reports clay hands from a figure of a saint that he found in Convento Kiva 2.

## INHUMATIONS

### Burials from the Pueblo

In removing the middens that lay adjacent to the pueblo walls in 1939 a total of 11 burials (inhumations) and one cremation were encountered. They all came from Mounds IA, IB and H. Eight of the inhumations were adults and three were children, while the cremation was an adult. The bones of the child burials were scattered as well as were the bones of an adult inhumation.

The seven adults that were found in situ varied in their orientation, body position and presence or absence of grave goods. Three adults were oriented east-west with head to the east, three were east-west with head to the west and two, north-south with head to north. One of the heads faced north, two faced west, one faced east, two faced upwards and one, downwards.

Four of the burials were in the completely flexed position, that is, with the knees drawn back to the chest and three were in a semi-flexed position with knees at right angles to the pelvis. Four of the inhumations lay on their backs, two lay on their sides and one had the torso twisted downwards. Positions of the arms varied from being folded across the chest to those doubled behind the back.

Because the interments lay in middens and refuse-filled pits their association with artifacts in certain instances may have been fortuitous. To

one side of Burial Bq/101 was a bone bead and on the other side an arrowhead. Five hammerstones were near Burial Bq/106 while two bone awls were adjacent to Burial Bq/108. The cremation, Burial Bq/110 lay in a pit filled with burned corn cobs and burned beans as well as other kitchen refuse.

Judging by their stratigraphic position in the middens these burials belong to several different occupational periods in the pueblo. Those associated with the earliest periods included Burial Bq/107 that lay in a pit cut into the underlying sterile original ground surface and Burials Bq/103, Bq/106, and Bq/108 which were found in the middens in the levels below 4 feet. Burial Bq/104 lay in a midden 1 foot below the base of the wall in Section 17. Associated with the later Glaze E/F occupation of the pueblo were Bq/100, Bq/101, Bq102, Bq/105 and Bq/110.

Corbett added to the knowledge of burial customs of the Glaze A occupation at Quarai with his excavations in Mound A. There he not only found 16 interments in the middens but also 15 within the fill of houses, with five directly on the floor and four in stone-lined pits below the floors. Like those in the 1939 excavations in the pueblo middens there was a lack of any standard orientation. In the inhumations Corbett found five with heads to the west, six to the east, five to the north, four to the northwest, three to the northeast, two to the south. Twelve lay on their backs, seven on their right side, three face down, 5 on the left side, and four could not be determined. Grave goods were likewise scarce, since only four inhumation and possibly one other had an artifact accompaniment.

The following is a brief description of the individual burials found in the 1939 excavations in the pueblo:

Burials Bq/100, Bq/102, Bq/105

The scattered bones of three inhumations were encountered in the midden in Section 9. Burial Bq/100 consisted of little more than the fragments of an infant's skull that lay in the northwest corner of the section at the depth of 2 feet. Burial Bq/102 consisted of several bones of an adult that were scattered over an area of about 3 feet square, 8 feet north of the house wall,

and were just below the surface while Burial Bq/105 was the scattered fragments of a child's skull and several long bones that lay to the east of the wall and south of Fireplace 19.

Burial Bq/101

This was a semi-flexed inhumation of an adult that lay on the north side of the short projecting wall in Section 10 at the depth of 1 foot 9 inches. The skeleton lay on its back in an east-west axis with the head to the east and facing north. The legs were twisted to the sides with the knees pointing south. The knees were 1 foot 9 inches below the surface while the arms were crossed over the chest. Lying between the arms and the knees was a bone bead while on one side was a stone arrowhead. Three burned corn cobs lay on the chest but since the burial lay in refuse their association may have been fortuitous.

Burial Bq/103

Lying about 1 foot below the base of the north wall in Section 17 was the skull of a completely flexed inhumation, Burial 60/103. It lay in an ash stratum which was on top of the original ground surface. The burial lay on its right side with the lumbar area and legs twisted downwards, in a north-south axis. The skull was bent back and faced west while the right arm was under the chest. The knees were drawn up to the chest. This burial was associated apparently with the Glaze A occupation of the pueblo.

Burial Bq/104

This was a completely flexed inhumation that lay on the floor of the inset area of Section 7 and underneath the fallen walls. The orientation of the body was east-west with the head to the east and facing downwards. It lay on its right side. About 6 inches above the knees and to the south was a burnt log. Since the burial lay on top of a yellow packed-clay floor, it was

associated with the Glaze E/F occupation of the pueblo.

Burial Bq/106

Burial Bq/106 was a completely flexed adult inhumation that lay on its back with the legs twisted to the right, in an east-west axis with head to the west and twisted upwards. It lay at the depth of 4 feet 3 inches just to the south of Firepit 4 in Section 2. Judging by its depth it was associated with the Glaze A occupation of the pueblo. Near the burial were 5 hammerstones that may have been grave goods.

Burial Bq/107

This interment lay in a pit excavated into the original ground surface, 4 feet 6 inches below the surface of the midden in Section 29. It was semi-flexed and lying on its back with the knees drawn upwards, in an east-west orientation with the skull to the east and facing upwards while the arms were crossed over the chest. Judging by its depth it was associated with the Glaze A occupation of the site.

Burial Bq/108

Lying in the refuse in Section 29 at the depth of 4 feet 2 inches was the completely flexed interment of a small adult, Burial Bq/108. It lay on its back with the knees drawn up over the chest in an east-west orientation with the skull to the west and facing upward. Lying near the knees were two bone awls. The depth suggests that the burial was associated with the Glaze A occupation of the pueblo.

Burial Bq/109

In a pit cut into the underlying sterile orange soil of Strat Trench 5, 1 foot 6 inches north of the walls was a completely flexed interment with the

knees drawn up over the chest. It lay on its back in an east-west axis with the head to the west and twisted back so that it faced east. Since it was so far away from the pueblo walls its association with a specific occupation phase is difficult to determine but it may have been (on the basis of its shallow depth) associated with the Glaze E/F period.

Burial Bq/110

This was a cremation of an adult lying in a pit in Pueblo Room 5, at the depth of 3 feet. In the pit were charcoal fragments, burned corn and burned beans. The cremation was associated with the Glaze E//F occupation of the pueblo.

Burial Bq/111

Scattered over a wide area near the wall in Section 25 at the depth of 1 foot 6 inches were several bones of a child. It was associated with the Glaze E/F occupation of the pueblo.

## Comparative Analysis

The burial traits from the Quarai Pueblo resemble several customs found in the interments of Mound 7, Gran Quivira (Hayes 1981A:173-176) such as the flexed position, the scarcity of grave goods and the offerings of corn and beans. A single burial in Mound 7, however, was extended, a custom associated only with the Christian burials at Quarai. In addition, cremations were more common for there were 36 burials of this type at Pueblo Pardo (Toulouse and Stephenson 1960:34). At the latter site there were also seven extended inhumations. Possibly the extended burials at these two sites were of Christianized Indians who were characterized by this body position.

## A Burial in the Main Church

Burial Bq/112

In cleaning and repairing the altar in the apse of the main church there was found a part of the top of a wood coffin 4 feet south of the steps and 2 feet east of the southeast corner. Associated with the coffin top was a cloth lining that was fixed to it with copper clamps. The wood was charred and partially decayed. No bones of the interment were present since they had been removed by previous excavations in the church.

## Burials from the Cemetery

In exposing the cemetery walls three interments were found, only 2 of which appeared to have been Christian Indians. They were as follows:

Burial Bq/113

Lying at the depth of 2 feet, 2 feet 2 inches inches north of the south end of the east wall and 1 foot 1 inches west was a extended inhumation, Burial Bq/113, that was oriented north-south with head to the south. The skull was broken into several small pieces. The burial lay on its back with the knees slightly bent and with the arms folded across the chest. It lay on top of the lower half of Burial Bq/114.

Burial Bq/114

This was a completely flexed interment lying on its back in a north-south axis with the head to the south and the legs twisted downwards to the left side. The head lay on the left side and faced east while the arms were folded over the chest. Since flexed burials were not characteristic of Christian Indians this burial was probably interred prior to the use of the area as a

Christian cemetery.

Burial Bq/115

Burial Bq/115 consisted of only the lumbar bones, pelvic bones, the legs and feet bones of an an adult extended inhumation. The upper portion of the skeleton had been removed in the construction of a recent irrigation ditch that cut across the south end of the cemetery. It was 1 foot 6 inches below the surface and 1 foot east of the cemetery wall. The feet were crossed over. Since this was an extended burial it was that of a Christian Indian.

Comparative Analysis

Extended burials were encountered also under the floor of San Isidro Church at Gran Quivira (Vivian 1964:60). This same position was characteristics of the burials at Abo (Toulouse 1949:24-25). At the latter site the Christian burials also shared with those of the Quarai Pueblo the north-south orientation with head to the south.

## SUMMARY AND CONCLUSIONS

Like many archaeological investigations the 1939 - 1940 project at Quarai raised more questions than it solved. It differed from most, however, in that its primary purpose was to develop the site as a visitors center rather than the reconstruction of cultural history. Because of this constraint little time could be devoted to standarized techniques, such as excavating in natural or artificial levels, removing the cultural deposits all the way to the underlying sterile soil, or sampling the obvious major activity areas. The preparation of this report was hampered also because of the difficulty in obtaining detailed information on the finds made by several archaeologists who excavated various sections of the site. A further problem was caused by the fact that the classification of the pottery types was made in the field during the course of the 1939-1940 Project and since that time several of the pottery types have been renamed or divided into new types. Even though an effort was made in 1985 to revise the pottery types from Quarai a large number of the specimens collected from this site have been lost or their location is unknown. In addition, some of my notes on the 1939-1940 Project were lost during the forty-five year interval. Because of these problems the conclusions that follow are highly tentative.

Although no definite associated middens or activity areas were encountered a considerable number of projectile points apparently were left at the site by pre-Pueblo peoples, undoubtedly attracted to the area by the local springs. The points include the following types: (l) Jay points (ca.6000-5000 B. C), (2) San Jose points (ca.3200-1800 B.C), (3) San Pedro points (ca.3000- A. D. 100), (4) Armijo points (ca.1800 - 800 B. C.) and (4) En Medio points (ca.900 B.C.-A.D. 900).

At Quarai also are several different areas that were associated with the Pueblo Indians and with the final phases of occupation by Spanish and Hispanic peoples. Only a small number of these areas, however, have been excavated by even a test pit. The occupational units include ten different house mounds and associated middens of the Pueblo Indians, a small church

of unknown age, and a main Spanish Colonial church and convento. In the Pueblo Mounds A, F, G, H, IA and IB have been partially excavated as well as 17 rooms in Mound IB; 5 rooms and a smaller structure in Mound IA, some of the fill of the small church, and nearly all the fill of the main church and convento. Some of the mounds and rooms, however, were excavated by other archaeologists. No excavations have been made in Mounds B, C, D and E while only a very small part of Mounds F, G and Plaza C were tested.

Of the areas of the pueblo that have been excavated, Mound A (the "South Mound") contains the oldest known houses and middens. The houses, artifacts and middens of this mound for descriptive purposes are hereby assigned to a Period 1. The major pottery types, based upon those excavated by Baker in Strata VII of his trench, are in order of frequency 49.7% Corona Corrugated, 39.6% combined Chupadero and Casa Colorado Black-on-white, 5.7% Agua Fria Glaze-on-red, 2.2% Galisteo Black-white and 2.2% Arenal Glaze-polychrome. There were also a few sherds of Chaco Black-white and Los Lunas Smudged. In the next level above, Strata VI, there 6.0% of Corona Plain was added as a new type. The estimated maximum age of Agua Fria Glaze-red of ca. A.D. 1315 suggests the maximum age of Mound A.

Although not present in Strata VII of Mound A there are two other pottery types that have been found at Quarai, although not associated with any known houses, that seem to antedate the age of Agua Fria Glaze-on-red. These types include three examples of Tularosa Black-on-red encountered in the fill under the walls of the small church and a single sherd found in the midden of Area A, Mound G. The oldest date of Tularosa Black-on-white is estimated to have been ca. A.D 1100, Another old type found in small numbers at Quarai is St. Johns Polychrome. Stubbs encountered a single example in the midden below the floor of Room 1 (59) in Mound IB while another example came from the fill of Convento Room 8. Without excavating the untested mounds it can not be determined whether Tularosa Black-on-white and St. Johns Polychrome were associated with definite house structures and middens that predate those of Mound A.

Using the frequencies of pottery types in Baker's trench in Mound A as representative of ceramics in Period 1 it is evident that in this range of time

there were major changes. This is exemplified by the increase of Agua Fria Glaze-on-red to 19% and Corona Plain to 43.5% while Corona Corrugated decreased to 22.8% and Chupadero/Casa Colorado to 8.0%. All the other types also decreased accordingly. Baker also observed that in Strata IV and Strata I there were several examples of Zuni Glaze types.

In Strata I and Strata II of Mound A there were also two sherds of the Glaze B type. Assuming that these sherds were not intrusive the estimated beginning date for this type of ca. A.D. 1425 gives a possible age for the abandonment of Mound A and consequently the termination of Period I at Quarai. Baker's Trench in Mound A. however, does not include all the pottery types that have been found at Quarai which apparently fall within the time period of A.D. 1315-1425. For example a total of 50 sherds of Cieneguilla Glaze-on-yellow was encountered in all areas of the pueblo excavated in 1939, except Area A, while only one sherd of this type was found in the convento. Another contemporary type was San Clemente Glaze Polychrome. It was so rare, 9 total sherds, that like Cieneguilla Glaze-on-yellow it was probably a trade item at Quarai.

There were also found at Quarai several more pottery types which because of their small numbers should be considered as items of trade during Period I. These include Wiyo Black-on-white, Biscuit A and B and Heshotauthla Glaze-polychrome.

During the time of occupation of Mound A nearly all the types of arrowhead made by the Pueblo Indians and their immediate ancestors were present. The most common types were triangular points but older types such as side-notched (the second most frequent) and corner-notched points were also present. The basic mortuary practices at Quarai, with the exception of cremation, were present. These practices included burials in the completely flexed or semi-flexed position with no standard orientation of the body and interment in refuse mounds, house fill or in graves below floors and a scarcity of grave goods.

As yet the only known houses of Period I are in Mound A. All other localities containing artifacts characteristic of Mound A are in middens that can not be related to specific houses. In fact, similar artifacts were found in

1939 in middens but in this instance were apparently associated with Glaze E/F occupations.

That there was a major gap in occupation of Mound A relative to the other areas excavated in 1939 is indicated both by a break in the relative frequency of shared pottery types and by the introduction of new ones. This discontinuity is exemplified by the relative frequency of pottery types in the pit excavated by Baker in Plaza C of the pueblo. In the lowest level, Strata VII, there was 2.9% of Agua Fria Glaze-on-red in contrast to 19% in the upper level of Mound A and 0.8% of Chupadero/Casa Colorado Black-on-white in contrast to 26.3%. Absent in Mound A but present in Strata VII of the test pit of Plaza C was 5.6% of Glaze E and 5.28% of Glaze F.

This discontinuity in the relative frequency of pottery types could be used to support a conclusion that Quarai was unoccupied during the interval after Mound A was abandoned and before the time when Glaze E and Glaze F pottery was being made. There is other ceramic evidence, however, to support the conclusion that Quarai was occupied during this interval of time, even though no specific houses and middens have been found yet. Scattered through the mounds that have been excavated are sherds of Glazes B, C and D which are known elsewhere to have been made during the interval of A. D. 1450-1545. These types seem to have had centers of manufacture by Pueblo Indians in other areas and at Quarai their low frequency suggests that they were trade items. Thus their scarcity, less than 1.0%, can be expected. It should be noted that this relatively low frequency was also observed in other Salinas Pueblos such as Gran Quivira and Pueblo Pardo. Since Agua Fria Glaze-on-red is present in Mound A and in middens of later occupations it is possible that it was being manufactured during the same time that sherds of Glazes B, C and D were being traded to Quarai.

For purposes of discussion the theoretical occupation of Quarai in the time interval between the abandonment of Mound A and the beginning of the manufacture of Glaze E is designated as "Period II" and is characterized by a decrease in Glaze A pottery, Chupadero/Casa Colorado Black-on-white, Corona Corrugated which may have been locally made and an increase in Corona Plain. Glazes B, C and D sherds plus Santa Fe Black-on-white and

Galisteo Black-on-white were trade wares present in small numbers. On the assumption that Quarai indeed was occupied during Period II (ca. A.D.1450-1545) the lack of any known house units that can be attributed to this range of time prevents any estimate of population changes.

Since there is strong evidence that all the houses and outside pueblo walls excavated in Mounds F, G, H, IA and IB were constructed and occupied during the time when Glaze E and F ceramics were being made, the estimated date for the beginning of manufacture of Glaze E (ca.1615 - 1625) sets a maximum age for these structures. As such, this date also sets the beginning date for the next period, Period III.

Serving as a cross section of the pottery types of Period III are those from the lowest level, Strata VII, in Baker's test pit in Plaza C of the pueblo. The refuse in this pit undoubtedly came from the the surrounding Mounds E, F and G. In order of frequency Strata VII produced 58.6% of Corona Plain, 15.4% of body sherds of Salinas Red and Glaze wares, 11 % of Glaze E and 5.7% of Glaze F. The relationship of the following older pottery types with Period III is uncertain for they may represent sherds scattered over Plaza C from earlier time periods: 3.11% of Glaze B, 2.97% of Agua Fria Glaze-on-red, 2.4% of Corona Corrugated, 2.4% of Chupadero/Casa Colorado Black-on-white, 1.1% of Santa Fe Black-on-white and 0.9% of Galisteo Black-on-white. In the higher levels of this pit there seems to have been a fortuitous association with glaze wares of older types such as Glaze C in Strata IV - VII and Biscuit A and B sherds in Strata V and VI.

The test pit in Plaza C also revealed the following changes in frequency of ceramic types through time, that is, during Period III: Agua Fria Glaze-on-red, Corona Corrugated, Chupadero/Casa Colorado Black-on-white and Glaze E decreased through time possibly because they were no longer being made while Corona Plain decreased slightly. On the other hand, Salinas Red increased slightly while glaze wares in the pueblo did not show all the changes present in the test pit in Plaza C. In Strat Trench 3 there was a decrease through time of Glaze E but in the other middens the pattern was erratic. Glaze F showed a decrease in Area A but the midden here is believed to have been the most recent refuse accumulation since none of the earlier

pottery types characteristic of Periods I and II , such as Glaze A ceramics, were encountered. Corona Plain and Salinas Red showed no marked changes in frequency. Other types such as Corona Corrugated, Chupadero/Casa Colorado Black-on-white, Santa Fe Black-on-white and Biscuit wares were found in such small numbers that no changes in frequency could be discerned.

In Period III at Quarai Pueblo new pottery types were present as well as new vessel forms. Kapo Gray, a trade ware from the Santa Fe area, was introduced in small numbers. The frequency of Tabira Wares is uncertain at Quarai. This ware took the place of Chupadero Black-on-white at Gran Quivira about A.D 1545, becoming the main type. In the classification of ceramic types made in the field in 1939 I classified many of the pottery types as Chupadero Black-on-white and Casa Colorado Black-on-white since Tabira Black-on-white had not been defined as yet. A cursory examination of the sherds from Quarai in the Laboratory of Anthropology in 1985 revealed a very small number of Tabira Black-on-white sherds. There seems to be little question, regardless of the exact frequency, that Tabira Ware at Quarai was never a major type, and that those examples found at the site were probably obtained as trade items from the Salinas Pueblos in the vicinity of Chupadero Mesa.

In the pueblo middens there also were found several examples of ceramic ware that were made very late in Period III or perhaps during one of the times of reoccupation. These types include Kapo Black, Casitas Red-on-brown, Carnue Plain and several varieties of polychrome matte paint wares, all similar to pottery made by the Pueblo Indians during the historic period.

The new vessel forms arising in Period III as a result of Spanish contact include soup plates and ring-bottomed cups and bowls. This influence was most marked in Salinas Red, Glaze F and Tabira Black-on-white vessels as well as the forms of Majolica Wares from Mexico.

Even though all the houses and outside Pueblo walls that were excavated in 1939 seem to have been constructed during Period III they were not all built at the same time. On the basis of their associated relative pottery frequencies and masonry breaks in the walls it is possible to subdivide Period III into the following phases:

Phase A

Prior to the time when the houses of this phase were built, refuse from the Periods I and II was scattered all over the area, forming in places middens as deep as three feet. Burials were made in the refuse as well as house fill and sub floor pits. Masonry was of two types of construction, one with linear courses of sandstone (Type C) and the other with linear courses laid on top of vertical slab foundations (Type B). No time difference was observed in these two styles even though the latter appears earlier in the Anasazi cultures. Included in this phase were the outside walls and houses on the north sides of Mounds F, B and H, although in the latter only the walls to the east of a masonry break in Section 28, Area F, were constructed. Although it is almost certain that these house walls were built during the times when Glaze E and Glaze F sherds were being manufactured, it has not been determined how many of these walls were built prior to the residency of the first Spanish priest at Quarai. Regardless of the date of construction of these walls, however, it is clear that many of them post date the introduction of Spanish trade items since iron and copper artifacts, as well as sherds of Majolica ware, were found in middens underlying some of the walls.

Phase B

During this phase apparently the house walls on the north side of Mound H to the east of the masonry break were added, as well as the walls on the south side of this mound that face Plaza A. Less certain is the time of construction of the east walls of Mound IA that also face Plaza A. There is no doubt, however, that they post date the advent of Spanish trade since an iron artifact was found in a midden 1 foot lower than the base of the walls.

Phase C

The outside walls of Mound IB were added at this time to Mound IA. Here the walls also lie on top of older middens.

Phase D

The relationship between this construction phase and the other ones in the pueblo was not determined. Apparently during this phase the block of houses that lay on top of the east end of Mound IB was constructed. The fact that the bases of the walls of this block lie on top of Mound IB indicates a construction in a more recent time period. The pottery types found in the midden associated with this block of houses contain Glaze F sherds, indicating that it was occupied and probably constructed by the Quarai Pueblo Indians. It should be noted also that, with the exception of the west walls, the other walls of this house unit were similar to the thick types of masonry present in the local churches and convento.

During Period III there were changes in the frequencies of some of the artifacts. The two-handed mano used with slab metates became dominant although some of the older types such a trough metates were still present and triangular arrowheads also were the main type. Other diagnostic artifacts include single three-quarters-grooved, double three-quarters groove and full-grooved axes; grooved mauls; chipped knives and scrapers; grooved arrowshaft smoothers; tubular beads; tubular clay pipes;, tubular stone pipes; a great variety of bone awls; shell beads and pendants, abrading stones; hammerstones; stone pot lids; clay zoomorphic figurines and polishing stones. Trade with the Spanish occurred as is evident in the Majolica vessels, iron and copper tools and glass beads. Other signs of Spanish trade were two chunks of slab from smelters. A peach stone and a boar's tusk fall into the same category.

Other noteworthy features of the Quarai Pueblo during Period III include the porches and small inset areas as well as short buttress walls along the outside walls. The presence of clay-lined firepits and stone-lined fireboxes in the middens outside of the pueblo walls indicate that cooking, at least at

certain times of the year, occurred in the outdoors.

Falling within at least the latter phases of Period III was the construction and occupation of the main church, La Purisima Concepcion, and most if not all the structures in the adjacent convento. The main church was built prior to A.D. 1630, judging by the dates derived from a viga (wood rafter) of this structure, while the time of construction of the small church is controversial. Since its architectural plan is similar to that of the first churches at Pecos, Gran Quivira and Tabira (Pueblo Blanco) Stubbs concluded that the small church at Quarai was the first Spanish religious structure built at Quarai (Stubbs 1959). James E. Ivey points out, however, that the simple and non-cruciform shape shared by all these three churches does not necessarily indicate that they antedate the cruciform churches in New Mexico (personal communication 1985). For example, a similar non-cruciform-church was constructed at Chimayo in the 1800s. Thus Stubbs' estimate that the small church at Quarai was built in A.D 1615-1630 because its shape was necessarily older than that of the main church with its cruciform shape can not be accepted as a given fact. The artifacts collected in the midden below the foundations of the small church, which include an iron object and Glaze F sherds, do not resolve the dates of construction other than indicating that this structure was built during or after the Spanish Colonial Period church. Since the nearby house unit on the east end of Mound IB had walls of the typical Spanish Colonial church type of architecture it may have been associated with the small church and served as a residence for the priest.

Because the main church and adjoining rooms in the convento were excavated prior to the 1939-1940 Project by other archaeologists I will discuss their features only briefly. Prior to the construction of the convento, sherds and artifacts of undetermined pueblo house units were scattered over the area but there is no evidence that middens actually accumulated. Possibly the square kiva in Patio 1 and the round kiva in Patio 3 were constructed at the same time. At the time the rooms adjoining the main church were built it is probable that the square kiva was still open and in use. This is evident by the fact that the walls of Patio 1 are parallel with those of the square kiva. In the construction of one of the retaining walls of Patio 2, a wall was

built within the kiva to form a foundation. Since little or no excavation was made below the floor levels of the room in the convento adjoining the main church it has not been determined whether other pueblo structures exist in the area.

Although artifacts from the convento overlapped those of the pueblo there were also major differences. The most common artifacts of Indian manufacture in the convento were pottery types of Period III such as vessels of Glaze F, Salinas Red and Corona Plain. That the Spanish priests at Quarai utilized locally made Indian pottery can be attributed to the great distance to central and southern Mexico, the source of Spanish-made ceramics such as Majolica Ware. Nevertheless, the typical Spanish pottery forms such as ring-bottomed soup plates, cups and bowls were copied by local Indians. There is no evidence, however, that the Spanish technique of using a potter's wheel was taken up by the Quarai Indians. Objects at Quarai that do contain marks of the wheel such as candle holders and thick-walled bowls were most probably made in Mexico or Spain.

For grinding corn the local Spaniards used Indian types of manos and metates since there seems to have been no Spanish counterparts. Other kinds of kinds of tools with the exception of grooved axes and mauls and stone pot lids apparently played only a small role in the convento tool kit. Articles of Indian manufacture for ornamentation such as stone and shell beads and pendants, and artifacts for rituals such as animal figurines were not found in the fill of the convento.

On the other hand the Quarai Indians made considerable use of Spanish type tools such as knife blades, iron spikes, nails, wire, bolts and hooks. Glass beads, however, were very rare in the pueblo middens indicating that the trade of this item was not locally important. Majolica vessels were highly valued by the Indians since sherds of this ware were encountered in the middens of the pueblo. The Spanish influence is also noticed in the burials of the Christianized Indians who were interred in the cemetery in a the extended position in contrast to the flexed position of the prehistoric Quarai Indians.

During the last decade of occupation of the Quarai Pueblo, churches, and

convento a series of calamities occurred there as well as at the other Salinas Pueblos. Warfare with the Apaches intensified and severe droughts struck the area, with the result that all these pueblos were abandoned by 1679. Recent historic research indicates that the Quarai Indians first abandoned their village about 1672 and moved to Tajique. They returned after an interval of time to Quarai but perhaps as early as 1676 moved once more to Tajique. After staying there for a short time some of the Quarai Indians moved to the Tiwa villages of the Rio Grande and others to an area south of El Paso where they founded the village of Ysleta del Sur.

There is, however, documentary and artifact evidence that the Quarai convento was reoccupied more than one time. To guard against the Apache threat to the Spanish villages in the Rio Grande area a patrol of soldiers was maintained at Quarai from 1751 to 1754. In 1881 there were three companies stationed at the "Old mission near Manzano", a site that must have been Quarai. Local informants state that a Hispanic family lived at Quarai in the last decades of the 19th century and the first decade of this century. The fact that Bandelier saw rooms in the convento that still had their roofs indicates that as late as 1883 local inhabitants were maintaining these structures.

Some of the ceramics and other artifacts in the fill covering the convento apparently date from the 18th century Spanish reoccupations. They include sherds of Puebla Blue on White Majolica ware, Casitas Red-on-brown, Kapo Black and Carnue Plain wares. Although not definitive, the presence of Casitas Red-on-brown in the fill of the torreon suggests that this structure remained open in the post Mission Period, if indeed it was not constructed at that time. Evidence of 19th Century occupations includes such items as U. S. Army buttons and harness decorations, tin cans, glass fragments and sherds of chinaware.

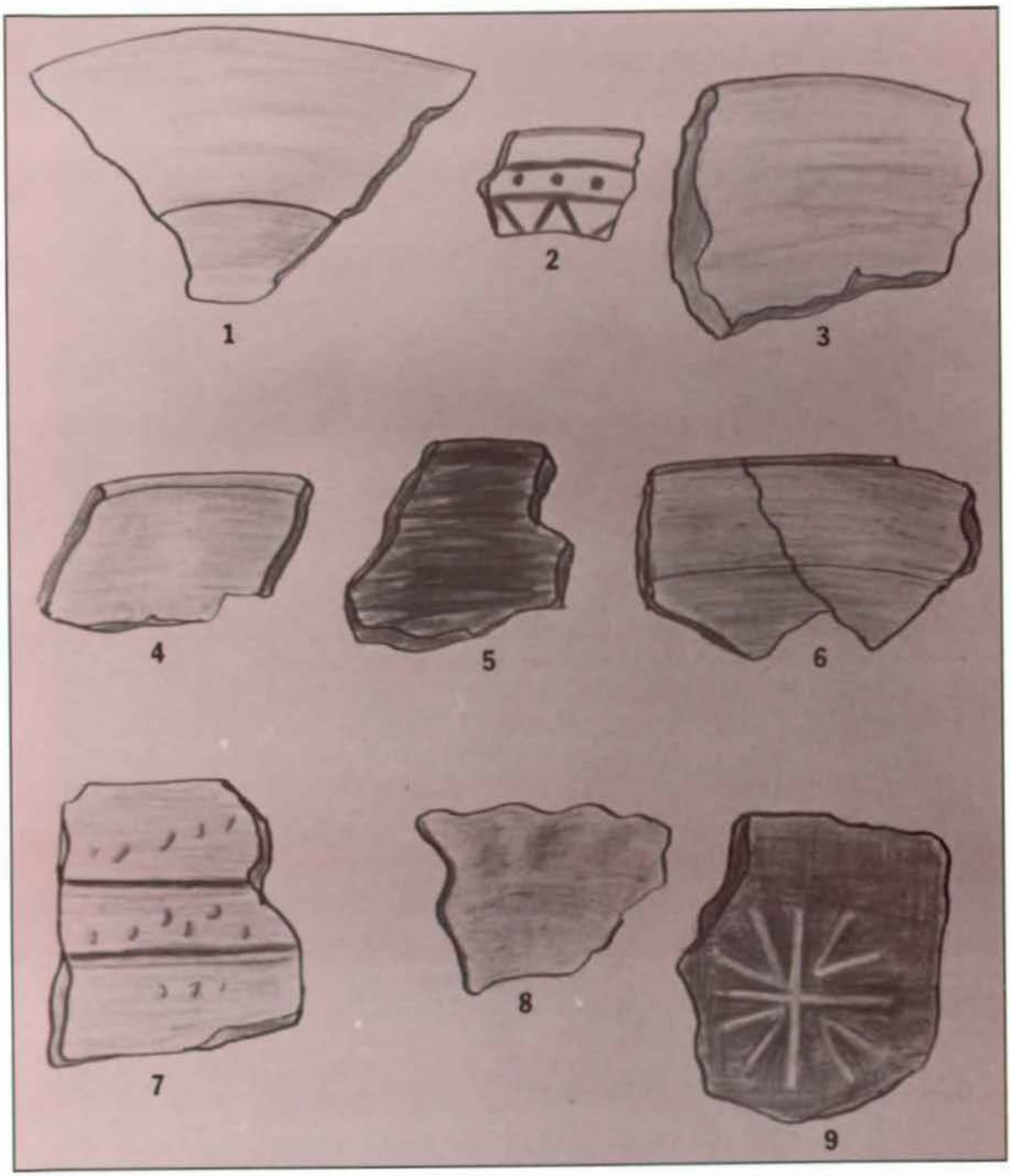



PLATE 2: Pottery Sherds from the Quarai Convento. Key: 1) Kapo gray soup plate, 2) Unidentified matte paint polychrome ware, black, red on creme, 3) Salinas Red bowl, 4) Salinas Red bowl, 5) Kapo Black bowl, 6) Kapo Gray bowl, 7) Salinas Red variant with scalioped rim, 8) Micaceous ware with scalloped rim, 9) Kapo Black with incised rim..

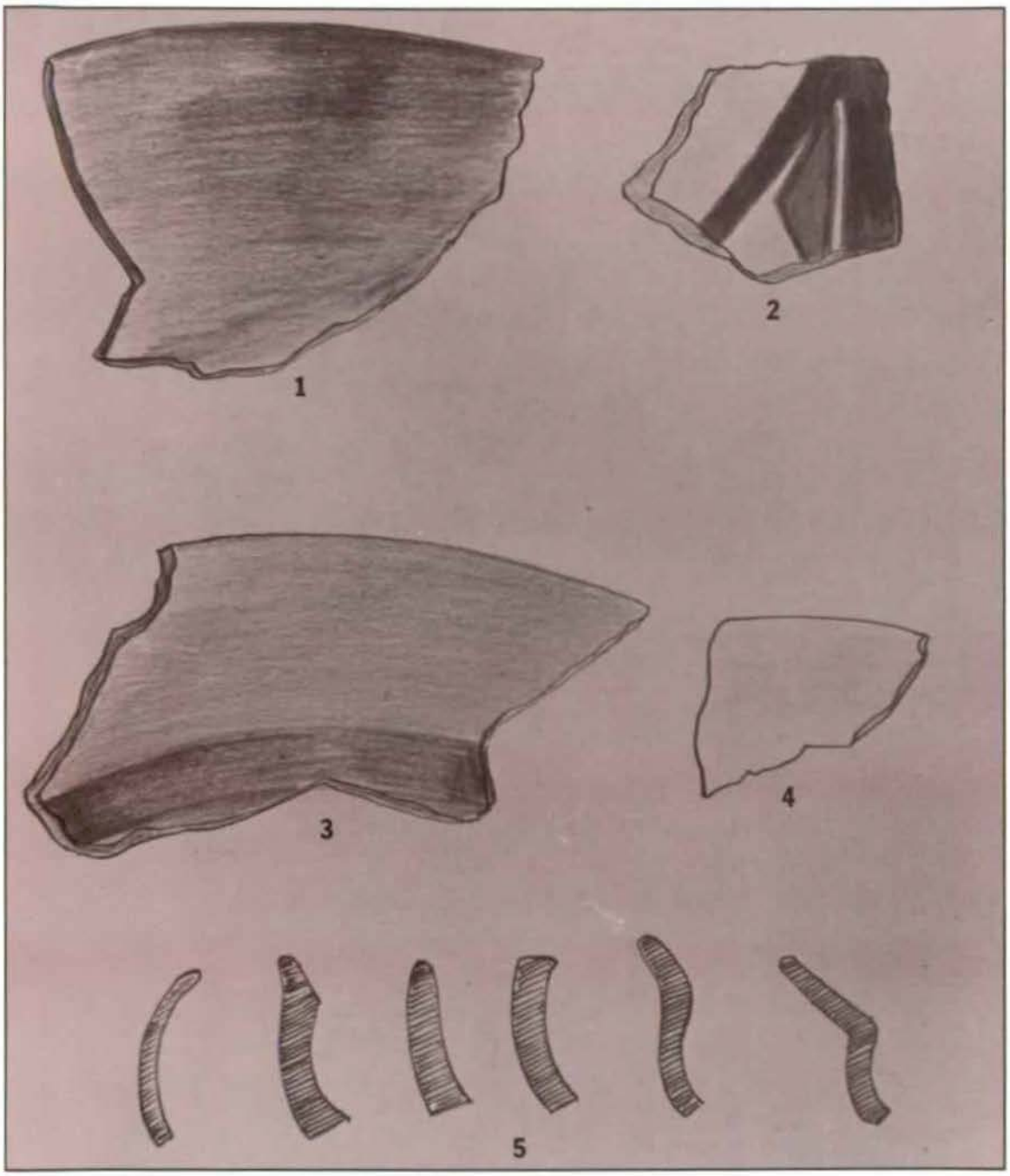



PLATE 3: Pottery Sherds from the Quarai Convento. Key: 1) Salinas Red bowl, 2) Puname Polychrome, 3) Salinas Red soup plate, 4) Undecorated thin yellow bowl, 5) Rim profiles of Salinas Red.

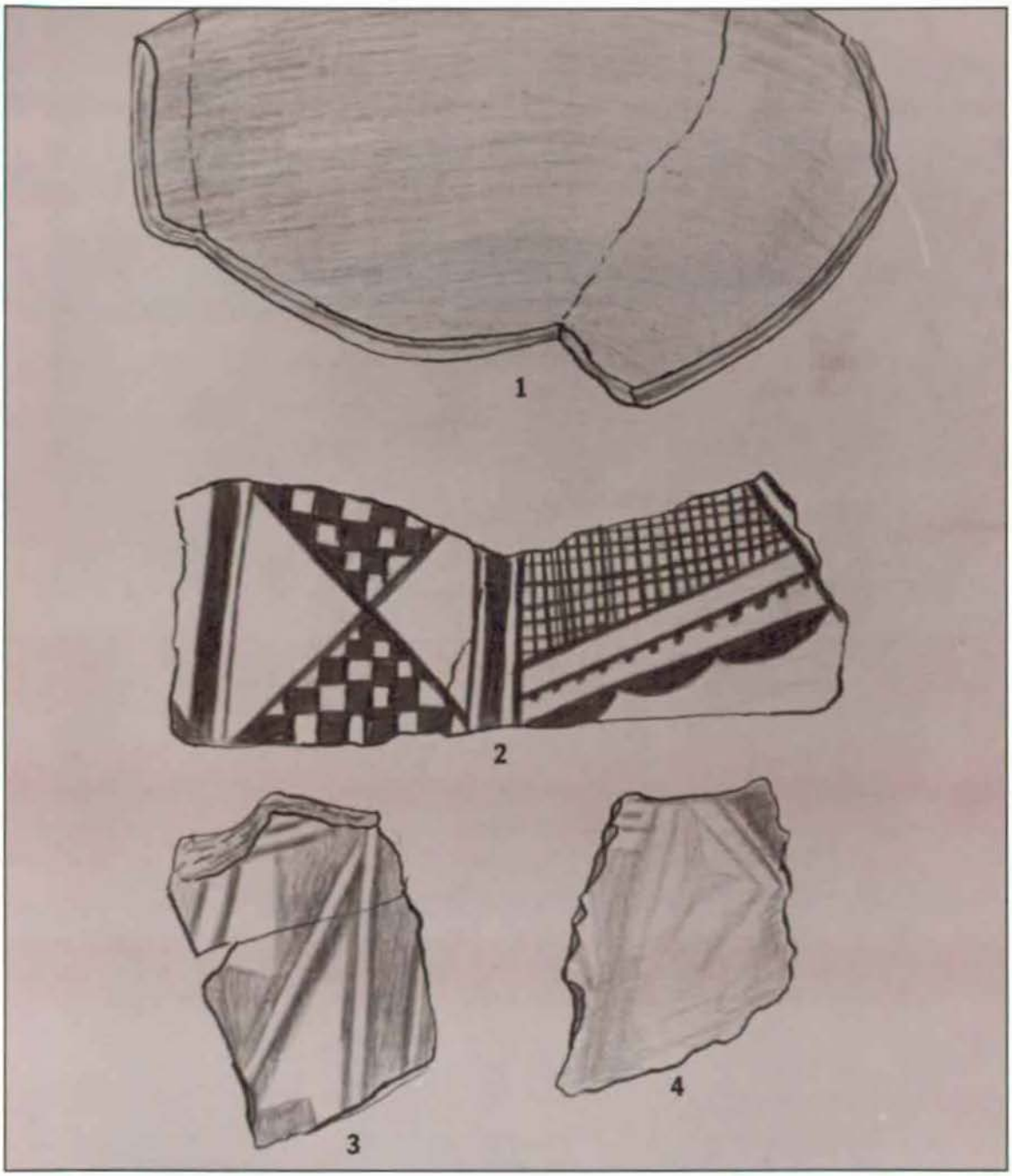



PLATE 4: Pottery Types from the Quarai Convento. Key: 1) Casitas Red-on-brown bowl, 2) Santo Domingo Black-on-white olla, 3-4) Puname Polychrome olla.

