Mission Dolores de los Ais

JAMES E. CORBIN
THOMAS C. ALEX
ARLAN KALINA

PAPERS IN ANTHROPOLOGY NO. 2
STEPHEN F. AUSTIN STATE UNIVERSITY
NACOGDOCHES, TEXAS
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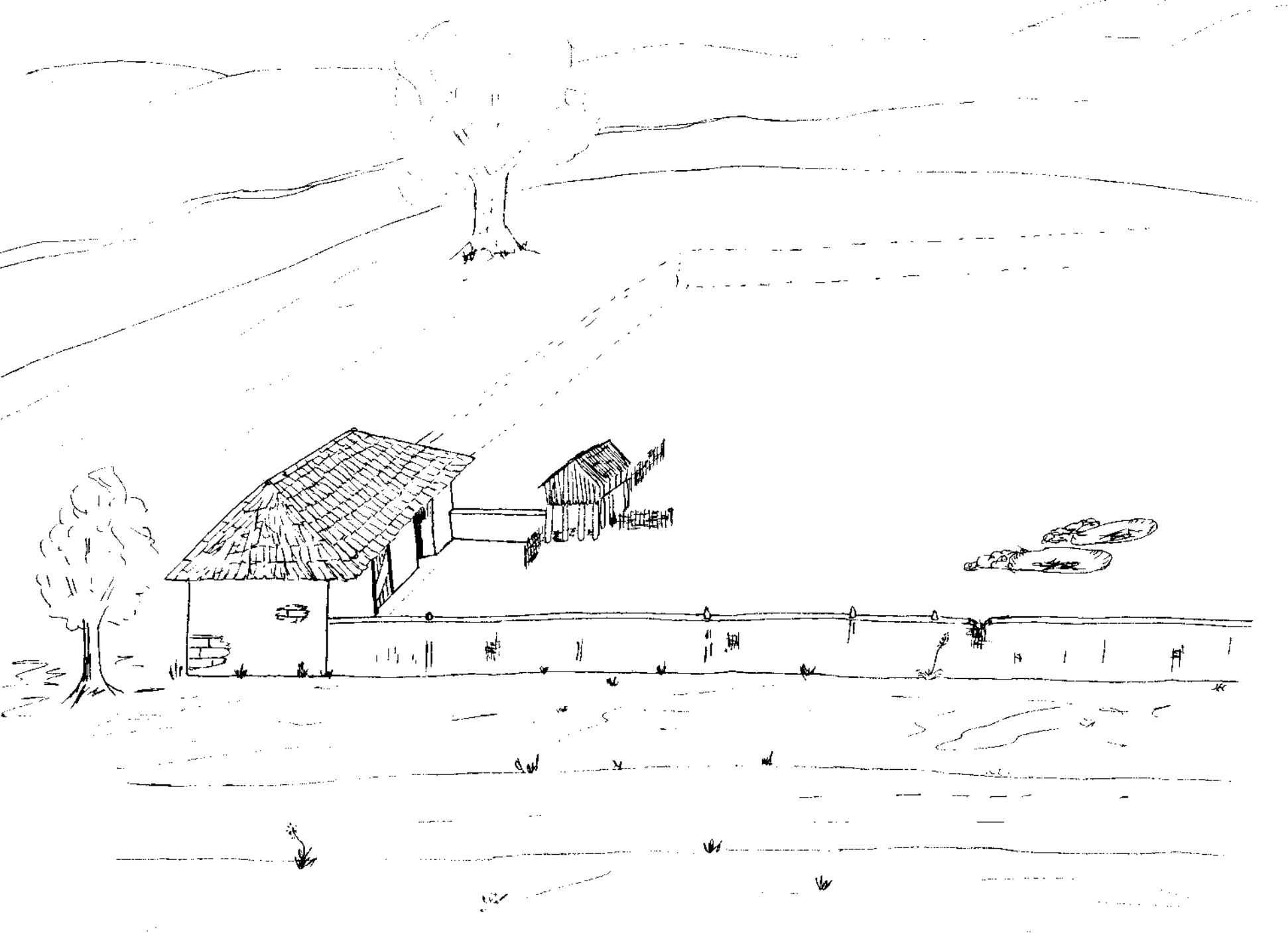
TEXAS ANTIQUITIES PERMIT NO. 183



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Reprint by the

Dr. James E. Corbin Archaeology Laboratory

Stephen F. Austin State University

Nacogdoches, Texas

Summer 2008

DEDICATION

To R. K. Harris, whose contributions to eighteenth-century archaeology in Texas will stand for many years to come.

ABSTRACT

In 1976, 1977, and 1978, the Stephen F. Austin State University Archaeological Field School conducted archaeological investigations at the purported site of the Spanish Colonial period mission site of Nuestra Senora Dolores de los Ais near San Augustine, Texas. While previous archaeological investigations had produced inconclusive results, the work by the field school students has shown that the second mission site was indeed located on what is locally known as Mission Hill. To date, the site Mission Dolores is the only one of the East Texas Spanish Colonial missions that has been precisely identified in this manner.

The data recovered by the Stephen F. Austin Archaeological Field School permit the identification of the southeastern perimeter wall of the mission complex, three structures, four trash pits, and possibly the position of a portion of the eighteenth-century El Camino Real. These data also include thousands of artifacts of Spanish, French, and aboriginal origin. The analysis of the various cultural remains at the site has enhanced our knowledge of the Spanish Colonial presence on the Eastern Texas frontier and the historic Caddoan culture of the area.

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ACKNOWLEDGEMENTS

All of the work detailed in the following report was made possible by significant contributions of interested Texans, at both the local and state levels. The excavations would not have been possible without the permission and cooperation of the landowners, Mr. and Mrs. David Maxwell. Funding and services significant to the accomplishment of the tasks carried out were contributed by the citizens of San Augustine, Texas, the San Augustine Historical Society, the City of San Augustine, the Texas Historical Foundation, the Texas Historical Commission, Southland Paper Mills, the Stephen F. Austin Archaeological Field School, the SFASU Anthropology Club, and the Nacogdoches Archaeological Society, particularly Tom and Janice Mayhew. Of primary significance was the money ($7,000) raised by the citizens of San Augustine and donated to the San Augustine Historical Society to contract with the SFASU Anthropology Program for six weeks' archaeological research in the summer of 1977. All of these contributors are to be commended for their interest and investment of time, effort, and money. Laboratory research was conducted with funding from a Stephen F. Austin State University Faculty Research Grant (1115.03). Funding for the publication was derived from the $7,000 grant from the San Augustine Historical Society and a grant from the Texas Antiquities Committee.

Significant time and effort were provided by User Services of the SFASU Computer Center. Richard Reese, graduate student in Computer Science and Anthropology, contributed valuable assistance in designing and programming the computer-based research and analysis. Valuable comments and criticism concerning the field work were provided by many colleagues, notably Dee Ann Story, Kathleen Gilmore, David Ing, Dan Scurlock, and R. King Harris. Special thanks are due to Pete Gregory for allowing us to study the artifacts from the site of Los Adaes, and for his cogent comments concerning the artifacts and the site. Thanks are also due to our typist and editor, Diane Corbin, to Carolyn Spears for the excellent drafting and lettering of figures, and to Elizabeth Fredahl and Elizabeth Hughes for quality photographic work.

FOREWORD

The following report details the archaeological investigations conducted at the site of Mission Dolores de los Ais in San Augustine, Texas. These investigations, carried out by volunteers, the SFASU Archaeological Field School, and the SFASU Anthropology Program, are far from being complete. The area excavated to date represents approximately one-third of the remaining undestroyed portion of the site (which in turn probably represents less than one-third of the original site). Thus, it can be seen that this report is not final and should not be construed as such. It is an interim report in hopes that the remainder of the site can be investigated in the future. Unfortunately, we will never have an archaeological report concerning the site in its entirety. It is our present conviction that State Highway 147 and other activities north of the highway have obliterated the northern two-thirds of the site. Although we have recovered data which may eventually be fitted into a much larger cultural perspective, this report is not weighed down with speculation concerning the Spanish presence on the East Texas frontier or Spanish-Indian interaction, etc. The excavations and the site are incomplete, and while one should not let small inconveniences hinder reporting, the realities of this site are all too clear. While the site may never produce the socio-cultural data

we seek, its significance manifests itself in several other ways and is worth some consideration here.

At the outset of our investigations, we were extremely pessimistic about the nature of the archaeological data that might be recovered at such an ill-starred site. We expected artifacts, possibly some trash pits, maybe some postholes, but certainly not a well, a perimeter wall, adobe blocks, and portions of two or three structures. It is not that we did not expect those kinds of cultural features (particularly at a site that had been occupied for fifty years, and which probably went through several construction phases, etc.), but rather we doubted whether these archaeological manifestations could have survived and that they could be detected. Certainly, Gilmore's experience on the north side of the highway was anything but encouraging. It should be noted here, in all humility, that, in fact, we dug right through the perimeter wall (F-25) without noticing the wall trench at all. Only the routine profiling of two suspicious small circular dark areas saved the day. These revealed two postholes (molds?) which were obviously not recent. Much to our chagrin, one of the profile pits also sectioned a smaller posthole we had failed to see in the floor of the excavation. To be sure, we were grasping at straws when we laid a string line on the ground aligned with the three postholes and extended a couple of 1 x 1 meter pits to test a rather shaky hypothesis. Yet, we were not really surprised when the wall trench outlines appeared in our excavations of those adjacent units. While

the wall trench was clearer in these units than any other, we were able to trace its outline until it ran into the ditch to the northeast, and until it was obliterated by a bulldozed disturbance to the southwest. At one point (1977), we thought we had lost the trench completely. Study of field notes, etc., at the end of the season convinced us that the wall had either shifted its position, and/or the clues for its existence had changed. In 1978 we found that both of those hypotheses were true. The wall trench is not straight and the archaeological clues had changed. The fill in the southwest portion of the trench was so nearly the color of the surrounding matrix that it was impossible to see. Convinced the trench was not gone, we continued working until, as if by magic, it appeared: a band of white specks in the matrix marching across our units. The fill of the trench appeared to contain numerous small pieces of bone and other trash. Suspecting the fill contents were the clue we needed, we began carefully mapping each piece of bone and Indian and European ceramics. Soon our maps showed a narrow band of debris (coinciding with the white flecks of bone) that continued in the direction of the wall trench when last mapped using the contrasting color of the fill as a guide.

What we had learned from the above experience and others was how a Spanish Colonial site (and maybe other types of sites) manifests itself archaeologically in East Texas. We cannot keep from feeling that our experiences here will be extremely valuable in facilitating excavation of other similar sites (one would hope

more intact sites) in this area. We also learned that a site, even one as ephemeral as this one, can take a lot of abuse before it is completely destroyed. In addition, we found that attitude, conviction, and an open-ended awareness of a multitude of possibilities are important aspects of any archaeological field endeavor. Thus, we found a site we thought might be somewhere else, we found features which we thought probably could not have survived, and we found features continuing even after we thought they were gone. With this kind of track record, the possibilities for future work at Mission Dolores are at least heartening.

One final note concerning this report is in order. The analysis phase was conducted with a Faculty Research grant which paid for two undergraduate students in Anthropology to carry out the basic artifact analysis. While one purpose of the grant was to facilitate the analysis and prepare the report, its other stated purpose was to train students to conduct artifact analysis and prepare that analysis and other site data for publication. The two students had no prior experience in this type of work, although Kalina had extensive background in computer programming and analysis. Therefore, this analysis and report essentially start from scratch, with the students having to learn about ceramics, lithics, glass, historic artifacts, analysis techniques, etc. From that standpoint, the results may not be as profound and finished as they might have been. In many places in this report, this learning process is evident, particularly in the form of the appendices and

charts, but we feel that our experiences may well benefit others who follow a similar path.

INTRODUCTION

During 1976, student volunteers from Stephen F. Austin State University conducted cursory excavations at the site of Mission Dolores de los Ais in San Augustine, Texas. This preliminary investigation comprised approximately eight working days. As a result of this work, a number of facts became evident. First, there was indeed some sort of extensive Spanish colonial site in the vicinity of the area known as Mission Hill. Secondly, there were more archaeological remains pertaining to this occupation than was believed from earlier archaeological work (Gilmore, Appendix 1), which had concentrated on the area of the hill north of Highway 147. On the basis of the weekend work, a $2,000 grant ($1,000 from the San Augustine Historical Society, $1,000 from the Texas Historical Foundation) was obtained to begin the highly important research into contemporary Spanish documents. This research was carried out by the Old Spanish Missions Research Library in San Antonio, and a limited amount of new data was uncovered (see Appendix 2).

At this point, it was felt that more exploratory archaeological research was needed before more time and money could or should be allocated to the project. With this in mind, the 1977 SFASU Archaeological Field School agreed to excavate for ten days at the site, with the option to continue if sufficient archaeological remains were uncovered. Within the allotted time period, it was soon

evident that more work would be advantageous to the project. Thus the field school continued work for the rest (four weeks) of their schedule. As a result, a number of archaeological features pertaining to the Spanish occupation of the site were uncovered, and thousands of artifacts were recovered, washed, and catalogued. This work showed that much more archaeological work needed to be done at the site in order to have a more complete understanding of the nature of the Spanish occupation, the plan, if possible, of the mission settlement, and the structural aspects of the building walls, etc., which most certainly occurred at the site. To this end, the citizens of San Augustine raised $7,000 to continue excavations for six more weeks.

The first portion of the 1977 field season was conducted under the auspices of Stephen F. Austin State University as an archaeological field school (Ant. 440). Thus the primary focus of this session was teaching archaeological field methods. Nevertheless, we feel that archaeological field schools should also be designed to contribute to general archaeological data, and the preservation of our historical and cultural resources. Therefore, general excavation strategy was designed to locate archaeological features associated with the presumed location of the Spanish Colonial Mission Dolores de los Ais. The preliminary work in 1976 had indicated that a portion of Mission Hill (south of Highway 147), heretofore only cursorily examined, contained archaeological data (numerous artifacts and what appeared to be trash pits) which supported the contention that Mission Dolores de los Ais had indeed been located on

the hill. By the end of the first two weeks, the field school excavations had yielded enough data to warrant spending the remainder of the six-weeks' session at the site. The area in the vicinity of N100/W100 (Figs. 7, 8), known as the French Area, was producing hundreds of artifacts on what appeared to be the floor of a structure. Other field school participants had uncovered a large trash pit and portions of a second. As the field school excavations progressed, portions of a palisado wall (F-25), a well, and subsurface remains of what appeared to be two structures were revealed. It soon became apparent that this portion of the site was rich in archaeological remains of the Spanish Colonial activity associated with what had to be Mission Dolores de los Ais. It was also apparent that an extended field season was highly desirable, particularly in terms of more fully exploring the features uncovered by the field school.

A proposal was submitted to the San Augustine Historical Society and the citizens of San Augustine for six more weeks of excavation. The money was raised within two weeks, and, utilizing students trained in the field school, the excavations continued without a break. The second half of the 1977 season concentrated on expanding our knowledge of several important archaeological features discovered in the exploratory phase carried out by the field school. This subsequent work revealed no new features, but did confirm our earlier interpretations. By the end of this second six weeks there was no question that Mission Hill was the site of Mission Dolores de los Ais. This conclusion is based primarily on the presence of

archaeological remains of structures and other cultural features in direct association with thousands of Spanish Colonial period artifacts.

The 1978 season began with extensive testing of the large, gently-sloping area to the southeast of previous excavations. Three backhoe trenches and several 1 x 1 meter test pits revealed a general lack of artifactual material and a disturbance of the upper soil horizons by plowing, erosion, and construction activities east of the site. Several old excavation units were reopened to relocate portions of F-25. Then, additional excavation units were opened which revealed more of this feature along with associated postmolds and artifact concentrations. Excavation also concentrated in the area of F-32 to try to determine the true nature, extent, and significance of the presumed adobe material exposed in 1977. Because of various disturbances, the true nature of these archaeological remains has not been fully determined.

Additional work was carried out east of the so-called French Area to salvage materials and features eroding from the south ditch wall and to further investigate the cultural zone revealed in the trench mentioned above.

A preliminary report (Corbin 1976) of the weekend work at 41SA25 detailed the archaeological assessment at that point. A second report described the results of the six-weeks' excavation by the SFA Archaeological Field School (1977) and the subsequent six weeks of excavation at the site funded by monies raised by the citizens

of San Augustine. This report was amended in 1978 to detail the work of the 1978 SFA Archaeological Field School.

THE SITE

Environment and Setting

The site of Mission Dolores de los Ais (Figs. 1, 2) occupies the mid-portion of an upland outlier (known locally as Mission Hill) that overlooks the Ayish Bayou to the west. This point projects well out from the uplands to the east, placing the mission in a semi-defensive situation with a view to the north, south and west. This position is further enhanced by the slight rise near the end of the point which was utilized for construction of the mission complex.

The soil (App. 6) of the site vicinity (Trawick-Bub complex) is derived from the local bedrock, the Weches formation. This formation consists of various expressions of glauconite, glauconitic marls, sands, and clays. That underlying the immediate site vicinity is a glauconitic clay/marl. At various places in the solum, petroferric zones (2-5cm thick) occur. In general, this natural feature had some effect on site utilization: Spanish period postholes almost never penetrated the petroferric zone. Indeed, as we were to discover, excavation when the soil in the site is dry is extremely difficult even with modern tools.

Three everflowing springs of various sizes occur (Figs. 3,4) in the immediate vicinity and were probably an important consideration in the original location of the mission complex. The two springs on Mission Hill could have easily supplied irrigation (hand-carried)

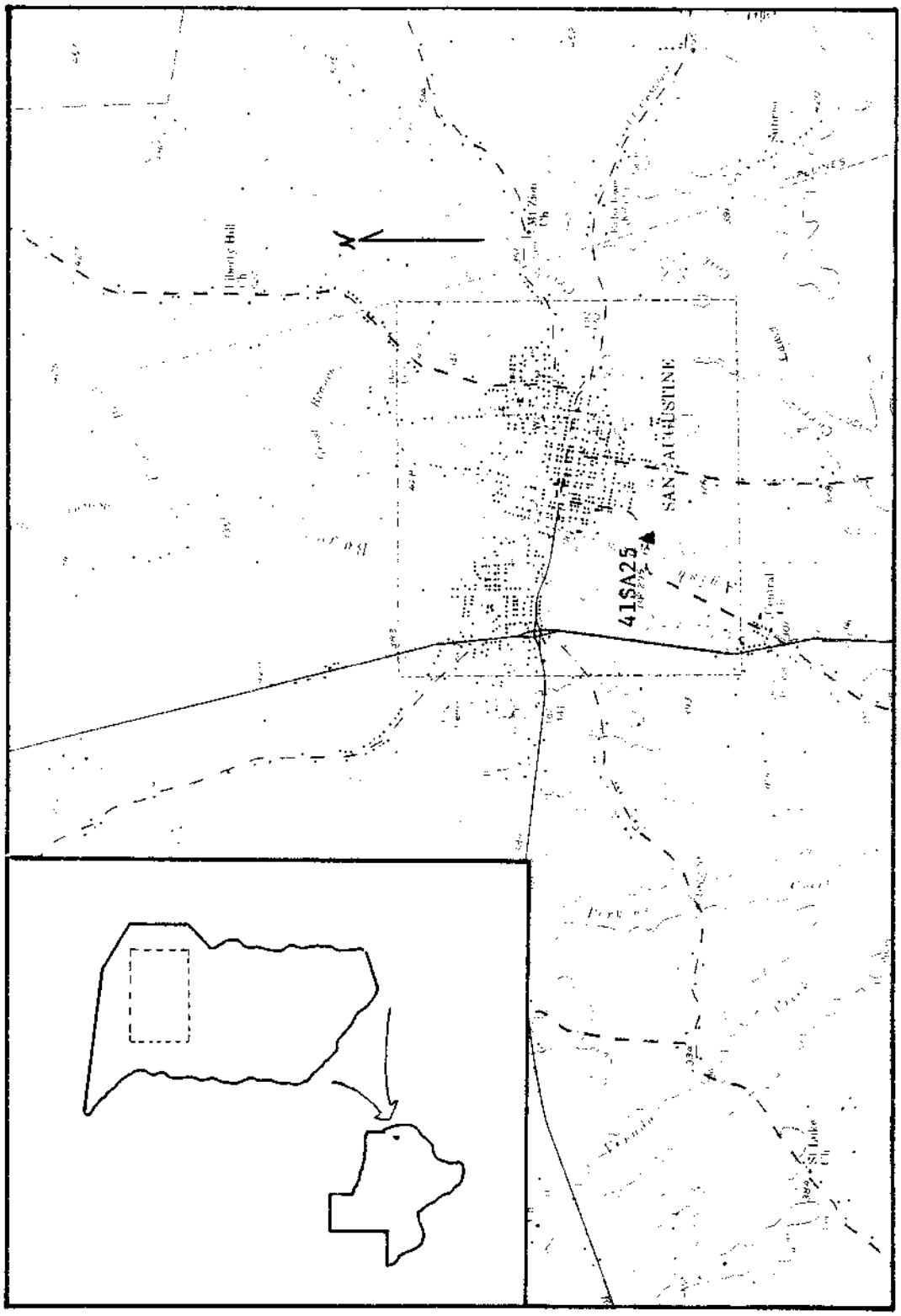


FIGURE 1. Location of Mission Dolores (41SA25)

water for fields in the small flat area immediately east of the compound. The easternmost of the three springs is the largest and feeds a small tributary that meanders along the south margin of an extensive flat area (probably a Pleistocene terrace remnant or at least topography created by the Ayish Bayou at a much earlier date) that is immediately northeast of Mission Hill. This area was most assuredly farmed during the occupation and there is no reason why the tributary could not have provided some diversion-type irrigation for the area.

Mission Dolores is in the Austroriparian biotic province (Blair 1950, 1957). Pine-oak forest is the dominant vegetation group in the area. Since the general site area has been in cultivation, pasturage, etc., as late as 1920-30, most of the tree vegetation is in some sort of seral stage or non-existent. The exception to this is the stand of very large Eastern red cedar which surrounds the eastern spring and lines the upper reaches of the tributary.

The faunal populations are diverse and numerous. Common mammals include deer, opossum, eastern mole, and several species each of bats, squirrels, gophers, mice, rats, and rabbits. Although the site is now almost in a suburban locale, most if not all of these species could be found today in the floodplain below or in adjacent woods and fields.

Site Description

As noted above, the site (Figs. 2, 3, and 4) occupies the midportion of a westward-trending outlier point above the Ayish Bayou

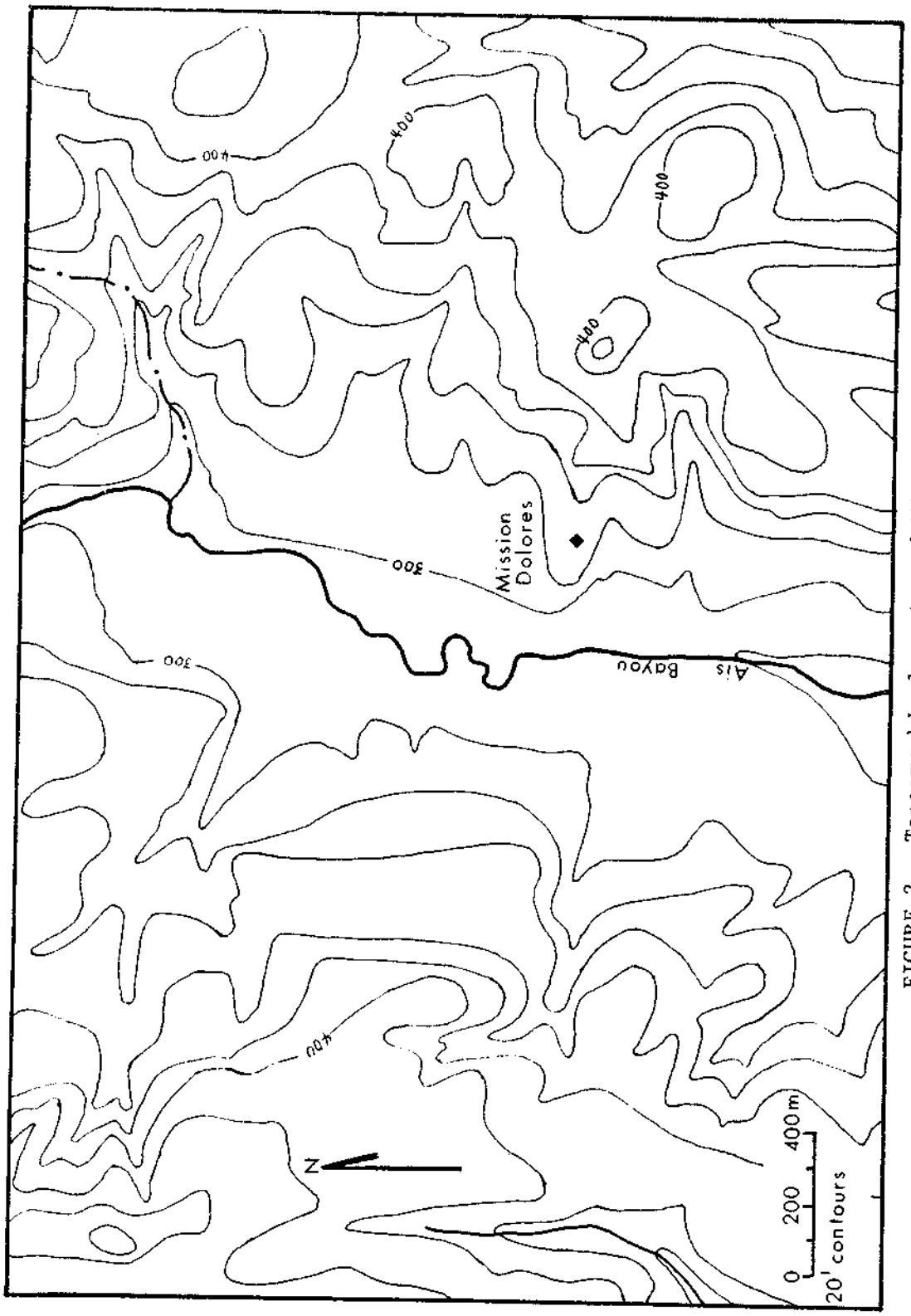


FIGURE 2. Topographic location of Mission Dolores

floodplain. The site itself occupies a small flat area near the southern edge of the point. The hill rises slightly (ca 2m) to the northwest (i.e., the site is not on the highest portion of the point), providing some slope wash for the southern half of the compound, which we feel is partly responsible for some of the preservation of that portion of the site. To the southeast of the compound is a slightly lower (ca 1.0m) and larger flat area that is bounded on the south by a spring and small tributary. Although this area is suitable for occupation, extensive testing revealed few (very few to none) artifacts in that area.

Today, State Highway 147 bisects the area which we believe was occupied by the mission compound. Gilmore's (see App. 1) excavations to the northwest of the immediate site area revealed few artifacts and no features that could be placed comfortably within the Spanish colonial complex. In addition, this portion of the hill has been used as a home, sawmill, railroad housing project, and has had several road construction phases impact on it. In contrast, the area south of 147 has been in pasture for at least 80 years, and has never been occupied for a dwelling space. Our excavations also suggest that the narrow area between the highway ditch (south side) and an old property line (which generally marks the highway right-of-way) may never have been plowed. Whether it was ever plowed or not, this area is the best preserved at the site. As mentioned before, this may be due in part to some slope wash accumulation in this area derived from the rise to the northwest.

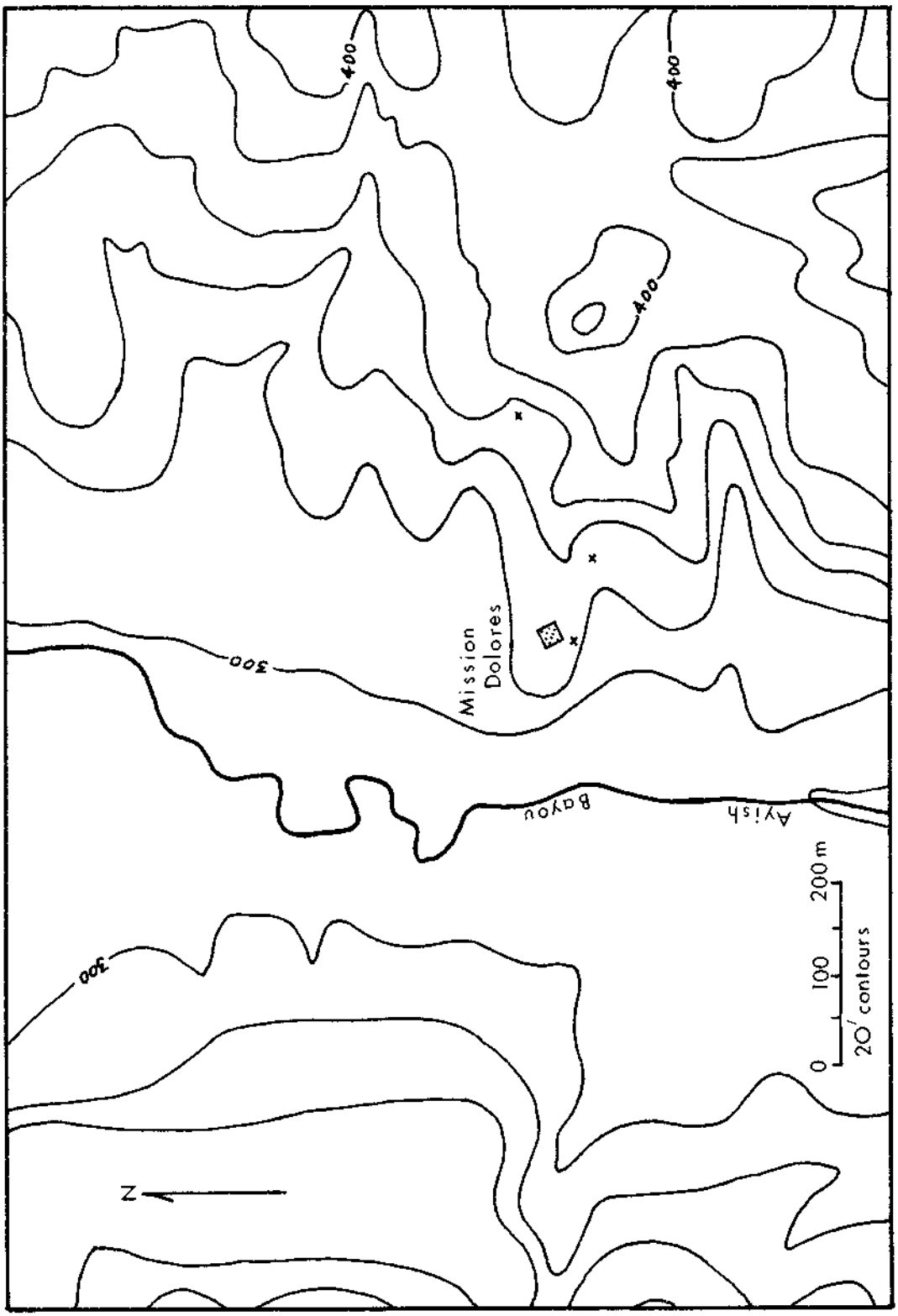


FIGURE 3. Topographic location of Mission Dolores (X = springs)

The south side of the ditch on the south side of the highway provides a ready-made profile of the entire remaining portion of the site. Indeed, it was artifacts eroding from portions of this profile that prompted the renewed archaeological investigation of Mission Hill. In fact, one short collecting excursion doubled the number of artifacts recovered by Gilmore's excavation. At the time of Gilmore's excavations, however, the ditch cut was heavily vegetated; in addition, local politics somewhat limited the area which she could investigate. The ditch had been recently redone, and the profile was unvegetated and eroding when our collecting occurred. We knew also, due to the hard work of Mayor Alvis Juniel, that a local collector (who no longer lives in the area) had consistently collected Spanish colonial artifacts from the ditch profile. This find corroborated Gilmore's conviction that if any portion of the site remained intact (if indeed it was on Mission Hill), it might be in the area south of the road.

Recent data indicate that some intact Spanish Colonial archaeological remains may occur on the north side of the road. Recent pothunting (ca 2 x 2 meter pit), about two to three meters northwest of the granite marker (Fig. 10) for the mission produced (in the backdirt) several Indian sherds, a piece of eighteenth-century glass, three sherds of French faience and a number of bone fragments. This area is south of areas tested by Gilmore and seems to indicate that some occupation did occur (App. 3) in that area. This could be in the vicinity of a projected northeast corner of the mission compound.

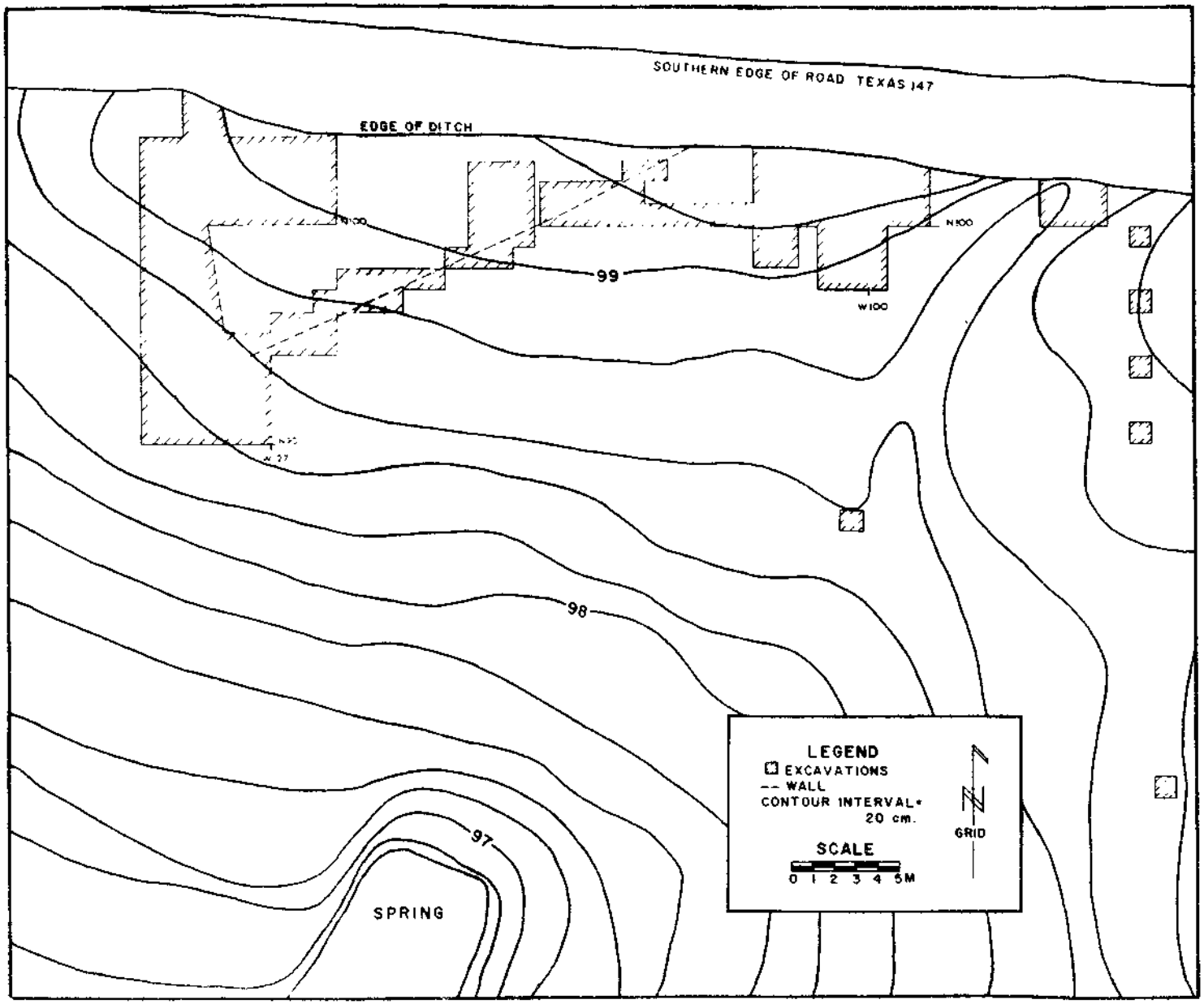


FIGURE 4 · CONTOUR MAP OF 41SA25 · SOUTH OF HIGHWAY 147

THE EXCAVATIONS

The renewed excavations at the site of Mission Dolores occurred in several phases, beginning with some initial testing in portions of the site adjacent to the ditch on the south side of Highway 147, from the spring of 1976 through the summer of 1978. In actuality, archaeological exploration of this portion of the site had begun in 1973 when Gilmore, on the last day of her investigations, excavated a shallow backhoe trench (see App. 1; also Fig. 5 and 6) into the western edge of the site. This trench bisected what was believed to be a trash pit containing only aboriginal artifacts. As will be seen below, this feature is two features, a trash pit (F-34) and the well (F-13).

1976

The 1976 excavation was primarily a testing phase to attempt to determine the existence and nature of archaeological remains of the areas south of the highway. This work began in the spring with a one-day excavation in an area (Fig. 8, 9) which had produced a number of aboriginal and eighteenth-century European artifacts (primarily sherds of French faience). Initially a short profile (5 meters) was cleared, and then a 3 x 5 meter excavation unit was laid out adjacent to the profile. The southeastern corner of this unit eventually became N100/W100 grid point in the site grid. The profile revealed a thin occupation level incorporating

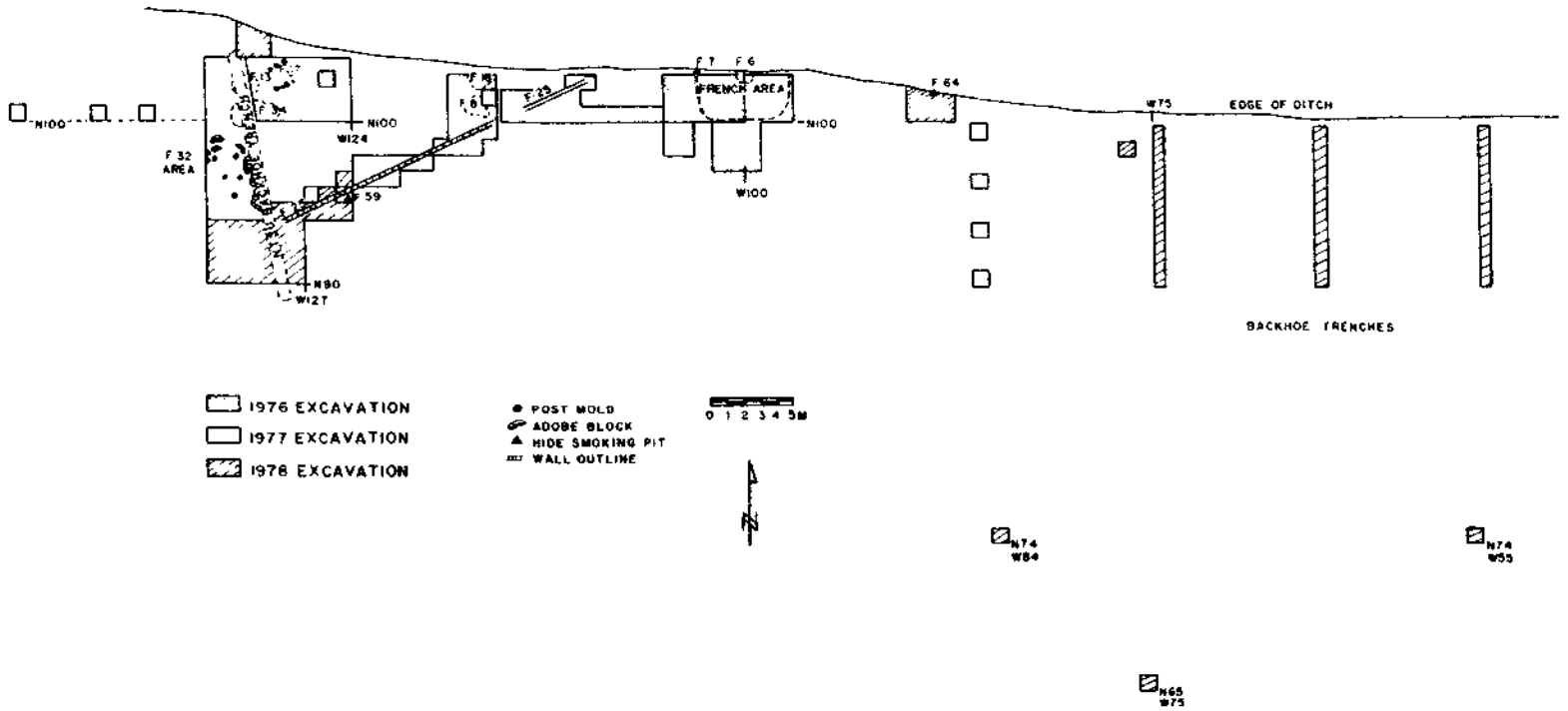


FIG. 5 · EXCAVATION PLAN · MISSION DOLORES · 41SA25

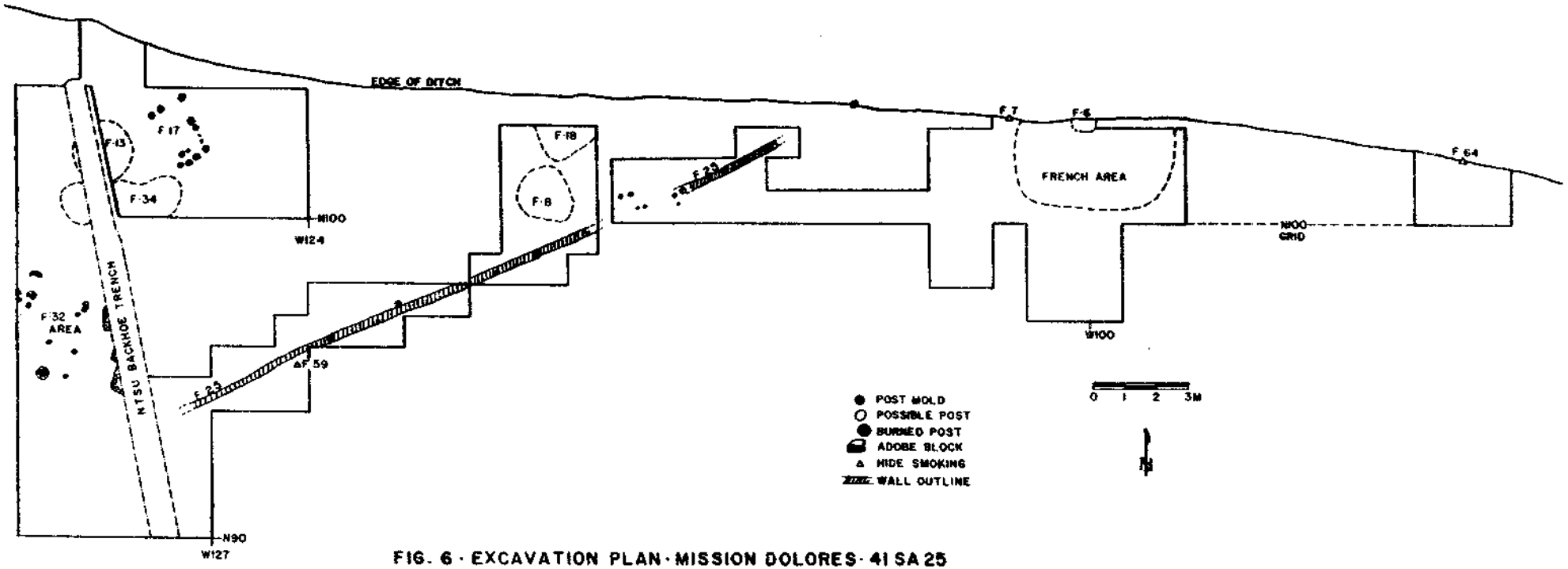


FIG. 6 · EXCAVATION PLAN · MISSION DOLORES · 41 SA 25

FIGURE 7. Initial excavations in N100/W100 vicinity, 1976

FIGURE 8. Profile of Feature 6 at W100 line, 1976

some sort of activity surface (now believed to be a house floor). The initial excavation in the 3 x 5 unit removed a thin layer of fill (from ditch construction) and then immediately began producing a number of eighteenth-century European and aboriginal artifacts. A 1 x 1 meter unit in the northeast corner of the 3 x 5 unit was excavated to ca 10cm below the southeast corner stake by the end of the day. The remainder of this 3 x 5 was excavated to ca 5cm during a one-day excavation conducted by the SFA Field School in June. This resulted in the recovery of many aboriginal potsherds, a number of French faience sherds, a glass trade bead, and several gunflints. Additional work at this time also included profiling several areas of the ditch profile, expanding the grid, etc. Three days' work in September carried the 3 x 5 down to ca 10cm. Because this particular area appeared rather complex, it was decided to abandon this unit temporarily and begin a one-meter wide east-west trench (Figs. 5, 6, 11) that would parallel the ditch, thus giving us two profiles to work with. The initial trench excavation was a 1 x 5 meter strip which was the southern one-third of the 3 x 5 unit. This was carried to ca 30cm and produced a number of aboriginal and eighteenth-century artifacts, including a hide-bale seal. In addition to this unit, two 1 x 1 test pits were also excavated during this time. Test unit N101/W116 was placed opposite features in the ditch profile which appeared to be trash pits. Artifacts recovered from this unit included a jet higa, a pewter spoon, and a number of large animal bone fragments (these

FIGURE 9. Beginning of the 1977 summer field school. Excavation is the 3 x 5 meter area at Feature 6.

FIGURE 10 View of site area, looking northeast, at the end of the first six weeks' excavation, 1977

F-8 Trash pit, showing stones in bottom of pit

F-18 About half of this pit has been excavated; the remainder is in the balk between the excavation units and the ditch.

---- The line of F-25, the jacal wall

➡ Locate some of the first postmolds found in association with the wall trench

A One of the original 1976 SFA test pits

▼ Location of recent pothole

FIGURE 11 View of site, looking west, at the end of the first six weeks of excavation, 1977

F-8 Trash pit

F-13 Filled well

F-17 Small rectangular structure (?)

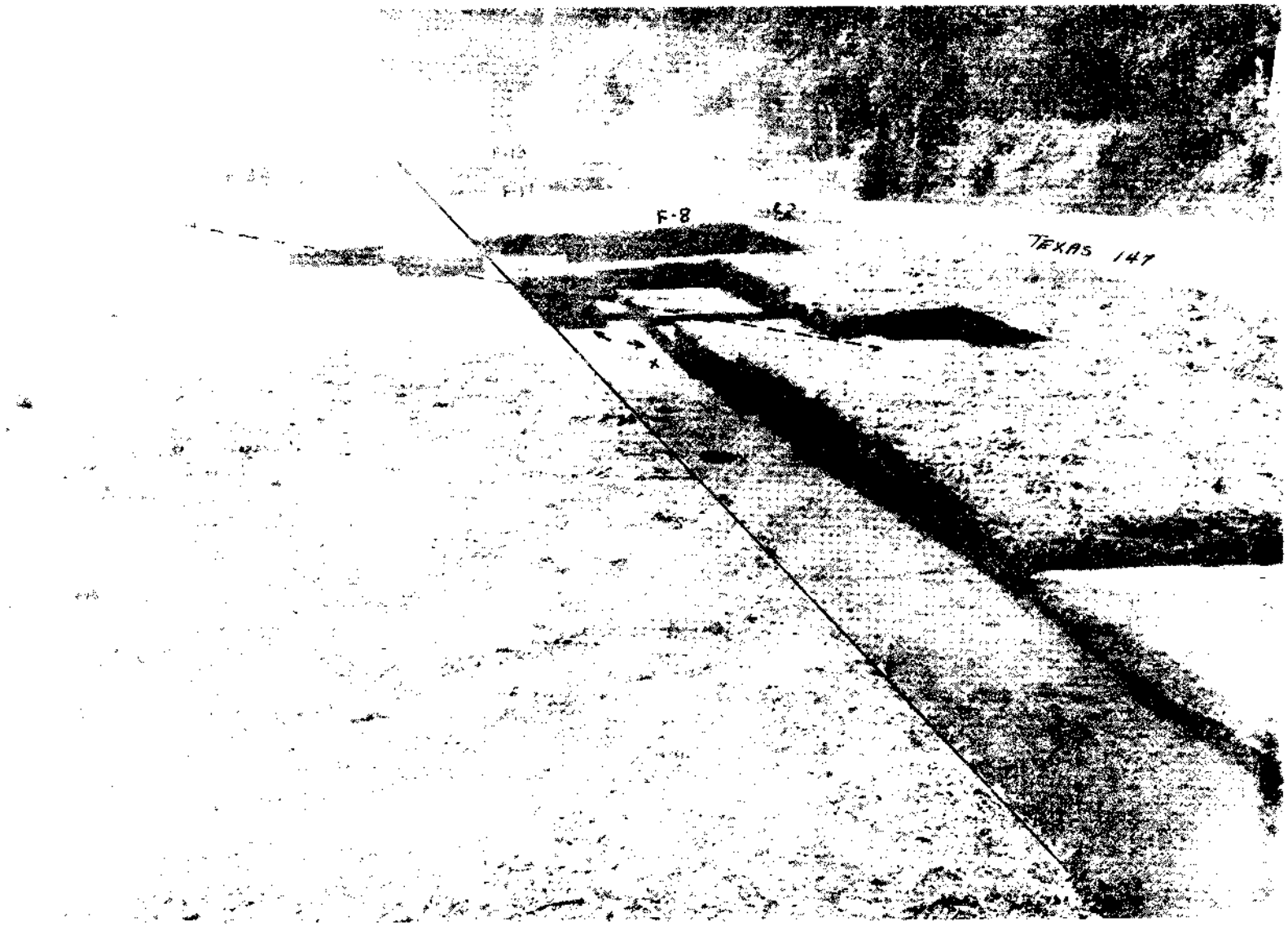
F-32 Adobe structure (?)

•••• NTSU backhoe trench

---- Line of F-25, the jacal wall, at ground surface. It should be noted that the postmold alignments in F-17 and F-32 parallel this line.

→ Postmolds in F-25

x Postholes which belong to a fence we believe may mark boundary of the original Quinalty-Quirk survey. This boundary line followed approximately the line of El Camino Real as of ca 1827.


F-8
62
TEXAS 147

materials were apparently in the southern edge of F-18). Test unit N102.4/W125 was near an area in the ditch profile which had produced a French clasp knife handle. Artifacts recovered showed the site continued at least this far west.

1977

In the summer of 1977 (Figs. 9, 10) twelve weeks of archaeological field investigations were conducted at the site. At this time the grid system was expanded and the basic excavation strategy was established. The primary excavation unit was the 3 x 3 meter unit, to be excavated in nine 1 x 1 meter subunits. In general, excavation of the 1 x 1 meter units proceeded in 10cm levels unless conditions warranted something more precise. For example, excavations in the French area (F-6) and in the vicinity of F-32 (adobe structure) often proceeded in 2-3cm levels. In the case of F-6, this technique facilitated recovery of artifacts within the hypothesized floor of the structure (?). For F-32, this technique allowed a more precise definition of the melted adobe blocks remaining from that structure.

Primary excavations initially centered around F-6, and the 1 x 1 test pits excavated the previous fall. The 3 x 3 unit N100/W115 (Fig. 10) was excavated in the area of the 1 x 1 test unit N101/W115. This excavation uncovered F-8 (trash pit) and F-18 (trash pit). Excavation of the 3 x 3 unit N100/W124 (Fig. 11) finally produced (in addition to artifacts) a single charred post, which was eventually to lead to the discovery of F-17 (palisado structure). In addition, the one-meter east-west trench (Figs. 10, 11), which had been

started in the fall of 1976, was extended to W115 for a total of fifteen meters. This effort produced modern fence-line posts as well as F-25, the palisado perimeter wall. Other units, primarily 1 x 3 strips, were excavated to trace the wall remnants further.

A major undertaking during the first six weeks' work was the reopening of the backhoe trench excavated during Gilmore's 1973 excavations. Although it would have been nice to have the trench on the grid, it was decided not to take a chance on disturbing more of the fragile archaeological remains (this is not to say a trench should not or would not have been excavated. As will be seen below, hindsight might have argued for no trench.) In reopening the trench, it was decided to extend the trench northward and to excavate to a greater depth. As may be seen (Fig. 6), the trench sectioned F-13 (well), F-34 (trash pit), a portion of F-32 (adobe structure) and may have eliminated the remains of the southwest corner of the compound wall.

After profiling the trench walls, a 4 x 4 meter excavation unit (southeast corner, N100/W131) was laid out to encompass the area surrounding F-13 (well). Partial excavation of this area revealed the outline of the well as well as the extent of an adjacent trash pit (F-34). The profile also revealed what appeared to be adobe blocks in the area south of the well. A 3 x 6 meter (N-S) area (southeast corner, N94/W130) was schnitted, revealing large, amorphous areas of yellow/red clay. This area was excavated in ca 2cm levels to ca 10cm below ground surface, revealing portions of adobe blocks and postholes of a large structure (F-32). Additional excavations

included three 1 x 1 test units along the W100 line west of the well (F-13).

The final six weeks of 1977 was spent on the F-32 area, the east side of the well, and further delineating F-25 (the perimeter wall). Excavation of the 2 x 4 meter area between the well and N100/W124 revealed a second structure (F-17). Excavation in the French area continued also with the excavation of adjacent 3 x 3 (n97/W99; N100/W97) and 2 x 2 (N98/W103) meter units. The southern units contained no further evidence of F-6, etc., which did continue eastward into N100/W97.

1978

One part of the 1978 excavations (six weeks) concentrated on testing the relatively level area to the east of our previous excavations (Fig. 5). This testing consisted primarily of six 1 x 1 meter units and three 10-meter (north-south) backhoe trenches. These excavations indicated that eighteenth-century cultural debris, etc., did not extend (in this area) more than a few meters east of the W75 line or south of the N75 line.

The remainder of the 1978 season focused on delimiting Features 32 and 25 and attempting to understand the relationship between the two by excavating a 4 x 6 meter area (southeast corner N90/W127) adjacent (south) to the 1977 excavations. Feature 25 again became very ephemeral, but we could trace debris in the wall trench to the vicinity of the NTSU backhoe trench. Much of this area had been recently disturbed by bulldozing and clearing (ca1960-61) by the owner

of the property. Nevertheless, we did recover a number of artifacts in the shallow cultural deposit that remained, as well as another adobe block(s). This block may be a portion of F-32, although this is not certain.

Other small-scale excavations concentrated on clarifying features exposed in various portions of the ditch profile (Fig. 5). A 2 x 3 meter area (SE corner N100/W87) exposed an area adjacent to F-64, a charcoal-filled pit. In addition, a profile of F-65 (El Camino Real?), exposed in the ditch (between W82 and W87) was drawn. A 2 x 2 meter unit (N104/W128) was excavated in an attempt to clarify F-24, a possible postmold and/or tree mold. The results of this exploration showed it was a large tree mold.

With the end of the 1978 season, excavations at Mission Dolores came to a close. It is hoped that the work detailed above is not the last. As will be seen below, much more field work remains to be conducted at the site before we can understand the remaining portion of this very important Spanish Colonial site.

THE FEATURES

During Stephen F. Austin State University's two seasons of excavation at Mission Dolores, a number of cultural features were exposed. Interestingly enough, all but a very few of these were related to the Spanish Colonial occupation. The recent features (posts and postholes in an old fence line, a telephone-pole hole, and a path along the fence line) do not pertain, in a primary sense, to this report and will not be discussed in detail since they have little or no impact on this portion of the site or on the scope of this report. The remainder of the features are discussed in detail below. As will be noted, some of the features are easily identifiable and relatively easy to deal with in the field (e.g., trash pits, well), while others are less certain with regard to their identification and/or field processing (postmolds, wall trench, adobe blocks, some structures). An attempt will be made below to impart a sense of feel to each feature relative to its field identification and processing, as well as its original function(s).

Structural Features

Four features and/or clusters of features are believed to have been associated with some sort of structures at the site. Three of these are archaeological remains we believe represent the presence of buildings of some sort. The original function of none of these is

known, although artifacts suggest that one (F-6, etc.) may not be directly related to mission activity. The fourth structural feature is believed to be the archaeological remains of a portion of the perimeter wall which encircled the main mission complex (i.e., church, padres' quarters, well, storage facilities, etc.)

PALISADO WALL (F-25)

This important feature was first discovered in the one-meter wide hand-excavated trench (Fig. 11) which eventually ran from N100 to N115. The purpose of the trench was to produce a profile parallel to the ditch and to attempt to intersect structural features. Although we never excavated deep enough for a complete profile, we did, in the last three meters, intersect the palisado wall. The feature appeared initially as two postmolds (F-19 and F-23), an anomaly in the normal soil (in association with F-23), and associated bone (F-15), charcoal and lead fragments (all eventually designated F-23). Feature 19 was not found until a profile pit was excavated to cross-section F-16 (Figs. 11, 15). Since we were looking for structural features (walls, etc.), we made an assumption that the two postholes were in a line of posts in a wall, and that the soil disturbance in the vicinity of Feature 23 (Fig. 14) represented the fill in a wall-setting trench. One-meter units were excavated to the northeast (N101/W112) and southeast (N99/W115) of the features in an attempt to further delineate the possible wall-setting trench. At ca 20cm below the surface, the wall trench, containing a darker fill than the adjacent

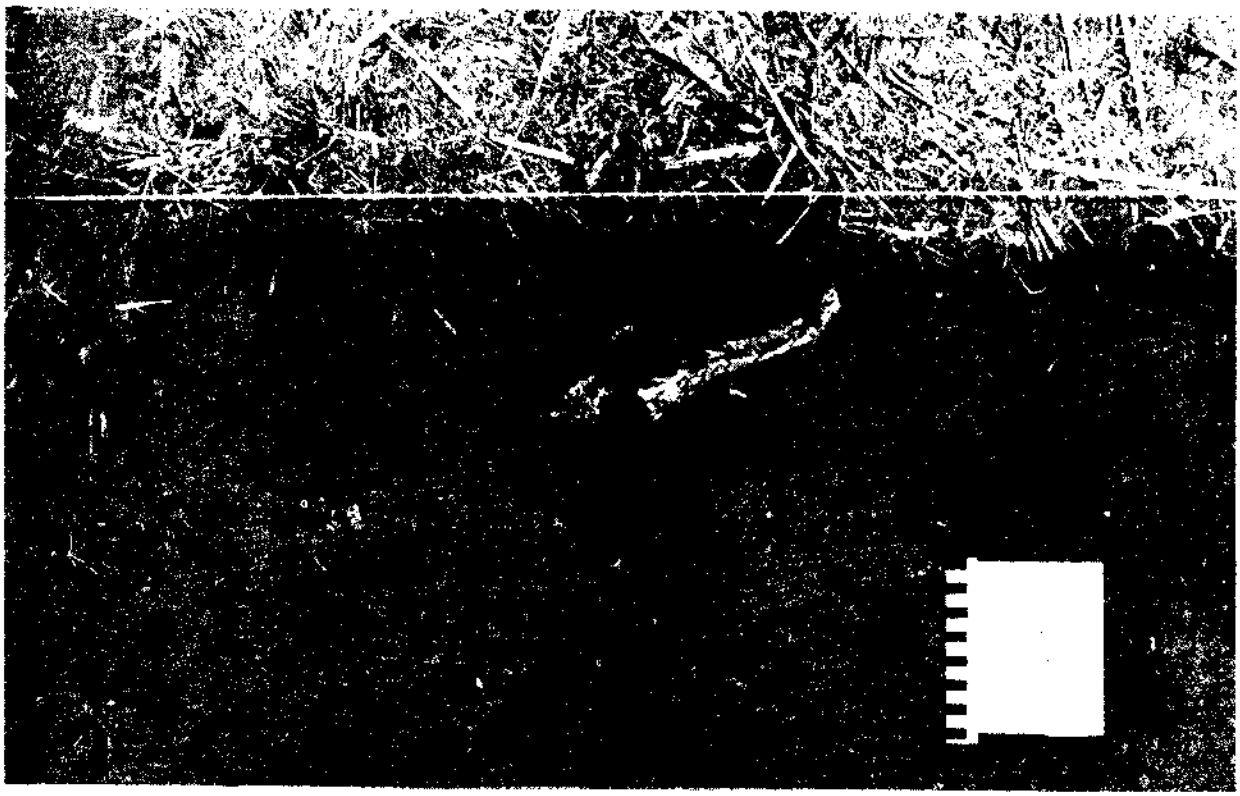


FIGURE 12. Feature 23; bone, lead and sherds in Feature 25

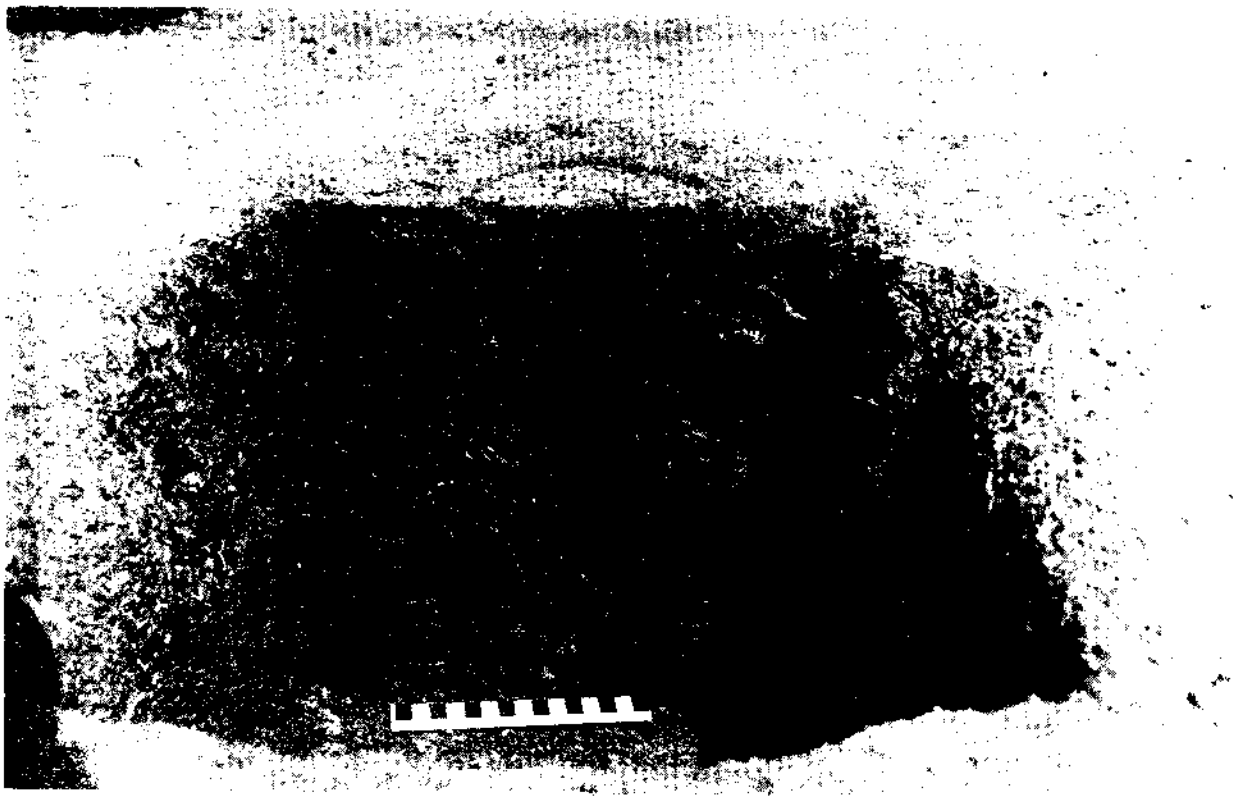


FIGURE 13. Typical posthole in Feature 25

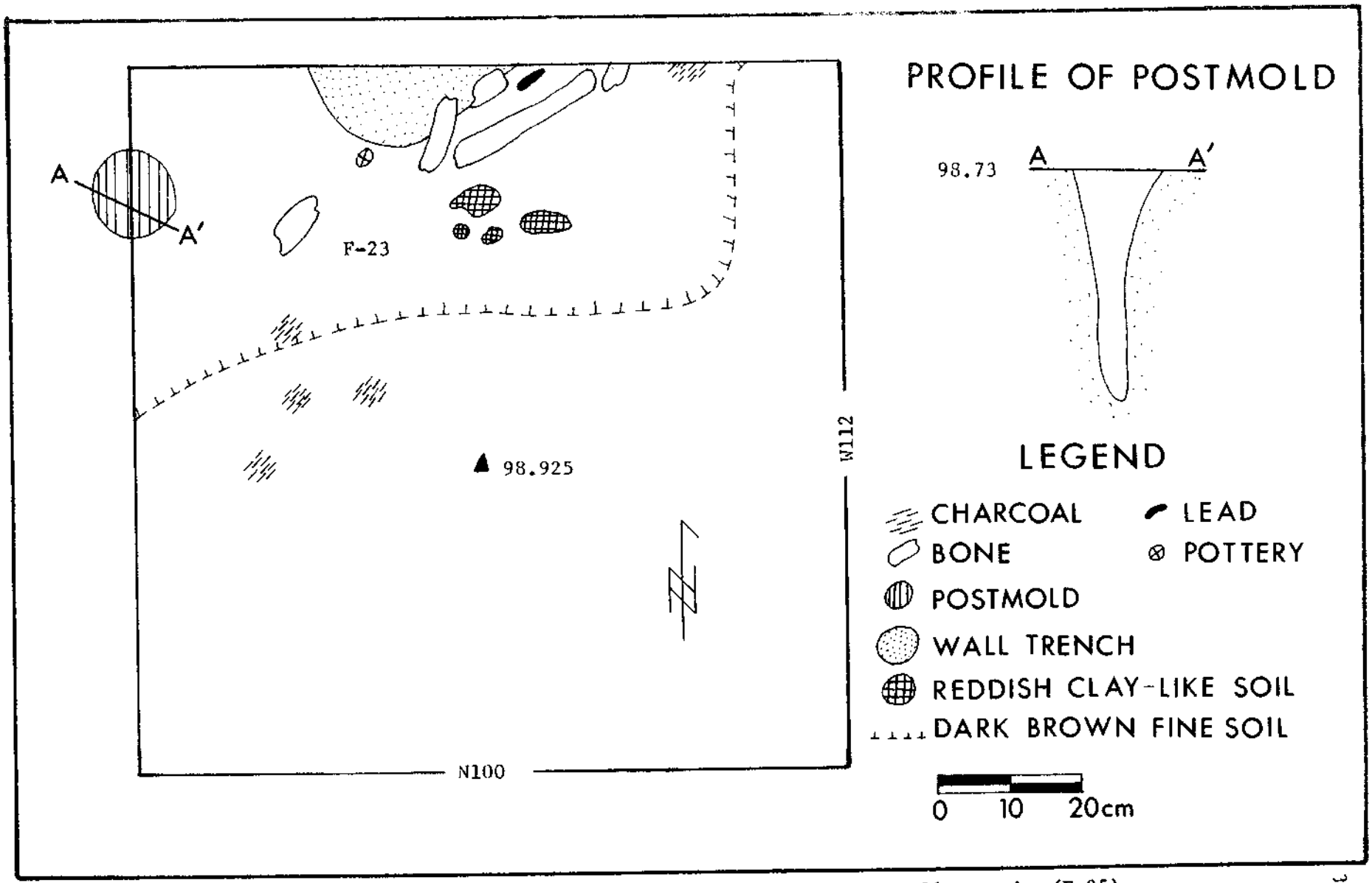


FIGURE 14. Feature 23, cultural debris in palisado wall trench (F-25)

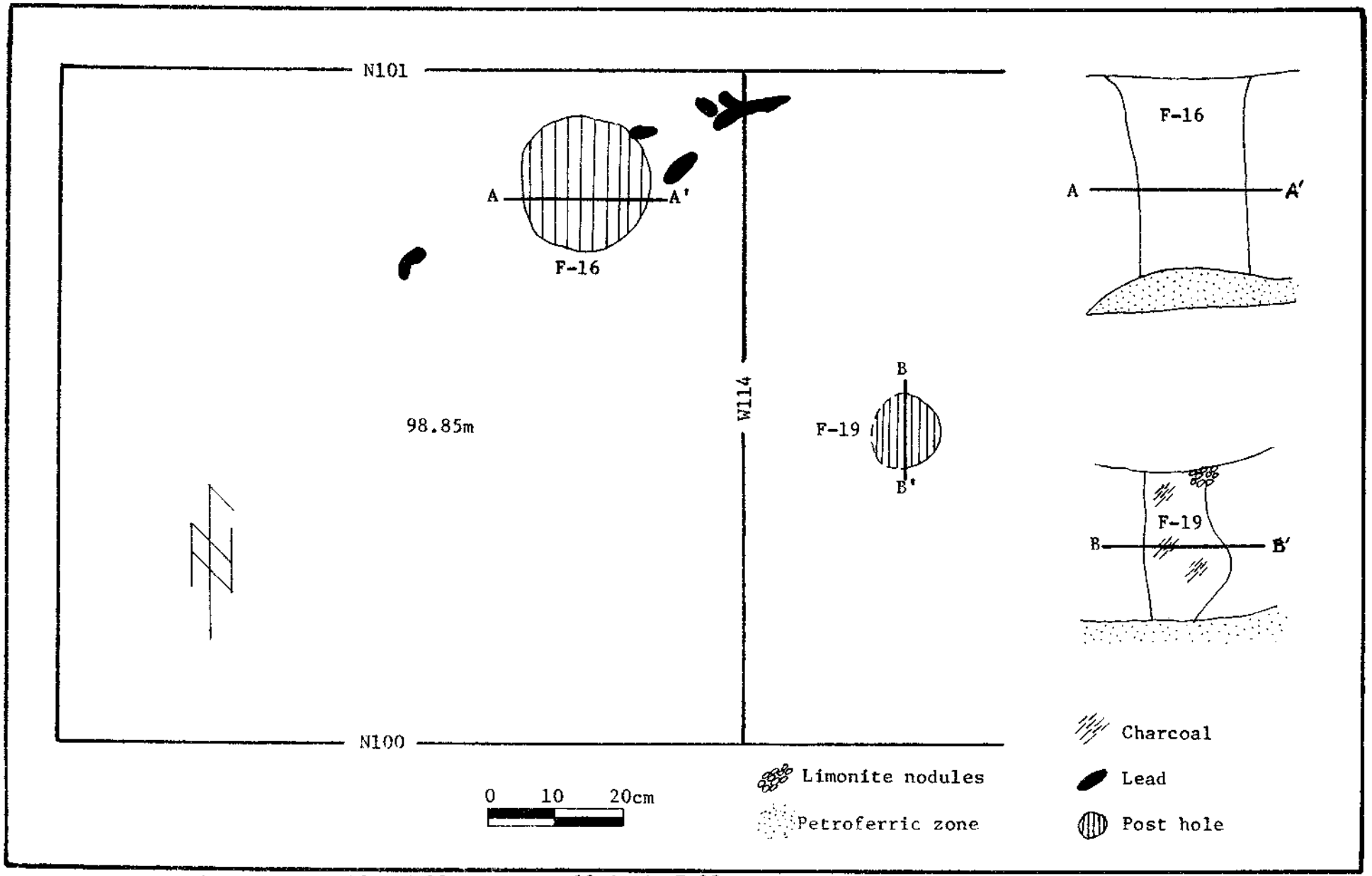


FIGURE 15. Features 16 and 19. Feature 19 is in F-25, palisado wall trench. Lead fragments with F-16 are probably in shallow wall trench paralleling F-25.

A soil horizon, was readily visible in both units. Obviously we had excavated through the trench in the previous units without noticing the slight color and texture changes which delineated the wall. Failure to note the trench can be partially blamed on lack of experience on the part of the students, but there were other extenuating factors. The wall-setting trench was usually readily visible in the early morning light and when the soil was moist; our first contact with the feature came in very bright midday light, a time when color contrast in the local soils is very poor. Excavations continued, primarily to the southwest, in a series of 1 x 1 meter or 1 x 2 meter units. The units were excavated until the setting trench was visible, and a map was drawn. Then the units were excavated to below the setting trench in an attempt to pick up postholes which had been dug deeper than the setting trench. Careful work did reveal deeper postholes, but we could never detect a regular pattern to them. Some were large (ca 15-25cm in diameter) and some were small (ca 10cm in diameter), their depths varied, and there was no regular spacing. Variations in posthole depth were apparently regulated somewhat by the presence in many portions of the solum of a petroferric zone. The eighteenth-century postholes almost never penetrated the zone if it occurred in the vicinity of the posthole. The excavation for the setting trench was very irregular, varying in width, depth and cross-sectional configuration (Fig. 16, N98/W118). In some places we could detect only shallow, round to oval depressions (with contrasting fill)

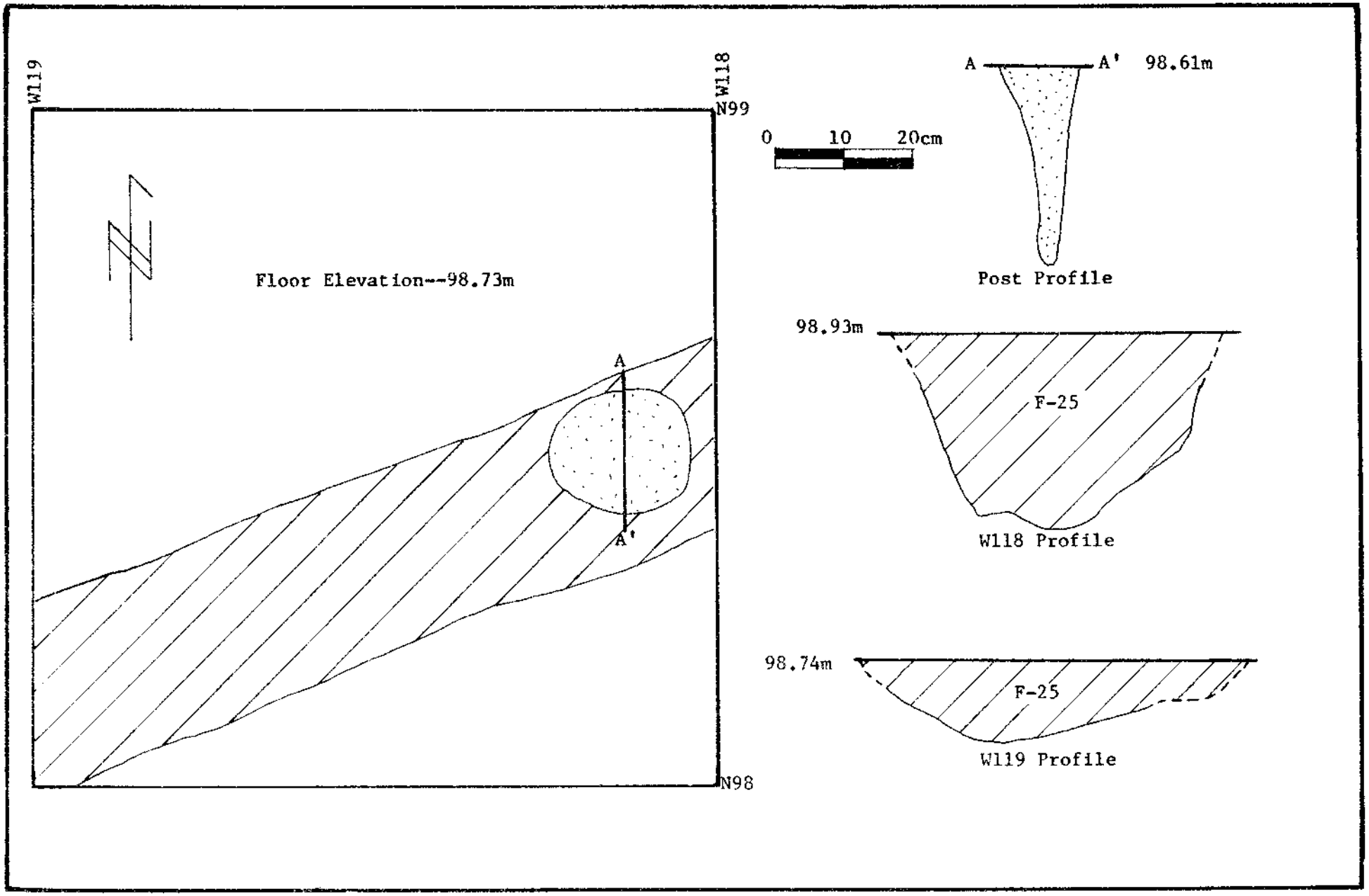


FIGURE 16. Plan and profile of typical section of F-25

where the setting trench penetrated deep enough into the B_2 soil horizon to offer some soil contrast (Fig. 18). In the vicinity of N96/W122 we were no longer able to trace the wall trench by contrasting trench fill with the B_2 soil horizon. In fact, we thought the wall might have stopped or the evidence been destroyed (Fig. 26). Three meters further to the southwest the wall trench appeared again as a slightly darker band of soil filled with cultural debris (bone, potsherds, glass, etc.) Two meters further, the soil contrast disappeared, but we were able to trace it for another two meters, using the cultural debris in the wall trench as a guide.

In the vicinity of W121/122 (Fig. 18), we uncovered evidence that the wall had undergone at least two construction phases and/or realignment. In N96/W120 the wall trench clearly branched, although the upper (north) branch trended in the same general direction. Unfortunately, we were unable to trace the branch (earlier? or later? construction) further than N96/W122, although Features 71 (Fig. 18), 16, 21 (Fig. 17) and 81 (Figs. 25, 26) at N93/W131 may be a part of this section of the wall.

Excavations were not completed on the northeastern end of the wall-setting trench, primarily due to time and more pressing concerns at the site. Partial excavation (to ca 15cm) of N101/W111 and N101/W110 (Fig. 17) did show that the trench continued to the northeast. Excavations in N102/W110 and W109 did not go deep enough to identify the trench. Interestingly enough, we were never able to find the wall trench in the ditch profile, although Feature 86 (Fig. 17) may be a

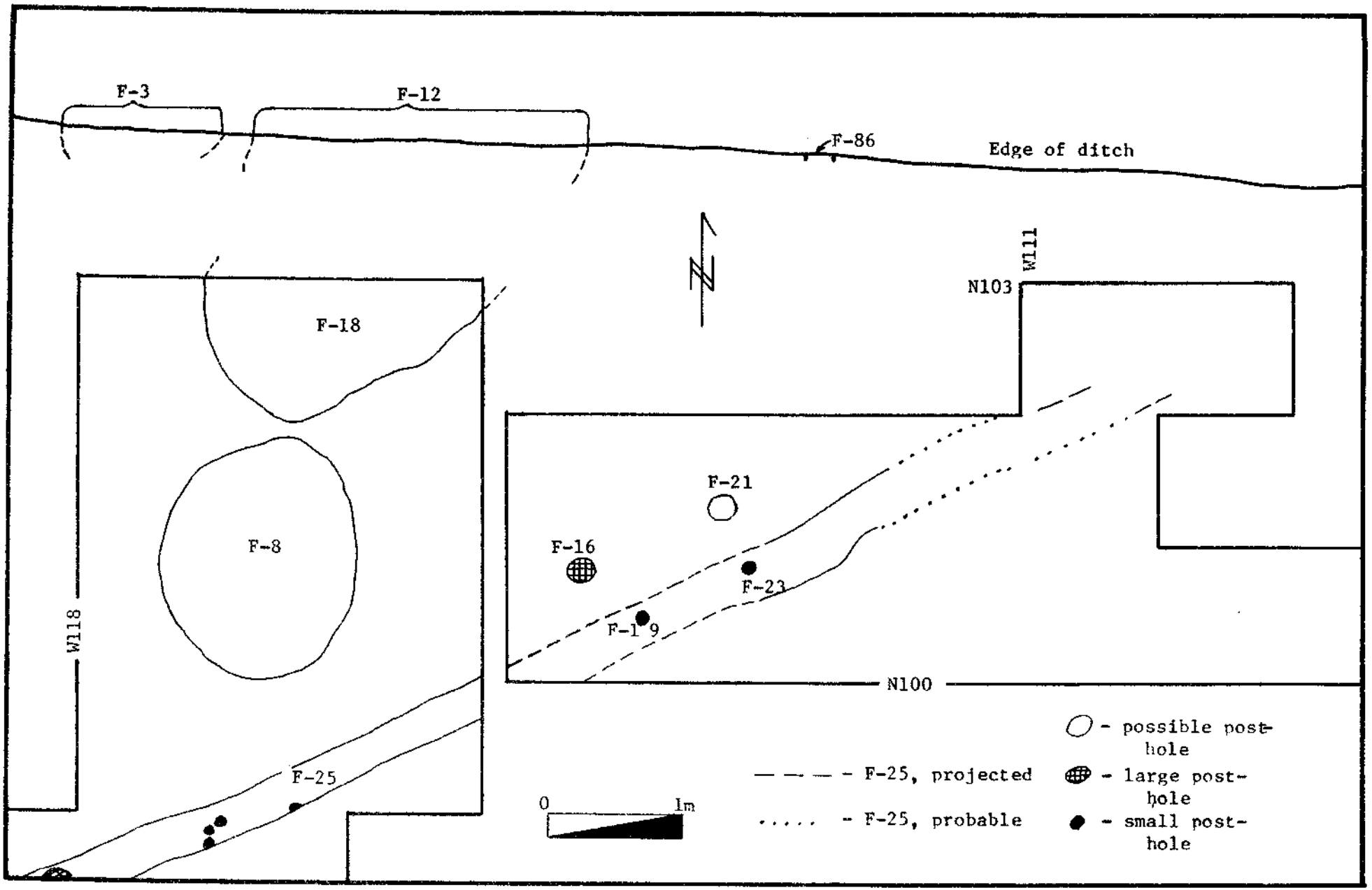


FIGURE 17. Excavation plan of site between W109 and W118, showing features

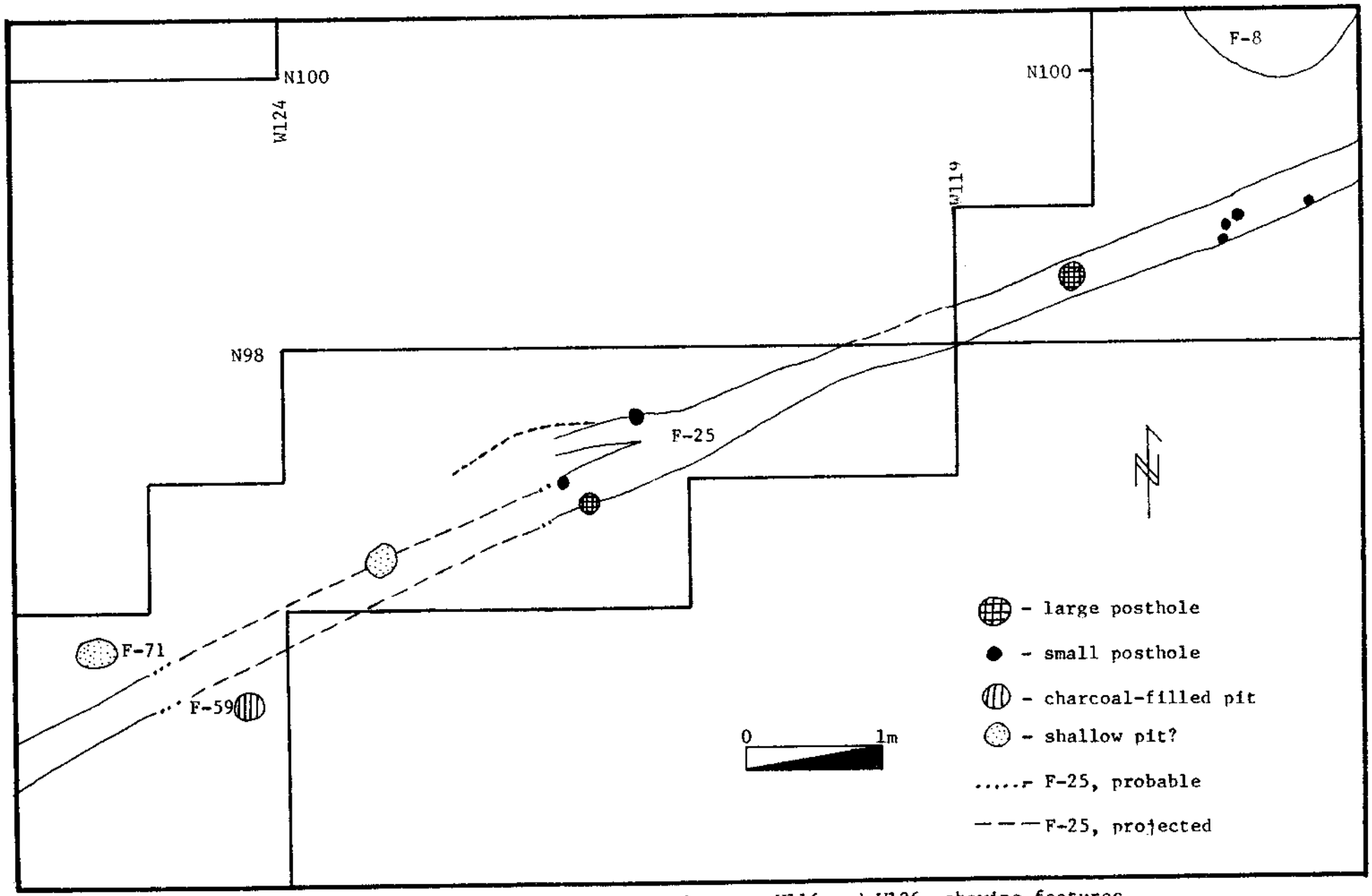


FIGURE 18. Excavation plan of site between W116 and W126, showing features

cross-section of a wall trench. If this feature (Fig. 50) is the wall trench (F-25), then it would have to make almost a ninety-degree turn to the northwest, i.e., we could not find the wall trench in the ditch profile following the NE-SW trend because the wall corners in units N101/W11 or W112.

In summary, Feature 25 (which includes Features 23, 19, possibly 31 and eight other postholes) appears to be the remains of a palisado wall (probably a perimeter wall) which extends ca 24 meters northeast-southwest across the site. The wall was constructed by first digging a setting trench 30-40cm wide and possibly 40-50cm deep. Vertical posts ranging from 10 to 25cm in diameter were then placed in the trench, some being driven (or dug) into the ground 20-30cm deeper than the floor of the setting trench. Presumably fill was placed around the poles placed in the trench to help anchor them. Bits of burned and unburned clay in some segments of the feature (specifically F-23 and northeast) may indicate that the wall was plastered.

Other than the construction data, the most important information derived from F-25 is the orientation of the feature. As noted in Appendix 4, the orientation of the Mission Dolores wall parallels those of the Texas missions San Xavier and Rosario. In addition the Dolores wall parallels the long section (App. 5) of the 1826 survey points of El Camino Real. Since it is obvious that the road was laid out parallel to the wall, and this orientation appears elsewhere on the Spanish Colonial frontier, we may surmise that there may have been a more or less set plan for frontier mission construction layout and/or

orientation. Because of the topography (Fig. 4), the wall direction and position at Dolores most likely represents the southeast wall of the compound, thus placing the trash pits, the well and two structures (F-17 and F-32) inside the compound. Although it is impossible at this point (and it may never be possible) to determine how much of the original length of the southeast wall this feature represents, its known length is approximately the same (24-26 meters) as the walls delineated at Mission San Xavier, which it closely resembles in building techniques, configuration and location. Thus Feature 25 may represent (as known) the majority, if not all of the southeast perimeter wall of the Dolores mission compound.

PALISADO STRUCTURE (FEATURE 17)

This structure appeared initially as a small concentration of charcoal in N102/W126. The oval charcoal concentration appeared to be a diagonal slice of a burned post. Adjacent units (Figs. 19, 21) were opened to the west, uncovering more charred post fragments. Most of the larger postholes of this feature were preceded archaeologically by a section of charred post. In some cases the postholes were somewhat difficult to delineate since extensive rodent disturbance affected nearly every posthole. Again, the postholes are generally tapered to pointed and almost never penetrate the petroferric layer. The posthole alignments are parallel and perpendicular to the alignment of the palisado wall to the south and seem to indicate that this small (ca 1.2 x 2.0 meters) structure was part

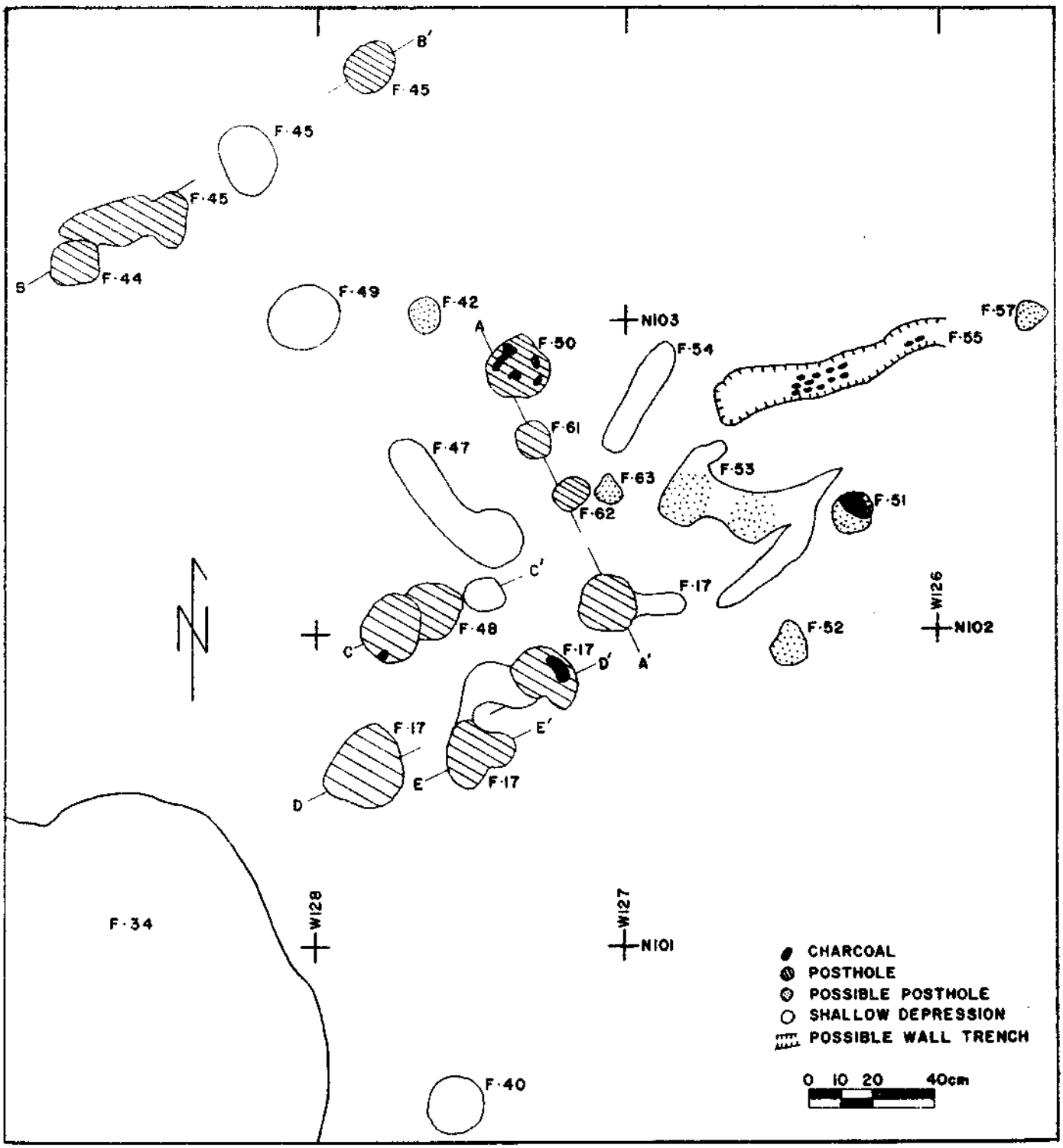


FIGURE 19 · PLAN OF PALISADO STRUCTURE · FEATURE 17

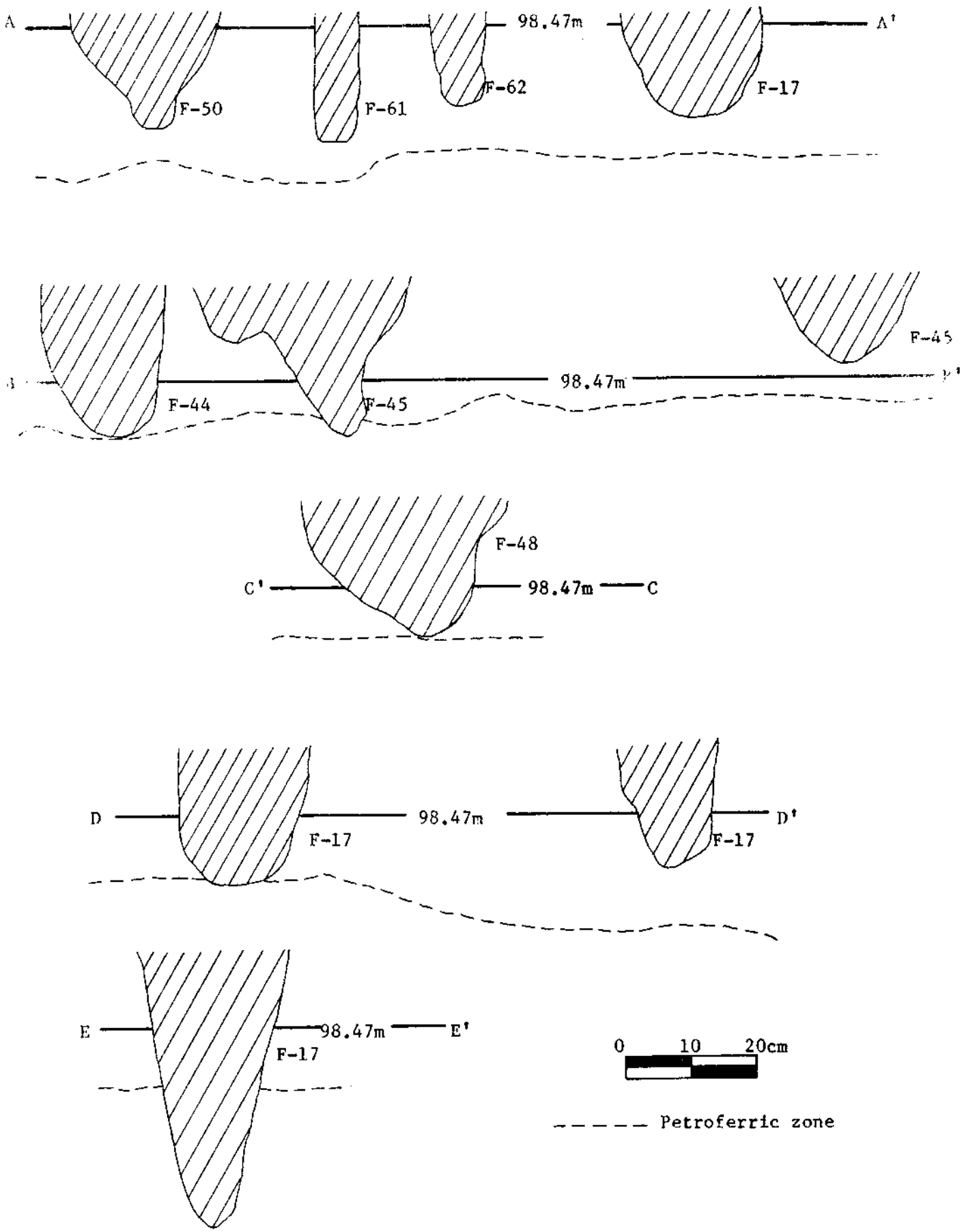


FIGURE 20. Cross-sections of postholes in Feature 17

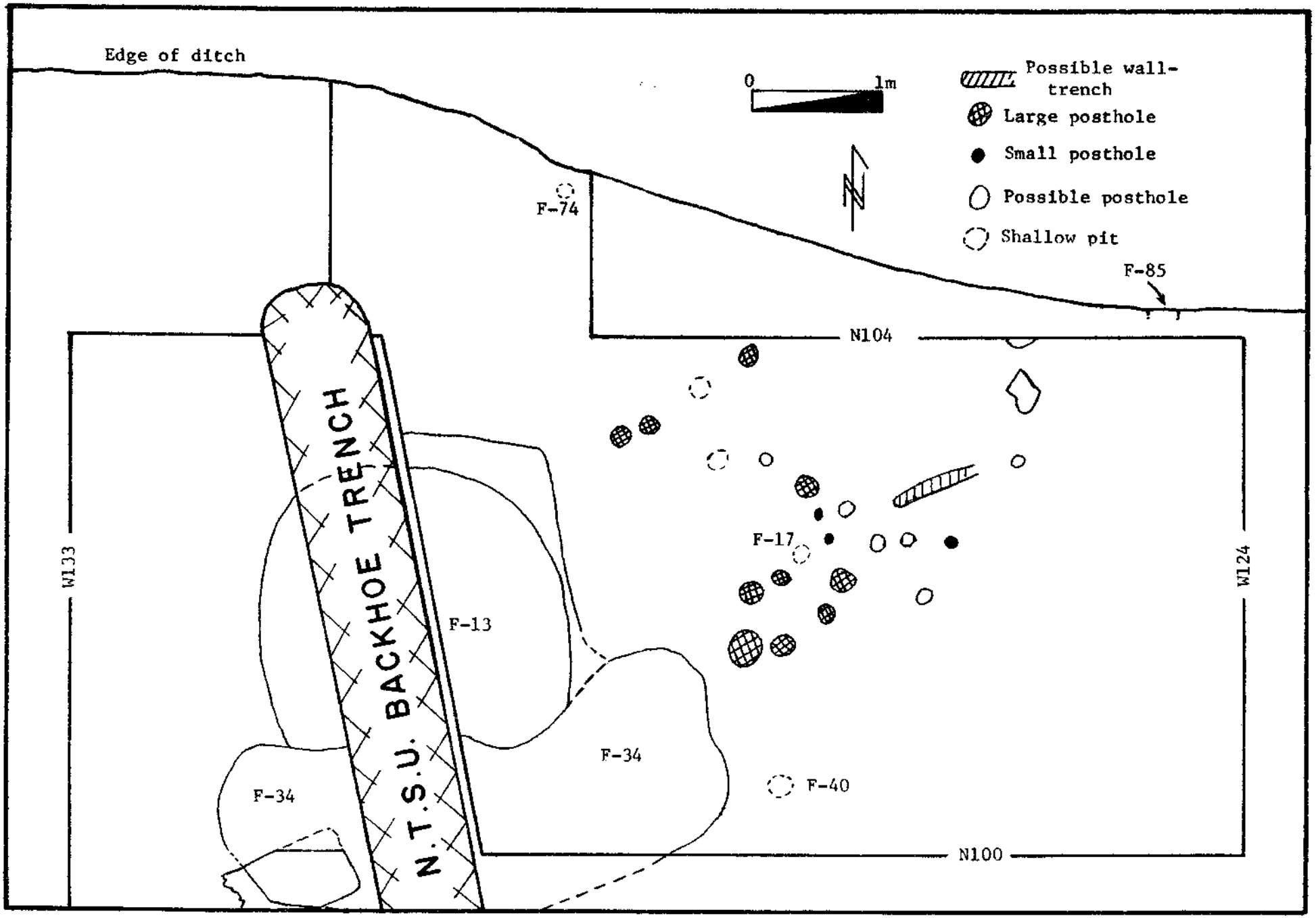


FIGURE 21. Excavation plan of site between W124 and W133, showing features

of the overall architectural scheme of the mission complex. The large amount of charcoal scattered throughout the F-17 area as well as the charred posts indicate the structure had burned at some time and had not been rebuilt. A number of other features (part of 45; 49, 47, 51, 52, 53, 54, 57, 83, 84, and 85) may represent construction features associated with F-17. The northernmost portion of F-45 and F-49 were cross-sectioned. They were extremely shallow (1-3cm) and may represent the bottoms of shallow postholes or deep segments of setting trenches. Feature 55, which contains numerous charcoal fragments (and parallels all other walls, etc.) is probably a narrow wall trench (it was not cross-sectioned). Features 51, 52, and 57 were not sectioned, but the very large fragment of charcoal in F-51 identifies it as a postmold, and the others may well be. Features 53, 54, 83, and 84 (not sectioned) could be disturbed postholes and/or wall trench segments. Feature 85 (Fig. 50) in the ditch profile appears to be a small posthole or small wall-setting trench. The fill is similar to that of the other postholes, but also contains bone fragments, which is more common in wall-setting trenches. The size of the structure probably precludes its function as a dwelling and it was most likely used for storage.

ADOBE STRUCTURE (FEATURE 32)

The first adobe blocks associated with this large structure (Figs. 25, 26) were found in the west profile (Figs. 22, 24) of the NTSU backhoe trench. The initial reaction was one of disbelief, but

careful profiling of the trench wall convinced us that these yellow clay blocks were associated with the Spanish Colonial occupation. The ground surface to the west of the trench was schnitted, revealing masses of yellow clay scattered over a large area. A 3 x 6 meter area (SE corner N94/W130) was gridded off and excavated in 1 x 6 meter strips. Excavations attempted to follow the level of the present ground surface. The entire area was excavated with trowels in four 2-centimeter levels, with detailed maps being drawn after each level was troweled clean. Many of the clay masses were thin (ca 2-3cm), but others persisted in shape and form for as much as eight to ten centimeters. Most of these thicker masses had at least two (some even four) straight edges either paralleling each other or intersecting at right angles. Although none of the blocks is complete, they appear to have been ca 0.5m wide and 1.0m long. Some fragments appear to be smaller, but the evidence is not conclusive.

Once the excavations began to reach the level of the base of the blocks, a number of postholes and possible postholes (Features 75-79 and 81-2; see Figs. 25, 27) became apparent. The three (Features 75, 77, 79) that were cross-sectioned (Fig. 27) did prove to be postholes, and it is assumed that the others (Features 76, 78, 81, 82), based on soil texture, color and general configuration, also represent postholes, although Feature 76 could be a wall-setting trench. A small section of charred wood, Feature 80 (Figs. 25, 27), lies perpendicular to F-25 and may represent a cross-beam, etc., from Feature 32.

FIGURE 22. Profile of adobe block and setting trench exposed in west side of NTSU backhoe trench

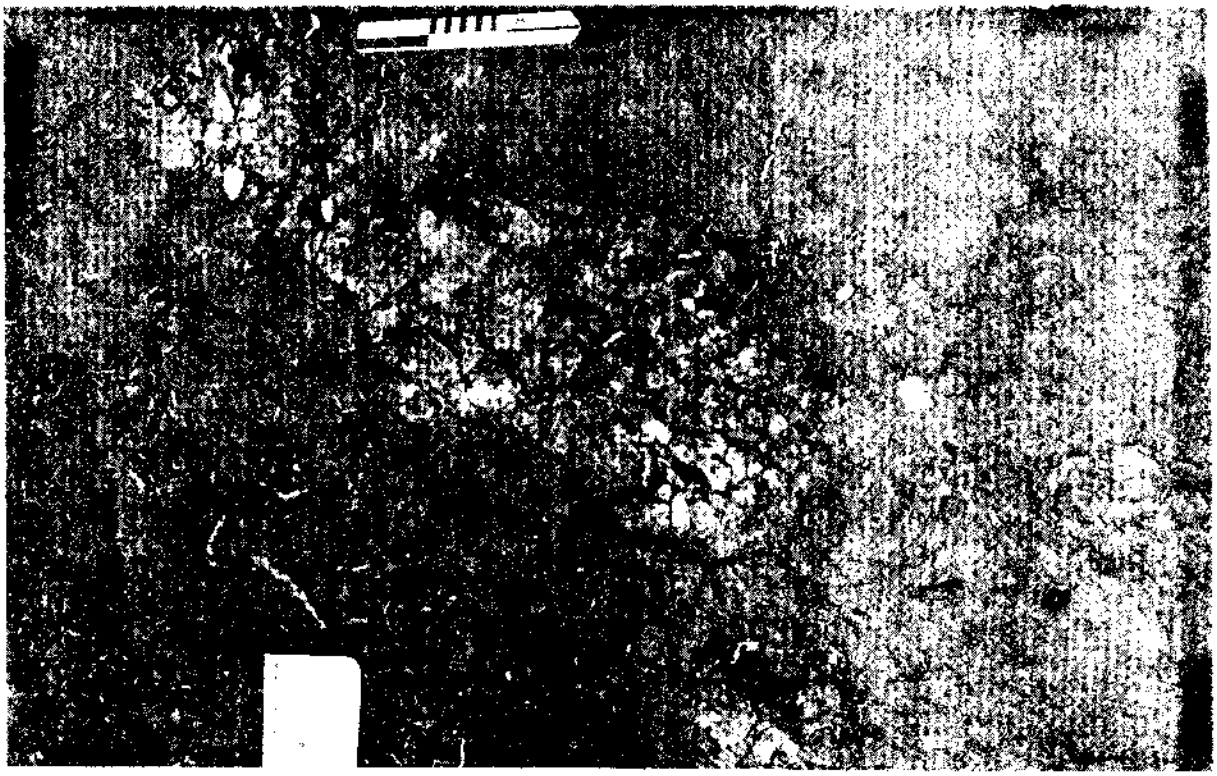


FIGURE 23. Adobe block in F-32, N92/W130

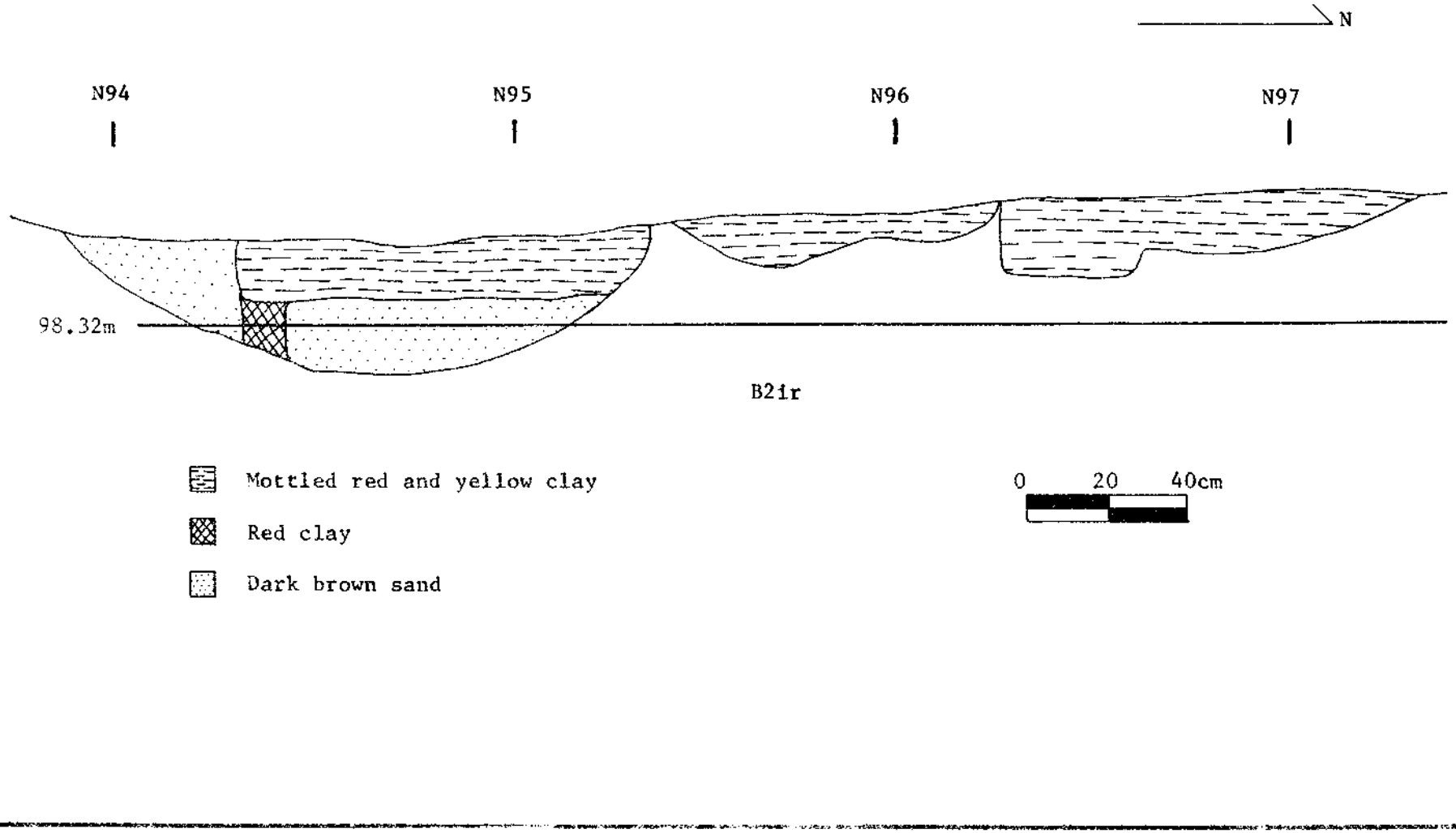


FIGURE 24. [illegible] adobe blocks in west [illegible] of N15W backhoe trench

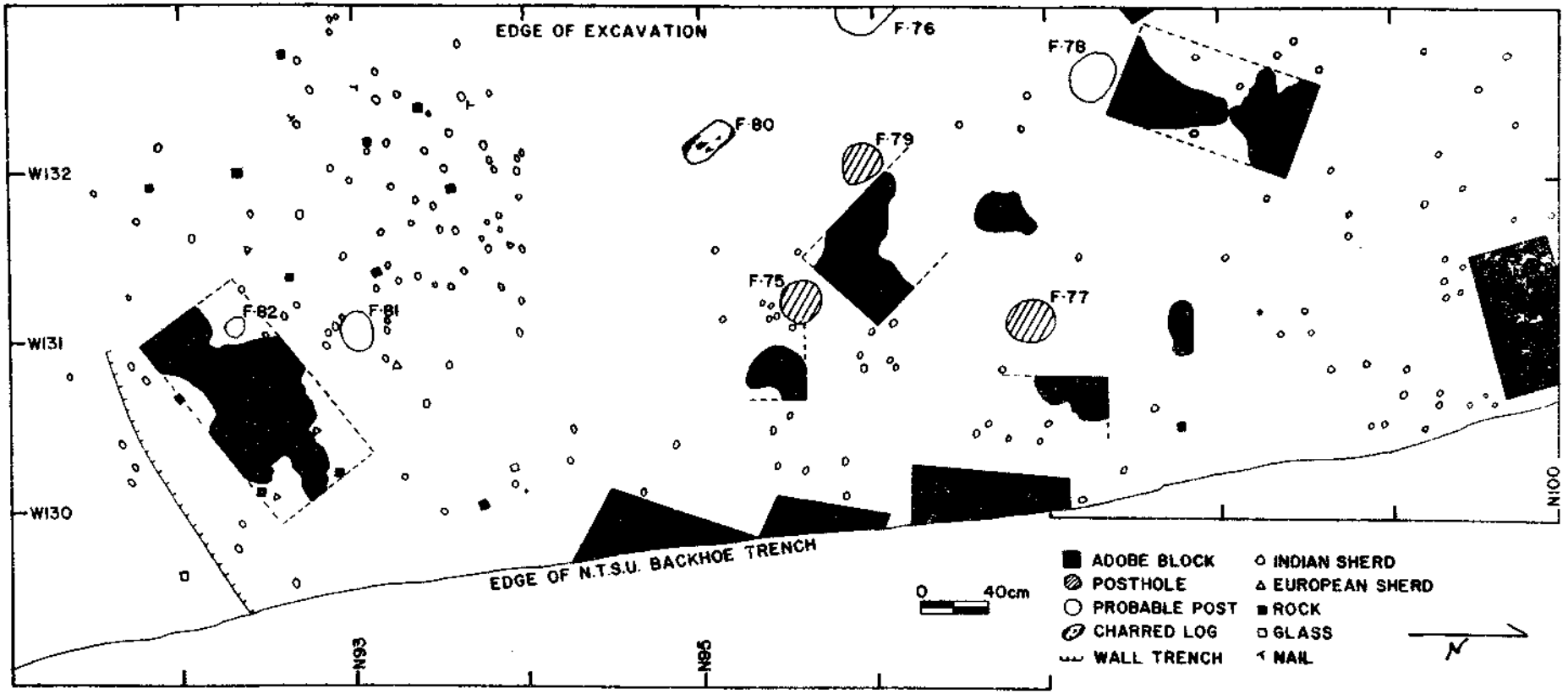


FIGURE 25 · PLAN OF FEATURE 32

During the 1977 season an area about 4 x 4 meters immediately south of N94 (SE corner N90/W129) and west of the backhoe trench was schnitted and troweled down carefully. This work (Figs. 25, 26) revealed one more large adobe block (Fig. 23) and two associated postholes. The block aligned more or less with the alignment of the palisado wall (F-25). No more blocks were found west or south of this one, although massive bulldozer-derived disturbances make the absence of such inconclusive. Nevertheless, a drop in artifact count in the western and southern portions of the 4 x 4 unit suggests that we were beyond the limits of the primary area of occupation, and that the adobe block excavated may represent the southwest corner of the adobe structure and/or the palisado wall.

In summary, it is believed that Feature 32 represents the remains of a primarily adobe structure in the southwest corner of the mission compound. At present, it appears that the structure's south and west walls were a part of the exterior wall of the compound. Placement of the adobe blocks that remain seem to indicate that the structure was ca 4 meters in width and 7 meters in length, i.e., a fairly large structure. If Feature 34 (see below) is a wall-setting trench(es), the structure could be wider than 4.0 meters. Artifacts recovered from the F-32 area appear much the same as those recovered elsewhere within the proposed compound area; thus there is little to indicate the original function of the structure. Its size and apparent structural strength would certainly suggest it could have been used as a dwelling of some sort.

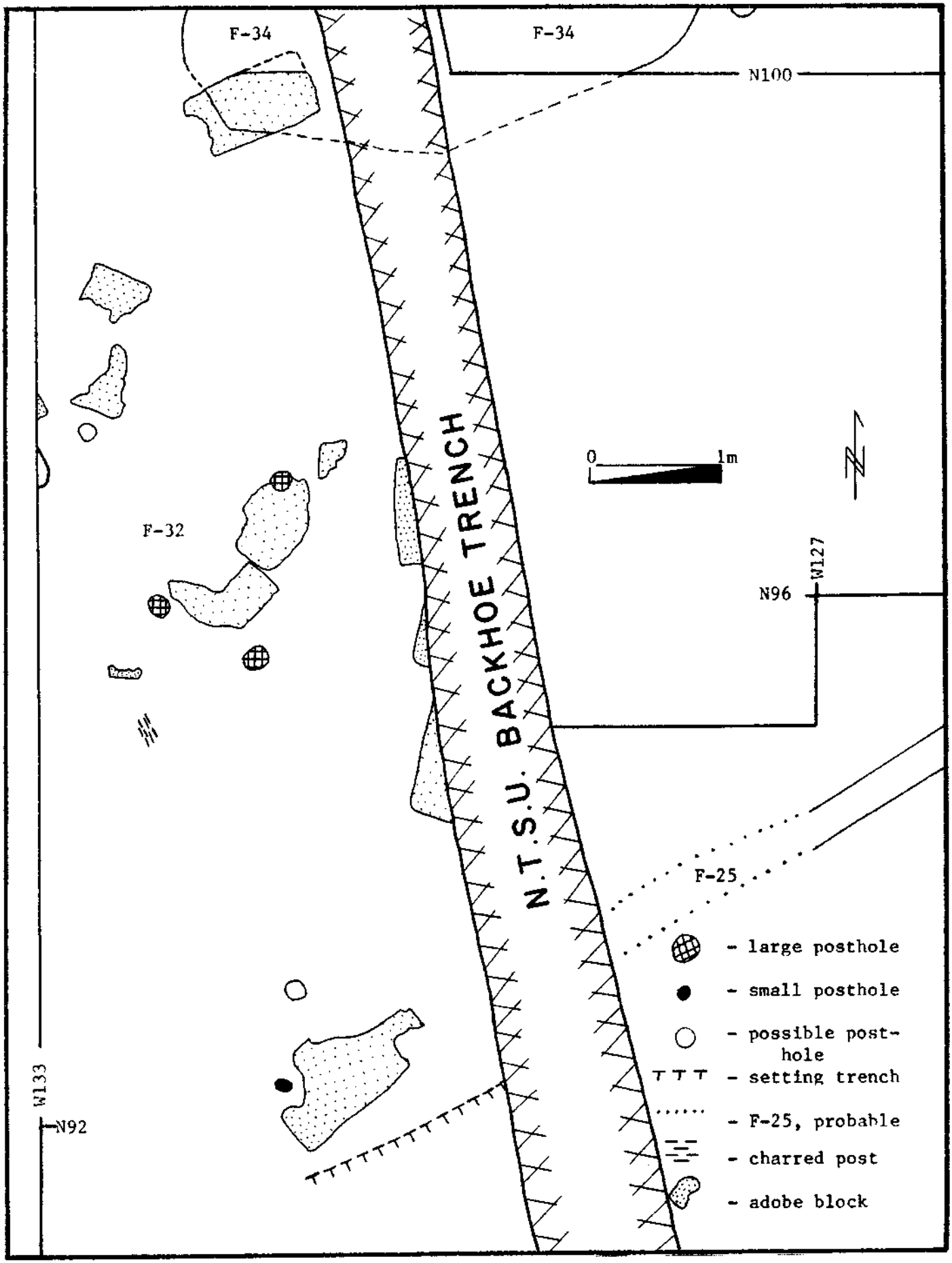


FIGURE 26. Excavation plan between W126 and W133 showing features

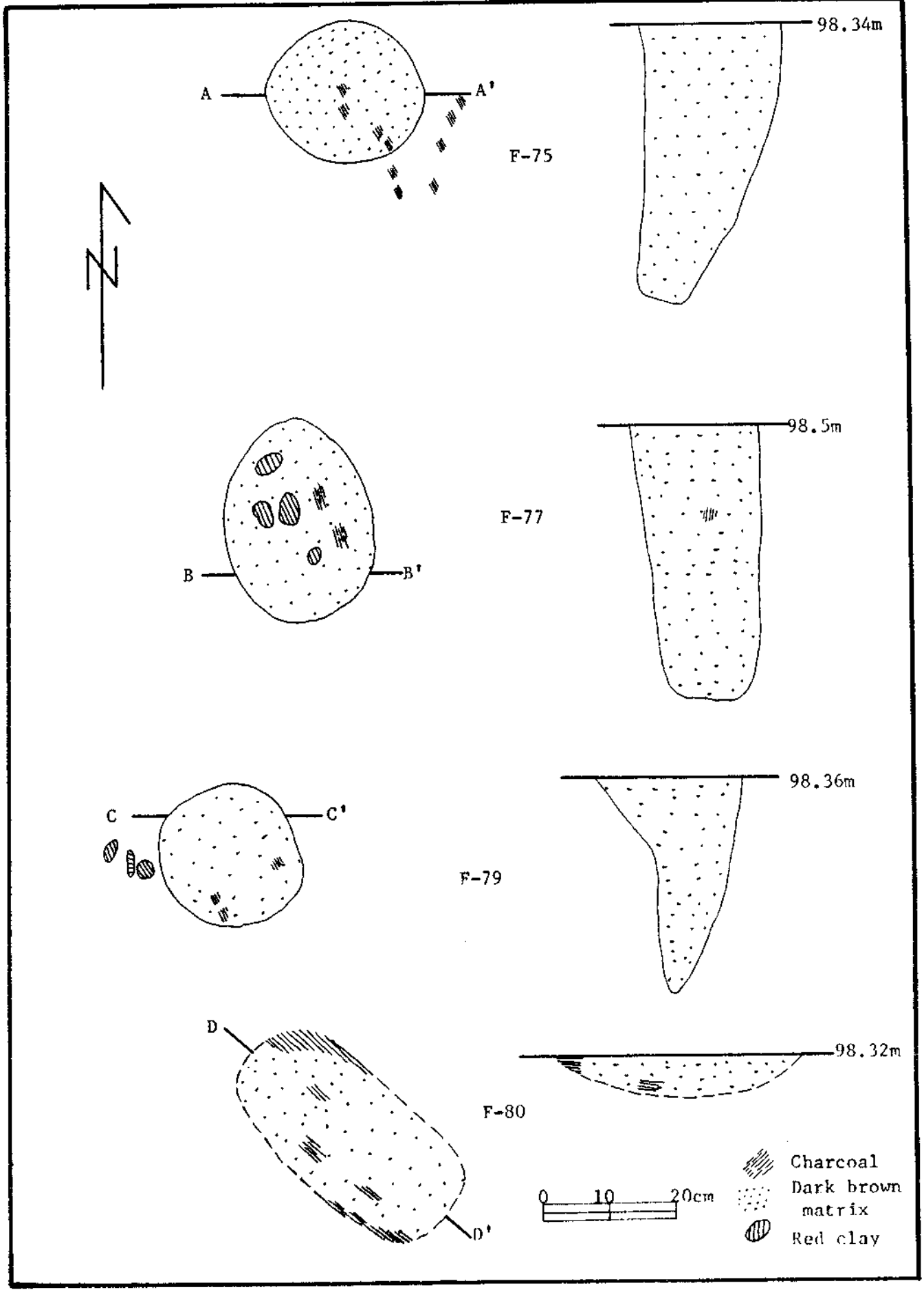


FIGURE 27. Plans and Profiles of Postholes and Charred Beam in F-32

FEATURE 6 (INCLUDES 5, 6A AND 9)

Excavation at the site began in the immediate area of this feature primarily because of the large number of artifacts and other cultural debris eroding from this portion of the ditch wall. The initial excavations (Fig. 7) immediately produced many more artifacts. The area was excavated disjointedly during the spring, summer, and fall of 1976. Full-scale excavation began on a 3 x 5 meter area (SE corner N100/W100) in 1977, revealing a hearth containing ash and some sort of hard-packed surface, presumably a floor or activity surface of some sort. Artifact recovery was always high, with fine-screen samples frequently producing glass trade beads. Eventually, the excavated area was enlarged to 3 x 9 meters by opening the 3 x 4 meter area to the east of W100 (SE corner N96/W100). This allowed us to delimit the hard-packed floor area and the remainder of the hearth.

The hearth area (Figs. 28, 29, 31) exhibited heavily burned earth, with pockets of almost pure ash. Few artifacts occurred in or under the hearth area. The packed floor (F-6A) contained hundreds of small pieces of bone, charcoal, glass, aboriginal potsherds, faience, majolica, etc. Outside of this area, the artifact recovery was still high, but the artifacts and other cultural debris were considerably larger, and the ground was not packed hard. The presumed surface outside of the floor area for some distance did contain a higher frequency of small hematite gravel (Fig. 32), indicating that the surface was probably not vegetated and was subject to wind and water deflation.

FIGURE 28. Profile view of ash in feature 6

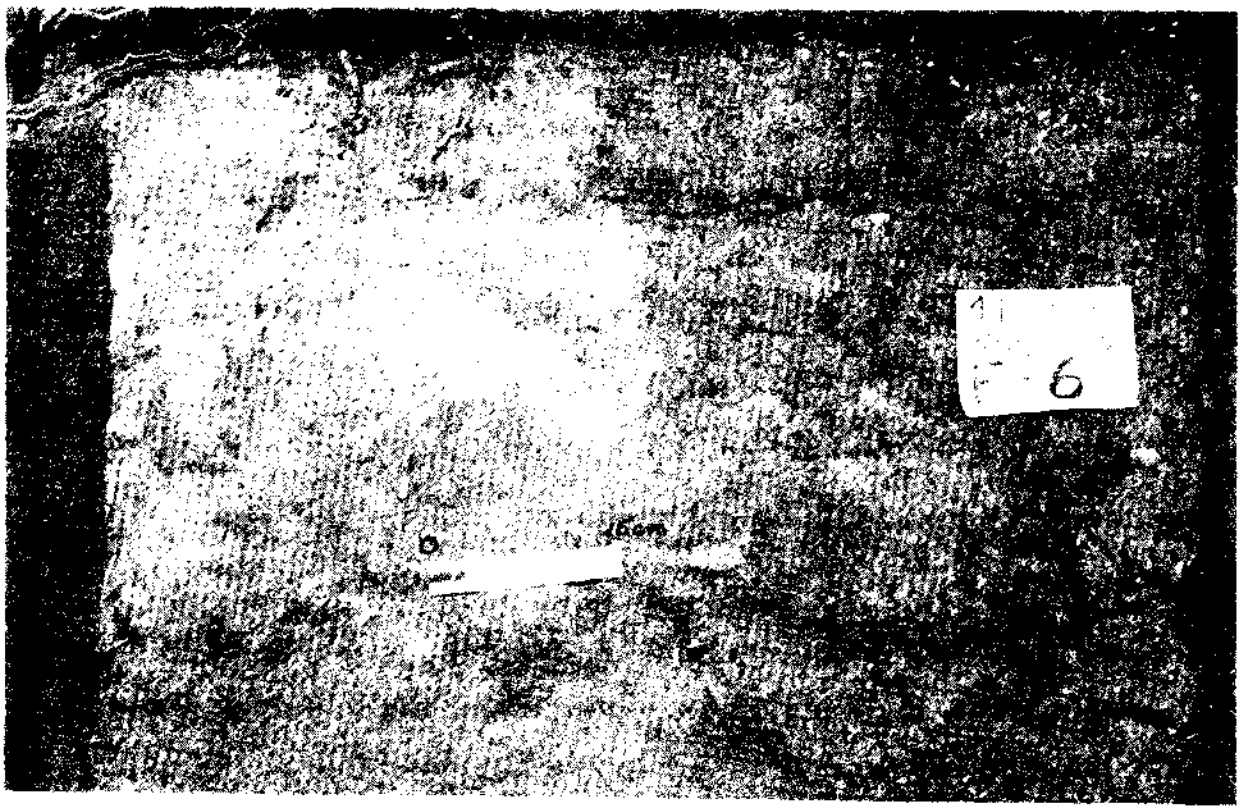


FIGURE 29. Plan view of ash in feature 6

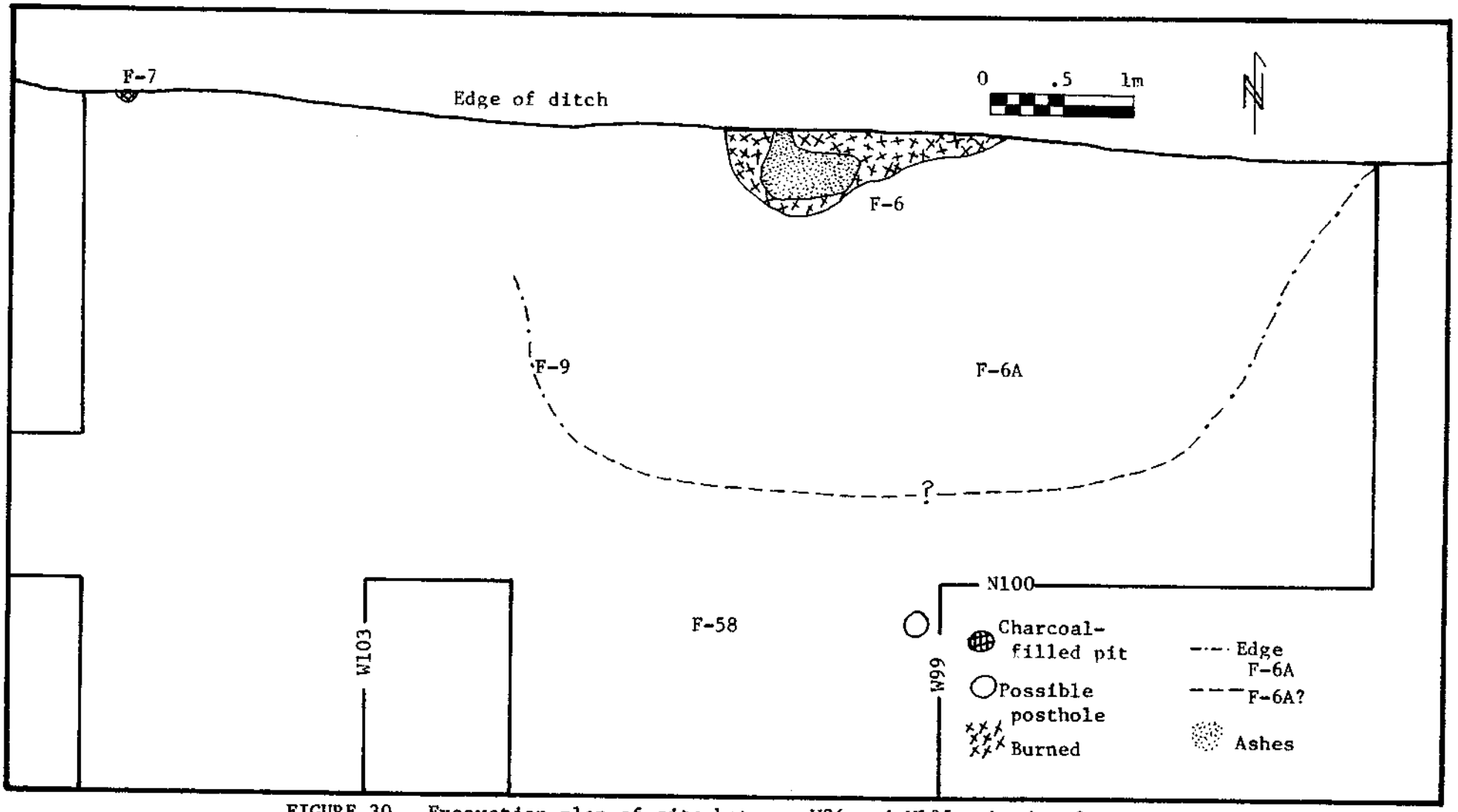


FIGURE 30. Excavation plan of site between W96 and W105, showing features

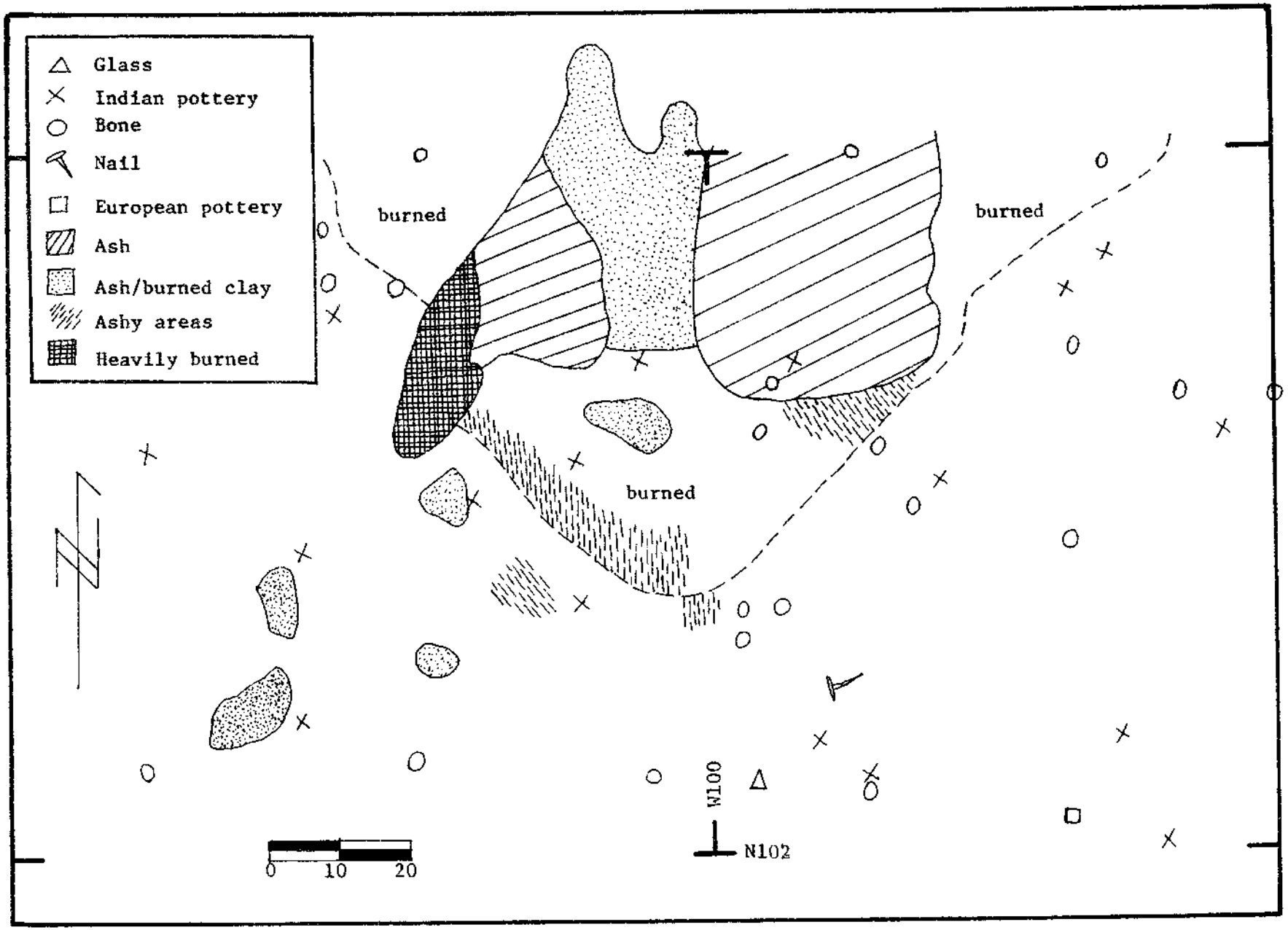


FIGURE 31. Plan view of ash and burned clay of hearth in Feature 6

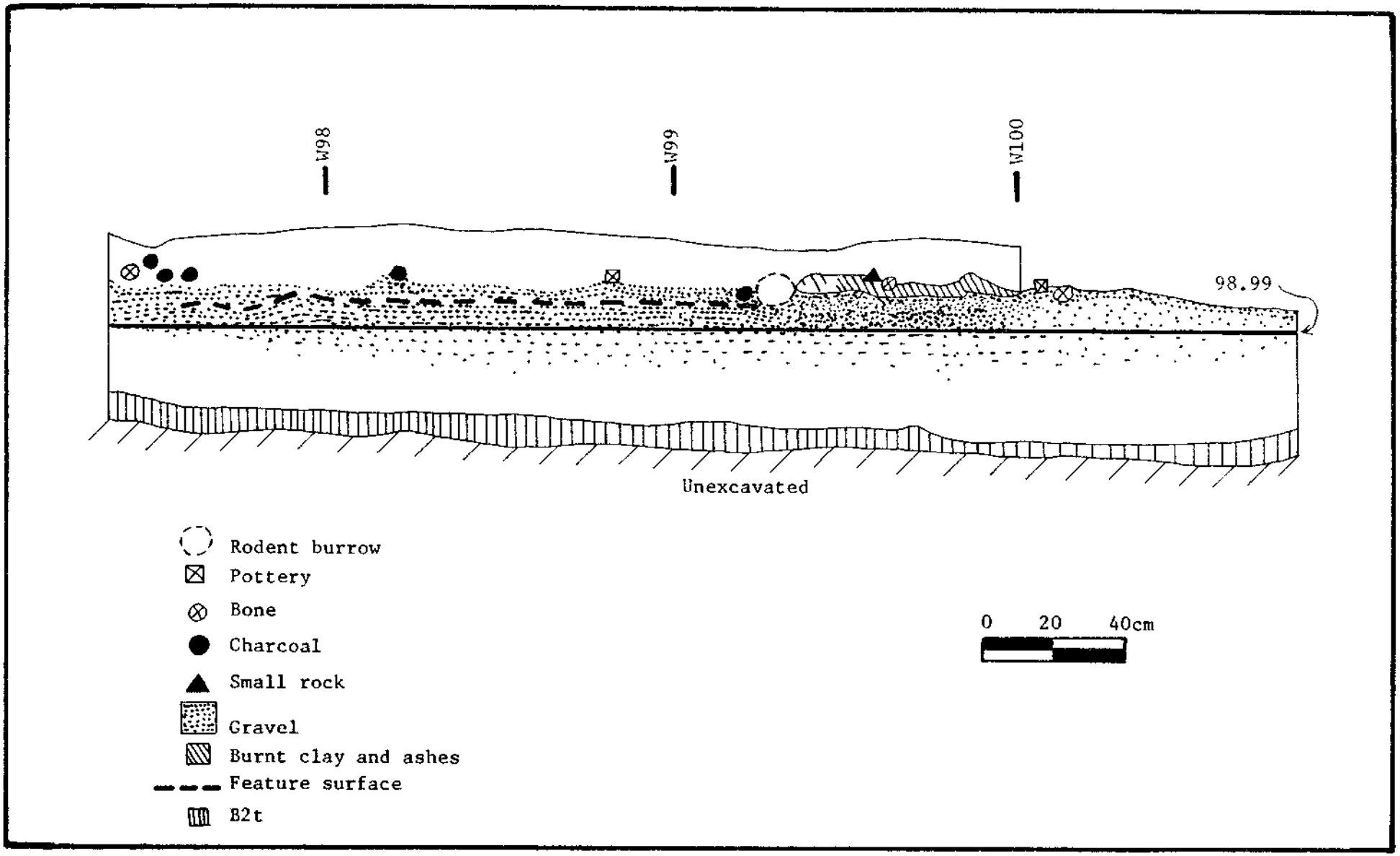


FIGURE 32. Profile view of Feature 6 along ca N103 (ditch profile)

Although direct evidence for a structure was not recovered (i.e., no postholes, adobe blocks, etc.), a number of data indicate that some sort of structure might have been present. The hearth, although obviously disturbed (by plowing?), does appear to have been a prepared, constructed entity. The floor or packed surface, while showing extensive use, appears to have had some protection from the deflation that affected the area immediately surrounding it. Nails did occur in the vicinity, although no more so than in other areas of the site. The extreme paucity of artifacts in or under the immediate hearth area indicates that the hearth was the central feature or focus of the activity concerned with the feature. The intensive use of the hearth and areas surrounding it suggest a prolonged activity, and one could argue that such an area might well have a structural component. If a structure existed, it could have been a bousillage or palisado structure with horizontal base beams set on a stone or stone rubble foundation.

Large Pits

A number of large pits were discovered during the excavations at Mission Dolores. Although the original function of the pits is unknown, most were finally used as garbage and trash disposal areas. Four of these pits (Features 3, 8, 12 and 18) are in a relatively small area (between N100 and the ditch and between W114 and W118) approximately 4 x 4 meters. Feature 34 (adjacent to the well) is very different from the four pits mentioned above, both in general configuration and contents.

FEATURES 8 AND 18

Feature 8 (Figs. 33, 34) was the only pit completely excavated at the site. Its original configuration was that of a soft dark soil area containing some large rocks. When the pit was more fully exposed it was found to contain a large number of animal bones (primarily bovid) and some large rocks (Figs. 33, 34, 35). Sherds of glass and European and aboriginal ceramics were common. With the exception of nails, metal artifacts were relatively uncommon. There was no evidence of burning in the pit, although charcoal was relatively abundant in some portions of the pit. Completely excavated, the pit is ca 150-175cm in diameter and at least 30cm deep.

Feature 18 (Figs. 37, 38) was only partially excavated and may in fact be the same as Feature 12 which is visible in the ditch profile one meter to the north. This feature was very much like Feature 8 in terms of contents, although it did not contain as much bone, rock, etc. Its diameter is not known but is obviously somewhat larger than Feature 8. The greatest depth of the pit in our excavations is 20cm. During the initial phases of excavation of the 3 x 3 meter area, it was not possible to distinguish Feature 18 from Feature 8, i.e., they apparently overlapped. Because of the excavation procedure utilized, it was not possible to discern which pit had been excavated first. Although these pits and the two discussed below may have been dug for use as trash disposal areas, they may have initially been borrow pits for making adobe or plaster.