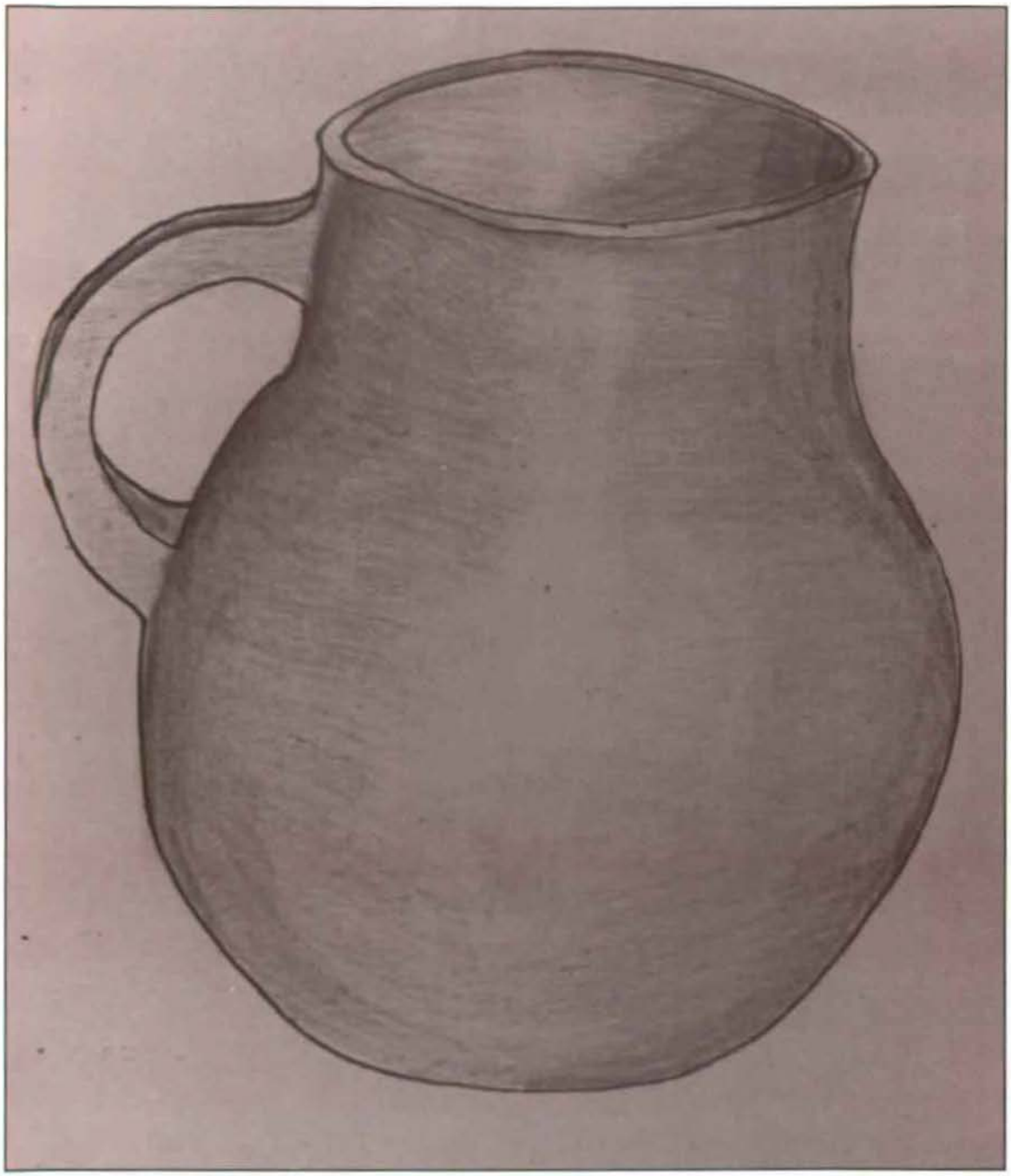


PLATE 5: Pottery from the Quarai Convento. Salinas Red pitcher with handle.

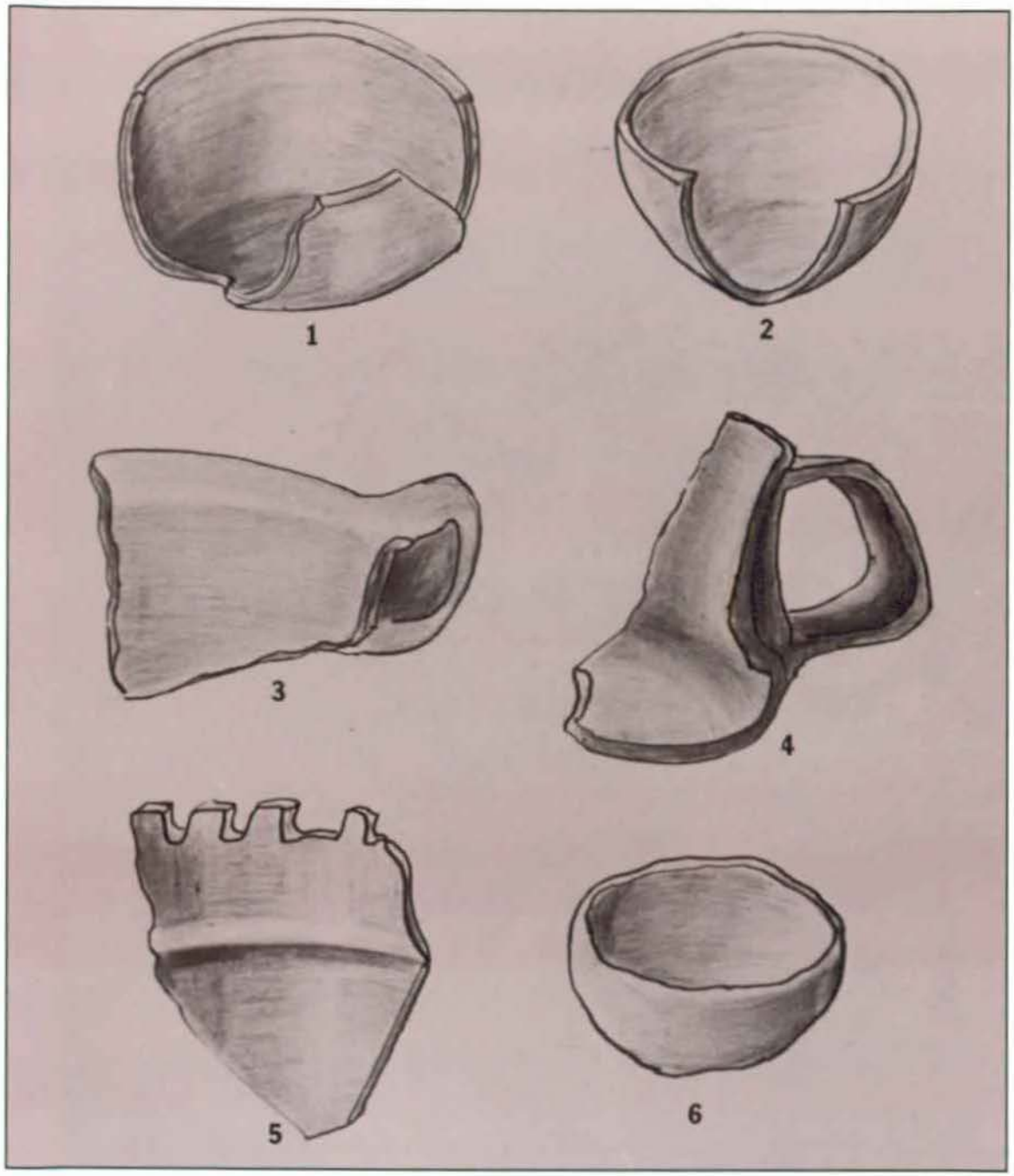



PLATE 6: Pottery types from the Quarai Pueblo. Key: 1) Salinas Red bowl, 2) Salinas Red bowl, 3) Salinas Red cup with handle, 4) Salinas Red cup with handle, 5) Kapo Black vase with crenelated rim, 6) miniature bowl with brown paste.

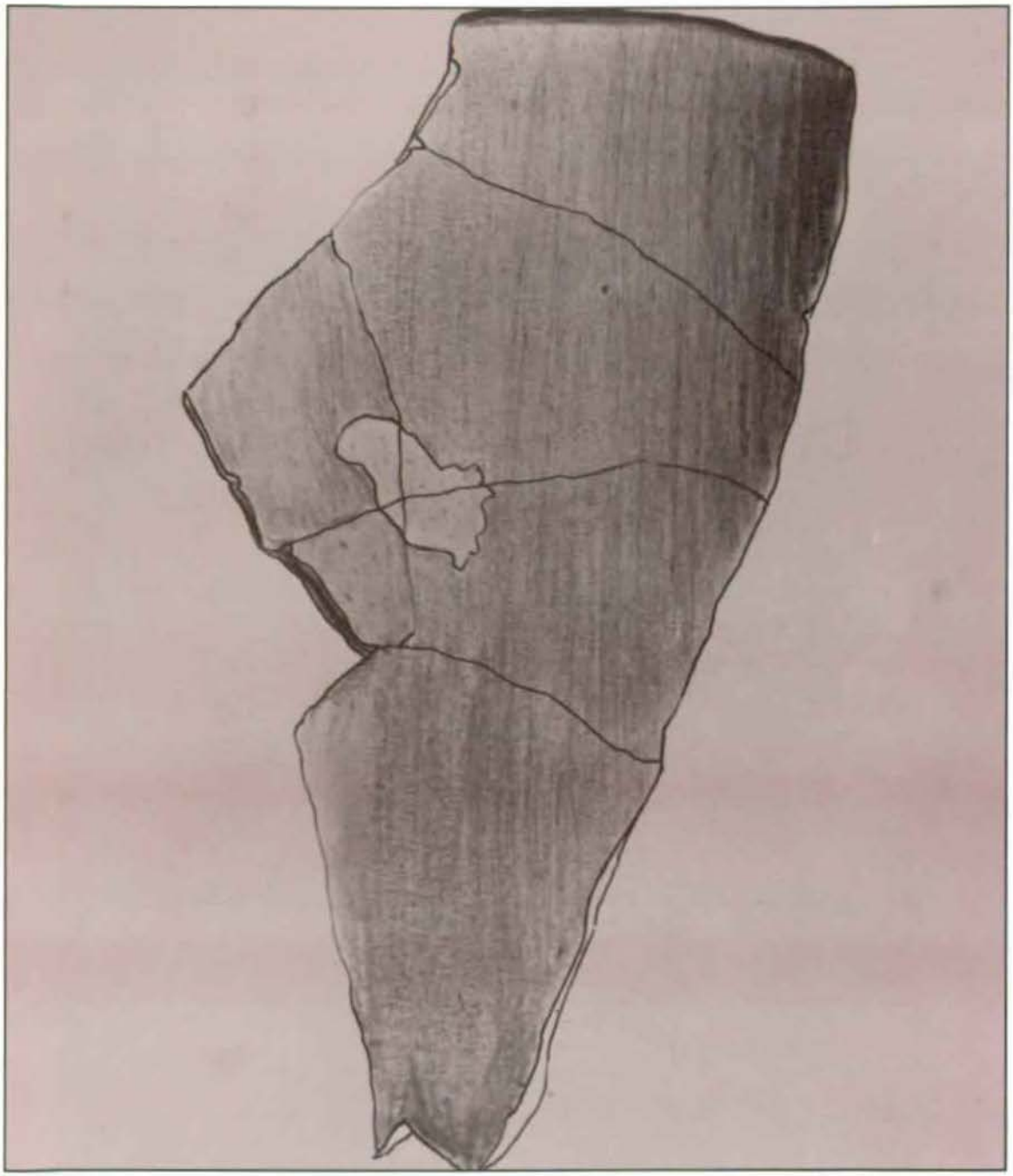


PLATE 7: Pottery types from the Quarai Pueblo. Key: 1) Carnue Plain cylindrical vase fragment.

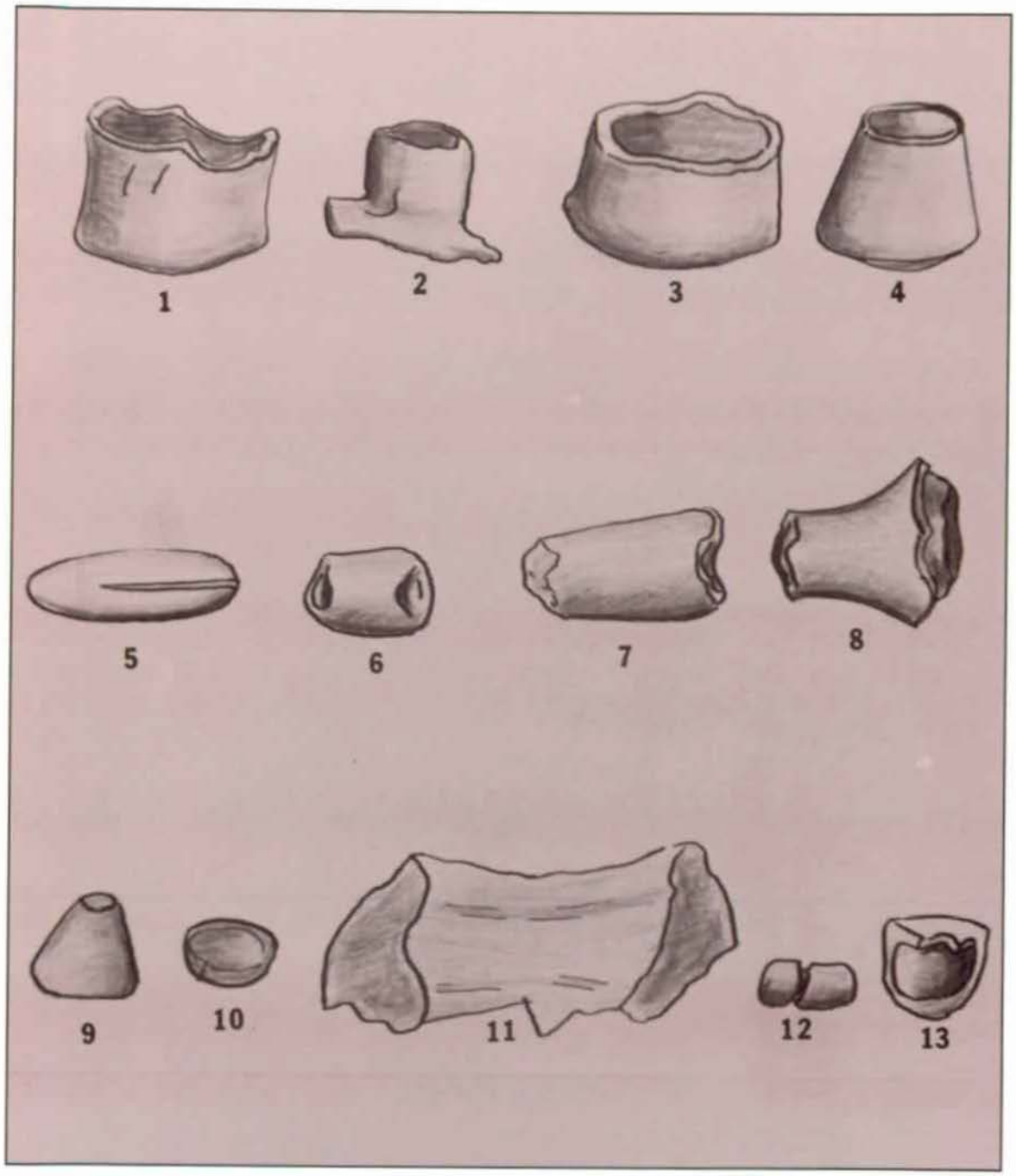



PLATE 8: Clay Artifact from Quarai. Key: 1) Base of a miniature bowl, 2) fragment of a candle holder, 3) base of a miniature bowl, 4) miniature bowl, 5) plummet-like artifact, 6-7) fragments of tubular pipes, 8) fragment of a trumpet-shaped pipe, 9) conical artifact, 10) miniature bowl, 11) fragment of a wheel-turned miniature bowl, 12) clay botton, 13) fragment of a miniature bowl.

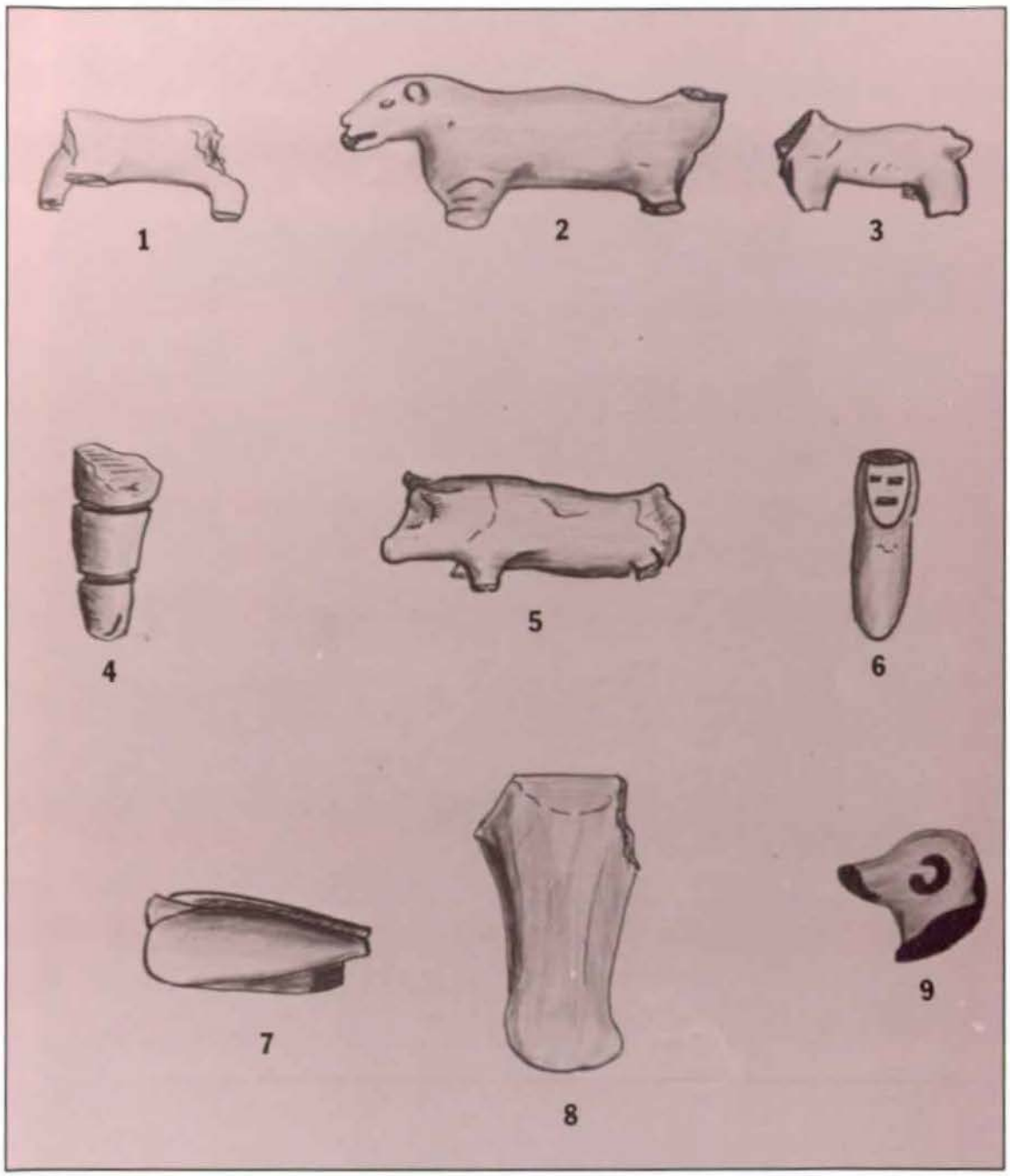



PLATE 9: Clay Effigies from Quarai Pueblo. Key: 1) fragment of a mammal, 2) nearly complete animal, 3) fragment of a mammal, 4) fragment of an unidentified artifact, 5) nearly complete mammal, 6) stylized anthropomorphic artifact, 7) fragment of a bird, 8) foot of a mammal, 9) bird's head.

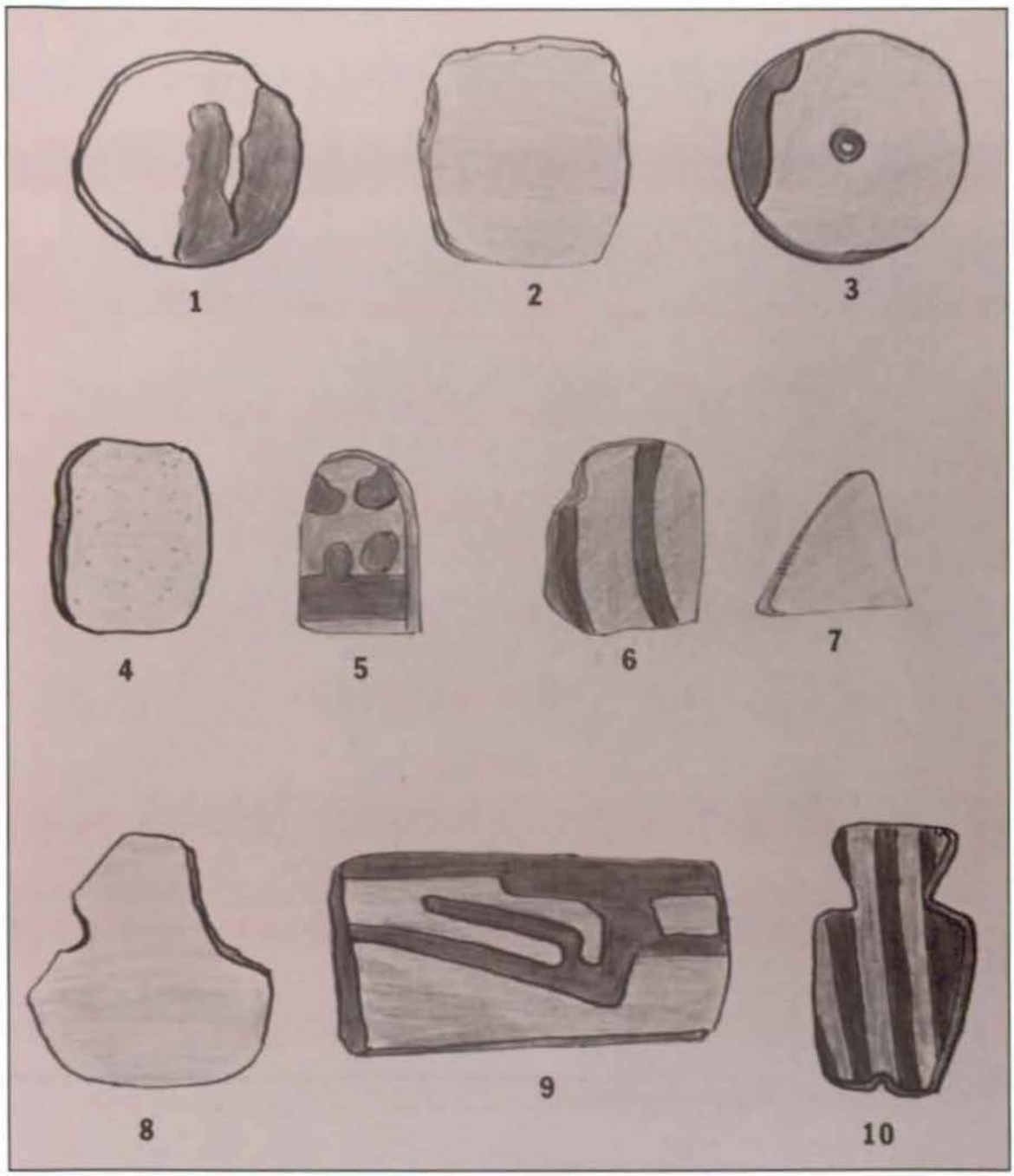



PLATE 10: Worked Sherds from Quarai Pueblo. Key: 1) Kotyiti Glaze-on-white, 2) Salinas Red, 3) Kotyiti Glaze-on-white, 4) Salinas Red, 5) Aqua Fria Glaze-on-red, 6) Agua Fria Glaze-on-red, 7) Salinas Red, 8) Salinas Red, 9) Kotyiti Glaze-on-red, 10) Agua Fria Glaze-on-red.

Plate 11 Key: 1) Triangular arrowhead; straight base, 2) triangular arrowhead; concave base, 3) triangular arrowhead; expanded eared base, 4) side-notched arrowhead, indented base (Armijo point), 5) side-notched dart point, staight base (En Medio point), 6) Corner-notched dart point, straight base (En Medio point), 7) Corner-notched dart point, rounded base (En Medio point), 8) corner-notched dart point (En Medio point?), 9) side-notched arrowhead, straight base, 10) side-notched arrowhead, notched base, 11) square-shouldered, square-stemmed base dart point (En Medio or Armizo point), 12) Serrated arrowhead or dart point (En Medio or Armijo Point), 13) beveled-shouldered, expanded, indented base arrowhead or dart point, 14) side-notched, rounded base arrowhead or dart point,15) beveled base arrowhead or dart point, 16) beveled base arrowhead or dart point, 17) base of a lanceolate dart point (Jay point), 18) base of an ovoid scraper or projectile point, 19) ovoid scraper or knife, 20) asymmetrical-shaped drill, 21) unidentified chipped stone artifact, 22) knife or scraper, 23) asymmetrical-shaped scraper, 24) drill point, broken, 25) drill point, 26) broken scraper, 27) turtle effigy, 28) drill point, 29) spear point or knife.

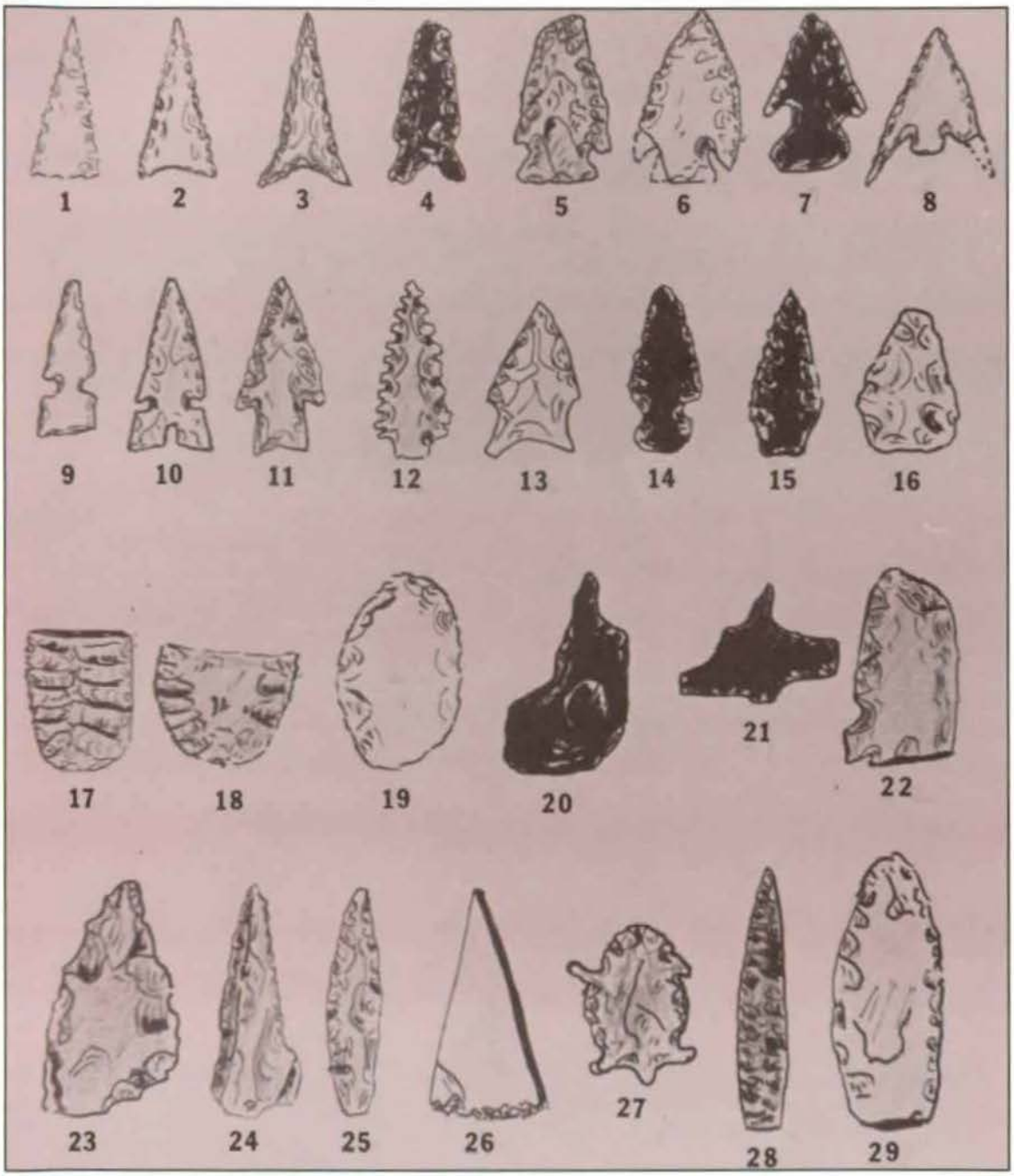



PLATE 11: Chipped Stone Artifacts from Quarai.

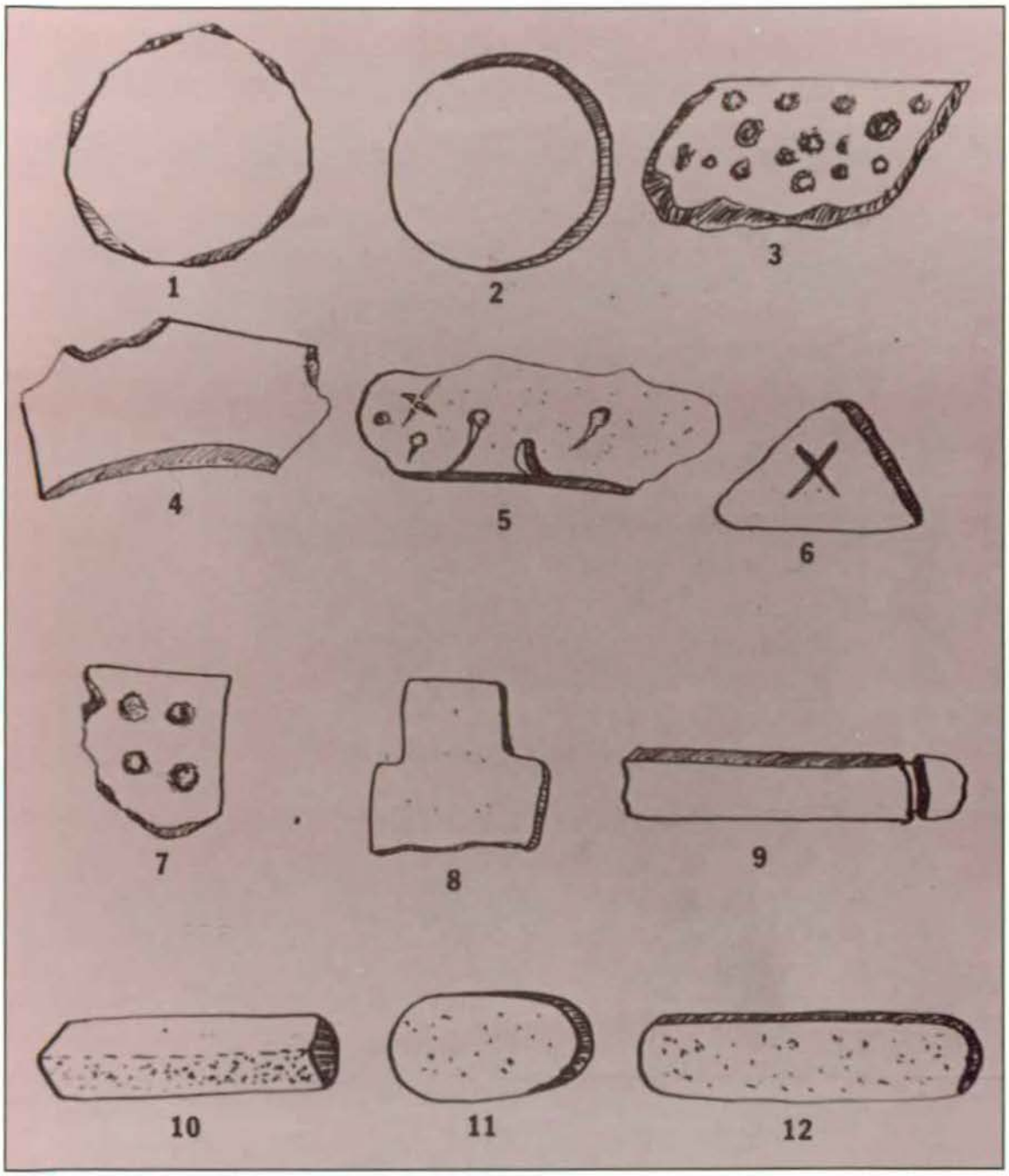



PLATE 12: Miscellaneous Stone Artifacts from Quarai. Key: 1) pot lid, 2) circular sandstone slab, 3) nutting stone made of a sandstone slab, 4) fragment of a sandstone slab cover for a fireplace, 5) nutting stone made from a sandstone slab, 6) incised sandstone slab abrader, 7) nutting stone made from a sandstone slab, 8) ritual item made of mica schist, 9) phallic symbol made of gneiss, 10) two-handed mano with a triangular cross section, Type B, 11) one-handed mano, rectangular cross section, Type A, 12) two-handed mano with rectangular cross section, type A.

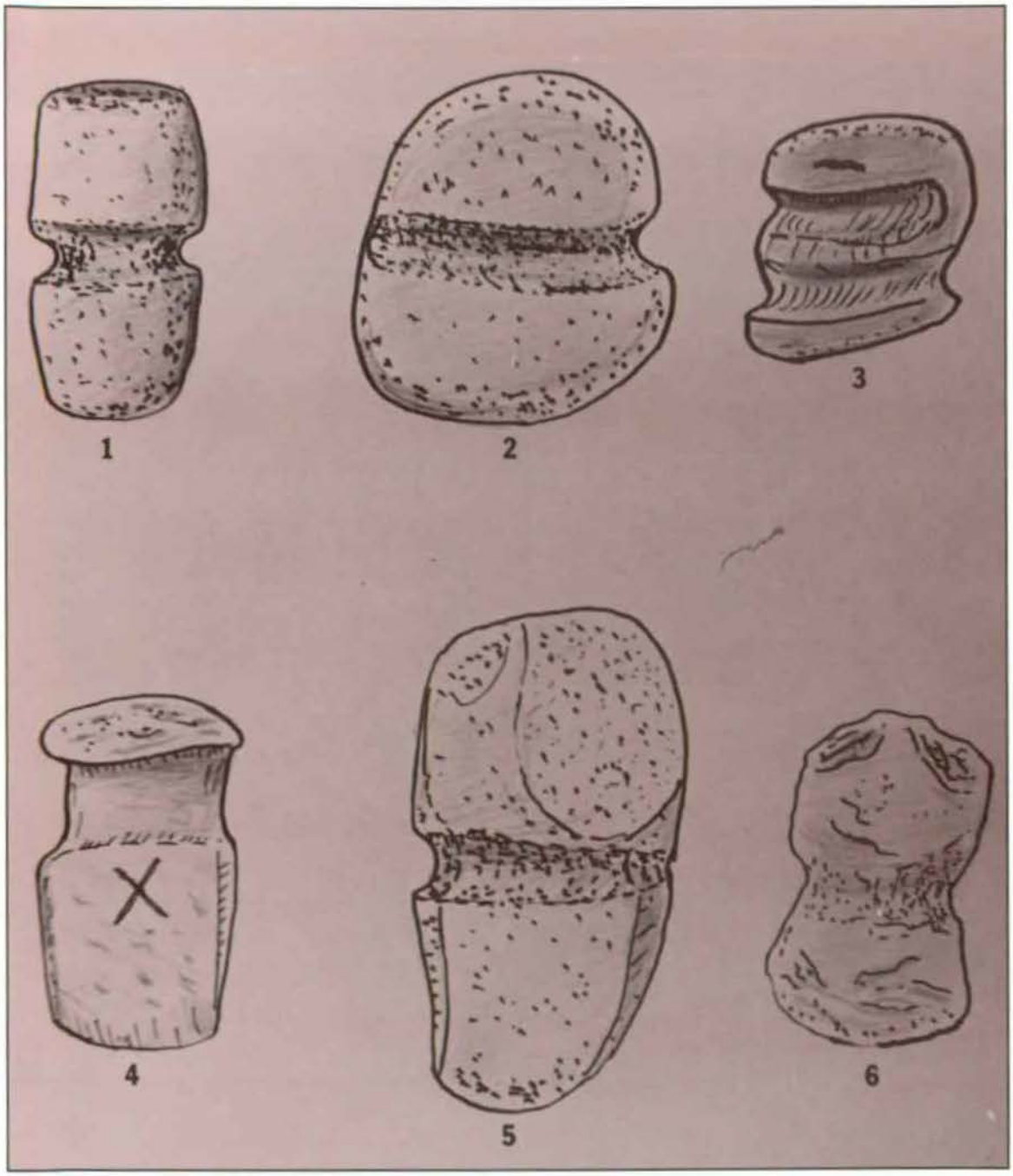



PLATE 13: Axes and Mauls from Quarai. Key: 1) full-grooved maul, 2) three-quarters-groved maul, 3) double-three-quarters-grooved axe, 4) full-grooved axe, 5) three-quarters-grooved axe, 6) full-grooved, double-bitted axe.

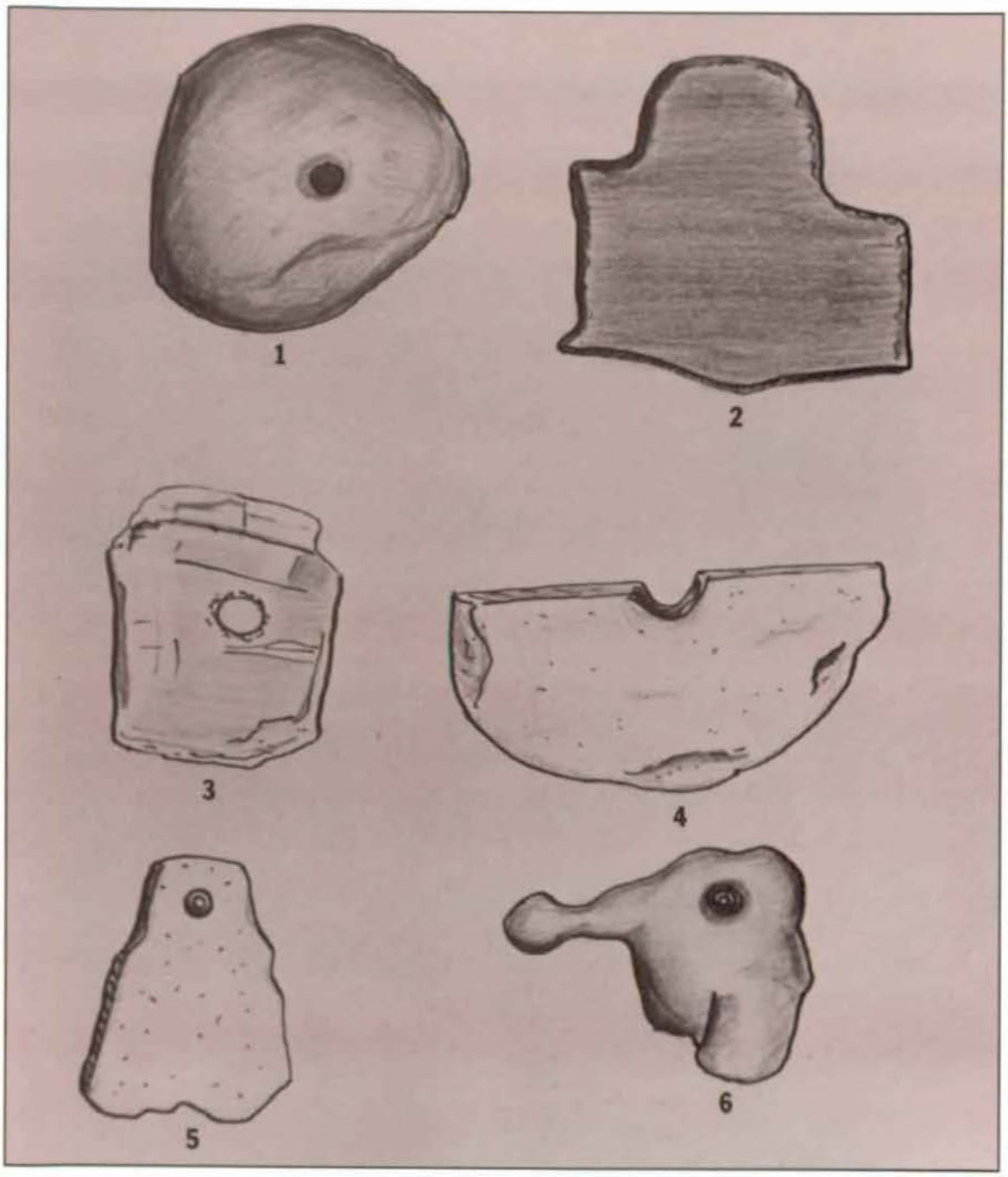



PLATE 15: Miscellaneous Stone Artifacts from Quarai. Key: 1) globular stone artifact with perforation, 2) fragment of a ritual object (terraced rain alter?), 3) selenite pendant with perforation, 4) selenite disc fragment with perforation, 5) selenite pendant with perforation, 6) kaolin artifact with perforation (bird's head?).