FIGURE 33. Excavation of Feature 8 in progress

FIGURE 34. Rocks and faunal debris in Feature 8

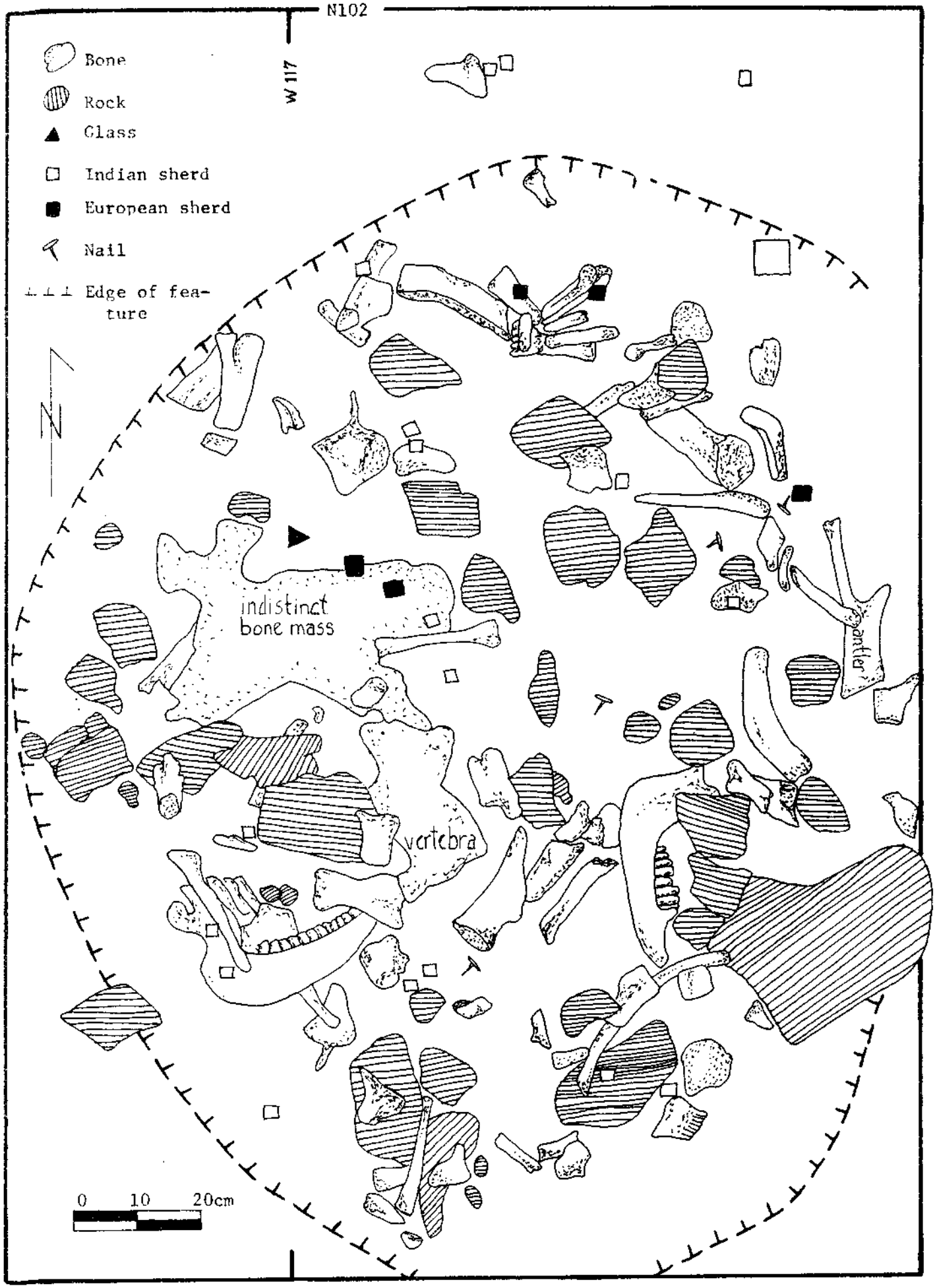


FIGURE 35. Plan of Feature 8

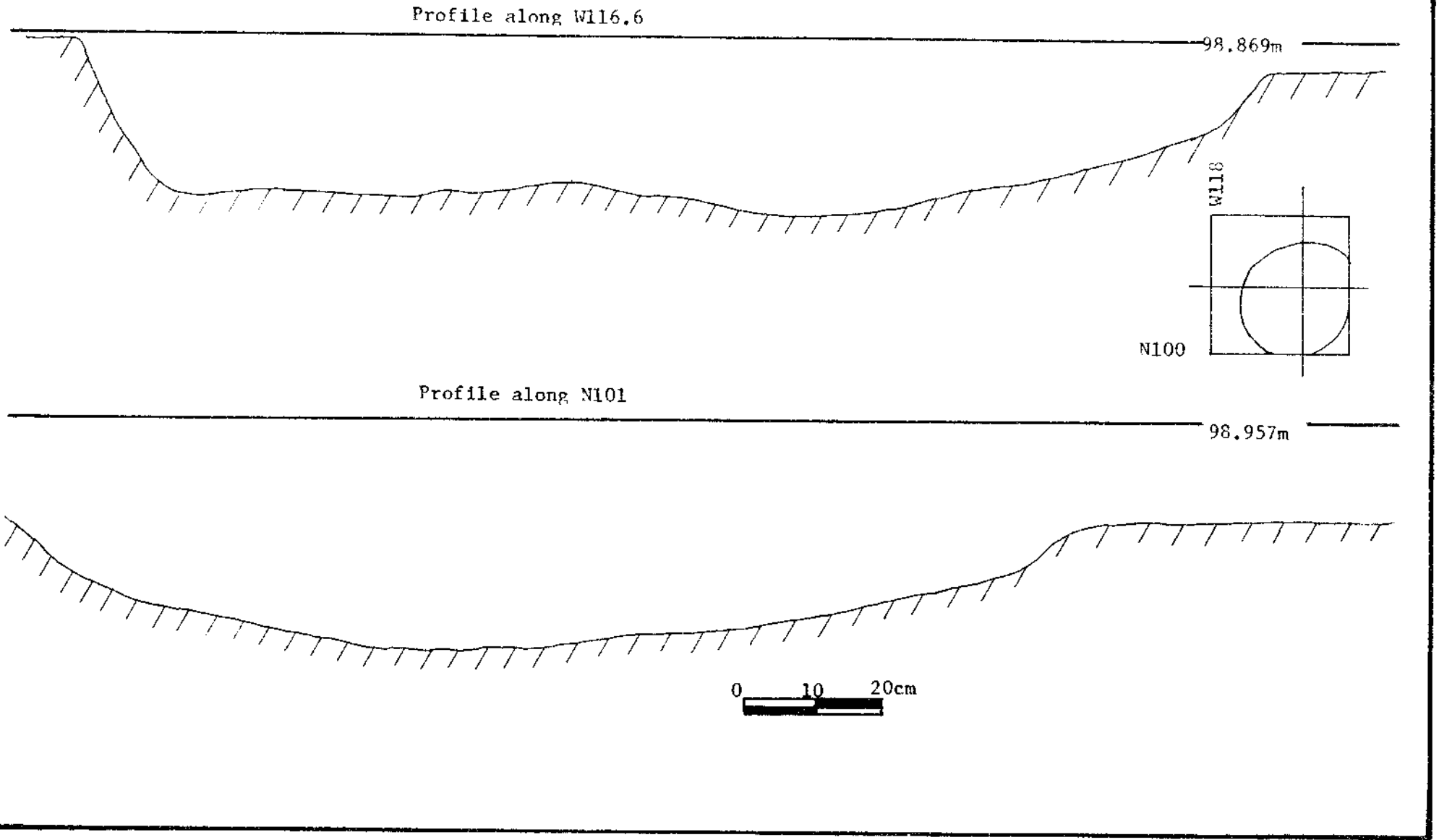


FIGURE 36. Profiles of Feature 8

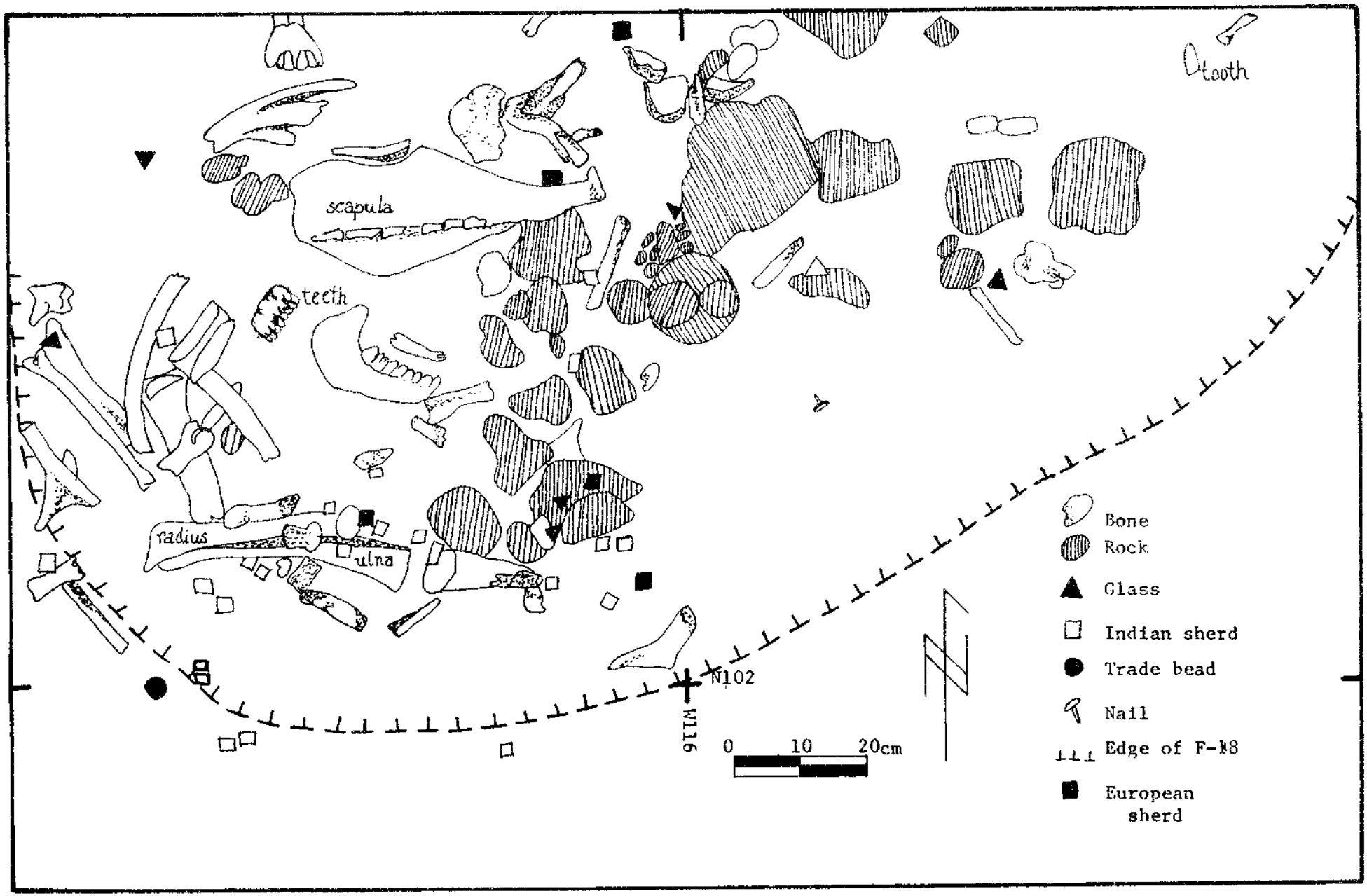


FIGURE 37. Plan view of Feature 16, a trash pit

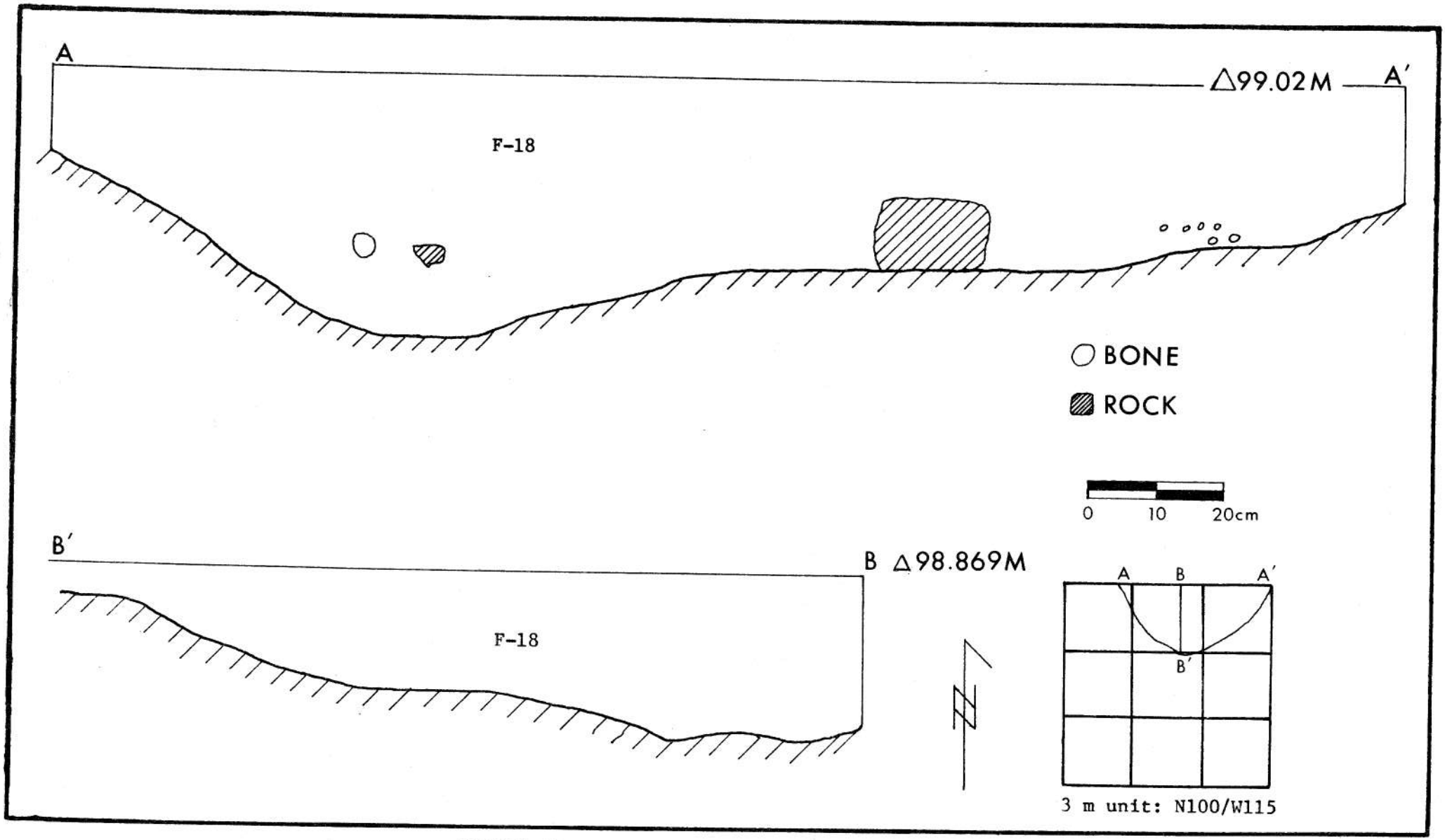


FIGURE 38. Profiles of Feature 18, a trash pit

FEATURES 3 AND 12

Both of these pits appear in the ditch profile (Fig. 39) between W114 and W118. Neither was excavated, unless Feature 12 is a part of Feature 18. Nevertheless, they appear similar in character to Features 8 and 18. Visible contents of these pits is dark, organic-stained soil, bits of charcoal, bone fragments, stones and occasional potsherds of European and aboriginal manufacture. These may have originally been borrow pits, also.

FEATURE 34 (AND 13B)

This feature (Figs. 40, 41, 43, 44), between N99 and N102, was exposed first in the NTSU backhoe trench (see Appendix 1). Originally it was thought to be a part of the well, but further excavation revealed that it was something quite different. Unfortunately, pothunters disturbed the balk area of the contact between F-13 and F-34 during July 4, 1977, and thus we are still unsure which of the two features preceded the other. Nevertheless, the overall impression is that F-34 was dug at least before the well had been filled.

Only the western third of Feature 34 was completely excavated. This excavation plus excavations of the upper portions of the eastern half produced a lot of cultural debris. Charred corncobs, charcoal, ash, nails, Indian pottery, etc., were common. It did not contain any of the large rocks or mass of animal bone common in the other pits. While one is tempted to classify this pit with the other

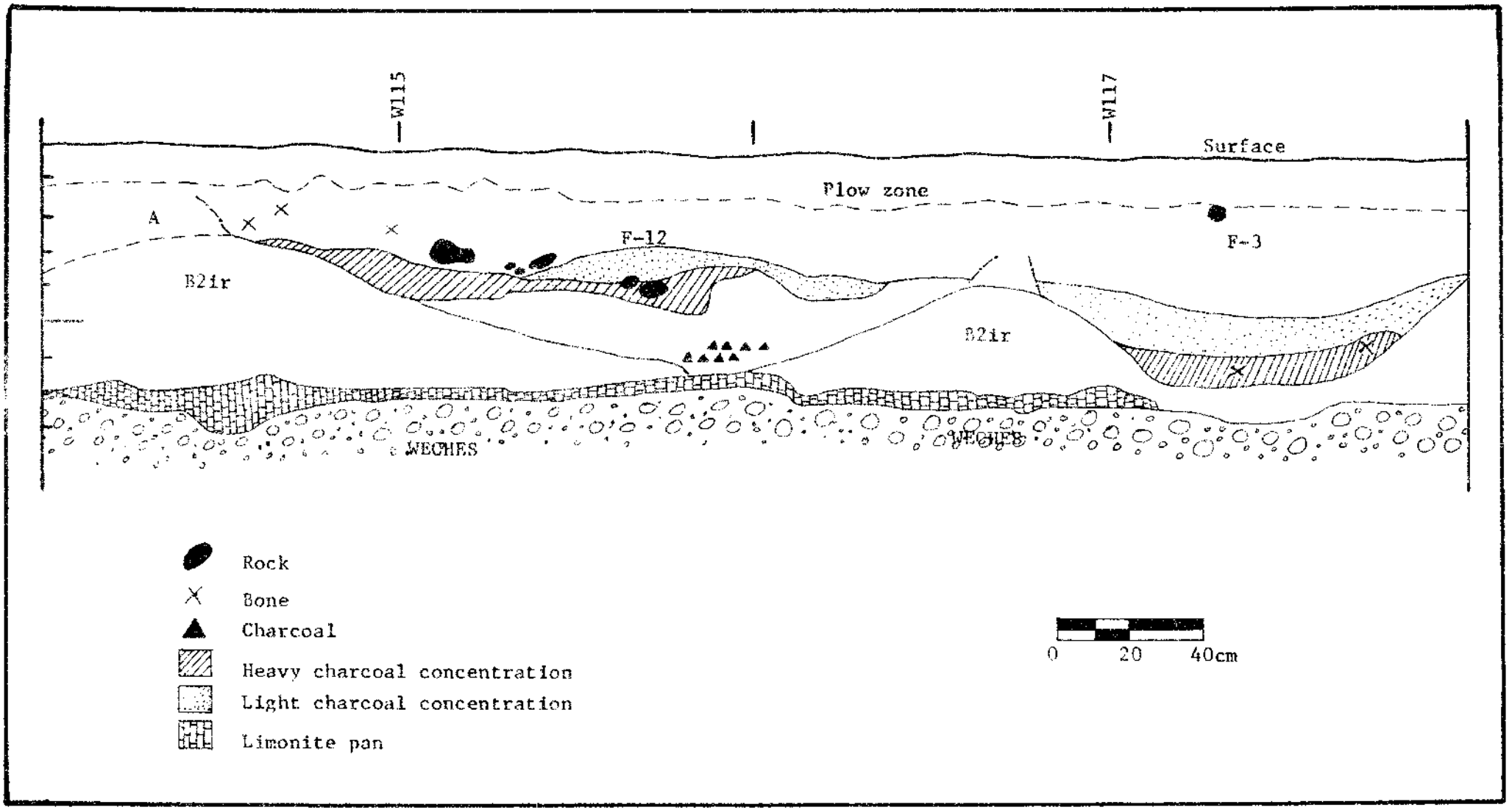


FIGURE 39. Profile of Features 3 and 12 along ca N104 (ditch profile)

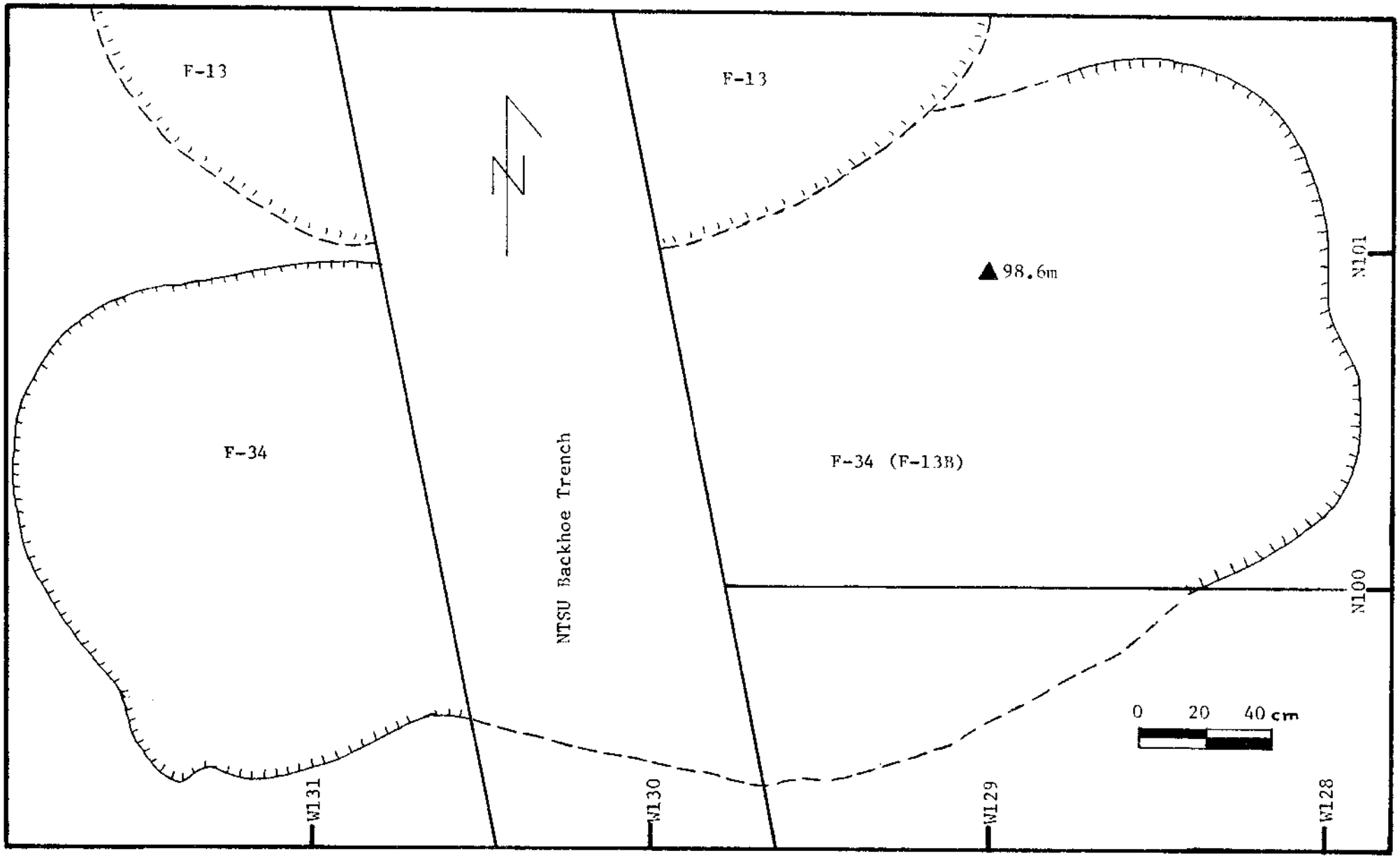


FIGURE 40. Plan View of Feature 34

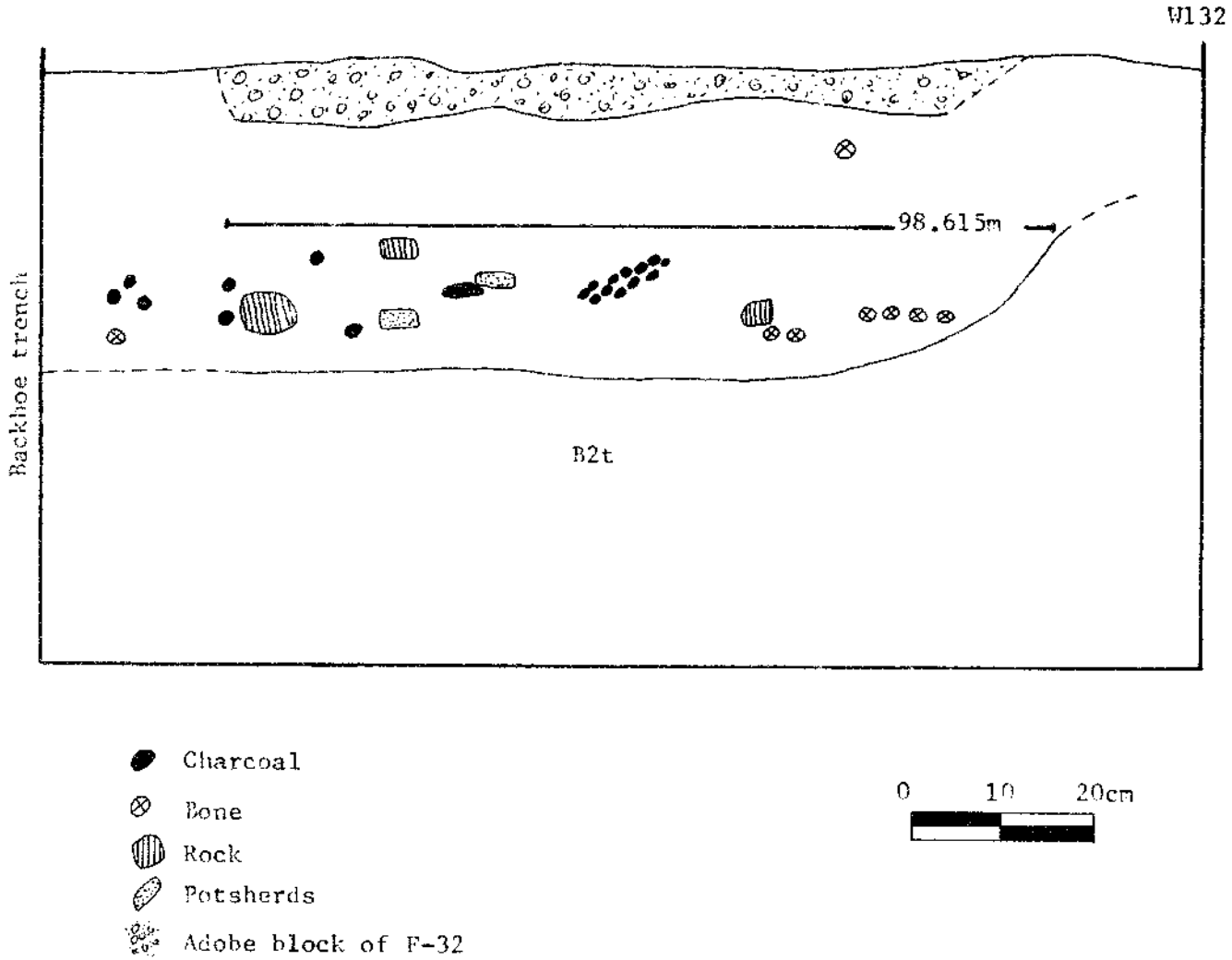


FIGURE 41. Profile of Feature 34 along the N100 line looking south

trash pits, configuration in cross-section (Figs. 41, 43, 44) is very different, i.e., the floor of the feature is very flat and relatively level. In addition to this, the pit, which is roughly a rectangle with rounded corners, is oriented more or less parallel to the main palisado wall (F-25) and to the north and south walls of F-17. In this light, F-34 might be a wall-setting trench (pit) rather than a trash pit as first believed, i.e., the fill in the pit was placed there as a part of the leveling process for an adobe (?) or palisado wall. Indeed, the northernmost adobe block of F-32 lies at least partially over the pit (Fig. 41), with its base more or less parallel to the bottom of the pit.

THE WELL (FEATURE 13)

This interesting feature (Figs. 42, 43, 44, 45) appeared when the NTSU backhoe trench was reopened, but to a greater depth (ca 2.0m). Gilmore (App. 1) had noted a possible trash pit in this immediate vicinity, and, indeed, the top portion of this feature had been used as a garbage depository. The feature was visible in both profiles of the backhoe trench as well as in the floor of the trench. In profile (Figs. 43, 44) the feature begins as a stepped pit about 2.3 meters in diameter, eventually narrowing to a diameter of 1.5 meters, and maintains this diameter to the bottom of the backhoe trench. The fill of the well was tested with a soil probe and the feature was found to extend in depth for at least another 1.3 meters. Thus the feature is at least 3.3 meters deep.

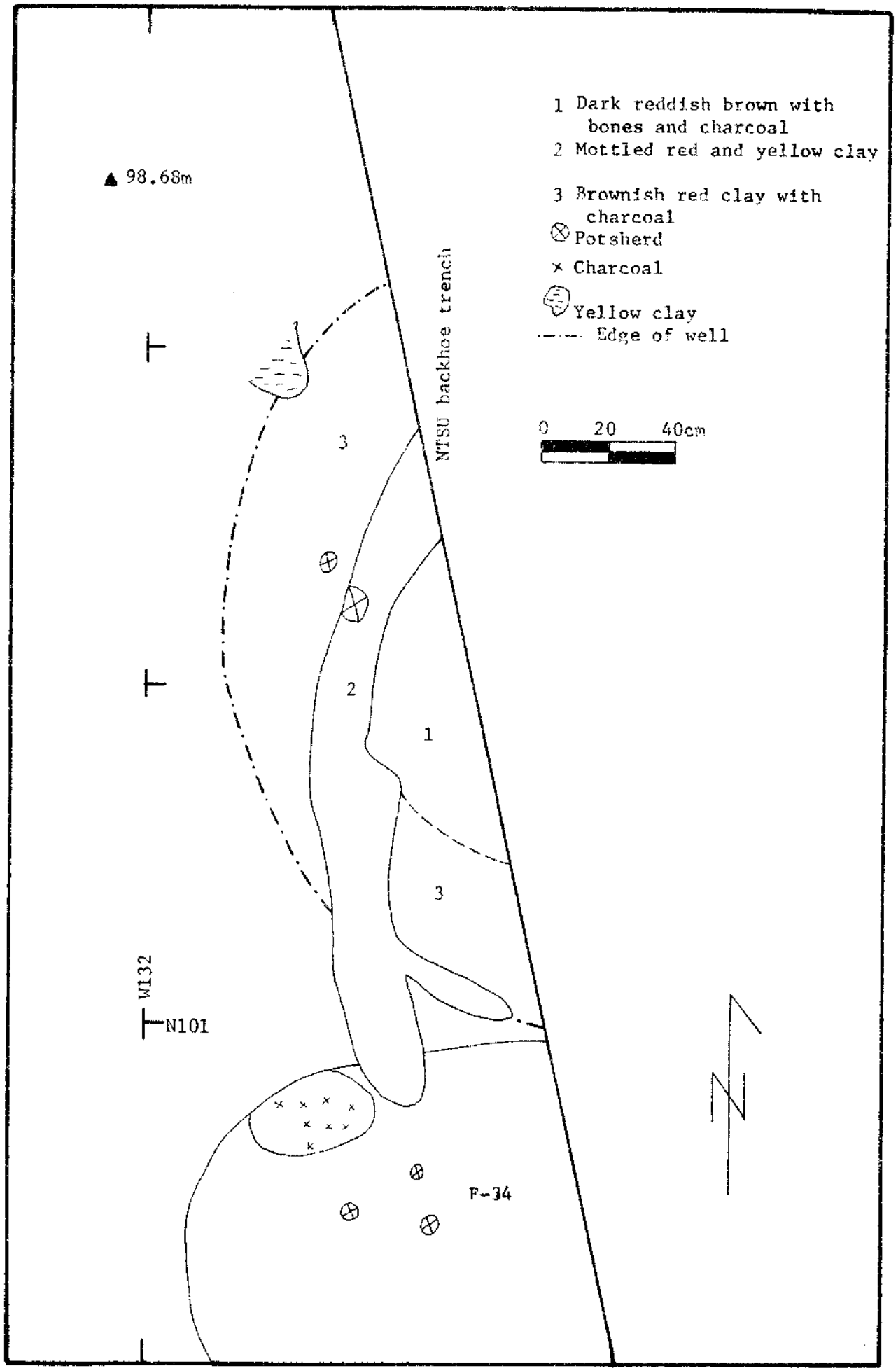


FIGURE 42. Plan of western portion of F-13

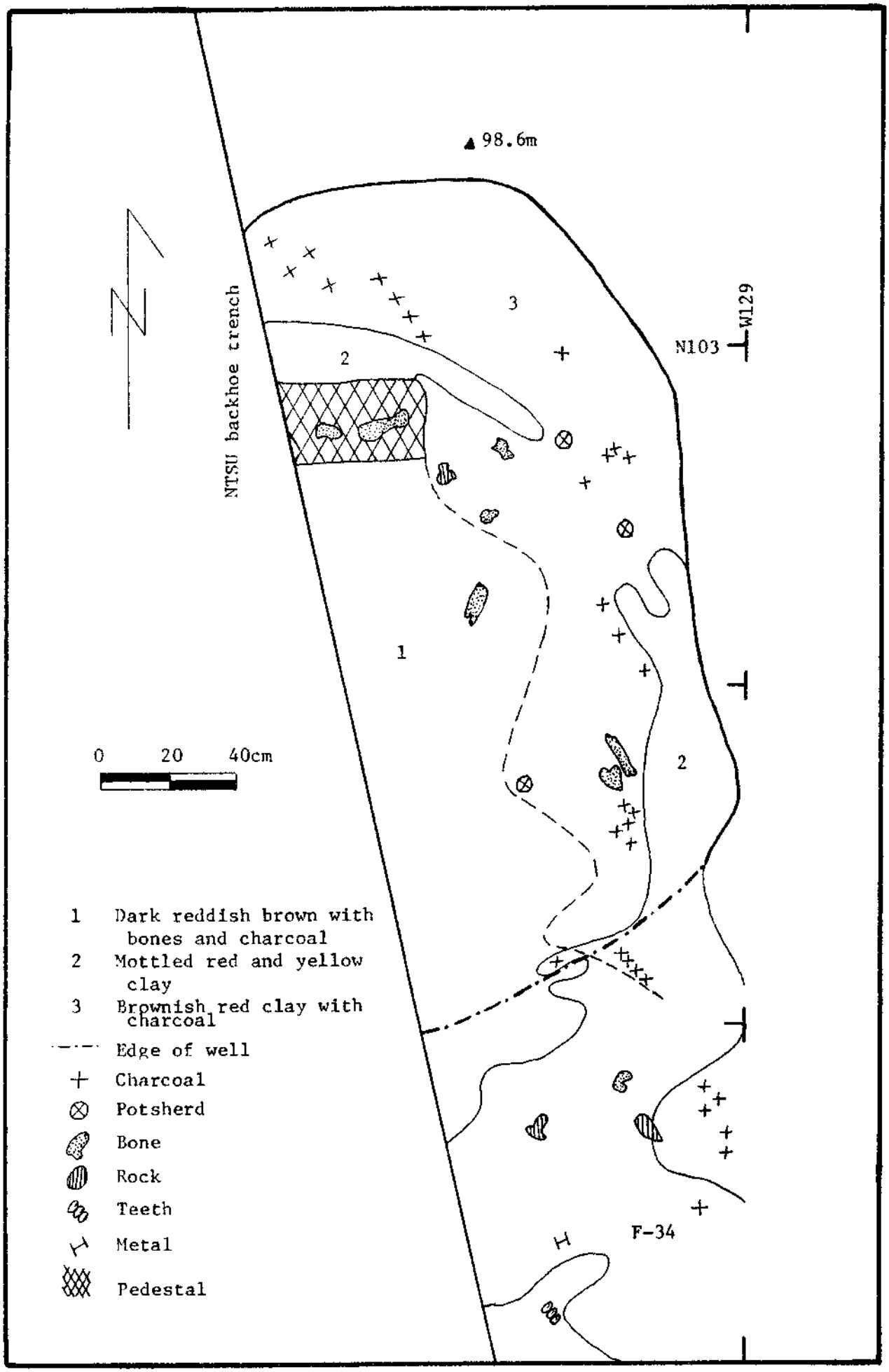


FIGURE 42. Plan of eastern portion of F-13

The well is filled (Figs. 43, 44) with various types of fill, proceeding from top to bottom: 1) dark, reddish-brown matrix containing bone, charcoal, and other eighteenth-century cultural debris; 2) mottled yellow clay with red inclusions; 3) brownish-red clay with charcoal inclusions; 4) mottled yellow clay similar to #2 above; 5) orangish-red clay; and 6) mottled gray-green, yellow of upper Weches formation. It is obvious that 1) the inhabitants of the mission had some difficulty refilling the well (i.e., settling occurred and more fill was needed, and 2) the well (if it was a well or attempted well) appears to have been refilled shortly after it was dug. This last assumption is based on the fact that the deepest fill visible is much like the material that would have come out of the well excavation last. It hardly seems likely that if the Spanish used the well for any length of time they would have saved the original matrix for refilling at a later date. Thus we are assuming the well (or cistern?) was not productive and was refilled soon after being excavated. Although we have no proof that this feature was an attempt to produce a source of water inside the mission compound, two lines of argument support this thesis: 1) the feature (13) at Mission Dolores is very similar in cross-section, although smaller, to a presumed well at Mission Rosario (see App. 4), and 2) the lower part of our soil-probe hole filled with water shortly after our probe test, meaning that the presumed well does go deep enough to reach an aquifer in the Weches formation. That such an aquifer is present is attested to by the small spring to the south (emerging at

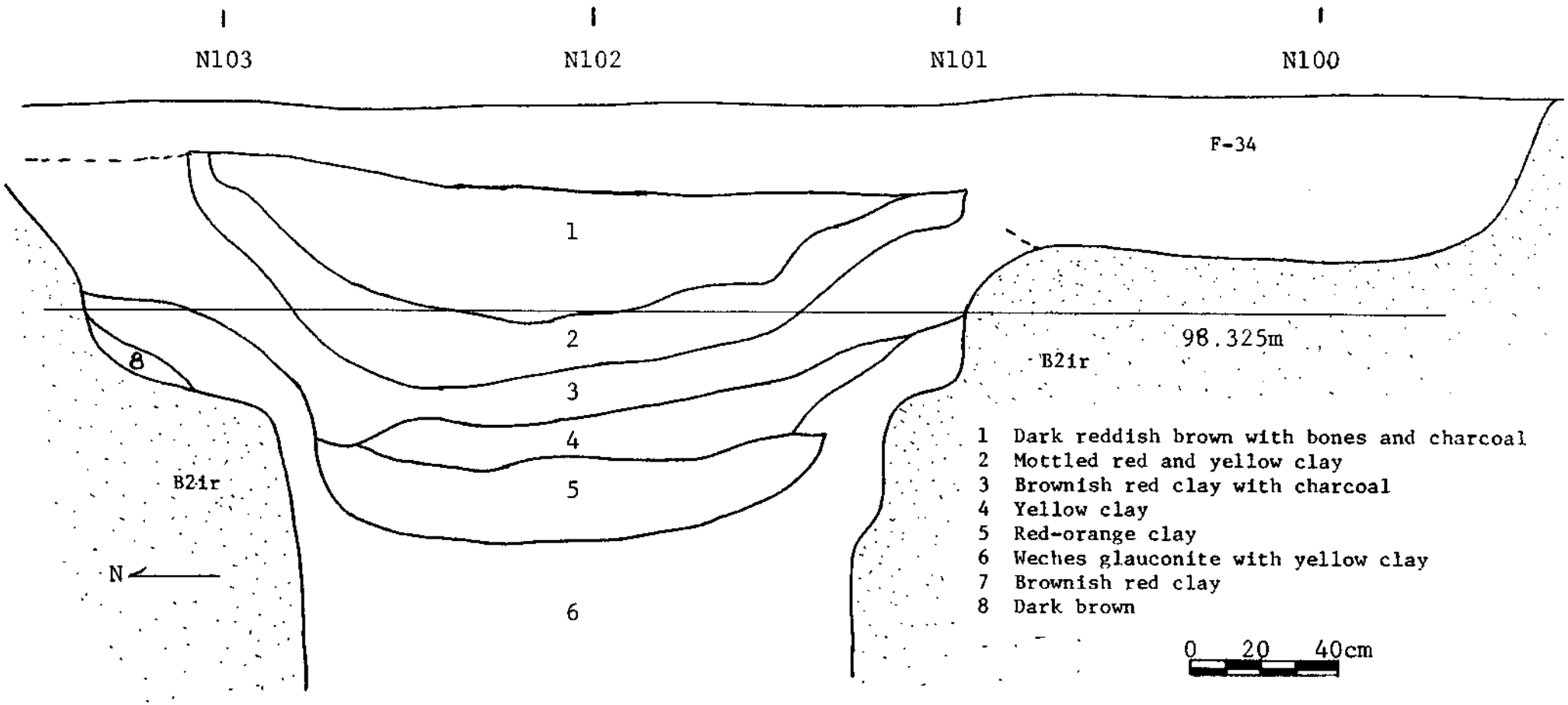


FIGURE 43. Profile of Features 13 (well) and 34 in east wall of NTSU backhoe trench

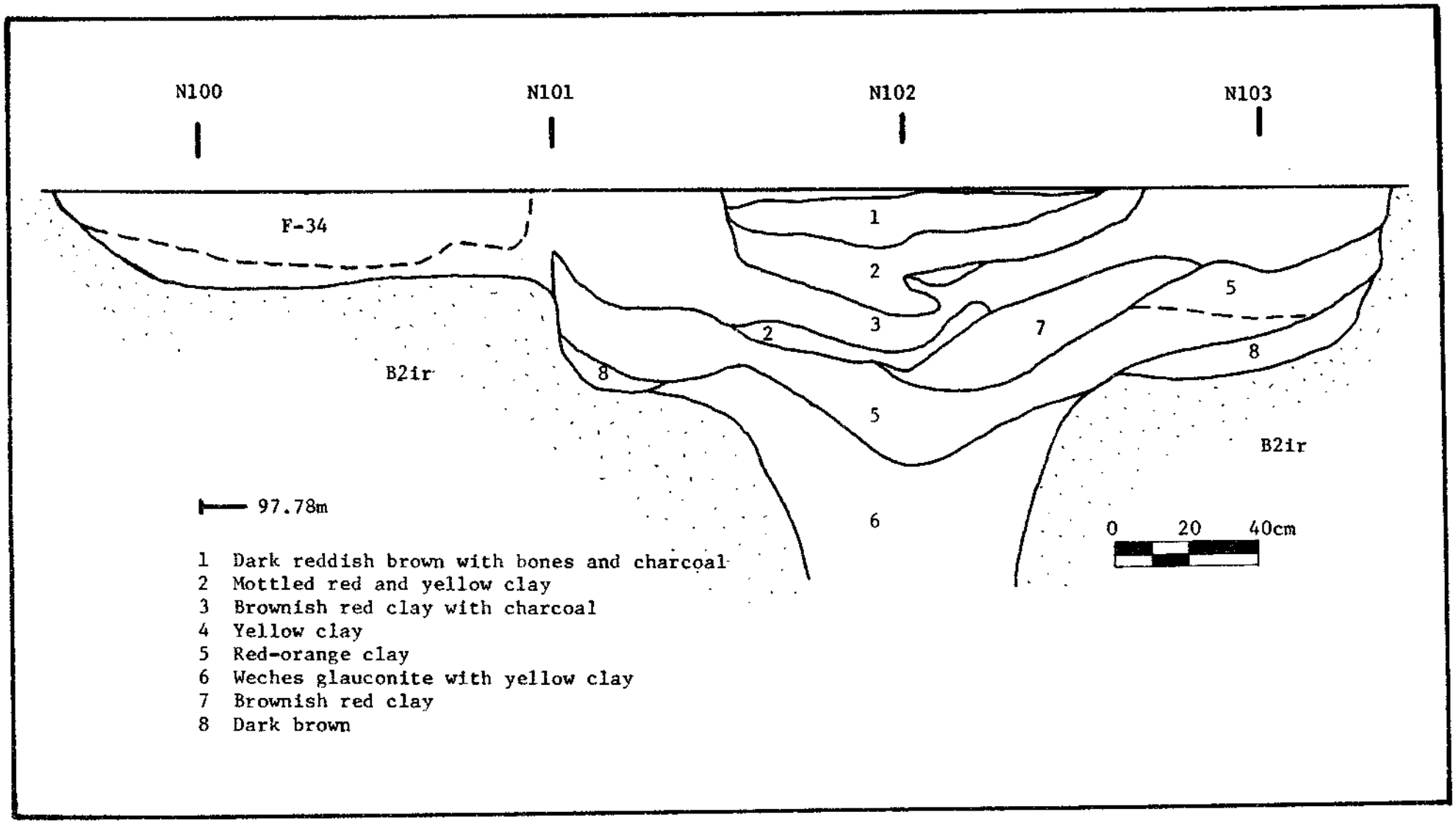


FIGURE 44. Profile of Features 13 (well) and 34 in west wall of NTSU backhoe trench

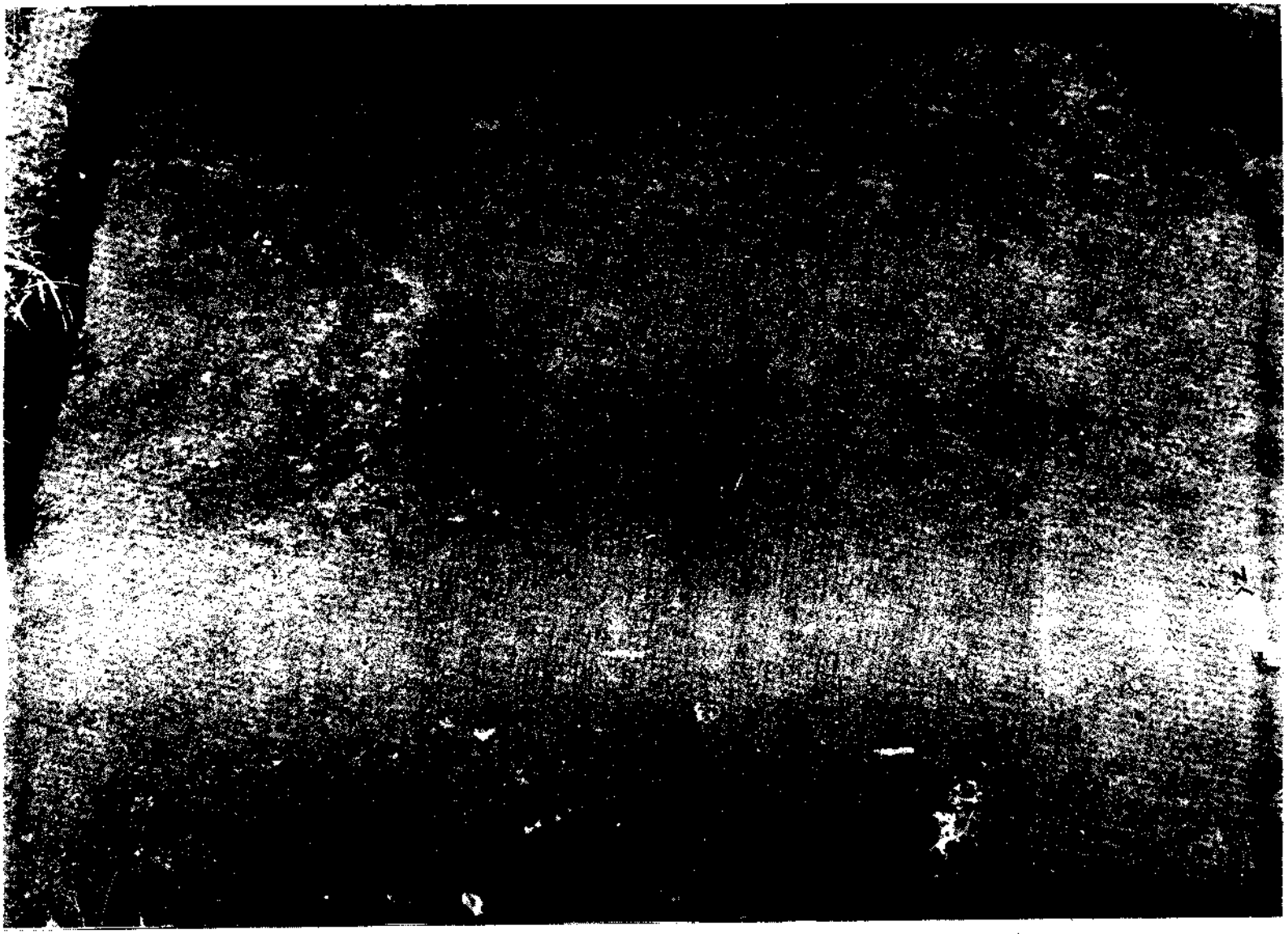


FIGURE 45. Plan view of excavations of Features 13, 17 and 34

about 3 meters below the ground surface at the top of the well) and by nineteenth-century wells north of the highway on the same hill. Nevertheless, final confirmation of the original intended use of this feature will require more excavation. It is obvious from our excavations that the filling and settling episodes in the upper portion of the feature may have occurred over a period of time, and that the last fill episode consisted primarily of cultural debris.

Charcoal-Filled Pits (Features 7, 59, 64)

Three small pits, each with varying amounts of charred organic remains in the bottom, were discovered during the excavations. Two of these, Features 7 (Fig. 46) and 64 (Figs. 47, 48), were exposed by erosion in the ditch profile. The third, Feature 59 (Fig. 46), was recovered during normal excavation while trying to trace the palisado wall. In all cases, it was impossible or virtually impossible to detect the portions of the pit that did not contain charcoal. Feature 59 was not noticed (even though we were checking excavation floors carefully for postmold and/or wall trench outlines) until the charcoal element appeared. The majority of the charred materials were corncobs and cob fragments. The portion of Feature 7 exposed (also labeled Feature 2) contained large chunks of woody charcoal and charred corncobs. When Feature 64 (Fig. 47, 48, 49, 52) was discovered, an attempt was made to learn more about these enigmatic features. After the profile was cleaned, the feature was troweled in two-centimeter levels in an attempt to identify the pit outline above the charcoal-filled portion. A few centimeters above the

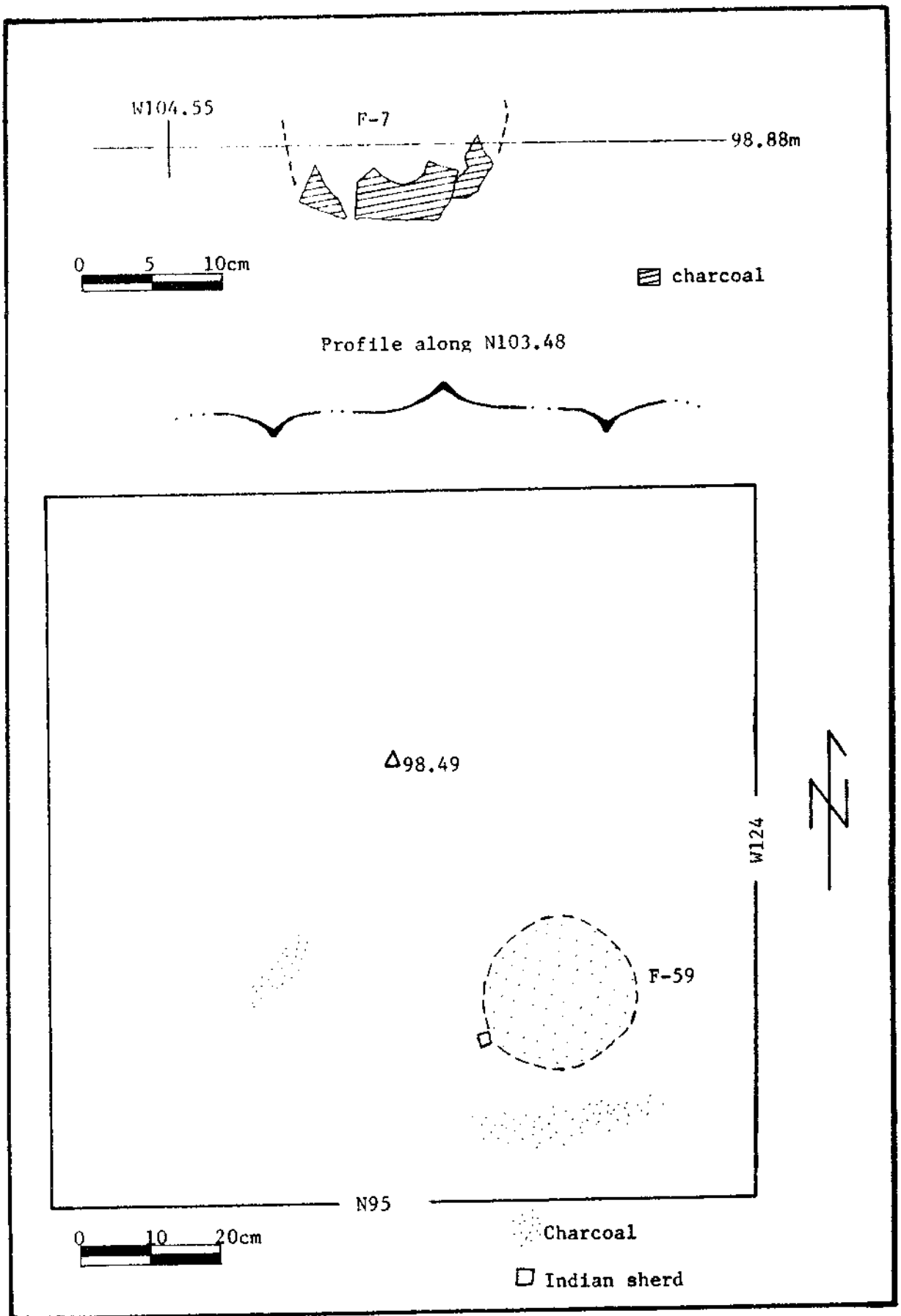


FIGURE 46. Profile of F-7 and plan of F-59, charcoal-filled pits

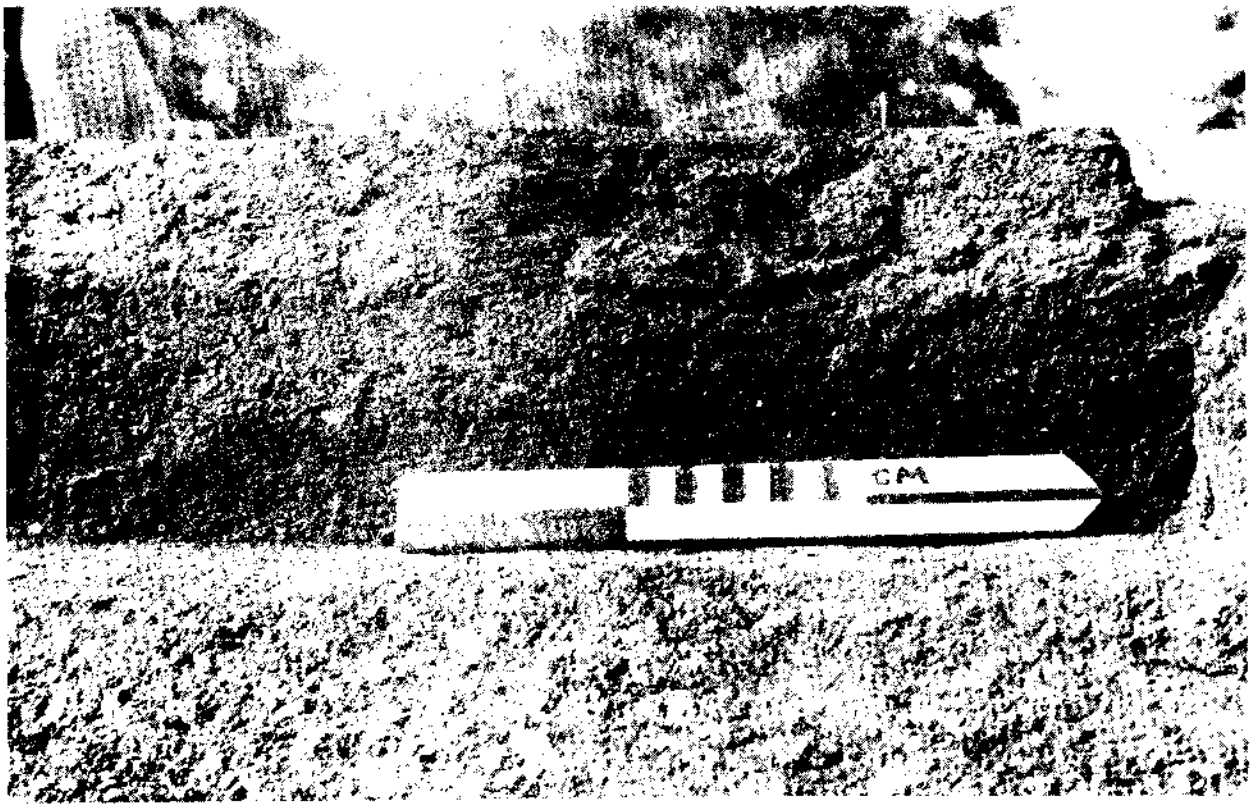


FIGURE 47. Profile view of F-64, charcoal-filled pit

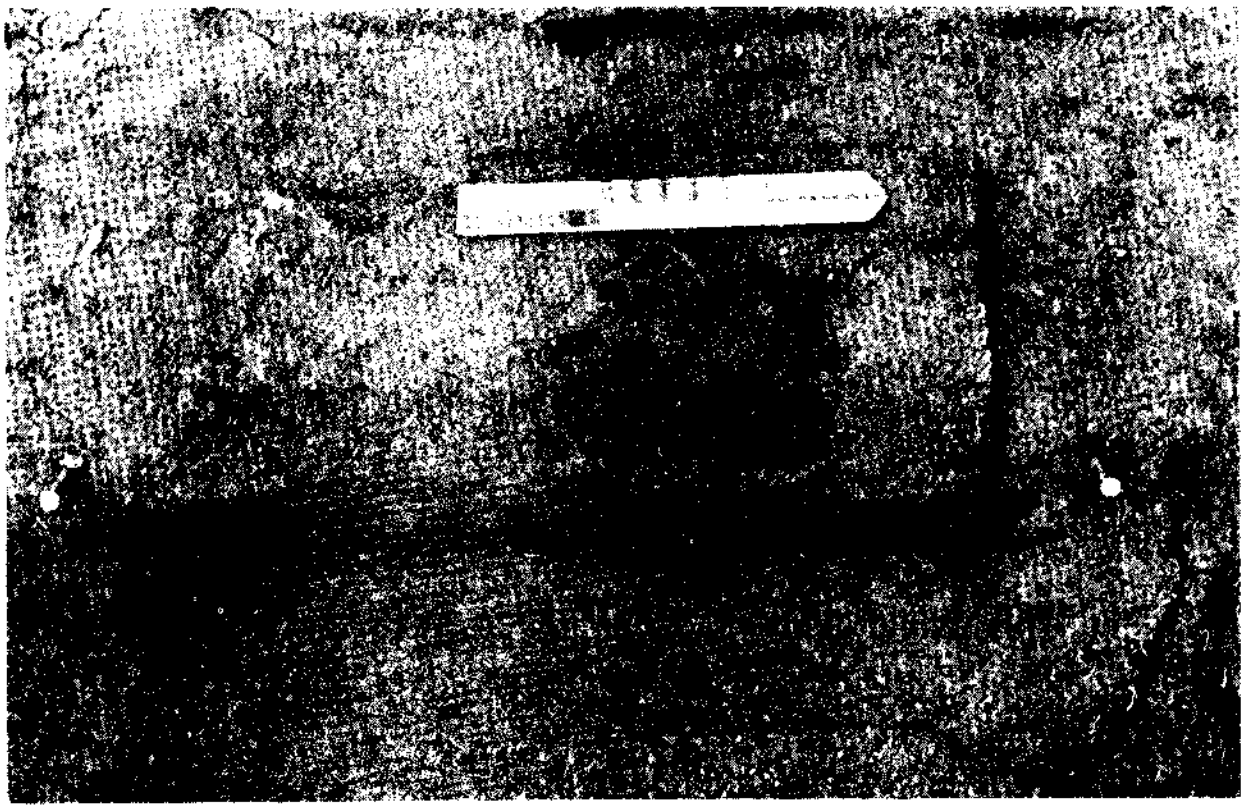


FIGURE 48. Plan view of F-64, charcoal-filled pit

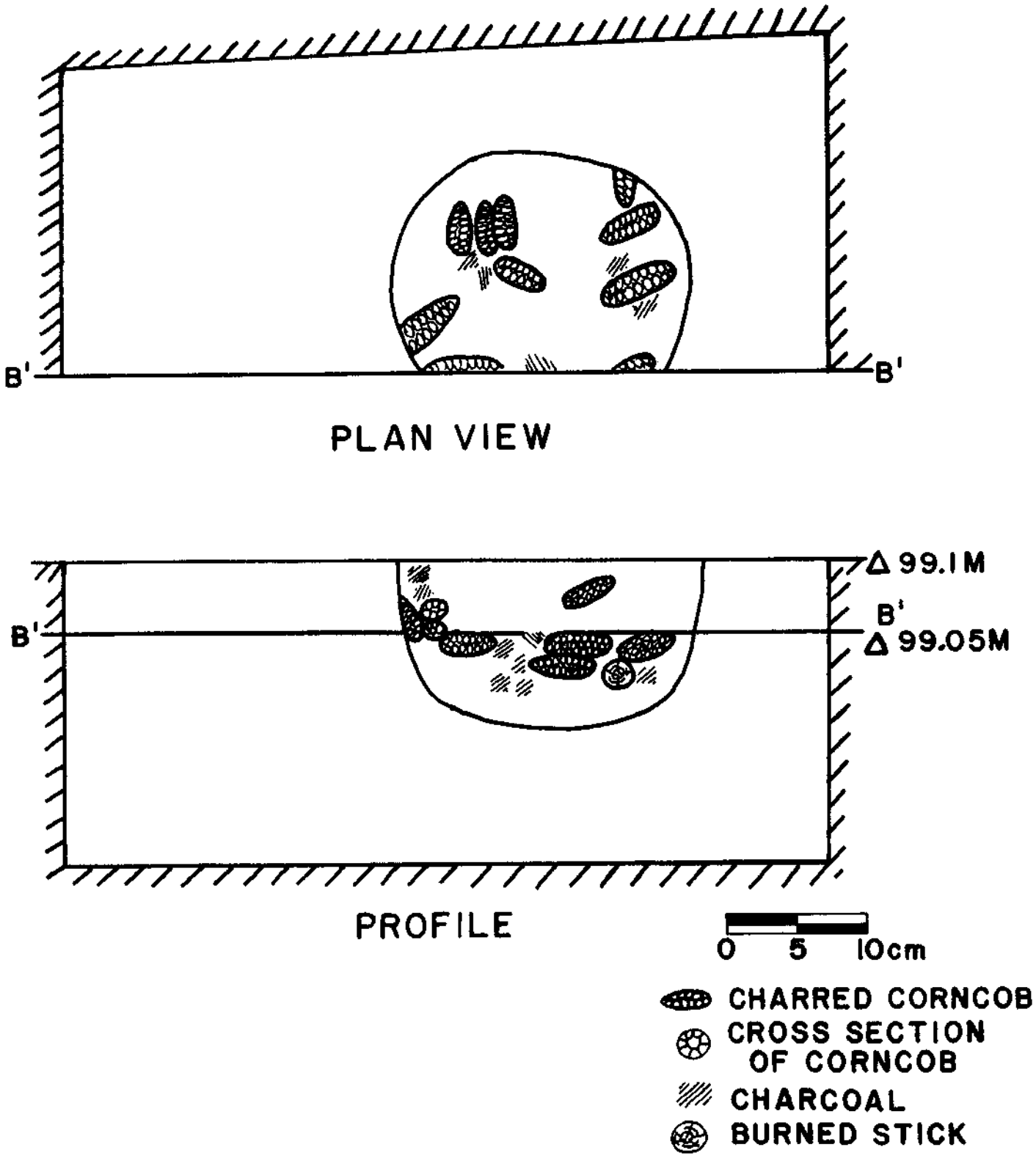


FIGURE 49. Plan and profile drawing of Feature 64

charred corncob fragments, the matrix in the area where the pit should have been contained less small hematite gravel than did the surrounding matrix. This difference was noticeable both visually and texturally. As the lower portions of the pit (Figs. 48, 49) were reached, charcoal flecks began to appear, and as the excavation proceeded, the fragments became larger. All of the larger pieces were fragments of corncobs. In the lowest portions entire cobs were preserved in the fill. The matrix around the cobs was little different from that higher in the pit.

The function of these pits is unknown. As will be noted, all are presumably outside the compound wall. Since there were no eighteenth-century artifacts directly associated, it is uncertain if these features in fact relate to the mission occupation. Very similar features have been found in prehistoric Caddo sites in the area, notably the George C. Davis Site and the Washington Square Mound Site. At Mission Dolores, there is no evidence of a pre-Spanish Colonial Caddo occupation at the site, but the features could be related to a small Indian population that might have been present at the site at various times during the mission occupancy.

Other Features

A number of other features, including postholes, small pits (?) and concentrations of bone, and/or stone, etc., were recorded during the excavations. None of these could be assigned specifically to any of the larger features discussed above, although several may be.

Some (postmolds/holes) may be associated with other larger features which have not been discovered by our excavations to date.

POSSIBLE POSTHOLES

Features 16 and 21

Feature 16 (N100/W114) exhibits characteristics and a profile (Fig. 15) typical of other eighteenth-century postholes at the site. Feature 21 (N101/W113) was not profiled, but appears similar to F-16. If F-21 is a posthole, the line between it and F-16 is parallel to F-25. Thus these features may relate to a structure adjacent to F-25, be a part of F-25, or be associated with a different perimeter wall construction (F-25A?).

Features 40, 51, 52, 57, 74, 83, 84

Feature 51, in N102/W126 (Fig. 19), exhibits all of the characteristics of most of the postholes associated with F-17 (see F-17 above). Feature 51 is very similar to those postholes along the south side of the feature, i.e., a large, charred post fragment associated with a circular soil discoloration. Although it was not profiled, we feel certain that this is a post/posthole, possibly associated with Feature 17.

Features 52, 57, 83, and 84 (Figs. 19, 21) are very similar in size and shape to F-51, but lack the charred wood. Although they were not profiled, it is very likely that these features represent postholes, possibly associated with Feature 17.

Feature 40 (Fig. 21) was a small (ca 20cm), circular anomaly

in N100/W127. Although mapped when first encountered, it was not profiled, but did not appear on the floor of the next 10-centimeter level. It is possible, since it appeared to be similar to other postholes, that this feature was similar to F-52 and 57 (see above) and F-74 (see below): a shallow pit which may have been the remains of a shallow posthole or a deep segment of a wall trench.

Feature 74 (Fig. 21) is a small (20cm in diameter), shallow (10cm) depression filled with a grayish-brown sandy matrix. It may be the bottom of a posthole or a deeper portion (i.e., continues into the B_2) of a shallow wall trench.

SMALL PITS (FEATURES 71, 85)

Two small (20cm in diameter), shallow pits were uncovered near the palisado wall (F-25). One of these (N96/W123) is believed to be a deeper portion of the wall trench and is discussed above. Feature 71 in N95/W125 (Figs. 18, 50) is very similar to the feature mentioned above and is about 20cm north of the wall trench. The matrix in the feature is darker and more friable than the surrounding B_2, and contains small bits of charcoal and bone. In this position, the feature aligns with F-16, F-21, F-81, and a portion of F-25A. The presence of this feature strengthens our belief that there may have been another (earlier) wall adjacent to and paralelling F-25.

Feature 85 (Figs. 21, 50) appears in the ditch profile at about W126.5 (1 x 1 unit, N104/W124). The feature was not excavated, but it appears to be a wall trench in profile and character. The fill is similar to other wall trench segments, including bits of bone and

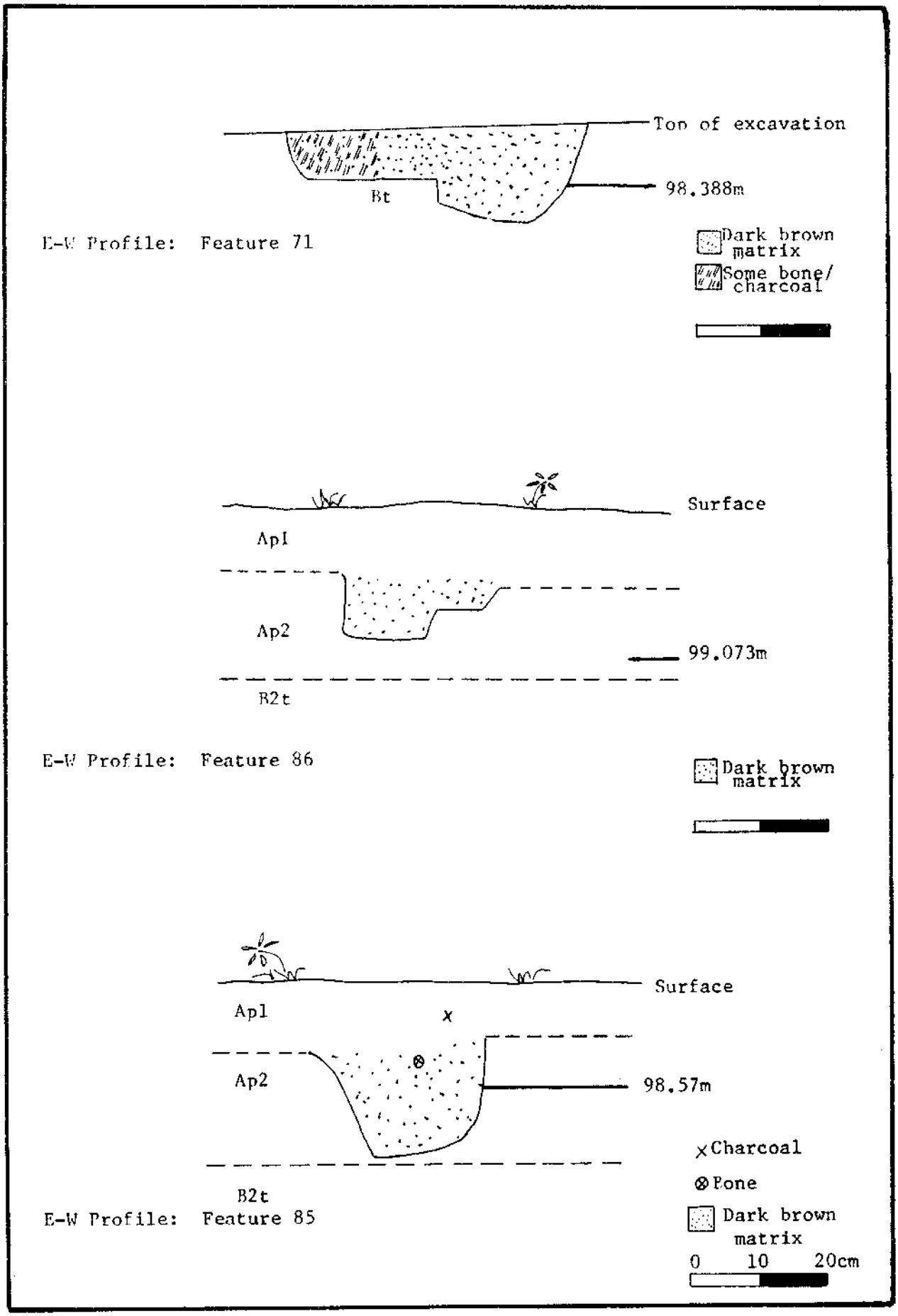


FIGURE 50: Profiles of Features 71, 86, and 85

charcoal. This feature may be associated with Feature 17 (see above).

BONE AND/OR STONE CONCENTRATIONS (F-58, F-70)

Features 58 (N99/W100) and 70 (N100/W87) are small concentrations of bone and stone which probably represent random accumulations of cultural debris which occur in many cultural situations. They may have originally accumulated in shallow, natural depressions, although there was no evidence of these in our excavations. Feature 58 (Fig. 30, 51) is adjacent to Feature 6 and is probably associated with that feature. Feature 70 (Fig. 52) may be adjacent to or a part of Feature 65 (see below).

EL CAMINO REAL(?)

A large, but shallow, flat-bottomed depression (Feature 65), exposed in the ditch profile (Figs. 52, 53) may represent a cross-sectional view of a filled-in road (?) depression. The edges of the depression, while not well-defined, are visible, while the bottom is more ephemeral. The matrix in the depression is little different from the surrounding matrix, but it does contain occasional medium to small pieces of bones and eighteenth-century artifacts. It does not have any of the characteristics of the trash pits or wall-setting trenches noted above. The matrix of the fill shows no characteristics of wash filling, but if the filling was slow, it might not exhibit the typical bedding of wash fill. At this point, we are suggesting the feature might represent a portion of El Camino Real for several reasons: 1) based on our projections from survey data (App. 5),

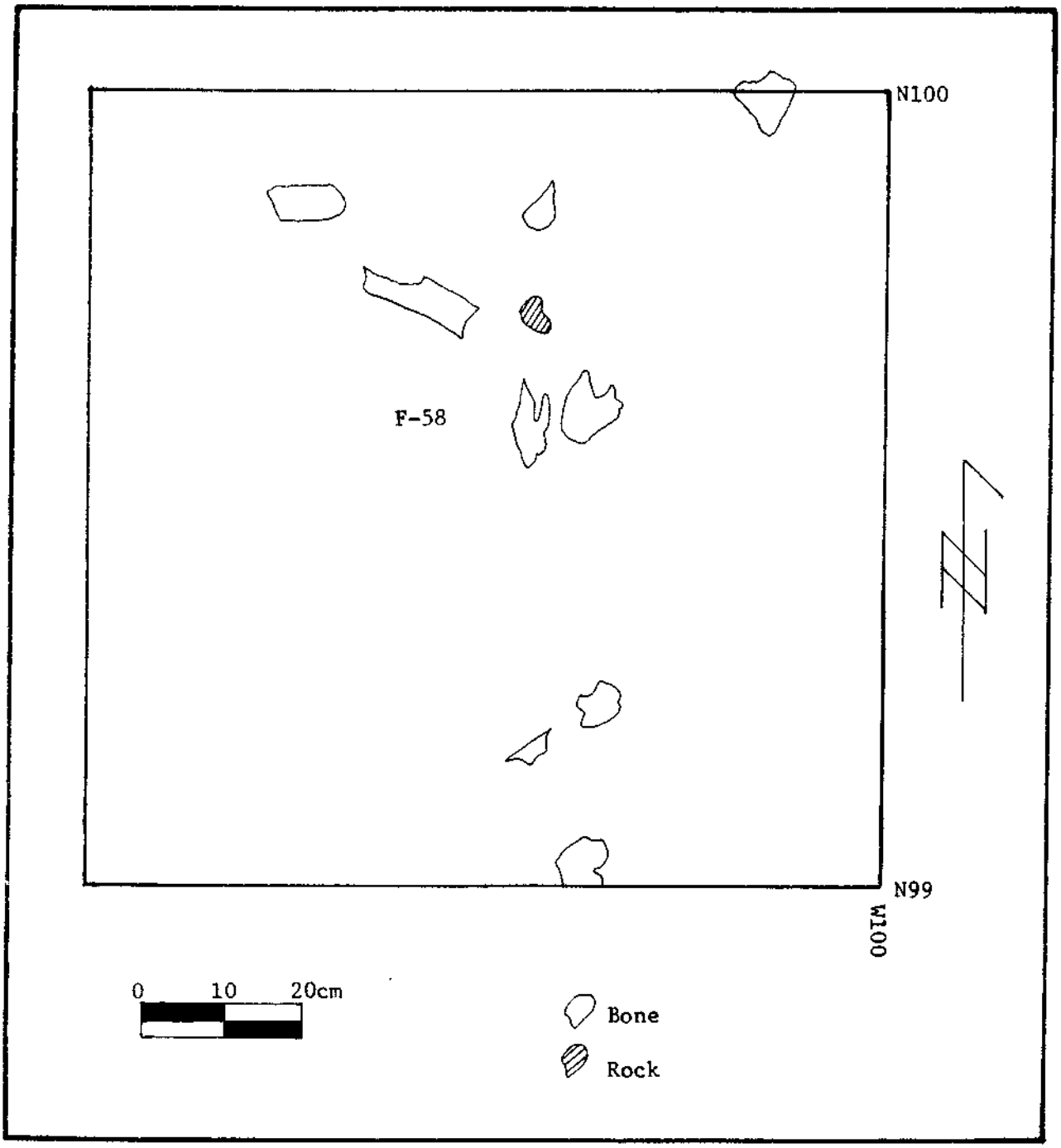


FIGURE 51. Plan view of Feature 58, bone and stone concentration

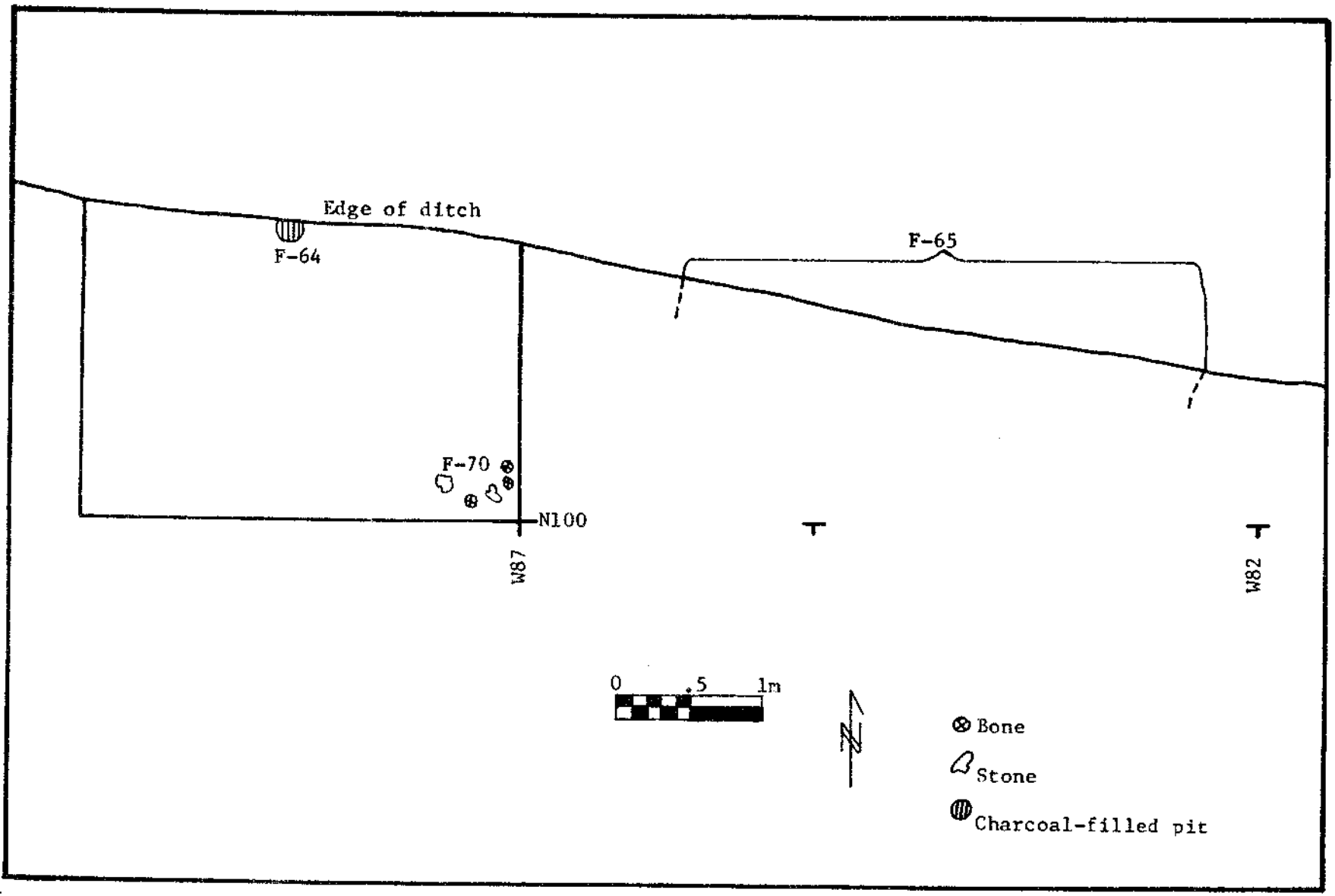


FIGURE 52. Excavation plan of site between W82 and W90, showing features

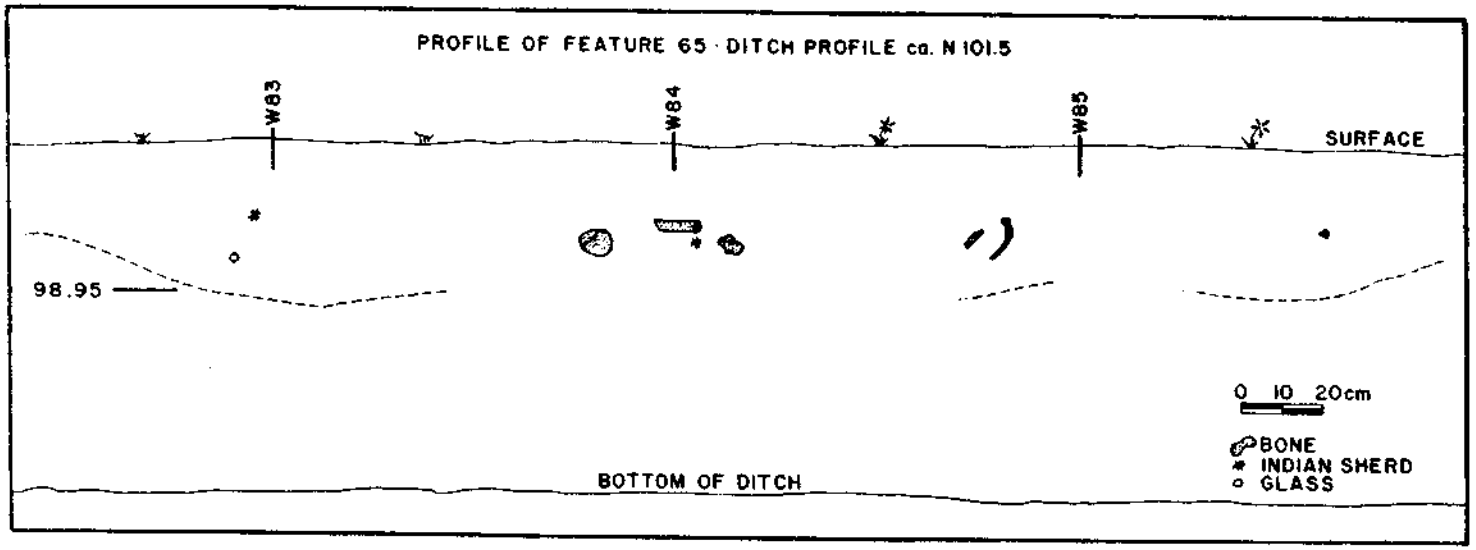


FIGURE 53 · PROFILE OF FEATURE 65

the feature is in the appropriate location; 2) the wide, shallow, flat-bottomed (level) nature of the feature suggests a road; 3) while it contains some debris, it lacks the features of trash pits, etc., at the site.

POSSIBLE FLOOR (Figure 54)

Feature 68, a flat (level), compacted, possibly burned surface (similar to Feature 6 floor) was exposed in the west wall (between N98 and N99) of the backhoe trench excavated along the W75 grid line. Occasional flecks of charcoal and artifacts are associated with the feature. It does not exhibit the concentration of artifacts associated with Feature 6. Flecks of charcoal occurred occasionally in the east profile of this trench and in the profiles of the W65 backhoe trench at approximately the same level (ca 99.18m) as the compacted surface. These elements did not extend to the backhoe trench along the W55 grid line.

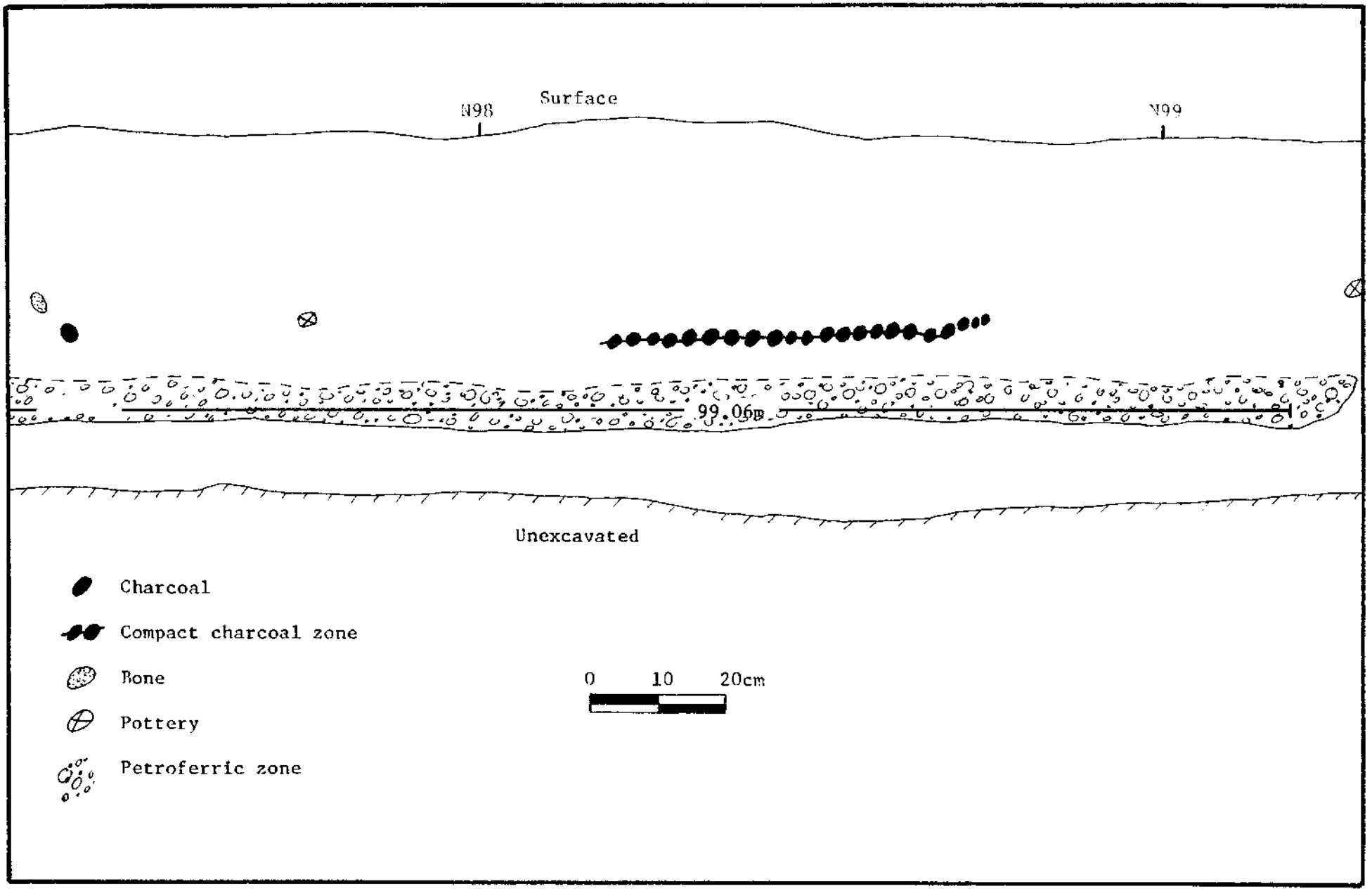


FIGURE 54. Profile of Feature 68 along W75 (backhoe trench)

ARTIFACT ANALYSIS

Non-Aboriginal Artifacts

CERAMIC ARTIFACTS

Excavations at Nuestra Señora de los Dolores de los Ais (41SA25) yielded a total of 835 non-aboriginal ceramic artifacts. Most date from the eighteenth century and correspond in type to those from other Spanish colonial sites throughout North America, in particular those in Texas and Louisiana. All of the artifacts are sherds of vessels of European, Chinese, and Mexican origin. A few ceramic fragments dating from the nineteenth and twentieth centuries reflect occupation and activity at the site since the Spanish colonial occupation.

Non-aboriginal ceramics from the site have been divided into three classes: earthenware, stoneware, and porcelain. From these three classes, eight groups have been defined, each group consisting of ceramics which share certain physical and/or stylistic properties. These eight groups have been subdivided into styles based on decoration and technique. This grouping system conforms more to the manufacturing processes than to physical properties, although analysis did require using certain physical properties as classification criteria.

Earthenware

Group I - Tin-glazed earthenware

Called majolica in Italy, Spain and Portugal, faience in France, and delft in England and Holland (Tunnell and Ambler 1967), these ceramics were manufactured throughout Western Europe during the eighteenth century. They differed stylistically, but shared basic similarities. All had a soft earthenware paste and were covered with an opaque, whitish glaze. This so-called tin glaze is a transparent lead glaze to which tin oxide was added as an opacifier, producing a white opaque surface for a ground for painted decoration (Miller 1970). Sherds of tin-glazed earthenware comprised 66.5% of the total non-aboriginal ceramics at 41SA25. The sherds (and the vessels they represent) have been divided into three styles on the basis of decoration and technique.

Style A - Blue and White

Cobalt oxide was used during the eighteenth century to provide the blue coloring for ceramic decoration. Decorative patterns were generally copies of imported Chinese trade porcelain (Giacomotti 1963). Twelve ceramic varieties were represented at 41SA25 by seventeen vessels (a total of 331 sherds). French faience (Figs. 55-58) comprised the largest category: 10 varieties, represented by 15 vessels (231 sherds). Puebla Majolica (Fig. 59) comprised the second largest category: two varieties, two vessels, 100 sherds. The majority of vessels represented were flatware.

FIGURE 55. Earthenware, Faience

a. Vessel 1

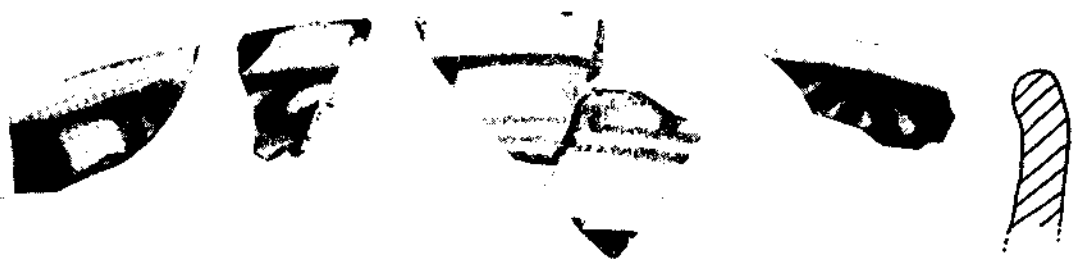
b. Vessel 2

c. Vessel 3

(All artifacts are shown full-size, unless otherwise noted.)

a

b



c

FIGURE 56. Earthenware, Faience

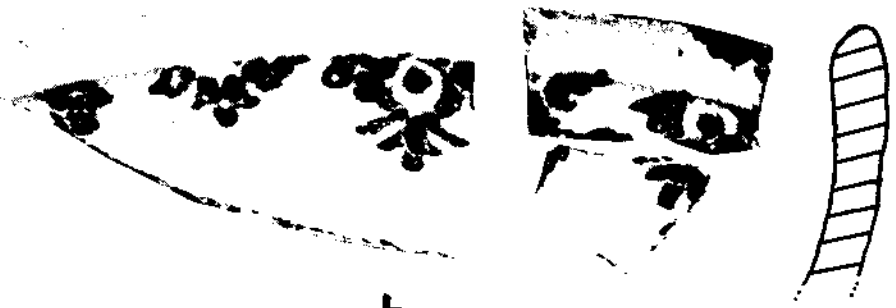
a. Vessel 4

b. Vessel 5

c. Vessel 6

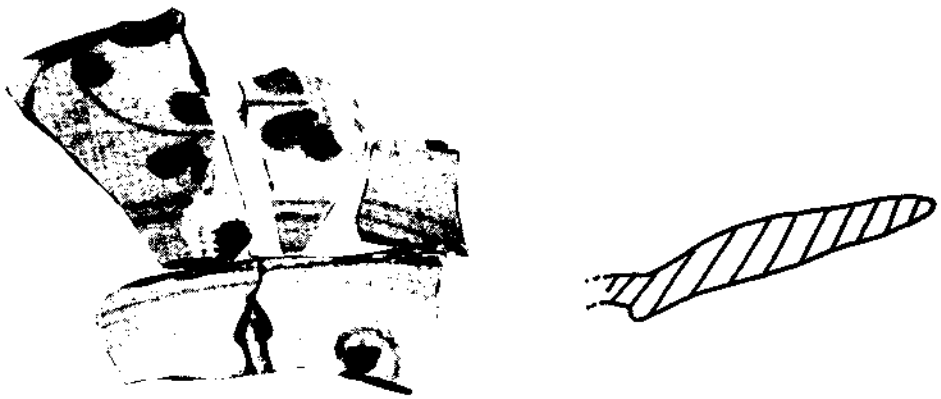
d. Vessel 7

a



b

c



d

FIGURE 57. Earthenware, Faience

a. Vessel 8

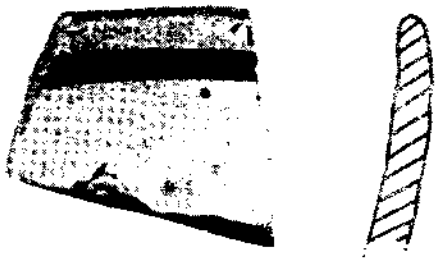
b. Vessel 9

c. Vessel 10

d. Vessel 11

e. Vessel 12

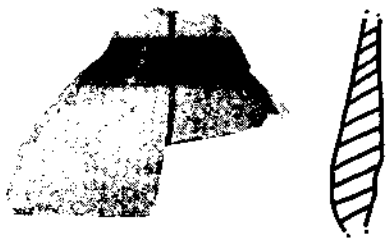
f. Vessel 13



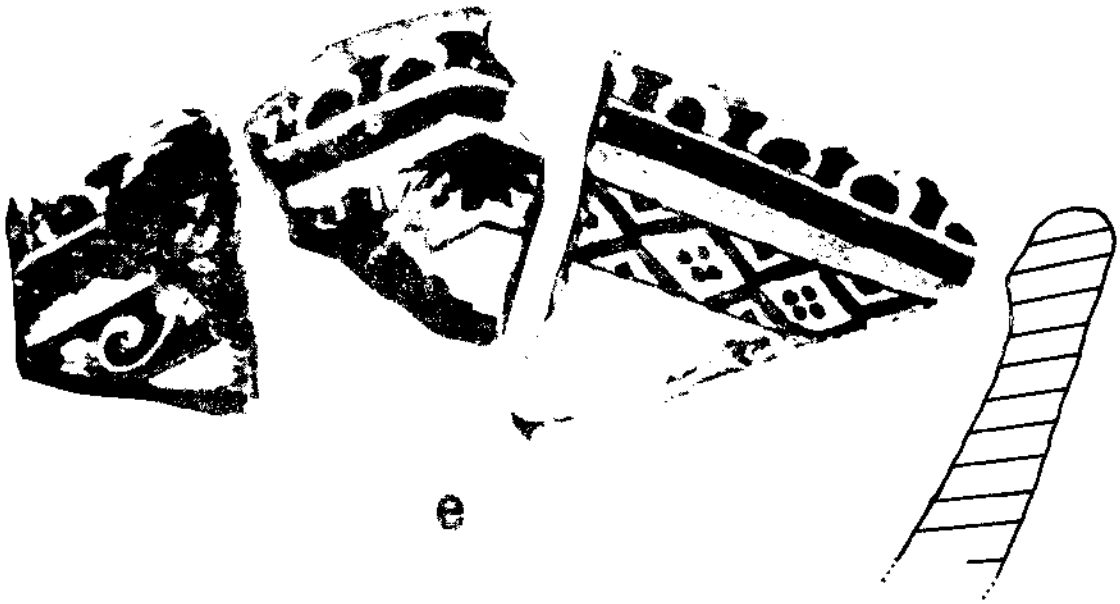
a

b

c



d



e

f

FIGURE 58. Earthenware, Faience

a. Vessel 15

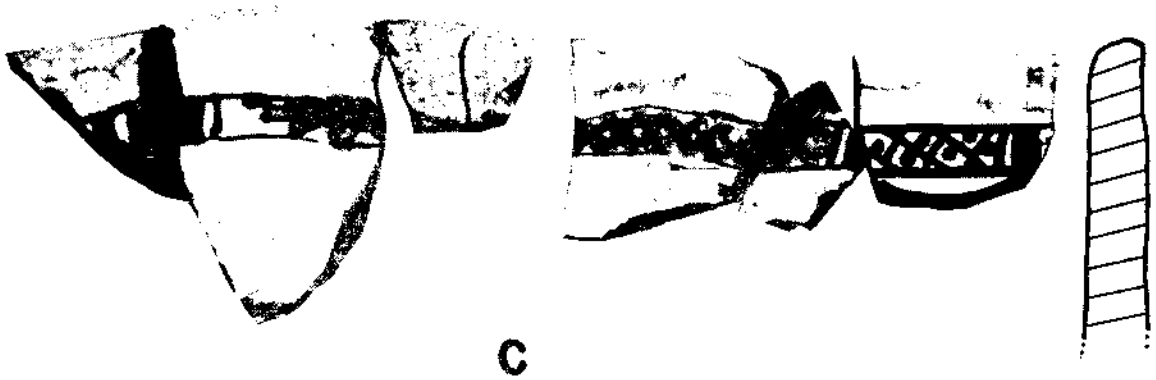
b. Vessel 16

c. Vessel 17

d. Vessel 18

a

b



c

d

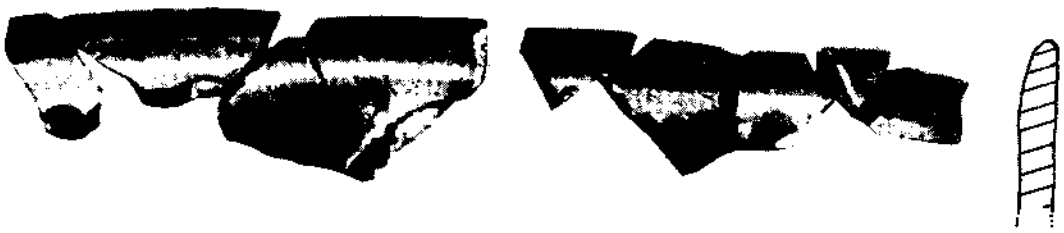
FIGURE 59. Earthenware, Majolica

a. Vessel 1

b. Vessel 2

c. Vessel 3

d. Vessel 4, polychrome



a

b

c

d

Style B - Polychrome

This category is comprised of tin-glazed earthenware decorated in two or more colors. Six varieties are present, represented by six vessels. Faience is represented by two vessels (51 sherds). Two varieties of polychrome, possibly delft (H. F. Gregory, personal communication), are represented by two vessels (eight sherds). Two varieties of majolica are present. One vessel, possibly Abo Polychrome (Gregory, personal communication), is represented by two sherds. The other majolica vessel (Fig. 59, d) is represented by seven sherds.

Style C - Undecorated

This grouping of sherds (Fig. 60, a-b) is the largest in the collection and is not subdivided into categories. Specific categorization into faience, delft or majolica was frequently uncertain because of similarities in paste and glaze characteristics. Nevertheless, it is believed that the majority of these sherds are from undecorated faience vessels or undecorated portions of decorated wares. A total of two vessels were identifiable by basal sherds to be either pitchers or chamber pots. One vessel was identifiable by basal and rim sherds to be flatware. There was a total of four basal sherds, fifty-six rim sherds, 168 body sherds, three footrings, and one handle fragment.

Group II - English Cream-colored Earthenware

Major technical and stylistic developments in England to improve the processes for manufacturing earthenware resulted in

the production of a cream-colored, lead-glazed ware during the 1700's. By 1760, fine white clays were being used to produce a white or buff body which was covered by a liquid lead glaze which imparted a clear, slightly yellow, sparkling finish to the wares (Miller 1970). A total of twenty fragments of this ware (Fig. 60, c-f) were found at Mission Dolores. Five hollow-ware rim sherds are from four separate vessels, two of which exhibit machine-turned lines. Five foot-ring sherds represent two separate vessels. There are also four basal sherds and six body sherds.

Group III - Miscellaneous Lead-glazed Earthenware

Style A - Green-glazed Fine Earthenware

The exact origin of this style of earthenware is unknown. It is a low-fired earthenware with a pale gray paste, glazed on one or both sides with a green lead glaze. The glaze is highly crazed, and most sherds exhibit a certain degree of flaking. The twelve sherds probably represent one vessel.

Style B - Green-glazed Coarse Earthenware

The origin of this coarse reddish-brown paste, olive green lead-glazed earthenware is probably France (Gregory, personal communication). The paste color is 5 YR 5/4. A total of seven sherds, three of which are burned, represent one vessel.

Style C - Brown-glazed Earthenware

The source of this style of earthenware is undetermined. The coarse earthenware paste is 5 YR 7/6, with minor variation. It is covered on one or both sides with a transparent brown glaze ranging

from 5 YR 2/2 to 2/5 YR 3/6. Eleven rim sherds, thirteen body sherds, and three basal sherds represent one vessel.

Group IV - Miscellaneous Earthenware

Style A - Tlaxcalan Redware

This style is described by Tunnell (Tunnell and Ambler 1967) as being made with the paddle-and-anvil technique by an Indian group in Central Mexico. The paste is 5 YR 5/6 in color. The surfaces are covered with a thin, fine-grained slip, 10 R 4/6 in color. Three hollow-ware body sherds, one handle fragment, and two rim sherds exhibit differing curvatures and are classified as being from two separate vessels.

Style B - Guanajuato Lead-glazed

This style of earthenware originated in the area near Guanajuato, Mexico, where Indians still produce similar wares today (Gregory, personal communication). Fine-grained, the paste contains inclusions of a carbonaceous material, sand grains, small lumps of dark brown to grayish-black material, and various other unidentified materials. Numerous gas cavities also occur. The paste color ranges from 2.5 YR 6/8 to 5 YR 7/6, with the unglazed exterior of the vessel being blackened by carbon, probably from cooking fires. The interior is glazed with a transparent, amber-colored lead glaze that is highly crazed, and has a tendency to flake. One flared rim sherd (Fig. 60, i), one basal sherd extending partway up the body, and two body sherds probably represent one vessel.

Stoneware

Group I - English Salt-glazed Stoneware

The paste of these distinctive sherds is very light gray to white in color, exhibits a high degree of vitrification, and contains no obvious inclusions. The glaze is a thin, transparent salt glaze which contains numerous tiny bubbles. One basal sherd with a foot-ring and two small rim sherds constitute the remains of one vessel (Fig. 60, g). An exact origin is undetermined due to the small number of sherds and the lack of identifying marks of any kind.

Group II - Pipe

A single sherd from a ceramic pipe bowl (Fig. 60, h) was recovered from Mission Dolores. Under magnification, the paste appears to be almost pure sand grains, almost completely vitrified. All of the sand grains are rounded. There are inclusions of some black mineral, possibly iron. The fragment is from the rim of the pipe, complete with a somewhat flattened lip. A molded ridge 0.3mm wide parallels the lip 0.2mm from the lip. The surfaces inside and out are smooth with no glaze evident. It is mold-made, the mold seam very prominent on the outside surface, running from the lip to the point where it was broken. The paste color is grayish until viewed under magnification, where the transparent sand grains are very evident. A projection of the curvature of this fragment gives a diameter of between 2.5 and 2.8cm.

FIGURE 60. Earthenware, Soft paste, Creamware, Salt-glaze Stoneware, Mexican Ceramics

a. Undecorated soft paste, Vessel 3

b. Undecorated soft paste, Vessel 4

c. English Cream-colored Earthenware, Vessel 1

d. English Cream-colored Earthenware, Vessel 2

e. English Cream-colored Earthenware, Vessel 5

f. English Cream-colored Earthenware, Vessel 6

g. English Salt-glazed Stoneware

h. Pipe bowl fragment

i. Guanajuato Lead-glazed

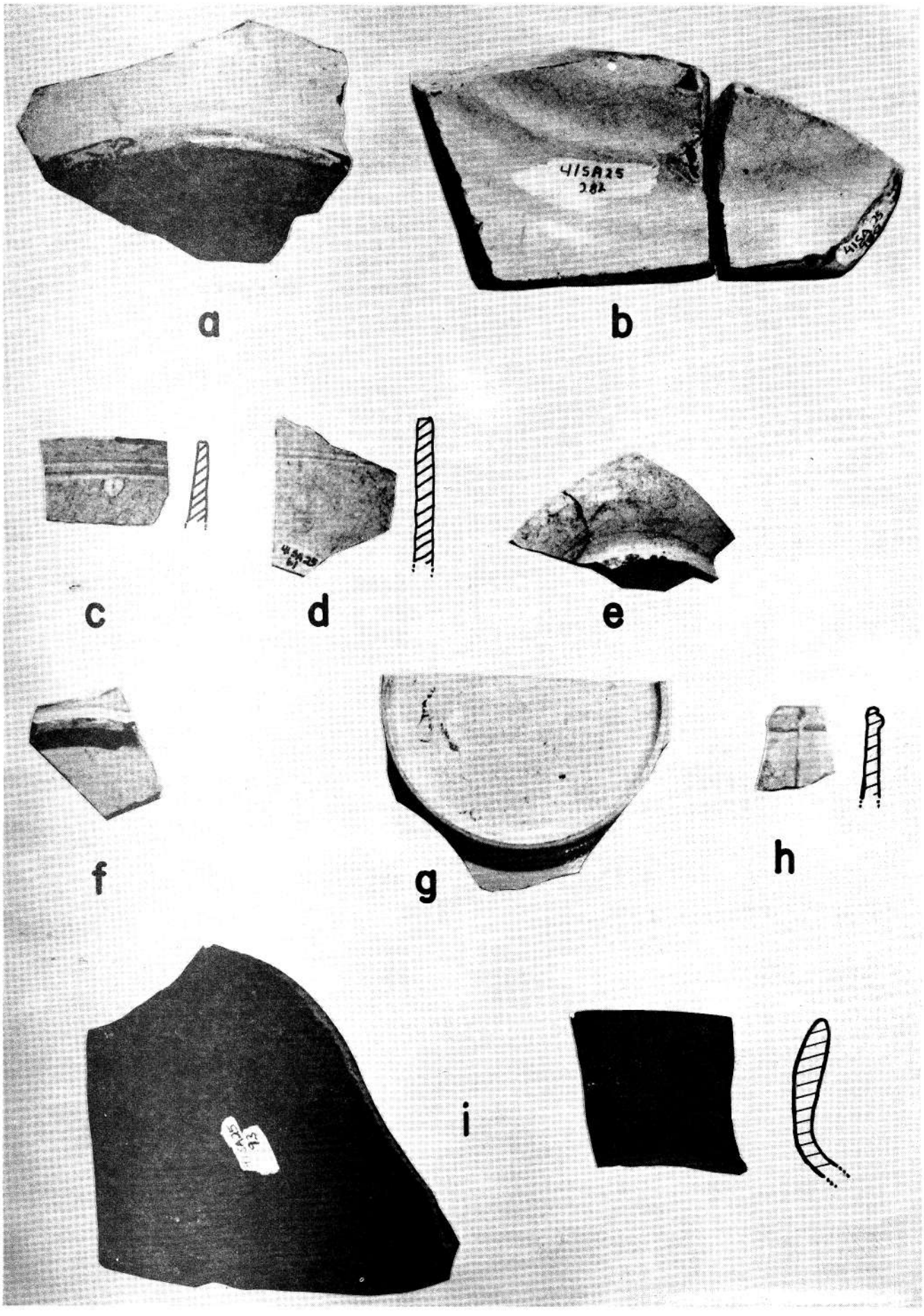

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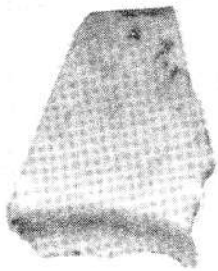
FIGURE 61. Chinese Trade Porcelain, Blue on White (underglaze)

a. Vessel 1

b. Vessel 2

c. Vessel 5, foot and rim sherds

d. Vessel 9



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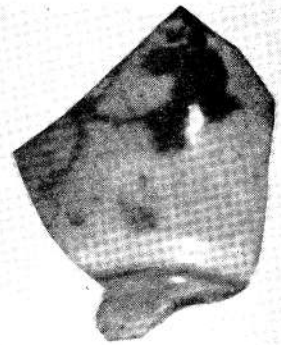

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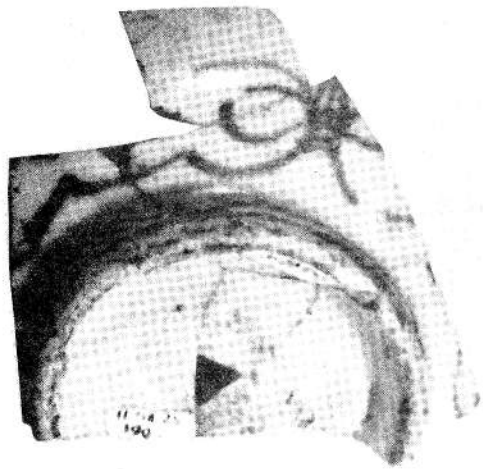

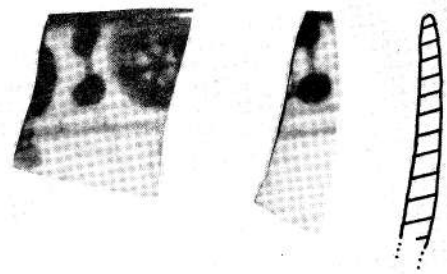

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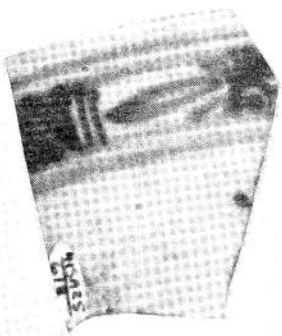
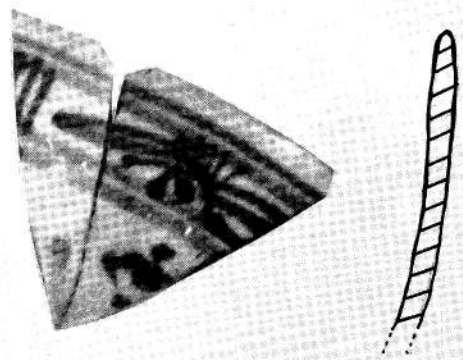




d

FIGURE 62. Chinese Trade Porcelain, Blue on White (underglaze)

a. Vessel 10

b. Vessel 10, interior

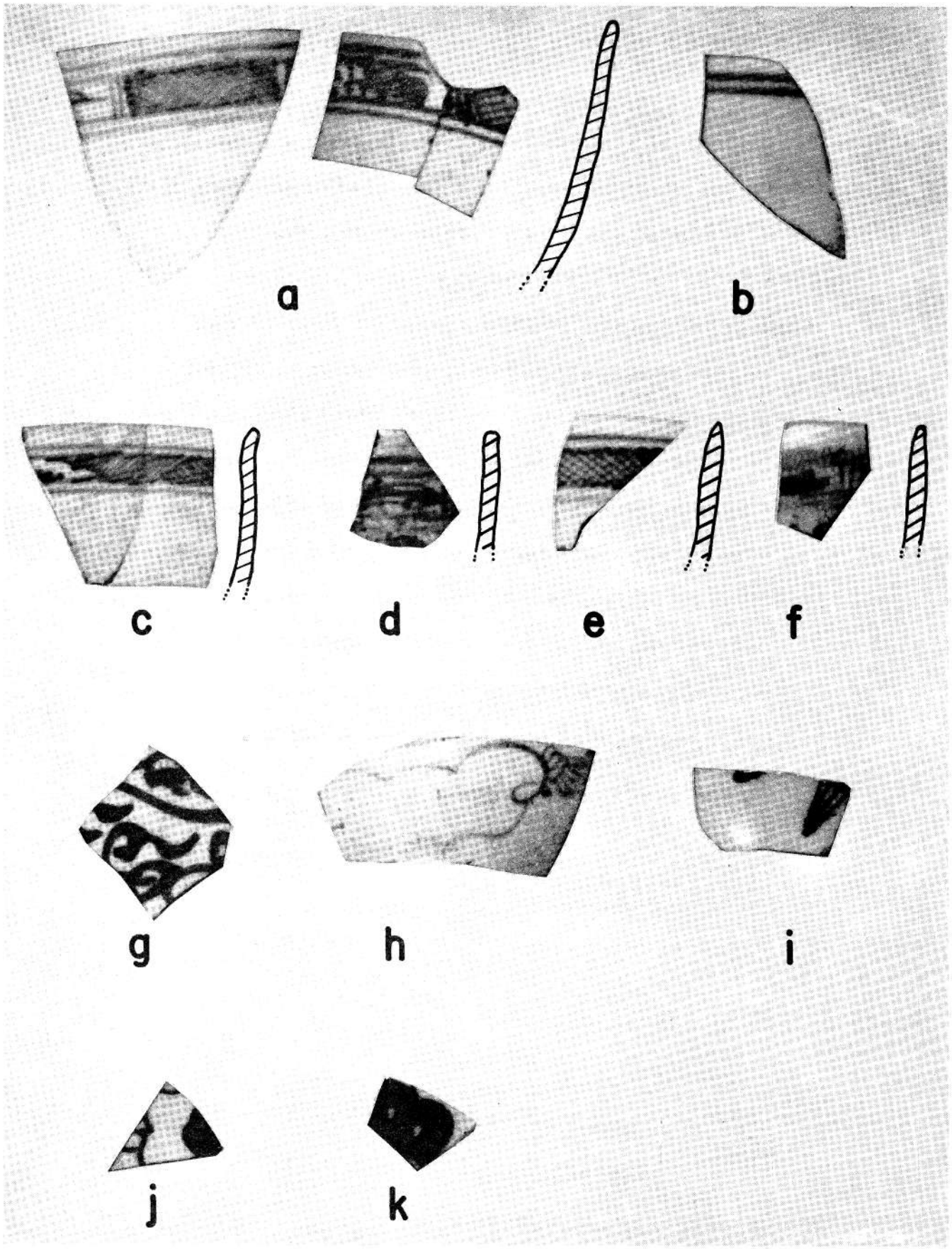
c. Vessel 11

d. Vessel 12

e. Vessel 13

f. Vessel 14

g-k. Miscellaneous body sherds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Porcelain

The majority of eighteenth-century oriental trade porcelains were made of two materials: kaolin, a fine clay composed basically of feldspar; and petuntse, a fusible feldspathic rock, fired at about 1400° C (Miller 1970). The white paste (with a hardness exceeding 7 on Mohs' scale) exhibits conchoidal fracture when broken. Blue was the primary underglaze decorative color, but many varieties were decorated with various colored overglaze enamels.

Of the ninety-six porcelain sherds (Figs. 61-62), representing at least 14 vessels, thirty-three exhibit evidence of enamel overglazing. The remaining sixty-three sherds are of the plain blue on white underglaze variety. The overglaze group contains four rim sherds, twenty-six body sherds, and three foot-ring fragments. The plain blue on white underglaze variety includes twenty-two rim sherds, thirty-four body sherds, six foot-ring fragments, and one basal sherd.

Table I
Vessel Description: Non-Aboriginal Ceramic

FAIENCE/DELFT

Vessel #

1 Dinner plate; paste color, 2/5 Y 8/4; glaze base color, bluish-white; decoration: blue underglaze, foliated design covering rim and in central portion of base, single thin line separating design from lip; lip rounded, decorated with single brown line; 21 rim sherds, 6 basal, no foot-ring; light crazing.

2 Dinner plate; paste color, 7/5 YR 8/4; glaze base color, bluish-white; decoration: blue underglaze, geometric rim design 13mm wide around rim; lip thickened; 6 rim sherds, no foot-ring; light crazing.

3 Dinner plate; paste color, 7.5 YR 8/4; glaze base color, bluish-white; decoration: blue underglaze, geometric rim design 11mm wide around rim; lip thickened; 5 rim sherds, no foot-ring; light crazing.

4 Dinner plate; paste color, 7.5 YR 7/4; glaze base color, bluish-white; decoration: blue underglaze, geometric rim design 9mm wide around rim; lip rounded; 5 rim sherds; light crazing.

5 Platter; paste color, 10 YR 8/4; glaze base color, bluish-white; decoration: blue underglaze, single blue line near lip with foliated design extending toward interior of vessel; lip rounded; 6 rim sherds, 1 basal; no foot-ring.

6 Dinner plate; paste color, 2/5 Y 8/4; glaze base color, grayish-white; decoration: blue underglaze, foliated design covering rim, single blue line separating design from lip; lip thinned, decorated with light brown line; 5 rim sherds; light crazing.

7 Dinner plate; paste color, 2.5 Y 8/4; glaze base color, bluish-white; decoration: blue underglaze, foliated rim floral design, rim thickening toward center of plate with two thin lines at thickest part where body curves down toward foot-ring, another single line as body curves toward base, foliated design on base; lip missing; foot-ring present; light crazing.

Vessel#

8 Flatware, probably dinner plate; paste color, 10 YR 8/4; glaze base color, grayish-white; decoration: blue underglaze; rim decoration, single line, width 3.5mm, 5.7mm from lip; 1 rim sherd.

9 Dinner plate; paste color, 10 YR 8/4; glaze base color, bluish-white; decoration: blue underglaze; rim decoration, single line, width 2.5mm, 5.7mm from lip; 2 rim sherds; light crazing.

10 Dinner plate; paste color, 2/5 Y 8/4; glaze base color, bluish-white; decoration: blue underglaze; rim decoration, single line, width 2.7mm, 4.2mm from lip; 4 rim sherds; light crazing.

11 Dinner plate; paste color, 2/5 Y 8/4; glaze base color, bluish-white; decoration: blue underglaze; rim decoration, single line, width 10.4mm, lip missing; 2 rim sherds.

12 Large platter; paste color, 7.5 YR 7/4; glaze base color, grayish-white; decoration: black and blue underglaze, molded rim with geometric design consisting of single lines of varying widths, blue diaper-dot and foliate designs outlined and bordered by thin black lines; one basal sherd with a small amount of blue foliate design outlined in black; rim thinned to thick, molded lip; 5 rim sherds, 2 basal sherds; light crazing.

13 Flatware, possibly platter; paste color, 2.5 Y 8/4; glaze base color, grayish-white; decoration: blue underglaze, single blue line separating lip from rim with floral motif design toward center of vessel; rim thinned toward a thickened lip; 9 rim sherds; light crazing.

14 Undetermined flatware, probably platter, based on thickness of sherds; paste color, 10 YR 8/3; glaze base color, brownish white; decoration: blue underglaze, geometric; 1 basal sherd, 1 partial foot-ring, 1 rim, 1 body; no crazing, highly flaked glaze.

15 Undetermined flatware; paste color, 2.5 Y 8/4; glaze base color, bluish-white; decoration: blue underglaze, foliate design between two imprecisely executed parallel lines; one body sherd.

16 Undetermined vessel shape; paste color, 2.5 Y 8/4; glaze base color, bluish-white; decoration: foliate design executed in blue outlined by purple; 3 body sherds.

Vessel #

17 Undetermined vessel shape; possibly delft; paste color, 2.5 Y 8/4; glaze base color, bluish-white; decoration: polychrome, diaper-dot design as rim decoration, single purple line separating lip from rim acting as border for design executed in blue underglaze and yellow overglaze, (green color achieved by placing yellow overglaze over blue underglaze and refiring); lip rounded; 1 rim, 4 body sherds.

18 Platter; Rouen-style faience; paste color, 5 YR 7/6; glaze base color: interior, bluish-white; exterior, 5 YR 3/2; decoration: rim geometric, basal, foliate, blue outlined in black, overglaze; molded rim with thickened lip; 15 rim sherds, 24 body, 11 basal; light crazing.

MAJOLICA

1 Shallow bowl; Puebla style; paste color, 2.5 Y 8/4; glaze base color, grayish-white; decoration: blue overglaze foliate design on body, two bands of blue around lip (innermost, light blue, outermost, dark blue covering lip from interior to exterior of vessel), double helix line decoration around exterior; lip rounded; 10 rim sherds, numerous body sherds; light crazing.

2 Undetermined hollow-ware; Puebla style; paste color, 2.5 Y 8/4; glaze base color, grayish-white; decoration: blue overglaze, foliate design on exterior surface with three parallel thin lines extending around the body, body tapering to lip; lip separated from body by two parallel lines, dark blue band covering lip from exterior to interior of vessel; lip thickened; numerous body sherds, three rim sherds; light crazing.

3 Undetermined hollow-ware; Abo style; paste color, 10 YR 8/4; glaze base color, grayish-white; decoration: blue overglaze in what appears to be a geometric design enclosing several black overglaze concentric rings; one foot-ring sherd, one partial foot-ring sherd extending up the body; medium crazing.

4. Undetermined hollow-ware; paste color, 2.5 Y 8/4; glaze base color, grayish-white; decoration: polychrome, overglaze yellow, brown, and black, design contains some lines and some yellow spots encircled with dark brown; one body sherd near foot-ring, six body sherds; light crazing.

UNDECORATED SOFT-PASTE EARTHENWARE

Vessel #

1 Undetermined hollow-ware, possibly pitcher; paste color, 2.5 Y 8/4; glaze color, bluish-white; flat, unglazed base, approximate diameter 80mm, no foot-ring; 1 basal sherd, 1 handle fragment; no crazing.

2 Undetermined hollow-ware; paste color, 10 YR 8/2; glaze color, bluish-white; 1 basal sherd with foot-ring; approximate diameter of foot-ring, 42mm; no crazing.

3 Undetermined hollow-ware; pitcher or large bowl; paste color, variable, 2.5 Y 8/4 near glaze to 5 YR 8/4 in center of paste; glaze color, cream-colored; 1 basal sherd, flat, no foot-ring, unglazed base, approximate diameter 140mm.

4 Undetermined hollow-ware; large basin or bowl; paste color, variable, 2.5 Y 8/4 near exterior surface to 4 YR 8/4; glaze color, grayish-white; 3 body sherds near base of vessel.

5 Dinner plate; paste color, variable 2.5 Y 8/4 to 5 YR 8/4; glaze color, brownish-white; 1 sherd, rim curving downward toward base, lip missing.

6 Undetermined hollow-ware; paste color, 10 YR 8/4; glaze color, bluish-white; 1 flared, thickened rim sherd.

7 Plate; paste color, 7.5 YR 8/4; glaze color, brownish-white; 4 rims with thickened round rip.

ENGLISH CREAM-COLORED EARTHENWARE

1 Hollow-ware; white paste; transparent lead glaze, highly crazed; 1 rim sherd with two machine-turned lines, each 1mm wide, 1mm apart, running parallel to lip, 4.2mm from lip to first line; lip thinned.

2 Hollow-ware; white paste; transparent lead glaze, highly crazed; 1 rim sherd with two machine-turned lines, each 1mm wide, 0.2mm apart, running parallel to lip, 6.5mm from lip to first line; lip missing.

3 Hollow-ware; white paste; transparent lead-glaze, highly crazed; 1 rim sherd, flaring at lip; slight thinning at lip.

Vessel #

4 Hollow-ware; white paste; transparent lead glaze, highly crazed; 2 rim sherds with rounded lip.

5 Hollow-ware; white paste; transparent lead glaze, highly crazed interior; 2 foot-rings, approximate diameter 40mm, 1 adjoining body sherd.

6 Undetermined; white paste; transparent lead glaze, highly crazed interior; 2 foot-rings, approximate diameter 60mm.

GREEN-GLAZED EARTHENWARE

1 Undetermined hollow-ware; very light gray-white paste; transparent lead glaze tinted bright olive green, on exterior only, with exception of one sherd; 12 body sherds.

2 Undetermined; paste color, 5 YR 5/4; lead glaze tinted dark olive green on interior; 7 body sherds, 3 of them burned.

BROWN-GLAZED EARTHENWARE

1 Plate; paste color, 5 YR 7/6; transparent brown lead glaze, 2.5 YR 3/6 to 5 YR 2/2, highly crazed; 11 rim sherds with thickened, rounded lip, 13 body sherds, 3 basal sherds, no apparent foot-ring.

TLAXCALAN REDWARE

1 Hollow-ware; paste color, 5 YR 5/6; exterior and interior surfaces finished with fine-grained slip, 10 R 4/6; 2 rim sherds with rounded lip, 3 body, 1 handle fragment.

GUANAJUATO LEAD-GLAZED

1 Hollow-ware; paste color, 2.5 YR 6/8 to 5 YR 7/6; transparent lead glaze on interior, extending over rim to exterior, applied unevenly over exterior of rim only, highly crazed; body curves upward to thickened rim which flares outward; lip thinned and rounded; body curved down toward thickened base; no foot-ring; 1 rim, 2 body, 1 basal.

ENGLISH SALT-GLAZE STONEWARE

1 Hollow-ware; paste, very light gray to white, highly vitrified; glaze thin, transparent salt glaze; wheel-thrown body; 2 rim sherds, one with incised line directly below lip, separating lip from rim; lip rounded with slight outward flare; 1 basal sherd with foot-ring, diameter 53mm.

MISCELLANEOUS STONEWARE - EIGHTEENTH CENTURY

Vessel #

1. Undetermined vessel form; paste color, 10 YR 8/1; transparent glaze on both sides; paste highly vitrified, containing numerous elongated gas cavities; one body sherd.

CHINESE TRADE PORCELAIN

1 Hollow-ware; rice bowl; vitrified paste with transparent glaze; no blue underglaze; traces of enamel overglaze, undetermined colors, floral design; 1 foot-ring, approximate diameter 40mm.

2 Hollow-ware; rice bowl; vitrified paste with bluish-white transparent glaze; blue underglaze floral design; traces of enamel overglaze, undetermined colors; single blue line around base of vessel at juncture between foot-ring and body; 2 foot-rings, approximate diameter 42mm.

3 Hollow-ware; undetermined vessel form; vitrified paste with transparent grayish-white glaze; no blue underglaze; traces of enamel overglaze, undetermined colors; 1 rim, straight with slight thinning toward slightly flared lip; lip missing.

4 Hollow-ware; undetermined vessel form; vitrified paste with transparent grayish-white glaze; no blue underglaze; traces of enamel overglaze; undetermined colors; 3 rims, straight with slight thinning toward a slightly flared lip; lip flattened by grinding, with brownish-yellow overglaze applied to flattened portion.

5 Rice bowl; vitrified paste with bluish-white glaze; decoration: blue underglaze, geometric rim band adjacent to lip, 15.8mm wide, linear foliate design on body, two parallel lines circling the foot-ring; 1 basal sherd, 3 foot-ring sherds, 1 adjoining body sherd, 2 rim sherds; foot ring diameter, 52mm.

6 Rice bowl; vitrified paste with grayish-white glaze; no decoration; 1 foot-ring with partial base; foot-ring diameter 39mm.

7 Rice bowl; vitrified paste with grayish-white glaze; no decoration; 1 foot-ring, diameter approximately 50mm.

8 Small bowl; vitrified paste with white glaze; no decoration; 1 foot-ring, diameter unknown due to small size of sherd.

Vessel #

9 Rice bowl; vitrified paste with bluish-white glaze; decoration: blue underglaze; exterior, geometric rim, central area of diagonal cross-hatch pattern interspersed with foliate designs, all bordered on each side by two parallel lines, the whole running around the rim of vessel, 15.4mm wide, 2.8mm from lip; body exhibits foliate design; interior: two groups of two lines each, all parallel (first group 2.8mm from lip, second group 3.5mm from lip), pattern repeated with minor variation in vessels 10 through 14; lip flattened by grinding.

10 Rice bowl; vitrified paste with bluish-white glaze; decoration similar to #9, except exterior rim band 8.4mm wide and begins 3.7mm from lip; no foliate design on body below rim decoration; lip flattened by grinding; 4 rim sherds; 1 adjoining body sherd.

11 Rice bowl; vitrified paste with bluish-white glaze; decoration similar to #9 except exterior rim band 8.4mm wide, begins 3.7mm from lip; no foliate design on body; lip flattened by grinding; 2 rim sherds.

12 Rice bowl; vitrified paste with bluish-white glaze; decoration similar to #9 except exterior rim band 14.0mm wide begins 5mm from lip, interior rim bands begin 6.4mm from lip; lip flattened by grinding; 1 rim sherd, 1 adjoining.

13 Rice bowl; vitrified paste with grayish-white glaze; decoration similar to #9 except exterior rim band 12.2mm wide, begins 3.4mm from lip; interior rim bands 1.9mm from lip. lip flattened by grinding; 1 rim sherd.

14 Rice bowl; vitrified paste with bluish-white glaze; decoration similar to #9 except exterior rim band 11mm wide, begins 5.4mm from lip; underglaze blue is blurred and diffused; interior rim band begins 3.7mm from lip; lip flattened by grinding; 1 rim sherd.

15 Rice bowl; vitrified paste with bluish-white glaze; decoration: blue underglaze foliate design on body exterior; interior rim decoration similar to #9, except band 6.5mm wide, consisting of single line parallel to and beginning 1.0mm from lip, central cross-hatch design, and lower border consisting of two parallel lines; lip flattened by grinding and slightly flared; 3 rim sherds, 1 body sherd.

Nineteenth- and Twentieth-Century Ceramics

Fragments of approximately eight vessels of nineteenth- or twentieth-century origin were recovered. They were all white or near-white paste color, stoneware, ironstone, or low-grade porcelain with the exception of one piece of high-fire porcelain. No maker's marks were found on any of the fragments. Two vessels are transfer ware, and one appears to have a decal type decoration. Five fragments have been burned.

GLASS ARTIFACTS

Glass artifacts recovered from the site consist of fragments of glass vessels and trade beads.

Vessels

The glass vessels (primarily bottles) were hand blown, some pieces exhibiting mold marks. The bottle fragments generally indicate vessels with high push-up bases and pontil marks. The neck and top portions have laid-on or applied lips consisting of rings of glass trailed around the opening of the mouth. One fragment has a flared lip. Another bottle is square and is represented by seven fragments from either corners or sides. The eighteenth-century glass fragments are highly patinated, sometimes losing all but a small percentage of the original glass. Since the glass material is so fragmentary, the following analysis of glass vessel fragments is by color.

Dark Olive Green

Twenty-four fragments with thin patination were recovered. This patina flakes off easily, and most patina was lost during

cleaning. Two of these fragments (Fig. 63, d-e) are from a push-up base, but no pontil marks are present. Five fragments from the neck portion and one top fragment with flared mouth (Fig. 63, a) and applied ring were also recovered. A mold seam is present on the neck fragments. This glass has the greatest thickness of any found at the site, ranging from 7mm to approximately 20mm.

Medium Olive Green

This variety of glass possesses a thick, golden-colored patina. A total of 132 fragments were recovered, a large portion of which are flat or only slightly curved in section, some with squared corners. At least one of the vessels from this group was a square molded bottle. This variety of glass also contains a group of twelve push-up base sherds, four of which have pontil marks. Three neck sherds have curvature in two directions, indicating that one of the vessels had an elongated, barrel-shaped neck. Another neck sherd (Fig. 63, b) with a portion of the top intact has an applied bead of glass around the mouth. Two other top fragments have a similar bead of glass, but with a somewhat rougher application.

Amber

This variety is a bright amber to yellow color with a high degree of patination, the patina being a golden yellow color. Thirteen fragments were recovered, all of which have slight curvature.

Blue

This group ranges in color from medium to light blue, and has variation in degree of patination and in thickness. Twenty-eight

FIGURE 63. Typical Glass Artifacts

a. Top fragment

b. Top fragment

c. Top fragment

d. Basal fragment

e. Basal fragment

f. Kickup fragment

g. Arrowpoint

a

b

c

d

e

f

g

sherds from the body portion of a vessel exhibit a linear design etched into one surface. The glass thickness is 3mm to 5mm, slightly curved to flat, with three of the twenty-eight sherds being square molded corners. An additional seventy-seven fragments have no etching, exhibit slightly more curvature, and are generally thinner than the etched pieces. Two of the undecorated pieces are square molded corners, five are burned and melted, and two are from the neck portion. Two top fragments have a well-formed lip applied (Fig. 63, c). All blue glass has a slight patina which flakes off easily.

Rose

Two fragments of a light brownish-pink glass are from a flat, circular or disk-shaped object. One piece has etching similar to the etched blue glass. The sherds are approximately 3mm thick, and the slight patina was almost entirely lost during cleaning.

Colorless

Ten sherds of colorless glass with a very delicate opalescent patina were recovered. They are 1 to 3mm thick; flat to slightly curved; and have numerous small, elongated air bubbles throughout. A well-formed arrowpoint found at the site had been fabricated from this type of glass, and it possesses the same pearly patina.

Undetermined

Eighteen fragments were unclassifiable by color due to their total hydration. They are very delicate, having a tendency to flake apart. They range in thickness from 4 to 8mm.

Beads

Twenty glass trade beads (Fig. 64) were recovered at the site. Although some were recovered while excavating or on the screens, most were recovered when matrix from various features was water-screened through fine mesh. It is assumed that if all matrix from the site had been treated in this manner, many more beads would have been discovered. The analysis below follows guidelines established by Harris (1967). The Mission Dolores types are compared to those outlined by Harris (1967) and Good (1972). It is interesting to note here that the beads (like some other artifact types) tend primarily to the later part of the mission occupation, ca 1740-1770.

Recent

The recent glass artifacts are easily distinguished from the previous group. There is total lack of the hand-blown characteristics and patination present in the older glass. A number of pieces are easily recognizable as being from beer, soda, and snuff bottles, with some fragments still containing portions of their label. Other fragments are not as easily recognized, but are obviously the products of a more modern technology. Totals of the color groups include forty-six amber (including one fragment from a snuff-bottle top), eight medium green, five light green, 269 clear, and two light purple fragments. One small bottle was found intact.

STONE ARTIFACTS

A number of non-aboriginal stone artifacts or fragments of artifacts were recovered during the excavations.

FIGURE 64. European Trade Beads

a. Specimen #1

b. Specimen #2

c. Specimen #3

d. Specimen #4

e. Specimen #5

f. Specimen #6

g. Specimen #7

h. Specimen #8

i. Specimen #9

j. Specimen #10

k. Specimen #11

l. Specimen #12

m. Specimen #13

n. Specimen #14

o. Specimen #15

p. Specimen #16

q. Specimen #17

r. Specimen #18

s. Specimen #19

t. Specimen #20


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Table II
Glass Bead Analysis and Classification

Specimen #	Catalogue #	Color	Size mm	Shape	Construction	Treatment	Harris Type	Good Type
1	391	BG 7.5 6/4	7.9	t	c/s	t	10	
2	622	BG 10 5/4	8.2	t	c/s	t	10	
3	204	BG 7.5 6/4	7.2	d	c/s	t	10	
4	204	B 7.5 5/4	9.1	d	m/s	t	145	76
5	576	B 7.5 5/6	8.3	d	m/s	t	145	76
6	82	B 7.5 5/6	8.6	d	c/s	t		90
7	632	PB 2.5 4/4	4.0	t	c/s	t	56	
8	331	BG 10 5/6	3.5	t	c/s	ut	61/62	
9	211	R 7.5 4/6	4.2	t	c/cp	t	55	124
10	514	R 7.5 4/6	3.7	t	c/cp	ut	55	124
11	585	R 7.5 4/6	2.8	t	c/cp	ut	57	123
12	492	colorless	4.4	d	m/s	t		6
13	512	blk	6.2	d	m/s	t	76	164
14	302	blk	5.1	d	c/s	t	96	167
15	302	blk	5.1	d	c/s	t	96	167
16	42	blk	3.2	d	?/s	t	50	169
17	113	blk	2.8	d	?/s	t		
18	113	BG 10 5/6	2.6	d	?/s	t		62
19	42	PB 2.5 4/6	2.4	d	?/s	t		71
20	47	wht	2.3	d	?/s	t	44	107a

Color, Munsell. Other designations, Harris: size = diameter (mm); shape = d(doughnut), t(tube), r(round); construction = c(cane type), m(mandrel wound)/s(simple), cp(compound); treatment = ut(untumbled), t(tumbled).

Gunflints

Twelve gunflints (eleven spall-type, one conventional) are included in the collection from Mission Dolores. Most of the flints (Fig. 65, a-e) showed heavy usage, and in some cases appear to have been rechipped for reuse. Seven of the ten spall-type flints are of a light-colored (tan-honey-colored chert, while three are of lighter material (white-light grey). One is of light reddish-tan chert. The conventional flint is of light, honey-colored chert and is the typical French-type flint with the retouched heel. Three additional small and very battered flint pieces may be the remnants of spall-type flints. While gunflints occurred in all portions of the site, five were recovered from the immediate vicinity of F-6 (French area).

Table III
Gunflints

Type	Width, mm	Thickness, mm
spall	23.3	6.3
spall	24.3	7.5
spall	26.5	7.5
spall	23.4	7.0
spall	23.5	8.4
spall	22.0	6.8
spall	25.5	9.4
spall	20.5	8.7
spall	22.1	7.0
spall	19.4	8.1
spall	20.1	7.5
conventional	15.0 (broken)	5.4
spall?	14.8	6.3
spall?	19.8	6.7
spall?	16.8	7.6

FIGURE 65. Stone Artifacts

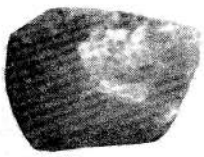
a-e. Gunflints

f. *Uliga*

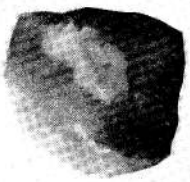
g. Metate leg fragment

h-i. Arrowpoints

j. Perforated stone pipe keel



a



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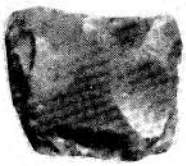

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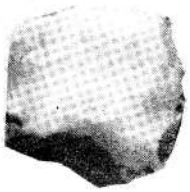
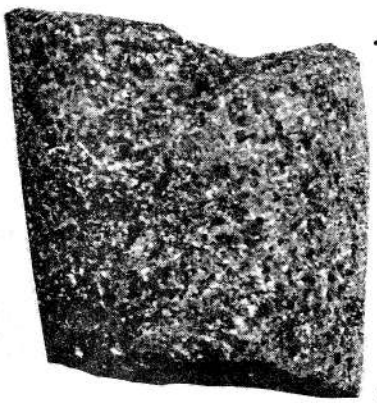
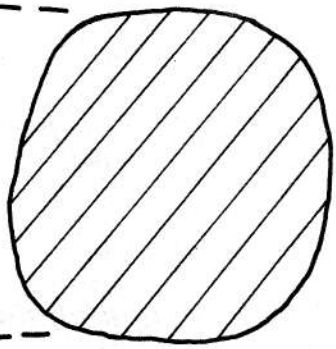


d

e

f





cs

g

h

i

j

Higa

A jet amulet (Fig. 65, f) in the form of a higa was recovered from Mission Dolores. Amulets and other Spanish items of jet are associated with the pilgrimage to the tomb of Saint James the Great at Santiago de Compostela, Spain (Hispanic Society of America 1930). The higa is 31.6mm long, 22.3mm wide, and 9.4mm thick, and has a small suspension hole in its base; crude, rough-cut depressions in the side and palm of the higa may represent secondary attempts at modification of the ornament.

Metate Leg

Two leg fragments of a basalt metate (Fig. 65, g) were excavated from the so-called French area (F-6 environs). The fragments are roughly square in cross-section (38.5mm by 41.8mm). The material of manufacture is a gray basalt.

METAL ARTIFACTS

Ferrous Artifacts

Nails

Nails (Fig. 66) were the most common and numerous artifacts recovered at Mission Dolores. Although recent cut and wire nails and modern staples were recovered, this analysis focuses on the nails of eighteenth-century origin. Most of the recent nails and staples came from a number of recent fences that traversed most of the portion of the site excavated.

A measurable consistency in the sizes of nails and a clustering of similar widths and lengths was found in the eighteenth-century

collection. Nails were divided into two major groups based primarily upon their cross-section: rectangular (flat) versus square. Flat forged nails are those whose shafts are rectangular in cross-section and taper on two sides only. The square forged nails are uniformly square in cross-section and taper on all four sides. Dimensions of the forged nails were measured on intact specimens. Width is the measurement of the widest part of the shaft just below the head, and length is the entire length of the shaft excluding the head. Nine groups of forged nails were noted, with the variation in each group outlined in Table IV

Knife Parts

Several fragments (Fig. 67, f-h) represent various parts of one or more case and/or clasp knives. Four fragments are from the handle portion, and two are fragments from the blade portion. The handle fragments all have holes through them from 2.0 to 3.0mm in diameter. One piece still has a section of the brad which held the handle parts together.

Bridle Parts

One bridle headstall fragment (Fig. 67, a), two higas, and seven pieces of s-shaped bridle chain are identified as bridle parts. The bridle headstall fragment is similar to one described by Harris and Tunnell (1967), found at the Gilbert Site. It is crescent-shaped with a center flange projecting downward. Although broken, this flange exhibits holes for the attachment of ornaments. The overall length of the piece measures 115mm. The two higas (Fig. 67, d)

Table IV
Dimension, Quantity, and Use of Forged Nails

Dimension		Quantity-Flat			Quantity-Square		
Width	Length	Whole	Partial	# of Specimens Clinched	Whole	Partial	# of Specimens Clinched
35mm	40-50mm	51	30	28	22	4	6
46-47	55-65	57	28	37	27	12	6
50-52	70	7	7	6	8	9	3
59-61	80				14	2	10
65-67	90				4	10	3
72-74	----					11	
80	100	1	1		2	6	1
90	105				3		1
105	----				1		
Undeterminable Size			19	6		26	2

measure approximately 4.0mm by 8mm wide. Two small spoon-shaped objects (Fig. 67, e) with attachment loops found in close association with other bridle parts possibly served as bridle ornaments.

Spur Parts

One partial spur rowel and one other piece (Fig. 68) which possibly served to hold the rowel were recovered. The rowel fragment has three (of an original five) prongs radiating from a central pivot point, each prong being about 70mm long. The piece that possibly served to hold the rowel is missing on one side, but from the remaining part it is possible to determine the pivot point for the rowel attachment. The two spoon-shaped objects mentioned above as ornaments were found within one meter of the rowel support and may be associated with the spur.

Key

A large key handle (Fig. 69, a) consists of an oval-shaped ring and 70mm of the shaft of the key. The key shaft is triangular in cross-sectionl

Bullet Worm

A possible bullet worm (Fig. 69, b) is represented by a screw tip measuring 25mm long.

Hasp Parts

Several heavy ferrous objects (Fig. 69, c) appear to be hasp parts.