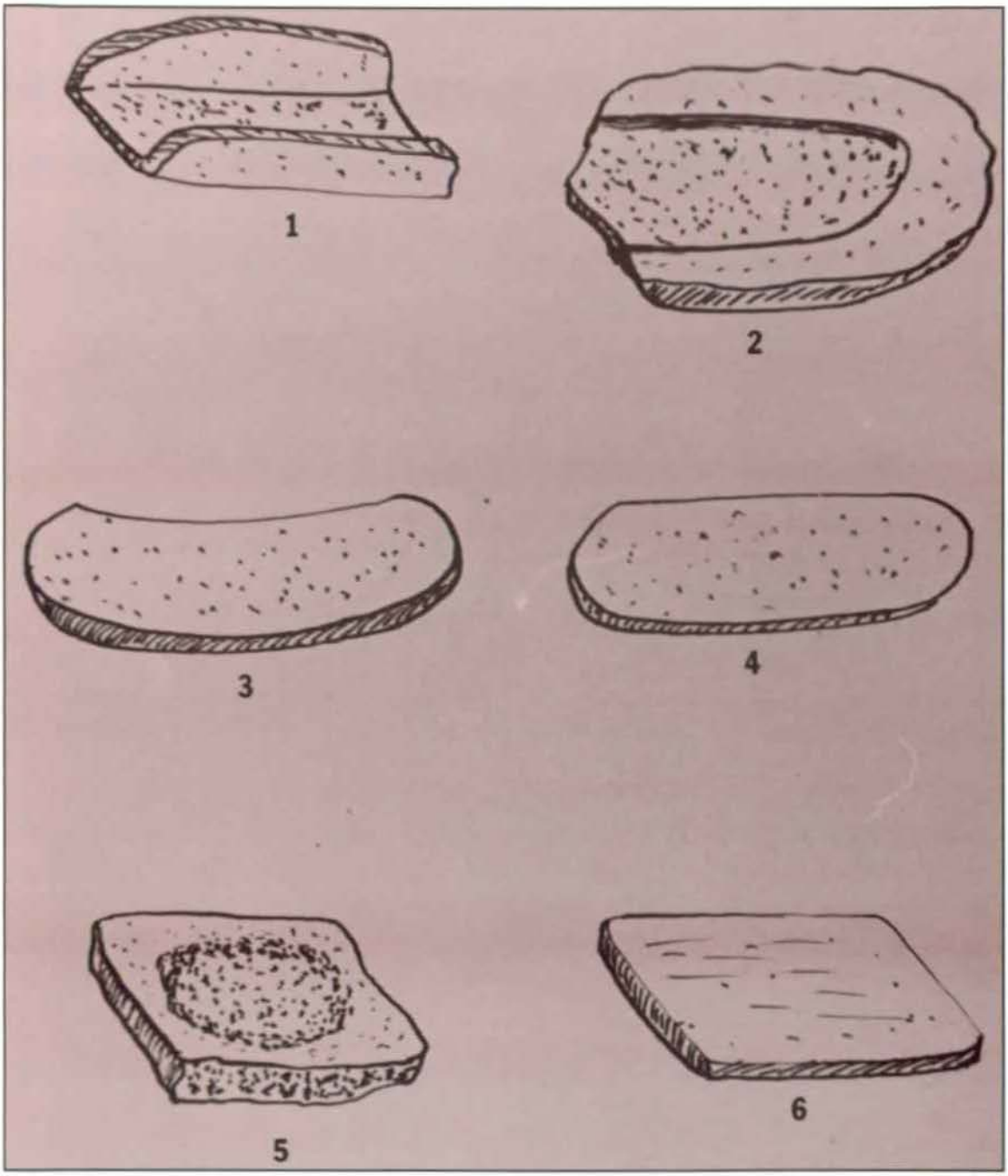



PLATE 17: Metates from Quarai. Key: 1) trough metate, open-sided, 2) trough metate, single open end, 3) slab metate with slightly-concave surface, 4) slab metate with flat surface, 5) slab metate with slightly concave grinding basin, 6) slab metate with flat surface.

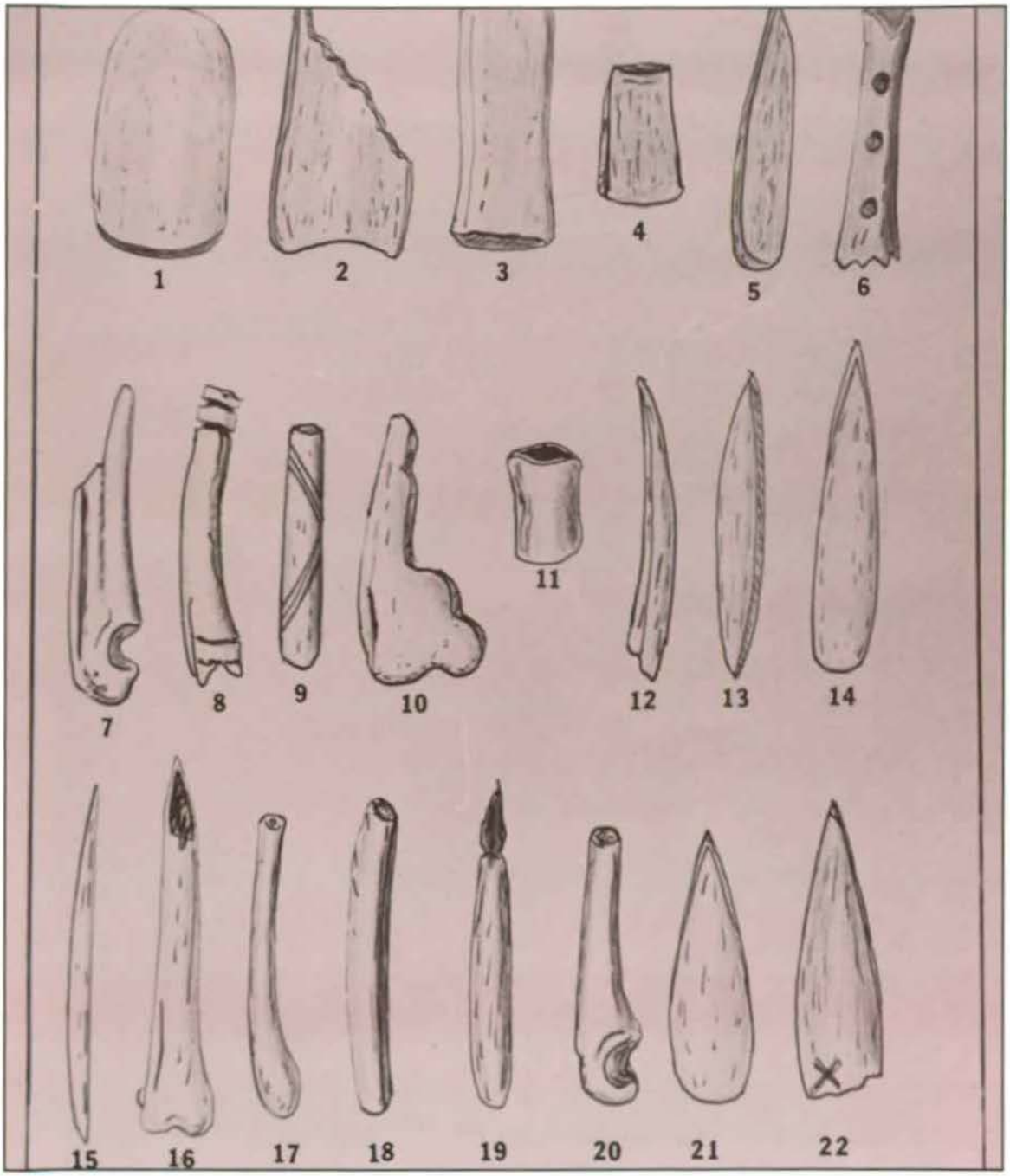



PLATE 18: Bone Artifacts from Quarai. Key: 1) scraper, 2) scraper, 3) cut segment of a rib bone, 4) scraper, 5) awl, 6) flagolet, 7) awl, 8) ornament, 9) bead, incised tubular, 10) awl, 11) bead, tubular, 12-14) awls, 15) needle, 16) awl, 17) bird bone with one cut end, 18) bead, tubular, 19) iron awl with bone handle, 20) cut segment of bone, 21) awl, 22) awl, incised.

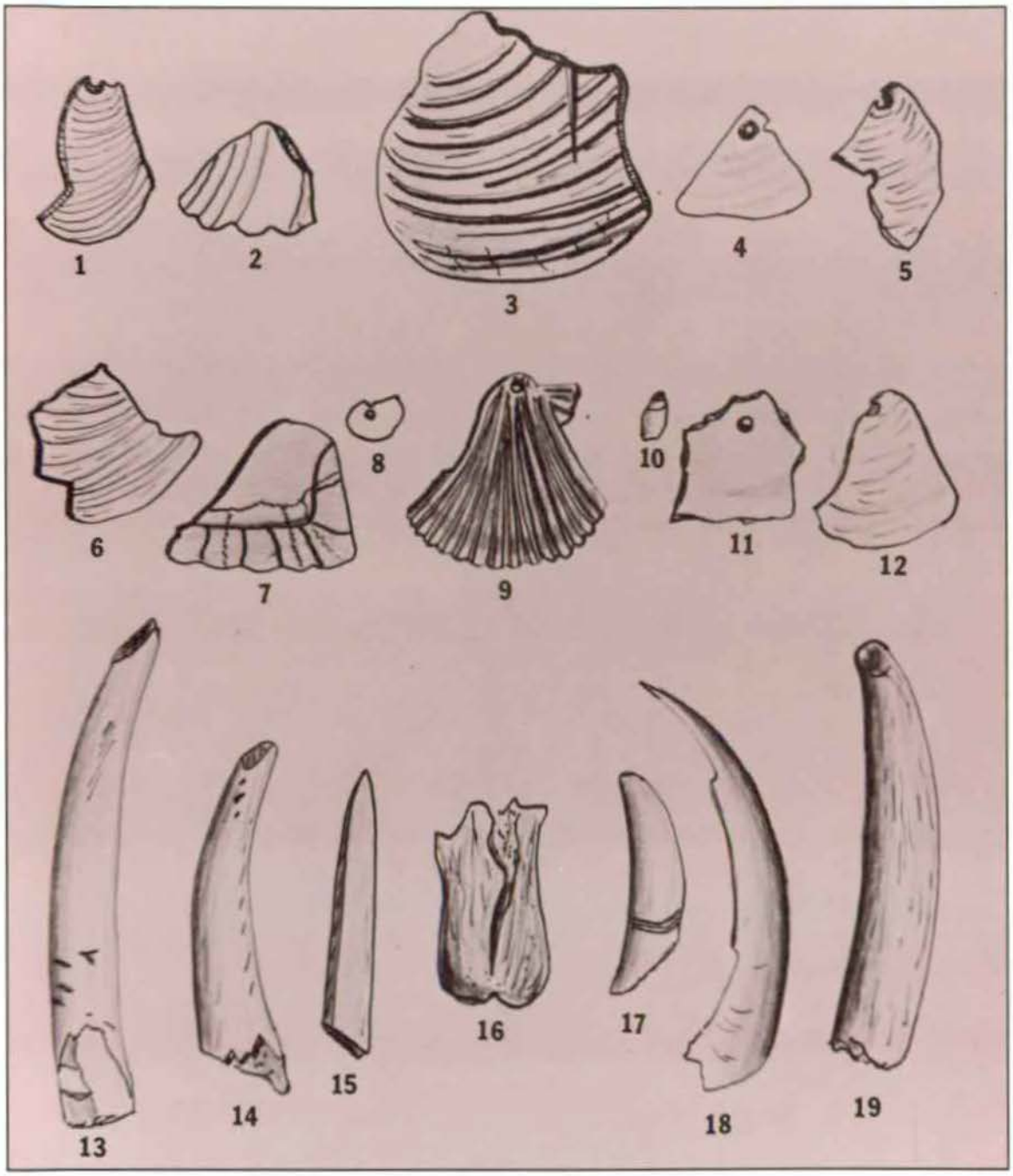



PLATE 19: Shell, Bone, Antler and Tooth Artifacts from Quarai. Key: 1. broken shell pendant, 2-3) cut segments of shell, 4-5) shell pendants, 6) cut segment of shell, 7) cut segment of turtle shell, 8) shell disc bead, 9) shell pendant, 10) Olivella shell bead, 11) drilled segment of a human or animal skull, 12) shell pendent, 13-15) antler flaking tools, 16) base of an antler, 17) incised deer tine, 18) boar's tusk, 19) antler flaking tool.

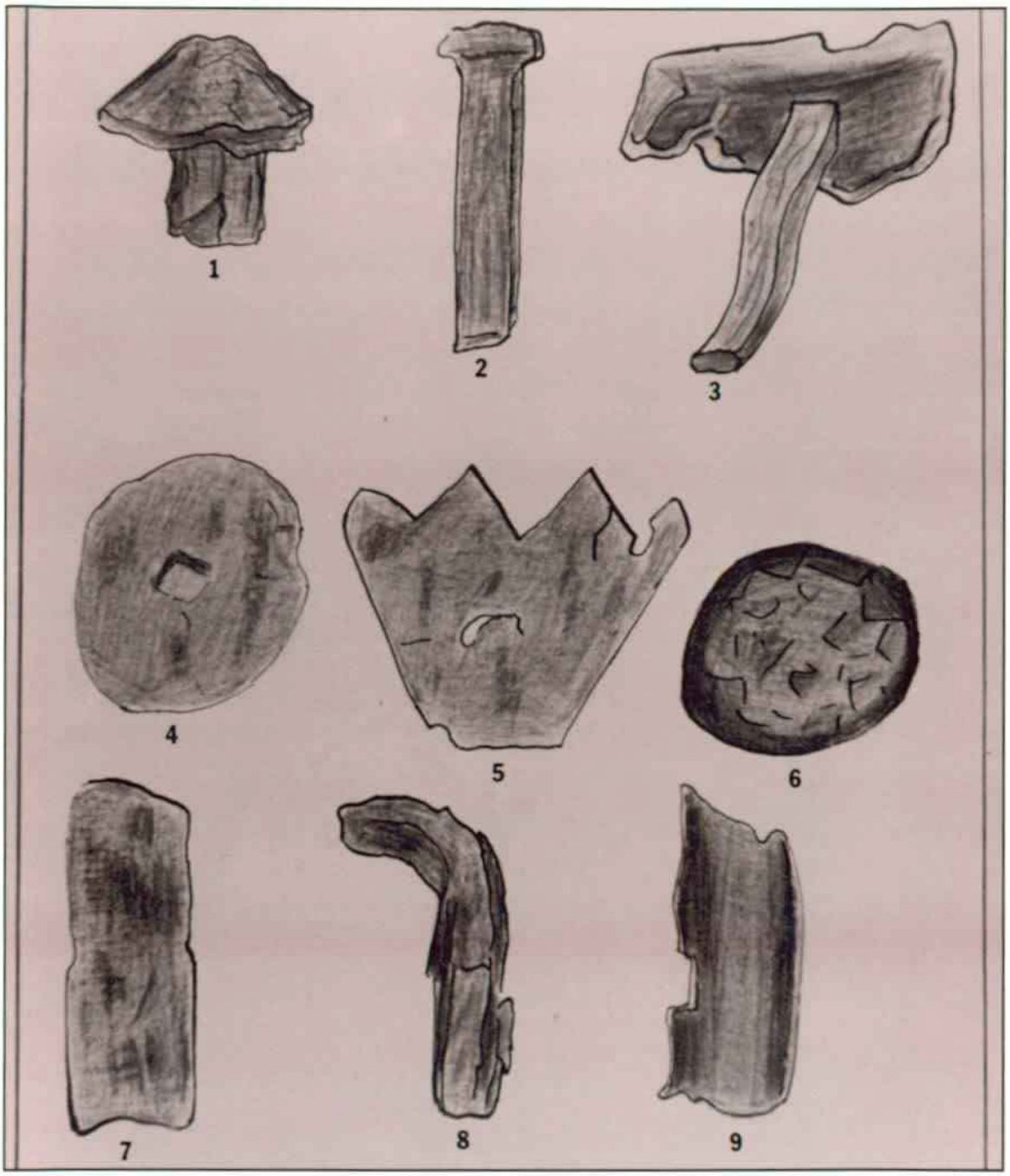



PLATE 20: Iron Artifacts from Quarai. Key: 1) Bolt, broken, 2) spike, broken, 3) ladle, most of bowl missing, 4) large rivet or disc, 5) tulip-shaped decoration, 6) ball, 7) band, fragment, 8) hook, fragment, 9) tube, fragment.

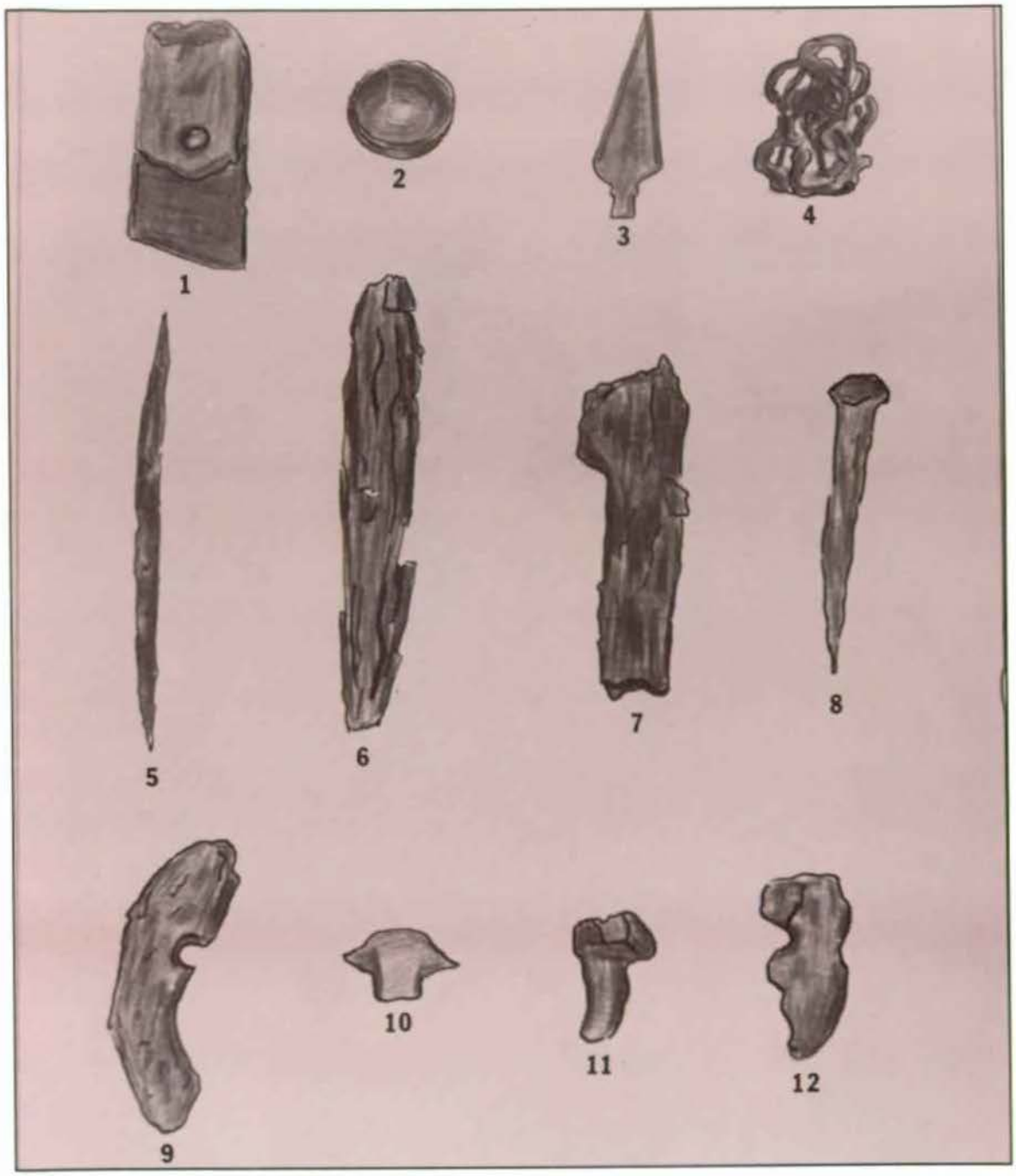



PLATE 21: Iron Artifacts from Quarai. Key: 1) folded strap, 2) miniature bowl or cup, 3) arrowhead, beveled shoulders, 4) wire, 5) awl, 6) spike, broken, 7) fragment of unknown artifact, 8) square-head, square shafted nail, 9) hook, 10) winged head of bolt, most of stem missing, 11) round-headed nail, point missing, 12) fragment of unidentified artifact.

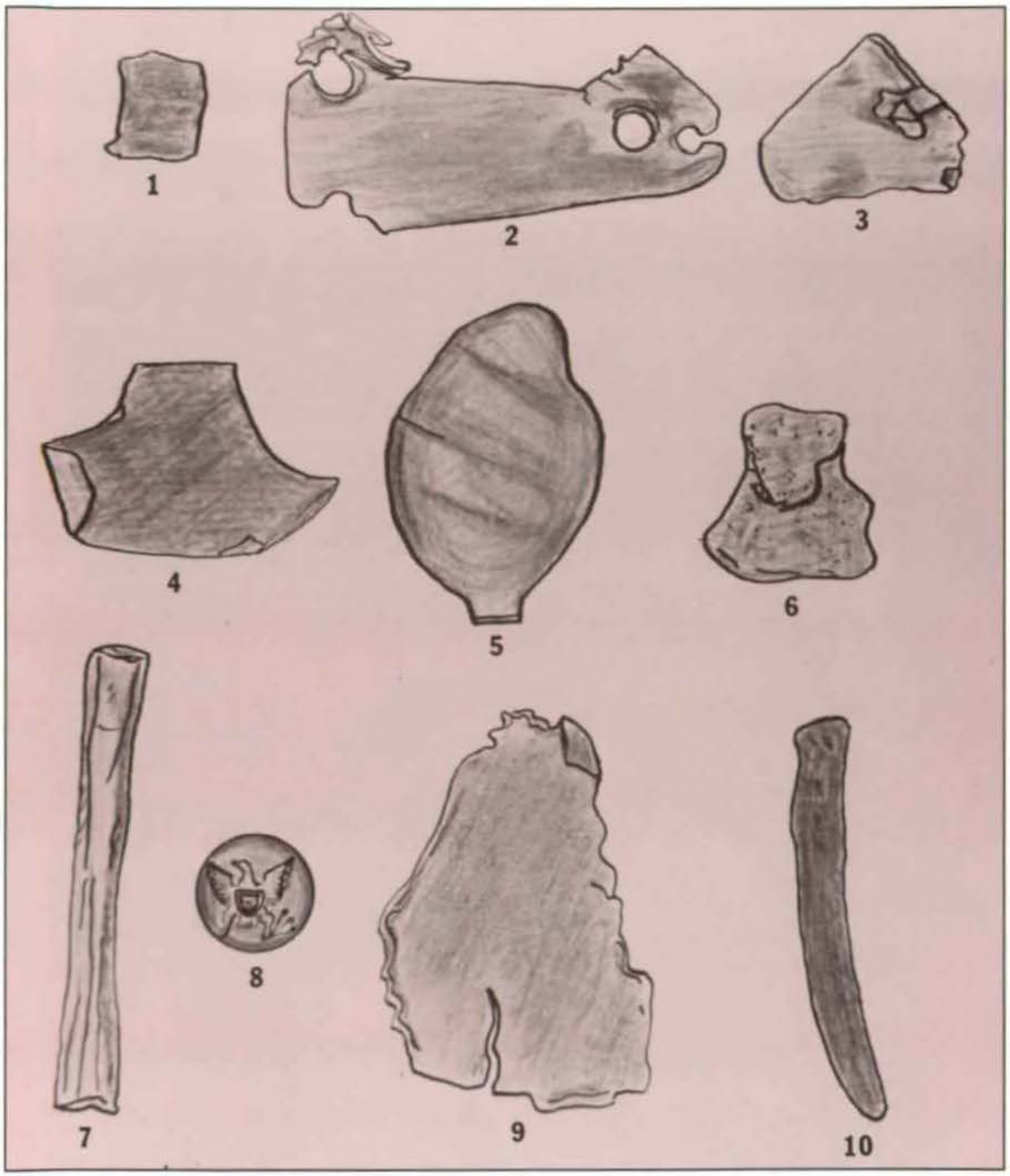



PLATE 22: Copper and Brass Artifacts from Quarai. Key: 1) copper sheet, fragment, 2) unidentified copper object (buckle?), 3) copper sheet, fragment, 4) copper sheet, fragment, 5) copper spoon, 6) copper sheet, fragment, 7) copper bar, 8) U.S. Army button, brass, 9) copper sheet, fragment, 10) copper knife blade.

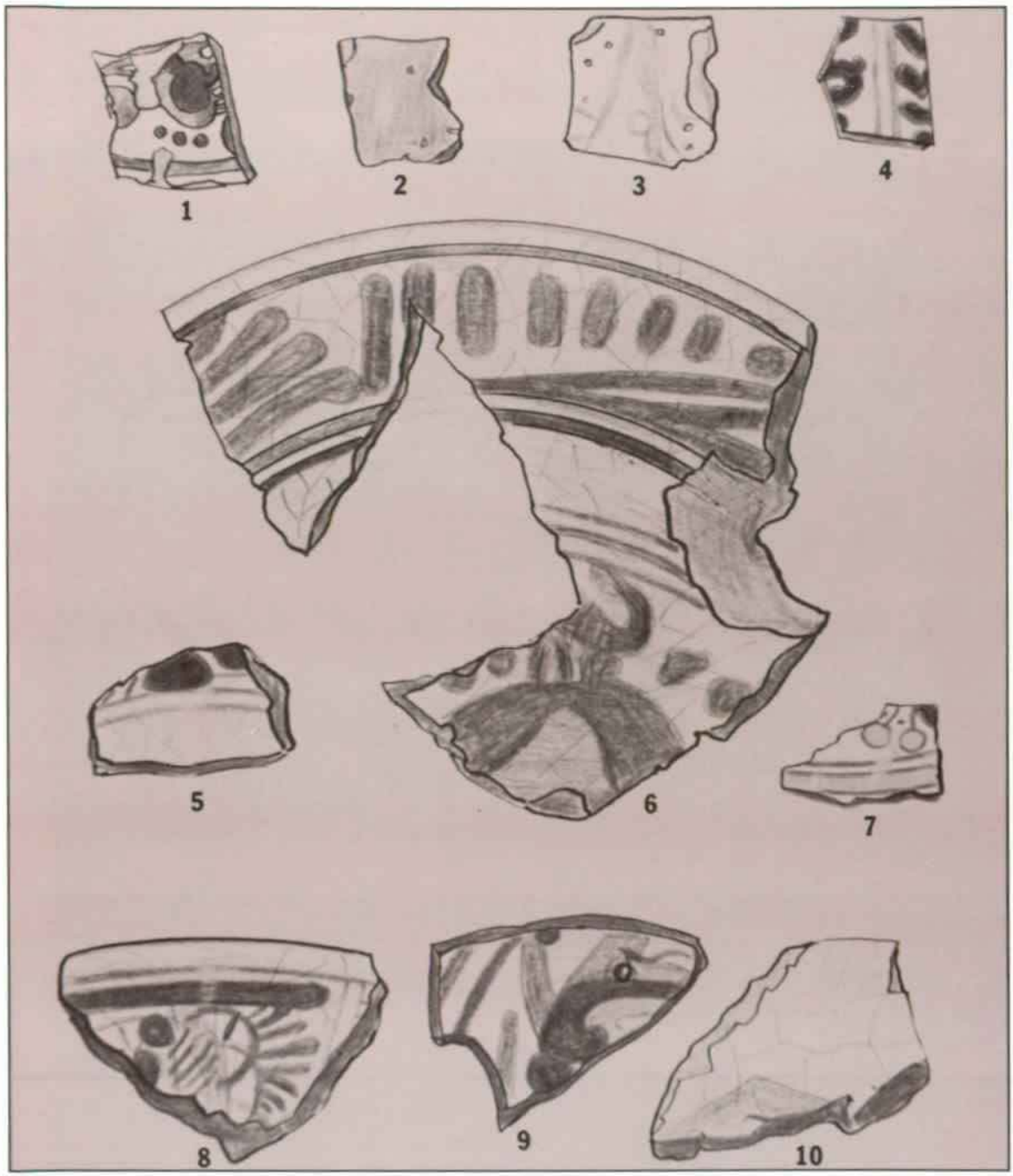



PLATE 23: Majolica and Porcelain Wares from Quarai. Key: 1) Puebla imitation of Chinese Blue on White, 2) unidentified green-glazed porcelain, 3) unidentified blue on white, 4) Puebla imitation of Chinese Blue on White, 5-6) San Luis Blue on White, 7) Abo Polychrome, 8) San Luis Blue on White, 9) Abo Polychrome, 10) Fig Springs Polychrome.



PLATE 24: Majolica Ware from Quarai. San Luis Blue on White bowl.



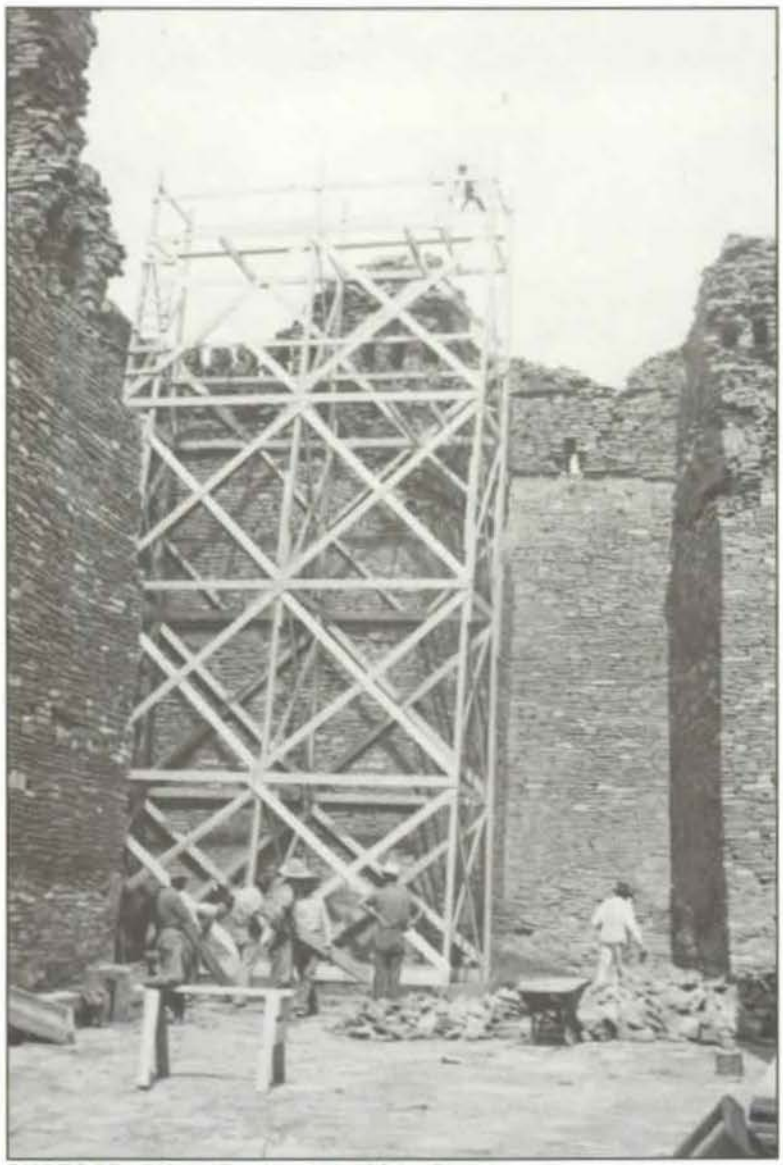
PHOTOGRAPH 1. Northeast Section of the Convento.



PHOTOGRAPH 2. Southeast Section of the Convento.



PHOTOGRAPH 3. Panoramic View of Section of Pueblo Excavated in 1939.



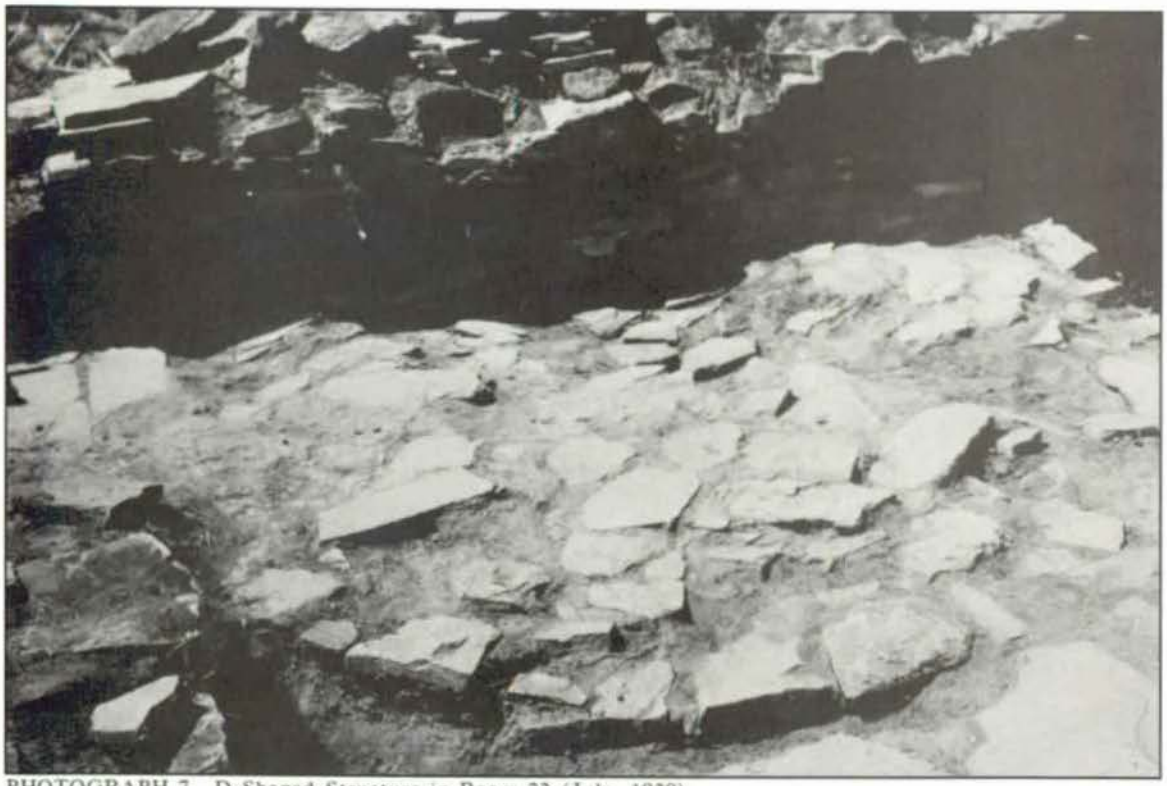
PHOTOGRAPH 4. Repair of the Main Church.



PHOTOGRAPH 5. Patio 2 After Repair.



PHOTOGRAPH 6. Torreon in Southeast Convento Section (March, 1940).



PHOTOGRAPH 7. D-Shaped Structure in Room 33 (July, 1939).



PHOTOGRAPH 8. Stone-Lined Drainage Canal in Patio 2 (July, 1939).



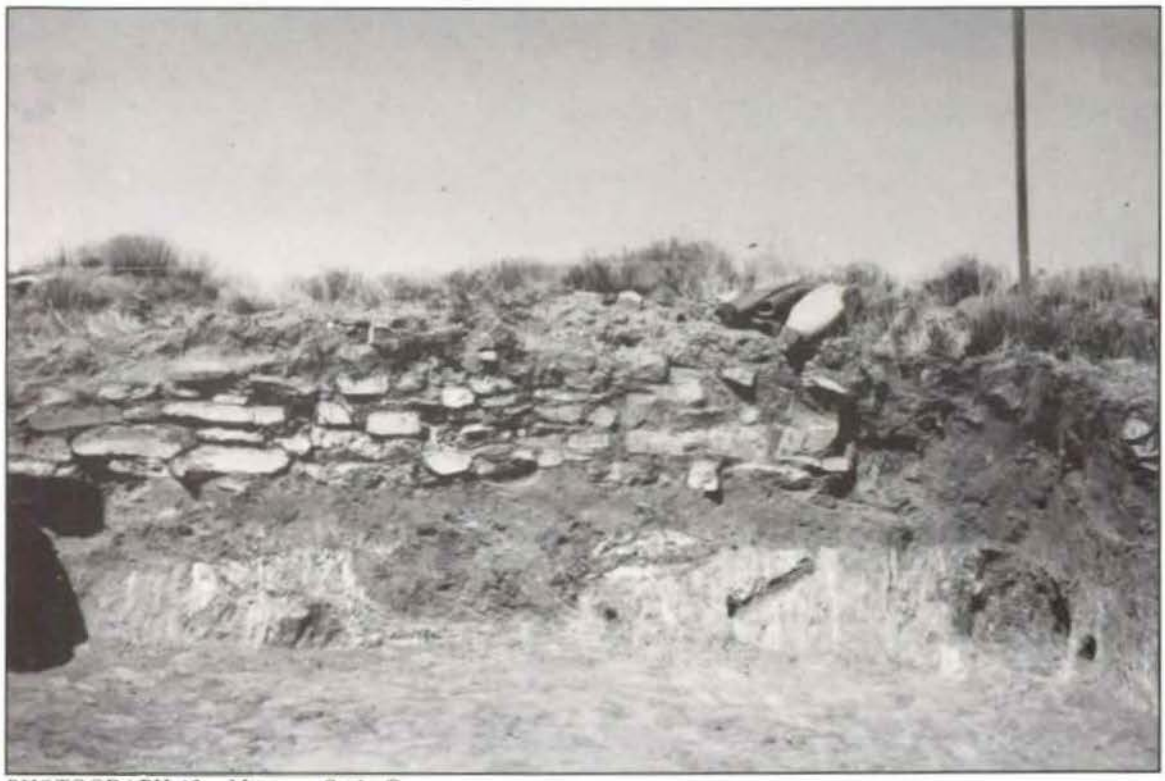
PHOTOGRAPH 9. Grinding Bins in Room 43.