FIGURE 66. Nails

a-b. Typical forged nails

a

b

FIGURE 67. Knives and Bridle Fragments

a. Bridle headstall

b. Higas, attachment end

c. Higas

d. Front & side view of reconstructed higas

e. Higas (?), spoon form

f. Knife blade

g. Case knife handle

h. Knife blade

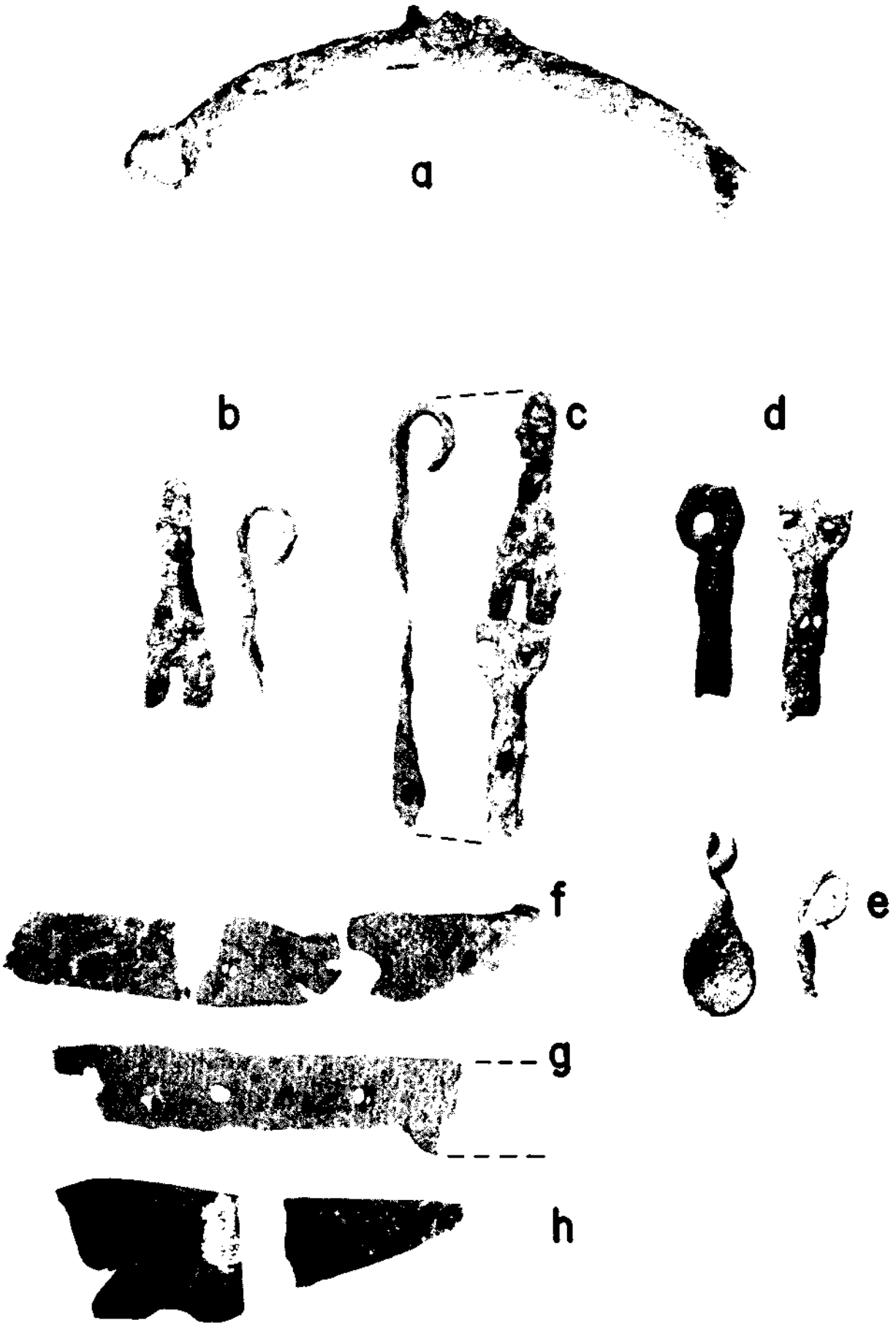

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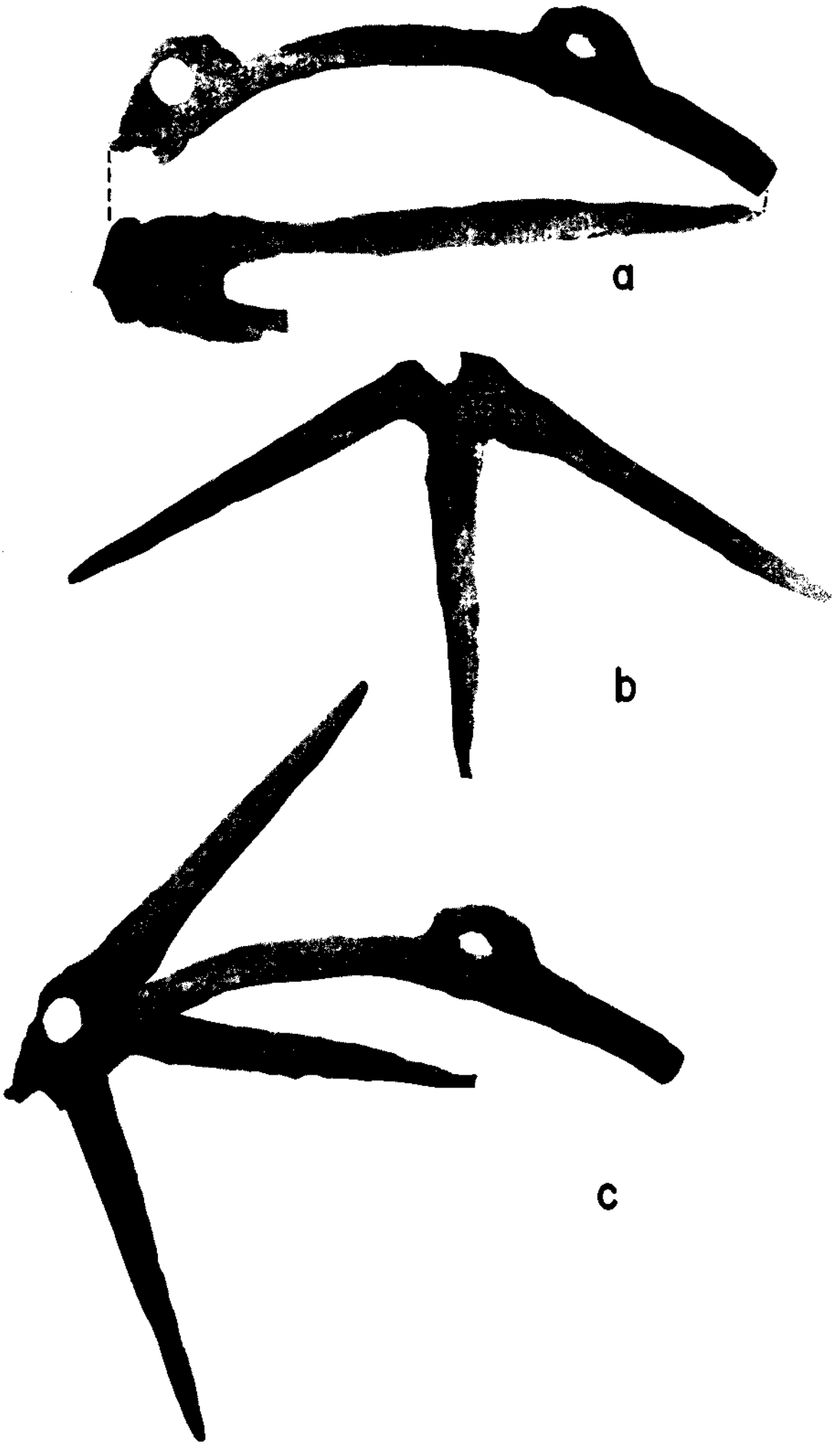
FIGURE 68. Spur Parts

a. Spur holder

b. Rowel fragment

c. Reconstruction


a
b
c

Gun Parts

Barrel. What appears to be a piece cut from a gun barrel measures 60mm long, 20mm outside diameter, and 14mm inside diameter.

Flash Pan. This piece (Fig. 69, d) has a shallow curved piece 25mm long by 15mm, tapering to 12mm wide. The pan is attached by a tang or tail with a screw hole perforation. The tang is roughly triangular in shape measuring around the sides 24mm by 24mm by 20mm.

Spring Parts. Two pieces from a mainspring were found. The attachment of one spring (Fig. 69, e) and upper leaf are broken from a lower leaf portion. It measures (from center of screw hole to break) 35mm in length and 13mm maximum width. The other portion (Fig. 69, f) consists of a section of the lower leaf broken from the upper leaf at the apex of the bend. It measures approximately 60mm from bend to a rough break, maximum width, 14mm. Another, smaller piece of spring metal is flat and rectangular, measuring 45mm in length and 8.0mm in width, with a maximum thickness of 2.0mm.

Kettle Fragments

Six fragments from a cast-iron kettle (Fig. 69, g) range from a roughly triangular piece approximately 60mm long to four smaller pieces varying in size from 20 to 30mm in length. All are between 2.0 and 3.0mm in thickness.

Wire Loops

Five wire loops (Fig. 69, h) probably served as attachments of some sort. Their exact use is undetermined.

Fastener

A button-like fastener (Fig. 69, i) consisting of a flat base piece, hooked on one end, has a stem (approximately 6.0mm long) arising from the opposite end, atop which is a domed head approximately 10mm in diameter.

Hooks

Four pieces (Fig. 70, d) with hooked ends or similar shape were found. One of these may have been a button hook.

Unidentified (Fig. 70)

A number of unidentified ferrous objects were found during the excavation. Three of these objects may have served as the tongue portion of buckles (Fig. 70, b). Another object (Fig. 70, c) consists of a flat piece roughly 12mm square, perforated by a 4mm diameter hole, with a square shaft extending 40mm out from one side, the shaft being bent at approximately a 90^{o} angle, 10mm (inside diameter) on one end, the other end having a similar curvature, but not formed into a loop. This end has been tapered to a point which appears to have been bent and broken.

Recent

A number of other ferrous metal pieces are of recent origin, including two pieces of a mill bastard file, a fork approximately 17mm long, fragments of barrel hoops, two fragments of cast-iron wheels from a child's toy, numerous fragments of steel strapping such as that used to bind large bundles of lumber (from a nearby housing

FIGURE 69. Ferrous Artifacts

a. Key

b. Bullet worm

c. Latch part

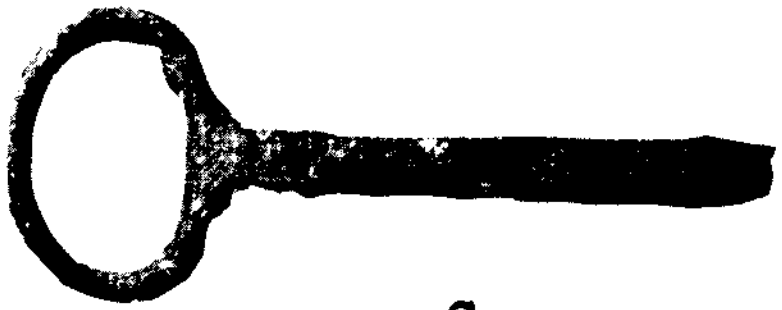
d. Flash pan

e-f. Main spring fragments

g. Kettle fragment

h. Wire loops

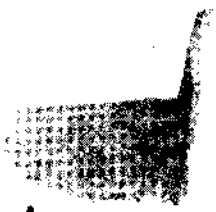
i. Fastener (?)



a

b

c



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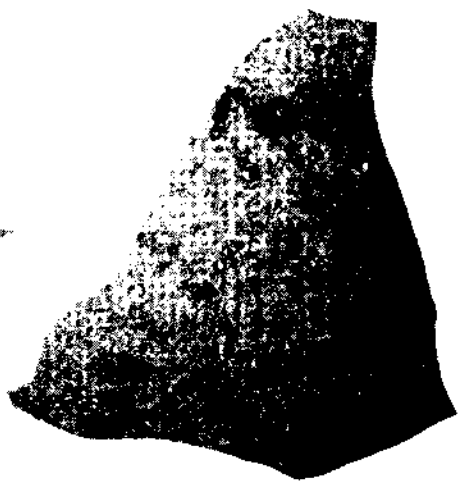
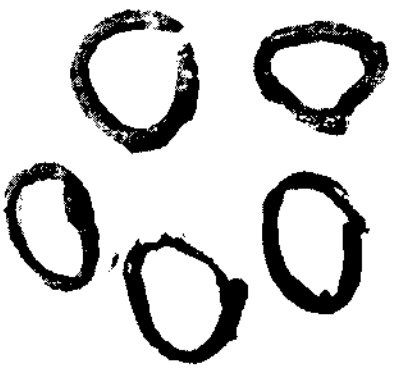


g



h

i

FIGURE 70. Unidentified Ferrous Artifacts

a. ?

b. Possible buckle tongues

c. ?

d. Hooks

e. ?

a
b
c
d
e

project), three fragments of a pocket knife, numerous pieces of tin-cans, paint buckets, etc. (also from a nearby housing project), lawnmower or small tractor parts, and various unidentifiable fragments of strapping and sheet metal. Two buckles of recent manufacture are machine-made. One is large, part of a saddle or harness, and has a patent date of Feb. 5, 1870 in raised letters on it. The other is small, lacking any identifying marks. A third buckle is a fragment of a forged buckle, probably serving the same function as the large buckle mentioned above.

Copper Artifacts

Chocolate Cup

One handle and several fragments of sheet copper from a chocolate cup were found a few meters apart at the site (Fig. 71, a-b). One circular fragment 55mm in diameter probably represents a base. It has been cut with shears, the remains being about one-half of the original base. The upright side portion of the cup was attached by crimping the metal of the base over the edge of the side piece. Another fragment of sheet copper corresponds in length to the circumference of the base fragment. A torn place on the edge of this fragment corresponds to an adjacent tear in the base fragment. The side fragment and base fragment appear to represent about one-half of the total cup. The curvature of the attachment end of the handle corresponds to the curvature of the base. The side fragment has been hammered flat, and pieces have been cut from around all edges except for the

edge where it had been crimped to the base. It appears that the cup may have been scavenged for sheet copper and may in fact be the source of material for tinklers like those discussed below. The thickness of the cup fragment material and the tinklers is the same.

Bail Ear

This type of bail ear (Fig. 71, c) was produced by flattening each end of a copper bar or rod and then bending the ends together so that the flattened parts overlap. A hole was then drilled through both flattened pieces for attachment to a container. The loop serves to hold the end of the bail. The fragment found is one of the flattened ends, measuring 30mm long and 20mm wide, approximately 2mm thick, with a hole approximately 8mm in diameter in the center. The reconstructed loop was approximately 7mm wide.

Handle

Possibly a large kettle handle (Fig. 71, d), this object is U-shaped, with ears on each end for attachment. It is made from a bar hammered to a width of from 11 to 13mm and a thickness of 8.0 to 9.0mm. The length of the main body of the handle is approximately 170mm, the ears on each end being flattened to an approximate thickness of 3mm, a length of approximately 40mm, and a width of approximately 20mm. Holes perforated in each ear are 9mm in diameter.

Rivet

This object (Fig. 71, e) consists of a more or less square copper sheet roughly 20 x 20mm, with a rivet shaft on one side

FIGURE 71. Copper Artifacts

a-b. Chocolate cup fragments

c. Bail ear

d. Large handle

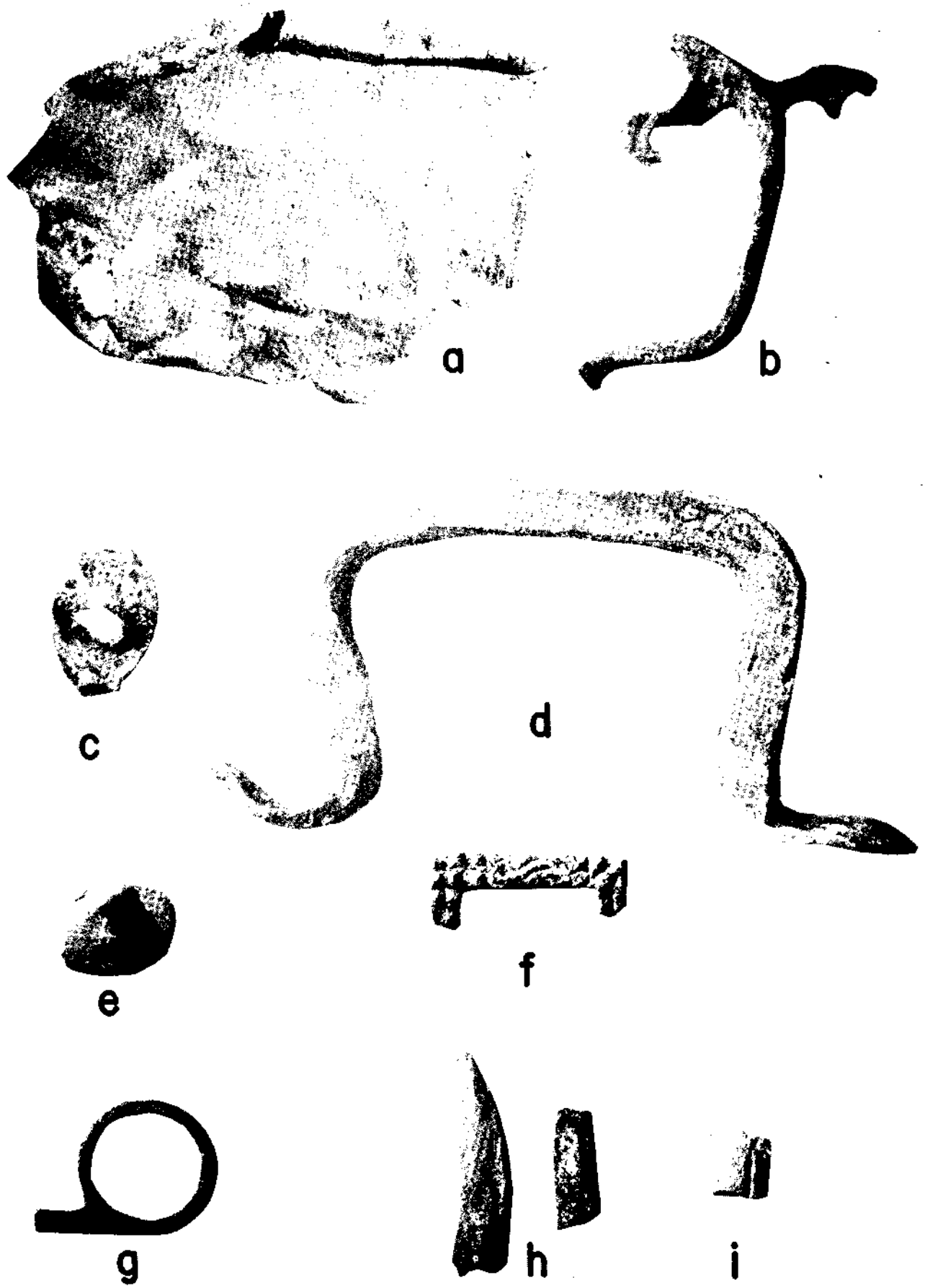
e. Rivet

f. Buckle fragment

g. Scissor handle

h. Tinklers

i. Tube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i

approximately 10mm long and 7mm in diameter. The end of the shaft is flattened, indicating use.

Buckle Fragment

A single fragment 3.6mm long from one end of a buckle (Fig. 71, f) is badly corroded and appears to have a stamped design on the front surface consisting of geometric and scroll designs.

Scissor Handle

One copper scissor handle (Fig. 71, g) was found. It consists of a finger loop (25mm outside diameter) and 10mm of the handle.

Tinklers

These objects (Fig. 71, h) were made from small pieces of sheet copper rolled into conical shapes. One is 40mm long and roughly 10mm in diameter at the large end. The other is roughly 8mm in diameter, and the upper, pointed end is missing. The length of this fragment is 20mm.

Tube

A short piece of copper tube (Fig. 71, i) was made from 1mm-thick sheet and rolled. Its length is 11mm, and the diameter is 10mm.

Brass Artifacts

Clasp Knife Handle

One half of a brass clasp knife side plate (Fig. 72, a) bears an engraved or carved design. It is perforated with three holes 4.5mm in diameter. It is 87mm long, has a broadened butt, 27mm at the widest point, tapering quickly to 18mm, and thereafter gradually

tapering to 15mm near the tang end. It measures 1.4mm in thickness. One long edge of the side plate has been sharpened, and the plate may have served another function.

Gun Parts

Side Plate. A portion of a side plate (Fig. 72, b) from a muzzle-loading gun bears an engraved decoration. This fragment is 70mm long, 19mm at its widest point, tapering gradually to 16mm, at which point it sharply tapers to 10.3mm at its narrowest, widening again gradually to 13mm before it rounds off on the end. It measures 18mm in thickness. The edges are bevelled to a point 2mm in from the edge. The rounded end has a perforation 5mm in diameter, probably used for attachment to the gunstock.

Trigger Guard. A portion of a trigger guard (Fig. 72, c) from a gun bears engraved decoration. It measures 19mm at its widest point, tapering in both directions to 13mm where it is broken. Its thickness measures 1.8mm.

Ornament

Called adorños by Tunnel (Tunnel and Newcomb 1969), these ornaments (Fig. 72, d) were attached to wooden objects such as furniture or storage chests. Unlike those made of copper found by Tunnel at Mission San Lorenzo, the one found at Mission Dolores is made of brass. It is made from a sheet 0.5mm in thickness, and has curvilinear design engraved on one surace. Holes for attachment are 1.5mm in diameter.

Buttons

Two pieces of buttons (Fig. 72, e-f) made of brass were found approximately three meters apart near the "French Area". They are close to the same diameter and there is the possibility that they may be two halves of the same button. Both are slightly domed, 3.7mm in height and 21mm in diameter for the back half. Thickness of the metal for the back half is slightly less than 1.0mm. Thickness of the metal for the front half is slightly more than 1.0mm.

Spoon

The spoon (Fig. 72, g) is in two pieces; the handle is bent, and the bowl portion has been flattened. The spoon appears to have been burned. The length of the complete spoon was about 14cm.

Buckles

Two fragments of belt buckles (Fig. 72, h-i) made of brass are plain and undecorated. The smaller of the two measures 49mm in width, and the length is probably 55.0 to 60.0mm.

Tack

A brass tack has a domed head, the height of which is 3.5mm, and the diameter of which is 9.3mm. The length of the tack shaft is 11mm.

Unidentified

One unidentified object (Fig. 72, j) is rectangular, measuring 18mm by 15mm, slightly curved in both directions. It is perforated by a roughly circular hole 6.0 to 6.5mm in diameter. One end was bent at nearly 90°, and the piece is broken along this bend.

Recent

One .22 rim-fire cartridge case and one cartridge base from a Remington "Express" .410-gauge shotgun shell were recovered.

Lead Artifacts

Musket Balls

Two musket balls (Fig. 72, k-l) were recovered. One is a complete ball with two small facets, one of them probably due to the removal of the sprue. The mold mark is obvious at several places around the girth of the sphere. Its diameter is 14.4mm (cal. 0.57). The other is a misshapen ball measuring 14mm (cal. 0.53) in diameter at the mold mark, and 12.8mm on an axis perpendicular to the mold mark. Several indentations are clustered at one point on the mold mark. The diameter of these balls indicates (Hamilton 1976) that they were probably used in French trade guns.

Shot

One piece of lead shot (Fig. 72, m) roughly 7.4mm in diameter shows a number of flattened areas on its surface.

Discs

Five discs were recovered from the site, some of which can be classified as seals. One appears to be half of a seal similar to one found at Los Adaes (Gregory, personal communication). This type of lead seal consists of two discs connected by a thin strip. Each half has either a nipple or hole which, when folded together, engages, nipple in hole. When pressed together, the nipples expand brad-like inside the holes to engage the seal. This

particular piece shows no evidence of impressed designs. It measures from 24.0 to 19.0mm in diameter, and 2.4mm in maximum thickness. Another disc (Fig. 72, n) is smaller, measuring 15mm in diameter and 23mm at its thickest. It has been stamped on both sides, and a portion of the design remains despite the corroded condition of the surface. Two other discs are also irregularly shaped and so badly corroded that no traces of designs remain, if they existed. The larger disc measures 29 to 25mm in diameter, and 3.7mm in thickness; the smaller disc measures 25.0 to 23.0mm in diameter and 2.5mm in thickness. Another disc (Fig. 72, 0) measures 31.5 to 29.0mm in diameter and 2.4mm in thickness. Both sides possess designs crudely inscribed into the surface.

Sheet Lead

Three miscellaneous pieces of sheet lead appear to have been cut with shears. Their approximate thickness is 1.0mm.

Rolled Sheet Lead

One unidentified artifact is a piece of sheet lead that has been rolled into a cylinder 40mm long. One end has been blunted. The cylinder diameter measured near the expansion caused by blunting is 10mm, tapering to 8.7mm.

Scraps

Thirty amorphous lumps of lead probably were formed from discarded or spilled molten lead and possibly represent bullet-molding activities. Most were recovered from a small area inside the perimeter wall.

Recent

One .38 calibre bullet with an impact scar 8.5mm long near the nose and rifling marks is obviously a more recent addition to the artifacts present at the site.

Unidentified Metallic Objects

One unidentified object is molded of a light-weight silver-colored metal, possibly aluminum. The surface is pitted and highly oxidized. The oxidation layer is whitish, mottled with blue and green. Neither its source nor its function is known.

FIGURE 72. Brass (a-j) and Lead (k-o) Artifacts

a. Clasp knife sideplate

b. Gun sideplate (French Type D; Hamilton, 1976)

c. Trigger guard (French Type D; Hamilton, 1976)

d. Adornos

e-f. Button fragments

g. Spoon

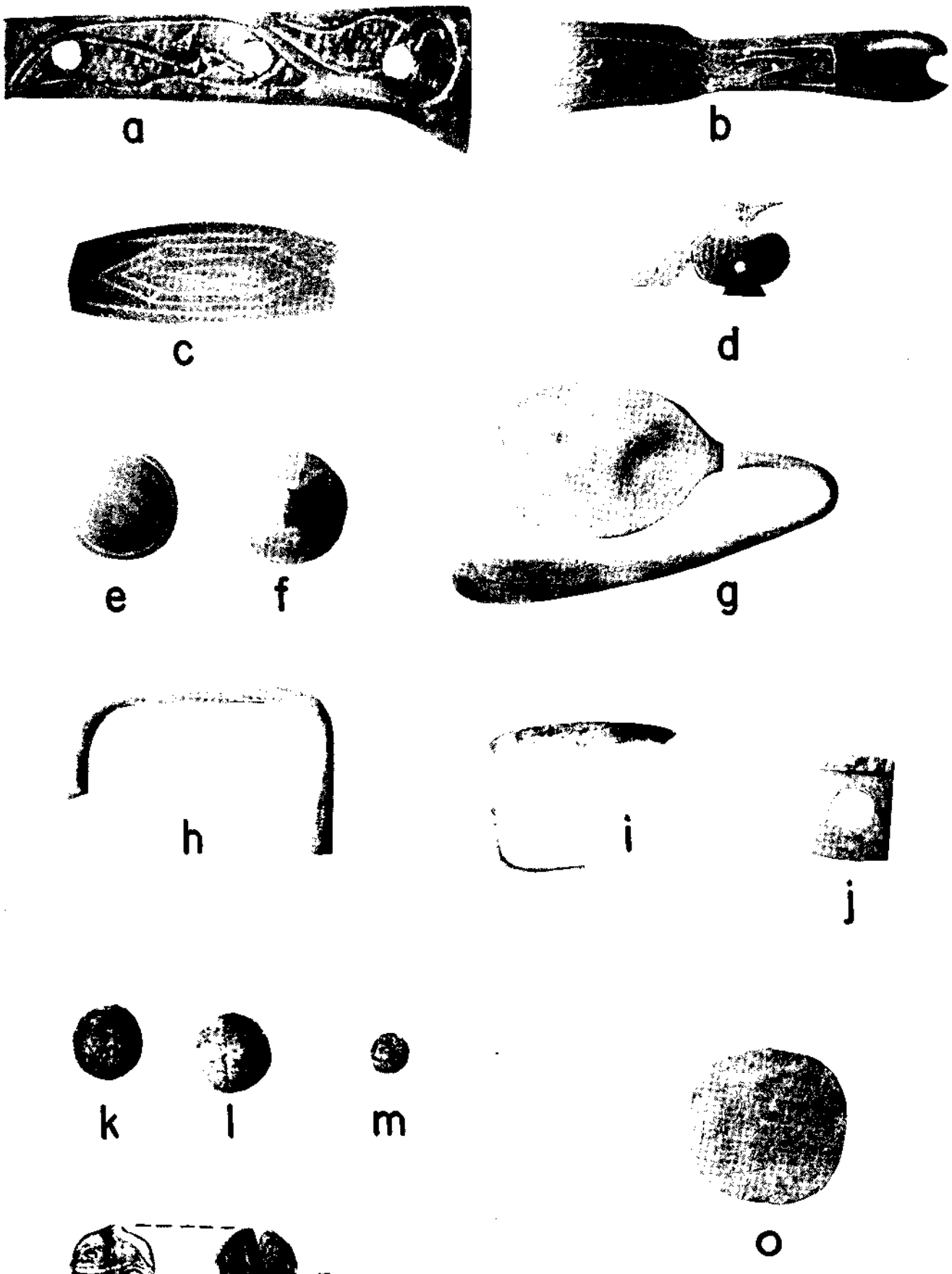
h-i. Buckle fragments

j. Unidentified

k-l. Musket balls

m. Shot

n-o. Seals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Aboriginal Artifacts

CERAMIC ARTIFACTS

Excavations during the summers of 1977 and 1978 at the site yielded a wide variety of artifacts, including 9692 sherds of ceramic wares produced by the aboriginal inhabitants of the area. Any body sherd which was large enough to ascertain that it was in fact plain and not a plain section between decorative motifs was completely analyzed for paste and temper attributes. Those plain body sherds which were small enough to have come from between decorative motifs on a vessel were removed from the collection and not analyzed for temper or paste characteristics. This was done on the assumption that the smaller sherds could have come from either plain or decorated vessels, and analyzing for temper would have thrown off paste and temper analysis of the plain body sherds. A 13mm screen was used to separate the smaller sherds. Separation of the smaller sherds speeded the analysis process since the time involved in analyzing paste and temper attributes for the smaller sherds would have been prohibitive, and the information gained would have been of doubtful value. The number of small body sherds from each excavation unit was input into the computer, and distribution patterns were compiled for comparison with distribution of the other sherds. All sherds which had any amount of decoration, lip, or any other quantifiable attribute were completely analyzed.

The 4343 sherds remaining were sorted by decorative techniques, and then by temper classes.

Paste Characteristics (Figs. 73, 74)

Preliminary inspection of the sherds indicated that at least three materials had been added to some of the clay bodies: bone, shell, and grog. In addition to these materials, sand and selenite were present in all sherds. The amounts of bone, shell, and grog, when they appeared in a clay body, varied little, and no further breakdown was employed.

The distribution and type of sand-sized particles in the sherds, however, varied considerably. To deal with this complexity, the sand in the paste was inspected and assigned one of four values which were determined by size and mineral composition of the particles. They were arbitrarily labeled sand I, II, III, and IV. Sand I consists of extremely fine particles, the mineral composition of which could not be identified at 37.5 magnification. Sand categories II-IV are coarser and have larger identifiable grains of quartzite and/or hematitic sand in the clay body. Sand II contains grains of quartzite without any identifiable grains of hematite. Sand III contains identifiable grains of hematite only. Sand IV contains coarse identifiable grains of hematite and quartzite.

Table V
Sand Categories

	Coarse	Hematite	Quartzite
I	No	Unknown	Unknown
II	Yes	No	Yes
III	Yes	Yes	No
IV	Yes	Yes	Yes

Selenite was present in practically every sherd. The inability to identify selenite in some sherds may be attributed to smudging and subsequent discoloration of particles in the paste. Experimentation with selenite from the local geological formation showed that it changed into a white powder in an open flame as the H_2O was driven off. It is presumed it will subsequently recrystallize upon adsorption of water (Vincent, personal communication). Although it may have been added intentionally by the Indians, selenite was not considered as a tempering agent, due to its consistent appearance in the local clays. Its absence in some sherds may be indicative of intrusive vessels, or it may be due to the acidic soils leaching out the crystals (Vincent, personal communication).

Plain Sherds/Vessels

There are 2580 plain rim and body sherds, representing 26.63% of the total sherds. None of the plain sherds was classifiable by type, although a number of individual vessels (30 = 40.85% of vessels) were identified on the basis of paste characteristics, surface treatment, rim and lip configurations, and provenience.

Table VI
Sand Category by Temper Class

Temper Class	Sand I		Sand II		Sand III		Sand IV		Totals	
	%	#	%	#	%	#	%	#	%	#
Sand	.93	40	1.52	66	.69	30	.83	36	3.97	172
Grog	.41	18	.32	14	.12	5	.12	5	.97	42
Shell	5.60	243	1.93	84	1.11	48	.58	25	9.22	400
Grog/Shell	.05	2	--	--	.05	2	--	--	.10	4
Bone	18.20	792	25.26	1097	16.07	698	22.15	962	81.68	3549
Bone/Grog	.58	25	.23	10	2.03	88	.12	5	2.96	128
Bone/Shell	.39	17	.44	19	.25	11			1.08	47
Bone/Grog/Shell	---	--	.02	1	---	--			.02	1
Totals	26.16	1137	29.72	1291	20.32	882	23.80	1033	100.00	4343

Table VII
Paste Characteristics/Plain Sherds

Temper Class	# of Sherds	% of Sherds
Bone/sand I	576	23.4
Bone/sand II	536	21.8
Bone/sand III	478	19.4
Bone/sand IV	554	22.5
Sand (I-IV) only	57	2.3
Grog/sand (I-IV)	35	1.4
Shell/grog/sand	3	0.1
Shell/sand (I-IV)	155	6.3
Bone/grog/sand (I-IV)	52	2.1
Bone/shell/sand (I-IV)	11	0.4
Bone/shell/grog/sand (II)	1	0.04
Total	2458	99.74%*

As can be seen above, bone, in combination with sand, predominates as a tempering material. Interestingly, no sand category predominates within the bone class. In terms of vessels, as seen below, bone still predominates, but not as significantly as in the sherd group. The fact that a large number of undecorated sherds could come from decorated vessels probably explains the variance between the two charts. It is felt that the vessel chart more nearly represents the true situation.

Table VIII
Paste Characteristics/Plain Vessels

Vessel Number	Temper Class	# of Sherds	# of Vessels
9	Bone/Sand I	2	
69		1	4
70		1	
12		3	

*Not equal to 100% because of rounding off.

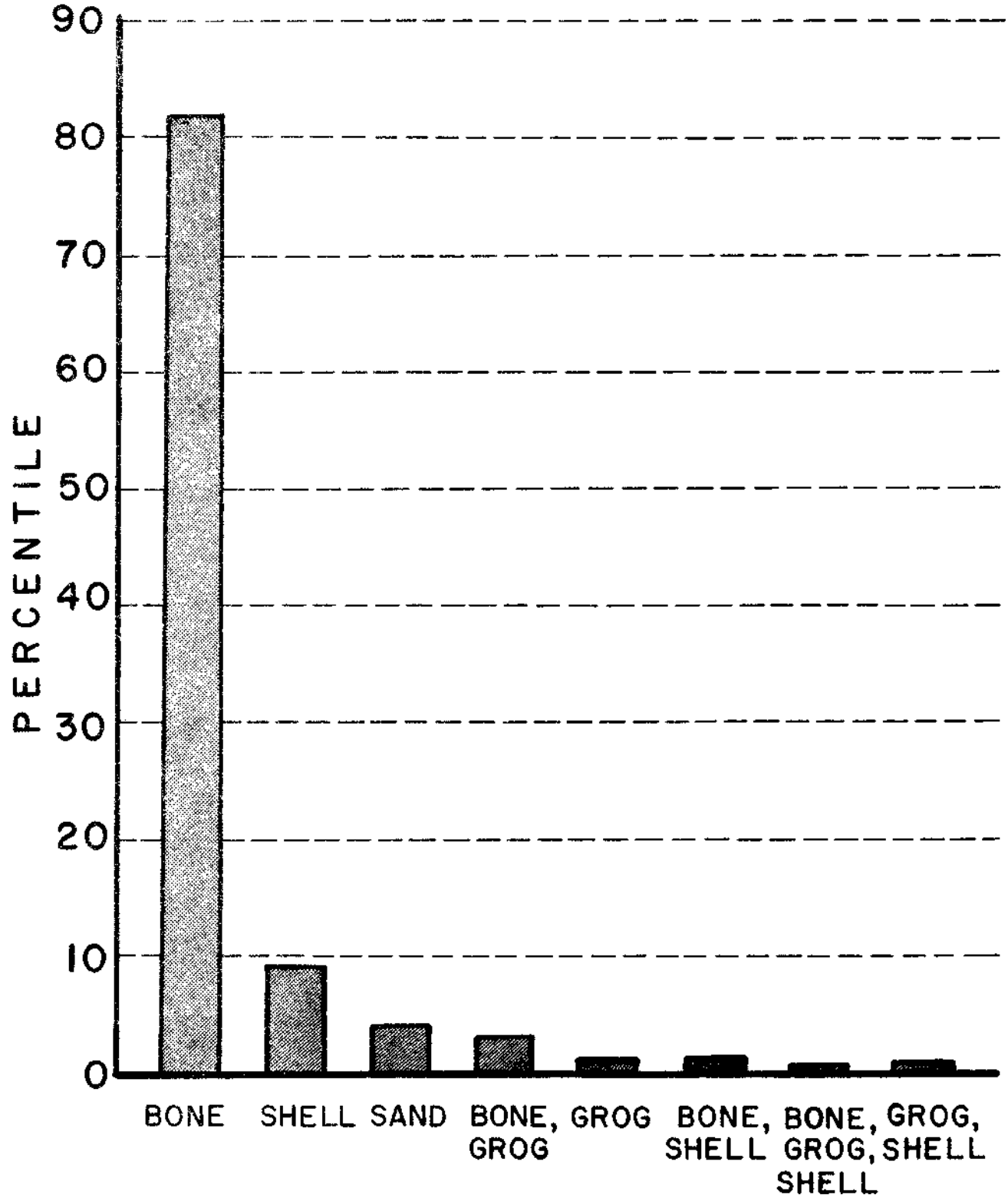


FIGURE 73. Paste characteristics of aboriginal ceramics

FIGURE 74. Paste Characteristics (5x)

a. Sand I

b. Sand II

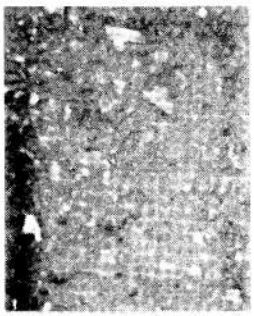
c. Sand III

d. Sand IV

e. Bone

f. Shell

g. Selenite



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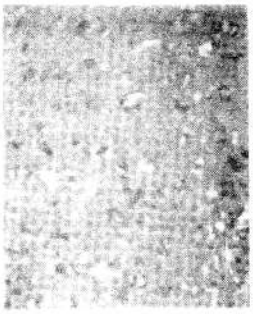

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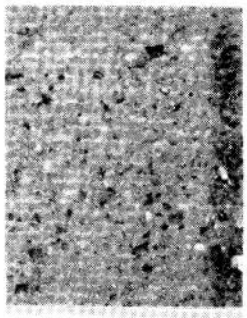

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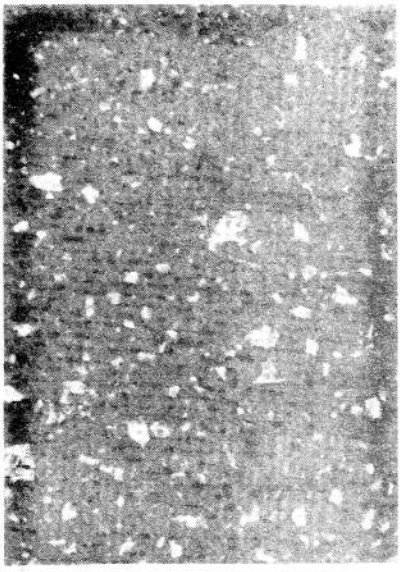

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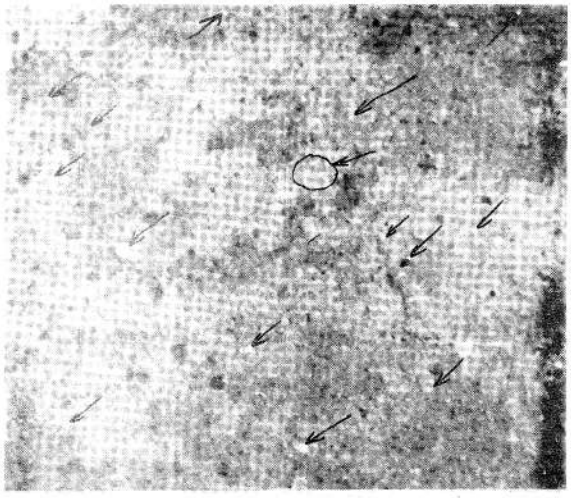

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Table VIII (continued)

Vessel Number	Temper Class	# of Sherds	# of Vessels
10	Bone/Sand II	11	
14		1	4
18		1	
68		2	
13	Bone/Sand III	1	
47		1	3
48		1	
8	Bone/Sand IV	7	
11		2	
15		1	
16		2	8
45		1	
50		32	
51		2	
52		2	
46	Sand (I-IV)	1	2
53		5	
54	Grog/Sand	8	2
55		8	
20	Shell/Sand	1	1
17		3	
19		1	
21		3	6
22		8	
23		1	
56		10	
	Total Vessels		30

Decorated Sherds/Vessels

A number of sherds are from decorated vessels which can be classified using criteria outlined by Gregory (1973) and Suhm, Krieger and Jelks (1954). There was some variation in temper and paste characteristics from the described types, but the variation was not deemed great enough to justify excluding the sherds from the type. The variation was interpreted as a shift in preference in tempering agents rather than a new type.

Table IX
Rim Configurations for Plain Hollowware Vessels

Lip Shape	Rim Curvature: Undeterminable		Vertical		Incurve		Outcurve		Totals	
	%	#	%	#	%	#	%	#	%	#
Rounded	13.85	73	7.78	41	5.31	28	18.22	96	45.16	238
Flattened	9.30	49	7.78	41	2.47	13	7.97	42	27.52	145
Turned out	1.71	9	.19	1	2.85	15	13.66	72	18.41	97
Thickened	1.33	7	1.33	7	.57	3	2.28	12	5.51	29
Tapered	2.09	11	----	--	1.14	6	.19	1	3.42	18
Turned in	---	--	----	--	----	--	.19	1	.19	1
Total	28.28	149	17.08	90	12.34	65	42.51	224	100.21	528

FIGURE 75. Plain Rim Sherds, Pipe, and Handles

a-b. Flattened lip, outcurving rim

c-d. Rounded lip, outcurving rim

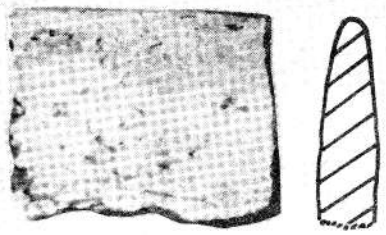
e-f. Rolled lip, outcurving rim

g. Flattened lip, vertical rim

h. Rounded lip, flatware rim

i-j. Pipe bowl fragments

k-l. Handle fragments



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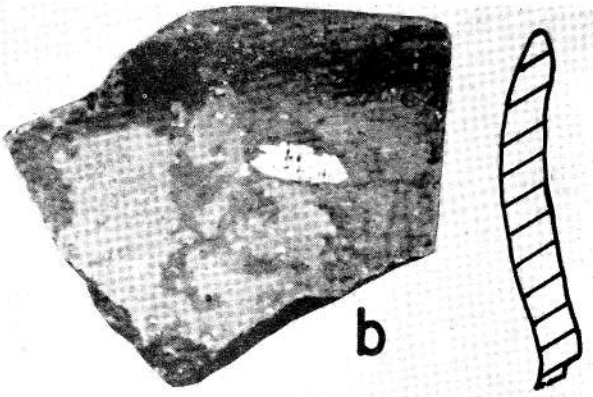

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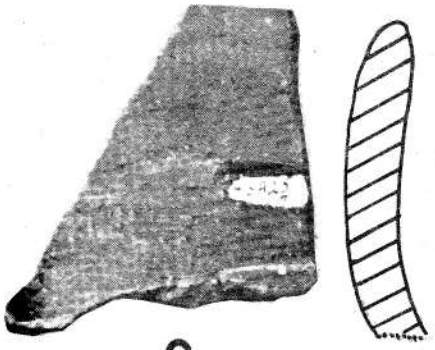

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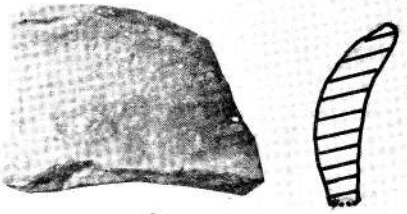

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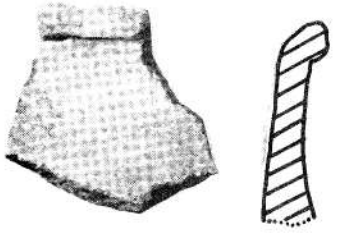

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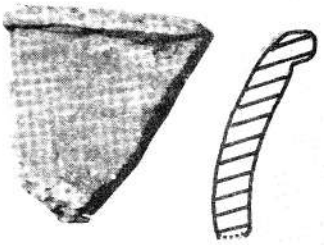

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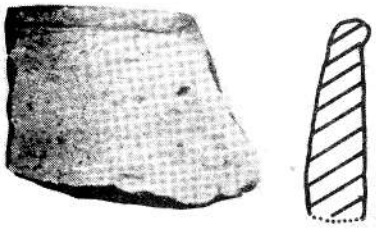

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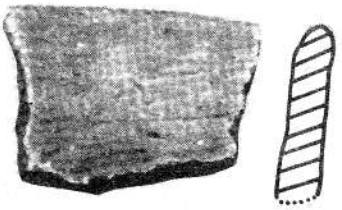

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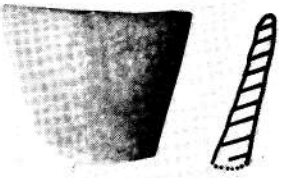

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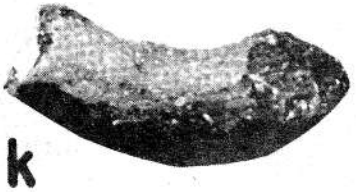

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Table X
Rim Configurations for Flatware Vessels

Lip Shape	Rim Curvature: Vertical		Incurve		Outcurve		Totals	
	%	#	%	#	%	#	%	#
Thickened	40.43	19	2.13	1	---	---	42.56	20
Rounded	29.79	14	8.51	4	---	---	38.30	18
Tapered	8.51	4	---	---	---	---	8.51	4
Flattened	---	---	4.26	2	2.13	1	6.39	3
Turned out	2.13	1	---	---	2.13	1	4.26	2
Total	80.86	38	14.90	7	4.26	2	100.02	47

ENGRAVED

Natchitoches Engraved. One hundred nineteen sherds (48 from identifiable vessels) represent 1.23% of total sherds. The primary decoration (Fig. 76) consists of circles surrounded by a cross-hatched area forming a lattice-like design. Occasionally the lattice is bounded by two or more parallel lines, some of which have short lines or triangular notches (ticks) perpendicular to them. Some circles contain smaller concentric circles which also have ticking. Two vessels (#2 and #7) have crushed bone rubbed into the lines of the design. None of the sherds fit together into large enough segments to permit conjecture about the larger design. The paste of this group of sherds is characterized by the high frequency of bone, as outlined below:

Table XI
Paste Characteristics/Natchitoches Sherds

Temper Class	# of Sherds	% of Sherds
Sand I only	3	4.2
Shell/Sand III	6	8.5
Bone/Sand I	11	15.5
Bone/Sand II	18	25.3
Bone/Sand III	10	14.1
Bone/Sand IV	18	25.3
Bone/Grog/Sand I	2	2.8
Bone/Grog/Sand III	3	4.2
Totals	73	99.9%

The Natchitoches vessels are identified by similarities in texture, paste characteristics, coloration, and decorative mode. Two single sherds are so unique in their characteristics that they are obviously

FIGURE 76. Natchitoches Engraved

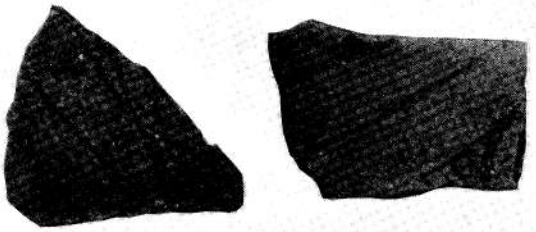
a. Vessel 5

b. Vessel 6

c. Vessel 24

d. Vessel 25

e. Vessel 26



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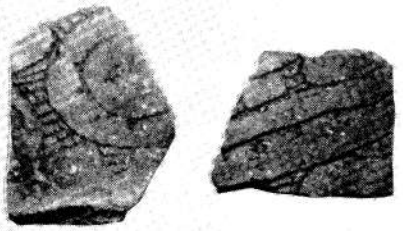

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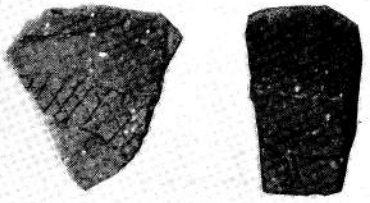

e

distinct from the rest of the sherds, and each is classified as being representative of a vessel.

Table XII
Paste Characteristics/Natchitoches Vessels

V-#	Temper Class	# of Sherds	# of Vessels
6	Bone/Sand I, II, IV	6	
7		2	
25		4	
26		7	6
27		1	
28		1	
24	Sand	4	1
2	Bone/Grog/Sand	16	2
5		7	
	Totals	48	9

Patton Engraved. One hundred forty-four sherds (120 from one vessel) represent 1.49% of the total number of sherds. The basic design (Fig. 77) on all of the body sherds is composed of circles in conjunction with straight lines, spirals or adjacent circles, all of which have triangular ticking projecting from one side of a line. The paste in the group is characterized by the high frequency of bone and sand II, particularly in vessel #4. Two sherds have crushed bone rubbed into the engraved decoration.

Table XIII
Paste Characteristics/Patton Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand III	7	29.16
Sand II	17	70.84
Totals	24	100.00%

Although the basic design element is quite similar for all sherds in this type, vessel #4 is easily identified by its buff-colored interior and dull gray exterior. The exterior surface has a mottled-crazed appearance which is quite distinctive. Some of these sherds are plain, but they are analyzed in this category since they share the same color, texture and crazing as the other sherds, despite lacking an engraved decoration. In addition to the basic design element of ticked lines, spirals, and circles, vessel #4 has three horizontal parallel lines around the rim which do not have ticking. Vessel form is possibly that of two bowls stacked one on the other.

Table XIV
Paste Characteristics/Patton Vessel

V-#	Temper Class	# of Sherds
4	Bone/Sand II	120

Group A Engraved. One hundred seventy sherds represent 1.75% of total sherds, with no identifiable vessels. These sherds (Fig. 78, a-b) are engraved with a single straight or curvilinear line.. Such a small portion of engraved decoration is present on these sherds they could not be confidently placed in any of the engraved type categories. One sherd has red ochre rubbed into the design.

FIGURE 77. Patton Engraved, Vessel #4

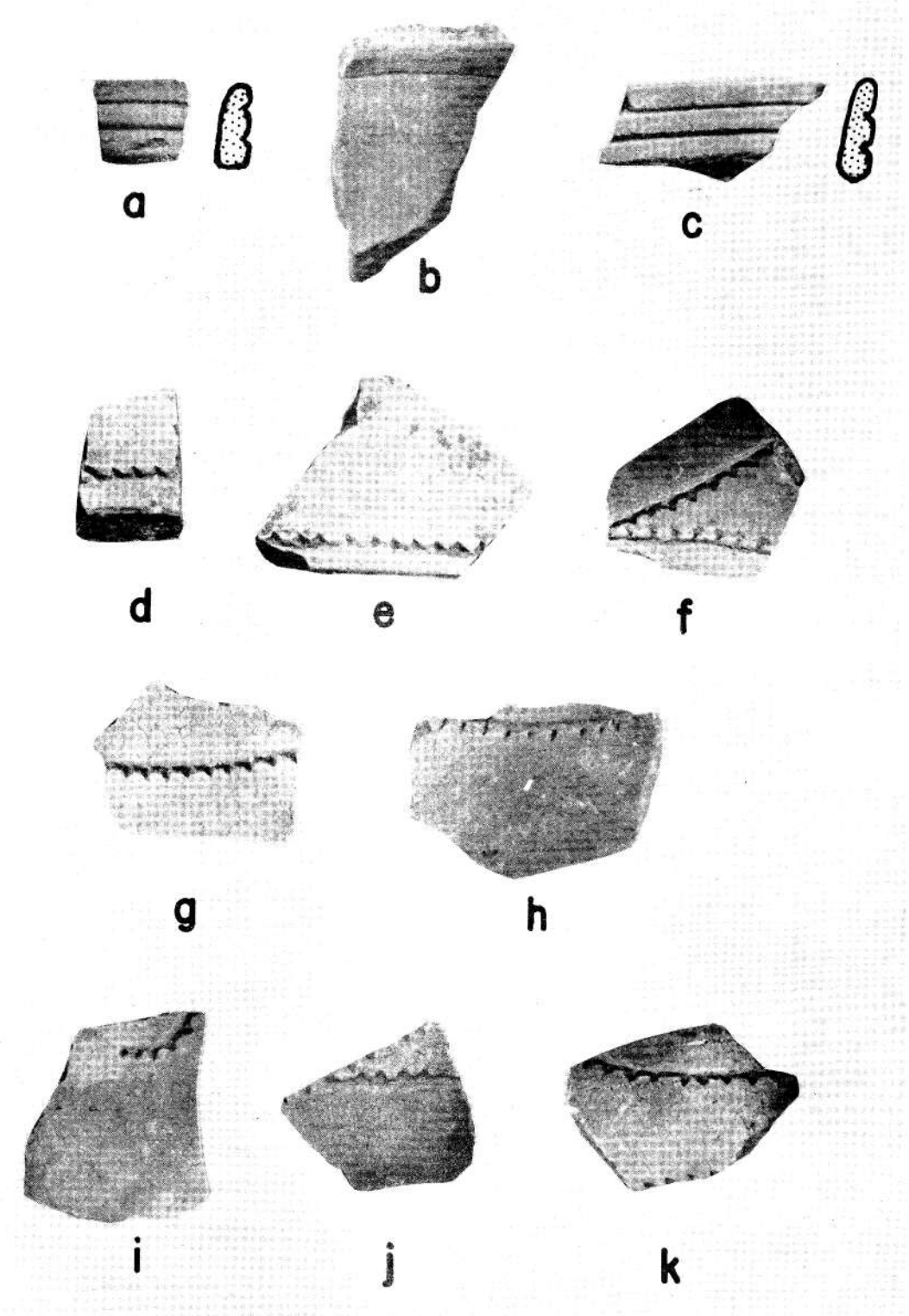
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Table XV
Paste Characteristics/Group A Engraved Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	29	17.60
Bone/Sand II	56	32.94
Bone/Sand III	35	20.59
Bone/Sand IV	41	24.18
Shell/Sand I	5	2.94
Shell/Sand II	1	0.59
Shell/Sand III	2	1.18
Bone/Shell/Sand II	1	0.59
Totals	170	100.71

Group B Engraved. One hundred fifty-three sherds (Fig. 78, c-e) represent 1.58% of the total sherds, with no identifiable vessels. These sherds could not be confidently placed in any of the recognized engraved types, but they all share engraved lines running parallel to each other. The control in the engraving is precise, and the distance between lines is relatively uniform. The distances between the engraved lines range from 2mm to 10mm.

Table XVI
Paste Characteristics/Group B Engraved Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	13	8.50
Bone/Sand II	62	40.52
Bone/Sand III	22	14.38
Bone/Sand IV	55	35.95
Shell/Sand II	1	0.65
Totals	153	100.00%

Group C Engraved. One hundred fifteen sherds (32 from identifiable vessels) represent 1.18% of total sherds. These sherds (Fig. 78, f-n) are engraved with a hatched design which is enclosed

by a border of engraved lines. The field of hatching is variously a band, triangular, or diamond-shaped. Two sherds from vessel #60 have crushed bone rubbed into the design.

Table XVII
Paste Characteristics/Group C Engraved Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	3	3.6
Bone/Sand II	25	30.1
Bone/Sand III	21	25.3
Bone/Sand IV	27	32.5
Sand II	1	1.2
Grog/Sand I	1	1.2
Shell/Sand I	3	3.6
Shell/Sand III	1	1.2
Bone/Shell/Sand I	1	1.2
Totals	83	99.9%

Table XVIII
Paste Characteristics/Group C Engraved Vessels

V-#	Temper Class	# of Sherds	# of Vessels
29	Bone/Sand II	5	
30		1	
38		1	
39		2	9
40		2	
41		1	
42		1	
43		1	
60		3	
31	Bone/Sand III	2	
32		1	4
33		1	
61		3	
34	Bone/Sand IV	2	
35		5	3
37		1	
	Totals	32	16

FIGURE 78. Engraved Sherds

a-b. Single lines (Group A)

c-e. Parallel lines (Group B)

f. Hatching (Group C), Vessel 60

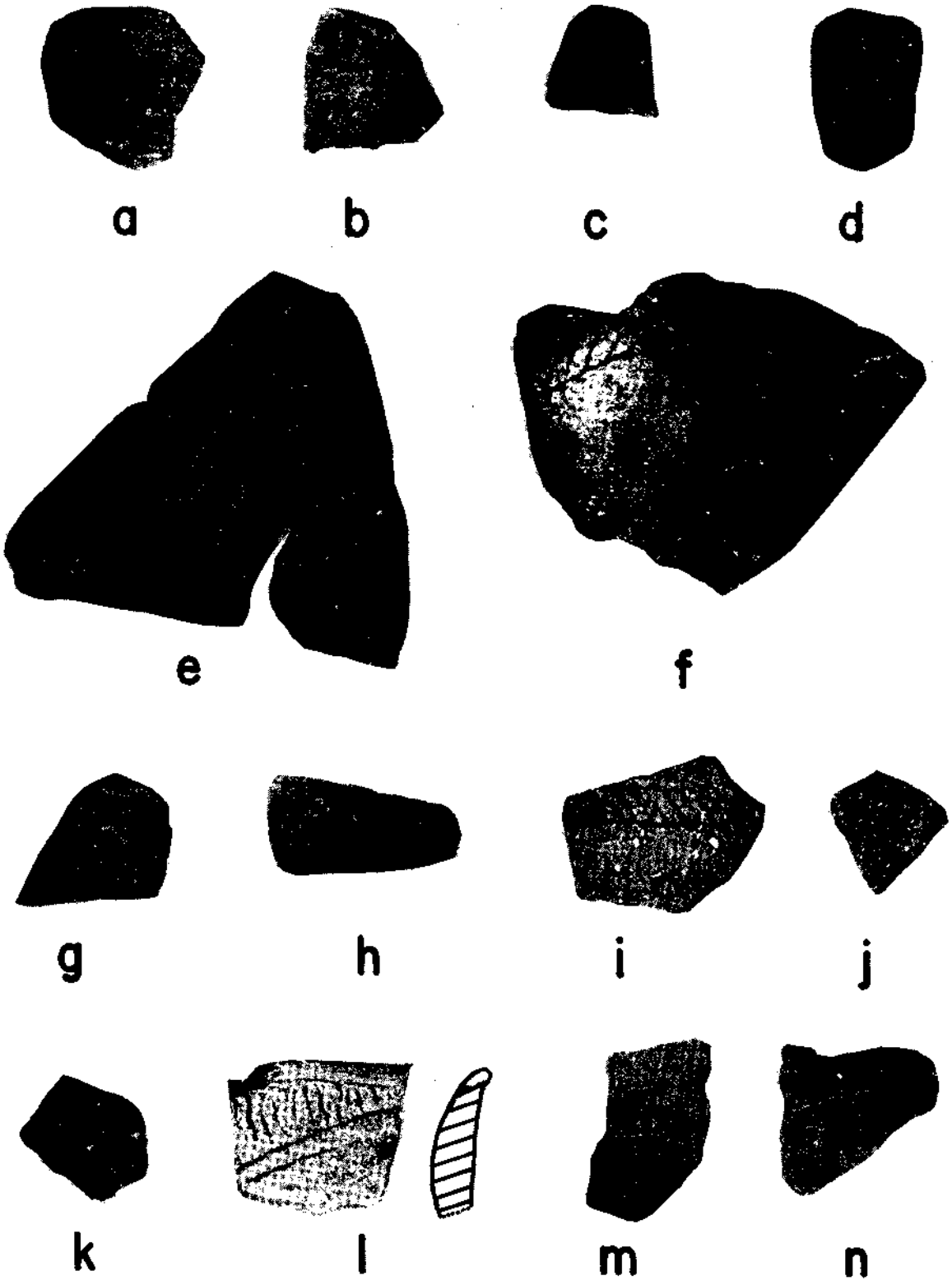
g-h. Hatching (Group C), Vessel 34

i-j. Hatching (Group C), Vessel 35

k. Hatching (Group C), Vessel 33

l. Hatching (Group C), Vessel 37

m-n. Hatching (Group C), Vessel 61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Group D Engraved. Five sherds represent .05% of the total sherds with no identifiable vessels. These sherds have curvilinear lines in conjunction with cross-hatching. The curvilinear lines often form irregular fields which are filled with cross-hatching. Some of these are probably from Natchitoches Engraved vessels, but could not be positively identified due to the small amount of decoration on the sherd.

Table XIX
Paste Characteristics/Group D Engraved Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	1	20.0
Bone/Sand II	1	20.0
Bone/Sand IV	3	60.0
Totals	5	100.0%

Group E Engraved. Forty-eight sherds (Fig. 79, a-b) represent 0.5% of the total sherds, with no identifiable vessels. These sherds exhibit straight or curvilinear lines with ticking and are, in all probability, Patton Engraved. They were not classified as such because they could possibly be from a small ticked section of another vessel type. In addition, the temper classes group differently from other recognized Patton vessels, and there were enough variations to warrant excluding them from the recognized type.

Table XX
Paste Characteristics/Group E Engraved Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	2	4.17
Bone/Sand II	15	31.25
Bone/Sand IV	26	54.17
Sand III	2	4.17
Sand IV	2	4.17
Grog/Sand II	1	2.08
Totals	48	100.01%

Group F Engraved. Fifty sherds represent .51% of the total sherds (3 from an identifiable vessel). These sherds (Fig. 79, c-e) exhibit a cross-hatched decorative motif bounded by engraved lines, forming either triangular or diamond-shaped fields. Most of the cross-hatching is rectangular or diamond-shaped rather than square. These sherds were not classified with Natchitoches Engraved because there is not enough decoration other than cross-hatching to determine their status.

Table XXI
Paste Characteristics/Group F Engraved Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand II	9	19.15
Bone/Sand III	7	14.90
Bone/Sand IV	14	29.78
Sand III	12	25.53
Sand IV	3	6.38
Shell/Sand I	2	4.25
Totals	47	100.98

Table XXII
Paste Characteristics/Group F Engraved Vessel

V-#	Temper Class	# of Sherds
58	Bone/Sand IV	3

Group G Engraved. Eighty-one sherds represent 0.84% of the total sherds (5 from identifiable vessels). These sherds (Fig. 79, f-h) have a rectilinear motif which varies from simple concentric or interlocking rectangles to more complex geometric shapes, using lines engraved at various angles to each other to achieve an unusual, complicated effect. The rectilinear motif is the primary design element on the sherd, and no other design element could be extrapolated from the rectangular design.

Table XXIII
Paste Characteristics/Group G Engraved Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	15	19.73
Bone/Sand II	28	36.84
Bone/Sand III	11	14.47
Bone/Sand IV	18	23.68
Grog/Sand II	1	1.31
Shell/Sand I	2	2.62
Bone/Grog/Sand I	1	1.31
Totals	76	99.96

Table XXIV
Paste Characteristics/Group G Engraved Vessels

V-#	Temper Class	# of Sherds
66	Bone/Sand I	1
59	Bone/Sand II	2
57	Bone/Sand IV	2
		5

Group H Engraved. Ten sherds represent 0.1% of total sherds with no identifiable vessels. These sherds (Fig. 79, i-j) are engraved with curvilinear lines which could not be classified with any of the established types. Some may be from a scroll motif or from a series of concentric circles.

Table XXV
Paste Characteristics/Group H Engraved Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand II	4	40.0
Bone/Sand III	3	30.0
Bone/Sand IV	1	10.0
Shell/Sand I	2	20.0
Totals	10	100.0

Group I Engraved. Twelve sherds represent 0.12% of the total sherds with no identifiable vessels. These sherds (Fig. 79, k-m) exhibit unusual motifs too varied to classify easily with any other categories. Decoration motifs are totally alien to any other decoration at the site, but their agents and paste characteristics are typical. Sherds exhibit various combinations of engraved parallel lines, ticking, circles, and hatching. Two sherds exhibit cross-hatched triangular ticking hung from a single line, possibly reminiscent of Womack Engraved, but the ticking here is smaller. Another distinctive sherd has an equilateral triangle surrounded by a maze of indistinguishable design which makes the triangle stand out.

FIGURE 79. Engraved Sherds

a-b. Straight to curvilinear lines with ticking (Group E)

c-e. Cross-hatching (Group F)

f. Rectilinear; Vessel 57 (Group G)

g-h. Rectilinear (Group G)

i-j. Curvilinear lines (Group H)

k-m. Unusual motif (Group I)

n-o. Chevron motif (Group J)

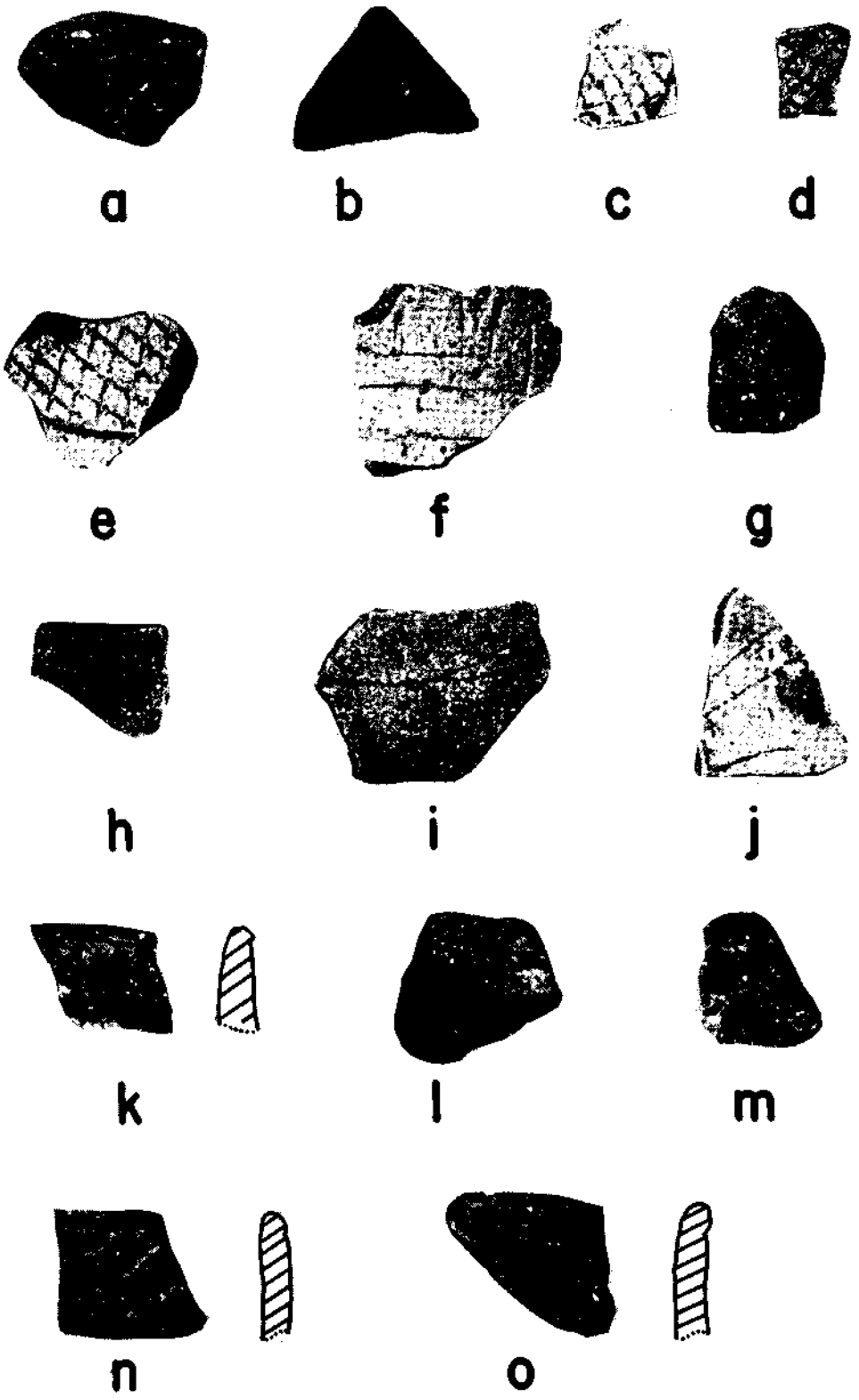
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Table XXVI
Paste Characteristics/Group I Engraved Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand II	1	8.33
Bone/Sand III	2	16.67
Bone/Sand IV	9	75.00
Totals	12	100.00

Group J Engraved. Three sherds represent 0.03% of total sherds with no identifiable vessels. This motif (Fig. 79, n-o) consists of incised lines which form an angle between 30° and 60° as they meet a base line or lines which are straight.

Table XXVII
Paste Characteristics/Group J Engraved Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand IV	3	100

INCISED

Ebarb Incised. Twenty sherds represent 0.21% of all sherds (9 from identifiable vessels). The primary decorative motif observed in this type (Fig. 82, e-g) occurs around the rim and is composed of a series of lines forming overlapping triangles which hang pendant from the lip. They are comparable to Gregory's Ebarb Incised, Variety F (Gregory, personal communication). No other decoration related to these could be found on any body sherds. It is presumed that the body is plain. The bulk of these sherds have a paste of bone and sand IV, although one vessel also contained shell. These characteristics match the temper in Gregory's classification.

Table XXVIII
Paste Characteristics/Ebarb Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand IV	10	91.0
Bone/Shell/Sand I	1	9.0
Totals	11	100.0

Ebarb vessels are identified by lip-rim configurations in conjunction with the previously mentioned decorative elements. Vessel #23 has a turned-out lip with an outcurving rim, with the overlapping triangles hanging from the edge of the turned-out lip.

Table XXIX
Paste Characteristics/Ebarb Vessels

V-#	Temper Class	# of Sherds
36	Bone/Sand IV	4
44	Bone/Sand IV	2
23	Shell/Sand I	3
	Total Sherds	9

Group A Incised. Two hundred seven sherds represent 2.14% of the total sherds with no identifiable vessels. These sherds (Fig. 80, a-b) are incised with a single straight or curvilinear line. So little decoration is present on these sherds that they cannot be placed in any recognized type.

Table XXX
Paste Characteristics/Group A Incised Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	42	20.29
Bone/Sand II	26	12.56
Bone/Sand III	41	19.81
Bone/Sand IV	45	21.74
Sand I	3	1.45
Sand II	5	2.42
Sand III	3	1.45
Sand IV	5	2.42
Grog/Sand I	1	0.48
Shell/Sand I	5	2.42
Shell Sand II	7	3.38
Shell/Sand III	6	2.90
Shell/Sand IV	13	6.28
Bone/Shell/Sand I	2	0.97
Bone/Shell/Sand III	3	1.45
Totals	207	100.02%

Group B Incised. Two hundred thirty-one sherds represent 2.39% of the total sherds with no identifiable vessels. These sherds (Fig. 80, c-e) are incised with parallel straight or curvilinear lines, a common motif in the overall collection. These sherds contain no other decoration, and, consequently, it was difficult to determine whether they belong within a type category, particularly since temper and paste characteristics vary considerably. Width between the incised lines varies from 3mm to 13mm. Occasionally the incising was done with little stylus control, and the width between lines varies as much as 2-3mm on some sherds. One sherd has finely crushed bone rubbed into the decoration.