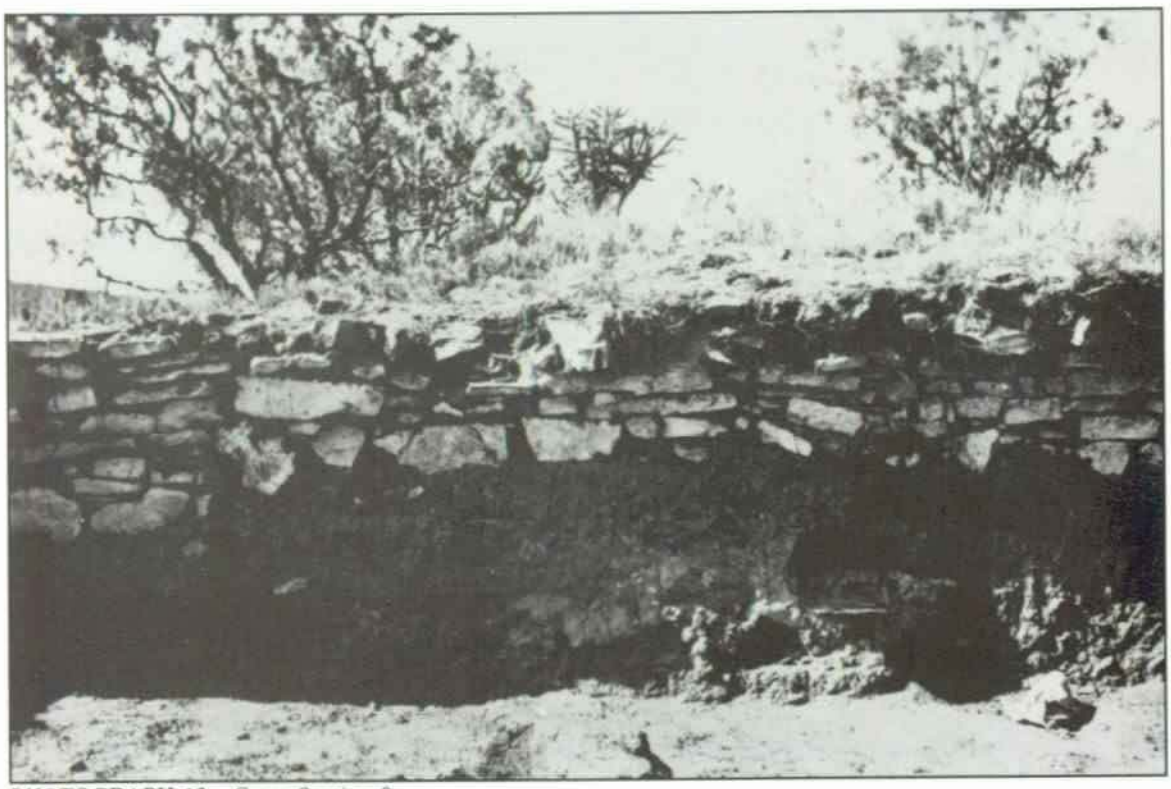
PHOTOGRAPH 10. Walls Under East Wall of Patio No. 3.



PHOTOGRAPH 11. Masonry Style B.



PHOTOGRAPH 12. Masonry Style C.



PHOTOGRAPH 13. Cross Section 8.



PHOTOGRAPH 14. Fireplaces in Room 5.



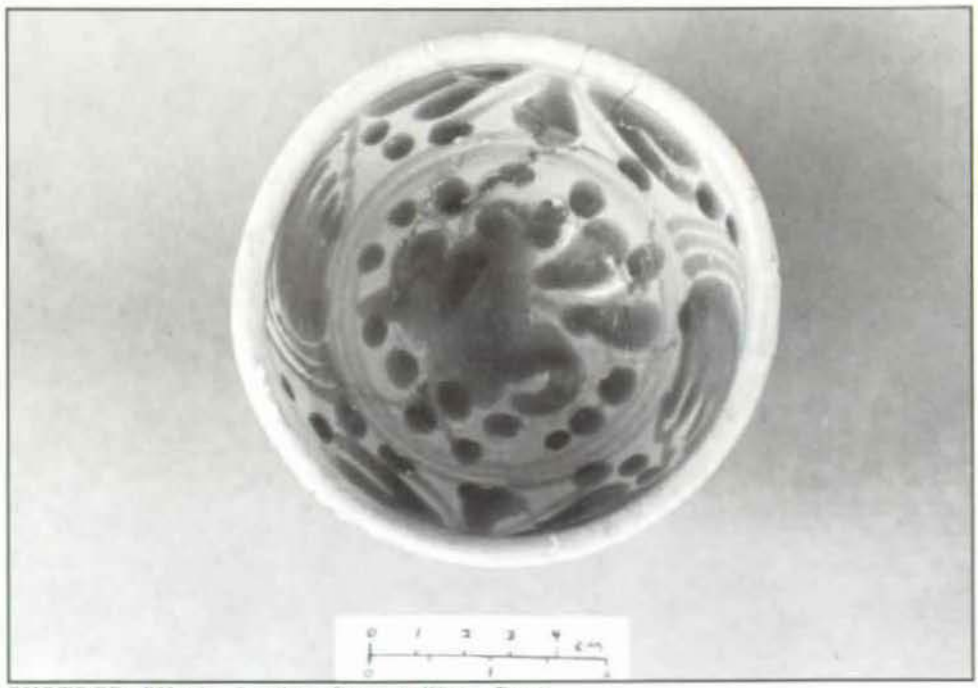
PHOTOGRAPH 15. Fireboxes in Section 39.



PHOTOGRAPH 16. Cross Section 2.



PHOTOGRAPH 17. Abo Polychrome Sherds.



PHOTOGRAPH 18. San Luis Blue on White Bowl.

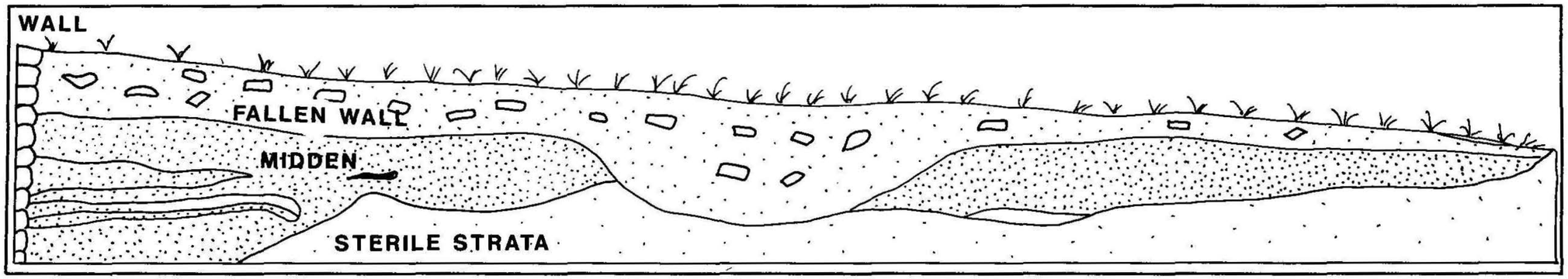



FIGURE 1. Cross Section 1.

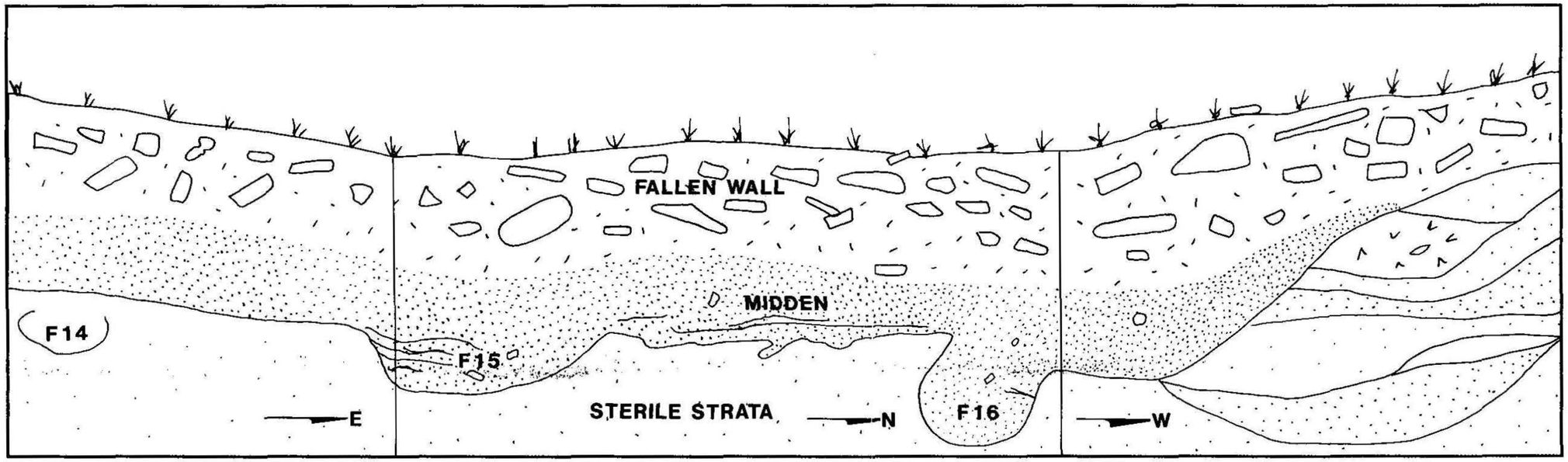



FIGURE 2. Cross Section 2.

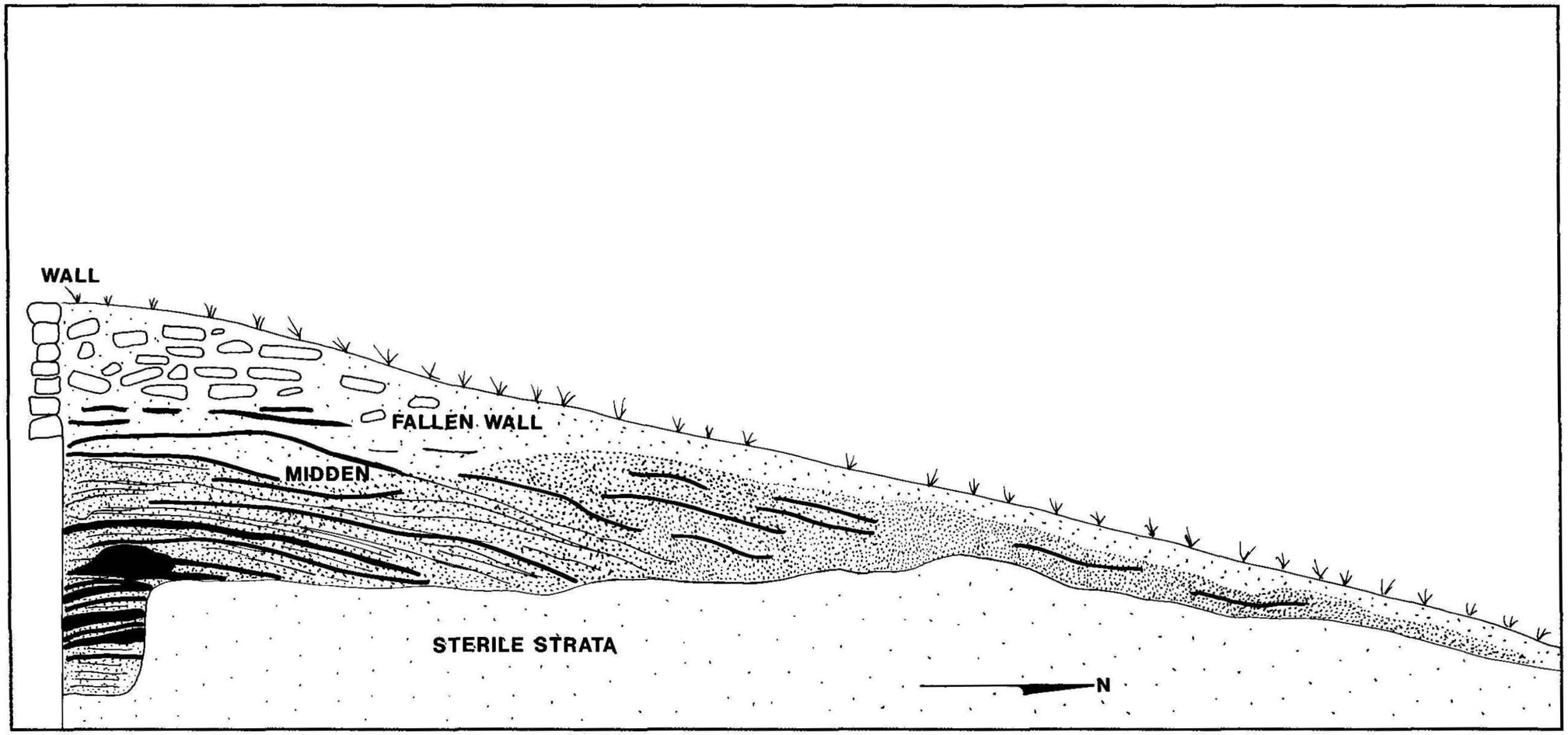



FIGURE 3. Cross section 3.

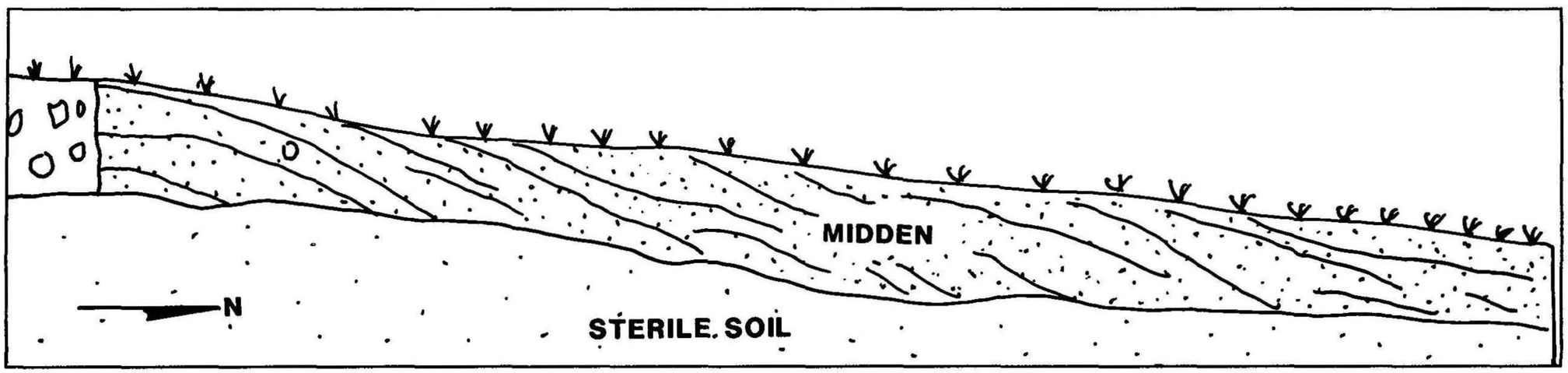



FIGURE 4. Cross Section 4.

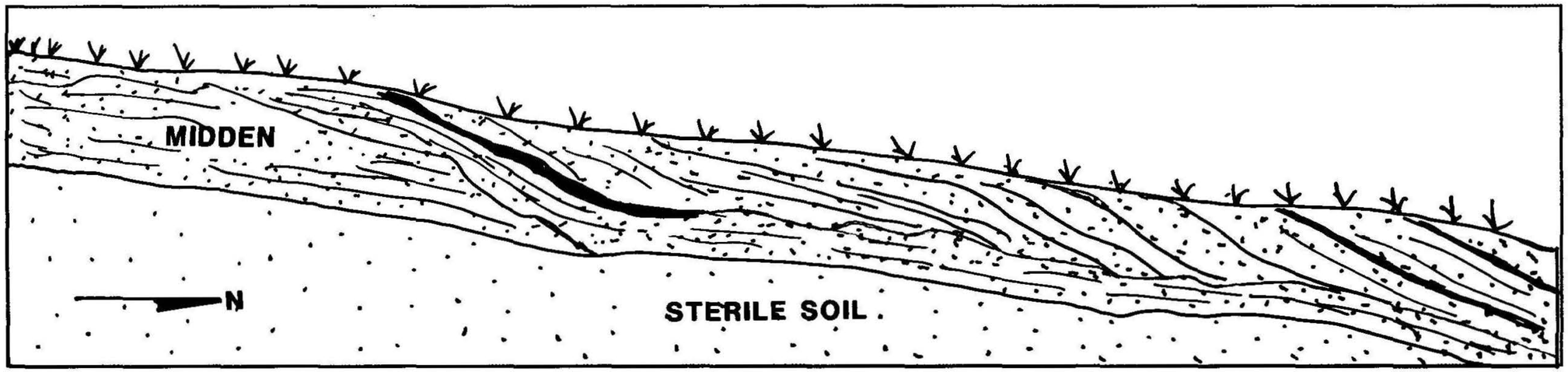



FIGURE 5. Cross Section 5.

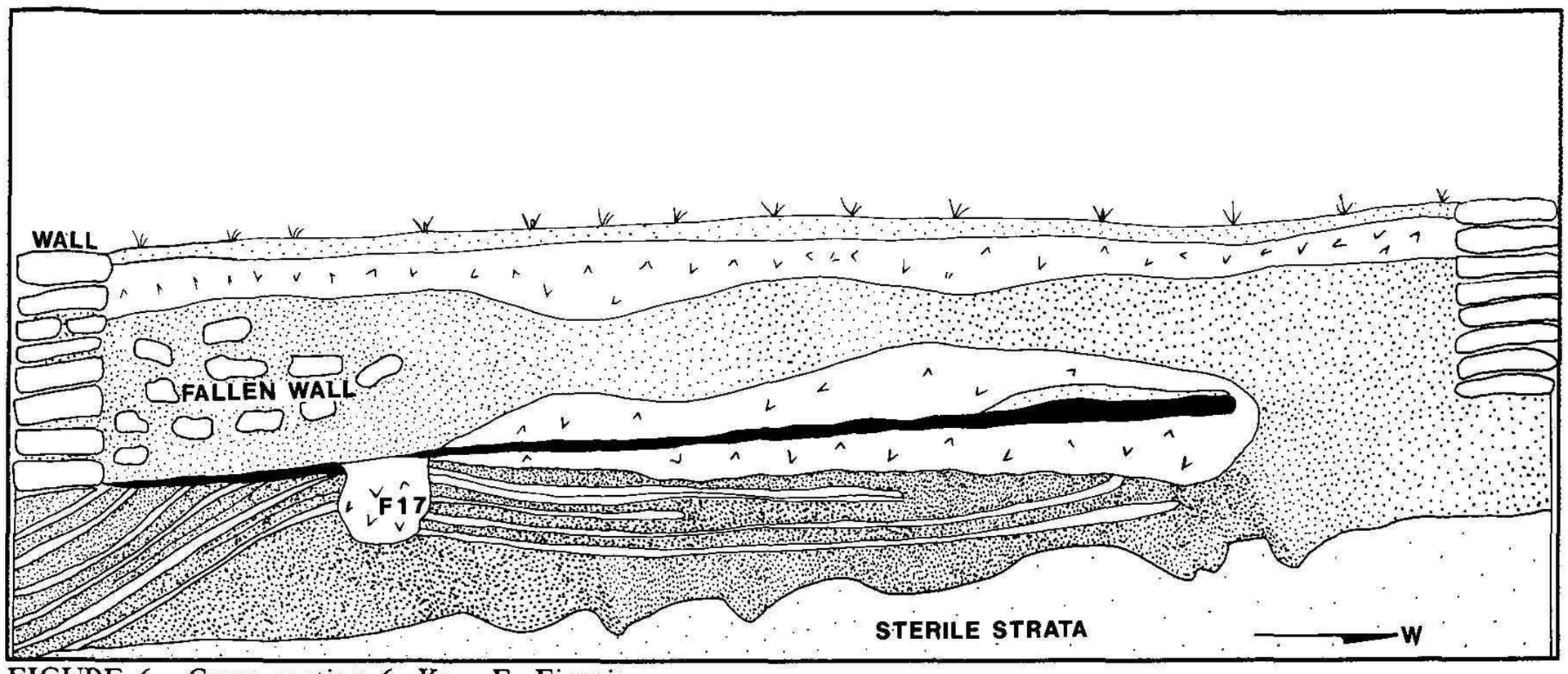



FIGURE 6. Cross-section 6. Key: F=Firepit.

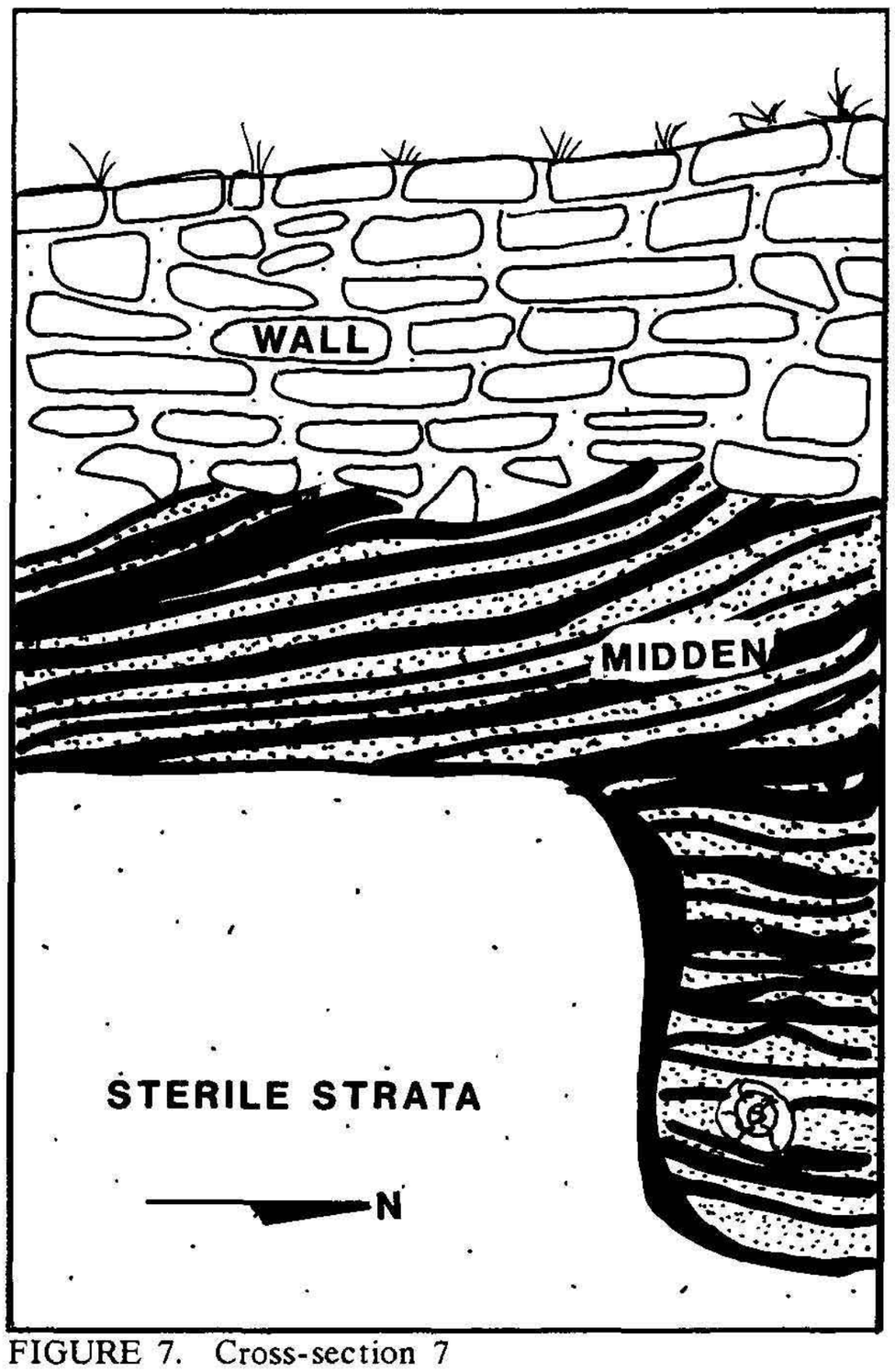



FIGURE 7. Cross-section 7

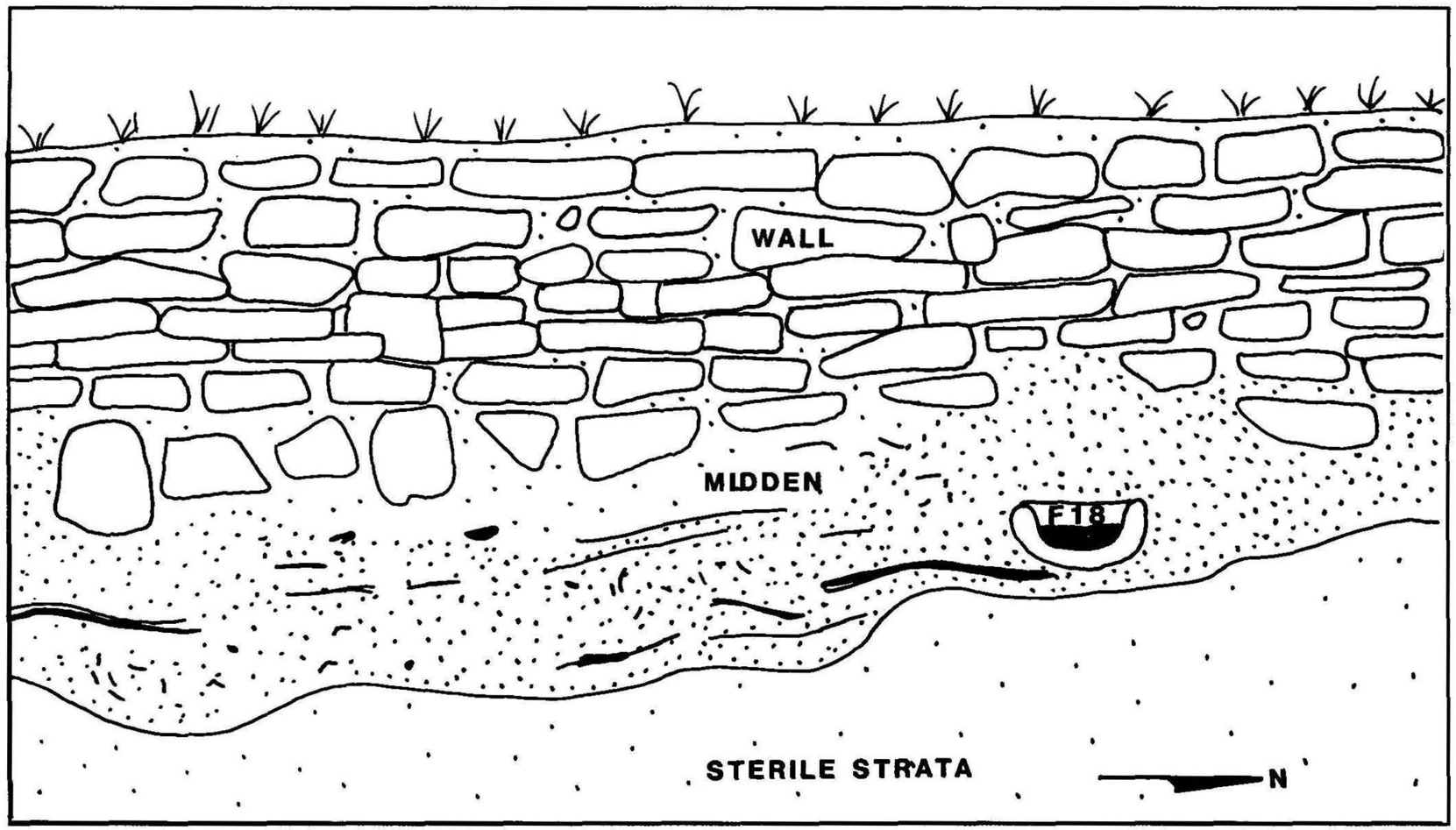



FIGURE 8. Cross Section 8.

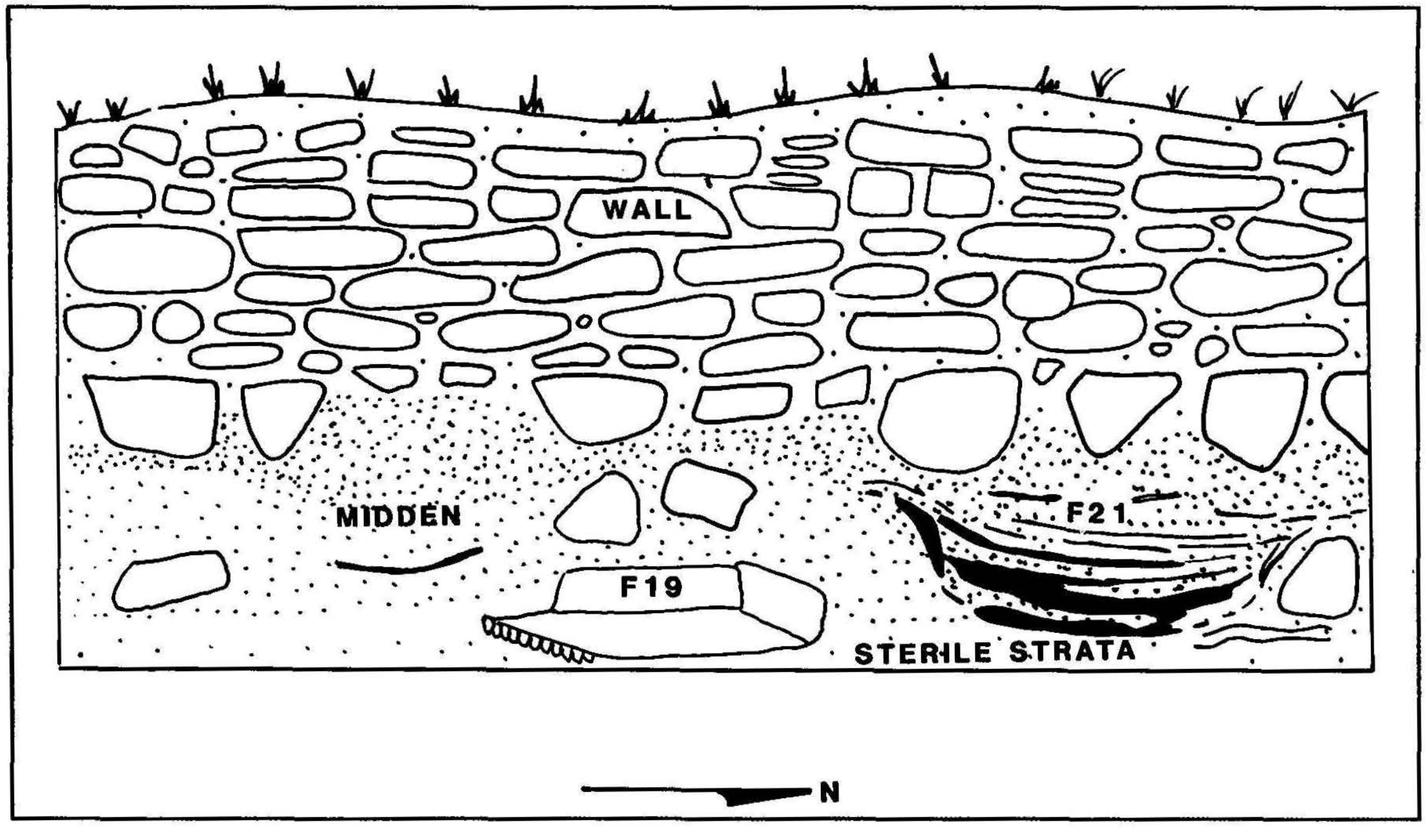



FIGURE 9. Cross Section 9.

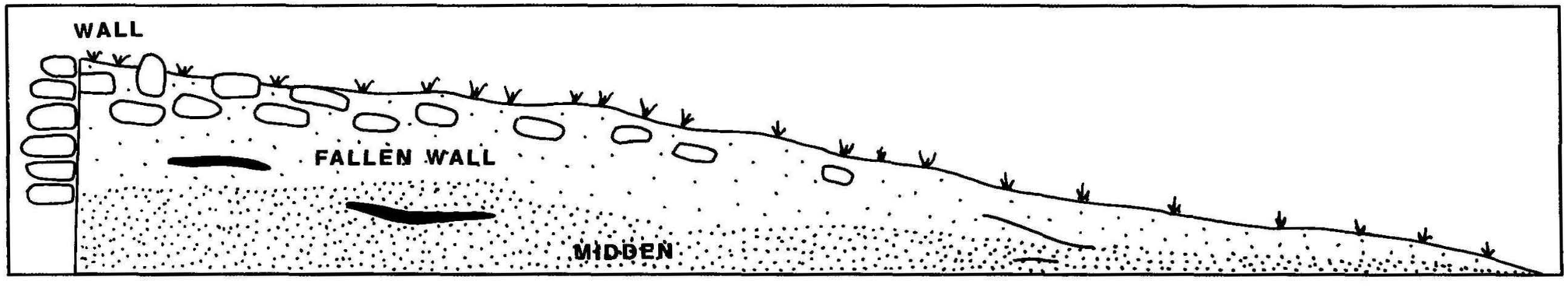



FIGURE 10. Cross Section 10.

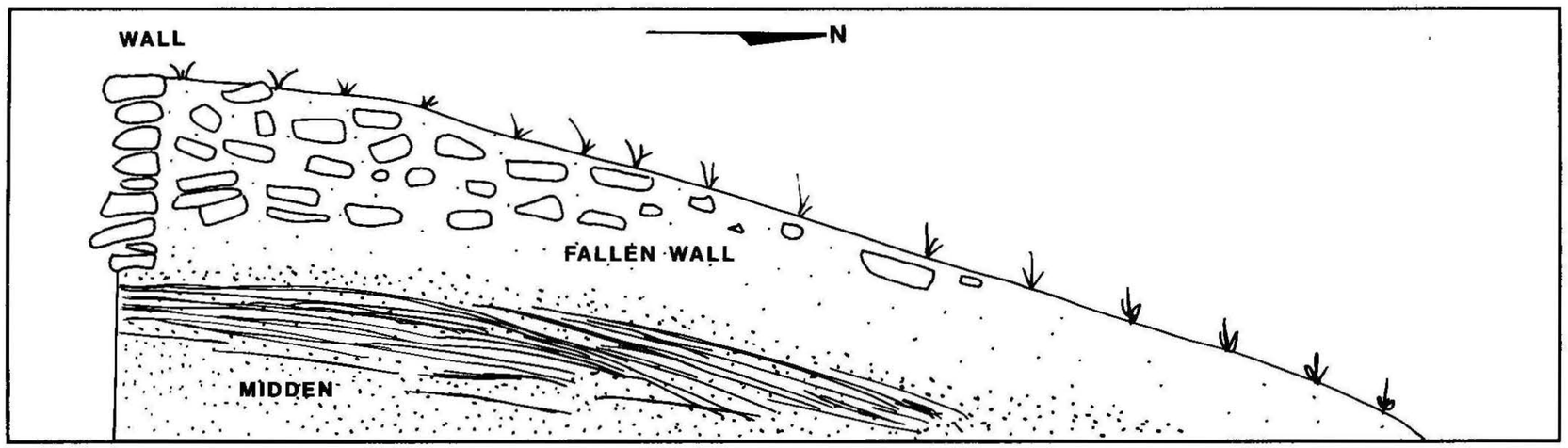



FIGURE 11. Cross Section 11.

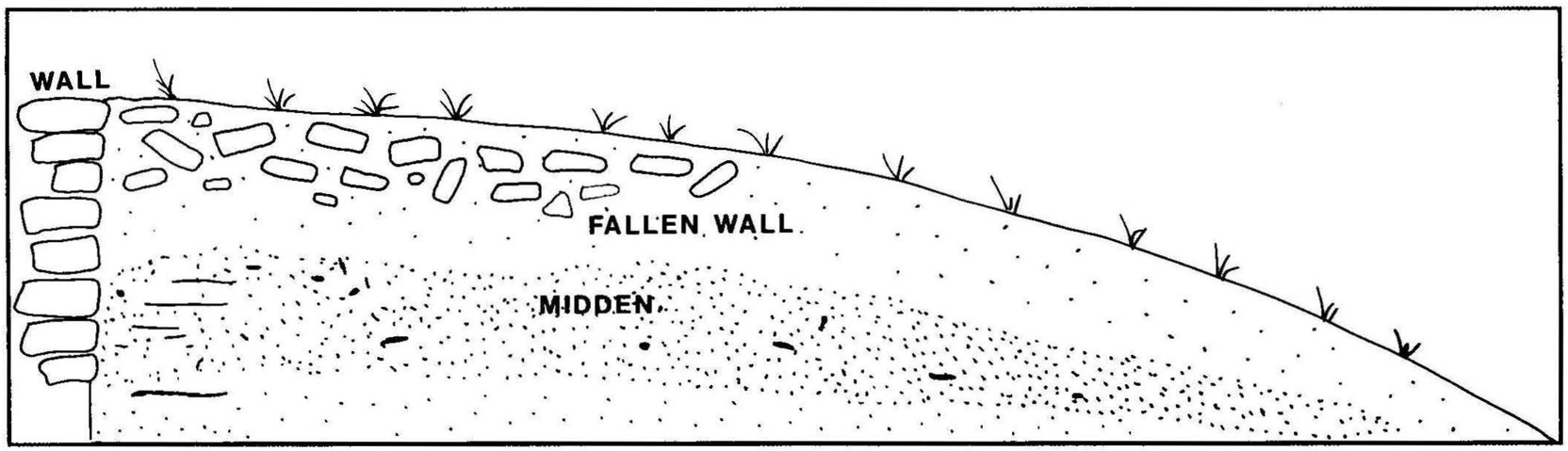



FIGURE 12. Cross Section 12.

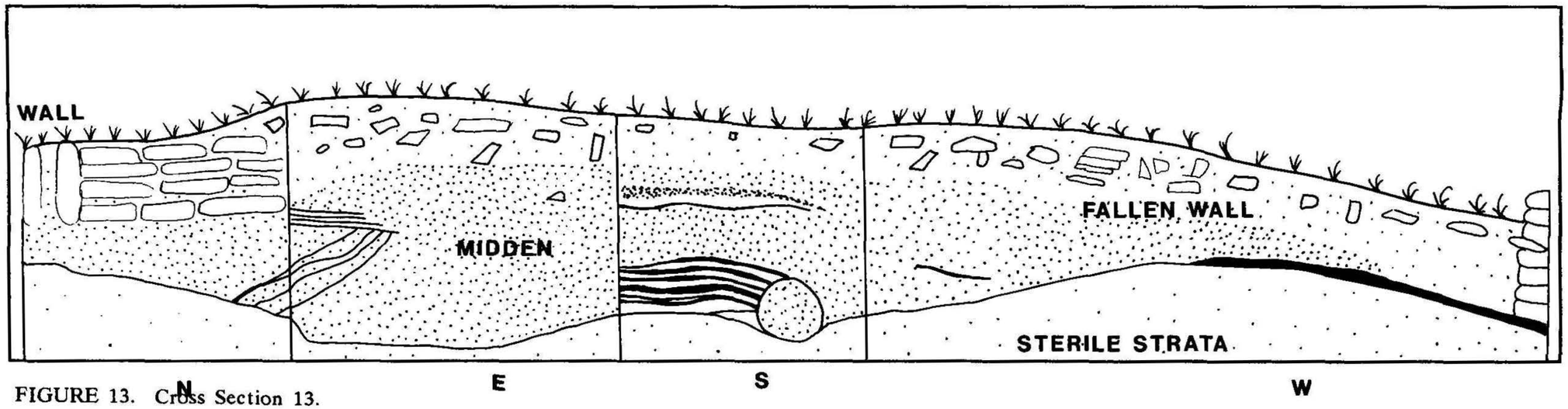



FIGURE 13. Cross Section 13.

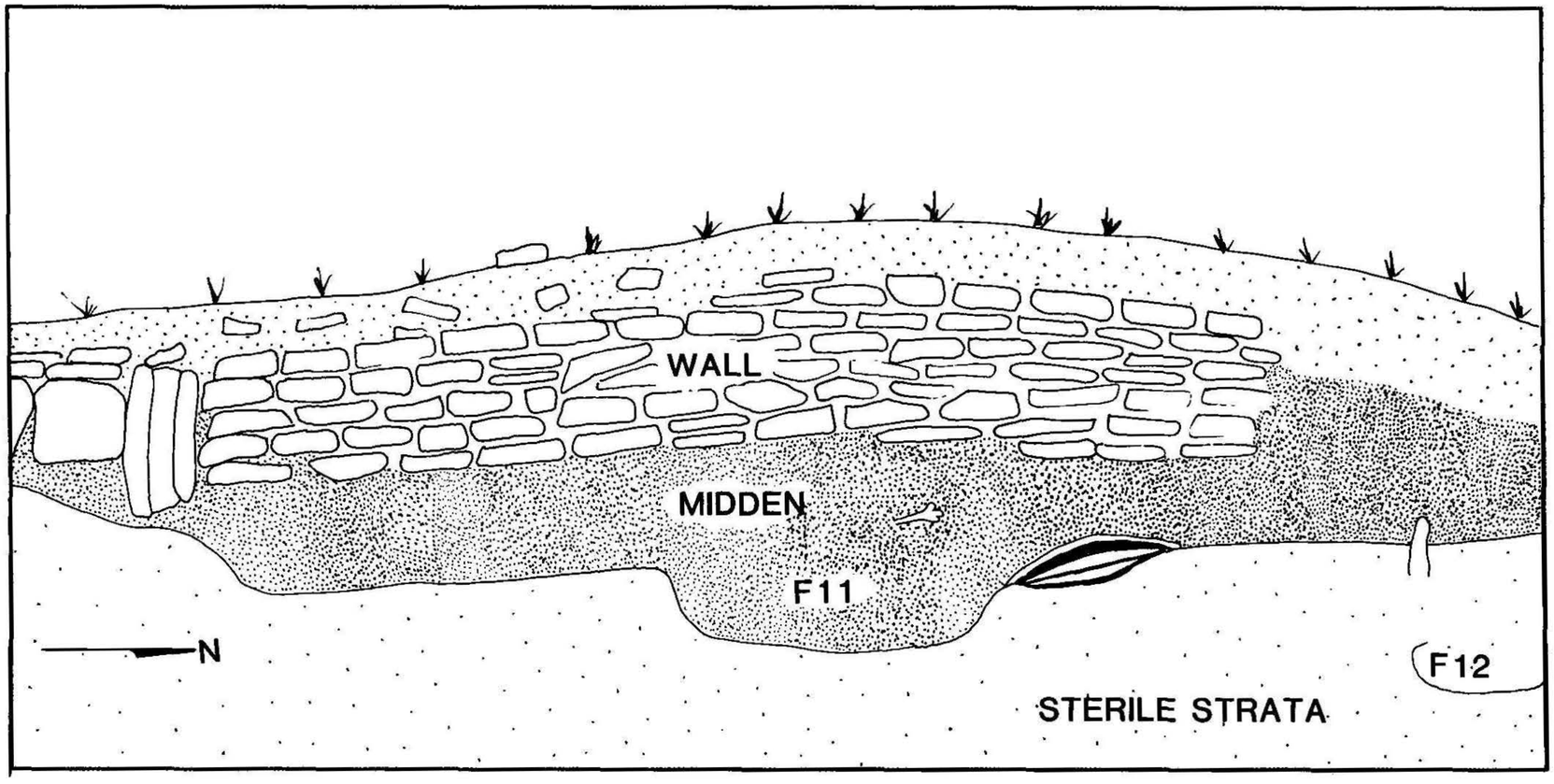
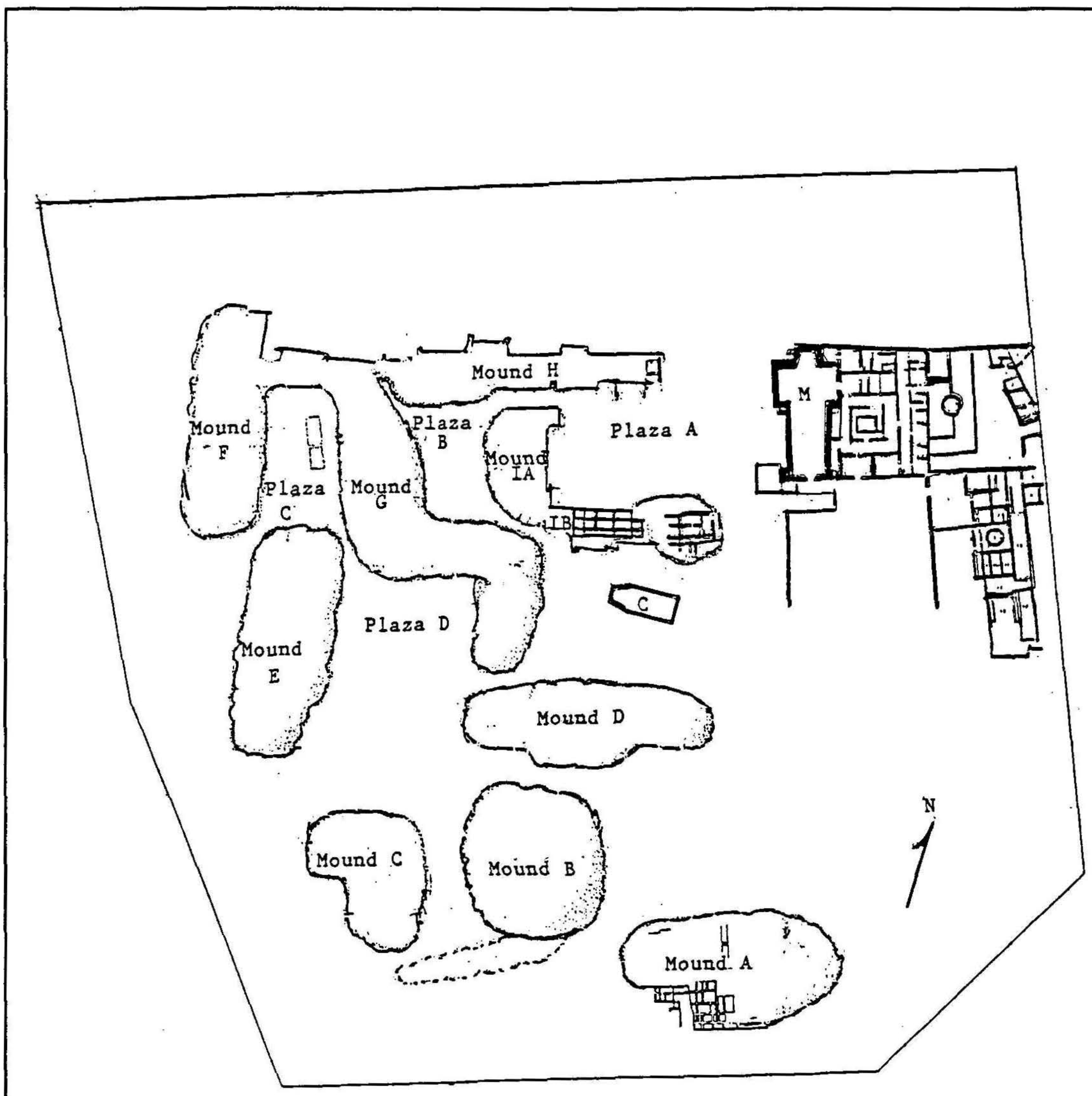



FIGURE 14. Cross Section 14.




MAP 1

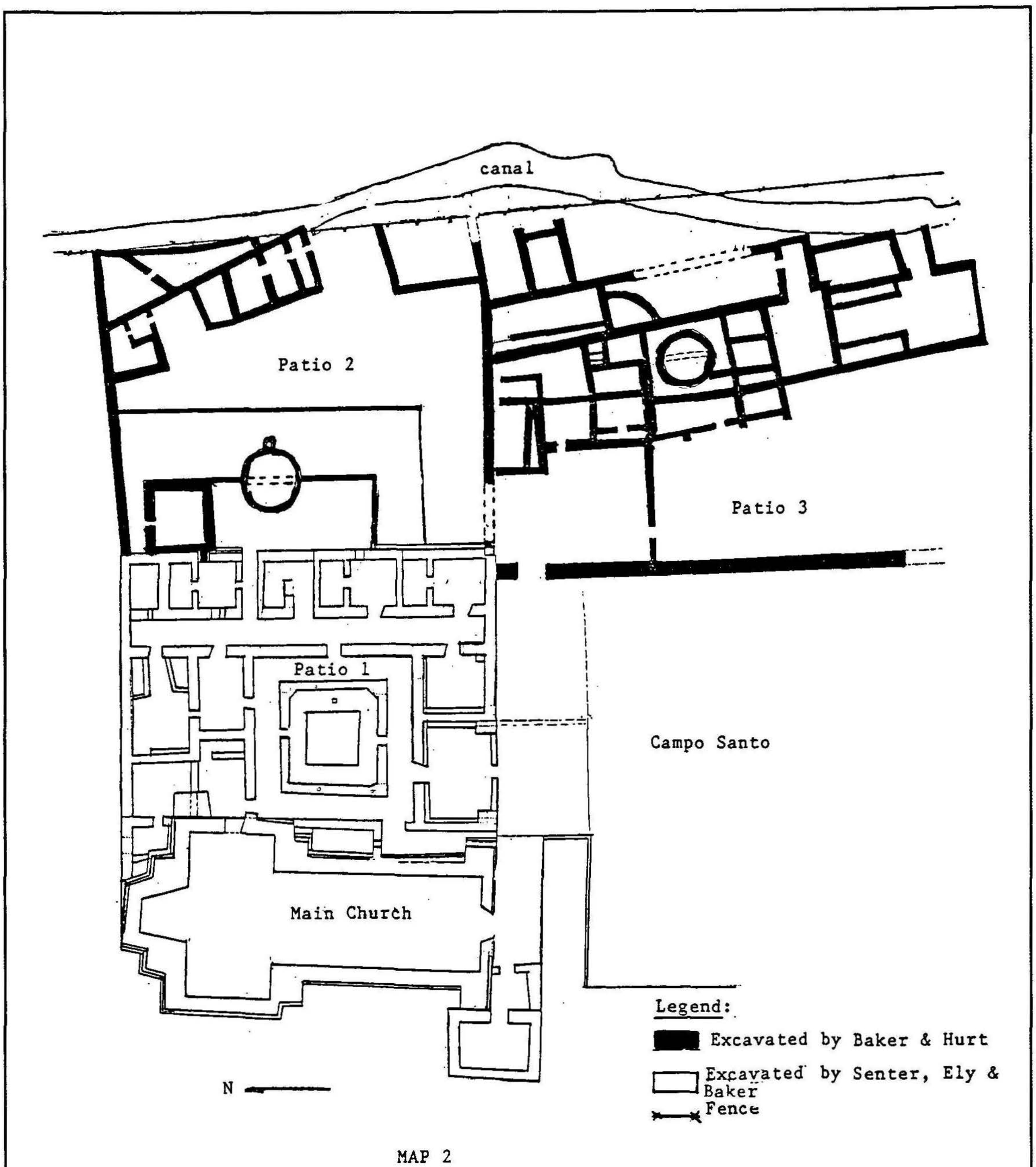
QUARAI PUEBLO, MISSIONS, AND CONVENTO, GENERAL VIEW

Scale:

└─┴─┘ = 60 feet

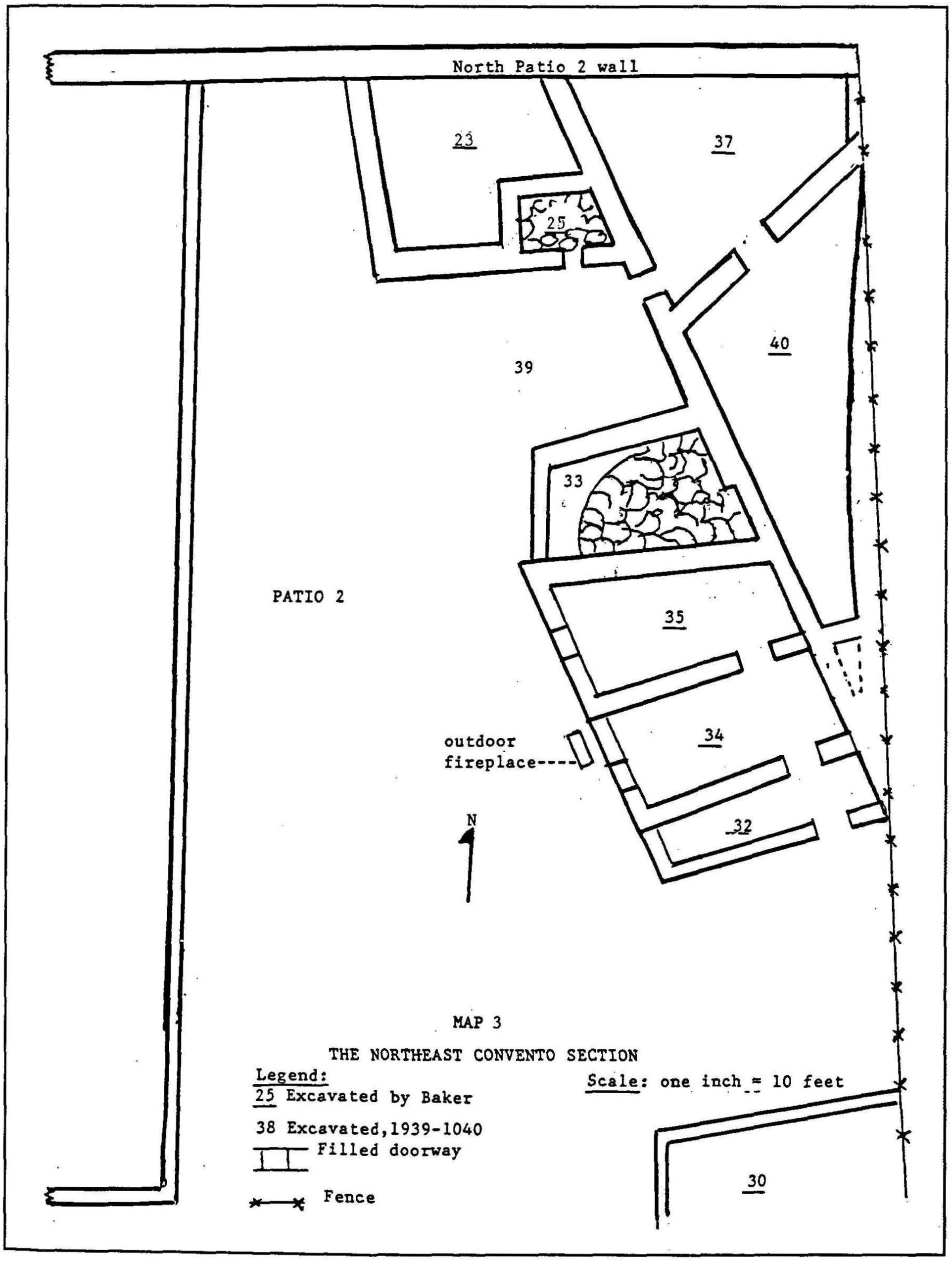
Legend:

M= main mission church
C= small chapel




MAP 2

QUARAI MAIN CHURCH AND CONVENTO




MAP 3

THE NORTHEAST CONVENTO SECTION

Legend:

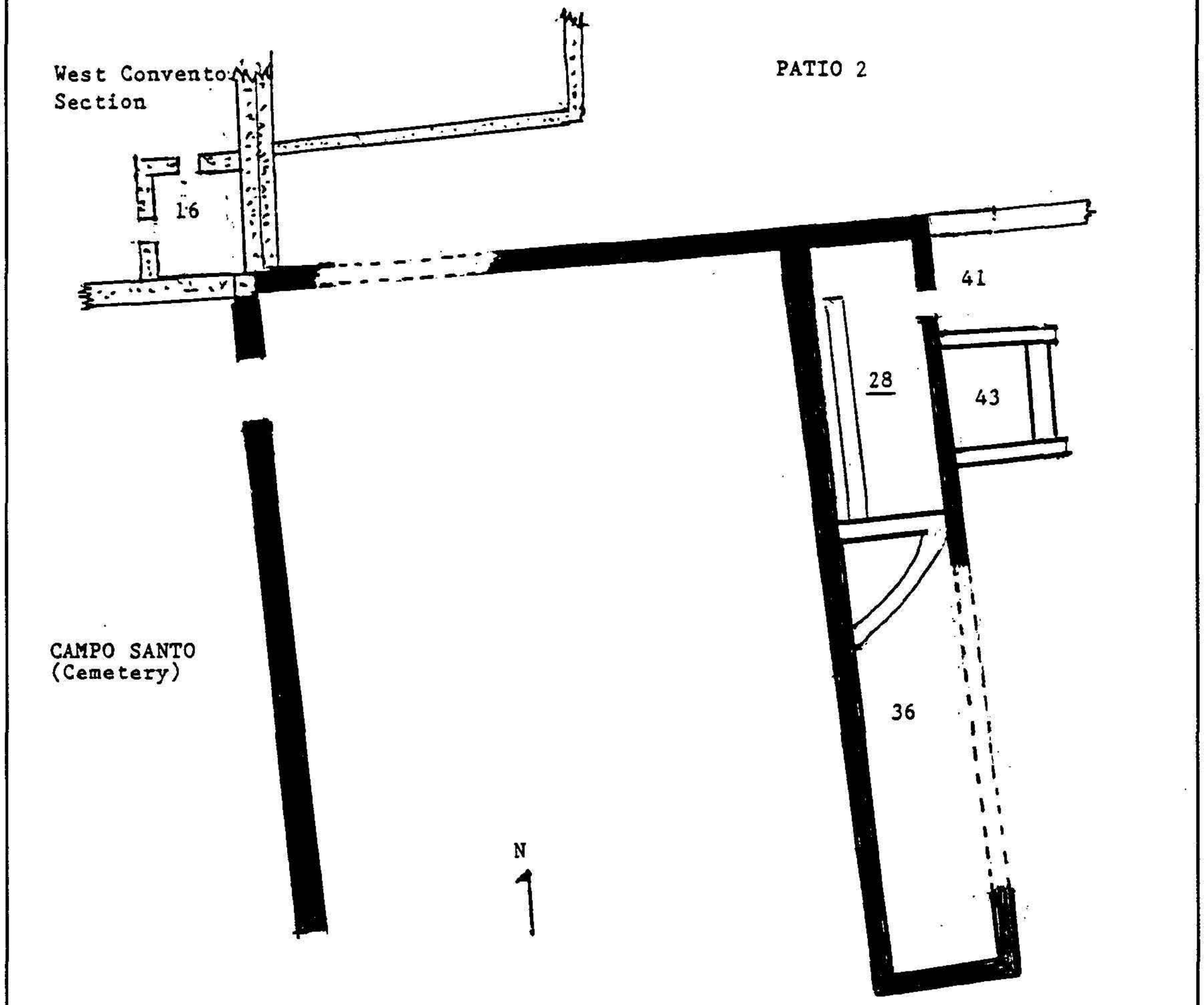
25 Excavated by Baker

38 Excavated,1939-1040

Filled doorway

Fence

Scale: one inch = 10 feet




MAP 4

THE SOUTHEAST CONVENTO SECTION

Construction Periods 1 and 2

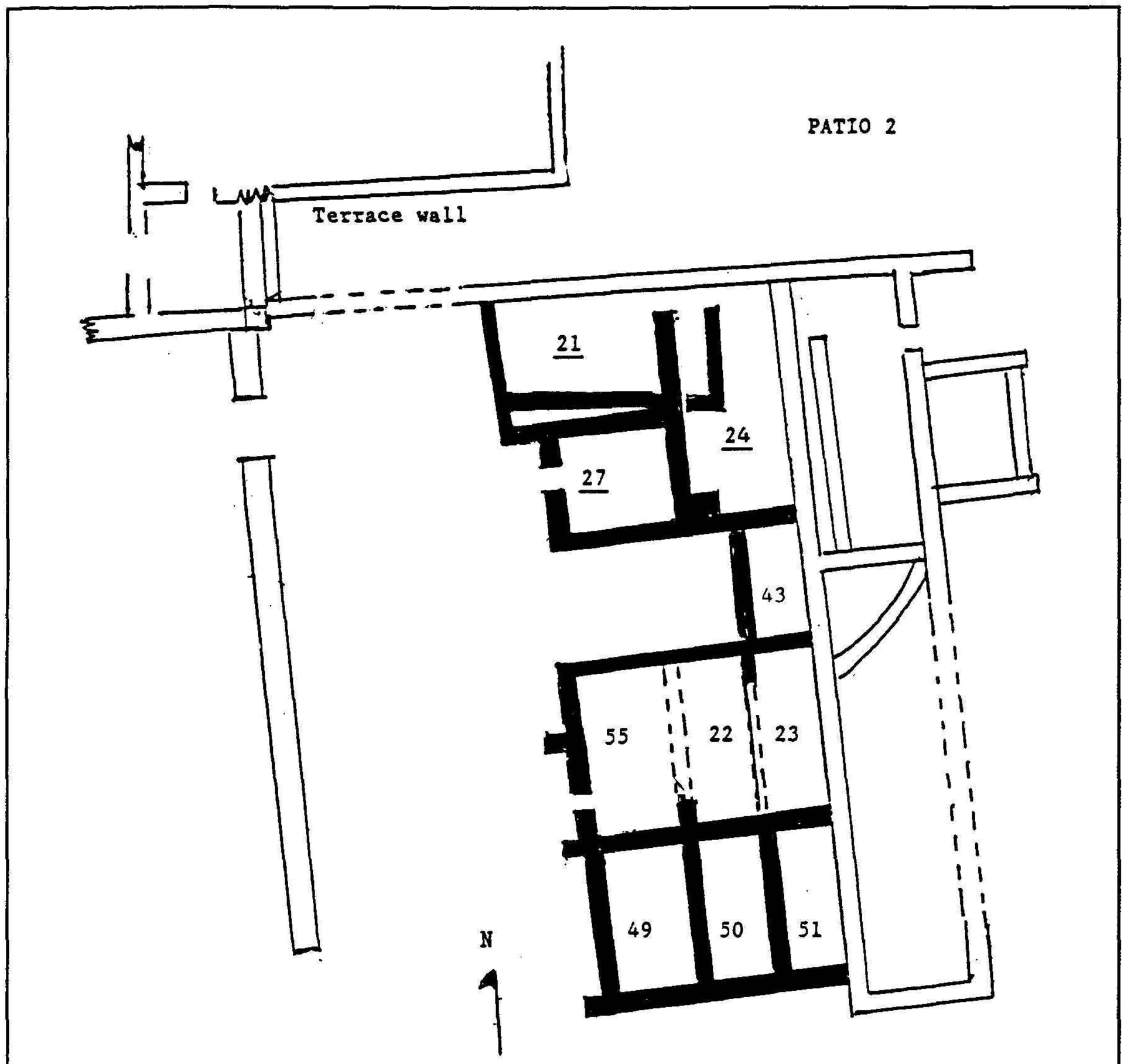
Scale: one inch = 20 feet

Legend:

Period 1

Period 2

Old construction




MAP 5
THE SOUTHEAST CONVENTO SECTION

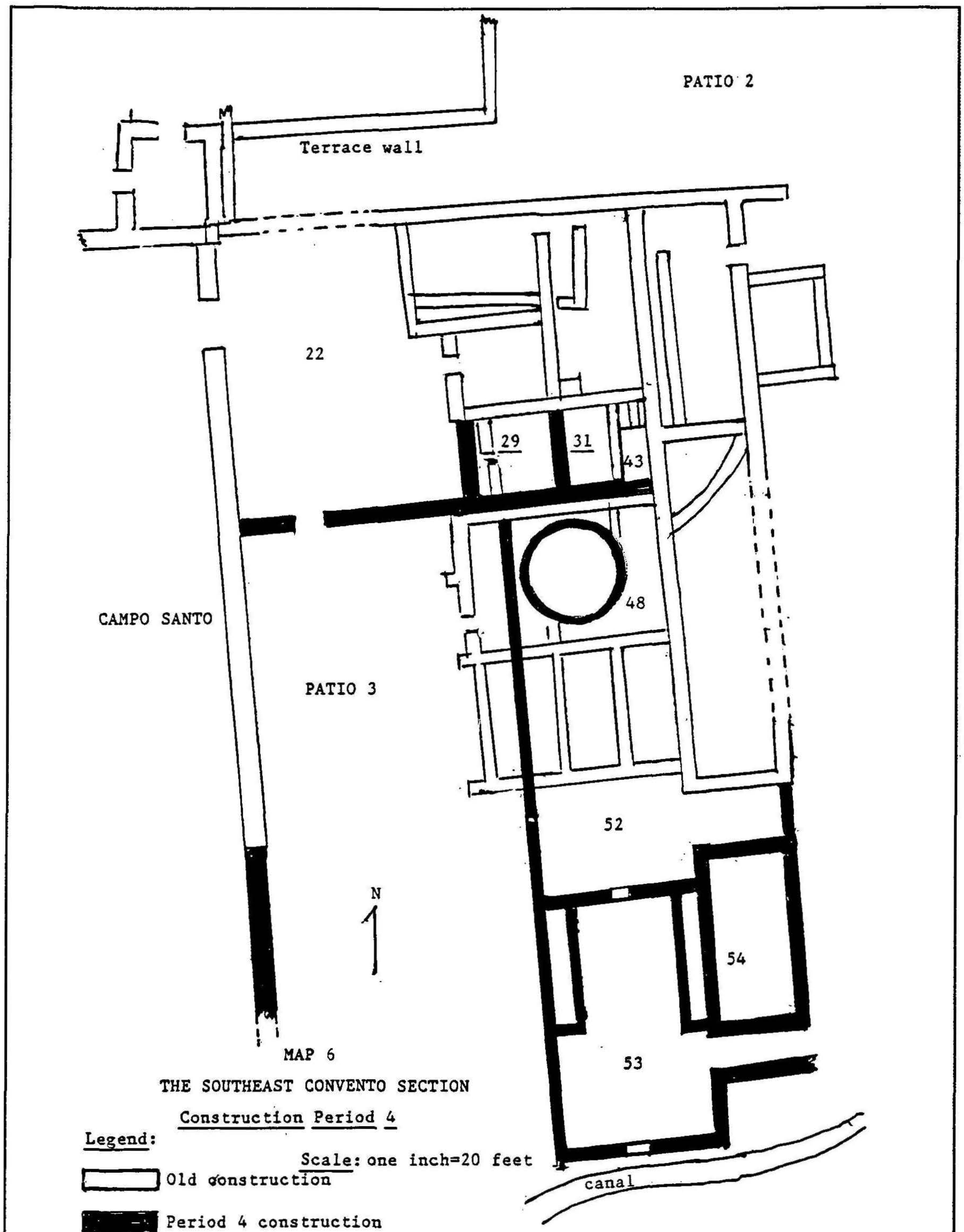
Construction Period 3

Legend:

Old construction

Period 3 construction

Scale: one inch = 20 feet




MAP 6

THE SOUTHEAST CONVENTO SECTION

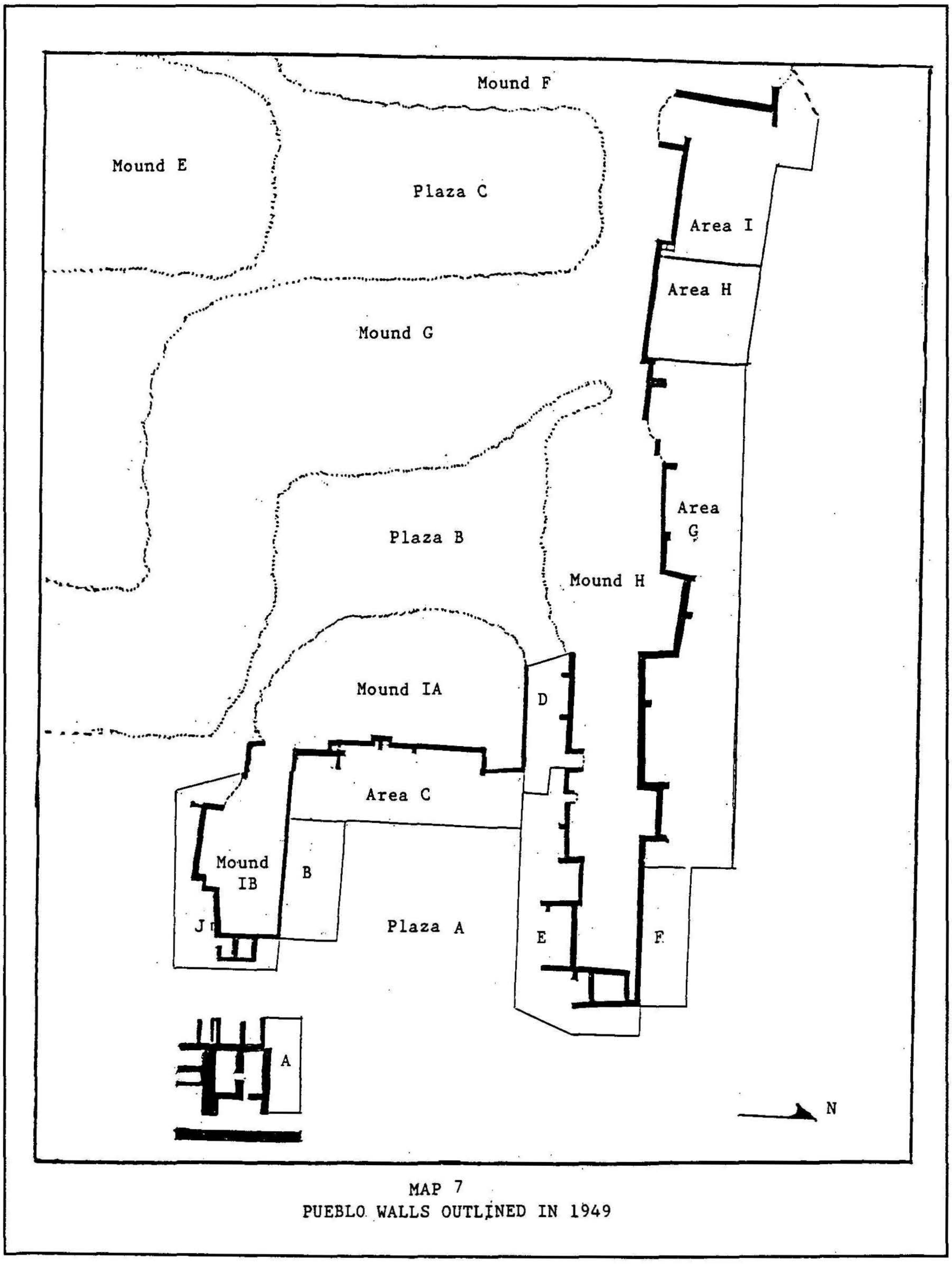
Construction Period 4

Legend:

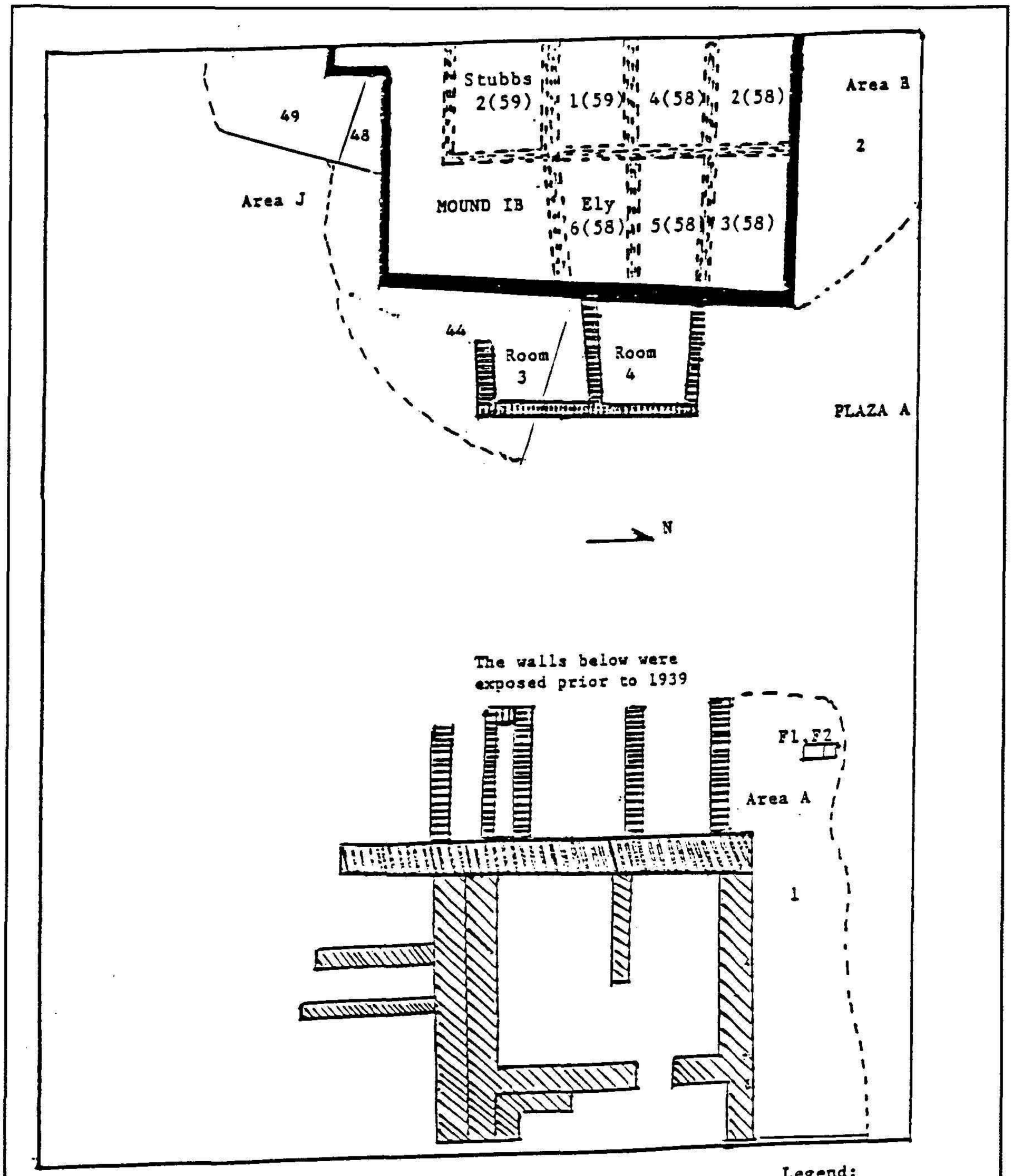
Old construction

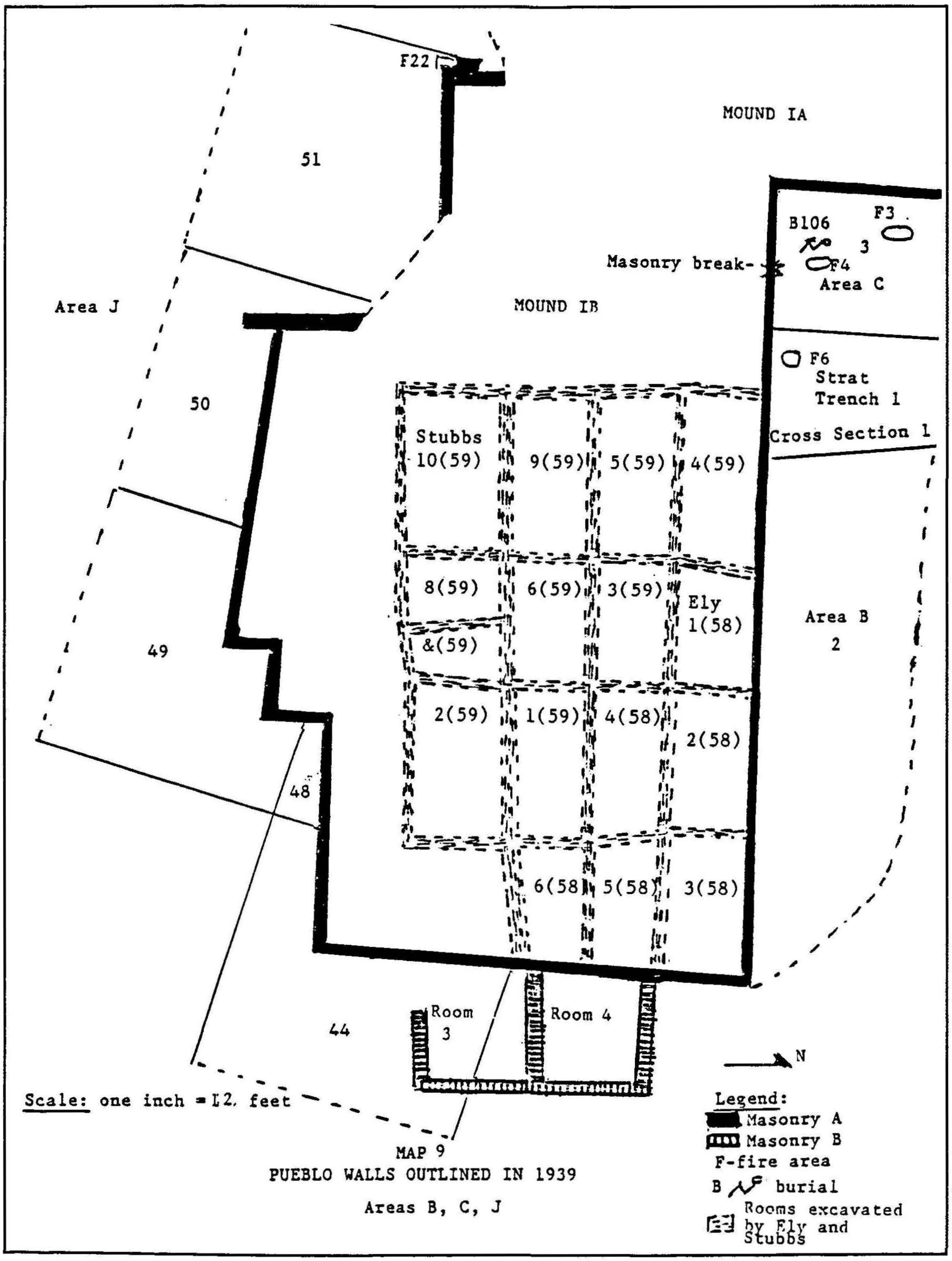
Period 4 construction

Scale: one inch=20 feet

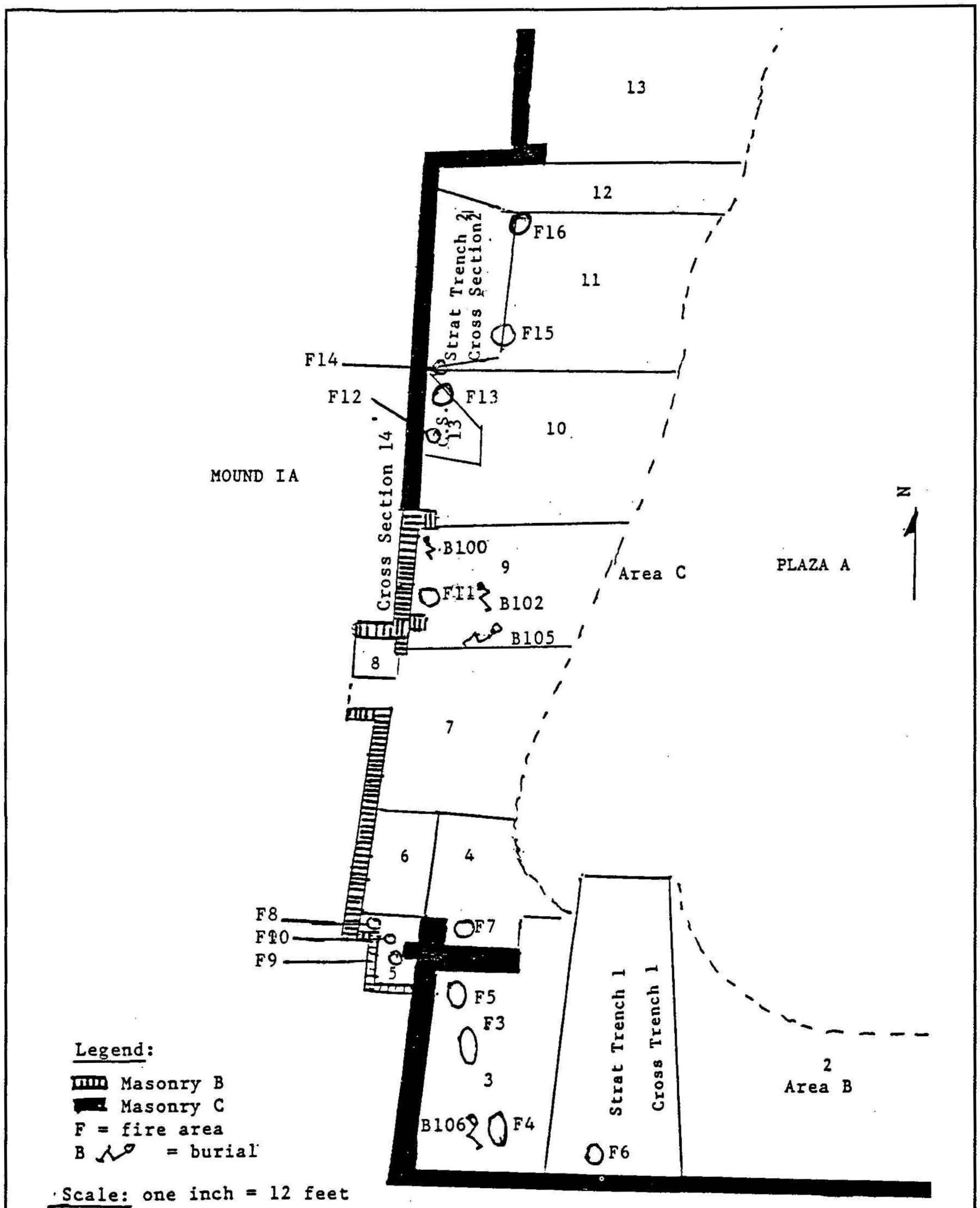



MAP 7
PUEBLO WALLS OUTLINED IN 1949

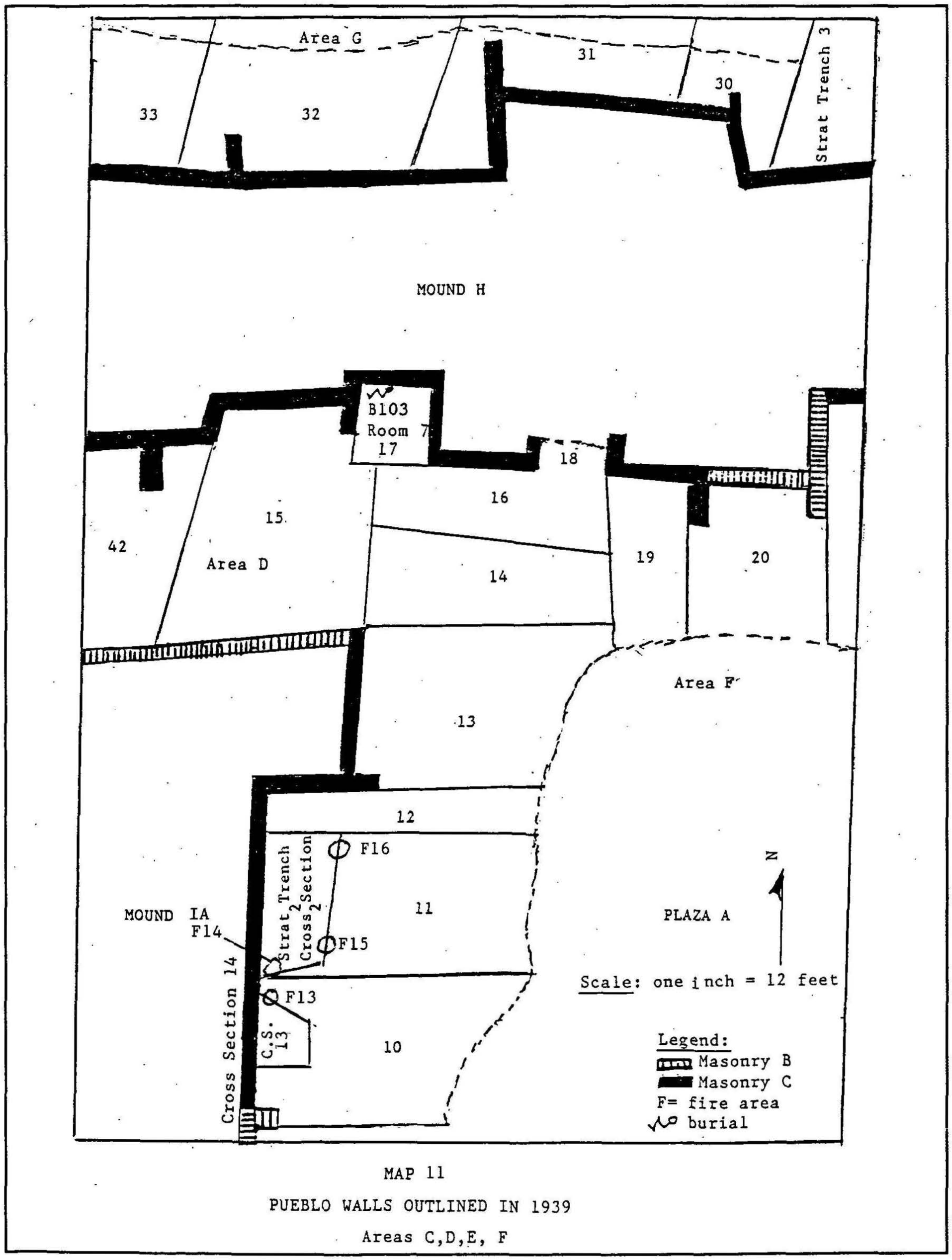

Stubbs
2(59)
1(59)
4(58)
2(58)
Area B
2
49
48
Area J
MOUND IB
Ely
6(58)
5(58)
3(58)
44
Room 3
Room 4
PLAZA A
N
The walls below were exposed prior to 1939
F1
F2
Area A
1
Scale One inch = 12 feet
MAP 8
PUEBLO WALLS OUTLINED IN 1939
Areas A, B, J
Legend:
Masonry A
Masonry B
Masonry C
F-fire area
Rooms excavated by Ely and Stubbs




MAP 9
PUEBLO WALLS OUTLINED IN 1939
Areas B, C, J



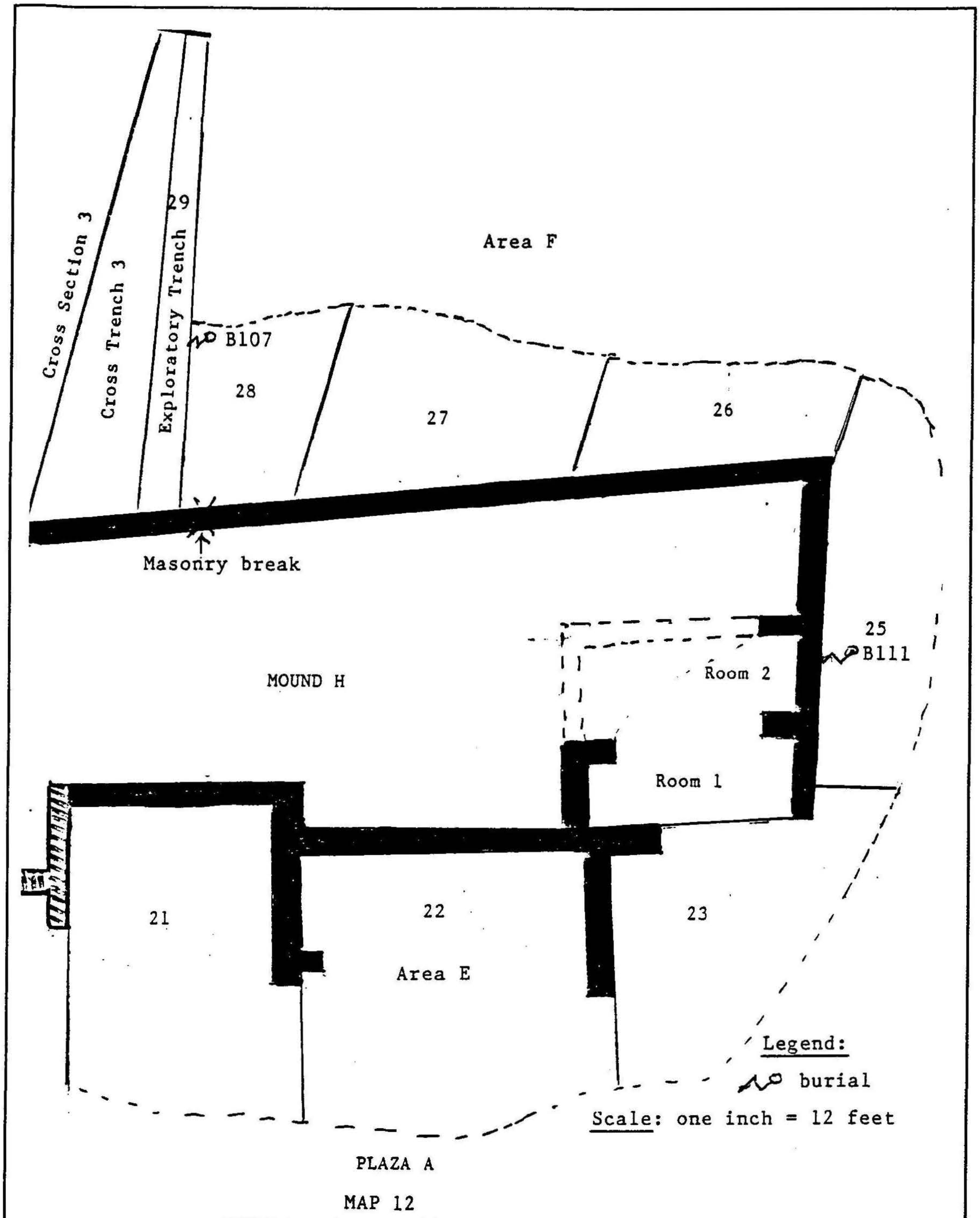

MAP 10
PUEBLO WALLS OUTLINED IN 1939
Areas B,C



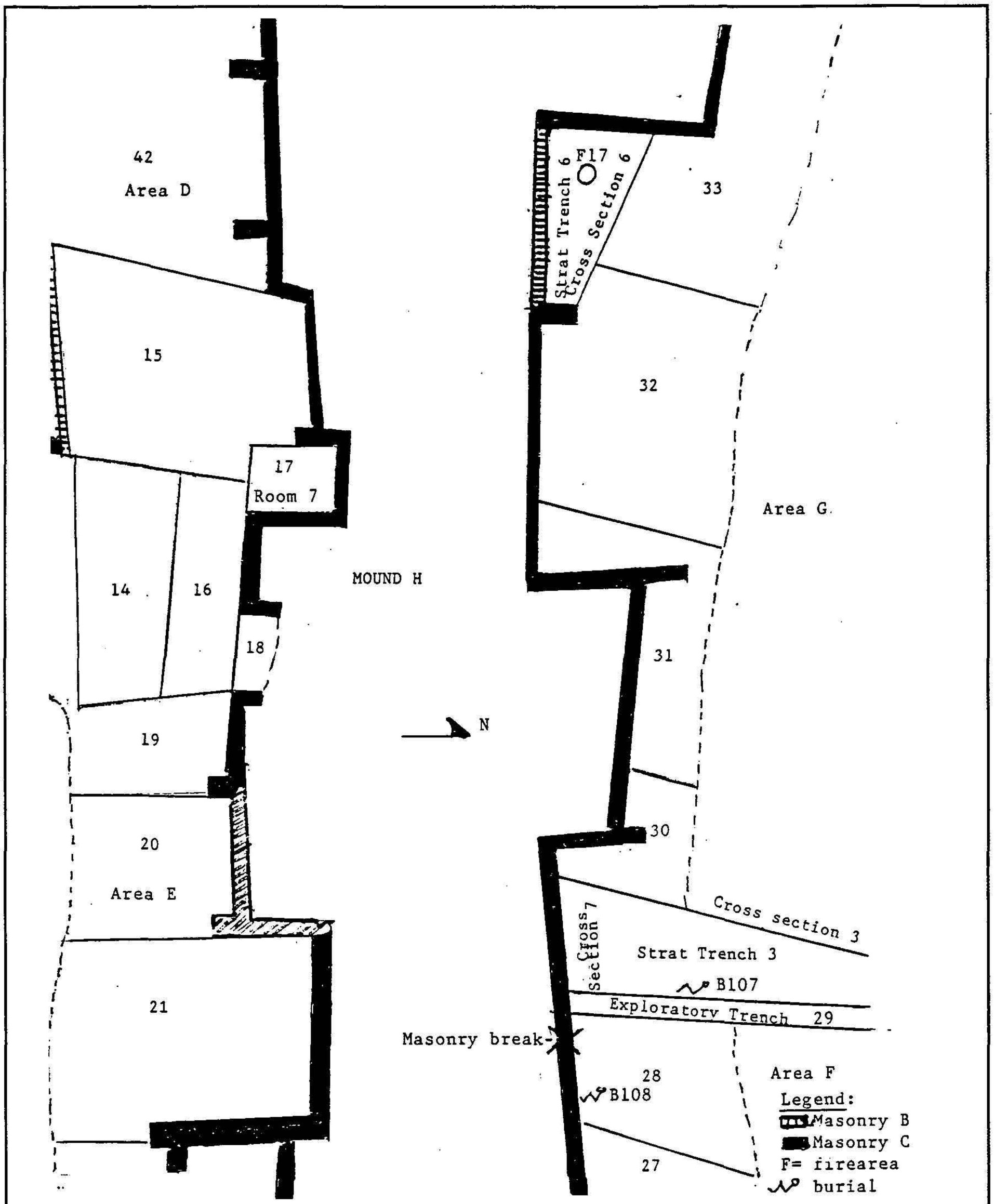

MAP 11

PUEBLO WALLS OUTLINED IN 1939

Areas C,D,E, F



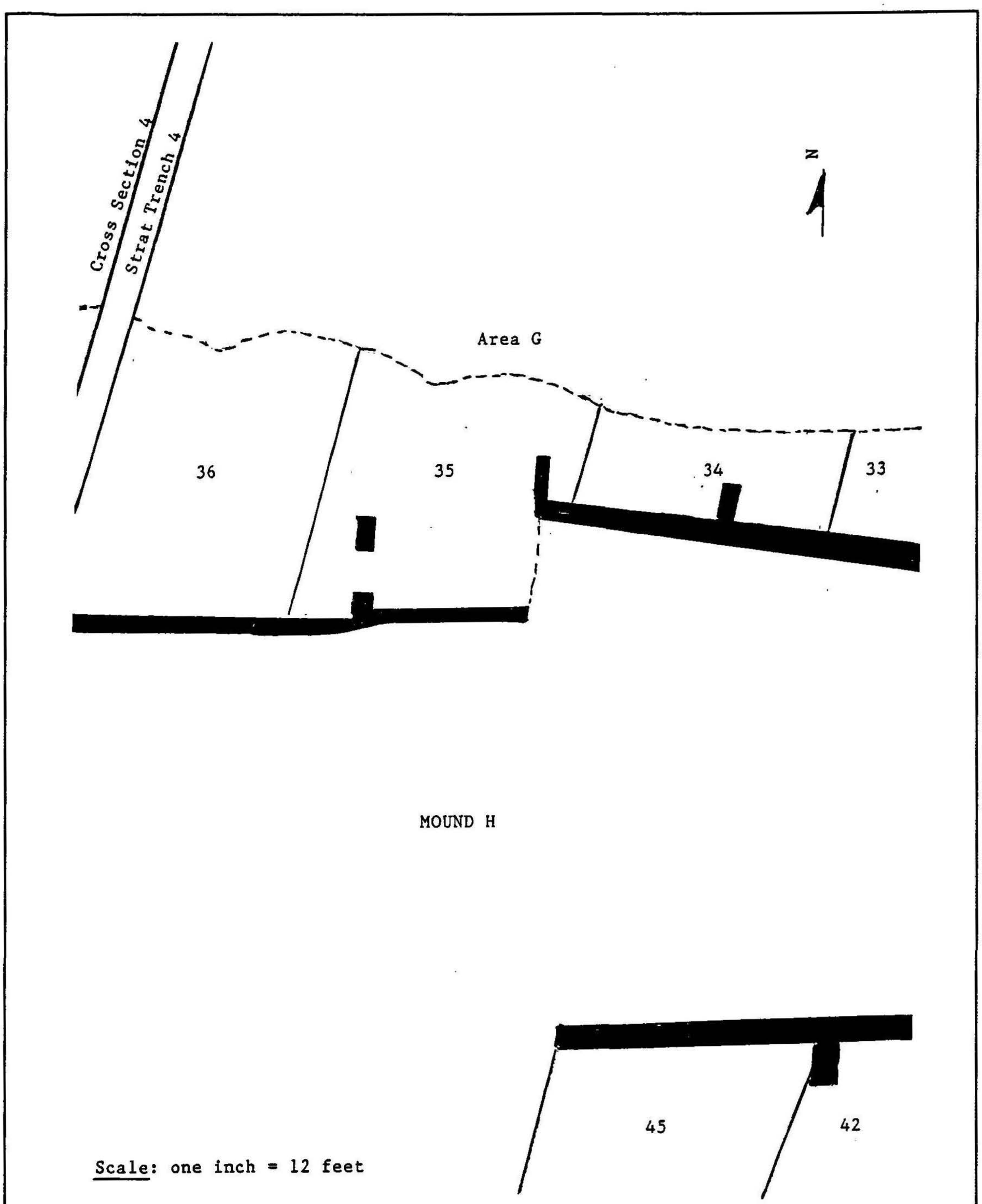

MAP 12
PUEBLO WALLS OUTLINED IN 1939
Areas E, F




PUEBLO WALLS OUTLINED IN 1939

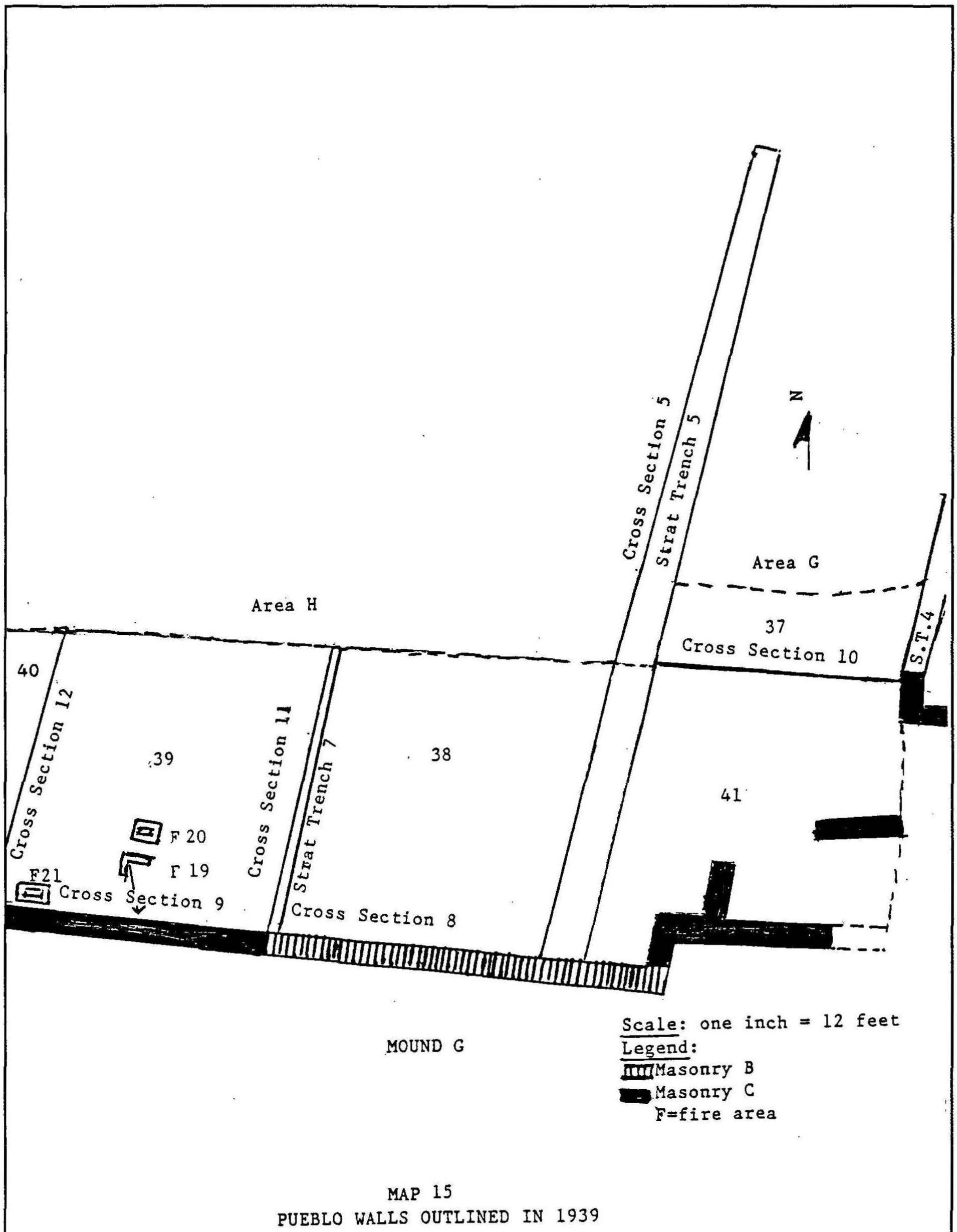
Scale: one inch= 12 feet Areas D,E,F,G

MAP 13

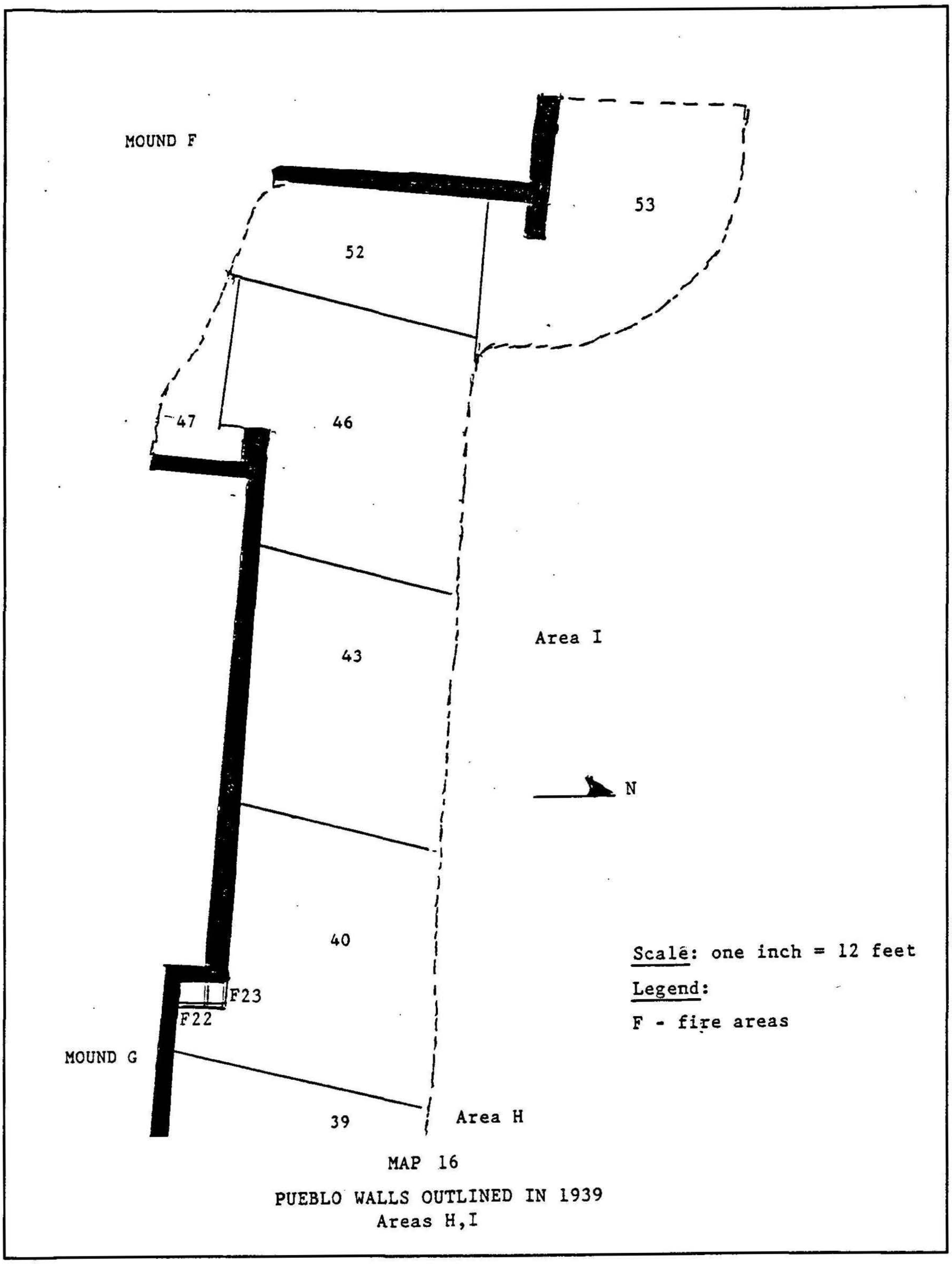



Scale: one inch = 12 feet

MAP 14
PUEBLO WALLS OUTLINED IN 1939
Area G




MAP 15
PUEBLO WALLS OUTLINED IN 1939
Areas G, H




MAP 16

PUEBLO WALLS OUTLINED IN 1939
Areas H,I

TABLE 1
Sherd count of pueblo areas

| Pottery types | Areas | | | | | |
|---|---|---|---|---|---|---|
| | A | B | C | D | E | F |
| **Glaze Wares** | | | | | | |
| A. St. John's Polychrome | | | 1 | | | |
| Los Padillas Polychrome | | | 1 | | | 3 |
| Agua Fria Glaze-on-red | | 11 | 29 | 5 | 1 | 8 |
| Cieneguilla Glaze-on-yellow | | 6 | 10 | 2 | 1 | 1 |
| San Clemente Glaze Polychrome | | | | 7 | | |
| Total Glaze A | | 17 | 41 | | 2 | 12 |
| B | | 1 | | | | 1 |
| C | | 3 | 7 | 4 | 1 | 1 |
| D | | 2 | | 10 | 1 | 2 |
| E. Puaray and Tiguex Glaze Polychromes | 4 | 15 | 83 | 28 | 7 | 45 |
| Pecos Glaze | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 20 | 68 | 304 | 282 | 169 | 214 |
| Kotyiti Glaze-on-red, jars | 13 | 126 | 198 | 331 | 163 | 61 |
| Kotyiti Glaze-on-white | | 1 | 16 | 7 | 5 | 19 |
| Cicuye Glaze-on-red | | | 2 | 2 | | |
| San Marcos Glaze-on-red | | | | | | |
| Total Glaze F sherds | 33 | 127 | 520 | 622 | 337 | 294 |
| Unidentified green-glaze-on white | | | 1 | | | |
| Unidentified glaze body sherds | | | | | | |
| **Biscuit Wares** | | | | | | |
| Biscuit A | | | | | | |
| Biscuit B | | 1 | | 2 | | 3 |
| **Culinary Wares** | | | | | | |
| Carnue Plain | | | 6 | 2 | | |
| Corona Plain | 270 | 1431 | 3606 | 2590 | 859 | 2056 |
| Corona Corrugated | 1 | 14 | 15 | 31 | 1 | 5 |
| Las Lunas Smudged | | | | | | |
| Unidentified micaceous ware | | | | | | |
| Unidentified corrugated ware | | | | 1 | | 1 |
| **White Wares** | | | | | | |
| Chupadero Black-on-white | | 11 | 10 | 6 | 6 | 13 |
| Casa Colorado Black-on-white | 4 | 15 | 11 | 25 | | 55 |
| Combined Chupadero/Casa Colorado | 4 | 26 | 21 | 31 | 6 | 68 |
| Galisteo Black-on-white | | | | | 2 | 2 |
| Santa Fe Black-on-white | | | | 1 | 2 | 1 |
| Wiyo Black-on-white | | | | | | |
| Tularosa Black-on-white | | | | | | |
| Unidentified black-on-white | 6 | 1 | 1 | | | |
| **Undecorated Wares** | | | | | | |
| Salinas Red | 102 | 160 | 604 | 587 | 515 | 161 |
| Kapo Grey | | | | 1 | | 1 |
| Kapo Black | | | 3 | | 2 | |
| Yellow-slipped ware | | | | | | |
| **Matte Paint Wares** | | | | | | |
| Puname Polychrome | | | | | | |
| Santo Domingo Black-on-white | | | | | | |
| Casitas Red-on-brown | | | | | | |
| Hopi Yellow ware | | | | | | |
| Unidentified matte paint wares | | | 3 | | 1 | 1 |
| **Miscellaneous wares** | | | | | | |
| Potsuwi'i Incised | | | | | | |
| Scored yellow sherds | | 1 | 1 | | 3 | |
| Bi-chrome body sherds | | | 6 | 1 | 7 | |
| Finger-nail incised red sherds | | | | | | |

TABLE 2

Sherds from pueblo areas by percent

| Pottery types<br>Sherds from pueblo areas by percent | Areas | | | | | |
|---|---|---|---|---|---|---|
| | A | B | C | D | E | F |
| **Glaze Wares** | | | | | | |
| A. St. John's Polychrome | | | 0.2 | | | 0.3 |
| Los Padillas Polychrome | | 0.6 | 0.6 | 0.1 | 0.1 | 0.3 |
| Agua Fria Glaze-on-red | | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 |
| Cieneguilla Glaze-on-yellow | | | | | | |
| San Clemente Glaze Polychrome | | 0.9 | 10.0 | 0.2 | 0.2 | 0.7 |
| Total Glaze A | | 0.1 | | | | 0.1 |
| B | | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |
| C | | 0.2 | | 0.3 | 0.1 | 0.1 |
| D | 0.8 | 0.8 | 0.2 | 0.7 | 0.4 | 1.7 |
| E. Puaray and Tiguex Glaze Polychromes | | | | | | |
| Pecos Glaze | 4.1 | 3.6 | 6.2 | 7.2 | 9.7 | 8.7 |
| F. Kotyiti Glaze-on-red, bowls | 2.7 | 6.7 | 4.0 | 8.4 | 9.3 | 3.3 |
| Kotyiti Glaze-on-red, jars | | 0.1 | 0.3 | 0.2 | 0.3 | 0.7 |
| Kotyiti Glaze-on-white | | | 0.1 | 0.1 | | |
| Cicuye Glaze-on-red | | | | | | |
| San Marcos Glaze-on-red | 6.8 | 10.4 | 10.6 | 15.9 | 19.3 | 11.7 |
| Total Glaze F sherds | | | | | | |
| Unidentified green-glaze-on white | | | 0.1 | | | |
| Unidentified glaze body sherds | | | | | | |
| **Biscuit Wares** | | | | | | |
| Biscuit A | | 0.1 | | 0.1 | | 0.1 |
| Biscuit B | | | | | | |
| **Culinary Wares** | | | 0.1 | 0.1 | | |
| Carnue Plain | 55.1 | 76.6 | 73.4 | 66.1 | 49.2 | 6.1 |
| Corona Plain | 0.2 | 0.7 | 0.1 | 0.8 | 0.1 | 0.4 |
| Corona Corrugated | | | | | | |
| Las Lunas Smudged | | | | | | |
| Unidentified micaceous ware | | | | 0.1 | | 0.1 |
| Unidentified corrugated ware | | | | | | |
| **White Wares** | | 0.6 | 0.2 | 0.2 | 0.3 | 0.5 |
| Chupadero Black-on-white | 0.8 | 0.8 | 0.2 | 0.6 | | 2.1 |
| Casa Colorado Black-on-white | 0.8 | 1.4 | 0.4 | 0.8 | 0.3 | 2.6 |
| Combined Chupadero/Casa Colorado | | | | | 0.1 | 0.1 |
| Galisteo Black-on-white | | | | 0.1 | 0.1 | 0.1 |
| Santa Fe Black-on-white | | | | | | |
| Wiyo Black-on-white | | | | | | |
| Tularosa Black-on-white | 1.0 | 0.1 | 0.1 | | | |
| Unidentified black-on-white | | | | | | |
| **Undecorated Wares** | 20.8 | 8.6 | 12.3 | 15.0 | 29.5 | 6.1 |
| Salinas Red | | | | 0.1 | | 0.1 |
| Kapo Grey | | | 0.1 | | 0.1 | |
| Kapo Black | | | | | | |
| Yellow-slipped ware | | | | | | |
| **Matte Paint Wares** | | | | | | |
| Puname Polychrome | | | | | | |
| Santo Domingo Black-on-white | | | | | | |
| Casitas Red-on-brown | | | | | | |
| Hopi Yellow ware | | | | | | |
| Unidentified matte paint wares | | | 0.1 | | 0.1 | 0.1 |
| **Miscellaneous wares** | | | | | | |
| Potsuwi'i Incised | | 0.1 | 0.1 | | 0.3 | |
| Scored yellow sherds | | | 0.1 | 0.1 | 0.4 | |
| Bi-chrome body sherds | | | | | | |
| Finger-nail incised red sherds | | | | | | |

TABLE 3
Sherd count by pueblo areas

| Pottery types | Areas | | | | |
|---|---|---|---|---|---|
| | G | H | I | J | Room 5 |
| **Glaze Wares** | | | | | |
| A. St. John's Polychrome | | 1 | | | |
| Los Padillas Polychrome | 35 | 105 | 81 | 9 | 2 |
| Agua Fria Glaze-on-red | 6 | 20 | 4 | | |
| Cieneguilla Glaze-on-yellow | | 1 | 1 | | |
| San Clemente Glaze Polychrome | 41 | 127 | 86 | 9 | 2 |
| Total Glaze A | 4 | 5 | 2 | | |
| B | 1 | 18 | 2 | | |
| C | 1 | 1 | 1 | 2 | |
| D | 35 | 82 | 3 | 22 | 3 |
| E. Puaray and Tiguex Glaze Polychromes | 5 | | | | |
| Pecos Glaze | 629 | 212 | 81 | 282 | 20 |
| F. Kotyiti Glaze-on-red, bowls | 501 | 80 | 82 | 228 | 18 |
| Kotyiti Glaze-on-red, jars | 80 | 10 | 5 | 15 | |
| Kotyiti Glaze-on-white | | | | | |
| Cicuye Glaze-on-red | | | | | |
| San Marcos Glaze-on-red | 1210 | 302 | 168 | 525 | 38 |
| Total Glaze F sherds | | | | | |
| Unidentified green-glaze-on white | 21 | 150 | 32 | 53 | |
| Unidentified glaze body sherds | | | | | |
| **Biscuit Wares** | | | | | |
| Biscuit A | 2 | 5 | | | |
| Biscuit B | | | | | |
| **Culinary Wares** | 6 | 1 | | 1 | |
| Carnue Plain | 5701 | 982 | 457 | 2704 | 167 |
| Corona Plain | 20 | 44 | 2 | 13 | |
| Corona Corrugated | | 3 | | 1 | |
| Las Lunas Smudged | | | | | |
| Unidentified micaceous ware | | | | | |
| Unidentified corrugated ware | | | | | |
| **White Wares** | 19 | 30 | 1 | 7 | |
| Chupadero Black-on-white | 32 | 21 | 2 | 1 | |
| Casa Colorado Black-on-white | 51 | 51 | 3 | 8 | |
| Combined Chupadero/Casa Colorado | | | | | |
| Galisteo Black-on-white | 4 | 1 | | | |
| Santa Fe Black-on-white | | | | | |
| Wiyo Black-on-white | | 1 | | | |
| Tularosa Black-on-white | | 7 | 1 | 1 | |
| Unidentified black-on-white | | | | | |
| **Undecorated Wares** | 146 | 291 | 444 | 51 | |
| Salinas Red | | | | | 2 |
| Kapo Grey | 2 | 1 | 2 | | |
| Kapo Black | | | | | |
| Yellow-slipped ware | | | | | |
| **Matte Paint Wares** | | | | | |
| Puname Polychrome | | | | | |
| Santo Domingo Black-on-white | 3 | | | 2 | |
| Casitas Red-on-brown | 2 | | | | |
| Hopi Yellow ware | | | | | |
| Unidentified matte paint wares | | | | | |
| **Miscellaneous wares** | | | | | |
| Potsuwi'i Incised | | | | | |
| Scored yellow sherds | 2 | 5 | | | |
| Bi-chrome body sherds | | | | | |
| Finger-nail incised red sherds | | | | | |

TABLE 4

Sherds from Pueblo Areas and Rooms by Percent

| Pottery types | Areas | | | | Room |
|---|---|---|---|---|---|
| | G | H | I | J | |
| **Glaze Wares** | | | | | |
| A. St. John's Polychrome | | | | | |
| Los Padillas Polychrome | 0.5 | 5.0 | 6.7 | 0.3 | 1.0 |
| Agua Fria Glaze-on-red | 0.1 | 1.0 | 0.3 | | |
| Cieneguilla Glaze-on-yellow | | | 0.1 | | |
| San Clemente Glaze Polychrome | 0.6 | 6.1 | 7.1 | 0.3 | 1.0 |
| Total Glaze A | 0.1 | 0.2 | 0.2 | | |
| B | 0.1 | 0.9 | 0.2 | | |
| C | 0.1 | 0.1 | 0.1 | 0.1 | |
| D | 0.5 | 3.9 | 0.3 | 0.6 | 1.4 |
| E. Puaray and Tiguex Glaze Polychromes | 0.1 | | | | |
| Pecos Glaze | 8.7 | 10.2 | 6.7 | 8.3 | 9.5 |
| F. Kotyiti Glaze-on-red, bowls | 6.9 | 3.8 | 6.8 | 6.7 | 8.6 |
| Kotyiti Glaze-on-red, jars | 1.1 | 0.5 | 0.4 | 0.4 | 4.7 |
| Kotyiti Glaze-on-white | | | | | |
| Cicuye Glaze-on-red | | | | | |
| San Marcos Glaze-on-red | 16.7 | 14.5 | 13.9 | 15.4 | 22.8 |
| Total Glaze F sherds | | | | | |
| Unidentified green-glaze-on white | 0.3 | 7.2 | 2.7 | 1.5 | |
| Unidentified glaze body sherds | | | | | |
| **Biscuit Wares** | 0.1 | 0. | | | |
| Biscuit A | | | | | |
| Biscuit B | | | | | |
| **Culinary Wares** | 0.1 | 0.1 | 0.1 | | |
| Carnue Plain | 76.0 | 47.0 | 38.0 | 79.7 | 79.5 |
| Corona Plain | 0.3 | 2.1 | 0.2 | 0.4 | |
| Corona Corrugated | | 0.1 | | 0.1 | |
| Las Lunas Smudged | | | | | |
| Unidentified micaceous ware | | | | | |
| Unidentified corrugated ware | | | | | |
| **White Wares** | | | | | |
| Chupadero Black-on-white | 0.3 | 1.4 | 0.1 | 0.2 | |
| Casa Colorado Black-on-white | 0.4 | 1.0 | 0.2 | | |
| Combined Chupadero/Casa Colorado | 0.7 | 2.4 | 0.3 | 0.2 | |
| Galisteo Black-on-white | | | | | |
| Santa Fe Black-on-white | 0.7 | | | | |
| Wiyo Black-on-white | | | | | |
| Tularosa Black-on-white | | 0.1 | | | |
| Unidentified black-on-white | | 0.4 | 0.1 | 0.1 | |
| **Undecorated Wares** | | | | | |
| Salinas Red | 20.8 | 14.0 | 39 .9 | 1.5 | |
| Kapo Grey | | | | | 1.0 |
| Kapo Black | | 0.1 | 0.1 | 0.1 | |
| Yellow-slipped ware | | | | | |
| **Matte Paint Wares** | | | | | |
| Puname Polychrome | | | | | |
| Santo Domingo Black-on-white | | | | | |
| Casitas Red-on-brown | 0.1 | | | 0.1 | |
| Hopi Yellow ware | | | | | |
| Unidentified matte paint wares | 0.1 | | | | |
| **Miscellaneous wares** | | | | | |
| Potsuwi'i Incised | | | | | |
| Scored yellow sherds | | | | | |
| Bi-chrome body sherds | 0.1 | 0.2 | | | |
| Finger-nail incised red sherds | | | | | |