Table XXXI
Paste Characteristics/Group B Incised Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	31	13.42
Bone/Sand II	82	35.50
Bone/Sand III	11	4.76
Bone/Sand IV	37	16.02
Sand II	14	6.06
Sand III	3	1.30
Sand IV	19	8.23
Grog/Sand I	1	0.43
Shell/Sand I	5	2.16
Shell/Sand II	8	3.46
Shell/Sand III	9	3.90
Shell/Sand IV	8	3.46
Bone/Shell/Sand III	3	1.30
Totals	231	100.00

Group C Incised. Forty-three sherds represent 0.44% of total sherds with no identifiable vessels. These sherds (Fig. 80, f-h) are incised with hatching between incised lines, which form a boundary completely enclosing the hatching. The boundaries are either parallel or intersecting. Sherds with intersecting boundaries do not contain enough decoration to determine whether the field is triangular or diamond-shaped. Hatching varies from parallel to the boundaries to being at right angles to the boundaries. They are not identifiable as any established type.

Table XXXII
Paste Characteristics/Group C Incised Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	3	6.98
Bone/Sand II	23	53.49
Bone/Sand III	9	20.93
Bone/Sand IV	3	6.98

FIGURE 80. Incised Sherds

a-b. Single line (Group A)

c-e. Parallel lines (Group B)

f-h. Hatched motif (Group C)

i-j. Chevron motif (Group D)

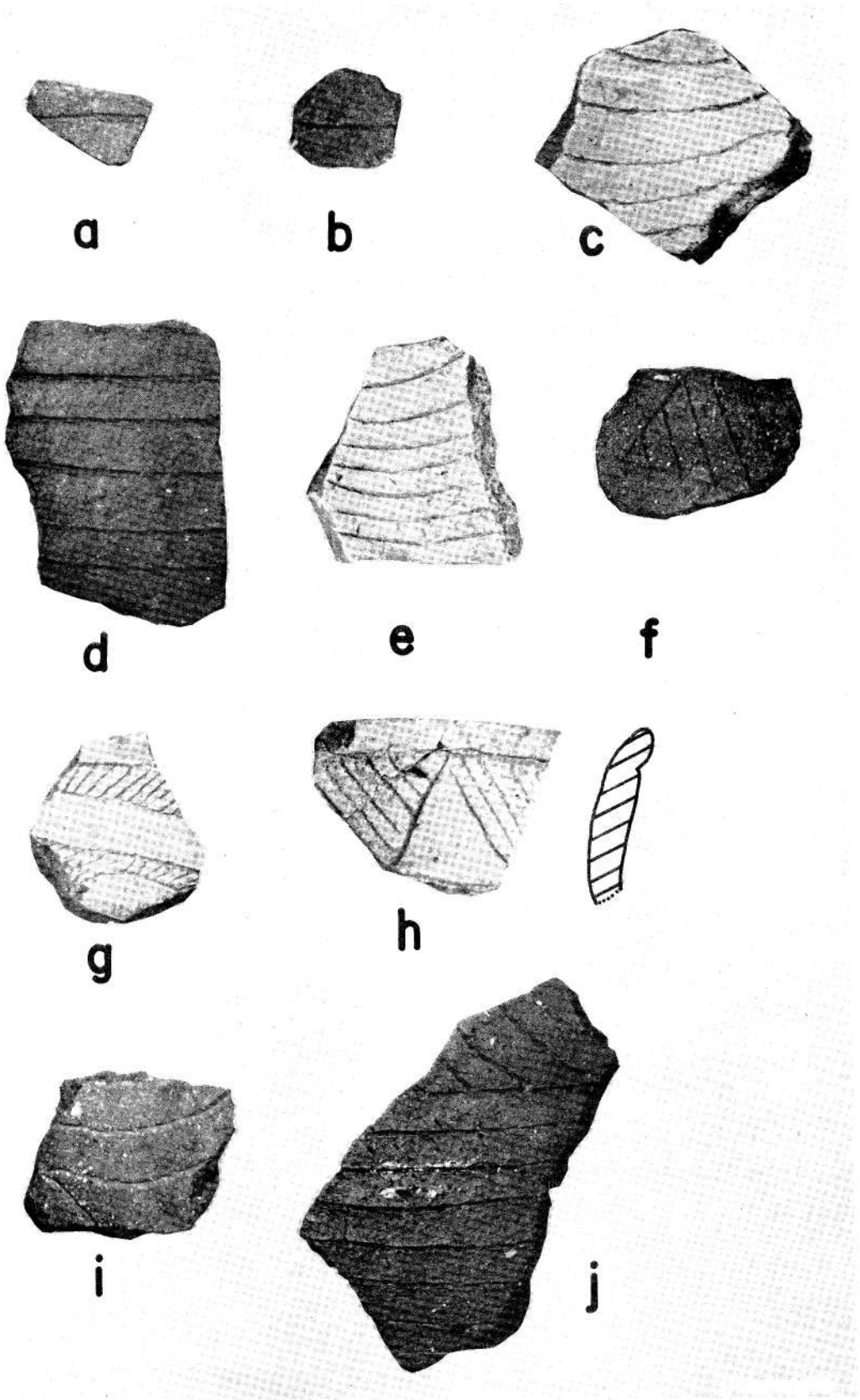
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Table XXXII (continued)

Temper Class	# of Sherds	% of Sherds
Sand II	2	4.65
Grog/Sand III	1	2.33
Grog/Sand IV	2	4.65
Totals	43	100.01%

Group D Incised. Twenty-eight sherds represent 0.29% of total sherds, with no identifiable vessels. The chevron motif (Fig. 80, i-j) consists of a field of parallel lines which meets another field of parallel lines at an angle between 30° and 60°. The first field intersects only the one line tangent to the second field.

Table XXXIII
Paste Characteristics/Group D Incised Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	14	50.00
Bone/Sand II	2	7.14
Bone/Sand IV	9	32.14
Sand I	1	3.57
Shell/Sand I	1	3.57
Shell/Sand III	1	3.57
Totals	28	99.99%

Group E Incised. Four sherds represent 0.04% of total sherds, with no identifiable vessels. These sherds (Fig. 81, a) have an incised cross-hatched motif bordered by incised lines. All sherds have the cross-hatching at angles between 30° and 150° to the incised boundaries. Most are diamond-shaped cross-hatches.

Table XXIV
Paste Characteristics/Group E Incised Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand II	1	25.00
Bone/Sand III	1	25.00
Sand III	1	25.00
Shell/Sand	1	25.00
Totals	4	100.00%

Group F Incised. Twenty-four sherds represent 0.25% of total sherds, with no identifiable vessels. These sherds (Fig. 81, b-d) are incised with a rectilinear design. The design consists primarily of connected, interlocking, or concentric geometric shapes, especially rectangles.

Table XXXV
Paste Characteristics/Group F Incised Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	6	25.00
Bone/Sand II	5	20.83
Bone/Sand III	5	20.83
Bone/Sand IV	4	16.67
Shell/Sand I	4	16.67
Totals	24	100.00

Group G Incised. Ten sherds represent 0.1% of total sherds, with no identifiable vessels. These sherds (Fig. 81, e-f) are incised with lines which are curvilinear and form flowing designs. They could be part of a scroll or meander motif.

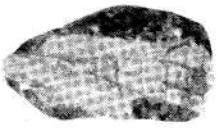
FIGURE 81. Incised Sherds

a. Cross-hatched motif (Group E)

b-d. Rectilinear motif (Group F)

e-f. Curvilinear lines (Group G)

g-i. Hatched motif, etc. (Group H)



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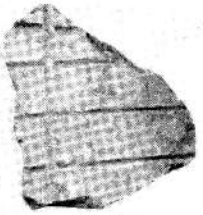

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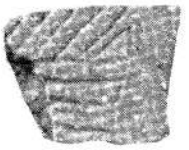

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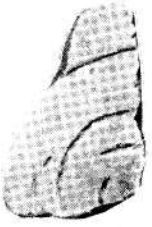

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Table XXXVI
Paste Characteristics/Group G Incised Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	3	30.0
Bone/Sand II	2	20.0
Bone/Sand III	1	10.0
Bone/Sand IV	1	10.0
Shell/Sand I	2	20.0
Shell/Sand IV	1	10.0
Totals	10	100.0%

Group H Incised. Nineteen sherds represent 0.19% of total sherds, with no identifiable vessels. These sherds (Fig. 81, g-i) exhibit unusual motifs which differ radically from the other motifs. Several sherds have triangular or diamond-shaped fields as their central design, and one has a field of parallel straight lines intersected by two other similar fields at an angle of 60°. This forms an equilateral triangle with three fields of parallel lines angling off like rays.

Table XXXVII
Paste Characteristics/Group H Incised Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	4	21.05
Bone/Sand II	6	31.58
Bone/Sand III	2	10.53
Bone/Sand IV	5	26.32
Sand I	2	10.53
Totals	19	100.01

PUNCTATE-INCISED

Emory Punctate-Incised. One hundred twenty-eight sherds

represent 1.32% of total sherds (126 from identifiable vessels). Incising covers the entire body (Fig. 82, a-d) below the collar and consists of curving, vertically-oriented lines which loop back onto themselves. The design is repeated several times around the vessel. A variation includes a button-shaped applique node at the center of the loop. The total effect is similar in appearance to an eye. Punctations occur on a bulging collar between neck and body. Vessel #1 and vessel #3 are quite dissimilar in paste, although they share the basic design motif.

Table XXXVIII
Paste Characteristics/Emory Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand IV	1	50.0
Shell/Sand I	1	50.0
Totals	2	100.0%

Vessel #1 is tempered with shell and fine sand. Because the shell is badly leached out, the vessel has a very rough texture. Vessel #3 is bone-tempered and has a fine texture and floated surface.

Table XXXIX
Paste Characteristics/Emory Vessels

V-#	Temper Class	# of Sherds
1	Shell/Sand I	105
3	Bone/Grog/Sand III	21
	Total Sherds	126

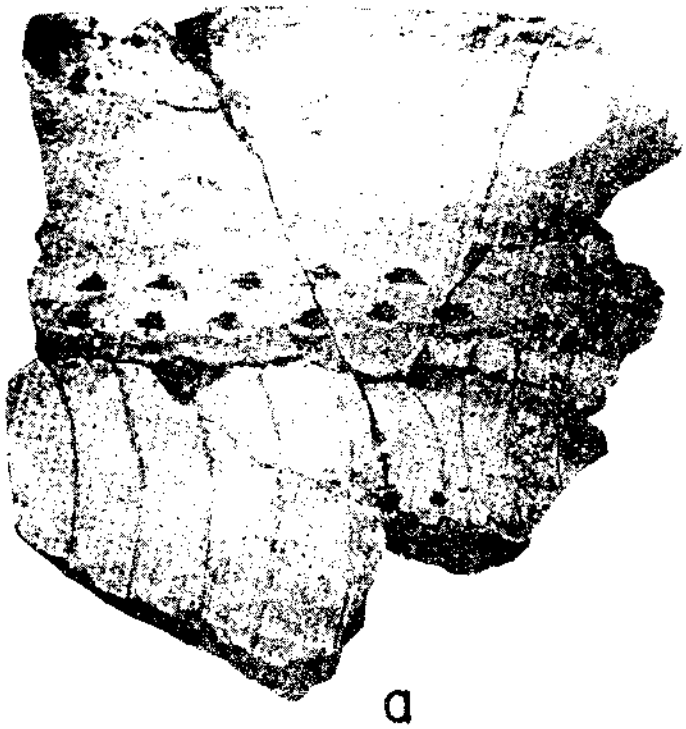
Vessels #1 and #3 are similar to those found at Los Adaes both in

FIGURE 82. Emory Punctate-Incised; Ebarb Incised

a-b. Emory Punctate-Incised, Vessel 3

c-d. Emory Punctate-Incised, Vessel 1

e-g. Ebarb Incised, Vessel 23



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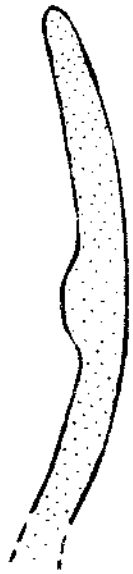

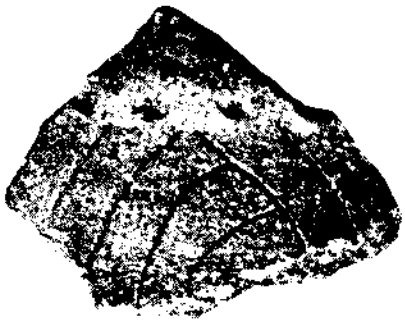

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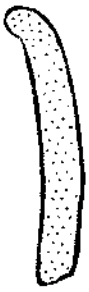

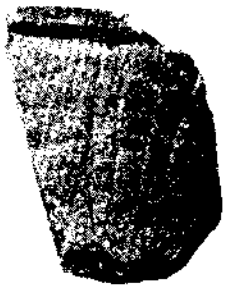

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design and temper characteristics. Vessel #1 corresponds to Gregory's Emory Punctate-Incised variety A, and vessel #3 corresponds to variety C (Gregory, personal communication).

Group A Punctate-Incised. One sherd represents 0.01% of total. This sherd has punctations bounded on one side by an incised line. The paste is bone, shell, and sand I.

Group B Punctate-Incised. One sherd represents 0.01% of total. This sherd (Fig. 83, i) has punctations on a groove with incised lines leading away from it. This could possibly be Emory-Punctate-Incised. The paste consists of bone and sand I.

PUNCTATE

Group A Punctate. Twenty-five sherds represent 0.26% of total, with no identifiable vessels. These sherds (Fig. 83, a-c) have punctations located on a collar, which is defined as an obvious sharp concave bulge in the ceramic form. These could be Ebarb-Incised sherds.

Table XL
Paste Characteristics/Group A Punctate Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand II	5	20.0
Bone/Sand IV	1	4.0
Sand III	1	4.0
Grog/Sand I	1	4.0
Shell/Sand I	2	8.0
Shell/Sand IV	2	8.0
Bone/Shell/Sand I	3	12.0
Bone/Shell/Sand II	10	40.0
Totals	25	100.0%

Group B Punctate. One sherd (Fig. 83, d) represents 0.01% of total sherds. The punctations in this sherd were made by fingernail. The temper is grog and sand I.

Group C Punctate. Six sherds represent 0.06% of total sherds. These sherds (Fig. 83, e-f) were punctated on a definite concave surface (groove) in the ceramic form.

Table XLI
Paste Characteristics/Group C Punctate Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	3	50.00
Bone/Sand II	2	33.33
Shell/Bone/Sand II	1	16.67
Totals	6	100.00%

Group D Punctate. Thirty-nine sherds represent 0.4% of total sherds, with no identifiable vessels. These sherds (Fig. 83, g-h) have punctations on the body of the vessel, and not on a bulge, indentation or other special area of the vessel.

Table XLII
Paste Characteristics/Group D Punctate Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	16	41.03
Bone/Sand II	4	10.26
Bone/Sand IV	2	5.19
Sand I	4	10.26
Sand III	1	2.56
Shell/Sand I	2	5.19
Shell/Sand II	1	2.56
Bone/Grog/Sand I	1	2.56
Bone/Shell/Sand I	2	5.19
Bone/Shell/Sand II	6	15.38
Totals	39	100.18

FIGURE 83. Punctate Sherds, Punctate-Incised Sherds

a-c. Punctate (Group A)

d. Punctate (Group B)

e-f. Punctate (Group C)

g-h. Punctate (Group D)

i. Punctate Incised (Group B)

a b c

d e f

g h i

MISCELLANEOUS

Eroded. Sixty-two sherds represent 0.64% of total. These sherds are so badly eroded that it was impossible to determine decorative techniques used.

Table XLIII
Paste Characteristics/Eroded Sherds

Temper Class	# of Sherds	% of Sherds
Bone/Sand I	12	19.35
Bone/Sand II	19	30.64
Bone/Sand III	28	45.16
Sand I	1	1.61
Shell/Sand II	2	3.22
Totals	62	99.98%

Small Body Sherds. Five thousand three hundred forty-nine sherds represent 55.19% of the total. These sherds were not analyzed for paste characteristics since they were small enough to have come from either plain or decorated vessels.

Bases. There are five sherds from the bases of vessels. Two of these sherds fit together and include a portion of a foot-ring which would be about 70-100mm in diameter. These probably come from a flatware vessel form. Another base comes from vessel #50; it is about 8mm thick and is slightly concave and plain. A third base is quite similar except that it is slightly thinner (7mm). The remaining base is a thick (15mm), small fragment. These sherds are tempered with bone and sand I.

Handles. There are three ceramic appendages made from local materials. All three are handles similar to what one might find on

a modern coffee mug. The handles are oval in cross-section, and the mean diameter varies between 9 and 14mm. Temper and paste characteristics are typical of the other indigenous ceramics.

Pipe fragments. There are six pipe fragments, three of which fit together to form an almost complete bowl. The inside diameter is approximately 10mm, and the outside diameter is approximately 25mm. Another fragment has approximately a 20mm hole, with a wall thickness of 4mm. All six fragments are from bowls, and are tempered with bone and sand I. None has any decoration.

STONE ARTIFACTS

Arrowpoints

One complete and one incomplete (basal half) triangular stone arrowpoints (Fig. 65, h-i) were recovered from Mission Dolores. The complete specimen (26.9 x 12.8 x 2.9mm) has a slightly concave base and convex blade edges. The broken specimen (broken x 11.8 x 1.9mm) has a straight base and convex blade edges. Both specimens exhibit fine, bifacial chipping.

Pipe

This keel fragment (Fig. 65, j) of a stone pipe (unidentified gray, fine-grained material) is perforated. The keel fragment is similar to those from MicMac-style pipes at the Guebert site (Good 1972: 73-77), a Kaskaskia village (occupied 1719-1833) in Illinois. Good notes that the French copied the MicMac form. French-made pipes of this form were recovered (French occupation 1715-1761) from Fort Michilimackinac.

GLASS ARTIFACTS

Arrowpoint

This triangular arrowpoint (Fig. 64, g) measures 22.4 x 12.4 x 2.6mm; it has a slightly concave base and convex blade edges, and exhibits fine bifacial retouching. The material is pale green, transparent glass.

COMPARISONS AND CONCLUSIONS

Although the excavations at Mission Dolores are incomplete, a considerable amount of important data has been collected. While one is tempted to try to draw a number of conclusions based on these data, we offer instead some comparisons of our data with that from other Spanish Colonial sites in Texas and with data from historic aboriginal (presumably Caddoan) sites in East Texas and adjacent Louisiana.

Caddoan Comparisons

Ostensibly, Mission Dolores de los Ais was established for the Ais (Caddo?), with an eye to Christianizing them and settling them around the mission. From the historic documents, it is uncertain how successful this venture was, but the documentary indications are that there never was any substantial Ais presence at the Mission. Archaeologically, we gleaned no information that would point to primary occupation (i.e., houses) at the site by the Ais. Nevertheless, Indian potsherds outnumbered European-derived sherds about nine to one, indicating significant interaction of some sort with the local inhabitants. On the other hand, there is no reason why the Indian ceramics could not have come from widely scattered sources (los Adaes, Nacogdoches, etc.) in the Spanish interaction sphere in East Texas and Louisiana, i.e., the sherds need not be local in origin at all. Campbell (1979) has noted that the South Texas missions quickly turned

into refuges for displaced Indian groups in that area as well as from other areas of Texas. This phenomenon, if it occurred here, could have a tremendous effect on styles of Indian ceramics at the East Texas missions.

Interestingly enough, the identifiable ceramic types at Dolores are essentially the same as those identified at Presidio de los Adaes (Gregory 1973, 1979) near Robeline, Louisiana: Natchitoches Engraved, Emory Punctate-Incised, Ebarb Incised, and Patton Engraved. In turn, they are consistent within the context of the Dolores sample, i.e., there is almost no variation within the collection. At los Adaes, Gregory views Natchitoches, Emory and Ebarb as resident types (i.e., made by the local Adaes Indians), and Patton Engraved as a trade item. The situation at Dolores appears to be similar, but with significant differences. Although Natchitoches is the most common decorated type in the Dolores collection (119 sherds representing at least 9 vessels), the majority of the sherds (80%=2/3 of vessels) exhibit bone temper, while the Natchitoches sherds from los Adaes are predominantly shell-tempered (one bone-tempered vessel and some grog-tempered sherds exist).

To the north of Dolores (upper Sabine drainage), the materials from the historic Kinsloe Focus (Jones 1968), possibly representing the Nadaco Caddo, offer a third contrasting pattern. Jones identifies a Natchitoches-Hodges Engraved (based on vessels from graves rather than sherds) as an important resident type. Again this compares

well with the situation at Dolores, except that the Kinsloe Natchitoches-style vessels are predominantly grog-tempered. Grog-tempered Natchitoches-style sherds are rare at los Adaes and at Dolores (grog occurs in less than 1% of all aboriginal sherds).

Another common ware at Dolores, in terms of numbers of identifiable vessels, is that with no surface decoration. [We state this in terms of vessels because we fully realize that a majority of the 2,581 undecorated sherds from Dolores came from undecorated portions of decorated vessels. It is also probable that at least some of the 30 plain vessels identified may in fact be parts of decorated vessels, particularly those varieties of Emory which have large, undecorated rims and/or bodies. Nevertheless, there are still not enough decorated ceramic fragments (particularly the punctate collar area typical of Emory) to eliminate all of the proposed plain vessels. Thus, even if two-thirds of the vessels were eliminated, there would still be ten vessels represented.] These vessels are predominantly bone-tempered (ca 30%), as are most of the Dolores ceramic styles. Plain wares are common at los Adaes (Gregory 1978), but reflect the predominant paste characteristics of the non-Natchitoches wares at that site: bone temper, followed very closely by shell temper, with grog occurring as a distant third choice. Jones (1968:103) describes a Henderson Plain as a diagnostic ware of the Kinsloe Focus which is generally grog-tempered, although pastes also frequently contain bone.

Among the other three identifiable aboriginal ceramic types present at Dolores, none really predominates, but they are important for our comparisons. These include Emory Punctate Incised (128 sherds, 105 from one vessel), Ebarb Incised (20 sherds, at least 3 vessels), and Patton Engraved (144 sherds, 120 from one vessel). Bone predominates (80%) as a tempering agent in Ebarb and Emory-style sherds, while sand temper characterizes the Patton wares (although the one vessel is bone-tempered). With the exception of the Patton sherds, then, these wares as well as all of the remaining unidentifiable engraved and/or incised wares/sherds at Dolores conform to the site norm (predominantly bone temper) in tempering agent. Emory-style vessels from Kinsloe Focus sites (Jones 1968:163) are again predominantly grog-tempered, while those sherds/vessels from los Adaes are predominantly bone or shell. The Emory-style vessels/sherds from the historic Norteño Focus occupations (to the northwest) at the Womack and Sanders site are grog or shell-tempered (Bell et al 1967:226-7), while those from the Pearson site (Duffield and Jelks 1967:138-9) are shell tempered.

At the DeShazo Site (41NA27), an early historic (ca 1670-1710) Caddoan (Nacodoche?) village site near Nacogdoches (Bayou Loco, an eastern drainage to the Angelina), Story (personal communication) notes that the tempering agent in sherds is always grog, sometimes (rarely) in conjunction with bone. The predominant identifiable decorative style is Patton Engraved (with grog temper!). The major styles noted at Dolores and los Adaes are absent or very rare at De Shazo.

In addition to paste differences, the Dolores ceramics differ in other ways when compared to los Adaes, the Kinsloe Focus, and other local historic sites. There was not a single brushed sherd recovered at Dolores. Gregory (1979) reports a few (249) brushed sherds (1978 season) for los Adaes, and Jones notes that brushing occurs on a number of vessels from Kinsloe Focus burials. In contrast, brushed sherds (primarily from jars) are very common (20,000 out of 30,000 sherds) at the DeShazo site and are not uncommon at most area sites.

Patton wares fit the normative (Handbook) definition, but Story (personal communication) warns that Krieger did not conduct microscopic or other types of paste analysis on most of the Handbook types. Thus, the traditional types may well have a greater range of paste characteristics than indicated.

With the above data, we are tempted to suggest the possibility of intra-drainage ceramic traditions, presumably reflecting some sort of cultural interaction beyond, but including, trade, particularly within the Caddoan area. It is interesting that the predominant Caddoan (?) decorative style (Emory) on the middle and lower Sabine drainage is a dominant style in the Norteño (Wichita, etc.) focus sites on the upper Sabine and north. The Womack Engraved style (wares or designs?) of that area also appears as a minor element in the Kinsloe Focus and at los Adaes, although it does not occur at Dolores.

Thus we can possibly suggest the presence of an Adai Caddo group on the east side of the middle Sabine drainage, typified by Natchitoches,

Emory and Ebarb styles on bone and shell-tempered wares; an Ais Caddo on the west side of the middle Sabine drainage (with some extension into the eastern side of the Angelina drainage) typified by Natchitoches, Emory and Ebarb styles on bone-tempered wares; a Nadaco Caddo on the upper Sabine, typified by Simms, Darco, Natchitoches-Hodges, and Emory styles on grog-tempered wares; and a Nacodoche Caddo on the middle Angelina drainage, typified by Patton style on grog-tempered wares. Tentatively, we might also suggest a further distinction: the utility wares of the Sabine groups are typically plain, while the utility wares of the Nacodoche group are predominantly brushed. While we realize the above is highly speculative (albeit based on some very good data), we offer it as a model which we hope will be tested severely.

One other Caddoan comparison and tentative conclusion might be suggested. Gregory (1973, 1980) noted the presence of rim sherds and other sherds which suggested (at los Adaes) Indian-made flatwares influenced by Spanish or French ceramics. A number of rim sherds from Dolores indicate a similar phenomenon. In addition, we also recovered basal portions of Indian-made wares indicating ring-foot flatware vessels (i.e., plates) and other basal forms suggesting French-style hollow wares. Although, as Gregory noted (1973:126), others suggest a Mississippi Valley source for the flatware, the occurrence of the flatware style at both los Adaes and Dolores (as well as other possible European forms at Dolores) would argue heavily for Gregory's hypothesis, with which we concur.

European Comparisons, Artifacts

There were few surprises concerning the styles of European and Mexican ceramics which occur at the site of Mission Dolores. The Mexican majolica styles are similar to those at other known contemporary Spanish sites in Southeast Texas (Presidio Ahumada), Central Texas (San Xavier), and Louisiana (Presidio Los Adaes). Other types of artifacts (beads, nails, glass, higas, gun parts, gunflints, bridle parts, chocolate pots, etc.) are remarkably similar as well. In addition, the presence of French faience at Dolores was also predictable. Tunnell and Ambler (1967:26-7) noted that French faience was an important ware (46% of tin-enameled wares) at Ahumada, and hinted that Spanish colonial sites close to the French at Natchitoches should exhibit substantial quantities of faience derived from trade with the French (who were closer than San Antonio). This was borne out at Los Adaes, where French faience represents approximately 44% of the tin-glazed earthenware. The data from Dolores also support this hypothesis, although French faience represents 78% of the identifiable tin-glazed earthenwares. Since a considerable portion of this ware at Dolores appears to come from outside the compound (in the vicinity of Feature 6), we are again tempted to suggest the possibility of another type of French activity (a trader in residence?) at Mission Dolores. Finally, the presence of Chinese porcelain, English salt-glazed stoneware, and English creamware was also predictable to a certain extent. Chinese porcelain occurs at nearly all New World Spanish Colonial sites, even on the frontiers, and Dolores is no

exception. Interestingly, Chinese porcelain represents ca 10% of the European sherd sample (comparable to Los Adaes), and thus is much more prevalent here than at Ahumada (6 sherds) or San Xavier (2 sherds). English salt-glazed stoneware occurs at Ahumada and Los Adaes, but not at Mission San Xavier (Gilmore 1969), a long way from the English traders on the Mississippi. Cream-colored earthenware (English) is not uncommon at Los Adaes, but was not identified at Ahumada or San Xavier. Thus, the possible presence of English trade goods along the eastern Spanish frontier (see App. II) appears to be demonstrated at Los Adaes and Dolores.

Comparisons, Architecture

In addition to the artifact comparisons which point to the identification of the site on Mission Hill as a significant Spanish Colonial site (i.e., Mission Dolores de los Ais) there are also a number of architectural features present at the site which also support this contention. In addition, there are some features which suggest that the Spanish constructed these mission complexes based on some sort of standardized architectural plan.

The construction details of the palisado wall (F-25) at Dolores are very similar to those recovered at San Xavier and Mission Rosario (Gilmore 1969, 1974). The presence of this style of construction for a perimeter wall also corresponds with the data from San Xavier. In addition, the perimeter walls (and others) at San Xavier (1742-1755) almost exactly parallel (see App. IV) those at Dolores. Not only are

the Dolores walls oriented the same as the San Xavier walls, but they also are oriented ca NNW, north reference) the same as the walls uncovered at Rosario (1751-1807), and the walls in the contemporary plan (see frontispiece in Tunnell and Ambler 1967) from Presidio San Agustín de Ahumada (1766-71).

At San Juan Capistrano (1731-94; Schuetz 1968), we find the NNW orientation as well as N-S walls. Schuetz's research (1968, Fig. 3) indicates that the NNW-trending walls were present in 1756, and that the N-S walls had been constructed prior to 1762. This suggests that between ca 1750 and 1760, wall orientations for at least one Spanish site in Texas changed from a NW orientation to a N-S orientation. The San Juan situation also suggests that even though the earlier style existed at a site, the new orientation was incorporated into the old. At Mission San Lorenzo (1762-71), we also find two wall orientations: N-S and NNW. Tunnell and Newcomb (1969) indicate that the archaeology and the ethnohistoric data point to the N-S orientations as the earliest, and the NNW orientations as later. The entire quadrangle was complete by 1767 (at least), although the later construction (NW quadrant) was clearly not as well made as the earlier (Tunnell and Newcomb 1969:185).

Perusal of plans for a number of Spanish colonial presidio/mission etc., sites reveals three major wall orientations: 1) NNW, 2) WNW, and 3) N-S. The WNW wall orientation also occurs in Texas sites, e.g., Mission Concepción (1731-1794; Scurlock and Fox 1977). In addition, it seems that at least two of the orientations could occur together, usually NNW or WNW with N-S. What these orientations represent in a

cultural or historical sense is unclear. We find the problem (if it is one), intriguing, but can offer no solutions or suggestions at this point. Our general feeling is that these various orientations may represent important data which, one day, will be a useful archaeological tool, if nothing else.

One final architectural note. While we cannot at this time prove the purported well (F-13) at Dolores is a well, its general cross-sectional configuration (as well as fill episodes) is very similar to the purported well (App. IV) at Rosario (Gilmore 1974:221). Even if neither feature is a well (or was supposed to be a well), the method of excavation (or construction) is very similar.

Since the excavations at the site of Mission Dolores are not complete (and since we will never excavate more than one-third of the site), the only safe conclusion is that, based on the architectural remains and artifacts, Mission Hill in San Augustine, Texas, is the site of Mission Nuestra Señora de los Dolores de los Ais. Architectural features and artifacts fit generally into models constructed previously. The excavations have given us a glimpse of the eastern Texas frontier of the Spanish colonial world. It is hoped that continued excavation at Presidio Los Adaes, further excavation at Mission Dolores, and the location and excavation of other East Texas missions will broaden our view. In addition, the research mentioned above, plus excavation at historic Caddo sites, should allow us to begin to identify some of the socio-political Caddoan groups described in the ethnohistorical documents and to elaborate on our knowledge of those groups. These data

coupled with continued excavation of prehistoric Caddoan sites, should contribute to an improved cultural and developmental discussion of the Caddo cultural phenomenon.

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APPENDIX I
Mission Dolores de los Ais: Historical Background and Field Investigations, 1972-73
By Kathleen Gilmore

A. Historical Background

Mission Nuestra Señora Dolores de los Ais was established by Father Antonio Margil de Jesus. Father Margil had been ill when the Ramón Expedition left San Juan Bautista on the Rio Grande River, April 1716, but was in east Texas by July (Rios 1959:117). Near the end of the year 1716, Father Margil left with Captain Ramón for the newly established French settlement of Natchitoches. Eight leagues (21.04 miles) "beyond the territory of the . . . Natchitoches" (west) Mission San Miguel de Linares was established. Returning westward on the same route, Nuestra Señora Dolores de los Ais was established apparently early in 1717 (Tous 1930). Margil stayed at Mission Dolores and wrote a letter from there February 13, 1718 (Leutenegger 1971:2), part of which follows.

> Our Captain spoke to the Adays Indians, who are eight leagues from the Natchitoches Indians . . . To me, in the name of His Majesty (may God keep him), he entrusted the task of instructing them as their Missionary, and gave this Mission to our College of Zacatecas under the title of Mission de San Miguel de Linares . . . Likewise, on returning on that same royal route, midway between those four Missions and Mission San Miguel, he spoke to another tribe, which is very numerous and is called Ais. They also said that they wanted Missionaries and the Spaniards. In the same way as with Mission San Miguel, the Captain gave us possession of the mission, whose authentic deed was to remain in our possession, as members of the College of Zacatecas, with the title of Our Lady of Sorrows (Nuestra Señora de los Dolores de los Ays). I then placed a Missionary in charge, having left the other

> Religious in Mission San Miguel and the other two Missionaries of the four, who belong to our College. The one is the same, who from the start was at the mission they gave us as one of the first four; the other is my helper in this Mission of Our Lady of Sorrows. With this, Señor, we have three Missions; the last two have churches, adorned with pictures and vestments, obtained from the alms of benefactors . . . In founding these two missions and the other three, any further progress of the French has been blocked, and our Captain has carried out the orders to establish missions until he meets the French . . .

The Alarcón Expedition visited the east Texas missions in 1718 to bring supplies. After leaving the mission of Nuestra Señora de Guadalupe (at Nacogdoches) on the 5th of November, 1718, their route to Mission Dolores was (Hoffman 1935:80-81):

> . . . traveling in the same direction, although making detours in all directions owing to the winding of the roads, and passing through ravines and open woods of pecans, oaks, pines, and some small creeks and clearings, they arrived at a river which the said governor named Todos Santos [Picardo (Hackett 1931:I, 398) says this is the Attoyac]. It carried quite a bit of water, and on the other side camp was made that night. This day we traveled about fifteen leagues [39.45 miles].
>
> On Sunday, the 6th of the present month, they left the said river, and the father president went to say mass at the mission of Dolores which is more than six leagues [15.78 miles] distant. There, the said father president having arrived beforehand, he and the most reverend father Fray Antonio Margil received the said governor by singing the Te Deum Laudamus and by having prayers in the church. And mass having been said, they spent that day in discussing what was necessary for the welfare of the province. It would be necessary to reconstruct [?] this mission of the tribe of the Ays. The governor named it pueblo of Nuestra Señora de los Dolores de Benavente. This nation is numerous and twenty persons have been baptized. And this day about six leagues were traveled.
>
> (Translator's footnote: Aguayo, in 1721, arrived at a river named Todos Santos, fourteen leagues from the

> mission of Nuestra Señora de Guadalupe de los Nacogdoches. Picardo believes that it was the same river which Rivera, in 1727, called the Atoyaque, a Mexican word meaning "in the river". [Hackett, Pichardo's Treatise, I, 398-400.] Miss Buckley [1911] believes that the Todos Santos was the Amoladero and not the Atoyaque or Attoyac ["Aguayo Expedition," p.49, note 5.]

Father Margil remained at Mission Dolores with a soldier and a lay brother, Francisco de San Diego, but after the lay brother died, September 1, 1717 (Habig 1973:147), he was at the mission alone. Margil, himself, dug the grave for the burial (Rios 1959; 118). Rios states he "spent his days cultivating the soil, weaving baskets, cutting wood, and making cords".

While Alarcón was in Texas, the French established a trading post on the Red River far upstream from Natchitoches. The founder of the post, Bénard de la Harpe, wrote letters to both Alarcón and Father Margil (Wedel 1971). The letter to Margil proposed trade with the Spaniards so that the spread of the missions and conversion of the natives might be helped by the use of European merchandise. He offered a 5-percent profit on sales, and requested ten cows and two bulls. Margil was amenable to the trade, but, as Wedel (1971: 44) states, "he explained such interchange would have to be kept under cover since it was not an accepted activity for a religious, and besides would antagonize the governor".

Before it could be carried out, however, France and Spain were at war and Alarcón had left the area. The missions of East Texas were abandoned by the Spaniards when it appeared the French might attack the area.

East Texas was not reoccupied by Spaniards until 1722, when the Aguayo Expedition came into the area for that purpose. Father Margil had been waiting in San Antonio to accompany such an expedition. When the expedition reached the land of the Tejas, they reestablished the missions and distributed gifts to the Indians. Among these gifts were "glass beads, knives, ear-rings, finger rings, mirrors, combs, awls, scissors, chain links" (Forrestal 1934:42).

Continuing on from Mission Guadalupe (in present Nacogdoches) the diarist of the expedition, de la Peña, wrote as follows (Forrestal 1934):

> Tuesday, 19 [August 1722]. The march continued east northeast, although at places the road was crooked and took us in a somewhat different direction. We made our way through gorges, woods sparsely settled with oaks, pines and walnuts, crossed some creeks, and were obliged to build two bridges. On a plain near the last of the aforesaid creeks, and in the vicinity of a small lake, which his Lordship named San Bernardo, we ended our journey of six leagues. Father Margil went ahead with a detachment in order to build the next mission that of los Dolores. Six leagues [15.6 miles]
>
> Wednesday, 20. Continuing along the same route and through the same kind of country and woods, we crossed a river which, when on a rise, becomes very turbulent and which was already known as Todos Santos. The battalion camped on its banks, after a day's journey of eight leagues. Eight leagues [20.8 miles]
>
> Thursday, 21. We continued the march toward the east-northeast, through a broken and wooded country, until we had advanced one-fourth of a league beyond the spot on which had stood the Mission of Nuestra Señora [de los Dolores] de los Adaes [translator's footnote: This was not the Adaes, but the

> Ais mission. The expedition did not reach the former until the twenty-ninth.] , of which not a vestige now remained. To Father Margil this new site for the mission seemed preferable, because it is on the banks of a stream that has its source nearby, and because it is on an elevation, without trees, and near a large tract of level land that can be used for cultivation. This day we covered six leagues. Six leagues [15.6 miles]
>
> Friday, 22. The day was spent in building the church, all the men necessary being employed.
>
> Saturday, 23. The occasion was celebrated with the same solemnity as at the previous missions, and after the High Mass and the salute from all the companies, Fray Antonio Margil and the captain of the Indians were granted title of possession. The captain was clothed as other Indian captains had been, and the Indian men and women were clothed also as at the other missions. His Lordship added joy to the occasion by offering the Padres and captains a splendid meal. One hundred and eighty Indians were clothed at this mission, and Father José Albadadejo remained here.
>
> Sunday, 24. The Governor having left a detachment to finish the church and to build the dwelling for the Padres, we set out toward the east.

The group continued for 5 leagues (13.15 miles) through walnuts and pines and crossed clearings and permanent streams to a lake which was named San Bartolomé. The next day they continued 7 leagues (18.41 miles) east-northeast over hills and gullies, and stopped at a lagoon about a league from the ford of the "Sabinas" river. The 26th they crossed the river, went 3 leagues (7.89 miles) and camped on a hill not far from a creek. The next day they traveled 6 leagues (15.78 miles) through pine, walnut, oak, chestnut, and medlar trees and camped on the opposite bank of a stream, Santa Rosa de Lima. On the 28th they traveled 8 leagues (21.04 miles) and camped between a lagoon and another creek. The following day they

came to the old site of Mission San Miguel de los Adaes, but proceeded another one-half league (1.3 miles) to a spot where the presidio was established. This was "on the highway leading to Natchitoches and 7 leagues [18.41 miles] from Natchitoches itself" (Forrestal 1934:54).

The years of 1735-36 were lean years for the presidio, mission, and settlement at Los Adaes. Trade with the French 7 leagues distant had been forbidden, and supplies from Spanish settlements were expensive and difficult to obtain. Moreover, the soldiers refused to plant and cultivate the presidial farm. It was during this time, as Castañeda notes (1936:I, 81), that "the supposedly useless Missions of Guadalupe de los Nacogdoches, Dolores de los Ais, and San Miguel de los Adaes were in fact the only sources of supplies for the starved garrison and civil settlement".

Father Antonio Ziprián (or Ciprián) was missionary at Mission Dolores and wrote a letter from there concerning political matters August 30, 1736 (Hackett 1931:I, 243). The biographical sketch by Habig (1973:115) does not indicate that Father Ziprián served at Mission Dolores. Father Ziprián became Guardian of the Zacatecan missions in 1747, and in 1749 wrote a report concerning the missions' progress to that date (Castañeda 1936:III, 125). The lack of reports and details about the Zacatecan missions to this time is explained by Castañeda (ibid., 123) in that the missionaries seem to have gone about their work quietly and made no reports until in 1748 high-

ranking officials realized they knew nothing about the activities of the Zacatecan College.

Castañeda (1936:III, 126-27; see also Appendix 2), probably paraphrasing Ziprián's letter, states the following about Mission Nuestra Señora de los Dolores de los Ais:

> This mission founded . . in 1716, had at this time about seventy families, with some three hundred Indians to look after. Unfortunately they, with very few exceptions, did not live in the mission. On the contrary, the Indians were scattered in eight rancherias, occupying an area of about two leagues. Most of those who had been baptized had received the sacrament in articulo mortis. Although there were many who at various times asked to be baptized, the padres preferred not to administer this sacrament to them, because the natives were not constant in their desire to be Christians and would often apostasize. There was a jacal church, made of brush, mud, and straw, and a place of similar nature for the missionary.

This latter statement has not been confirmed from primary sources.

In 1754, it was suggested that Mission Dolores be closed and its goods moved to a new mission to be established for the Karankawa Indian groups near the coast. Father Vallejo writing to the Guardian from Los Adaes protested the closing (Nunley 1975:32):

> The aforementioned mission [Dolores] is very convenient and it is necessary that it remain in the same location where it is now located, because of the great usefulness which its existence provides to the Ais Indians and [because of] the dismal consequence that could follow its removal . . .Our ministers have worked and [continue to] work with special apostolic zeal, [and] they have attained [these converts] at the expense of unimaginable labor and by the small gifts of blankets, flannel, sackcloth, comestic cotton, and other trifles that are liberally contributed annually to the Indians when they receive their alms.

> . . . The Indians are so obedient, docile, and domesticated that they serve the mission as herdsmen, workmen, and an escort for the fathers when they leave. They even sweep the house and serve the table, and the Indian women use the metates and [tend to] the rest of the womanly chores that they find in the kitchen, from which one can infer that their conversion will be successful if [even] the weakest powers of the ministers might assist them in every way for their conversion. At the time that Father Fray Ignacio Antonio Cyprian was minister of the aforestated mission, he had the Indians congregated for some time. It must have been four years ago that Father Fray Joseph García was minister and had them congregated at the mission. They remained in it very steadily and subject to his orders, until finally the meager funds with which they were maintained caused one rebel Indian to stir up all the others, resulting in their return to their ranchos . . . without the Mission de los Ais it will not be possible -- without great inconvenience -- to save the Mission of Nacogdoches, [because of] circumstances at this time. The distance of fifty leagues to the presidio endangers it and, therefore, it cannot adequately be aided without the chance of danger, invasion, or another accident that could occur. All of this would not happen if the Mission de los Ais continues to offer the consolation of aid from its inhabitants and soldiers; and if their aid is not enough, it will at least serve to allay the danger while help from the presidio arrives . . .I feel that it should be maintained even though it might be [continued] with [only] one missionary, so the other one could go to the new foundation soon to be a mission to congregate the Guapites, Cujanes, and Caranchaguases in the vicinity of Espiritu Santo Bay.

Father Joseph Francisco Caro was at Dolores in 1757, but was sent to Orcoquisac until about 1758 when he requested to return. On October 19, 1761, he died at Dolores and the Indians insisted he should be buried at the mission instead of at Los Adaes (Habig 1973:114).

Father José Abad de Jesús María apparently was at Dolores early in 1759 (Habig 1973:109), but later that year, perhaps after Father

Caro returned to Dolores, he was at Orcoquisac. In 1764, Brother Marcos Zalazar died at the mission, but further information about this missionary is lacking (Habig 1973:155).

The Treaty of Paris in 1763 ended the Seven Years' War in Europe, and had consequences for Texas. Spain's eastern border was now the Mississippi River, and the presidios and missions of eastern Texas were no longer essential for the protection of the border against French aggression (Moorhead 1975:47). As a result of this the Marques de Rubí was instructed to inspect all the presidios of the internal provinces. Accompanying Rubí was Nicholas de la Fora who kept a diary of the expedition (Kinnaird 1958).

They left Nacogdoches on September 7, 1767, and traveling east-southeast (see Fig. 1, infra).

at 1/4 league	(.65 mi)	crossed La Nana arroyo
1 3/4 league	(4.58 mi)	crossed El Carrizo
1 league	(2.60 mi)	camped on banks of Atascoso
3 leagues	(7.83 mi)	

September 8

at 6 leagues	(15.60 mi)	crossed Las Amoladeras
1 league	(2.60 mi)	crossed Attoyac
5 leagues	(13.00 mi)	came to Mission of Los Ais
2 leagues	(5.20 mi)	camped at spring of El Palo Gacho
14 leagues	(36.82 mi)	

September 9

11 leagues ENE, 5 leagues NNE

at 2 leagues	(5.2 mi)	crossed El Lobanillo arroyo
2 leagues	(5.2 mi)	unnamed arroyo
3 leagues	(7.8 mi)	"the site called La Cuesta Alta"
2 leagues	(5.2 mi)	El Patron arroyo
ESE 2 leagues	(5.2 mi)	Sabinas river forded in shallow water
16 leagues	(28.6 mi)	

September 10

ENE 12 leagues	(5.2 mi)	crossed dry arroyo El Vallecito
at 2 leagues	(5.2 mi)	crossed dry arroyo El Vallecito
3 leagues	(7.8 mi)	crossed El Cautivo arroyo
3 leagues	(7.8 mi)	Los Tres Llanos rancho
1 league	(2.6 mi)	another Los Tres Llanos ranch
[2½ leagues	(6.5 mi)?]	arroyo Hondo
½ league	(1.3 mi)	Presidio Nuestra Señora del Pilar de los Adaes
12 leagues	(31.2 mi)	

La Fora was succinct and blunt in his evaluation of the east Texas Spanish establishments (Kinnaird 1958:166).

> The mission of Los Ais is situated on a small hill near an arroyo. This mission is about as useless as the preceding one [Guadalupe at Nacogdoches] but the disadvantage is greater to his Majesty for the reason that two priests are maintained in it with an annual salary of 450 pesos each. There are also a lay brother and two soldiers with their families who compose the entire population. The Ais Indian nation lives in the neighborhood. They speak Spanish well and appeal to the padres only when they want something.

He also commented about the mission ranch:

> We crossed El Lobanillo arroyo where the missionaries of Ais had a rancho which they themselves are believed to have ordered to be burned.

In 1767-68, Father Gaspar de Solís made an inspection of the missions. Two translations have been made of his account, one by Forrestal (1931) and one by Kress (1931), and where they differ is noted in brackets.

May 4, 1768	left	Mission Guadalupe at Nacogdoches
	crossed	Arroyo de la Nana and Amoladeras
	12 leagues to (31.36 mi)	Attoyac where they camped
May 5, 1768	crossed	creeks
		Venado Creek, where Fr. Santa Maria Laba Voceta y Reynosa with several men met them
	8 leagues to (21.04 mi)	"the mission of the Ais"
May 6, 1768	crossed	Carrizo Creek
		Palo Gacho
	to	Ranch of Lobanillo de Gil, where they ate
	[no leagues] to	Gonzalitos Creek, where they slept
May 7, 1768	passed	Patron Gap
	crossed	Sabine River
	12 leagues to (31.36 mi)	Puerto de los Cavezos [Kress;] Cabezas [Forrestal]
May 3, 1768	crossed through	3 plains, Ranchos de Raso [Kress]; Tres Llanos [Forrestal]
	crossed	Bondo Creek
	no leagues to	"Adais Mission"

Going back to the west, the party, after reaching Palo Gacho, "passed through the Borregas, by a very good spring, through the cane-brake, and ate at the mission of the Ais" (Kress 1931:66). The

other translation reads (Forrestal 1931:31), "went through Borregas, passed a very good spring, and crossed Carrizo Creek before arriving at the Ais Mission where we ate dinner."

Solis' report on the mission is quoted from the Kress (1931) translation, with differences from Forrestal (1931) in brackets.

> This mission is situated in a plain that is not very large. It is in the midst of dense woods; [This mission is situated in a rather small plain and is surrounded by a woods covered with shady trees.] the ground is red like vermillion or ochre, so that it makes the clothes of those who live on it red, and it seems like a bed of gold ore, as indeed near said mission there is an open shaft of a mine from whence they tell me that gold has been taken although little and of low quality.
>
> The wooden church is neat and clean; the ornaments, sacred vessels and the rest of the jewels are good and neat, and in due arrangement; [The church, a frame structure, is kept neat and clean, and the vestments, sacred vessels and silver utensils are good, suitable and well kept.] the wooden dwellings are also adequate, sheltered and decent. [The dwelling-quarters, also made of wood, are sufficiently large, and are warm and respectable.] Its ministers suffer some necessities because of the fact that the aid sent to them from the outside and given by the King, Our Lord (whom may God preserve), does not usually come on time, and they suffer until it does come.
>
> They have plenty of good water from a creek that is full and permanent, but they cannot water the fields because there are no means of getting the water out and the creek is deep. The little that they sow is in the regular season. [A deep creek, which never runs dry, supplies the mission with water, but as its banks are very high it cannot be used for irrigation purposes. The mission must depend upon the rains to water the small tract of land that is under cultivation.] There is an orchard near the creek that is watered by hand, where there are some peaches, figs, and native fruits; they also plant onions, garlic, cabbage, lettuce and green vegetables of all kinds.

This mission has very little property, [This mission is poor in temporal goods.] a few horses, about fifteen or twenty mules, about ten or twelve cows, and as many bulls, about sixteen or twenty oxen for the farming. The Indians steal as many as they can; the bulls, cows and calves for eating, the horses, mules and mares (of which there is a drove) for their commerce and traffic with the French to get whiskey, sugar-cane whiskey, vermillion, beads, cloth, powder, balls, guns, tobacco and other things. The Indians of the Ays Nation are the worst of this Province: drunkards, thieves, given to mitotes and dances, and to all kinds of vice, principally that of licentiousness. They are idle, overly audacious, shameless. They have lost respect for many of the Religious in word and deed, even laying their hands on them. They look with scorn on everything connected with our Holy Faith. There was an Indian of this Nation who sacrilegiously said that he loved and appreciated Misuir (who is the Devil), more than he did the Most Blessed among all those created, the Holy Mother Mary, Our Lady, and other scornful things about our Holy Faith; they also make jests about the Fathers. On account of this, I judge that there is no hope, not even a remote one, of their reduction and congregation, and that there is imminent and almost certain danger to the life of the ministers among these pagans. It is true that some of them have asked and do ask for baptism in the hour of death, and there are some children whom they carry to the Fathers for baptism. Those who die obtain salvation, those who live are perverted and lost! I know many of both sexes that were apostates and perverted, and my heart was full of sorrow. In the administrative books I found eleven baptisms, seven burials and three marriages.

All this country is extremely cold in the winter. There are violent northers which bring snow for many days, so that the woods and everything is covered with more than half a vara of snow and afterwards big freezes come in such a manner that the trees and bushes are as if they were made of crystal. In the summer time the heat is intense and the rains are abundant. This is the reason why the rivers have two floods each year, one in the summer on account of the heavy rains and the other in the winter because the snow melts and the rivers carry off the water.

Morfí in his History of Texas (1935:214) paraphrases the Peña Diary, and also makes the same mistake of calling the mission "Los Adaes" instead of Los Ais. He also uses Solís' description about the earth being so red it stains the clothing, and his statement about the presence of low-grade gold ore.

Ricardo (Hackett 1931:I, 346) located the mission "of los Ays we found from the data cited to be four and one-half leagues [11.8 miles] distant from the Rio de Atoyaque . . which was in 31° 19' of latitude and 77° of longitude."

The Marques de Rubí's inspection resulted in the recommendation, among other things, that the east Texas presidios and missions be closed and that the population of the civil settlement at Los Adaes be moved to San Antonio.

Ripperdá, the governor of Texas, wrote to Unzaga y Amezaga, the governor of Louisiana, from San Antonio April 17, 1773, about the regulation (Bolton 1914:II, 29).

> This [the regulation] provides for dismantling the presidios and abandoning the sites of Los Adaes and Orcoquiza, care being taken that the few inhabitants in them shall retire to this villa San Antonio or its neighborhood and that land be distributed for their subsistence; and for extinguishing at the same time the useless missions of Nacogdoches, Ays, Adaes, and Orcoquiza. . although the missions named have made no progress in so many years, I know that this news will cause great surprise to the surrounding nations accustomed to living near the Spaniards and missions, where many were baptized on the deathbed, especially the Aes, who live near the mission of this name.

The settlers of Los Adaes petitioned to settle at the mission of the Ais instead of San Antonio, but although they obtained

permission through the efforts of Gil y Barbo and Gil Flores, this was later rescinded, and they were eventually settled in a new village, Bucareli, on the Trinity River, in 1774. This village was abandoned after 5 years, and the settlers moved to Nacogdoches.

The mission of the Ais was probably abandoned in 1773. Mézières wrote to Croix May 27, 1779 (Bolton 1914:II, 257) that near the Sabine River was "the little village of Ais, for whose benefit the mission of Nuestra Señora de los Dolores, of that name, was founded. It was so unfruitful that all that the ministers gained were labor, sorrow, and expense; for these lazy, insolent and greedy people so satiated themselves with material food that they would not accept that [spiritual food] which was longed for by their [ministers'] apostolic zeal. They number twenty families; their vices are without number; and the hatred which they have won from the natives and Europeans, general. Their country is one of the richest in this province."

Thus ended the Spanish colonial history of Nuestra Senora Dolores de los Ais after more than 50 years of existence. Carlos Castañeda, writing of the mission (1936:XIV, 36) asks, "Was this mission a failure? On the face of the circumstances just described this conclusion seems inevitable. But on the other hand the Marques de Rubí bears testimony to the fact that the Ais Indians spoke Spanish almost without exception; that they were very wise (ladinos); that they had learned to use modern implements, raised good crops

independently, and were skilled . . in the use of firearms."

In addition, this mission served as a way station between Los Adaes, Orcoquiza, and Nacogdoches, and probably was a point in the dispensing of French goods into Texas, as well as furnishing food in time of scarcity.

Immediately after abandonment of the mission and of the area by the Spanish, we have no information until it seems Gil y Barbo had control of the land allotments in the area. This later time period is covered sufficiently by "Two Centuries in East Texas", by George Crockett, and is not repeated here. Pertinent to this study are several land surveys of the line between the E. Quirk and Santiago Conichi grants. Several of these mention passing by the "old Mission". The earliest survey known to the author was made in 1826, fifty-three years after Mission Dolores was officially abandoned.

Santiago Conichi, the Spanish rendition of James Quinalty, and variously spelled Conelte or Quinilty, applied for title to his land probably about 1826. A series of documents recorded in Vol. D, Page 163 seq. are in the Deed Records of San Augustine County, Texas, and were obtained through the courtesy of Charles McMillan of San Augustine. The quotations following are from those records. It should be remembered, however, that these documents are translations from the Spanish, and errors may have crept in.

Quinalty's (or Conichi, hereafter spelled Quinalty) land was "situated on the East bank of the Ayish Bayou, adjoining and south of the old road and Mission of the Ayish". He made a deposition to

the effect that his land was lying "at the Mission of the said Ayish Bayou, on the north side and from this point south until arriving at the Carrizo, which land amounts to about a mile and one-half title, more or less, the said Bayou dividing it and North keeping the line of the King's Highway, until coming to the lands of Mr. Changa, which I expect extends about six miles a little more or less and from the same South to Square, the same on a West course, with the mouth of the Bayou Carrizo, where the survey will terminate."

Quirk and Quinalty appeared before the Alcalde on the 26th of June 1826, and peacefully agreed "that the King's Highway alone should be and serve them as a boundary line, changing in a right line from the old Mission, crossing eastwardly the meanders of the road." This statement is ambiguous in that the two parties agreed the boundary line between each property should be the "King's Highway", yet reads that the line crosses the meanders of the highway. This ambiguity may be the result of the translation because in another declaration in the same document (p. 16) the wording is "and the King's Highway should serve them as a boundary, running a straight line from the old Mission road, crossing Eastwardly with the meanders of the road belonging to wither (sic) party to whom they may fall by the said line."

The survey for the Quinalty property was begun at the junction of Carrizo and Ayish Bayous. Consequently, there is a present-day point which can be located, although the point where the Carrizo joins Ayish Bayou may have changed a little from the exact point referred to originally.

This series of documents establishes that the Mission of the Ayish was 1) east of Ayish Bayou; 2) on the north side of the Quinalty property, the boundary line of which was the King's Highway, and, it follows, north of the road; and 3) the junction of Carrizo with Ayish Bayou was 3,227 yards (varas?) south of the crossing of the King's Highway at Ayish Bayou.

The survey of the Quirk land, made in 1828 to give Edmund Quirk, Jr., secure title to his land, when plotted, is a square, 10,000 varas (27,777.7 feet) on each side. From the southeast corner "running course west on the old road which passes by the Mission 5,000 varas (13,850 feet) to Ayees Creek, continuing course west on said old road 5,000 varas to where it began". The survey was bounded on the west by lands of Francisco Guerrero, on the north and east by vacant land, and on the south by lands of "Santiago Conelte" and "Richar Cimes". This does not note which side of the "old Road" the mission was on, but only that it was east of the bayou. These documents are in the General Land Office, Austin, Texas, Vol. 37, p.355. The drawing is in "The Peyton and Quirk Families" by M. T. Peyton.

A survey made in 1841, recorded in San Augustine County, Vol B, p.359, District Court Civil Minutes, contains a section of enumerated calls beginning at the southeast corner of the Quirk property. The survey is handwritten and is very difficult to read, and some interpretations may be in error. The survey indicated the "old mission" was 510 varas (1,416.5 feet) from "the A B", presumably Ayish Bayou.

The survey line turns northwestward from the point marked "old mission". There is no notation of why it was called the "old mission" nor any indication of the side of the road it was on. This survey has been plotted and superimposed on a 1961 Soil Conservation aerial photo of the area (Fig. 2 infra).

B. Field Investigations

The Site[1]

Site 41SA25 lies on a hill which rises about 25 to 30 feet above the floodplain and about 792 feet east of Ayish Bayou, in the Eastern Timbers physiographic province of Texas, at 31° 31' latitude, 94° 7' longitude. Growing on or near the site are oak, pine, and hackberry trees. Mimosa tree sprouts and magnolia tree are also present from recent plantings. Poison ivy, sumac, cherokee rose, sweetbriar, and honeysuckle with other low-growing plants comprise the understory. Annual rainfall averages 50.23 inches. The minimum temperature of 35°F usually occurs in January with the maximum in July of 93°F (Texas Almanac 1975:350).

The geological formation at the site is a yellowish brown and reddish brown clay containing hematite concretions, of the Weches formation. The clay is overlain by a thin layer of red to chocolate brown soil. The highest elevations of the site are almost completely denuded of soil. When I. Bate (personal communication) moved to the site in 1945, he brought in both soil and gravel, and he estimates that several feet of soil has been eroded from the hill.

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[1]Gilmore's investigations were restricted to the area north of Highway 147, although a backhoe trench was excavated on the south side of the highway on the last day of her investigation.

Lon Ware, age 83 (1972, personal communication) of San Augustine recalls that in 1909 the hill was "bald" with no structures or large trees on the periphery as there are now. At that time a planing mill was built on the hill slope, apparently on the north side. Ware also recalled unearthing a burial containing a pipe and beads, about 10 yards west of where the utility pole now stands (Fig. 4).

A house had been built by 1925 (Fig. 3), as evidenced by a newspaper clipping in the Crockett Collection of Stephen F. Austin University, Nacogdoches. When Bate moved to the site in 1945, he dismantled two buildings: "a very old large frame building then standing on the crest of the Hill; another old building, but smaller, was located on the North Slope of the Hill."

In the larger structure Bate found several 16-foot "long, hand-hewn, rich pine timbers". The timbers were lying flat and had "mortised sockets still fitted with the ends of smaller timbers with wood locking pins in place". These timbers were used in building a small garage apartment which was later made into a two-story addition to his house. This addition was moved to McKechney Drive in San Augustine in 1971. Unfortunately, tree-ring growth dating cannot be worked out for Texas, or these timbers could be dated. Although Bate feels the larger structure was perhaps 100 years old, this could not be so if Ware's recollections are correct.

Bate also recalls that "about 1948 the Stone Lumber Company graded off the north side of the hill to about its present shape, and

the east slope to two levels on which two small houses were built". At the break of the two levels were several burials containing unglazed clay pottery. He collected some of the pottery, which apparently has now been lost. At present (1973), there are no houses on the north side of Highway 147 from the crossing of Ayish Bayou eastward and northward to Planter's Street.

During the first few years Bate lived on the site, he found a few artifacts consisting of unglazed pottery, and clay and glass beads. Later, with a metal detector, he found a piece of cast iron weighing about three pounds. This has not been identified with certainty. He gave most of the artifacts to students from the University of Texas. Artifacts from this site in the Texas Archaeological Research Laboratory at Balcones Research Center in Austin are listed in Table 2, and representative ones of probable Spanish Colonial origin are shown in Figure 10.

In 1962, at the request of the late Steve Kardell, representing the San Augustine Historical Society, three archaeologists, Dr. Dee Ann Story, Dr. E. B. Jelks, and Lathel Duffield, all of the Balcones Research Center, University of Texas, Austin, came to the site to witness and consult during the blading of an area probably in the area of our Features 13 and 23 (Fig. 4) and on the west side of the hill near the railroad tracks. These operations revealed a few possible burned areas and a few isolated possible postholes which were not in a pattern and could not be related to a specific occupation.

A two-page report is on file at the Texas Archaeological Research Laboratory, Balcones Research Center, Austin.

The site was purchased in 1971 by the San Augustine Historical Society. The house was moved and remaining debris was leveled.

The Excavations (Fig. 4)

Excavations were made from October 16 to November 14, 1972, and from September 10 to 14, 1973. During the first period, the crew consisted of Kathleen Gilmore, archaeologist, with Sandy Childs, Tom Ray, and Linda Verrett. Volunteering their time on weekends were Brit Boseman, David Gibson, Olin McCormick, Herb Mosca, and Tom Ryan of Southern Methodist University, and Sandra Myres of the University of Texas at Arlington. Bill Westbury of Southern Methodist University spent several days on the crew through the courtesy of the University. The crew for the second period consisted of Kathleen Gilmore, archaeologist, Barbara Madden, Kenyon MacDonald, Gene Smith, Carol Wagner, and Phil Winnsborough.

As an initial testing device, eight trenches were dug with a ditching machine loaned by Lee Martin of San Augustine in areas of possible occupation. By this method, any cultural features (for example, postholes or burials) which were found could be further excavated from the surface with minimum damage. Trenches were numbered in sequence as they were dug.

The eight trenches were 1 to 1½ meters in depth, and about .2 meter in width. All trenches were examined for possible cul-

tural remains, and where a disturbance was noted, a square was laid out on the surface and was excavated from that level to determine the nature of the disturbance. These areas were labeled in sequence as features. When it became apparent the soil layer was very thin, a method known as "snitting" was employed. This is a process whereby the soil is scraped off with shovels, and the resulting surface is examined for indications of cultural remains. This method minimizes the unknowing destruction of shallow remains. All trenches and features[2] were plotted on a plane table map with an alidade (Fig. 4).

Feature 1 was the number assigned to a well on the west side of the site (Fig. 4). The area was strewn with bricks which probably formed the above-surface structure. Since the date of the construction of the well was unknown, but was previous to 1945, as it was present but unused by Bate, it was cleared of debris with the aim of finding the earliest material present.

The well was 2.95 meters by 3.4 meters at the surface, with an irregular shape, presumably caused by erosion and weathering. The surface area tapered to 1.4 meters by 1.6 meters in culturally sterile clay. The strata penetrated by the well were as follows:

Surface to 45cm	humus
45cm to 90cm	soft green sandy soil with humus
90cm to 2.4m	clay
6cm thick	hard yellow
20cm thick	dark green, sandy
55cm thick	hard yellow and dark green with some concretions
35+cm thick	hard with ironstone concretions

[2]Gilmore's feature numbers do not correspond with SFA numbers.

Artifacts from the well include 1930's car parts, screw-top bottles, tin cans, enameled kitchen utensils, twentieth-century ceramic sherds. Most of the artifacts were returned to the well after excavation. It is estimated from these artifacts that the well was probably dug during the 1920's perhaps a little earlier.

Feature 2. A 2-meter square was laid out over a disturbance near the east end of Trench 5. A large rock had been placed in a hole which apparently had been a trash pit. With excavation to a total depth of 70cm, two additional smaller rocks were found. A tin can, a possible French-door floor catch, a gopher trap, charcoal, deer bones, and mason jar fragments were found around and under the rocks. A small wheel about 30cm in diameter was wedged underneath the rocks. This feature was probably a trash pit, but it has the possibility of being a former chimney foundation. The artifacts indicate the feature was not mission-related. Although the artifacts are not very definitive, they are probably of twentieth-century origin. Since Bate was not aware of the existence of the pit, it was probably related to the house which Bate dismantled.

Feature 3. A 1-meter square was laid out on the surface over a possible posthole in Trench 5. Charcoal and recent material were contained in the excavation: round or wire nails, machine-cut nails, lamp-chimney glass, a 1919 Lincoln penny, and a small aboriginal potsherd. The area had been burned, as large pieces of burned wood were also found. Bate informed us he had burned some of the debris

when he had dismantled the old house, and this appears to be such a area. A square post had been inserted through the burned area.

Feature 4. This test was at the fence line where a less disturbed area might exist. No artifacts were present except the square fence post.

Feature 5. This a 1½-meter square located on Trench 2 near the former driveway. It contained sandy and burned soil with some modern bricks. No artifacts were found.

Feature 6 was laid out to check a discolored area in Trench 3. When several discolorations were noted, it was decided to follow these by snitting off the soil which was about 5 to 10cm in thickness. Directly under the thin layer of soil was yellow-tan clay with large (10-12cm) limonite concretions. The discolored area, labeled Feature 6A (Fig. 7b), was carefully troweled and was found to be a filled pit 1.85 meters by .45 meter which had been dug into the yellow clay. The fill was taken out and was found to be 25cm deep and culturally sterile.

Feature 7. A small sherd of Puebla blue on white majolica was found on the surface, and a large area was scraped for investigation of features which might be related. Feature 7A contained a nebulous north-south wall setting trench about 0.3 meter wide. It was traced for a length of 5.3 meters; the north end was obscured by mimosa roots and sand, and the southern end simply faded out. Two postholes, each about 20cm in diameter on the exterior edges of the

wall trench were about 1 meter from the northernmost detection spot; 3.5 meters south was another posthole 30cm in diameter on the east side of the wall trench. No connecting walls were found. Since no artifacts were found in the wall trench or the postholes, it is unknown to which occupation they were related. In the top 30cm of Feature 7 and FA were 2 sherds of majolica, 1 sherd of faience, 4 square nails, glass fragments, and late-type ceramics.

Feature 8. This was a 1-meter square test on Trench 4. It was taken to a depth of 20cm. The fill consisted of wire nails, brick, rock, and glass. No features or artifacts of the Spanish Colonial period were present.

Feature 9, 9A. These features were excavated in an attempt to find indications of the wall trench found in Feature 7A. Four postholes were found, but only three, about 1 meter apart, were in east-west alignment, and probably formed the foundation of a wall. The two easternmost postholes contained tan limy rocks; the westernmost contained bricks, glass, tin cans, round nails, and animal bones. These artifacts are late nineteenth-century or early twentieth-century in origin, indicating the holes were filled during this time, and therefore were probably also dug earlier than the earliest artifact, but this date cannot at present be established.

Feature 10. On the southeastern part of the site, 6 meters west of the westernmost part of Feature 7, Feature 10 was excavated to a depth of 28cm to test for the presence of a trash pit or

other cultural remains. A few animal bone fragments were found, but no artifacts.

Feature 11. A test 28cm deep on the eastern part of the site, this feature contained animal bones, glass, square nails (Fig. 9a,b) and some charcoal. No soil patterns were evident.

Feature 12. This area was shovel-scraped and troweled in an attempt to find an east-west wall trench which could align with the north-south wall trench in Feature 7A. A discoloration at first thought to be a wall trench was found to have been a water-line ditch. One majolica sherd, 3 aboriginal pottery sherds, 4 square nails, along with late-type ceramics (white paste earthenware), and glass bottle fragments were found.

Feature 13, 13A. Two faience sherds (Fig. 8a, b) were found on the surface near this feature. The area was highly disturbed, and no consistent soil features could be observed. Feature 13A revealed a concrete slab at 35cm below the surface, presumably part of Bate's former garage. Two majolica sherds, 1 square nail, milk-glass fragments, and white-paste earthenware sherds were found.

Feature 14, 14A. This area is on the eastern slope of the hill near a drainage area. Some of the visitors to the site reported that graves had been found in this area. The soil revealed no patterns, however. One very small majolica sherd was found and one square nail, recent artifacts such as glass, and white-paste earthenware.

Feature 15 was a 1-meter test square dug to 20cm in a large snitted area. Several discolorations were noted, but they were too nebulous to be defined.

Feature 16 was shovel-scraped and troweled in the attempt to find wall trenches trending either north-south or east-west, which would have the possibility of being extensions or cross walls related to Feature 7A or Feature 9. Several nebulous soil stainings in this feature could not be defined with certainty.

Feature 17. This 1 x 3-meter test was on the west slope of the hill near rip-rapping installed by Bate. Two postholes, found at a depth of 50cm, may be the indications of a former fence.

Feature 18, 18A. These features were dug in an area of Bate's driveway where he had had a problem with the earth compacting, necessitating refilling. The northern half was dug to a depth of 30cm, bottoming in a red gravelly stratum; the southern half was dug to a depth of 40cm in the same material. No features were found. Feature 18A was dug in the fall of 1973 to a depth of 70cm. Light reddish yellow culturally sterile clay was encountered at 35cm below the surface.

Feature 19. This feature is due north of the marker for Nuestra Señora Dolores de los Ais. Dark humus with charcoal, a few unidentifiable bone scraps, and three aboriginal potsherds were found.

Feature 20. This feature, a 2 x 2-meter square in the ballpark near where Highway 147 bends toward the north, was excavated in Sep-

tember 1973. About one-half of the remains of a square post was found on the east side of the square. No artifacts were present.

Feature 21. Excavated in September 1973, this feature is on the north side of the site near what was reportedly the gin access road. The top or humus dark brown layer varied in thickness from about 10 to 20cm and overlaid red clay. Late artifacts, such as wire nails, white-paste earthenware, and glass were found in the top layer.