TABLE 5
Sherd count of pueblo Strat Trench 1

| Pottery types | Levels | | | | | | |
|---|---|---|---|---|---|---|---|
| | 0-6" | 6"-1' | 1'-1'6" | 1'6"-2' | 2'-2'6" | 2'6"-3' | 3'-3'6" |
| **Glaze Wares** | | | | | | | |
| A. St. John's Polychrome | | | | | | | |
| Los Padillas Polychrome | | | | | | | |
| Agua Fria Glaze-on-red | 1 | | 8 | | 6 | 7 | 1 |
| Cieneguilla Glaze-on-yellow | | 1 | 2 | | | | |
| San Clemente Glaze Polychrome | | | | | | | |
| Total Glaze A | 1 | 1 | 10 | | 6 | 7 | 1 |
| B | | | | | | | |
| C | | | | | 2 | 2 | |
| D | | 1 | 3 | | | 2 | |
| E. Puaray and Tiguex Glaze Polychromes | 1 | 5 | 7 | 5 | 9 | 5 | 1 |
| Pecos Glaze | | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 9 | 56 | 35 | 29 | 26 | 7 | |
| Kotyiti Glaze-on-red, jars | 10 | 27 | 24 | 26 | 17 | 1 | 5 |
| Kotyiti Glaze-on-white | | 5 | | | 6 | | |
| Cicuye Glaze-on-red | | | | | | | |
| San Marcos Glaze-on-red | | | | | | 8 | |
| Total Glaze F sherds | 19 | 88 | 59 | 55 | 49 | 16 | 5 |
| Unidentified green-glaze-on white | | | | | | 23 | |
| Unidentified glaze body sherds | | 9 | 13 | 21 | 8 | | 1 |
| **Biscuit Wares** | | | | | | | |
| Biscuit A | | | | | | | |
| Biscuit B | | | | | | | |
| **Culinary Wares** | | | | | | | |
| Carnue Plain | | | | | 1 | | |
| Corona Plain | 1 | 623 | 379 | 518 | 460 | 202 | 95 |
| Corona Corrugated | | | | | | | |
| Las Lunas Smudged | | | | | | | |
| Unidentified micaceous ware | | | | | | | |
| Unidentified corrugated ware | | | | | | | |
| **White Wares** | | | | | | | |
| Chupadero Black-on-white | | | | 2 | 3 | | 2 |
| Casa Colorado Black-on-white | | 1 | 3 | 1 | | | 1 |
| Combined Chupadero/Casa Colorado | | 1 | 3 | 3 | 3 | | 3 |
| Galisteo Black-on-white | | | | | | | |
| Santa Fe Black-on-white | | | | | | | |
| Wiyo Black-on-white | | | | | | | |
| Tularosa Black-on-white | | | | | | | |
| Unidentified black-on-white | | | | | 1 | 1 | |
| **Undecorated Wares** | | | | | | | |
| Salinas Red | 21 | 131 | 162 | 84 | 29 | 44 | 27 |
| Kapo Grey | | | | | | | |
| Kapo Black | | | | | | | |
| Yellow-slipped ware | | | | | | | |
| **Matte Paint Wares** | | | | | | | |
| Puname Polychrome | | | | | | | |
| Santo Domingo Black-on-white | | | | | | | |
| Casitas Red-on-brown | | | | | | | |
| Hopi Yellow ware | | 2 | | | | | |
| Unidentified matte paint wares | | | 5 | 1 | | 4 | 5 |
| **Miscellaneous wares** | | | | | | | |
| Potsuwi'i Incised | | | | | | | |
| Scored yellow sherds | | | | | | | |
| Bi-chrome body sherds | | | | | | | |
| Finger-nail incised red sherds | | | | | | | |

TABLE 6

Sherds from Pueblo Strat Trench 1 by Percent

| Pottery types | Levels | | | | | | |
|---|---|---|---|---|---|---|---|
| | 0-6" | 6"-1' | 1'-1'6" | 1'6"-2' | 2'-2'6" | 2'6"-3' | 3'-3"6" |
| **Glaze Wares** | | | | | | | |
| A. St. John's Polychrome | | | | | | | |
| Los Padillas Polychrome | | | | | | | |
| Agua Fria Glaze-on-red | 2.3 | | 1.2 | | 1.1 | 2.3 | 0.7 |
| Cieneguilla Glaze-on-yellow | | 0.1 | 0.3 | | | | |
| San Clemente Glaze Polychrome | | | | | | | |
| Total Glaze A | 2.3 | 0.1 | 1.5 | | 1.1 | 2.3 | 0.7 |
| B | | | | | | | |
| C | | | | | 0.4 | 0.7 | |
| D | | 0.1 | 0.5 | | | 0.2 | |
| E. Puaray and Tiguex Glaze Polychromes | 2.3 | 0.5 | 1.1 | 0.7 | 1.6 | 1.7 | 0.7 |
| Pecos Glaze | | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 20.9 | 5.9 | 5.3 | 4.2 | 4.6 | 2.3 | |
| Kotyiti Glaze-on-red, jars | 23.3 | 2.8 | 3.7 | 3.8 | 3.0 | 0.3 | 3.6 |
| Kotyiti Glaze-on-white | | 0.1 | | | 1.1 | | |
| Cicuye Glaze-on-red | | | | | | | |
| San Marcos Glaze-on-red | | | | | | | |
| Total Glaze F sherds | 44.2 | 8.8 | 9.0 | 8.0 | 8.7 | 2.6 | 3.6 |
| Unidentified green-glaze-on white | | | | | | | |
| Unidentified glaze body sherds | | 0.9 | 2.0 | 3.0 | 1.4 | 7.6 | 0.7 |
| **Biscuit Wares** | | | | | | | |
| Biscuit A | | | | | | | |
| Biscuit B | | | 0.2 | | | | |
| **Culinary Wares** | | | | | | | |
| Carnue Plain | | | | | 0.5 | | |
| Corona Plain | 2.3 | 65.6 | 58.7 | 75.0 | 80.6 | 66.9 | 68.8 |
| Corona Corrugated | | 0.1 | 0.8 | 0.6 | 0.5 | 1.3 | |
| Las Lunas Smudged | | | | | | | |
| Unidentified micaceous ware | | | | | | | |
| Unidentified corrugated ware | | | | | | | |
| **White Wares** | | | | | | | |
| Chupadero Black-on-white | | | | 0.3 | 0.5 | | 1.4 |
| Casa Colorado Black-on-white | | 0.1 | 0.5 | 0.1 | | | 0.7 |
| Combined Chupadero/Casa Colorado | | 0.1 | 0.5 | 0.4 | 0.5 | | 2.1 |
| Galisteo Black-on-white | | | | | | | |
| Santa Fe Black-on-white | | | | | | | |
| Wiyo Black-on-white | | | | | | | |
| Tularosa Black-on-white | | | | | | | |
| Unidentified black-on-white | | | | | 0.5 | 0.3 | |
| **Undecorated Wares** | | | | | | | |
| Salinas Red | 48.8 | 13.8 | 25.1 | 12.2 | 21.4 | 14.6 | 19.6 |
| Kapo Grey | | | | | | | |
| Kapo Black | | | | | | | |
| Yellow-slipped ware | | | | | | | |
| **Matte Paint Wares** | | | | | | | |
| Puname Polychrome | | | | | | | |
| Santo Domingo Black-on-white | | | | | | | |
| Casitas Red-on-brown | | | | | | | |
| Hopi Yellow ware | | | | | | | |
| Unidentified matte paint wares | | 0.2 | 0.8 | 0.1 | | 1.3 | 3.6 |
| **Miscellaneous wares** | | | | | | | |
| Potsuwi'i Incised | | | | | | | |
| Scored yellow sherds | | | | | | | |
| Bi-chrome body sherds | | | | | | | |
| Finger-nail incised red sherds | | | | | | | |

TABLE 7

Sherd count of pueblo Strat Trench 2

| Pottery types | Level 0-6" | 6"-1' | 1'-1'6" | 1'6"-2'* | 2'-2'6"* | 3'6'-3' |
|---|---|---|---|---|---|---|
| **Glaze Wares** | | | | | | |
| A. St. John's Polychrome | | | | | | |
| Los Padillas Polychrome | | | | | | |
| Agua Fria Glaze-on-red | 3 | | | | | |
| Cieneguilla Glaze-on-yellow | | | | | | |
| San Clemente Glaze Polychrome | | | | | | |
| Total Glaze A | 3 | | | | | |
| B | | | | | | |
| C | | 2 | | | | |
| D | | | | | | |
| E. Puaray and Tiguex Glaze Polychromes | | 3 | 1 | | | |
| Pecos Glaze | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 18 | 17 | 5 | | | 2 |
| Kotyiti Glaze-on-red, jars | 11 | 1 | 1 | | | |
| Kotyiti Glaze-on-white | | | | | | |
| Cicuye Glaze-on-red | | | | | | |
| San Marcos Glaze-on-red | | | | | | |
| Total Glaze F sherds | 29 | 18 | 6 | | | 2 |
| Unidentified green-glaze-on white | | 21 | | | | |
| Unidentified glaze body sherds | | | | | | 3 |
| **Biscuit Wares** | | | | | | |
| Biscuit A | | | | | | |
| Biscuit B | | | | | | |
| **Culinary Wares** | | | | | | |
| Carnue Plain | 110 | 48 | 56 | | | 32 |
| Corona Plain | 1 | | | | | |
| Corona Corrugated | | | | | | |
| Las Lunas Smudged | | | | | | |
| Unidentified micaceous ware | | | | | | |
| Unidentified corrugated ware | | | | | | |
| **White Wares** | | | | | | |
| Chupadero Black-on-white | | | | | | |
| Casa Colorado Black-on-white | | | | | | |
| Combined Chupadero/Casa Colorado | | | | | | |
| Galisteo Black-on-white | | | | | | |
| Santa Fe Black-on-white | | | | | | |
| Wiyo Black-on-white | | | 1 | | | |
| Tularosa Black-on-white | | | | | | |
| Unidentified black-on-white | | | 1 | | | |
| **Undecorated Wares** | | | | | | |
| Salinas Red | 99 | 61 | 10 | | | 2 |
| Kapo Grey | | | | | | |
| Kapo Black | | | | | | |
| Yellow-slipped ware | | | | | | |
| **Matte Paint Wares** | | | | | | |
| Puname Polychrome | | | | | | |
| Santo Domingo Black-on-white | | | | | | |
| Casitas Red-on-brown | | | | | | |
| Hopi Yellow ware | | | | | | |
| Unidentified matte paint wares | | | | | | |
| **Miscellaneous wares** | | | | | | |
| Potsuwi'i Incised | | | | | | |
| Scored yellow sherds | | | | | | |
| Bi-chrome body sherds | | | | | | |
| Finger-nail incised red sherds | | | | | | |

* Data nissing from these levels

TABLE 8
Sherds from Pueblo Strat Trench 2 by Percent

| Pottery types | Levels | | | | | |
|---|---|---|---|---|---|---|
| | 0 - 6' | 6"- 1' | 1' - 1'6" | 1'6"- 2* | 2 - 2'6"* | 2'6"- 3' |
| **Glaze Wares** | | | | | | |
| A. St. John's Polychrome | | | | | | |
| Los Padillas Polychrome | | | | | | |
| Agua Fria Glaze-on-red | 1.6 | | | | | |
| Cieneguilla Glaze-on-yellow | | | | | | |
| San Clemente Glaze Polychrome | | | | | | |
| Total Glaze A | 1.6 | | | | | |
| B | | | | | | |
| C | | 1.3 | | | | |
| D | | | | | | |
| E. Puaray and Tiguex Glaze Polychromes | | 1.9 | 1.3 | | | |
| Pecos Glaze | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 7.4 | 10.9 | 6.7 | | | 5.1 |
| Kotyiti Glaze-on-red, jars | 4.5 | 0.6 | 1.3 | | | |
| Kotyiti Glaze-on-white | | | | | | |
| Cicuye Glaze-on-red | | | | | | |
| San Marcos Glaze-on-red | | | | | | |
| Total Glaze F sherds | 11.9 | 11.5 | 8.0 | | | 5.1 |
| Unidentified green-glaze-on white | | | | | | |
| Unidentified glaze body sherds | | 13.5 | | | | 7.9 |
| **Biscuit Wares** | | | | | | |
| Biscuit A | | | | | | |
| Biscuit B | | | | | | |
| **Culinary Wares** | | | | | | |
| Carnue Plain | 45.5 | 30.8 | 74.7 | | | 82.1 |
| Corona Plain | 0.4 | | | | | |
| Corona Corrugated | | | | | | |
| Las Lunas Smudged | | | | | | |
| Unidentified micaceous ware | | | | | | |
| Unidentified corrugated ware | | | | | | |
| **White Wares** | | | | | | |
| Chupadero Black-on-white | | | | | | |
| Casa Colorado Black-on-white | | | | | | |
| Combined Chupadero/Casa Colorado | | | | | | |
| Galisteo Black-on-white | | | | | | |
| Santa Fe Black-on-white | | | | | | |
| Wiyo Black-on-white | | | 1.3 | | | |
| Tularosa Black-on-white | | | | | | |
| Unidentified black-on-white | | | 1.3 | | | |
| **Undecorated Wares** | | | | | | |
| Salinas Red | 40.9 | 39.1 | 13.3 | | | 5.1 |
| Kapo Grey | | | | | | |
| Kapo Black | | | | | | |
| Yellow-slipped ware | | | | | | |
| **Matte Paint Wares** | | | | | | |
| Puname Polychrome | | | | | | |
| Santo Domingo Black-on-white | | | | | | |
| Casitas Red-on-brown | | | | | | |
| Hopi Yellow ware | | | | | | |
| Unidentified matte paint wares | | | | | | |
| **Miscellaneous wares** | | | | | | |
| Potsuwi'i Incised | | | | | | |
| Scored yellow sherds | | | | | | |
| Bi-chrome body sherds | | | | | | |
| Finger-nail incised red sherds | | | | | | |

* Data from these levels missing

TABLE 9

Sherd count from pueblo Strat Trench 3

| Pottery types | Levels 0-6" | 6" 1' | 1' 1'6" | 1-6"-2' | 2'-2'6" | 2'6"-3' | 3'-4' | 4'-4'6" | 4'6"-5' | 5'-5'6" |
|---|---|---|---|---|---|---|---|---|---|---|
| Glaze Wares | | | | | | | | | | |
| A. St. John's Polychrome | | | | | | | | | | |
| Los Padillas Polychrome | | | | | | | | | | |
| Agua Fria Glaze-on-red | 1 | 6 | 3 | | 21 | | 6 | 3 | | |
| Cieneguilla Glaze-on-yellow | | | 1 | | | | | | | |
| San Clemente Glaze Polychrome | | | | | 2 | 3 | | | | 1 |
| Total Glaze A | 1 | 6 | 4 | | 23 | | 6 | 3 | | 1 |
| B | | | | | | | | | | 1 |
| C | | | 2 | | 2 | 1 | | | | 1 |
| D | | 1 | 5 | 1 | 2 | 1 | | | | |
| E. Puaray and Tiguex Glaze Polychromes | 1 | 15 | 25 | | 14 | | 5 | 8 | 19 | 5 |
| Pecos Glaze | | | | | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 11 | 7 | 35 | 7 | 20 | 51 | 74 | 8 | 13 | 9 |
| Kotyiti Glaze-on-red, jars | | 25 | 40 | 2 | 17 | 8 | 18 | 8 | 4 | 9 |
| Kotyiti Glaze-on-white | 4 | | | | | | | | | |
| Cicuye Glaze-on-red | | | | | | | | | | |
| San Marcos Glaze-on-red | | | | | | | | | | |
| Total Glaze F sherds | 15 | 52 | 75 | 9 | 37 | 59 | 92 | 16 | 17 | 18 |
| Unidentified green-glaze-on white | | | | | | | | | | 15 |
| Unidentified glaze body sherds | 28 | 15 | 35 | | 52 | | 19 | 2 | 4 | |
| Biscuit Wares | | | | | | | | | | |
| Biscuit A | | | | | | | | | | |
| Biscuit B | | | 1 | | | | | | | |
| Culinary Wares | | | | | | | | | | |
| Carnue Plain | | | | | 1 | | | | | |
| Corona Plain | 208 | 600 | 917 | 64 | 496 | 184 | 200 | 171 | 88 | 248 |
| Corona Corrugated | | 3 | 12 | | | | | | | |
| Las Lunas Smudged | | | | | | | | | | |
| Unidentified micaceous ware | | | | | | | | | | |
| Unidentified corrugated ware | | | | | | | | | | |
| White Wares | | | | | | | | | | |
| Chupadero Black-on-white | | | 3 | 1 | 2 | 1 | 1 | 1 | | 1 |
| Casa Colorado Black-on-white | | | 4 | | 1 | | | 1 | | 1 |
| Combined Chupadero/Casa Colorado | | | 7 | 1 | 3 | 1 | 1 | 2 | | 2 |
| Galisteo Black-on-white | | | 1 | | | | | | | |
| Santa Fe Black-on-white | | | | | 1 | 6 | 3 | | | |
| Wiyo Black-on-white | | | | | | | | | | |
| Tularosa Black-on-white | | | | | | | | | | |
| Unidentified black-on-white | | | | | | | | | | |
| Undecorated Wares | | | | | | | | | | |
| Salinas Red | 21 | 481 | 199 | 12 | 94 | 4 | 49 | | 29 | 10 |
| Kapo Grey | | | | | | | | | | |
| Kapo Black | | | | | | | | | | |
| Yellow-slipped ware | | | | | | | | | | |
| Matte Paint Wares | | | | | | | | | | |
| Puname Polychrome | | | | | | | | | | |
| Santo Domingo Black-on-white | | | | | | | | | | |
| Casitas Red-on-brown | | | | | | | | | | |
| Hopi Yellow ware | | | | | | | | | | |
| Unidentified matte paint wares | | | | | | | | | | |
| Miscellaneous wares | | | | | | | | | | |
| Potsuwi'i Incised | | | | | | | | | | |
| Scored yellow sherds | | | | | | | | | | |
| Bi-chrome body sherds | | | | | | | | | | |
| Finger-nail incised red sherds | | | | 1 | | | | | | |

TABLE 10

Sherds from Pueblo Strat Trench 3 by Percent

| Pottery types | Levels | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0-6" | 6'-1' | 1'-1'6" | 1'6"-2' | 2' 2'6" | 2'6"-3' | 3'-4' | 4'-4'6" | 4'6"-5' | 5'-5'6" |
| **Glaze Wares** | | | | | | | | | | |
| A. St. John's Polychrome | | | | | | | | | | |
| Los Padillas Polychrome | | | | | | | | | | |
| Agua Fria Glaze-on-red | 0.4 | 0.5 | 0.2 | | 2.9 | | 1.6 | 1.5 | | |
| Cieneguilla Glaze-on-yellow | | | 0.1 | | | | | | | |
| San Clemente Glaze Polychrome | | | | | 0.3 | 0.8 | | | | 0.3 |
| Total Glaze A | 0.4 | 0.5 | 0.3 | | 3.2 | 0.8 | 1.6 | 1.5 | | 0.3 |
| B | | | | | | | | | | 0.3 |
| C | | | 0.1 | | 0.3 | 0.4 | | | | 0.3 |
| D | | 0.1 | 0.2 | 1.1 | 0.3 | 0.4 | | | | |
| E. Puaray and Tiguex Glaze Polychromes | 0.4 | 1.3 | 0.4 | | 1.9 | 2.6 | 1.4 | 4.0 | 8.9 | 1.7 |
| Pecos Glaze | | | | | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 4.0 | 2.3 | 1.9 | 8.0 | 2.8 | 19.2 | 20.1 | 4.0 | 8.3 | 3.0 |
| Kotyiti Glaze-on-red, jars | | 2.1 | 2.7 | 2.3 | 2.3 | 3.0 | 4.9 | 4.0 | 2.5 | 3.0 |
| Kotyiti Glaze-on-white | 1.5 | | | | | | | | | |
| Cicuye Glaze-on-red | | | | | | | | | | |
| San Marcos Glaze-on-red | | | | | | | | | | |
| Total Glaze F sherds | 5.5 | 4.4 | 4.6 | 10.3 | 5.1 | 22.2 | 25.0 | 8.0 | 10.3 | 3.0 |
| Unidentified green-glaze-on white | | | | | | | | | | |
| Unidentified glaze body sherds | 10.2 | 1.3 | 2.7 | | 7.2 | | 5.1 | 1.0 | 2.5 | 5.0 |
| **Biscuit Wares** | | | | | | | | | | |
| Biscuit A | | | 0.1 | | | | | | | |
| Biscuit B | | | | | | | | | | |
| **Culinary Wares** | | | | | | | | | | |
| Carnue Plain | | | | | 0.1 | | | | | |
| Corona Plain | 79.5 | 51.5 | 71.5 | 76.7 | 68.2 | 69.4 | 54.2 | 8.59 | 5.61 | 82.7 |
| Corona Corrugated | | 0.3 | 0.9 | | | | | | | |
| Las Lunas Smudged | | | | | | | | | | |
| Unidentified micaceous ware | | | | | | | | | | |
| Unidentified corrugated ware | | | | | | | | | | |
| **White Wares** | | | | | | | | | | |
| Chupadero Black-on-white | | | 0.2 | 1.1 | 0.3 | 0.4 | 0.3 | 0.5 | | |
| Casa Colorado Black-on-white | | | 0.3 | | 0.1 | | | 0.5 | | 0.3 |
| Combined Chupadero/Casa Colorado | | | 0.5 | 1.1 | 0.4 | 0.4 | 0.3 | 1.0 | | 0.3 |
| Galisteo Black-on-white | | | 0.1 | | | | | | | |
| Santa Fe Black-on-white | | | | | 0.1 | 2.3 | 0.8 | | | |
| Wiyo Black-on-white | | | | | | | | | | |
| Tularosa Black-on-white | | | | | | | | | | |
| Unidentified black-on-white | | | | | | | | | | |
| **Undecorated Wares** | | | | | | | | | | |
| Salinas Red | 7.7 | 41.3 | 15.5 | 13.6 | 12.9 | 1.5 | 13.3 | | 18.5 | 3.3 |
| Kapo Grey | | | | | | | | | | |
| Kapo Black | | | | | | | | | | |
| Yellow-slipped ware | | | | | | | | | | |
| **Matte Paint Wares** | | | | | | | | | | |
| Puname Polychrome | | | | | | | | | | |
| Santo Domingo Black-on-white | | | | | | | | | | |
| Casitas Red-on-brown | | | | | | | | | | |
| Hopi Yellow ware | | | | | | | | | | |
| Unidentified matte paint wares | | | | | | | | | | |
| **Miscellaneous wares** | | | | | | | | | | |
| Potsuwi'i Incised | | | | | | | | | | |
| Scored yellow sherds | | | | | | | | | | |
| Bi-chrome body sherds | | | | | | | | | | |
| Finger-nail incised red sherds | | | | 1.1 | | | | | | |

TABLE 11
Sherd count of pueblo Strat Trench 4

| Pottery types | Levels | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 0-6' | 6"-1' | 1' 1'6" | 1'6"-2' | 2'-2'6" | 2'6"-3' | 3'-3'6' | 3'6"-4'* | 4'-4'6" |
| Glaze Wares | | | | | | | | | |
| A. St. John's Polychrome | | | | | | | | | |
| Los Padillas Polychrome | | | | | | | | | |
| Agua Fria Glaze-on-red | | | 3 | 5 | 5 | | | | |
| Cieneguilla Glaze-on-yellow | | | | | | | | | |
| San Clemente Glaze Polychrome | 2 | | | | 1 | | | | |
| Total Glaze A | 2 | | 3 | 5 | 6 | | | | 1 |
| B | | | 1 | | | | | | |
| C | | | 2 | | | | | | |
| D | | | | 2 | | | | | |
| E. Puaray and Tiguex Glaze Polychromes | | | 1 | 2 | 1 | 3 | | | |
| Pecos Glaze | | | | | | 11 | | | |
| F. Kotyiti Glaze-on-red, bowls | 1 | 9 | 23 | 31 | 34 | | 14 | | 24 |
| Kotyiti Glaze-on-red, jars | | 5 | 11 | 14 | 22 | | 10 | | 14 |
| Kotyiti Glaze-on-white | 1 | | | | | | 2 | | |
| Cicuye Glaze-on-red | | | | | | | | | |
| San Marcos Glaze-on-red | | | | | | | | | |
| Total Glaze F sherds | 2 | 14 | 34 | 45 | 56 | 11 | 26 | | 38 |
| Unidentified green-glaze-on white | | | | | | | | | |
| Unidentified glaze body sherds | | | 3 | | 5 | | 1 | | 4 |
| Biscuit Wares | | | | | | | | | |
| Biscuit A | | | | | | | | | |
| Biscuit B | | | | | | | | | |
| Culinary Wares | | | | | | | | | |
| Carnue Plain | | | | | | | | | |
| Corona Plain | 126 | 450 | 301 | 339 | 472 | 1 | 295 | | 1 |
| Corona Corrugated | | | | | | | | | |
| Las Lunas Smudged | | | | | | | | | |
| Unidentified micaceous ware | | | | | | | | | |
| Unidentified corrugated ware | | | | | | | | | |
| White Wares | | | | | | | | | |
| Chupadero Black-on-white | | | | 1 | 1 | | | | |
| Casa Colorado Black-on-white | | | 1 | 1 | 4 | | | | |
| Combined Chupadero/Casa Colorado | | | 1 | | 5 | | | | |
| Galisteo Black-on-white | | | | | | | | | |
| Santa Fe Black-on-white | | | | | | | | | |
| Wiyo Black-on-white | | | | | | | | | |
| Tularosa Black-on-white | | | | | | | | | |
| Unidentified black-on-white | | | 1 | 1 | 5 | | | | |
| Undecorated Wares | | | | | | | | | |
| Salinas Red | 11 | 10 | 50 | 80 | 48 | 4 | 119 | | 42 |
| Kapo Grey | | | | | | | | | |
| Kapo Black | | | | | | | | | |
| Yellow-slipped ware | | | | | | | | | |
| Matte Paint Wares | | | | | | | | | |
| Puname Polychrome | | | | | | | | | |
| Santo Domingo Black-on-white | | | | | | | | | |
| Casitas Red-on-brown | | | | | | | | | |
| Hopi Yellow ware | | | | | | | | | |
| Unidentified matte paint wares | | | | | | | | | |
| Miscellaneous wares | | | | | | | | | |
| Potsuwi'i Incised | | | | | | | | | |
| Scored yellow sherds | | | | | | | | | |
| Bi-chrome body sherds | | | | | | | | | |
| Finger-nail incised red sherds | | | | | | | | | |

* Data missing -

TABLE 12
Sherds from Pueblo Strat Trench 4 by Percent

| Pottery types | Levels | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 0-6" | 6"-1' | 1'-1'6" | 1'6"-2' | 2'-2'6" | 2'6"-3' | 3'-3'6" | 3'6"-4'* | 4'-4'6" |
| **Glaze Wares** | | | | | | | | | |
| A. St. John's Polychrome | | | | | | | | | |
| Los Padillas Polychrome | | | | | | | | | |
| Agua Fria Glaze-on-red | | | 0.8 | 1.1 | 0.8 | | | | |
| Cieneguilla Glaze-on-yellow | | | | | | | | | |
| San Clemente Glaze Polychrome | 1.4 | | | | 0.8 | | | | |
| Total Glaze A | 1.4 | | 0.8 | 1.1 | 1.0 | | | | |
| B | | | 0.3 | | | | | | 1.2 |
| C | | | 0.5 | | | | | | |
| D | | | | 0.4 | | | | | |
| E. Puaray and Tiguex Glaze Polychromes | | | 0.3 | 0.4 | 0.2 | 15.8 | | | |
| Pecos Glaze | | | | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 0.7 | 13.0 | 5.8 | 6.5 | 5.7 | 57.9 | 3.2 | | 27.0 |
| Kotyiti Glaze-on-red, jars | | 7.2 | 2.8 | 2.9 | 3.7 | | 2.3 | | 16.3 |
| Kotyiti Glaze-on-white | 0.7 | | | | | | | | |
| Cicuye Glaze-on-red | | | | | | | | | |
| San Marcos Glaze-on-red | | | | | | | | | |
| Total Glaze F sherds | 1.4 | 20.2 | 8.6 | 9.4 | 9.4 | 57.9 | 3.8 | | 44.2 |
| Unidentified green-glaze-on white | | | | | | | | | |
| Unidentified glaze body sherds | | | 0.8 | | 0.8 | | 0.2 | | 4.7 |
| **Biscuit Wares** | | | | | | | | | |
| Biscuit A | | | | | | | | | |
| Biscuit B | | | | | | | | | |
| **Culinary Wares** | | | | | | | | | |
| Carnue Plain | | | | | | | | | |
| Corona Plain | 90.0 | 65.2 | 75.8 | 71.4 | 79.1 | 0.3 | 29.5 | | 1.2 |
| Corona Corrugated | | | | | | | | | |
| Las Lunas Smudged | | | | | | | | | |
| Unidentified micaceous ware | | | | | | | | | |
| Unidentified corrugated ware | | | | | | | | | |
| **White Wares** | | | | | | | | | |
| Chupadero Black-on-white | | | | 0.2 | 0.2 | | | | |
| Casa Colorado Black-on-white | | | 0.8 | | 0.7 | | | | |
| Combined Chupadero/Casa Colorado | | | 0.8 | | 0.9 | | | | |
| Galisteo Black-on-white | | | | | | | | | |
| Santa Fe Black-on-white | | | | | | | | | |
| Wiyo Black-on-white | | | | | | | | | |
| Tularosa Black-on-white | | | | | | | | | |
| Unidentified black-on-white | | | 0.8 | 0.2 | 0.8 | | | | |
| **Undecorated Wares** | | | | | | | | | |
| Salinas Red | 7.9 | 14.5 | 12.6 | 16.8 | 8.0 | 21.1 | 27.0 | | 48.8 |
| Kapo Grey | | | | | | | | | |
| Kapo Black | | | | | | | | | |
| Yellow-slipped ware | | | | | | | | | |
| **Matte Paint Wares** | | | | | | | | | |
| Puname Polychrome | | | | | | | | | |
| Santo Domingo Black-on-white | | | | | | | | | |
| Casitas Red-on-brown | | | | | | | | | |
| Hopi Yellow ware | | | | | | | | | |
| Unidentified matte paint wares | | | | | | | | | |
| **Miscellaneous wares** | | | | | | | | | |
| Potsuwi'i Incised | | | | | | | | | |
| Scored yellow sherds | | | | | | | | | |
| Bi-chrome body sherds | | | | | | | | | |
| Finger-nail incised red sherds | | | | | | | | | |

* Data missing

TABLE 13
Sherd count of pueblo Strat Trench 5

| Pottery types | Level | | | | | | |
|---|---|---|---|---|---|---|---|
| | 0-6" | 6'-1' | 1'-1'6" | 1'6"-2' | 2'-2'6" | 2'6"-3' | 3'-3'6" |
| **Glaze Wares** | | | | | | | |
| A. St. John's Polychrome | | | | | | | |
| Los Padillas Polychrome | | | | | | | |
| Agua Fria Glaze-on-red | | | 2 | 6 | | | |
| Cieneguilla Glaze-on-yellow | | | | 1 | | | |
| San Clemente Glaze Polychrome | | | | | | | |
| Total Glaze A | | | 2 | 7 | | | |
| B | | | | | | | |
| C | 1 | 1 | 1 | | | | |
| D | | 1 | 2 | | | | |
| E. Puaray and Tiguex Glaze Polychromes | | | 5 | 7 | | | 3 |
| Pecos Glaze | | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 2 | 39 | 54 | 27 | | 6 | |
| Kotyiti Glaze-on-red, jars | 7 | 11 | 30 | 11 | | 3 | |
| Kotyiti Glaze-on-white | | 2 | 14 | 1 | | | |
| Cicuye Glaze-on-red | | | | | | | |
| San Marcos Glaze-on-red | | | | | | | |
| Total Glaze F sherds | 9 | 52 | 98 | 39 | | 9 | |
| Unidentified green-glaze-on white | | | | | | | |
| Unidentified glaze body sherds | 2 | 2 | 6 | 5 | | | |
| **Biscuit Wares** | | | | | | | |
| Biscuit A | | | | | | | |
| Biscuit B | | | | | | | |
| **Culinary Wares** | | | | | | | |
| Carnue Plain | 108 | 587 | | | | | |
| Corona Plain | 1 | 2 | | 4 | | | 1 |
| Corona Corrugated | | | | | | | |
| Las Lunas Smudged | | | | | | | |
| Unidentified micaceous ware | | | | | | | |
| Unidentified corrugated ware | | | | | | | |
| **White Wares** | | | | | | | |
| Chupadero Black-on-white | | 1 | 1 | | | | 1 |
| Casa Colorado Black-on-white | 2 | 7 | | 1 | | | |
| Combined Chupadero/Casa Colorado | 2 | 8 | 1 | 1 | | | 1 |
| Galisteo Black-on-white | | | | | | | |
| Santa Fe Black-on-white | | | | | | | |
| Wiyo Black-on-white | | | | | | | |
| Tularosa Black-on-white | | | | | | | |
| Unidentified black-on-white | 2 | | | | | | |
| **Undecorated Wares** | | | | | | | |
| Salinas Red | 11 | 64 | 61 | 88 | | 3 | |
| Kapo Grey | | | | | | | |
| Kapo Black | | | | | | | |
| Yellow-slipped ware | | | | | | | |
| **Matte Paint Wares** | | | | | | | |
| Puname Polychrome | | | | 2 | | 1 | |
| Santo Domingo Black-on-white | | | | | | | |
| Casitas Red-on-brown | | | | | | | |
| Hopi Yellow ware | | | | | | | |
| Unidentified matte paint wares | | | | | | | |
| **Miscellaneous wares** | | | | | | | |
| Potsuwi'i Incised | | | | | | | |
| Scored yellow sherds | | | | | | | |
| Bi-chrome body sherds | | | | 1 | | 2 | |
| Finger-nail incised red sherds | | | | | | | |

* Data missing

TABLE 14

Sherds from Pueblo Strat Trench 5 by percent

| Pottery types | Level | | | | | | |
|---|---|---|---|---|---|---|---|
| | 0 - 6" | 6'- 1' | 1'- 1'6" | 1'6"- 2' | 2'-* 2'6" | 2'6"- 3' | 3'- 3'6" |
| **Glaze Wares** | | | | | | | |
| A. St. John's Polychrome | | | | | | | |
| Los Padillas Polychrome | | | | | | | |
| Agua Fria Glaze-on-red | | | 1.1 | 3.9 | | | |
| Cieneguilla Glaze-on-yellow | | | | 0.6 | | | |
| San Clemente Glaze Polychrome | | | | | | | |
| Total Glaze A | | | 1.1 | 4.5 | | | |
| B | 0.7 | 0.1 | 0.6 | | | | |
| C | | 0.1 | 0.1 | | | | |
| D | | | 2.8 | 4.5 | | | 60.0 |
| E. Puaray and Tiguex Glaze Polychromes. Pecos Glaze | 1.5 | 5.4 | 30.7 | 17.5 | | 40.0 | |
| F. Kotyiti Glaze-on-red, bowls | 5.1 | 1.5 | 17.0 | 7.1 | | 20.0 | |
| Kotyiti Glaze-on-red, jars | | 0.3 | 8.0 | 0.6 | | | |
| Kotyiti Glaze-on-white | | | | | | | |
| Cicuye Glaze-on-red | | | | | | | |
| San Marcos Glaze-on-red | | | | | | | |
| Total Glaze F sherds | 6.6 | 7.2 | 55.7 | 25.2 | | 60.0 | |
| Unidentified green-glaze-on white | | | | | | | |
| Unidentified glaze body sherds | 1.5 | 0.3 | 3.4 | 3.2 | | | |
| **Biscuit Wares** | | | | | | | |
| Biscuit A | | | | | | | |
| Biscuit B | | | | | | | |
| **Culinary Wares** | | | | | | | |
| Carnue Plain | 79.4 | 81.9 | | | | | |
| Corona Plain | | | | | | | 20.0 |
| Corona Corrugated | | | | | | | |
| Las Lunas Smudged | | | | | | | |
| Unidentified micaceous ware | | | | | | | |
| Unidentified corrugated ware | | | | | | | |
| **White Wares** | | | | | | | |
| Chupadero Black-on-white | | 0.1 | 0.6 | | | | 20.0 |
| Casa Colorado Black-on-white | 1.5 | 1.0 | | 0.6 | | | |
| Combined Chupadero/Casa Colorado | 1.5 | 1.1 | 0.6 | 0.6 | | | 20.0 |
| Galisteo Black-on-white | | | | | | | |
| Santa Fe Black-on-white | | | | | | | |
| Wiyo Black-on-white | | | | | | | |
| Tularosa Black-on-white | | | | | | | |
| Unidentified black-on-white | 1.5 | | | | | | |
| **Undecorated Wares** | | | | | | | |
| Salinas Red | 8.1 | 8.9 | 34.7 | 57.1 | | 20.0 | |
| Kapo Grey | | | | | | | |
| Kapo Black | | | | | | | |
| Yellow-slipped ware | | | | | | | |
| **Matte Paint Wares** | | | | | | | |
| Puname Polychrome | | | | | | | |
| Santo Domingo Black-on-white | | | | | | | |
| Casitas Red-on-brown | | | | | | | |
| Hopi Yellow ware | | | | | | | |
| Unidentified matte paint wares | | | | 1.3 | | 6.7 | |
| **Miscellaneous wares** | | | | | | | |
| Potsuwi'i Incised | | | | | | | |
| Scored yellow sherds | | | | | | | |
| Bi-chrome body sherds | | | | 0.6 | | 13.3 | |
| Finger-nail incised red sherds | | | | | | | |

* Data missing

TABLE 15

Sherd count of pueblo Strat Trench 6

| Pottery types | Levels | | | | | | |
|---|---|---|---|---|---|---|---|
| | 0-1' | 1'-1'6" | 1'6"-2 | 2'-2'6" | 2'6"-3' | 3'-3'6" | 3'6"-4' |
| **Glaze Wares** | | | | | | | |
| A. St. John's Polychrome | | | | | | | |
| Los Padillas Polychrome | | | | | | | |
| Agua Fria Glaze-on-red | 3 | 1 | 1 | | | | |
| Cieneguilla Glaze-on-yellow | | | | | | | |
| San Clemente Glaze Polychrome | | | | | | | |
| Total Glaze A | 3 | 1 | 1 | | | | |
| B | | | | | | | |
| C | | | | | | | |
| D | | | | | | | |
| E. Puaray and Tiguex Glaze Polychromes | | | | | 1 | 1 | |
| Pecos Glaze | | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 14 | 13 | 6 | 2 | 4 | 4 | |
| Kotyiti Glaze-on-red, jars | 9 | 3 | 3 | 2 | | 3 | 2 |
| Kotyiti Glaze-on-white | 2 | | | | 2 | | |
| Cicuye Glaze-on-red | | | | | | | |
| San Marcos Glaze-on-red | | | | | | | |
| Total Glaze F sherds | 25 | 16 | 9 | 4 | 6 | 7 | 2 |
| Unidentified green-glaze-on white | | | | | | | |
| Unidentified glaze body sherds | | | 1 | 1 | 4 | | 2 |
| **Biscuit Wares** | | | | | | | |
| Biscuit A | | | | | | | |
| Biscuit B | | | | | | | |
| **Culinary Wares** | | | | | | | |
| Carnue Plain | 198 | | 90 | | 114 | 34 | 16 |
| Corona Plain | 2 | | 1 | | 2 | | |
| Corona Corrugated | | | | | | | |
| Las Lunas Smudged | | | | | | | |
| Unidentified micaceous ware | | | | | | | |
| Unidentified corrugated ware | | | | | | | |
| **White Wares** | | | | | | | |
| Chupadero Black-on-white | | | | | | | |
| Casa Colorado Black-on-white | 1 | | | | | | |
| Combined Chupadero/Casa Colorado | 1 | | | | | | |
| Galisteo Black-on-white | 2 | | | 2 | | | |
| Santa Fe Black-on-white | | | | | | | |
| Wiyo Black-on-white | | | | | | | |
| Tularosa Black-on-white | | | | | | | |
| Unidentified black-on-white | | | | | | | |
| **Undecorated Wares** | | | | | | | |
| Salinas Red | 49 | | 20 | 114 | 16 | 7 | 2 |
| Kapo Grey | | | | | | | |
| Kapo Black | | | | | | | |
| Yellow-slipped ware | | | | | | | |
| **Matte Paint Wares** | | | | | | | |
| Puname Polychrome | | | | | | | |
| Santo Domingo Black-on-white | | | | | | | |
| Casitas Red-on-brown | | | | | | | |
| Hopi Yellow ware | | | | | | | |
| Unidentified matte paint wares | | | | | | | |
| **Miscellaneous wares** | | | | | | | |
| Potsuwi'i Incised | | | | | | | |
| Scored yellow sherds | | | | | | | |
| Bi-chrome body sherds | | | | | | | |
| Finger-nail incised red sherds | | | | | | | |

TABLE 16
Sherds from Pueblo Strat Trench 6 by Percent

| Pottery types | Levels | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 0-6" | 6"-1' 6" | 1'-1'6" | 1'6"-2' | 2'-2"6" | 2'6"-3' | 3'-3'6" | 3'6"-4' |
| **Glaze Wares** | | | | | | | | |
| A. St. John's Polychrome | | | | | | | | |
| Los Padillas Polychrome | | | | | | | | |
| Agua Fria Glaze-on-red | 0.7 | | 5.9 | 0.8 | | | | |
| Cieneguilla Glaze-on-yellow | | | | | | | | |
| San Clemente Glaze Polychrome | | | | | | | | |
| Total Glaze A | 0.7 | | 5.9 | 0.8 | | | | |
| B | | | | | | | | |
| C | | | | | | | | |
| D | | | | | | | | |
| E. Puaray and Tiguex Glaze Polychromes | | | | | | 0.6 | 2.0 | |
| Pecos Glaze | | | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 5.0 | | 76.5 | 4.7 | 1.7 | 2.3 | 8.2 | |
| Kotyiti Glaze-on-red, jars | 3.2 | | 7.6 | 2.3 | 1.7 | | 6.1 | 8.7 |
| Kotyiti Glaze-on-white | 0.7 | | | | | 1.2 | | |
| Cicuye Glaze-on-red | | | | | | | | |
| San Marcos Glaze-on-red | | | | | | | | |
| Total Glaze F sherds | 8.9 | | 84.1 | 7.0 | 3.4 | 3.5 | 14.3 | 8.7 |
| Unidentified green-glaze-on white | | | | | | | | |
| Unidentified glaze body sherds | | | | 0.8 | 0.8 | 2.3 | | 8.7 |
| **Biscuit Wares** | | | | | | | | |
| Biscuit A | | | | | | | | |
| Biscuit B | | | | | | | | |
| **Culinary Wares** | | | | | | | | |
| Carnue Plain | 70.7 | | | 68.8 | | 83.2 | 69.4 | 69.6 |
| Corona Plain | 0.7 | | | 0.8 | | 1.2 | | |
| Corona Corrugated | | | | | | | | |
| Las Lunas Smudged | | | | | | | | |
| Unidentified micaceous ware | | | | | | | | |
| Unidentified corrugated ware | | | | | | | | |
| **White Wares** | | | | | | | | |
| Chupadero Black-on-white | 0.4 | | | | | | | |
| Casa Colorado Black-on-white | 0.4 | | | | | | | |
| Combined Chupadero/Casa Colorado | 0.7 | | | 1.7 | | | | |
| Galisteo Black-on-white | | | | | | | | |
| Santa Fe Black-on-white | | | | | | | | |
| Wiyo Black-on-white | | | | | | | | |
| Tularosa Black-on-white | | | | | | | | |
| Unidentified black-on-white | | | | | | | | |
| **Undecorated Wares** | 17.5 | | | 15.5 | 94.2 | 9.2 | 14.3 | 13.0 |
| Salinas Red | | | | | | | | |
| Kapo Grey | | | | | | | | |
| Kapo Black | | | | | | | | |
| Yellow-slipped ware | | | | | | | | |
| **Matte Paint Wares** | | | | | | | | |
| Puname Polychrome | | | | | | | | |
| Santo Domingo Black-on-white | | | | | | | | |
| Casitas Red-on-brown | | | | | | | | |
| Hopi Yellow ware | | | | | | | | |
| Unidentified matte paint wares | | | | | | | | |
| **Miscellaneous wares** | | | | | | | | |
| Potsuwi'i Incised | | | | | | | | |
| Scored yellow sherds | | | | | | | | |
| Bi-chrome body sherds | | | | | | | | |
| Finger-nail incised red sherds | | | | | | | | |

TABLE 17
Sherd count of Pueblo Strat Trench 7

| Pottery types | Level | | | | |
|---|---|---|---|---|---|
| | 0-6" | 6"-1' | 1'-1'6' | 1'6"-2' | 2'-2'6' |
| **Glaze Wares** | | | | | |
| A. St. John's Polychrome | | | | | |
| Los Padillas Polychrome | | | | | |
| Agua Fria Glaze-on-red | | 2 | 5 | | 5 |
| Cieneguilla Glaze-on-yellow | | 1 | | | 1 |
| San Clemente Glaze Polychrome | | | | | |
| Total Glaze A | | 3 | 5 | | 6 |
| B | | | | | |
| C | | | | | |
| D | | 1 | | | |
| E. Puaray and Tiguex Glaze Polychromes | 9 | 1 | 1 | | |
| Pecos Glaze | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 4 | 7 | 1 | 3 | |
| Kotyiti Glaze-on-red, jars | 4 | 2 | 2 | 5 | |
| Kotyiti Glaze-on-white | | | | | |
| Cicuye Glaze-on-red | | | | | |
| San Marcos Glaze-on-red | | | | | |
| Total Glaze F sherds | 8 | 9 | 3 | 8 | |
| Unidentified green-glaze-on white | | | | | |
| Unidentified glaze body sherds | 14 | 10 | 8 | 6 | |
| **Biscuit Wares** | | | | | |
| Biscuit A | | | | | |
| Biscuit B | | | | | |
| **Culinary Wares** | | | | | |
| Carnue Plain | 70 | 182 | 54 | 74 | |
| Corona Plain | | 2 | 1 | 1 | |
| Corona Corrugated | | | | | |
| Las Lunas Smudged | | | | | |
| Unidentified micaceous ware | | | | | |
| Unidentified corrugated ware | | | | | |
| **White Wares** | | | | | |
| Chupadero Black-on-white | | 1 | | | |
| Casa Colorado Black-on-white | | | | | |
| Combined Chupadero/Casa Colorado | | 1 | | | |
| Galisteo Black-on-white | | | | | |
| Santa Fe Black-on-white | | | | | |
| Wiyo Black-on-white | | | | | |
| Tularosa Black-on-white | | | | | |
| Unidentified black-on-white | | | | 1 | 1 |
| **Undecorated Wares** | | | | | |
| Salinas Red | 7 | 1 | 1 | 19 | |
| Kapo Grey | | | | | |
| Kapo Black | | | | | |
| Yellow-slipped ware | | | | | |
| **Matte Paint Wares** | | | | | |
| Puname Polychrome | | | | | |
| Santo Domingo Black-on-white | | | | | |
| Casitas Red-on-brown | | | | | |
| Hopi Yellow ware | | | | | |
| Unidentified matte paint wares | | | | | |
| **Miscellaneous wares** | | | | | |
| Potsuwi'i Incised | | | | | |
| Scored yellow sherds | | | | | |
| Bi-chrome body sherds | | | | | |
| Finger-nail incised red sherds | | | | | |

TABLE 18

Sherds feom Pueblo Strat Trench 7 by Percent

| Pottery types | Levels | | | | |
|---|---|---|---|---|---|
| | 0-6" | 6"-1' | 1'-1'6" | 1'6"-2' | 2'-2'6" |
| **Glaze Wares** | | | | | |
| A. St. John's Polychrome | | | | | |
| Los Padillas Polychrome | | | | | |
| Agua Fria Glaze-on-red | | 1.0 | 7.4 | | 71.4 |
| Cieneguilla Glaze-on-yellow | | 0.5 | | | 14.3 |
| San Clemente Glaze Polychrome | | | | | |
| Total Glaze A | | 1.5 | 7.4 | | 85.7 |
| B | | | | | |
| C | | | | | |
| D | | 0.5 | | | |
| E. Puaray and Tiguex Glaze Polychromes | 8.3 | 0.5 | 1.5 | | |
| Pecos Glaze | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 3.7 | 0.5 | 1.5 | 2.8 | |
| Kotyiti Glaze-on-red, jars | 3.7 | 1.0 | 2.9 | 4.6 | |
| Kotyiti Glaze-on-white | | | | | |
| Cicuye Glaze-on-red | | | | | |
| San Marcos Glaze-on-red | | | | | |
| Total Glaze F sherds | 7.4 | 1.5 | 4.4 | 7.4 | |
| Unidentified green-glaze-on white | | | | | |
| Unidentified glaze body sherds | 13.0 | 4.8 | 11.8 | 5.6 | |
| **Biscuit Wares** | | | | | |
| Biscuit A | | | | | |
| Biscuit B | | | | | |
| **Culinary Wares** | | | | | |
| Carnue Plain | 64.8 | 86.7 | 78.4 | 8.5 | |
| Corona Plain | | 1.0 | 1.5 | 0.9 | |
| Corona Corrugated | | | | | |
| Las Lunas Smudged | | | | | |
| Unidentified micaceous ware | | | | | |
| Unidentified corrugated ware | | | | | |
| **White Wares** | | | | | |
| Chupadero Black-on-white | | 1.0 | | | |
| Casa Colorado Black-on-white | | | | | |
| Combined Chupadero/Casa Colorado | | 1.0 | | | |
| Galisteo Black-on-white | | | | | |
| Santa Fe Black-on-white | | | | | |
| Wiyo Black-on-white | | | | | |
| Tularosa Black-on-white | | | | | |
| Unidentified black-on-white | | | | | 14.3 |
| **Undecorated Wares** | | | | | |
| Salinas Red | 6.5 | 0.5 | 1.5 | 17.6 | |
| Kapo Grey | | | | | |
| Kapo Black | | | | | |
| Yellow-slipped ware | | | | | |
| **Matte Paint Wares** | | | | | |
| Puname Polychrome | | | | | |
| Santo Domingo Black-on-white | | | | | |
| Casitas Red-on-brown | | | | | |
| Hopi Yellow ware | | | | | |
| Unidentified matte paint wares | | | | | |
| **Miscellaneous wares** | | | | | |
| Potsuwi'i Incised | | | | | |
| Scored yellow sherds | | | | | |
| Bi-chrome body sherds | | | | | |
| Finger-nail incised red sherds | | | | | |

TABLE 19

*Sherd count of convento rooms excavated 1939-1940*

| Pottery types | Room | | | | | | |
|---|---|---|---|---|---|---|---|
| | 33 | 34 | 38 | 42 | 48 | 51 | 52 |
| **Glaze Wares** | | | | | | | |
| A. St. John's Polychrome | | | | | | | |
| Los Padillas Polychrome | | | | | | | |
| Agua Fria Glaze-on-red | | 2 | | | | | 2 |
| Cieneguilla Glaze-on-yellow | | | | | | | |
| San Clemente Glaze Polychrome | | | | | | | |
| Total Glaze A | | 2 | | | | | 2 |
| B | | | | | | | |
| C | | | | | | | |
| D | | | | | | | |
| E. Puaray and Tiguex Glaze Polychromes | | | | | | | |
| Pecos Glaze | | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 11 | | 16 | 24 | 10 | 4 | 2 |
| Kotyiti Glaze-on-red, jars | | | 1 | | 1 | 1 | |
| Kotyiti Glaze-on-white | 1 | | | | | | |
| Cicuye Glaze-on-red | | | | | | | |
| San Marcos Glaze-on-red | | | | | | | |
| Total Glaze F sherds | 12 | | 17 | 24 | 11 | 5 | 2 |
| Unidentified green-glaze-on white | | | | | | | |
| Unidentified glaze body sherds | 4 | | 1 | 1 | | | |
| **Biscuit Wares** | | | | | | | |
| Biscuit A | | | | | | | |
| Biscuit B | | | | | | | |
| **Culinary Wares** | | | | | | | |
| Carnue Plain | 7 | 3 | 30 | 48 | 66 | 11 | 9 |
| Corona Plain | 40 | 1 | 25 | 41 | 55 | 5 | 19 |
| Corona Corrugated | 1 | | 1 | 1 | 1 | | 2 |
| Las Lunas Smudged | | | | | | | |
| Unidentified micaceous ware | | | 2 | | 9 | | |
| Unidentified corrugated ware | | | | | | | |
| **White Wares** | | | | | | | |
| Chupadero Black-on-white | | | | 1 | | | 1 |
| Casa Colorado Black-on-white | | 1 | 1 | 1 | 1 | | 2 |
| Combined Chupadero/Casa Colorado | | 1 | 1 | 2 | 1 | | 3 |
| Galisteo Black-on-white | | | | | | | |
| Santa Fe Black-on-white | | | | | | | |
| Wiyo Black-on-white | | | | | | | |
| Tularosa Black-on-white | | | | | | | |
| Unidentified black-on-white | | | | | | | |
| **Undecorated Wares** | | | | | | | |
| Salinas Red | 26 | | 34 | 64 | 37 | 18 | 9 |
| Kapo Grey | | | | | | | |
| Kapo Black | 2 | | 17 | | 16 | 1 | |
| Yellow-slipped ware | | | | | | | |
| **Matte Paint Wares** | | | | | | | |
| Puname Polychrome | | | | | 1 | | |
| Santo Domingo Black-on-white | 1 | | | | 1 | | |
| Casitas Red-on-brown | 1 | 1 | 4 | | 2 | 1 | |
| Hopi Yellow ware | | | | | | | |
| Unidentified matte paint wares | | | | | | | |
| **Miscellaneous wares** | | | | | | | |
| Potsuwi'i Incised | | | | | | | |
| Scored yellow sherds | | | | | | | |
| Bi-chrome body sherds | | | | | | | |
| Finger-nail incised red sherds | | | | | | | |

TABLE 20
Sherds from Convento Rooms Excavated in 1939-1940 by Percent

| Pottery types | Rooms | | | | | | |
|---|---|---|---|---|---|---|---|
| | 33 | 36 | 38 | 42 | 48 | 51 | 52 |
| **Glaze Wares** | | | | | | | |
| A. St. John's Polychrome | | | | | | | |
| Los Padillas Polychrome | | | | | | | |
| Agua Fria Glaze-on-red | | 16.7 | | | | | 4.3 |
| Cieneguilla Glaze-on-yellow | | | | | | | |
| San Clemente Glaze Polychrome | | | | | | | |
| Total Glaze A | | 16.7 | | | | | 4.3 |
| B | | | | | | | |
| C | | | | | | | |
| D | | | | | | | |
| E. Puaray and Tiguex Glaze Polychromes | | | | | | | |
| Pecos Glaze | | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 12.2 | | 10.1 | 12.2 | 5.4 | 10.3 | 4.3 |
| Kotyiti Glaze-on-red, jars | | | 0.6 | | 0.5 | 2.5 | |
| Kotyiti Glaze-on-white | 1.1 | | | | | | |
| Cicuye Glaze-on-red | | | | | | | |
| San Marcos Glaze-on-red | | | | | | | |
| Total Glaze F sherds | 13.3 | | 10.7 | 12.2 | 5.9 | 12.5 | 4.3 |
| Unidentified green-glaze-on white | | | | | | | |
| Unidentified glaze body sherds | | 33.3 | 0.6 | | | | |
| **Biscuit Wares** | | | | | | | |
| Biscuit A | | | | | | | |
| Biscuit B | | | | | | | |
| **Culinary Wares** | | | | | | | |
| Carnue Plain | 7.8 | 25.0 | 19.0 | 24.4 | 35.9 | 27.5 | 1.96 |
| Corona Plain | 44.4 | 8.3 | 15.8 | 20.8 | 29.9 | 12.5 | 41.3 |
| Corona Corrugated | 1.1 | | 0.6 | 0.5 | 0.5 | | 4.3 |
| Las Lunas Smudged | | | | | | | |
| Unidentified micaceous ware | | | 1.3 | | 4.9 | | |
| Unidentified corrugated ware | | | | | | | |
| **White Wares** | | | | | | | |
| Chupadero Black-on-white | | | | 0.5 | | | 2.2 |
| Casa Colorado Black-on-white | | 8.3 | 0.6 | 0.5 | 0.5 | | 4.3 |
| Combined Chupadero/Casa Colorado | | 8.3 | 0.6 | 1.0 | 0.5 | | 6.5 |
| Galisteo Black-on-white | | | | | | | |
| Santa Fe Black-on-white | | | | | | | |
| Wiyo Black-on-white | | | | | | | |
| Tularosa Black-on-white | | | | | | | |
| Unidentified black-on-white | | | | | | | |
| **Undecorated Wares** | | | | | | | |
| Salinas Red | 28.9 | | 22.2 | 32.5 | 20.1 | 45.0 | 19.6 |
| Kapo Grey | | | | | | | |
| Kapo Black | 2.2 | | 10.7 | | 8.1 | | |
| Yellow-slipped ware | | | | | | | |
| **Matte Paint Wares** | | | | | | | |
| Puname Polychrome | | | | | 0.5 | | |
| Santo Domingo Black-on-white | 1.1 | | | | 0.5 | | |
| Casitas Red-on-brown | 1.1 | 8.3 | 2.5 | | 1.1 | 2.5 | |
| Hopi Yellow ware | | | | | | | |
| Unidentified matte paint wares | | | | | | | |
| **Miscellaneous wares** | | | | | | | |
| Potsuwi'i Incised | | | | | | | |
| Smeared yellow sherds | | | | | | | |
| Bi-chrome body sherds | | | | | | | |
| Finger-nail incised red sherds | | | | | | | |

TABLE 21

Sherd count of convento rooms and torreon

| Pottery types | Rooms | | Levels of torreon | | | |
|---|---|---|---|---|---|---|
| | 53 | 54 | 0-1'6" | 1'6"-2' | 2'-2'6" | 2'-3' |
| **Glaze Wares** | | | | | | |
| A. St. John's Polychrome | | | | | | |
| Los Padillas Polychrome | 4 | 2 | | | | |
| Agua Fria Glaze-on-red | | 1 | | 1 | 1 | |
| Cieneguilla Glaze-on-yellow | | | | | | |
| San Clemente Glaze Polychrome | | | | | | |
| Total Glaze A | 4 | 5 | | 1 | 1 | |
| B | | | | | | |
| C | | | | | | |
| D | | | | | | |
| E. Puaray and Tiguex Glaze Polychromes | | | | | | |
| Pecos Glaze | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | | 18 | | 1 | 1 | |
| Kotyiti Glaze-on-red, jars | | 2 | | 4 | | |
| Kotyiti Glaze-on-white | | | | | | |
| Cicuye Glaze-on-red | | | | | | |
| San Marcos Glaze-on-red | | | | | | |
| Total Glaze F sherds | | 20 | | 5 | | |
| Unidentified green-glaze-on white | | | | | | |
| Unidentified glaze body sherds | | 14 | | | | |
| **Biscuit Wares** | | | | | | |
| Biscuit A | | | | | | |
| Biscuit B | | | | | | |
| **Culinary Wares** | | | | | | |
| Carnue Plain | 65 | 17 | 4 | 37 | 5 | 2 |
| Corona Plain | 55 | 26 | 2 | 12 | | 7 |
| Corona Corrugated | 2 | 3 | | 6 | 2 | |
| Las Lunas Smudged | | | | | | |
| Unidentified micaceous ware | | | 2 | 18 | | |
| Unidentified corrugated ware | | | | | | |
| **White Wares** | | | | | | |
| Chupadero Black-on-white | | | | | | |
| Casa Colorado Black-on-white | 2 | 1 | | 1 | | |
| Combined Chupadero/Casa Colorado | 2 | 1 | | 1 | | |
| Galisteo Black-on-white | | | | | | |
| Santa Fe Black-on-white | | | | | | |
| Wiyo Black-on-white | | | | | | |
| Tularosa Black-on-white | | | | | | |
| Unidentified black-on-white | | | | | | |
| **Undecorated Wares** | | | | | | |
| Salinas Red | 47 | 17 | | 62 | 5 | 104 |
| Kapo Grey | | | | | | |
| Kapo Black | 3 | 14 | | 3 | 2 | 7 |
| Yellow-slipped ware | | | | | | |
| **Matte Paint Wares** | | | | | | |
| Puname Polychrome | | | | | | |
| Santo Domingo Black-on-white | | | | | 2 | |
| Casitas Red-on-brown | | 1 | | 14 | 16 | 1 |
| Hopi Yellow ware | | | | | | |
| Unidentified matte paint wares | | | | | | |
| **Miscellaneous wares** | | | | | | |
| Potsuwi'i Incised | | | | | | |
| Scored yellow sherds | | | | | | |
| Bi-chrome body sherds | | | | | | |
| Finger-nail incised red sherds | | | | | | |

TABLE 22

Sherds from Convento Rooms and Torreon by percent

| Pottery types | Rooms | | Torreon | | | |
|---|---|---|---|---|---|---|
| | 53 | 54 | 0-1'6" | 1'6"-2' | 2'-2'6" | 2'6"-3 |
| **Glaze wares** | | | | | | |
| A. Arenal Glaze Polychrome | 1.1 | 1.7 | | | | |
| Agua Fria Glaze-on-red | | 0.9 | | 0.6 | 3.6 | |
| Cienguilla Glaze-on-yellow | | | | | | |
| Heshotauthla Polychrome | | | | | | |
| St John's Polychrome | | | | | | |
| San Clemente Glaze Polychrome | | | | | | |
| Total Glaze A | 1.1 | 2.6 | | 0.6 | 3.6 | |
| B | | | | | | |
| C | | | | | | |
| D | | | | | | |
| E | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | | 15.5 | | 0.6 | 3.1 | |
| Kotyiti Glaze-on-red, jars | | 1.7 | | 2.5 | | |
| Kotyiti Glaze-on-white, bowls | | | | | | |
| Kotyiti Glaze-on-white, jars | | | | | | |
| San Marcos Glaze-on-red | | | | | | |
| Total Glaze F | | 17.2 | | 3.1 | 3.1 | |
| Pecos Glaze | | | | | | |
| Unidentified glaze body sherds | | 12.1 | | | | |
| **Culinary wares** | | | | | | |
| Carnue Plain ("brick ware") | 36.9 | 14.7 | 50.0 | 23.3 | 17.9 | 1.8 |
| Corona Plain | 31.3 | 22.4 | 25.0 | 7.5 | | 6.1 |
| Corona Corrugated | 1.1 | 2.6 | | 3.8 | 7.1 | |
| Los Lunas Smudged | | | | | | |
| Unidentified micaceous ware | | | | 11.3 | | |
| Unidentified corrugated | | | | | | |
| **White wares** | | | | | | |
| Chupadero Black-on-white | | | 25.0 | | | |
| Casa Colorado variant | 1.1 | 0.9 | | 0.6 | | |
| Total Chupadero/Casa Colorado | | | | | | |
| Galisteo Black-on-white | | | | | | |
| Santa Fe Black-on-white | | | | | | |
| Wiyo Black-on-white | | | | | | |
| Tabirá Black-on-white | | | | | | |
| Tularosa Black-on-white | | | | | | |
| Unidentified black-on-white | | | | | | |
| **Undecorated wares** | | | | | | |
| Salinas Red | 26.7 | 14.7 | | 39.0 | | 91.2 |
| Kapo Grey | | | | | | |
| Kapo Black | 1.7 | 2.1 | | 1.9 | 7.1 | 6.1 |
| **Matte Paint ware** | | | | | | |
| Puname Polychrome | | | | | | |
| Santo Domingo Black-on-white | | | | | 7.1 | |
| Casitas Red-on-brown | | 0.9 | | 8.8 | 5.7 | 0.9 |
| Unidentified polychromes | | | | | | |
| Hopi yellow ware | | | | | | |

TABLE 23
Sherd count of Convento Room 22

| Pottery types | Level 0-6" | 6'-1' | 1'-1'6" | 1'6"-2' * | 2'-2'6" | 3'-3'6" | 3'6"-4' |
|---|---|---|---|---|---|---|---|
| Glaze Wares | | | | | | | |
| A. St. John's Polychrome | | | | | | | |
| Los Padillas Polychrome | | | | | | | |
| Agua Fria Glaze-on-red | 1 | 5 | | | | | |
| Cieneguilla Glaze-on-yellow | | 1 | 1 | | | | |
| San Clemente Glaze Polychrome | | | | | | | |
| Total Glaze A | 1 | 6 | 1 | | | | |
| B | | | | | | | |
| C | | 1 | 1 | | | | |
| D | | | | | | | |
| E. Puaray and Tiguex Glaze Polychromes | | | 5 | | 1 | | |
| Pecos Glaze | | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 6 | 14 | 39 | | 15 | 9 | 3 |
| Kotyiti Glaze-on-red, jars | | 6 | 15 | | 5 | 6 | 1 |
| Kotyiti Glaze-on-white | | | 1 | | | | |
| Cicuye Glaze-on-red | | 1 | 4 | | | | |
| San Marcos Glaze-on-red | | | | | | | |
| Total Glaze F sherds | 6 | 21 | 59 | | 20 | 15 | 4 |
| Unidentified green-glaze-on white | | | | | | | |
| Unidentified glaze body sherds | 8 | | | | | | |
| Biscuit Wares | | | | | | | |
| Biscuit A | | | | | | | |
| Biscuit B | | | | | | | |
| Culinary Wares | | | | | | | |
| Carnue Plain | 82 | 138 | 85 | | 6 | 13 | 6 |
| Corona Plain | 22 | 31 | 136 | | 87 | 22 | 234 |
| Corona Corrugated | 3 | 97 | 3 | | 4 | 1 | 1 |
| Las Lunas Smudged | | | | | | | |
| Unidentified micaceous ware | | | | | | | |
| Unidentified corrugated ware | | | | | | | |
| White Wares | | | | | | | |
| Chupadero Black-on-white | 3 | 6 | 6 | | | | |
| Casa Colorado Black-on-white | 2 | 3 | 2 | | | | |
| Combined Chupadero/Casa Colorado | 5 | 9 | 8 | | | | |
| Galisteo Black-on-white | | | | | | | |
| Santa Fe Black-on-white | | | | | | | |
| Wiyo Black-on-white | | | | | | | |
| Tularosa Black-on-white | | | | | | | |
| Unidentified black-on-white | | 1 | | | 1 | | |
| Undecorated Wares | | | | | | | |
| Salinas Red | 9 | 46 | 58 | | 39 | 17 | 19 |
| Kapo Grey | | | | | | | |
| Kapo Black | | 2 | | | | | |
| Yellow-slipped ware | | | 2 | | | | |
| Matte Paint Wares | | | | | | | |
| Puname Polychrome | 2 | 2 | 3 | | | | |
| Santo Domingo Black-on-white | | | | | | | |
| Canitas Red-on-brown | 2 | 3 | | | | | |
| Hopi Yellow ware | 2 | | | | | | |
| Unidentified matte paint wares | 4 | 1 | | | | | |
| Miscellaneous wares | | | | | | | |
| Potsuwi'i Incised | | | | | | | |
| Scored yellow sherds | | | | | | | |
| Bi-chrome body sherds | | | | | | | |
| Finger-nail incised red sherds | | | | | | | |

* Data missing

TABLE 24

Sherds from Convento Room 22 by percent

| Pottery types | Levels | | | | | | |
|---|---|---|---|---|---|---|---|
| | 0 - 6" | 6"- 1' | 1'- 1'6" | 1'6"- 2' * | 2'- 2'6"* | 3'- 3'6" | 3'6"- 4' |
| **Glaze Wares** | | | | | | | |
| A. St. John's Polychrome | | | | | | | |
| Los Padillas Polychrome | | | | | | | |
| Agua Fria Glaze-on-red | 1.0 | 1.4 | | | | | |
| Cieneguilla Glaze-on-yellow | | 0.3 | 0.3 | | | | |
| San Clemente Glaze Polychrome | | | | | | | |
| Total Glaze A | 1.0 | 1.7 | 0.3 | | | | |
| B | | | | | | | |
| C | | 0.3 | 0.3 | | | | |
| D | | | | | | | |
| E. Puaray and Tiguex Glaze Polychromes | | | 1.4 | | 0.6 | | |
| Pecos Glaze | | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 4.0 | 3.9 | 10.8 | | 9.0 | 13.2 | 4.5 |
| Kotyiti Glaze-on-red, jars | | 1.7 | 4.2 | | 3.2 | 8.8 | 1.5 |
| Kotyiti Glaze-on-white | | | 1.4 | | | | |
| Cicuye Glaze-on-red | | | | | | | |
| San Marcos Glaze-on-red | | | | | | | |
| Total Glaze F sherds | 4.0 | 5.6 | 15.4 | | 12.2 | 22.0 | 6.0 |
| Unidentified green-glaze-on white | | | | | | | |
| Unidentified glaze body sherds | 6.0 | | | | | | |
| **Biscuit Wares** | | | | | | | |
| Biscuit A | | | | | | | |
| Biscuit B | | | | | | | |
| **Culinary Wares** | | | | | | | |
| Carnue Plain | 57.0 | 38.7 | 23.5 | | 3.8 | 19.1 | 9.1 |
| Corona Plain | 15.0 | 8.7 | 37.7 | | 55.1 | 32.4 | 54.5 |
| Corona Corrugated | 2.0 | 7.2 | 0.8 | | 2.5 | 1.5 | 1.5 |
| Las Lunas Smudged | | | | | | | |
| Unidentified micaceous ware | | | | | | | |
| Unidentified corrugated ware | | | | | | | |
| **White Wares** | | | | | | | |
| Chupadero Black-on-white | 2.0 | 1.7 | 1.7 | | | | |
| Casa Colorado Black-on-white | 0.1 | 0.8 | 0.6 | | | | |
| Combined Chupadero/Casa Colorado | 2.1 | 2.5 | 2.3 | | | | |
| Galisteo Black-on-white | | | | | | | |
| Santa Fe Black-on-white | | | | | | | |
| Wiyo Black-on-white | | | | | | | |
| Tularosa Black-on-white | | | | | | | |
| Unidentified black-on-white | | 0.3 | | | 0.6 | | |
| **Undecorated Wares** | | | | | | | |
| Salinas Red | 6.0 | 12.9 | 16.1 | | 24.7 | 25.0 | 28.8 |
| Kapo Grey | | | | | | | |
| Kapo Black | | 0.6 | | | | | |
| Yellow-slipped ware | | | 0.6 | | | | |
| **Matte Paint Wares** | | | | | | | |
| Puname Polychrome | 1.0 | 0.6 | 0.8 | | | | |
| Santo Domingo Black-on-white | | | | | | | |
| Casitas Red-on-brown | 1.0 | 0.8 | | | | | |
| Hopi Yellow ware | 2.0 | | | | | | |
| Unidentified matte paint wares | 3.0 | 0.3 | | | | | |
| **Miscellaneous wares** | | | | | | | |
| Potsuwi'i Incised | | | | | | | |
| Scored yellow sherds | | | | | | | |
| Bi-chrome body sherds | | | | | | | |
| Finger-nail incised red sherds | | | | | | | |

* Data missing

TABLE 25

Sherd count of Convento Rooms 41 and 43

| Pottery types | Room 41 | | | Room 43 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 0-3" | 3"-6" | 6"-2'6" | 0-3" | 3"-6" | 6"-1'6" | 1'6"-2' | 2'6"-3' | 3'6"-4' |
| Glaze Wares | | | | | | | | | |
| A. St. John's Polychrome | | | | | | | | | |
| Los Padillas Polychrome | | | | | | | | | |
| Agua Fria Glaze-on-red | | | | | | | | | |
| Cieneguilla Glaze-on-yellow | | | | | | | | | |
| San Clemente Glaze Polychrome | | | | | | | | | |
| Total Glaze A | | | | | | | | | |
| B | | | | | | | | | |
| C | | | | | | | | | |
| D | | | | | | | | | |
| E. Puaray and Tiguex Glaze Polychromes | 1 | | | | | | | | |
| Pecos Glaze | | | | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 18 | 3 | 6 | 1 | | | | | 1 |
| Kotyiti Glaze-on-red, jars | 3 | | | | 1 | | | | |
| Kotyiti Glaze-on-white | 2 | | 2 | 1 | | 8 | | | |
| Cicuye Glaze-on-red | | | | | | | | | |
| San Marcos Glaze-on-red | | | | | | | | | |
| Total Glaze F sherds | 23 | 3 | 8 | 2 | 1 | 8 | | | 1 |
| Unidentified green-glaze-on white | | | | | | | | | |
| Unidentified glaze body sherds | 5 | | | | | | | | |
| Biscuit Wares | | | | | | | | | |
| Biscuit A | | | | | | | | | |
| Biscuit B | | | | | | | | | |
| Culinary Wares | | | | | | | | | |
| Carnue Plain | 81 | 16 | 41 | 30 | 11 | 8 | | 19 | |
| Corona Plain | 70 | 11 | | 44 | | 18 | 3 | 31 | 4 |
| Corona Corrugated | | 1 | | | 1 | 3 | 4 | | 1 |
| Las Lunas Smudged | | | | | | | | | |
| Unidentified micaceous ware | | | | | | | | | |
| Unidentified corrugated ware | | | | | | | | | |
| White Wares | | | | | | | | | |
| Chupadero Black-on-white | | | | 1 | | | | | |
| Casa Colorado Black-on-white | 1 | | | | | | | | |
| Combined Chupadero/Casa Colorado | 1 | | | 1 | | | | | |
| Galisteo Black-on-white | 1 | | | | | | | | |
| Santa Fe Black-on-white | | | | | | | | | |
| Wiyo Black-on-white | | | | | | | | | |
| Tularosa Black-on-white | | | | | | | | | |
| Unidentified black-on-white | | | | | | | | | |
| Undecorated Wares | | | | | | | | | |
| Salinas Red | 11 | 9 | 3 | 6 | 3 | 11 | 2 | 2 | 6 |
| Kapo Grey | | | | | | | | | |
| Kapo Black | 5 | 1 | | 3 | | | | | 2 |
| Yellow-slipped ware | | | | | | | | | |
| Matte Paint Wares | | | | | | | | | |
| Puname Polychrome | | | | | | | | | |
| Santo Domingo Black-on-white | | | | | | | | | |
| Casitas Red-on-brown | 3 | | | | | | | | |
| Hopi Yellow ware | | | | | | | | | |
| Unidentified matte paint wares | 3 | | | | | | | | |
| Miscellaneous wares | | | | | | | | | |
| Potsuwi'i Incised | | | | | | | | | |
| Scored yellow sherds | | | | | | | | | |
| Bf-chrome body sherds | | | | | | | | | |
| Finger-nail incised red sherds | | | | | | | | | |

TABLE 26
Sherds from Convento Rooms Rooms 41 and 43 by percent

| Pottery types | Room 41 | | | Room 43 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 0-3" | 3"-6" | 6"-2'6" | 0-3" | 3"-6" | 6"-1'6" | 1'6"-2' | 2'6"-3'6" | 3'6-4' |
| **Glaze Wares** | | | | | | | | | |
| A. St. John's Polychrome | | | | | | | | | |
| Los Padillas Polychrome | | | | | | | | | |
| Agua Fria Glaze-on-red | | | | | | | | | |
| Cieneguilla Glaze-on-yellow | | | | | | | | | |
| San Clemente Glaze Polychrome | | | | | | | | | |
| Total Glaze A | | | | | | | | | |
| B | | | | | | | | | |
| C | | | | | | | | | |
| D | | | | | | | | | |
| E. Puaray and Tiguex Glaze Polychromes | 0.5 | | | | | | | | |
| Pecos Glaze | | | | | | | | | |
| F. Kotyiti Glaze-on-red, bowls | 8.9 | 7.3 | 11.5 | 1.2 | 4.2 | | | | 6.3 |
| Kotyiti Glaze-on-red, jars | 1.5 | | | | | | | | |
| Kotyiti Glaze-on-white | 1.0 | | 3.8 | 1.2 | | | 20.5 | | |
| Cicuye Glaze-on-red | | | | | | | | | |
| San Marcos Glaze-on-red | | | | | | | | | |
| Total Glaze F sherds | 11.4 | 7.3 | 15.3 | 2.4 | 4.2 | | 20.5 | | 6.3 |
| Unidentified green-glaze-on white | | | | | | | | | |
| Unidentified glaze body sherds | | | | | | | 20.5 | | |
| **Biscuit Wares** | | | | | | | | | |
| Biscuit A | | | | | | | | | |
| Biscuit B | | | | | | | | | |
| **Culinary Wares** | | | | | | | | | |
| Carnue Plain | 39.9 | 39.0 | 78.8 | 36.1 | 45.8 | 46.2 | | 36.5 | |
| Corona Plain | 34.5 | 26.8 | | 53.0 | | 7.7 | 33.3 | 59.6 | 26.6 |
| Corona Corrugated | | 2.4 | | | 4.2 | | 44.4 | | 6.3 |
| Las Lunas Smudged | | | | | | | | | |
| Unidentified micaceous ware | | | | | | | | | |
| Unidentified corrugated ware | | | | | | | | | |
| **White Wares** | | | | | | | | | |
| Chupadero Black-on-white | | | | 1.2 | | | | | |
| Casa Colorado Black-on-white | 0.5 | | | | | | | | |
| Combined Chupadero/Casa Colorado | 0.5 | | | 1.2 | | | | | |
| Galisteo Black-on-white | 0.5 | | | | | | | | |
| Santa Fe Black-on-white | | | | | | | | | |
| Wiyo Black-on-white | | | | | | | | | |
| Tularosa Black-on-white | | | | | | | | | |
| Unidentified black-on-white | | | | | | | | | |
| **Undecorated Wares** | | | | | | | | | |
| Salinas Red | 5.4 | 22.0 | 5.8 | 3.6 | 45.8 | 5.1 | 22.2 | 3.8 | 40.0 |
| Kapo Grey | | | | | | | | | |
| Kapo Black | 2.5 | | | 3.6 | | | | | 13.33 |
| Yellow-slipped ware | | | | | | | | | |
| **Matte Paint Wares** | | | | | | | | | |
| Puname Polychrome | | | | | | | | | |
| Santo Domingo Black-on-white | | | | | | | | | |
| Casitas Red-on-brown | 1.0 | | | | | | | | |
| Hopi Yellow ware | | | | | | | | | |
| Unidentified matte paint wares | 1.5 | | | | | | | | |
| **Miscellaneous wares** | | | | | | | | | |
| Potsuwi'i Incised | | | | | | | | | |
| Scored yellow sherds | | | | | | | | | |
| Bichrome body sherds | | | | | | | | | |
| Finger-nail incised red sherds | | | | | | | | | |

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## APPENDIX I

### Recommendations for Future Archaeological Investigations at Quarai

(l) Since no excavations have been made in Mounds B, C, D and E and very little in Mounds F and G future archaeological work at Quarai should involve at least making test pits in these mounds. A random sample of the rooms contained within these mounds should also be excavated as well as strat trenches removed by six inch level or by natural layers in the middens. Samples of the deposits should be collected such as seeds, pollen and soils and analyzed for relevant information. Wood and charcoal samples need to be collected for dating purposes.

(2) Excavations should be made below the floors in rooms in the mounds to search for older cultural remains

(3) Excavations should be made below the floors in the convento rooms to see if older cultural remains are present.

(4) Additional specimens of porcelain and chinaware need to be collected to obtain additional information on the reoccupation phases at the convento.

(5) Further excavations need to be undertaken on the north side of the northeast convento section to determine whether or not there are more rooms.

(6) The sherds from Quarai which are in the Laboratory of Anthopology need to be reclassified according to contemporary types. Additional studies of their temper and paste characteristics needs to be done to determine which types were locally made.

(7) Additional excavations are necessary to determine the age of the house unit on top of the east end of Mound IB as well as the small church excavated by Stubbs to determine their age.

(8) The stone-walled inclosure on top of the hill to the south of Quarai needs testing to determine its age.



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