Feature 22. A 1 x 1-meter square, this feature is in a level area north of the rail fence behind the mission marker. It contained mottled and disturbed humic soil. Two aboriginal sherds were found.

Feature 23. Also containing loamy humic soil, this feature had a pocket watch part and a square nail. It was excavated in September 1973.

The backhoe trench. Since there is the possibility that the present Highway 147 may not have been the "old road" or the King's Highway, and surface reconnaissance was not sufficient to negate the presence of mission remains, a backhoe trench was put through the area south of the highway and south of the site. The trench was started at 15.5 meters south of the driveway, was 30 meters long, .5 meters wide, and about 1.5 meters deep. The strata consisted of .2 to .5-meter plow zone; .6 meter of red sandy loam which pinched out at about 26 to 27 meters from the north starting point; and yellow clay. At the north starting point a section of a pit (SFA Feature 13) was present; it was 3 meters wide at the top and 1.5

meters at the bottom, .7 meter deep and contained charcoal and several aboriginal potsherds. Another pit (SFA Feature 34) was found extending from 13.2 meters to 14.8 meters from the north starting point; depth was .4 meter, and the fill contained charcoal and large animal bones, presumably cow. No other features were noted.

Area Investigations

Upon arrival at the site in October 1972, it was learned that a large housing development was to be constructed south of Highway 147 near the northward bend of the road. After permission was obtained to watch the leveling and grading of the ground to check for Spanish Colonial artifacts, about one hour near the end of each working day was spent by one or more members of the crew looking at the area cleared that day. The only artifacts found were a few pieces of white-paste ceramics at the bend of the road where a house had been standing at an earlier date. The superintendent of the project was also briefed on what to look for, but nothing was found that indicated there had been any occupation of the area.

Two crew members during the 1972 field season walked from the ballpark to the site in search of indications of Spanish Colonial material. This area was again searched in 1973. Ground cover is fairly thick in the area, and failure to find anything does not negate the possible presence of cultural remains.

The area west of the housing project south of Highway 147 opposite the site was also investigated for surface indications. None was found, but the ground cover here is relatively thick also.

In September 1973 a backhoe trench was put through the area (see above, Field Investigations).

During the 1973 season an attempt was made to trace the possible presence of the King's Highway northwestward from the northward curve of Highway 147; the attempt was unsuccessful, mainly because of the lack of time. Neither was the old crossing on Ayish Bayou located with confidence. This may be because of several reasons: 1) crossings may have been made along a stretch of the bayou; 2) flooding during the past 200 years may have obliterated the evidence; and 3) the course may have changed with the straightening of the channel of the bayou.

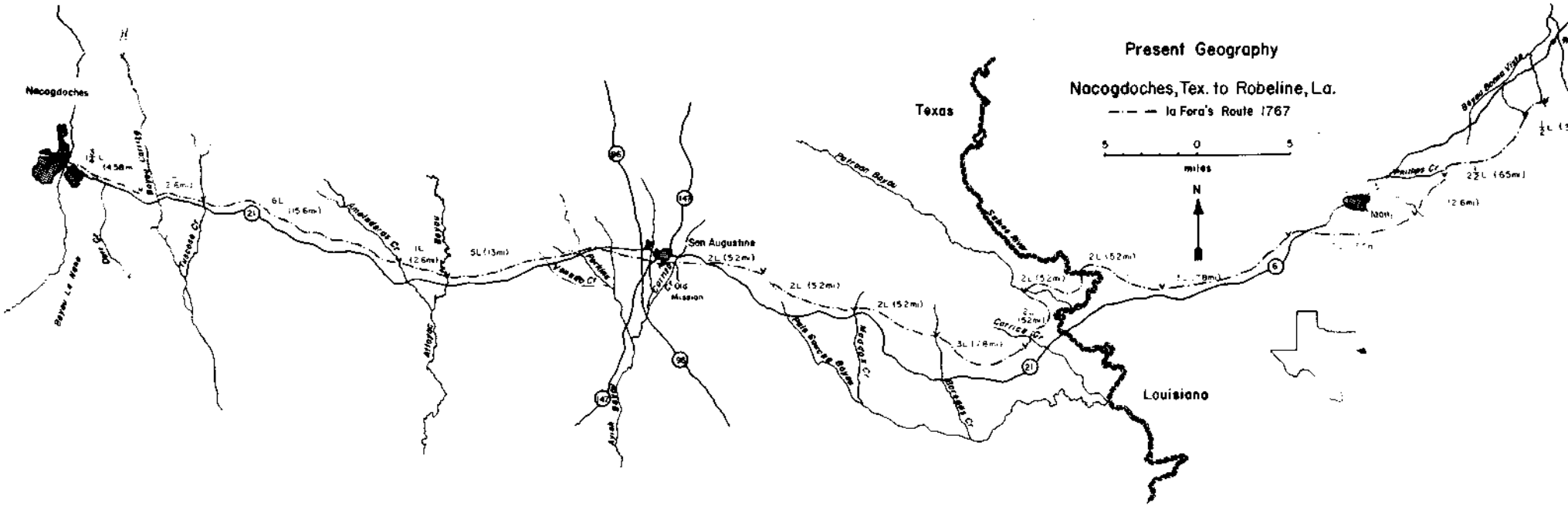


Figure 1. Present geography with La Fora's 1767 route.

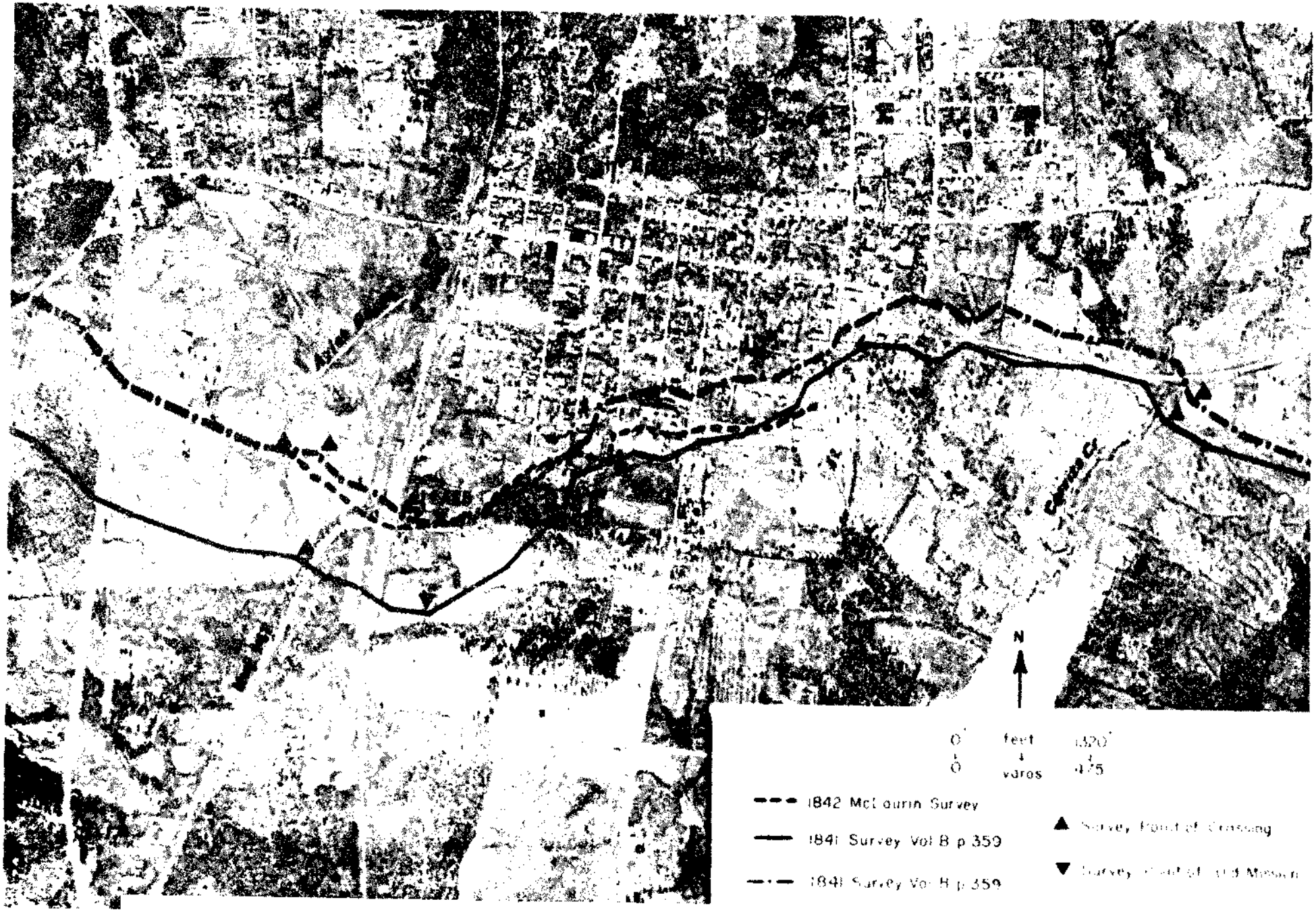


Figure 2. Aerial photograph with 1841 and 1842 surveys superimposed.

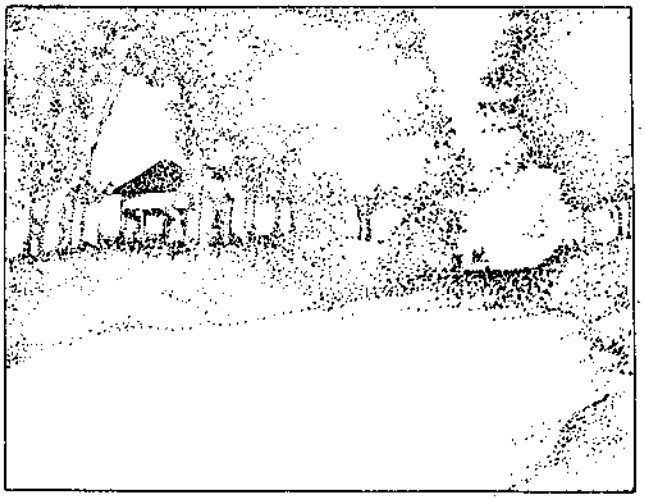


Figure 3. November 1, 1925 newspaper picture of Mission Hill.

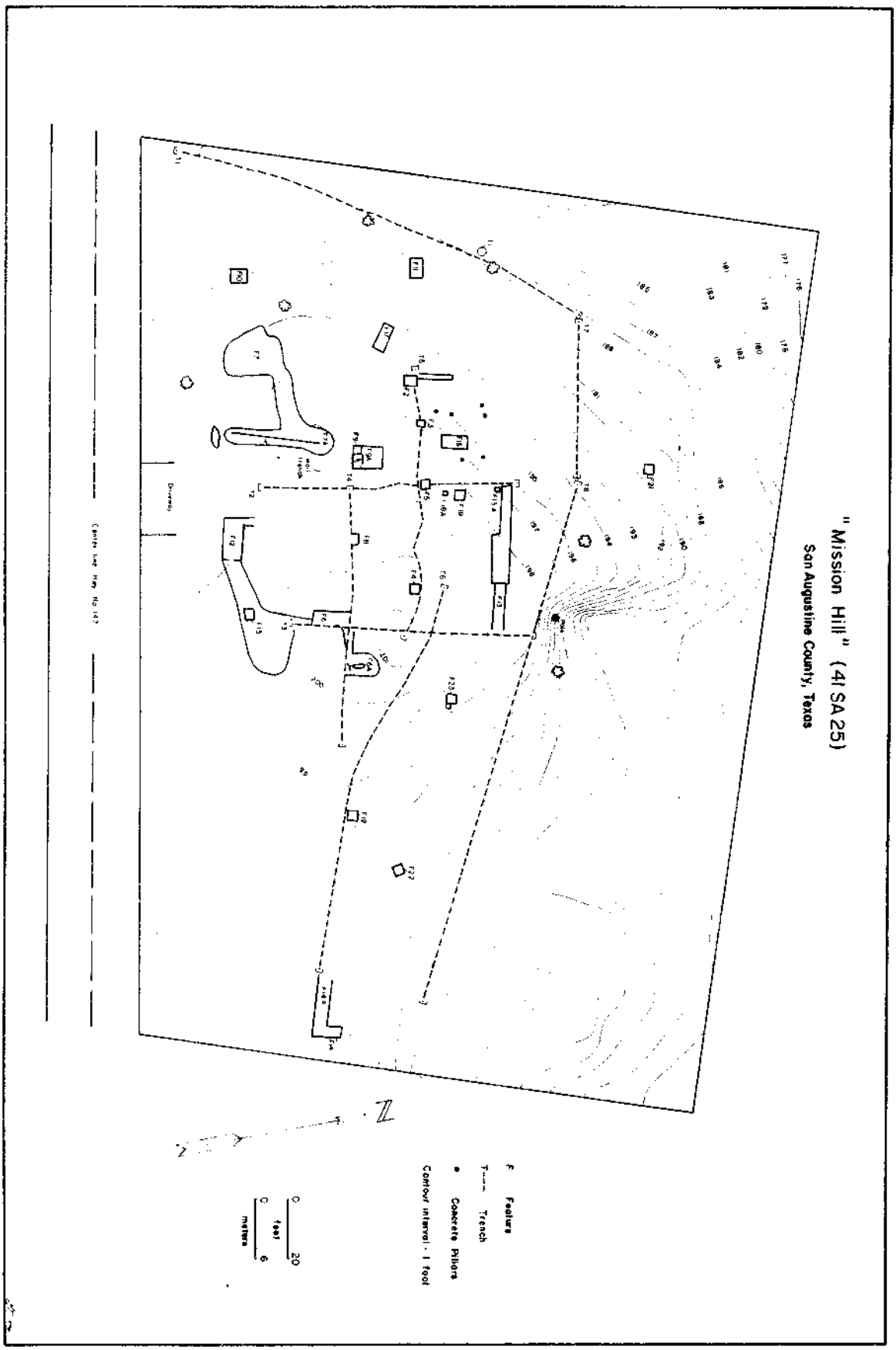


Figure 4. Site map showing excavations

a. View of site with floodplain of Ayish Bayou in background, looking eastward.

b. Trench 2, looking south.

Fig. 5

a. Feature 6, looking north

b. Feature 7, looking west, Trench 2 in foreground

Fig. 6

a. Feature 14, looking south

b. Feature 6A, pit is 1.85 m. in length

Fig. 7

Figure 8. Ceramics

a. & b. faience, surface
c. majolica, Feature 7
d. altered majolica, surface
e. majolica, Feature 13
f. faience, Feature 7
g. majolica, Feature 13
h. red-brown clear glaze, surface
i. aboriginal pottery, Feature 5
j. aboriginal pottery, surface
k. aboriginal pottery, surface
l. aboriginal pottery, Feature 14A
m. aboriginal pottery, Feature 14
n. oriental porcelain, surface
o. oriental stoneware, surface

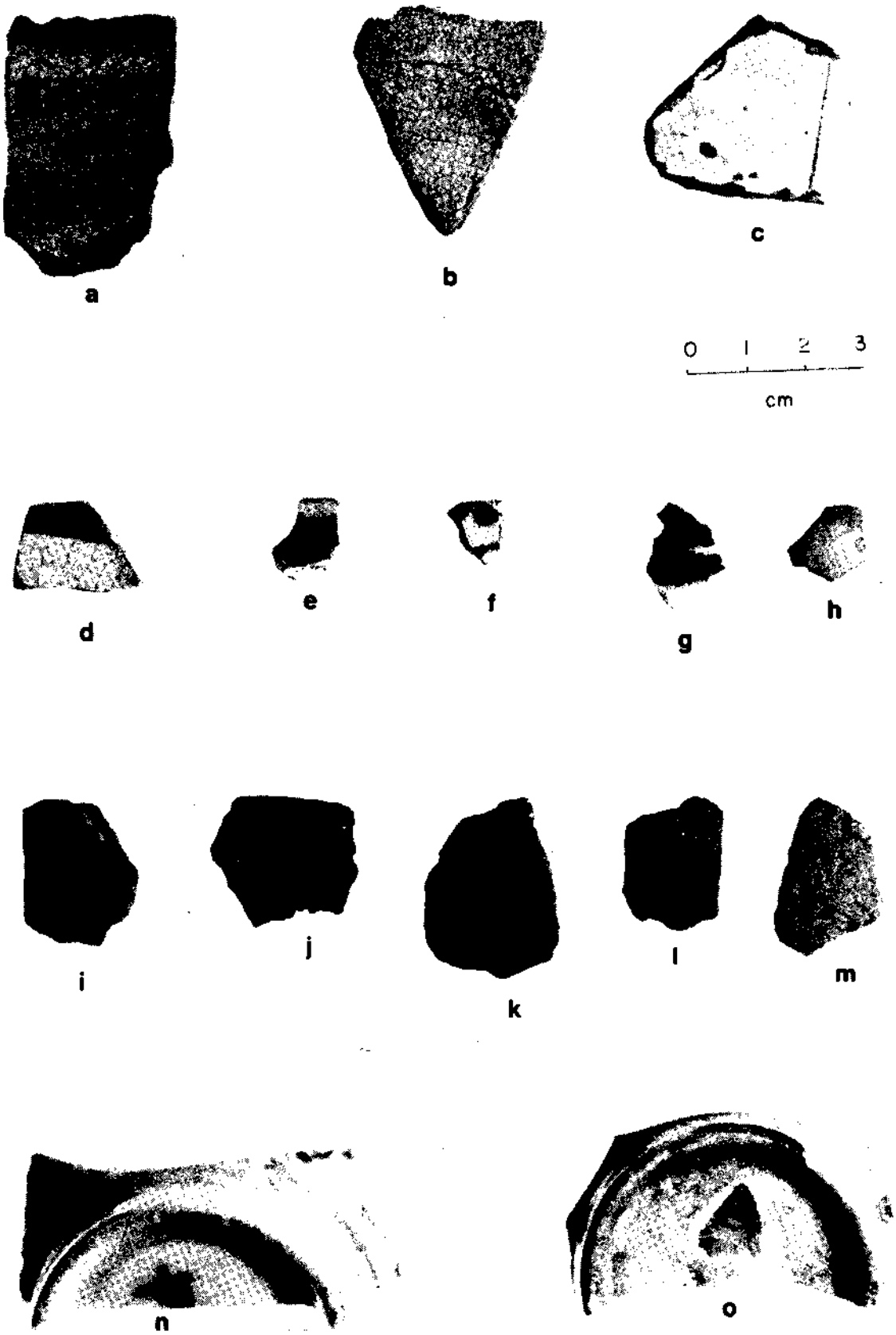
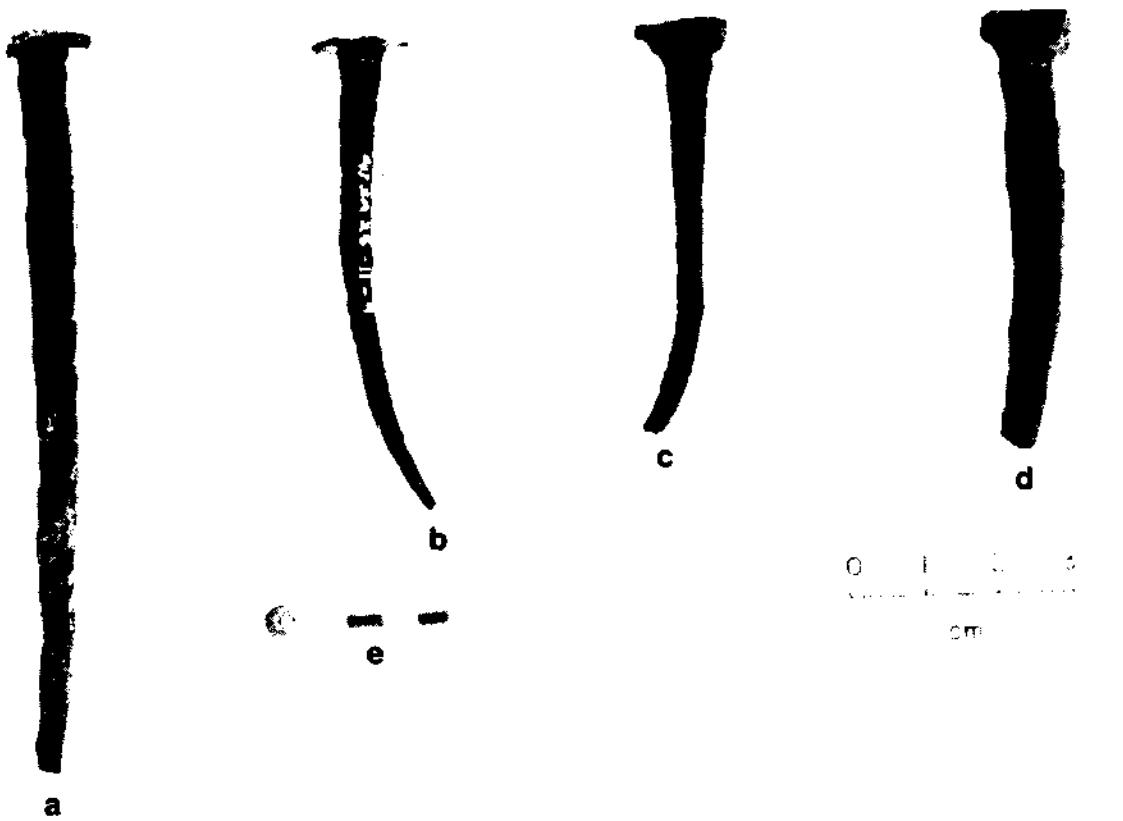


Fig. 8

Figure 9. Nails, Lithics, Glass

a. Square nail, cleaned, surface
b. Square nail, cleaned, surface
c. Square nail, Feature 13
d. Square nail, surface
e. Beads
f. Lithic debris, surface
g. Lithic debris, Feature 5
h. Lithic debris, surface
i. Lithic debris, surface
j. Glass fragment with heavy patina, surface
k. Glass fragment with heavy patina, surface



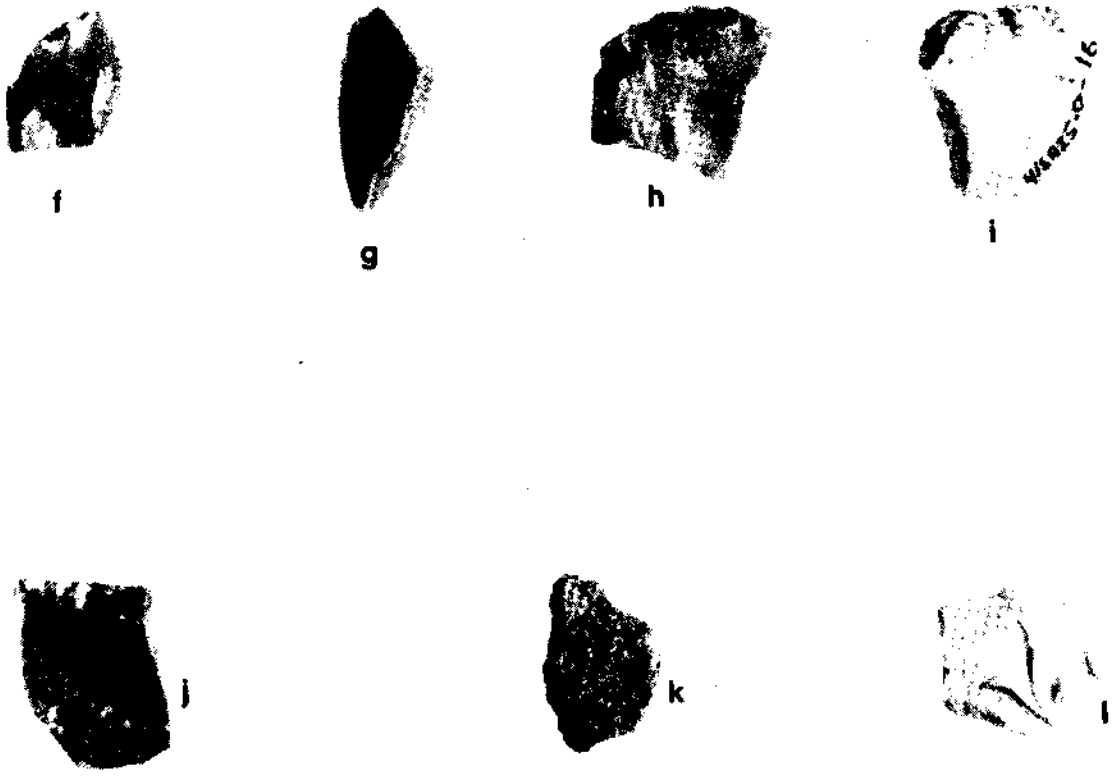


Fig. 9

Figure 10. Representative artifacts at Texas Archeological Laboratory

a. Faience

b. & c. Majolica

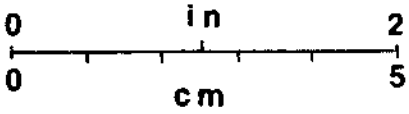
d. Square nail

e. incised aboriginal pottery

a

b

c



d

e

Fig. 10

TABLE 1

LOCATION OF ARTIFACTS BY FEATURE

	FEATURE																		
ARTIFACT	Surface	1*	2	3	5	6	6A	7	9	9A	11	12	13	14	14A	16	17	19	Total
faience	3							1											4
majolica	2							2				1	2	1					8
late type ceramic	86	10	19	1	10			5	26	20	3	5	17	8		1	1	2	214
blue glaze pottery									1										1
aboriginal pottery	15				3					1		3		3	4	1		4	34
altered ceramics	2																		2
depression glass												1		5					6
patterned glass													1						1
milk glass frag.	2	5	1							3		2	1						14
glass fragment	5		5	26				8	20	18	10	40	8	6	9	3			158
fused glass	10								2						5				17
fused glass button														1					1
dairy bottle	1																		1
cork type patent medicine bottle		1																	1
cork type bottle		8	3						1	2		3							17

*Most artifacts from Feature 1 were replaced.

Table 1
Location of Artifact by Feature (continued)

	FEATURE																		
ARTIFACT	Surface	1	2	3	5	6	6A	7	9	9A	11	12	13	14	14A	16	17	19	Total
misc. beverage bottles	10																		10
screw type bottle			2																2
window pane glass fragment			3						16	5									24
glass lid cover									1										1
glass bead									1										1
glass insulator										1									1
square nail*	6	1	8	5	23			4	10	9	2	4	1		1	3	6	1	84
grind wheel frag.	1																		1
lead bullet	1							1											2
22 caliber bullet																	1		1
brass cartridge										1									1
misc. metal	10		3							3	1	6	1						24
fused metal	3																		3
railroad spike			1			1													2
metal spoon			1							2									3

* Includes 19th and 20th century square cut nails.

Table 1
Location of Artifact by Feature (continued)

	FEATURE																		
ARTIFACT	Surface	1	2	3	5	6	6A	7	9	9A	11	12	13	14	14A	16	17	19	Total
metal lock			1																1
metal figurine		1 (frag)	1																2
button shell			2	1					1	1				1					6
button metal									5	2									7
penny				1(1919)							1(1892)								2
file										1	1								2
kerosine lantern part											1								1
butter knife														1					1
sawtooth fragment														1					1
metal bar																1			1
magnet																	1		1
plated spoon										1									1
old type key									1										1
metal device leg									1										1
cuticle tool									1										1

Table 1
Location of Artifact by Feature (continued)

	FEATURE																		
ARTIFACT	Surface	1	2	3	5	6	6A	7	9	9A	11	12	13	14	14A	16	17	19	Total
lipstick container									1										1
door knob		2																	2
shingle fragment		5																	5
toy marbles										3									3
toothbrush (bone)										1									1
bone/metal implement											5								5
bone tool										1									1
charcoal										1									1
plastic toy														2					2
woven material														1					1
lithic debris	5		1		1									8					15
biface							1												1

TABLE 2

Artifacts at Texas Archaeological Research Laboratory

Artifact	Quantity
Majolica sherds, white	2
Majolica sherds, blue and white	2
Aboriginal sherds	3
Iron bolt	2
Unidentified Majolica and faience	9
Glass fragments	2
Bone fragments	3

TABLE III

MISSIONARIES AT MISSION NUESTRA SENORA DOLORES DE LOS AIS

Date	Name	Reference
1717-1719	Fr. Antonio Margil de Jesus	Habig 1973:129
1717	Fr. Francisco de San Diego, died September	Habig 1973:147
1721	Fr. José Albadadejo	Habig 1973:109
1736	Fr. Fray Antonio Ciprian	Vallejo to Guardian, Nunley 1975
1750±	Fr. Fray Joseph Garcia	Vallejo to Guardian, Nunley 1975
1754	Two priests at Dolores, but Fr. Vallejo seems to have been at Los Adaes rather than Dolores	Vallejo to Guardian, Nunley 1975
1756	Fr. Anastasio de Jesus Romero	Habig 1973:145
1757	Fr. Joseph Francisco Caro, went to Orcoquisac same year	Habig 1973:114
1759	Fr. José Abad de Jesús María, went to Orcoquisac same year	Habig 1973:114
1761	Fr. Caro died October 19 at Dolores	Habig 1973:114
1764	Bro. Marcos Zalazar died at Dolores May 6	Habig 1973:158
1768	Solís met near Dolores May 5, Fr. Miguel de Santa Maria de los Dolores and Fr. Reynosa, who were probably at Dolores	Habig 1973:143

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APPENDIX II
Some Primary Documents Relating to Mission Dolores de los Ais

All but six of the documents in this appendix were located and translated by the Old Spanish Missions Research Library in San Antonio, Texas. The research carried out by the library was primarily the work of Father Benedict Leutenegger, O.F.M., and Sister Mary Christine Markovsky (French documents). Funding for the OSMRL research was provided by the San Augustine Historical Society, San Augustine, Texas, and the Texas Historical Foundation. The translation of another (?) copy of the Ciprián letter of Oct. 27, 1749, was made by Dr. Vivian Gruber. The Peña, La Fora, and Solís documents were included because they have been, and still are, some of the most important general documents concerning the mission. They were also included because they add to the continuity of the documentary records. Each document will be accompanied by (where possible) the location of the original document, the location of the copy (if a copy was used) translated here, the translator, and a comment (where necessary) by the authors. The documents are presented in chronological order in hopes that one might get a feel for some of the ebb and flow of mission life on the Spanish frontier. In some documents, materials relative to the other East Texas missions are included and are retained to further picture the Spanish incursion into East Texas. Each document will be preceded by

information on translator and location as follows:

1. date
2. location of original
3. location of document translated (if different from above)
4. translator

Each document will be followed by a comment if pertinent.

Appendix Contents

Memoire on Natchitoches

1. 1720-21

2. Paris, ANP, Col $c^{13}A^{6}$, #10

3. ANP 1, OSMRL, San Antonio, Texas

4. Sister Mary Christine Morkovsky

The trade of the French with them [the Cadodaques?] consists of corn, rice, beans, _____, _____ [two words not clear; could possibly be "bear grease" , and tobacco]. The corn which measures [out to] a barrel of flour actually sells [at] 16^{tt}. The beans, which are called Appalaches, are the same, and the tobacco 30^{s} per pound. With regard to the trade done at the Spanish post of Adayes, it only consists of food for money, that is to say, a barrel of corn flour for 3 piastres [Spanish dollars or pieces of eight]. The beans the same and the tobacco at 15^{s}. The quantity of corn flour sold to this nation is not more for a quarter of a year [than] 200 barrels, 60 of beans and 300^{k} of tobacco. This trade can't last longer than two years for they work the land as we do and actually have two _____ [harvests?]. As to the trade of French merchandise sold to the Spaniards settled on this side, it is so inconsiderable that 200 piastres would be sufficient payment for a year. The reason is that our merchandise is infinitely more expensive than that which the English supply and which is not of such good quality.

They pay their troops with English merchandise at 460 piastres to each soldier per year, on which the government which furnishes it

makes a profit of at least 600 percent. Consequently, it does not allow the soldier to be paid in money, so there is little hope for trade from that side. The soldiers are not paid in money. This abuse is tolerated by the Viceroy who sees the individual governors commit usury on these unhappy poor. So when the Spaniards would like to open commerce with the French of Natchitoches, it would only be unfavorable with regard to the price of the merchandise and the expenses they would ocntract to transport with mules overland from Mexico which is 500 leagues from here. The English would oppose it, and to avoid the confiscation of their merchandise it costs them plenty to do what they call closing their eyes to justice. . .

The other stations which they occupy on the road to San Antonio are less notable. At Nacogdoches there are only five men with two missionaries to form the mission, but they have horses, cows, and _____ [illegible].

At Ahyches, another mission, they are the same as the preceding one. At Assinays [there are] 16 men, one lieutenant [ensign], two missionaries, and a rather good number of cattle.

Peña's Diary of the Aguayo Expedition

1. 1721-22

2. Biblioteca Nacional, Mexico City, Mexico

3. Peña's Diary of the Aguayo Expedition. Preliminary Studies of the Texas Catholic Historical Society. Vol. 11, No. 7, 1934.

4. Forrestal, Rev. Peter P.

August 19, [1721] Tuesday--The march continued east-northeast, although at places the road was crooked and took us in a somewhat different direction. We made our way through gorges, woods sparsely settled with oaks, pines and walnuts, crossed some creeks, and were obliged to build two bridges. On a plain near the last of the aforesaid creeks, and in the vicinity of a small lake, which his Lordship named San Bernardo, we ended our journey of six leagues. Father Margil went ahead with a detachment in order to build the next mission that of [Nuestra Señora de] los Dolores. Six leagues.

Wednesday, 20--Continuing along the same route and through the same kind of country and woods, we crossed a river which, when on a rise, becomes very turbulent and which was already known as Todos Santos. The battalion camped on its banks, after a day's journey of eight leagues. Eight leagues.

Thursday, 21--We continued the march toward the east-northeast, through a broken and wooded country, until we had advanced one-fourth of a league beyond the spot on which had stood the Mission of Nuestra Señora [de los Dolores] de los Adaes [Ais], of which not a vestige now

remained. To Father Margil this new site for the mission seemed preferable, because it is on the banks of a stream that has its source nearby, and because it is on an elevation, without trees, and near a large tract of level land that can be used for cultivation. This day we covered six leagues. Six leagues.

Friday, 22--The day was spent in building the church, all the men necessary being employed.

Saturday, 23--180 Indians were clothed at this mission and Father Jose Albadadejo remained here.

Sunday, 24--The Governor having left a detachment to finish the church and to build the dwelling for the Padres, we set out toward the east. Later we turned east-northeast and went through a country covered with walnuts and pines, crossed ravines, clearings and some permanent streams, and ended our day's journey of five leagues at a lake which was now named San Bartolome.

Journal of Pedro de Rivera y Villalon, 1724-28

1. 1727

2. Henry Raup Wagner Collection at Yale University. S-322

3. Microfilm at Goliad, Texas

4. Father Benedict Leutenegger, O.F.M.

September 4, 1727. 7 leagues. Hills with much sand, woods of oaks, pines and nut trees and after passing the arroyo of St. Efigeria I [we] spent the night in a chestnut grove.

Sept. 5. 7 leagues. East, northeast. Passed the arroyo of St. Coleta and camped on the way near the arroyo of St. Pedro de los Navidachos, formerly populated by Indians of the nation by that name and presently by the Natchas of the Aynais faction, which is the chief nation of the Texas province. More than 50 Neches gathered at our camp, armed with French arms with powder containers and bags of shot like the most expert troops.

Sept. 6. 6 leagues. The same. Passed the Nechas River and after more than one league I found some jacales where there lives a religious from the Cross in Queretaro, and I stopped there.

Sept. 7. 10 leagues. East-southeast. Smooth land, plenty of grass. At 8 leagues I crossed the Aynais River and at a short distance I encountered another dwelling of the Fathers of the Cross of Queretaro also used for a mission of the Anays Indians, and in a short while I encountered the presidio of Nuestra Señora de los Dolores, which they call of the Texas. Lat. N. 32° 6'. Long. 281° 20'.

Sept. 9. 9 leagues. East. On flat land, some deep arroyos without water. I spent the night in the place they call Nacodoches around which live the Indians of this nation with one religious of Guadalupe of Zacatecas.

Sept. 10. 8 leagues. East-southeast. Hills, arroyos. I stopped at the unpopulated la Tinajita.

Sept. 11. 11 leagues. East. Plains, hills of sand. At 5 leagues I passed the Atoyaque River and camped in the place they call of the Aes, Indians_____ of this region, where there lives one religious from Zacatecas.

Letter from Fr. Pedro Munoz and Fr. Joseph Calahorra

1. Oct. 31, 1727

2. Missiones de Texas 1727, Vol. 132, F. 12 R and 13 R, Archivas Franciscanos, Museo de Antropologia, Mexico City, Mexico

3. OSMRL, San Antonio, Texas

4. Benedict Leutenegger, O.F.M.

I went to visit the church [at Mission de Nuestra Señora de los Dolores] that has been beautifully furnished by the generous contribution given by the King, decorated with the required colors to celebrate the holy Sacrifice of the Mass and to administer the holy Sacraments.

The gentiles who are to be reduced for the work of His Majesty are a great nation and are commonly known as the Ays. They do not recognize either bells or habits and these distinct lands are so far apart, one from the other, and from here by one league up to 12 or 14. Upon visiting them the missionaries let them know why they are searching for them. This they do not understand or appreciate until God is pleased. Baptism has been administered at the time of death to children and to adults from the year 1717 up to the present time. . .

There are in this mission iron tools: axes and hoes, a sickle, etc., agricultural implements with a yoke of oxen and nine heads of cattle on which they can rely every year and 3 or 4 almudes of corn, at the highest, due to seasonal reverses; it is a waste of work.

And thus I sign and ask that it be signed.

Fr. Pedro Muñoz Fr. Joseph Calahorra

Comment: Father Leutenegger states that "decorated with the required colors" probably means the interior facade was plastered and painted. The reference to the iron tools is interesting, particularly since we have yet to recover any of these or even fragments of them. The reference to "3 or 4 almudes of corn" is unclear as to whether that is the annual crop, the amount present at the time of the inspection, or the amount planted each year. An almud is a dry measure equaling approximately 7.568 liters (Polzer, et al, 1977; 45). If the reference is to the annual crop (i.e., ca 30 liters), they were poor farmers, indeed. It could be the reference is to the amount at the mission during the inspection. The way the term "almud" is used in the next letter indicates that there were fields that had been "cleared to plant 5 or 6 almudes of corn . .", i.e., they planted ca 30 liters of seed each year. This would appear to be the most likely interpretation of the "3 or 4 almudes of corn" reference.

Letter from Fr. Pedro Munoz and Fr. Joseph Calahorra

1. Dec. 1, 1727

2. Missiones de Texas 1727, Vol. 132, F. 21 R, Archivas Franciscanos, Museo de Antropologia, Mexico City, Mexico

3. OSMRL, San Antonio, Texas.

4. Benedict Leutenegger, O.F.M.

By following the route that we take to Concepcion, going to Nacogdoches, the distance is 10 leagues to its settlement, situated on a small hill close to a creek, which in our opinion, is most generous of all the rivers and creeks that we have seen in this central area; and from that, if one wanted, one could build an irrigation ditch to irrigate one large quadrant [querta] or one small cornfield [milpa]; there are also small empty spaces and elevated ridges on which one could plant (if there were someone) 2 or 3 fanegas of corn.

Above this, towards the northeast, 20 leagues, there is that of los Ays and a small forest on lower land that has been cleared to plant 5 or 6 almudes of corn, close to a creek that always runs but which never offers enough for an irrigation ditch.

In the same direction at 32 leagues there is that of los Adays, close to the Presidio with 100 men to whom are administered the Sacraments and the Mass; it is situated at the peak of a small hill about two gunshots away, some 6 leagues from Nachitos; from here to Bahia we return to San Antonio, in the direction of southeast. . December 1, 1727

Fr. Pedro Muñoz Fr. Joseph Calahorra

Comment: Again we find references to land for planting, etc., at both Mission Guadalupe (Nacogdoches) and Mission Dolores (los Ais):

1. a quadrant (querta)
2. one small cornfield (milpa)
3. 2 or 3 fanegas
4. cleared to plant 5 or 6 almudes of corn

From this it appears that the area querta is roughly that of a small milpa (which may be a field, but especially a field of corn). A fanega may be either 90.815 liters or an area equalling 3.56 hectares (Polzer, et al., 1977; 45). Thus this could mean the padres could plant an area large enough to be planted with 227 liters of seed or they could plant about 8.9 hectares. As noted previously, the "5 or 6 almudes" appears here to refer to the amounts of seed planted rather than to the amount of harvest.

Report by Thomas Phelipe de Winthuysen

1. Aug. 19, 1744
2. Bexar Archives, Vol. 15, pp. 56-68, San Antonio, Texas
3. Translation from microfilm copy of above at Bexar Archives
4. Benedict Leutenegger, O.F.M.

Mission of Bahia del Espiritu Santo is the point of departure for the presidio of los Adays, the capital of the said province. The distance between the two [presidios] is about 140 leagues; and with a few exceptions one follows always an east/northeastward course. For a distance of 40 or 50 leagues from la Bahia to the river called Brazos de Dios, the land is exposed to the enemy, because it is all flatland and the Apaches do not enter into the hill country, and also because from the said river begin [to be found] the Hydays, the Yadoces, and the Texas tribes, their principal enemies, who are very skillful in the use of arrows and better [in the use] of guns which, with their accessories, they obtain from the French colony. They are also very expert in hunting bears and deer, in making chamois from the latter and getting fat from the former . . . At a distance of 50 leagues from the said Brazos River and on a straight route to los Adaes is the mission of Nuestra Senora de Guadalupe de los Nacogdoches. It has one priest and a guard of two soldiers from the company of los Adays; but it does not have and never has had one Indian reduced to mission [life].

Twenty leagues from the latter, on a straight route to los Adays, is the mission of Nuestra Senora de los Dolores de los Aix. It has

two priests and a guard of two soldiers. Like the foregoing [mission], it has no Indians.

Thirty leagues away, on a straight line and at a distance of three rifle shots from the presidio of los Adays, to the south, is the mission of San Miguel.

Letter from Fr. Ygnacio Antonio Cyprián to Fr. Juan Abasolo

1. Oct. 27, 1749
2. Guadalupe, Zacatecas Archives
3. OSMRL, San Antonio, Texas
4. Benedict Leutenegger, O.F.M.

Three missions which the College of Your Reverence has in the interior of the Province of Texas and which are far away and beset with many difficulties, enjoy less the fruits of their many labors. We must be conscious of the fact that the holy Gospel does not command us to convert but only to preach. And according to the Apostle, the work of conversion is not the work of the one who plants nor of him who waters but only of God, who gives the increase. The efforts of 28 years without results would have been intolerable and could have discouraged the most ardent zeal. If during all these years (our most Rev. Father), time has not been lost, it is because in obeying the divine decrees many infants have reached blessedness through baptism and their names are written in the book of life, as many missionaries have written, without considering the effort and the expense of influencing the parents of the children, who generally refuse to give their consent because many are persuaded (from the experience of many deaths suffered by those baptized at the moment of death) that baptism kills them, and that they would have to travel many leagues on foot in order to share in the redemption. During the epidemics of measles, smallpox and colds, which are frequent, work is multiplied, for there are times when the

missionary does not return to his residence for 8 and 15 days. During all this time the missionary eats what these barbarians serve him; many times it is repugnant to our culture, such as the flesh of lion, bear, fox, skunks, squirrels and mice. Many adults are also baptized at the moment of death. This is the fruit up to the present, which these laborers, the sons of Your Reverence, have gained; the discouragement they tolerate for these meager results with which God refreshes them. In all of this, evident marvels of Divine Providence have not been wanting, as hope is firm that tenacity and firmness in bringing the Indians the light of the Gospel will strengthen them to accept the Faith and help them to carry out their obligations.

The first of these missions, the one of Nuestra Señora de Guadalupe (where there is only one missionary, since the superiors removed the assistant to the mission of la Bahia, which did not have one; so he seemed more necessary there) has the first responsibility of helping the Nacogdochez tribe, which has 22 farms and 120 warriors with their women; more than a third have two or three women; many unmarried live as such; and there are many children, permitted by their laxity. When the mission was founded in the middle of these farms, stretching from south to north for 10 leagues, the task was not so difficult for the missionary, but the Indians complaines about the damages done to their crops by the Vidays, their neighbors to the south. They then went north and abandoned the mission, three leagues distant from the first farm and 20 leagues away through the mountains. The missionary visits

the settlement when he is told of a sick person (and this happens often), or to encourage them and prepare them to receive the Sacraments, which in time of illness they do not refuse, especially the old, though the young generally resist because of the fear engendered by their parents who say that the water of baptism kills them. When the missionaries of the College of Santa Cruz left this past year of 1730, the three missions . . were abandoned (which they held since 1716). The work of this zealous missionary doubled, since he had to minister to the needs of the Aynais, 10 leagues away; to the Naychaz, 20 leagues to the west of his mission, and to the Nazoniht, 14 leagues northeast. To save this missionary some work, Fr. Guardian of the College instructed Fr. President to see to it that every three months one of the other four who live in the more interior missions visit these three pueblos.

The Mission of Nuestra Señora de los Dolores has 70 families of the Ayx tribe in 8 settlements; these are within a boundary of two leagues with the mission in the center.

Baptism is also administered at the point of death. To refrain from baptizing others is not because all of them reject it nor because most of them lack instruction, but because of fear of apostasy; this we feel is the result of having baptized here in 1731 three little children belonging to that tribe. When they returned to their tribe, they were made to revert to their pagan rites and all three died as formal apostates. As long as idolatry is not extinguished there,

those missionaries are unwilling to admit them to the church, since they do not have the fortitude to endure death for religion, for as Christians they would abstain from their gatherings and fiestas, as would be imperative. It is quite clear that death is a threat to them, when to make expiation for this, the pagan leaders hold this as a crime and will have their judge require a cruel assassination [human sacrifice]. Some Indians baptized as children, have lived unhappily in such fear of this that now their leaders have them give up the Faith. We are very unhappy to see this irremediable evil.

The Mission of San Miguel de los Adays is in the same situation as the two previous missions. It has only the added task of helping in spiritual matters in a most zealous way at the presidio, where some 60 men reside, and to 400 souls, including the settlers, the women and their families.

The reason why these settlements are not Christianized as were the others settled later on, is that we have not been able to use the two means that have been effective in the others. These have been conquered as a republic by force of arms and have been brought under civil powers, which they did not feel in the wilds where they roamed freely. The one or the other system is useless in Texas and in the other two missions. First, because it is morally impossible; and secondly, it is superfluous. It is superfluous to maintain them, for all of them plant their crops and reap abundantly, so much so that the presidio generally barters corn and other produce. It is impossible (by human

means) to force them by threat of arms to change their old ways of living from day to day. They are ten times more numerous than we are and are difficult to manage, because they are tricky and would resort to violence, should they feel pressured, which they could not resist or overcome. They would then join the French and the land would remain uncultivated. This is why these ministers of God and sons of Your Reverence consider those means as useless and try by all means to eradicate idolatry, by which the devil has them chained. They were convinced (as Pope St. Leo of the Illumination of Rome thought) that the greater the resistance against idolatry, the brighter will shine the virtue of Jesus Christ in joyous freedom, which we hope for in the conversion of these people.

Last year, 1748, the College of Your Reverence was entrusted with the task of establishing six missions in the Gulf of Mexico along the coast of Texas. In January of this year another mission was planned in the same colony along the North Rio Grande, and this past August five more were recommended, and that makes 12 in all, and plus the old ones they number 17, all under the care of the College. About the last ones I cannot say much, for they are just beginning. About the others I can report what I saw in all those missions from 1721 to 1747 not forcing me to appeal to the faith of Your Reverence, since I have seen them; the faculty that Your Reverence gives me by your command enables me to testify according to the judgment of Cardinal Cayetano in the Preface to St. Luke: "Every testimony requires faith not only

in those who have seen but also it is enjoined upon them to testify to what they have seen in a more effective way.

My humble state expects more commands from Your Excellency; meanwhile I ask God that the merits of Your Excellency may reach the heights. College of Your Reverence of San Fernando of Mexico, October 27, 1749.

Kissing the feet of Your Reverence, your humble servant and subject.

Fr. Ygnacio Antonio Cyprián - rubric

Comment: The translation of this letter was carried out because of an apparent reference to a structure at Mission Dolores by Castañeda (1936) as cited by Gilmore (1973). Gilmore noted the reference needed to be checked with primary documents. Castañeda (1936:III, 126-127), paraphrasing this letter, noted "a jacal church, made of brush, mud, and straw, and a place of similar nature for the missionary". There is a very interesting and puzzling problem concerning this letter. In the letter translated by Leutenegger, there is no reference to structures at Mission Dolores. Connelly (1955:156), in his thesis on Spanish architecture in Texas, also paraphrases Ciprián (or Castaneda?) stating that the mission was "composed principally of two buildings, a church and a friary, both simple structures 'de jacal', with thatch roofs and mud plastered walls". Both Castañeda and Connelly cite their original source as a letter in Volume 5 (41-46) of the Archivo San Francisco el Grande, Mexico. The problem is that the

following letter by Ciprián (transcribed by Clark; translated by Gruber) is a recent copy (in University of Texas archives) of the letter in the Archivo San Francisco el Grande supposedly translated by Castañeda and Connelly. The letter translated by Gruber does not mention or describe structures at Mission Dolores. In all cases, the letter translated is from Fray Ciprián to Fray Abasolo, October 27, 1749. There may be several explanations: 1) One letter is the eighteenth-century original and one is an eighteenth-century copy (since they do not appear to be identical), neigher mentioning structures. Castaneda adds the structural information to the paraphrase (to give some idea of the probable nature of the buildings). Connelly then plagiarizes Castañeda (i.e., not really translating the letter), compounding the problem. 2) The copy of the Ciprián letter in the University of Texas archives is not the same as the original located in the Archivo San Francisco el Grande (supposedly translated by Castañeda and Connelly), i.e., there is another eighteenth-century copy of the original letter, again leaving out the reference to the structures. This could be explained if this is a copy of a copy of the original which left out the structural reference. Thus, Castañeda and Connelly may be vindicated if their letter proves to have the structural references. 3) There is only one letter. The differences between Leutenegger's translation and Gruber's translation are in the translating (although the copies translated appear to be of originals found at different locations). Castañeda added a bit to his description of Mission Dolores, and Connelly plagiarized Castañeda and did not look at the source cited in his notes and bibliography.

It is tantalizing to seem to have a contemporary structural description, yet not really have one. The only solution is to compare all (if there are more than one) of the original sources cited or translated by the various people to see whether in fact there are one or more eighteenth-century copies or versions of the letter, some of which failed to mention the structural details (if they ever were mentioned).

Another interesting aspect of the letter(s) is the fact that there was apparently no Indian settlement in the immediate vicinity of Dolores or Guadalupe, but that the missions were located (originally) more or less in the center of the area where the numerous farms or rancherias were located.

Letter from Fr. Ygnacio Antonio Cyprián to Fr. Juan Abasolo

1. October 27, 1749

2. Archivo San Francisco el Grande, Mexico, Vol. 5, pp. 41-46

3. University of Texas Archives, Austin, Texas

4. Transcribed by John Clark, research associate, Prewitt & Assoc., Austin, Texas; translated by Dr. Vivian Gruber, Stephen F. Austin State University, Nacogdoches, Texas

The mission of our Lady of Sorrows probably has from the Ayx seventy families in eight camps. These are within a distance of 2 leagues, with the mission as the center. They also are baptized in extremis, and the restriction in baptizing these is not because all of them refuse nor because most of them lack instruction, but because of the fear that there is of apostasy, which was infused in us from having baptized here, in this area, in the year '31, three soulless rascals of that nation, who, having returned there, made them return to their rites and all three died as evil apostates; thus, while idolatry is not completely extinguished, those missionaries, rejoicing, have brought them to the Church, not finding in them the constancy to tolerate death because of religion, since, if being Christians, they abstain (as it is necessary) from their collections and celebrations, it is very certain that death threatens them. . .

Fr. Francisco Vallejo and the Venerable Descretorio to the College of Our Lady of Guadalupe, Zacatecas

1. January 15, 1750

2. Zacatecas Archives

3. OSMRL, San Antonio, Texas

4. Benedict Leutenegger, O.S.M

In 1717, Fr. Margil founded the Mission of Nuestra Señora de Guadalupe in the pueblo of Nacogdoches, 34 degrees latitude, 270 leagues from the capitol of Coahuila; some 22 leagues from the first pueblo of Texas; and only 10 leagues from the presidio, which has 25 soldiers. Eighteen leagues to the east Fr. Margil founded Mission Nuestra Señora de los Dolores among the Nation of Ayx; another 32 leagues from this mission in the same direction he founded Mission San Miguel de los Adais.

Jacinto de Barrios y Jaurequi

1. 1755

2. Bexar Archives, University of Texas

3. Stephen F. Austin State University Special Collections; R. B. Blake Papers, Supplement, Vol. 1

4. R. B. Blake

Immediately thereafter, in view of the foregoing deposition of Andres Chirino, and his allusion to my refusing him permission to go to the Missions, I, the said Governor, in order to prove this, summoned before me Don Marcos Ruis. I administered to him the oath, which he took in the name of Our Lord God and a sign of his holy cross, according to law, under penalty of which he promised to tell the truth in so far as he knew and might be questioned.

When asked if he knew whether I had refused permission to Andres Chirino to go to the Missions and the Indians, and to tell on what occasions and why, he replied that in the month of November last, while he was with the Sir Governor, the said Andres came to ask his Lordship for permission to go to Nacogdoches, but his petition was denied because Juana Maria Berban, with whom the said Chirinos had illicit relations, entering her mother-in-law's house surreptitiously, and causing other scandals, was at Los Ais. For this reason, on the recommendation of the Reverend Fathers, and with the consent of her husband and parents-in-law, the said husband and wife were in Los Ais to prevent offending God and to obtain peace by this means. That when the said Juana Maria left for the said Mission, her said departure

was made difficult because her parents-in-law and Acosta had changed their minds. The deponent said that it was he who had gone by order of His Lordship to give Chirinos the order not to go on that occasion, but that he, the deponent, did not know whether His Lordship had denied him permission on other occasions; that he had just returned from the said Missions. He also said it would be very wise always to deny licenses to wild fellows because of their loose ways. That the Very Reverend father Frav Josep Calahorra had had a quarrel with the said Chirinos in the presence of the deponent and with Joseph de Acosta, Juana Maria's uncle, had tried to kill the said Chirinos at Los Ais Mission, upon learning that he (Chirinos) was hiding in the forest or vicinity of the said Mission, waiting for night, to satisfy his desires. The deponent said that he knew this by public report; that this was all he had to say on the subject, and that it was the truth under the oath he had taken, which he again confirmed and ratified, and he said this with me, the said Governor, as stated before. I certify.

Barrios (rubric) Marcos Ruiz (rubric)

Attendant Witness: Attendant Witness:

Phelipe de Sierra (rubric) Bernardo Zerbantes (rubric)

Comment: The letter was written by the Governor of Texas and New Phillipines from the capital, Presidio Los Adaes.

Letter from Fr. José Francisco Caro, apostolic preacher of the College of Nuestra Señora de Guadalupe de Zacatecas, missionary of the Mission of Nuestra Señora de los Dolores de los Ais and also of Mission de Nuestra Señora de la Luz

1. Oct. 4, 1757

2. Franciscana, Biblioteca Nacional, Mexico City (Roll 1, Caja 2, FS94)

3. OSMRL (typed transcript of copy of original at the Academy of American Franciscan History, Washington, D. C.

4. Benedict Leutenegger, O.F.M.

This Mission Dolores has at present a few palmilla, three tercios of tobacco, five dozen knives, a few light undergarments, six sombreros, and ten blue revocitos.

Nicolas de Lafora, Diary, 1766-68

1. 1767

2.

3. The Frontiers of New Spain, Nicolas de Lafora's Description, 1766-1768. Quivira Society Publications XIII, Berkeley.

4. Lawrence Kinnaird

On the 8th we traveled fourteen leagues east through country like the preceding. At six leagues we crossed the arroyo of Las Amoladeras and in another league that of Atoyaque. Five leagues from the latter the mission of Los Ais is situated on a small hill near an arroyo. This mission is about as useless as the preceding one but the disadvantage is greater to his Majesty for the reason that two priests are maintained in it with an annual salary of 450 pesos each. There are also a lay brother and two soldiers with their families who compose the entire population. The Ais Indian nation lives in the neighborhood. They speak Spanish well and appeal to the padres only when they want something. Two leagues farther there is a spring called El Palo Gacho, where we camped.

Fr. Gaspar de Solís, Diary

1. 1767-68

2.

3. Diary of a Visit of Inspection of the Texas Missions made by Fray Gaspar José de Solís in the Year 1767-68. Southwestern Historical Quarterly, LXXI, No. 4, 1931.

4. Margaret K. Kress

May 26. We went through Borregas, passed a very good spring, and crossed Carrizo Creek before arriving at the Ais mission, where we took dinner.

May 27. I celebrated Mass and inspected the church and the silver utensils. During the day Indians of the Ais tribe and their captain, named Urjatana, visited mission. I suggested, by means of an interpreter, that they live with the padres at the mission, but they told me that they did not care to do so. With things as they are at present I believe this impossible. While I was at this town they gave an exhibition of their pagan dances, which they executed with singular grace and with many grimaces.

May 28. I inspected the dwelling-quarters and the other buildings, and conferred on Father Santa Maria the office of president of those missions. I carried with me the document conferring the office of president, but had not filled it out before reaching the mission so that I might be free to appoint anyone I might see fit.

May 29. I visited the religious, and was greatly edified, because in none of them did I find anything deserving of reproof.

May 30. I called on Father Santa Maria, and with him visited the Orcoquisac mission, of which he is minister.

May 31. I continued the Visit and made certain recommendations that I deemed advisable.

June 1. I concluded the Visit at the mission of Nuestra Senora de los Dolores de Benavente de los Ais.

This mission is situated in a rather small plain and is surrounded by a woods covered with shady trees. In this part of the province the soil is so red that it colors the clothing and looks like that found in the vicinity of mines. As a matter of fact, not far from the mission a mine has been opened, and it is said that gold in small quantities and of an inferior grade has been extracted from it. The church, a frame structure, is kept neat and clean, and the vestments, sacred vessels and silver utensils are good, suitable and well kept. The dwelling-quarters, also made of wood, are sufficiently large, and are warm and respectable. At times the religious undergo deprivations, and this for the reason that the funds granted by our Majesty the King (May God protect him!) usually arrive late. A deep creek, which never runs dry, supplies the mission with water, but as its banks are very high it cannot be used for irrigation purposes. The mission must depend upon the rains to water the small tract of land that is under cultivation. Near the creek there is a garden, watered by hand, in which there are peaches, figs, native fruits, and such vegetables as onions, garlic, cabbage, lettuce, etc.

This mission is poor in temporal goods. It possesses a few horses, fifteen to twenty mules, ten to twelve cows, and about the

same number of bulls. It has from eight to ten yoke of oxen, but the Indians steal these whenever the opportunity offers. The bulls, cows and calves are used for food, while the horses and mules (of which there is a small drove) are traded to the French for brandy, taffiat, wine, paint, beads, cloth, powder, bullets, guns, tobacco, and other commodities.

Comment: Kress' translation of the description of the structure is slightly in error. The typescript of the original reads as follows:

> La iglesia de madera aseada y limpia, ornamentos, varos sagrados y demas alajas--buenas y decentes y en devida disposicion. Las viviendas de madera tambien competentes abrigadas y desentes.

Clearly, Solís' statement says the structures are made of <u>wood</u>, but there is no indication as to construction technique. Forrestal's translation (1931) translates the passage correctly.

APPENDIX III
Recent Documents

The following are a few recent (late nineteenth-early twentieth-century) documents pertaining to Mission Dolores de los Ais. They are presented here to demonstrate the presence of local tradition concerning the location and nature of the mission site. As one can readily see, the location tradition is probably the most accurate, although through time, the purported location shifted slightly to the north. In addition, the concept of an area representing the mission location shifted to one expressing a very precise (as well as small) spot (i.e., a very small localized area north of Highway 147--the old Nacune Road). Also, the idea of the mission as a complex of buildings had become one of a single building (the church) by the 1970's when we became involved with the site.

While the boneyard and graves probably relate to the mission occupation, we suspect that other features, like the quadrangular area, the stone pavement, and the stone blocks, relate to a later occupation (early nineteenth century). There is local tradition that the building (or part of the building) that Bate destroyed was the chapel to the mission or material from the chapel (church). The chances of this being the case are remote, but the building (or the timbers) probably does relate to a nineteenth-century structure (see App. I) which was associated with the quadrangular area, the stone pavement, and the stone blocks mentioned above and in the following documents.

Appendix Contents

1. Dec. 4, 1845

2. Unknown

3. San Augustine Public Library (microfilm)

THE REDLANDER Vol. 6, No.16
San Augustine Dec. 4, 1845

Caution!--This is to forewarn all persons from digging my land in and about the Old Mission, as I will enforce the law against any person so offending.

Jas Perkins

Comment: Obviously, in 1845, the local inhabitants did not feel the mission remains were limited to that area north of El Camino Real. The Perkins property is south of the road. This property was later owned by J. J. Bewley (see below).

1. 1932

2. Unknown

3. Special Collections, Stephen F. Austin State University (unpublished manuscript by William A. Woldert, Sr.)

"The second location of 'Dolores' was on the East side of Ayish Bayou about 1 mile south of [the] city of San Augustine, about 100 yds East of the Bayou, on both sides of the present county road to Macune, however the building was West of the Camino del Rey, the modern engineer ran a new line north of the old highway. . (p.171)"

"Water was obtained from a never failing spring twenty yards to the south. The flat rectangle on the ground, where apparently, the second erection stood, just north of the Macune road, remained up to a few years ago. A large number of boulders lie among the Sweet Gum trees just south of the flat rectangel (sic). . .(p.172)"

Comment: These statements more or less corrorobate Crocket's notes and Bewley's map (see below). Again, there is the belief that the location of the mission complex remains was on both sides of the road. A feature (a flat rectangle) believed to be the church(?) building location did occur on the north side. This may have been the origin of the belief that the mission was north of the road. The stones mentioned remained for many years, but collectors have now carried off all but one. This remaining block is stated to have been larger than it is now. The stone is a block of cut (not sawn, as is sometimes the

case in the nineteenth century) Weches marl (known locally as blue marl). In situ, the marl is soft enough to be chopped (with an axe) or sawn from the bedrock. Before it was used, it was allowed to dry for several months. Locally (in the nineteenth century) this material was used for chimney stones and house foundation blocks. There is no way to tell whether the stones mentioned (or the one still existing) were used in construction of the eighteenth-century mission structures. No similar cut stone was found during our excavations.

1. No date

2. Crocket Papers, F. 40; Special Collections, Stephen F. Austin State University

3. Same

"On the north of the road now overgrown by trees, is a quadrangular level spot evidently artificial. Just at the side of the road, within the memory of the present generation, was a stone pavement of considerable extent, which was perhaps the pavement of a room or house. On the south of the road some years ago stood a large elm tree, the roots of which had clasped around a good-sized hewn stone of ancient handiwork. In digging upon the hill various old graves have been disturbed, notably some ten or twelve years ago, when in attempting to dig a well some pottery and a quantity of beads were discovered in an old grave."

Comment: Crocket's information is essentially the same as that given by Woldert. It is not known whether Woldert derived his information independently, or obtained it from Crocket, a prominent local historian. The map (following) accompanies Crocket's papers, a bound volume on file in the Special Collections at Stephen F. Austin State University. The paper on which the map is drawn (and the full page of notes on some other topic on the back) do not match the paper of the F. 40 papers. It was obviously done at a different time. The location of the notebook from which the map page was torn is unknown. There is no reference to the map in the F. 40 papers.

1. No date.

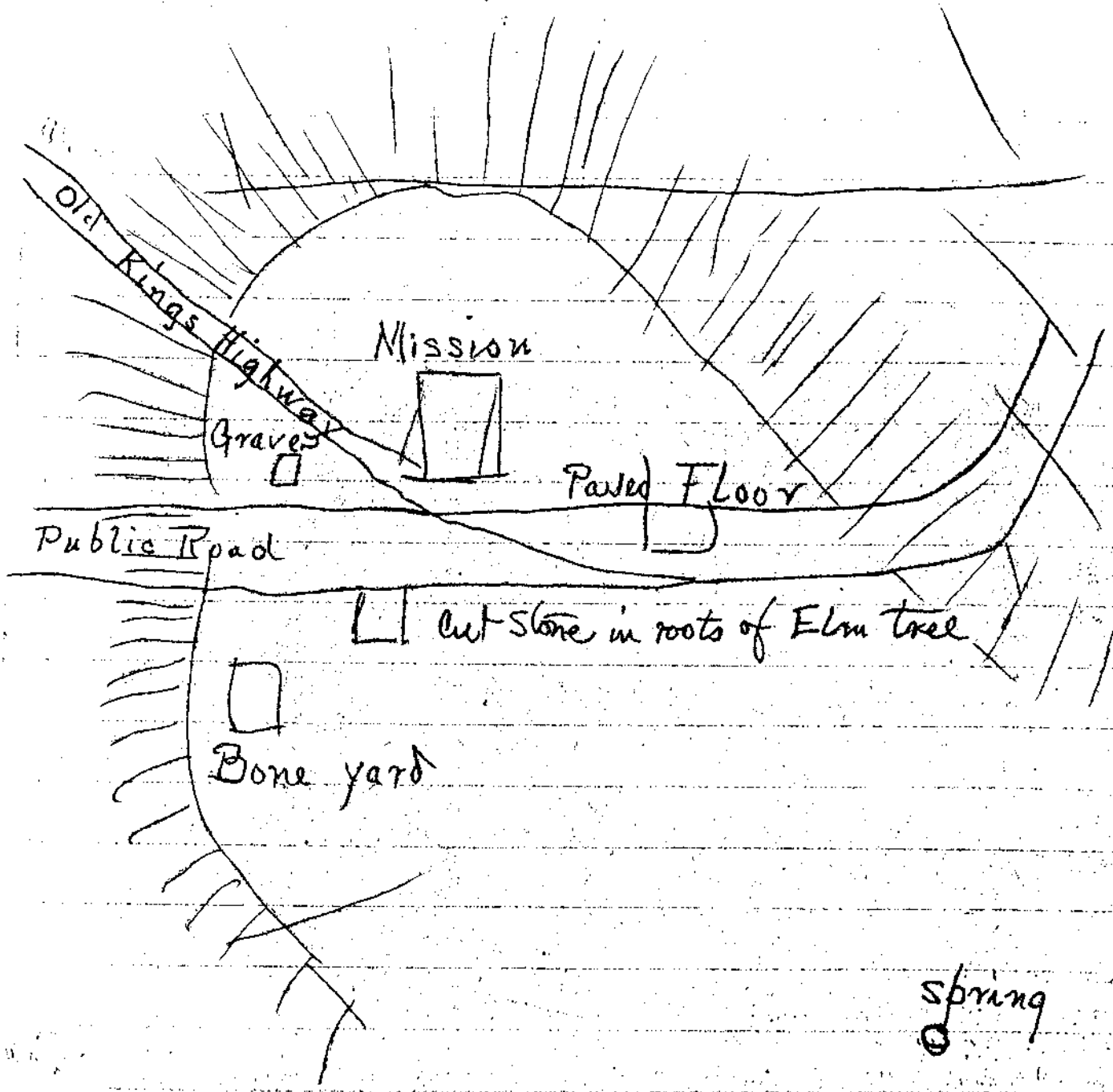
2. In F.40, Crocket Papers; Special Collections, Stephen F. Austin State University

3. Same

Comment: The area on the map (flat rectangle) may or may not relate to the mission complex since there was some early and mid-nineteenth century occupation in that vicinity. Several older informants from the San Augustine area also remembered the paved floor feature. There has apparently been massive disturbance in that general vicinity in the past, and the archaeological evidence for the feature may be destroyed. Gilmore's excavations uncovered little in the general area. Burials were reported to have been uncovered from just north of the paved floor, but this has not been confirmed by excavations. No excavations have been carried out in the general areas marked "Graves" and "Bone yard" on the map.

N

59



Map of Old Mission Remains.
Drawn by J T Bewley.

APPENDIX IV
Architectural Comparisons

Herein are figures illustrating the two architectural (wall orientation and well configuration) comparisons discussed in the comparisons section of the main text. The following are the specific references from which the appendix figures are adapted.

1) Figure 2: from Gilmore 1969: Fig. 6, p.83.

2) Figure 3: from Gilmore 1974; Fig. 3, p.171.

3) Figure 4: from Schuetz, 1968: Fig. 3.

4) Figure 5: from Tunnell and Newcomb 1969: Fig. 3, p.7.

5) Figure 6: from Gilmore 1969: Fig. 28, p.221.

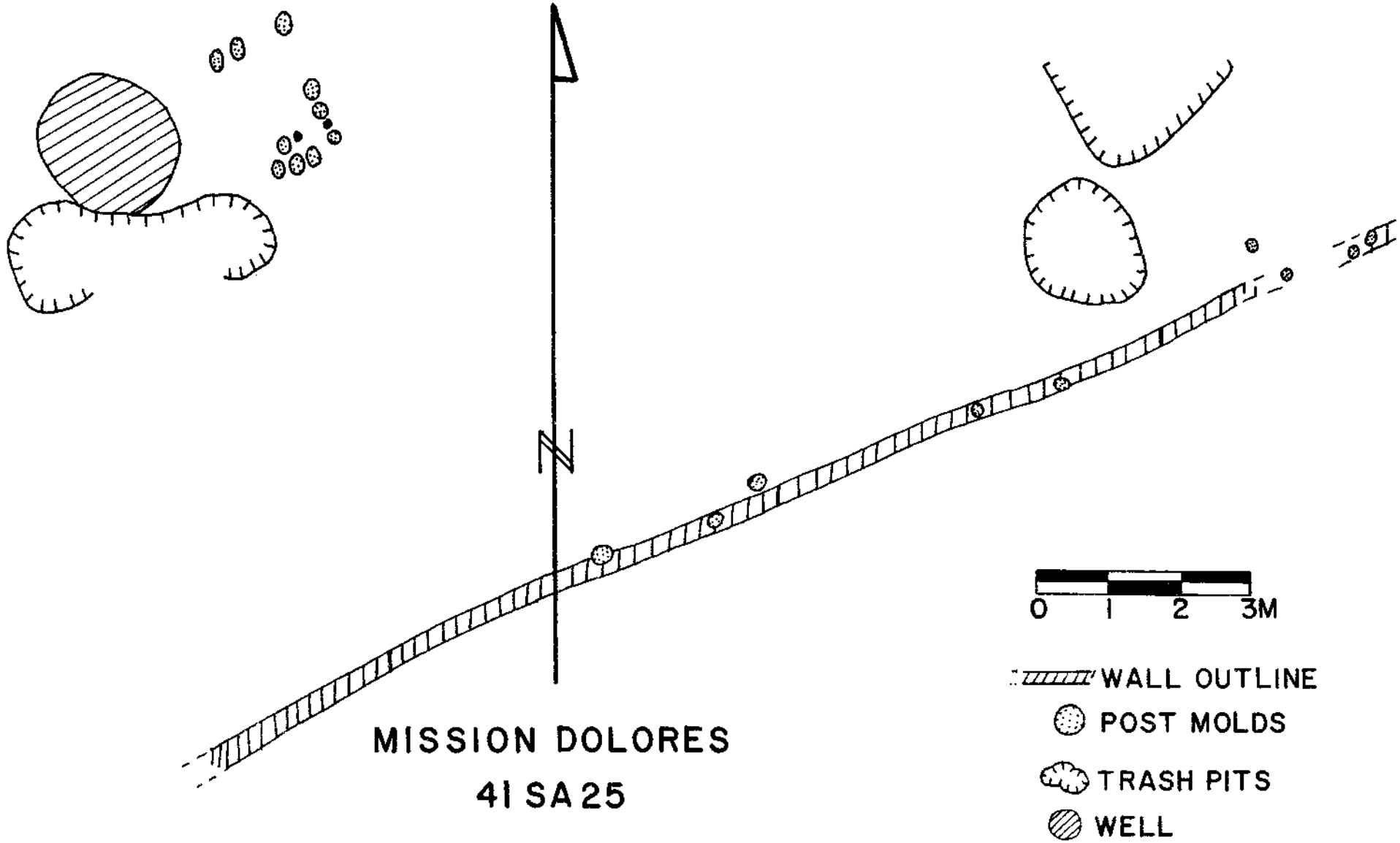


FIGURE 1. Plan Showing Feature 25, the Palisado Wall

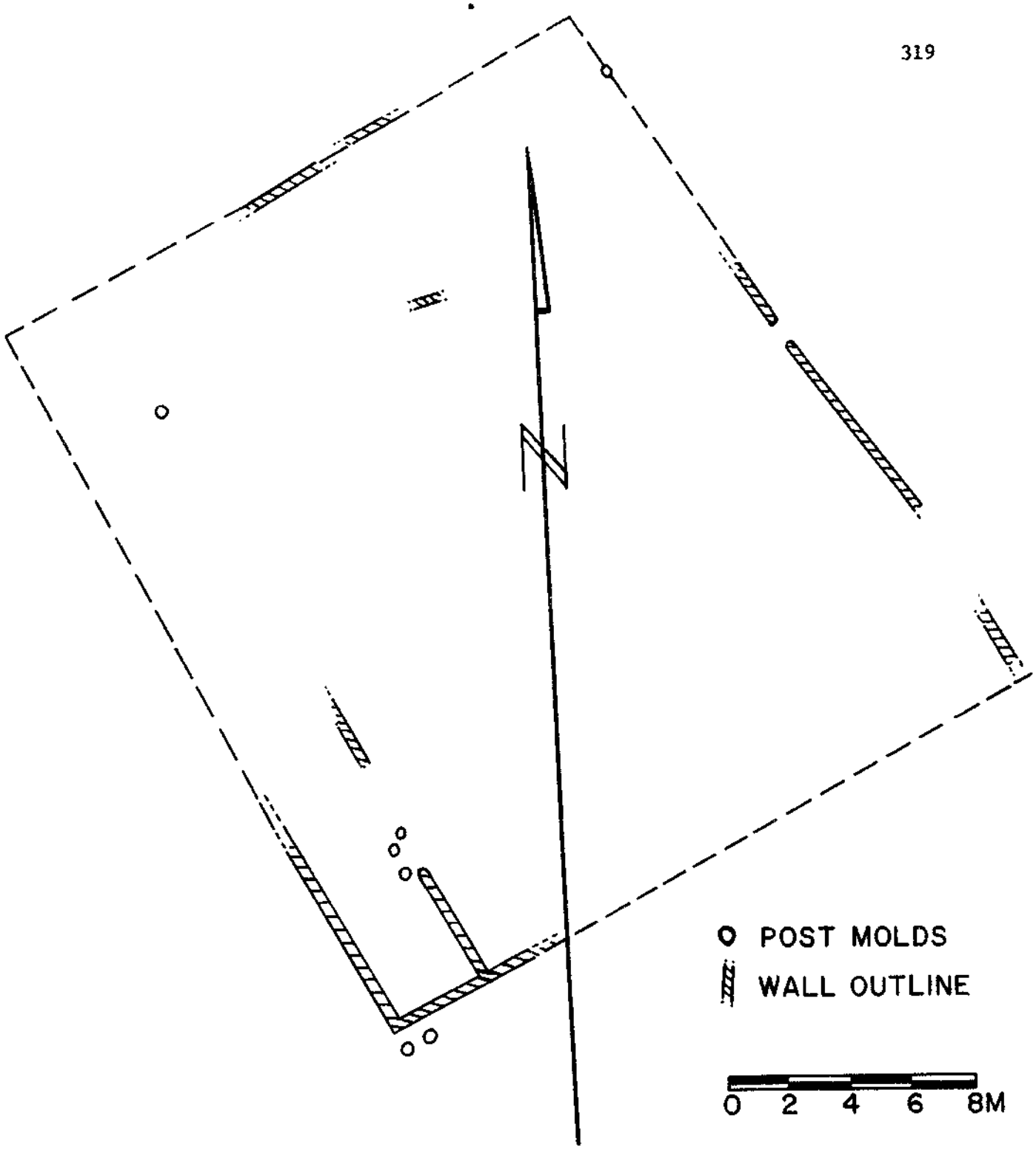


FIGURE 2. Wall Trenches, San Xavier

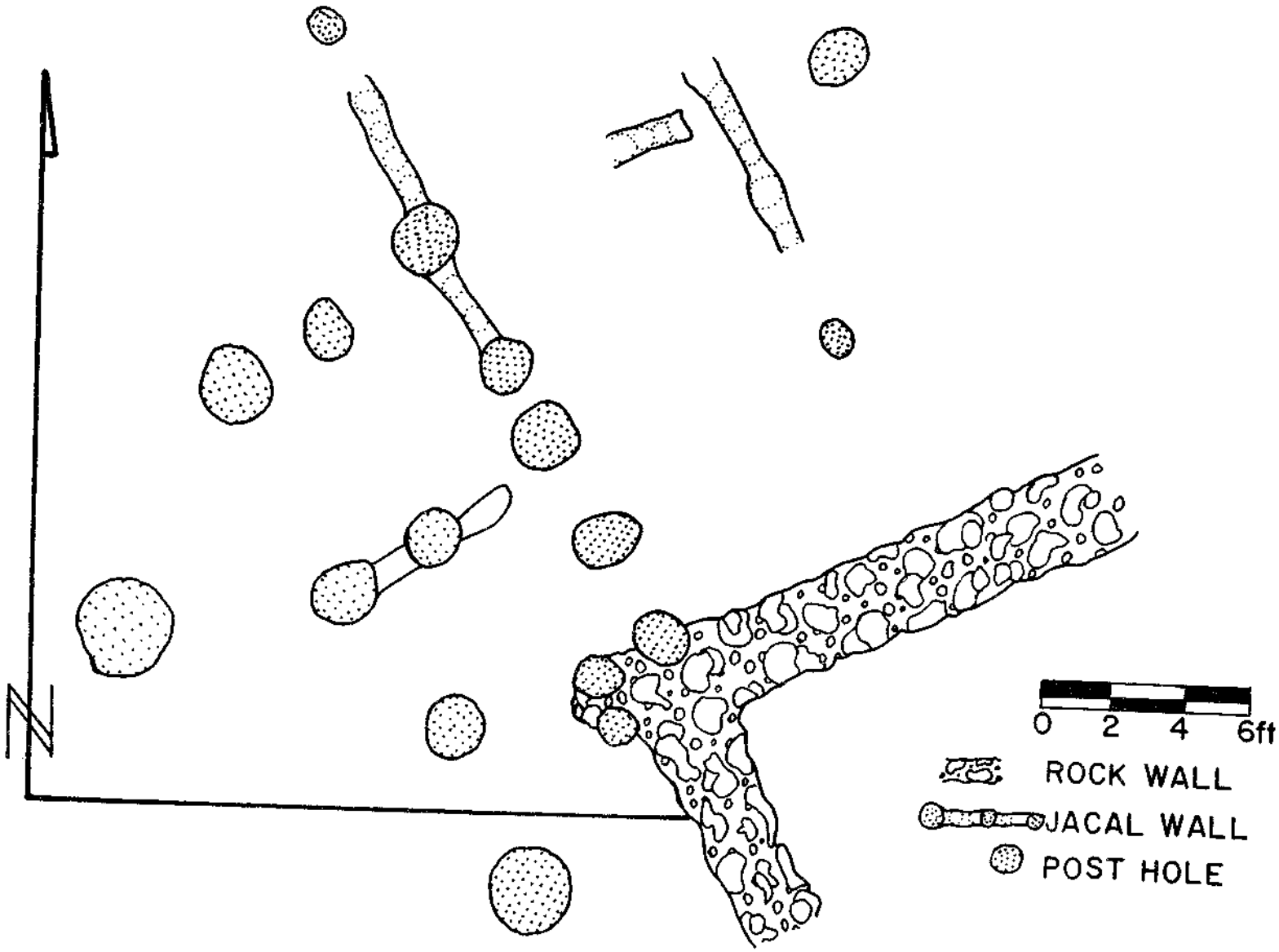


FIGURE 3. Plan of Jacal Walls at Mission Rosario

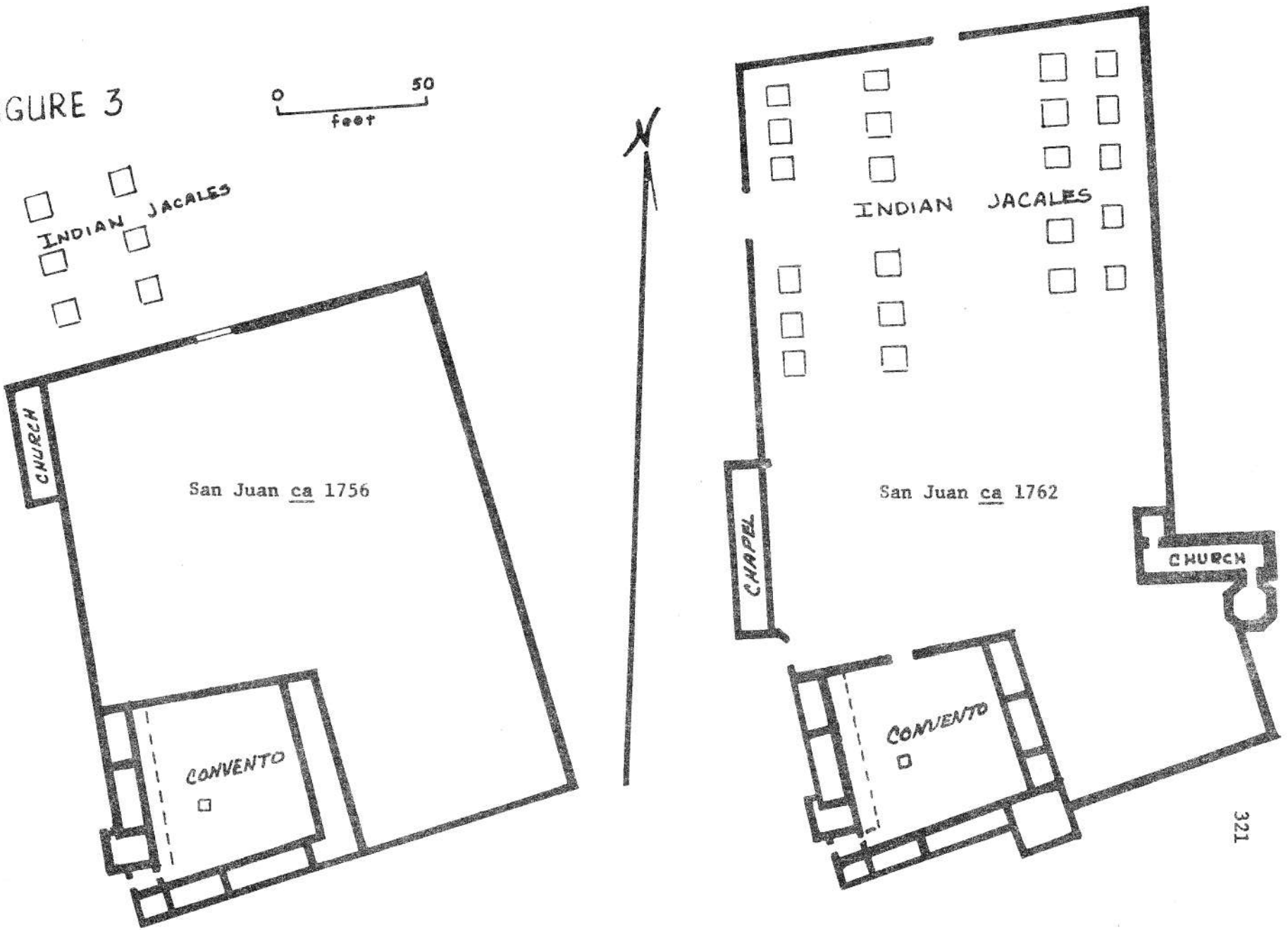


FIGURE 4. Plan of Walls at San Juan Capistrano

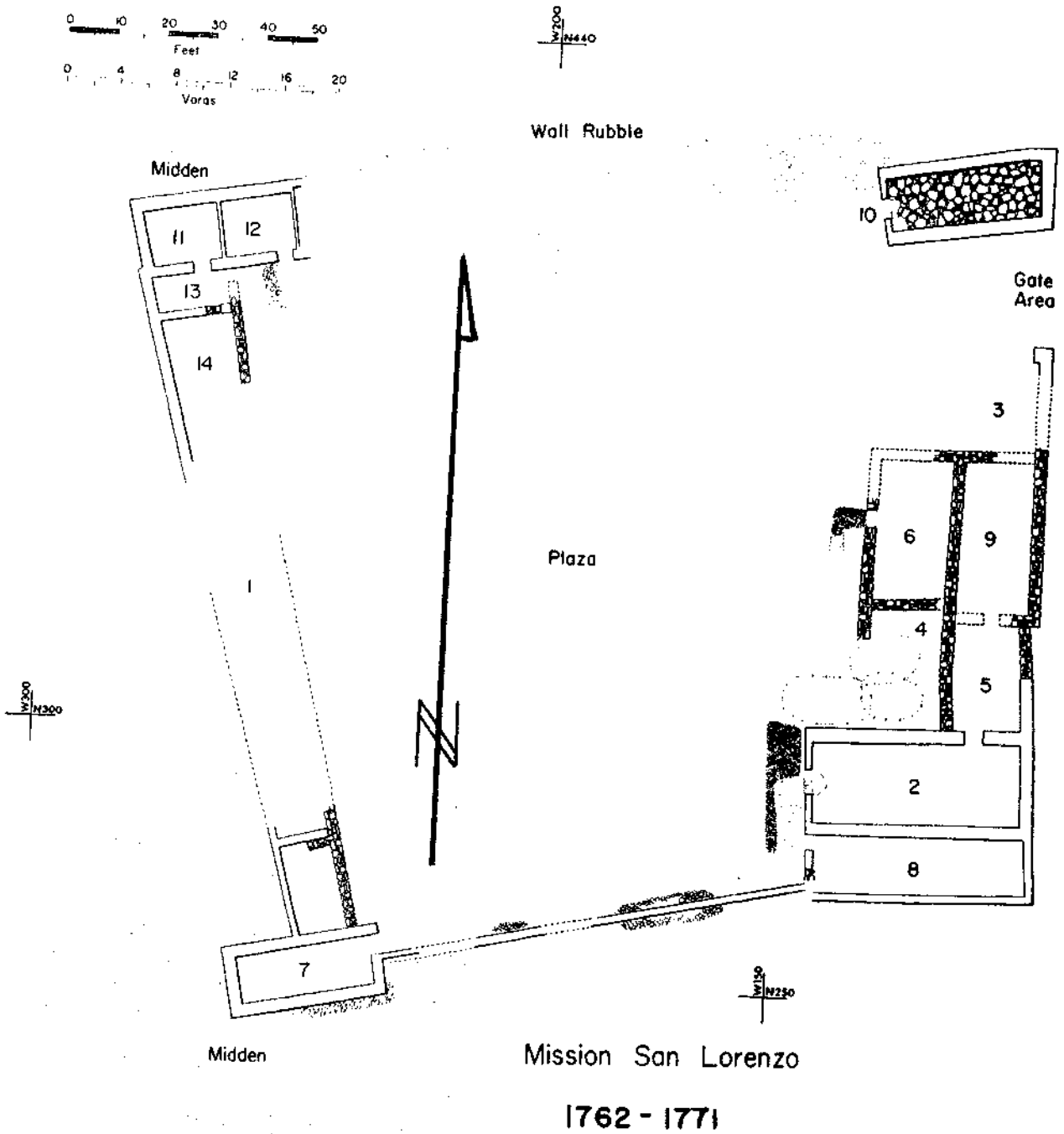


FIGURE 5. Plan of Walls at Mission San Lorenzo

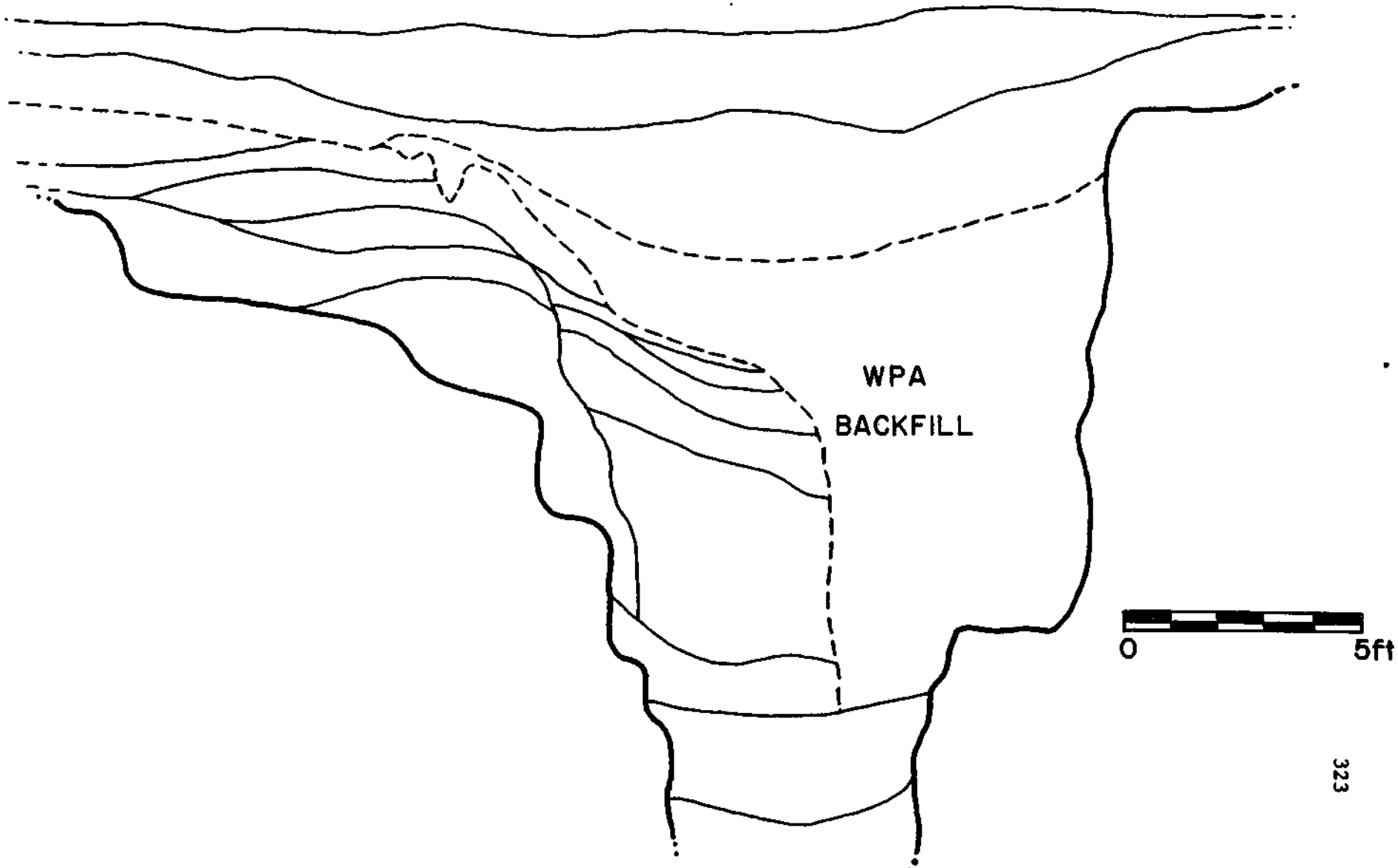


FIGURE 6. TRENCH 190 · THE WELL

MISSION ROSARIO·41GD2

APPENDIX V
El Camino Real

As stated in the main body of the text (p.82), it is hypothesized that Feature 65 may represent a cross-section of the eighteenth-century Camino Real road-cut. This possibility has raised some questions about placement and orientation of the road in relation to the site. Figure 1 shows the plotting of El Camino Real (~·-·~) on a recent plat map of the area, using the 1841 survey points (see App. I). The plotting began at a point designated as the road crossing of the Bayou, which in turn is plotted as a certain number of varas north of the juncture of Carrizo Creek with Ayish Bayou. As can be seen, this plotting is south and east of modern Highway 147 (old Macune Road in Appendix II), which supposedly follows the old route in part [particularly between points B-C; the alignment of A-B has been changed within recent times (see Bewley's map, App. II)]. Since the plotting of the road starts at the crossing, the east-west difference could be explained by changes in the meanders of the Ayish Bayou. The north-south difference could be explained by the slow downstream drift of the mouth of Carrizo Creek.

On the other hand, we could accept the recent plotting as being fairly accurate and suggest that the road has moved around a lot (as roads in this topographic situation are wont to do), and that the modern road is not on or really very near the old road. While this

is the simplest solution, it is the least satisfactory one. While the road would progress around the hill's gentlest slope (which makes some sense) in this position, it is not very close to the proposed mission compound.

There are at least two other alternatives. First, we should note that the road section B'-C' is exactly parallel to the palisado wall (F-25). As noted in the comparisons section of the text, we feel this alignment for the proposed compound wall is not fortuitous, and now suggest that the B'-C' section of the road bears some relationship to the palisado wall. We propose that this section of the road was 1) parallel to the southeast compound wall, 2) possibly south of the mission complex (thus explaining the local tradition and historical documents which indicate the "mission" was north of the road), and 3) probably fairly close to the mission.

If we assume that F-65 does represent the eighteenth-century Camino Real road-cut, and reposition the modern survey points (Fig. 2), we can solve all problems: 1) the road is adjacent to the mission complex, 2) the mission is north of the road, and 3) the road still progresses around the gentle south slope of the hill to the flood-plain below.

There is a second possibility. Two ca 1850 plat maps of San Augustine (see Fig. 3) show the relationship of El Camino Real to the town as platted. Although there is some variation in road alignment, the two maps agree at points c, d, and e. These points are felt to

be fairly accurate, since point e and line e-f are visible as a property line in recent aerial photos. We then transferred points c, d, and e as well as points a and b (marked with X's to the modern plat map used in Figure 1. We then realigned the 1841 survey line of El Camino Real until it corresponded with the five points. Interestingly enough, the survey line retained its proper relationship to the compass, and the section B'-C' stayed adjacent and parallel to the palisado wall. The only difference is, this alignment would have the road going through the middle (more or less) of the area proposed for the mission compound (which also occurs as a local tradition!) We have no quarrel with this alignment, since the road could have gone through the mission complex, and since we have no proof that F-65 does indeed represent a (the) road-cut.

One final possibility is suggested by the extant data. Point B' is specifically noted on the 1841 survey as "old mission" (App. 1). In Fig. 5, we have placed Point B' at what we feel is the southwest corner of the mission complex and aligned the section B'-C' with the palisado wall and through F-65. This alignment still corresponds to the 1850 map (Fig. 4) at points d and e.

At this point there appears no easy solution. Our only feeling is that the road section B'-C' should be in close proximity to the palisado wall. It is hoped that future archaeological and document research will help resolved the problem.

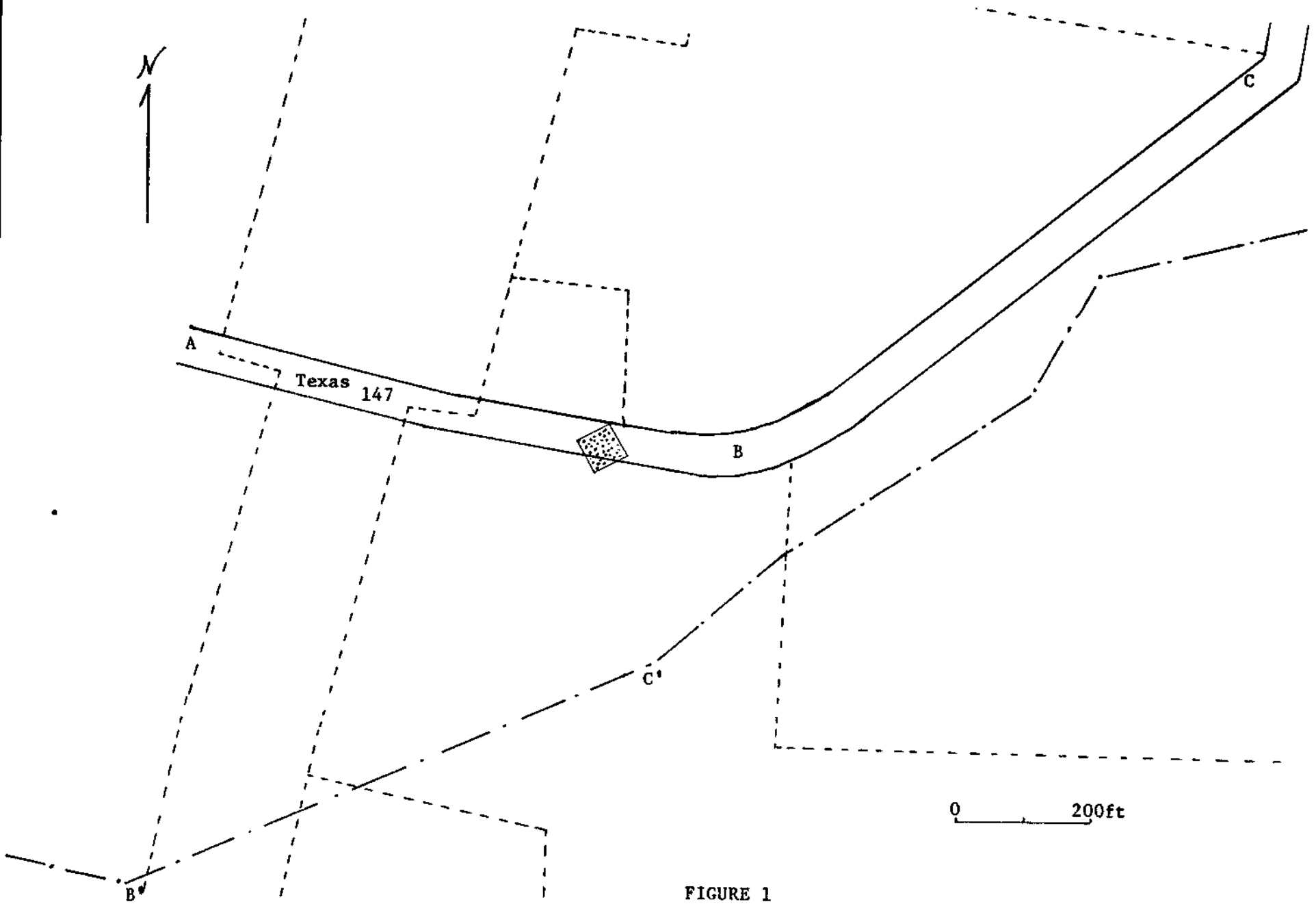


FIGURE 1

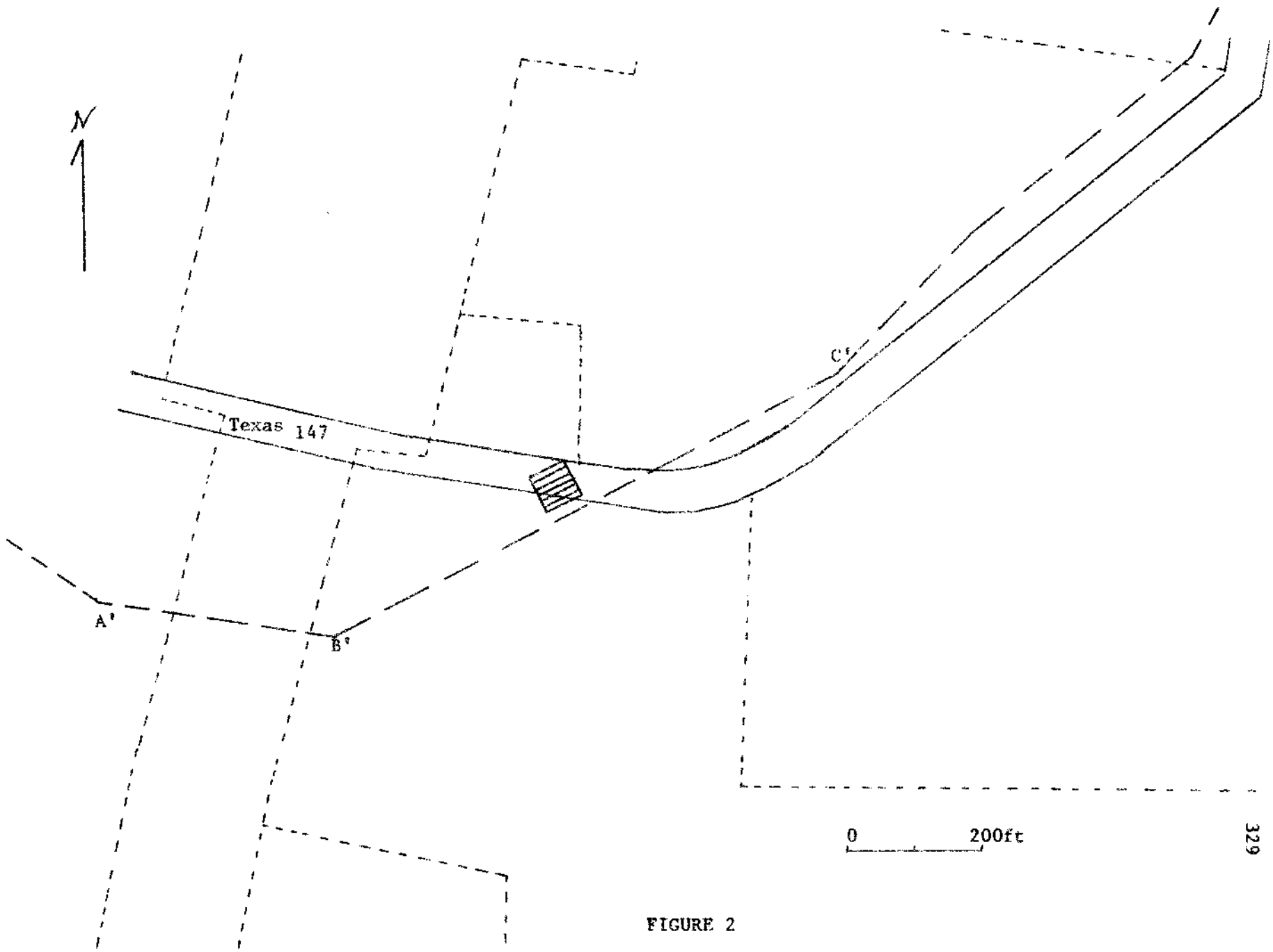


FIGURE 2

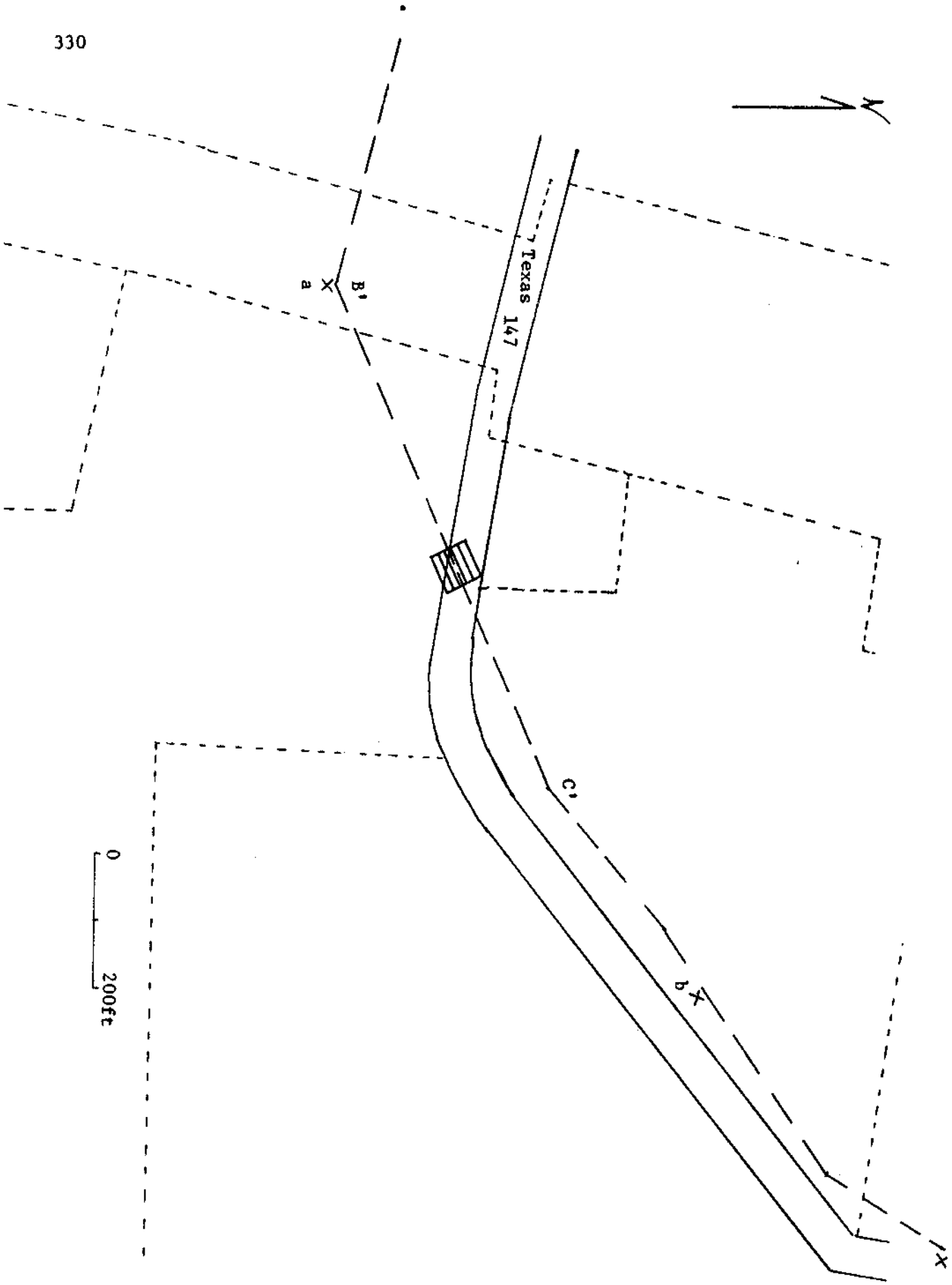


FIGURE 3

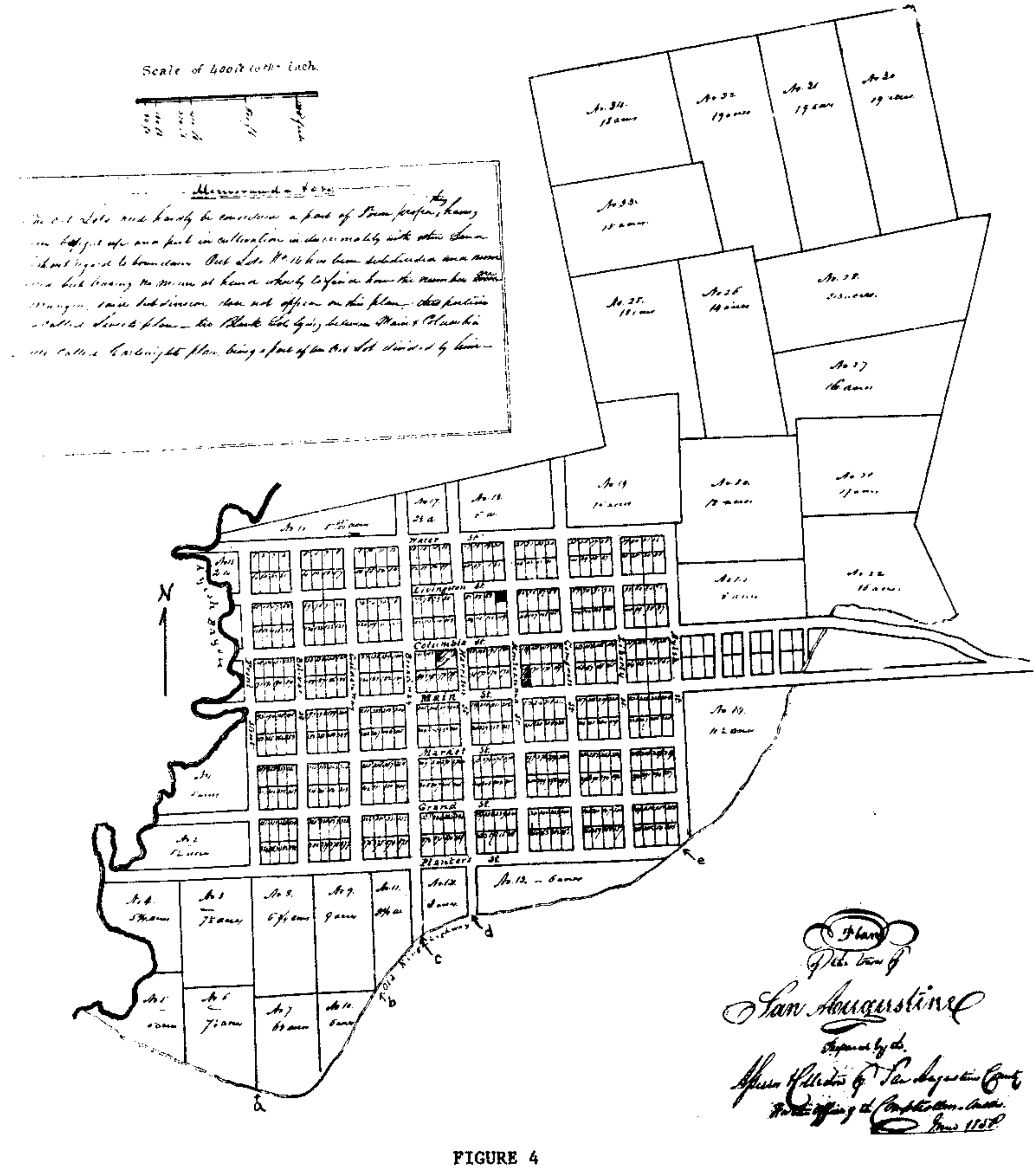

Scale of 400ft to the inch.
N
Water St.
Livingston St.
Columbia St.
Main St.
Market St.
Grand St.
Planters St.
Plan of the town of San Augustine

FIGURE 4

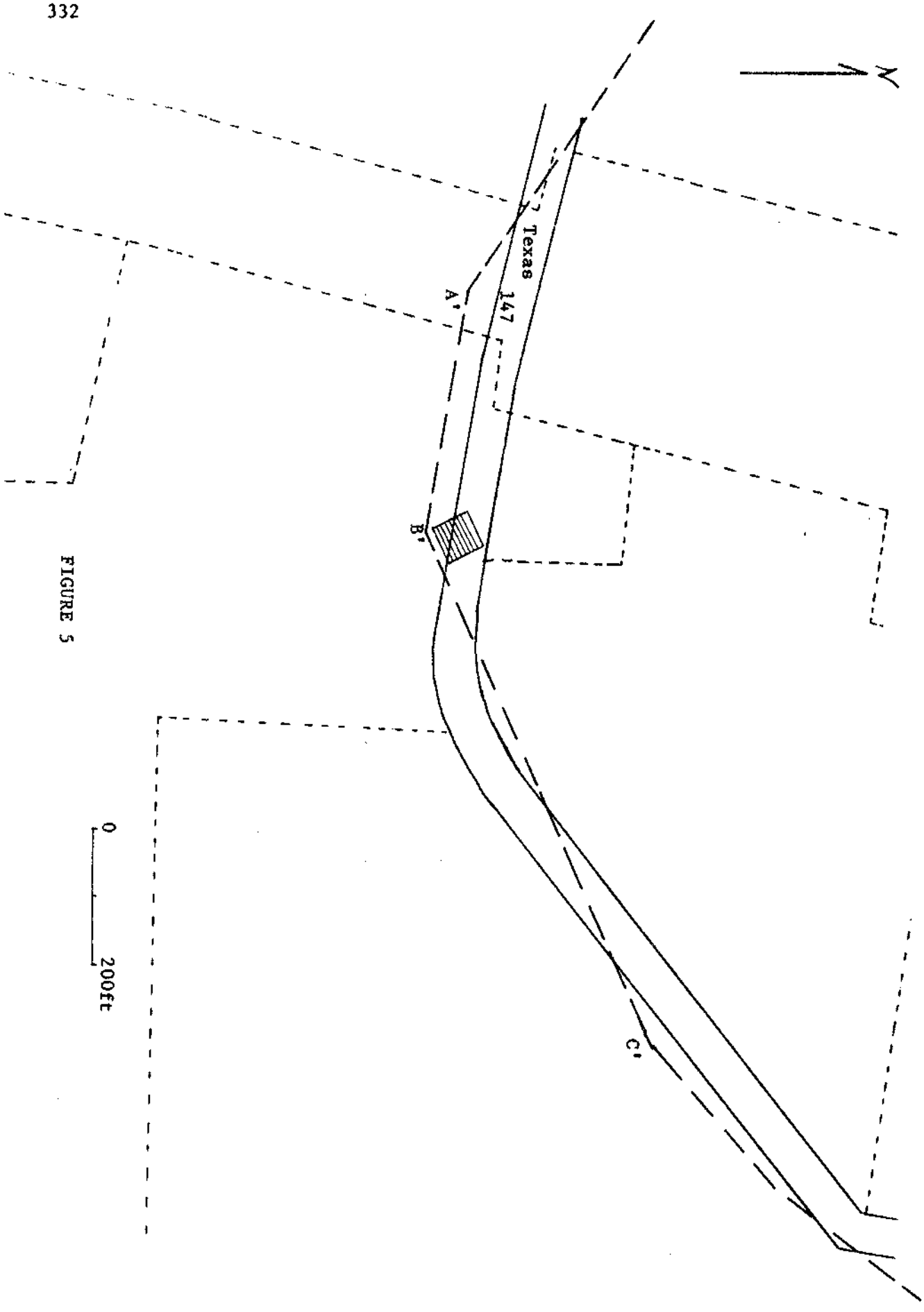


FIGURE 5

APPENDIX VI
Soil Descriptions and Profiles

The soils at the site of Mission Dolores fall within the Trawick-Bub complex (stony, 5-35% slopes) which are formed within glauconitic greensand marls (i.e., various expressions of the dominant Weches formation). The Bub series (Dolezel, 1980) are shallow (to ca 36cm), well-drained soils on uplands at or near the military crest (Dolezel, personal communication) of the hills of interstream divides on slopes of five to thirty-five percent. Pebble and ironstone fragments are common in the A (25-50%) and B (10-35%) horizons. The Trawick soils are generally on less sloping (8-20%) parts of the complex and generally make up about fifty to sixty percent of the area. In this complex, the Trawick soils are generally a gravelly clay loam and are deeper (to ca 105cm). The soils of the complex range from medium to low in available water capacity, and have a high erosion potential and low crop suitability.

The soil profiles from the site indicate soils that are generally deeper than the average Bub series, and usually shallower than the average Trawick soil, but exhibit other characteristics typical of both soils.

Figure 1 shows a typical Bub and Trawick profile along with a series of profiles (from ditch or backhoe trenches) starting at W65 and ending at W124. The W65 profile (backhoe trench) is a typical

Bub series profile. The petroferric horizons are intermittent but again typical of the Bub series. Bits of charcoal appear in this profile at a depth of about 16cm, approximately the same level as Feature 68 in the W75 backhoe trench. The W100 (ditch) profile illustrates the relationship of the cultural horizon and Feature 6 to the soil profile. No artifacts occurred below Feature 6, and in the site in general, few if any eighteenth-century artifacts occurred below the 20-25cm level. Modern artifacts were rare (in an undisturbed situation, i.e., rodents) below the Ap1 horizon.

The unnamed horizon between the Ap and the usually obvious B2t often exhibited characteristics of A and B horizons to the point that it could be labeled in various profiles AB, BA or possibly A and B. It is also significant that this horizon is essentially the culture-bearing zone in the profile (with the exception of the large trash pits and other types of cultural disturbance), particularly the upper 5-10 centimeters. The extent to which man has altered or created this portion of the profile is uncertain. If Features 6 and 68 (and other such archaeological data) represent the ground surface at the time of the Spanish occupation (and it is hard to explain it otherwise), then the AB-BA (as well as the Ap) zone may in fact represent matrix that has accumulated due to slope wash since the Spanish occupation. On the other hand, this horizon could have been (pre-Spanish) predominantly a B (B_1 ?) horizon which was modified and disturbed by human activity, primarily by added organic matter, etc., to a more

A-like form (slightly darker, less structure, etc.). In a technical sense, this zone might be designated a form of Ap in which the normal soil profile was modified by man with the addition of above-normal amounts of organic matter. Thus, this and other Dolores profiles appear to contain two Ap horizons, one (Ap1) created by plowing and pasturage in the nineteenth and twentieth century, and an earlier one (Ap2) created by the eighteenth-century Spanish occupation. Whatever the case, this zone is generally more B-like in the lower portion. Since human occupation of the type which occurred on Mission Hill often denudes the soil surface, erosion (it should be noted that the soils of the Trawick-Bub association are very susceptible to erosion) during and immediately after the occupation probably had a significant effect on the soils present and on subsequent soil development.

In many areas of the site, the contact of this Ap2 zone with the B2t is typified by an often very resistant, intermittent petroferric horizon which ranges from 2.0-4.0cm thick. If eighteenth-century postholes reached this level, and the petroferric horizon was present, the postholes rarely penetrated it. In most profiles, a good, typical B2t occurs below the petroferric horizon. Another intermittent but generally thicker petroferric horizon often occurs at the B2t (or B3) contact with the Cr horizon. Rarely, features (e.g., F-2, F-8, etc.) were excavated to this horizon or the Cr horizon. Feature 13 (the well) penetrated the Cr horizon and (if it is a well) presumably reached the C-R contact (i.e., the aquifer zone).

The W100, 105, 113, 124 ditch profiles are the typical soil profiles for most of the occupation area. With the exception of the fossil Ap, they appear to be most like those of the Trawick soil series, albeit slightly shallower than those profiles illustrated in SCS soil descriptions.

PROFILE DESCRIPTIONS

W75 Soil Profile

Ap - 0 to 6cm; weak, granular

Bt - 6 to 26cm; strong, prismatic breaking to medium angular blocky to granular; clay skins observable

pf - 26 to 30cm; intermittent; breaks to nodules and plates

C1 - 30 to 52cm; very weak prismatic breaking to medium to fine granules

pf - 52 to 54cm; intermittent; breaks to nodules and plates

C2 - 54 to 60cm; massive

W113 Soil Profile

Ap1 - 0 to 11cm; dark reddish brown (5YR 3/4); granular

B and Ap2 - 11 to 22cm; Ap2 (?) portion is dark reddish brown; B portion is dark red (2.5YR 3/6); weak sub-angular blocky breaking to granular

B2t - 22 to 56cm; dark red (2.5YR 3/8); prismatic breaking to strong subangular blocky

B3 - 56 to 69cm; dark red (2.5YR 3/6); subangular blocky

Petroferric - 69 to 73cm; 2.5YR 3/4.5, 10YR 6/8, 10YR 2/2; very hard, breaks to nodules and plates, intermittent

Cr - 73 to cm; massive; mottled 2.5YR 3/4 to 7.5YR 6/8

W124 Soil Profile

Ap - 0 to 10cm; dark reddish brown (2.5YR 3/4); weak subangular blocky to granular

B and Ap2 - 10 to 25cm; Ap2 portion dark reddish brown (5YR 3/4 to 5YR 3/8), B portion dark reddish brown (2.5YR 3/4); weak subangular blocky (B) and granular (Ap2)

B21t - 25 to 40cm; dark reddish brown (2.5YR 3/4); strong medium prismatic breaking to small to medium angular blocky; obvious clay skins

B22t - 40 to 65cm; dark red (2.5YR 3/6); strong large prismatic breaking to medium angular blocky; obvious clay skins

Cr - 65 to cm; strong brown (y.5YR 5/8); massive

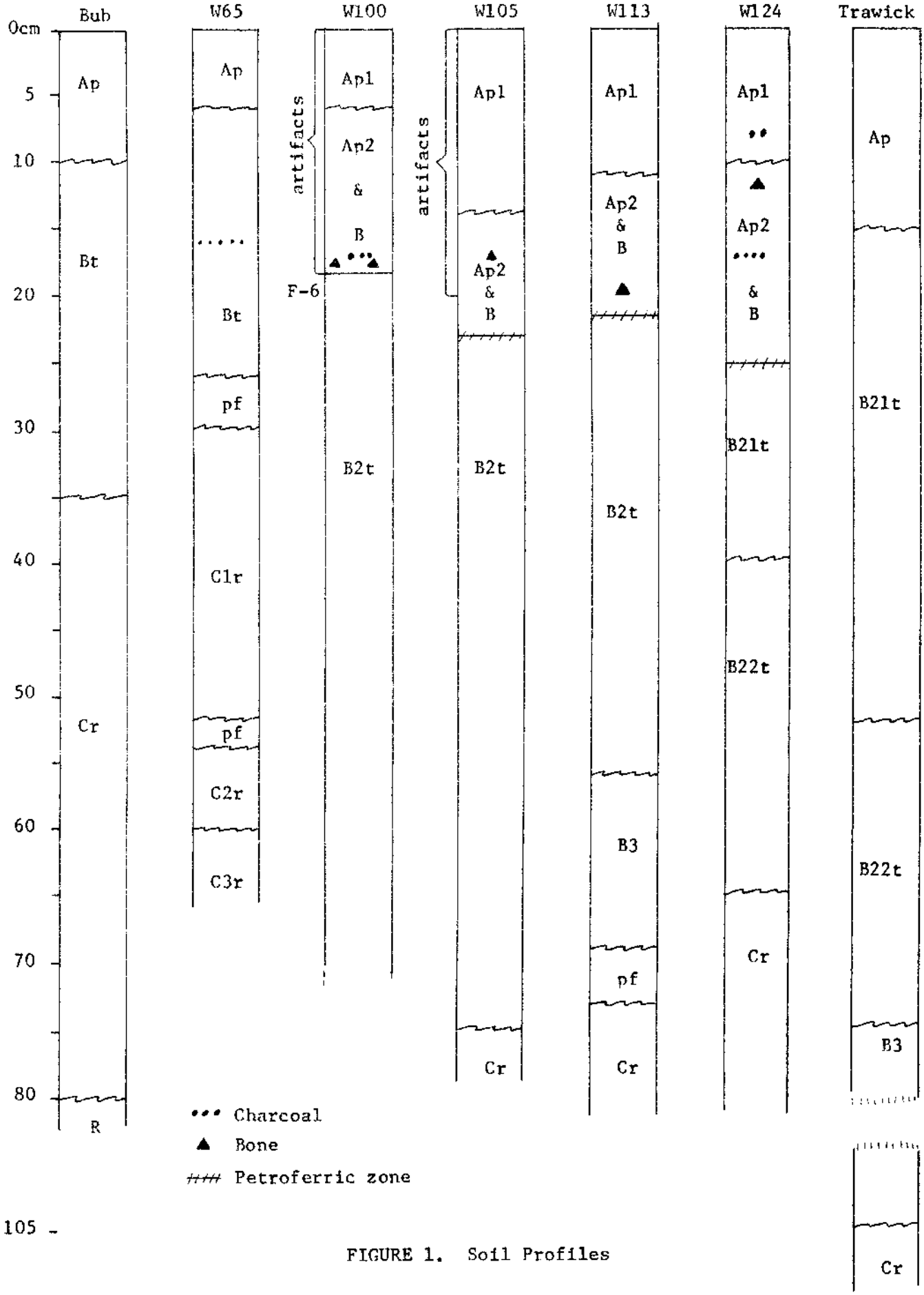


FIGURE 1. Soil Profiles

APPENDIX VII
Feature List 1976-78 Excavations

1. Feature 1 - see Feature 6 below
2. Feature 2 - same as F-7
3. Feature 3 - large pit in ditch profile, between W116 and W118
4. Feature 4 - part of F-18; in north wall of N101/W115
5. Feature 5 - in north wall of 1 x 3 meter trench; SE corner is N100/W100, i.e., south side of F-6 (see F-6 below)
6. Feature 6 - including associated Features 1, 5, 6A, 9; hearth, compacted floor and associated debris; between N100 and ditch (ca N103) and W96 and W102
7. Feature 7 - charcoal-filled pit; ditch profile, ca N103/W105
8. Feature 8 - large trash pit; primarily in N100/W115 and N101/W115
9. Feature 9 - Debris along edge of F-6 (see above); in N101/W101
10. Feature 10 - shallow pit with recent fill; N91/W85
11. Feature 11 - antbed in N91/W85
12. Feature 12 - large pit in ditch profile; between W114 and W117
13. Feature 13 - eighteenth-century well; NTSU backhoe trench ca N102/W129
14. Feature 13B - same as Feature 34 (see below)
15. Feature 14 - large bone (bovine); N101/W124
16. Feature 15 - bones associated with F-23 (see below)
17. Feature 16 - posthole; N100/W114
18. Feature 17 - three burned post fragments and associated postholes; this feature includes structure which includes these three posts and nine others (see below)
19. Feature 18 - trash pit in N102/W115; N102/W116
20. Feature 19 - posthole in F-25; in N100/W113
21. Feature 20 - recent posthole; N100/W112

67. Feature 65 - large, flat-bottomed depression (pit) visible in ditch profile; ca N101.73/W84.2; may be El Camino Real

68. Feature 66 - recent fencepost; N98/W76

69. Feature 67 - recent postmold; N98/W76

70. Feature 68 - thin fire-burned lens; W75 backhoe trench between N98 and 99

71. Feature 69 - recent postmold; W75 backhoe trench; N98.9/W74.25

72. Feature 70 - small concentration of bones and burned rock; N100/W87

73. Feature 71 - shallow, debris-filled pit (may be F-25A); N95/W125

74. Feature 72 - recent telephone pole posthole; N101/W88

75. Feature 73 - recent posthole; N101/W87

76. Feature 74 - shallow depression; N105/W129

77. Feature 75 - posthole in F-32; N95/W131

78. Feature 76 - posthole in F-32; N95/W132

79. Feature 77 - posthole in F-32; N96/W131

80. Feature 78 - possible posthole in F-32; N97/W132

81. Feature 79 - possible posthole in F-32; N95/W132

82. Feature 80 - charred log fragment in F-32; N95/W132

83. Feature 81 - possible posthole in F-32; N93/W131

84. Feature 82 - possible posthole in F-32; N92/W131

85. Feature 83 - possible posthole/wall trench; N103/W125

86. Feature 84 - possible posthole/wall trench; N103/W125

87. Feature 85 - possible posthole/wall trench; ditch profile at W124.65

88. Feature 86 - possible posthole/wall trench; ditch profile at W112.5

22. Feature 21 - posthole; N101/W113

23. Feature 22 - recent fill and associated artifacts in shallow depression; N101/W112

24. Feature 23 - wall trench and postmolds (part of F-25); in N100/W112; N101/W112; N101/W113

25. Feature 24 - tree root mold; ditch profile, ca N105/W129

26. Feature 25 - palisado wall trench and associated postholes

27. Feature 25B - branch or earlier version of F-25; N97/W121, N97/W122; may include Features 16, 19, 71, and 81

28. Feature 26 - recent posthole with wood; N100/W103

29. Feature 27 - recent posthole with wood; N100/W100

30. Feature 28 - recent posthole; N100/W102

31. Feature 29 - recent posthole; N100/W109

32. Feature 30 - recent posthole; N100/W109

33. Feature 31 - possible eighteenth-century posthole in line with F-25; ditch profile near N103/W107

34. Feature 32 - adobe structure remains N91 and N100, and W129 and W133

35. Feature 33 - recent posthole; N100/W108

36. Feature 34 - shallow, trash-filled pit (may be short wall-setting trench; NTSU backhoe profiles; N100/W128, 129, 130, 131, N101/W101

37. Feature 35 - recent posthole; N100/W106

38. Feature 36 - recent posthole; N100/W105

39. Feature 37 - recent posthole; N100/W104

40. Feature 38 - recent posthole; N100/W100

41. Feature 39 - Weches from road ditch excavation; N102/W97-99

42. Feature 40 - possible posthole near N100/W127; not recorded after depth of 10cm.

43. Feature 41 - edge of F-34 in N100/W127

44. Feature 42 - possible posthole in F-17; N103/W127

45. Feature 43 - possible disturbed (moved) adobe blocks in highly disturbed area; east profile NTSU backhoe trench near N90 line

46. Feature 44 - posthole in F-17; N103/W129

47. Feature 45 - posthole in F-17; N103/W129

48. Feature 46 - posthole in F-17; N103/W127

49. Feature 47 - not cultural feature

50. Feature 48 - two overlapping postholes in F-17; N102/W127

51. Feature 49 - [not cultural feature]

52. Feature 50 - posthole in F-17; N102/W127

53. Feature 51 - small eighteenth-century posthole (part of F-17); N102/W124

54. Feature 52 - possible eighteenth-century posthole; N101/W126

55. Feature 53 - [possibly not cultural feature]

56. Feature 54 - [possibly not cultural feature]

57. Feature 55 - [possibly not cultural feature]

58. Feature 56 - small pieces of adobe block; N99/W132

59. Feature 57 - possible eighteenth-century posthole; N103/W125

60. Feature 58 - small concentration of bone and stone adjacent to F-6; N99/W100

61. Feature 59 - charcoal-filled pit; N95/W124

62. Feature 60 - part of F-25 wall trench; N95/W125

63. Feature 61 - small posthole in F-17; N102/W127

64. Feature 62 - small posthole in F-17; N102/W127

65. Feature 63 - possible small posthole in F-17; N102/W127

66. Feature 64 - charcoal-filled pit; ditch profile; N101/W88

APPENDIX VIII
Distribution of Artifacts

Artifact distributions are shown in both chart and map form, both of which were computer-generated (see Appendix IX). The charts list only units and levels which contained artifacts, i.e., if there is no listing for N90/W100 in level 2, then no artifacts of that type occurred in level two of that unit.

The distribution maps are intended to show artifact relationships, not actual numbers (although some do) of artifacts in each unit. The number of key numbers (1-9) was limited by the program; therefore, no individual map is comparable with another unless the key is the same. The key varied with each artifact type, so as to make that map as internally sensitive as possible within the limitation of the nine-number key. Thus, one may compare relative distributions, but not actual numbers. Some areas of the site were excavated in a fashion that was not suitable for the map, i.e., artifacts from some large units (e.g., N100/W100, a 3 x 5 unit) were not recorded by the 1 x 1-meter units within the larger one. Thus, the large number in the southeast corner of N100/W100 refers to the number of artifacts in the 3 x 5-meter unit. Nevertheless, a number of facts are apparent:

1) Artifact yields were high in the vicinity of Features 6, 25 (palisado wall), 3 and 18.

2) Trash pits are easily spotted by their high artifact count

(these counts refer to the upper 10-20cm of these features. Once the feature was identified, artifacts were recorded by feature rather than excavation unit.)

3) The few units excavated outside the compound (particularly to the southeast and west) seem to verify our structural interpretation of the placement of the main compound of the mission complex.

4) The identification of Feature 6 as a separate entity from the compound is further enhanced by the readily apparent drop in artifacts between Feature 6 and Feature 25 (the palisado wall).

5) The primary concentration of tin-glazed soft paste earthenware is in the vicinity of F-6.

6) English cream-colored earthenware is proportionately more common in the vicinity of Feature 6.

7) Chinese porcelain is more evenly distributed than the tin-glazed wares, with more of a concentration along the compound walls, and within the compound.

8) There are more potsherds around the palisado structure (F-17) than inside.

9) There is no apparent clustering of the aboriginal ceramics, nor of any of the decorative techniques.

THERE ARE 2580 PLAIN

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE	
NO PROV	33	8.549	1.279%	
N 91 W130	1	.259	.039%	
N 92 W129	1	.259	.039%	
N 93 W127	1	.259	.039%	
N 94 W127	17	4.404	.659%	SURFACE
N100 W 97	2	.518	.078%	
N102 W 75	10	2.591	.388%	
NO PROV	19	4.922	.736%	
N777 1	1	.259	.039%	
N777 2	4	1.036	.155%	
N777 8	91	23.575	3.527%	
N777 18	21	5.440	.814%	FEATURES
N777 25	1	.259	.039%	
N777 32	11	2.850	.426%	
N777 34	2	.518	.078%	
N777 34	43	11.140	1.667%	
N999 1	13	3.368	.504%	
N999 2	96	24.870	3.721%	TRENCHES
N999 4	19	4.922	.736%	
TOTALS	386	100.000%	14.961%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 86 W100	2	.233	.078%
N 91 W127	6	.698	.233%
N 91 W130	2	.233	.078%
N 92 W130	2	.233	.078%
N 92 W131	2	.233	.078%
N 92 W132	9	1.047	.349%
N 93 W130	4	.465	.155%
N 94 W124	19	2.209	.736%
N 94 W125	18	2.093	.698%
N 94 W130	6	.698	.233%
N 94 W131	10	1.163	.388%
N 94 W132	4	.465	.155%
N 94 W129	5	.581	.194%
N 95 W126	26	3.023	1.008%
N 95 W124	20	2.326	.775%
N 95 W125	10	1.163	.388%
N 95 W130	6	.698	.233%
N 95 W131	5	.581	.194%
N 95 W132	6	.698	.233%
N 96 W121	10	1.163	.388%
N 96 W123	19	2.209	.736%
N 96 W124	12	1.395	.465%
N 96 W122	3	.349	.116%
N 96 W130	8	.930	.310%
N 96 W131	10	1.163	.388%
N 96 W132	9	1.047	.349%
N 97 W119	10	1.163	.388%

N 97 W120	7	.814	.271%
N 97 W121	7	.814	.271%
N 97 W122	3	.349	.116%
N 97 W130	7	.814	.271%
N 97 W131	16	1.860	.620%
N 97 W132	1	.116	.039%
N 98 N 99	2	.233	.078%
N 98 W100	1	.116	.039%
N 98 W101	1	.116	.039%
N 98 W103	7	.814	.271%
N 98 W116	5	.581	.194%
N 98 W117	6	.698	.233%
N 98 W118	13	1.512	.504%
N 98 W130	5	.581	.194%
N 98 W131	10	1.163	.388%
N 98 W132	4	.465	.155%
N 99 N 99	2	.233	.078%
N 99 W101	1	.116	.039%
N 99 W115	13	1.512	.504%
N 99 W116	7	.814	.271%
N 99 W117	2	.233	.078%
N 99 W130	15	1.744	.581%
N 99 W131	27	3.140	1.047%
N 99 W132	3	.349	.116%
N100 N 88	1	.116	.039%
N100 N 97	26	3.023	1.008%
N100 W100	31	3.605	1.202%
N100 W106	2	.233	.078%
N100 W108	1	.116	.039%
N100 W109	1	.116	.039%
N100 W111	1	.116	.039%
N100 W112	4	.465	.155%
N100 W113	3	.349	.116%
N100 W114	3	.349	.116%
N100 W115	10	1.163	.388%
N100 W116	2	.233	.078%
N100 W117	3	.349	.116%
N100 W120	8	.930	.310%
N100 W124	14	1.628	.543%
N100 W125	17	1.977	.659%
N100 W126	9	1.047	.349%
N100 W127	10	1.163	.388%
N100 W128	28	3.256	1.085%
N100 W129	143	16.628	5.543%
N100 W136	3	.349	.116%
N100 W139	3	.349	.116%
N100 W144	1	.116	.039%
N101 W100	45	5.233	1.744%
N101 W110	1	.116	.039%
N101 W111	3	.349	.116%
N101 W113	3	.349	.116%
N101 W114	4	.465	.155%
N101 W116	2	.233	.078%
N101 W117	3	.349	.116%
N101 W124	5	.581	.194%
N101 W125	1	.116	.039%
N101 W126	6	.698	.233%
N101 W127	6	.698	.233%
N101 W128	10	1.163	.388%
N102 W109	1	.116	.039%
N102 W110	2	.233	.078%

0102 -116	2	.233	.078%
0102 -117	2	.233	.078%
0102 -124	6	.698	.233%
0102 -125	2	.233	.078%
0102 -126	4	.465	.155%
0102 -127	6	.698	.233%
0102 -128	1	.116	.039%
0103 -125	5	.581	.194%
0103 -126	4	.465	.155%
0103 -128	2	.233	.078%
0103 -129	2	.233	.078%
TOTALS	860	100.000%	33.333%

LEVEL 2

OCCURRENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
0 86 -126	3	.314	.116%
0 94 -124	19	1.990	.736%
0 94 -125	1	.105	.039%
0 94 -126	8	.838	.310%
0 95 -126	4	.419	.155%
0 95 -124	19	1.990	.736%
0 95 -125	11	1.152	.426%
0 96 85	1	.105	.039%
0 96 -121	15	1.571	.581%
0 96 -123	13	1.361	.504%
0 96 -124	7	.733	.271%
0 96 -122	13	1.361	.504%
0 97 0 99	2	.209	.078%
0 97 -116	1	.105	.039%
0 97 -119	21	2.199	.814%
0 97 -120	27	2.827	1.047%
0 97 -121	14	1.466	.543%
0 97 -122	10	1.047	.388%
0 98 0 76	3	.314	.116%
0 98 0 99	6	.628	.233%
0 98 -120	7	.733	.271%
0 98 -121	3	.314	.116%
0 98 -123	7	.733	.271%
0 98 -116	5	.524	.194%
0 98 -117	16	1.675	.620%
0 98 -118	8	.838	.310%
0 99 0 99	18	1.885	.698%
0 99 -120	5	.524	.194%
0 99 -121	2	.209	.078%
0 99 -115	5	.524	.194%
0 99 -116	5	.524	.194%
0 99 -117	22	2.304	.853%
0100 0 87	3	.314	.116%
0100 0 88	3	.314	.116%
0100 0 89	5	.524	.194%
0100 0 97	26	2.723	1.008%
0100 -115	1	.105	.039%
0100 -117	2	.209	.078%
0100 -118	1	.105	.039%
0100 -119	1	.105	.039%
0100 -110	2	.209	.078%
0100 -111	9	.942	.349%
0100 -112	7	.733	.271%

N100 W113	2	.209	.078%
N100 W114	1	.105	.039%
N100 W115	2	.209	.078%
N100 W116	14	1.466	.543%
N100 W117	6	.628	.233%
N100 W124	6	.628	.233%
N100 W125	28	2.932	1.085%
N100 W126	3	.314	.116%
N100 W127	10	1.047	.388%
N100 W128	132	13.822	5.116%
N100 W129	196	20.524	7.597%
N100 W136	3	.314	.116%
N100 W139	2	.209	.078%
N100 W144	1	.105	.039%
N101 W 87	1	.105	.039%
N101 W 88	1	.105	.039%
N101 W 97	1	.105	.039%
N101 W 98	4	.419	.155%
N101 W100	2	.209	.078%
N101 W112	3	.314	.116%
N101 W113	6	.628	.233%
N101 W114	10	1.047	.388%
N101 W116	12	1.257	.465%
N101 W117	7	.733	.271%
N101 W124	22	2.304	.853%
N101 W125	10	1.047	.388%
N101 W126	8	.838	.310%
N101 W127	1	.105	.039%
N101 W128	27	2.827	1.047%
N101 W 89	1	.105	.039%
N102 W109	5	.524	.194%
N102 W115	8	.838	.310%
N102 W116	7	.733	.271%
N102 W117	4	.419	.155%
N102 W125	1	.105	.039%
N102 W126	7	.733	.271%
N102 W127	6	.628	.233%
N102 W128	1	.105	.039%
N103 W126	2	.209	.078%
N103 W127	7	.733	.271%
N103 W128	4	.419	.155%
N103 W129	13	1.361	.504%
N104 W129	4	.419	.155%
N104 W130	1	.105	.039%
N105 W130	2	.209	.078%
TOTALS	955	100.000%	37.016%

LEVEL 3

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 95 W 55	1	.269	.039%
N 96 W 85	3	.806	.116%
N 97 W 99	5	1.344	.194%
N 97 W119	1	.269	.039%
N 97 W120	2	.538	.078%
N 97 W121	1	.269	.039%
N 98 W 76	1	.269	.039%
N 98 W 99	9	2.419	.349%
N 98 W100	6	1.613	.233%

N 98 N101	6	1.613	.233%
N 98 N103	17	4.570	.659%
N 98 N116	3	.806	.116%
N 98 N117	1	.269	.039%
N 98 N118	1	.269	.039%
N 99 N 85	3	.806	.116%
N 99 N 99	4	1.075	.155%
N 99 N100	3	.806	.116%
N 99 N116	1	.269	.039%
N 99 N117	2	.538	.078%
N 99 N120	3	.806	.116%
N100 N100	101	27.151	3.915%
N100 N105	5	1.344	.194%
N100 N106	5	1.344	.194%
N100 N107	1	.269	.039%
N100 N108	5	1.344	.194%
N100 N109	2	.538	.078%
N100 N110	9	2.419	.349%
N100 N111	2	.538	.078%
N100 N112	3	.806	.116%
N100 N113	1	.269	.039%
N100 N128	2	.538	.078%
N100 N129	74	19.892	2.868%
N101 N112	1	.269	.039%
N101 N115	36	9.677	1.395%
N101 N116	7	1.882	.271%
N101 N117	5	1.344	.194%
N101 N124	2	.538	.078%
N101 N127	3	.806	.116%
N102 N115	3	.806	.116%
N102 N116	5	1.344	.194%
N102 N117	11	2.957	.426%
N102 N126	1	.269	.039%
N102 N127	2	.538	.078%
N103 N128	1	.269	.039%
N103 N129	10	2.688	.388%
N104 N129	1	.269	.039%
N105 N129	1	.269	.039%
TOTALS	372	100.000%	14.419%

LEVEL 4

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N100 N114	1	14.286	.039%
N101 N115	3	42.857	.116%
N103 N125	3	42.857	.116%
TOTALS	7	100.000%	.271%

DISTRIBUTION OF INDIAN SHERDS--ENGRAVED

THERE ARE 926 ENG

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE	
NO PROV	10	8.000	1.080%	
N 85 E 85	1	.800	.108%	
N 92 E129	2	1.600	.216%	
N 93 E127	1	.800	.108%	SURFACE
N 94 E127	4	3.200	.432%	
N102 E 75	7	5.600	.756%	
NO PROV	5	4.000	.540%	
N777 E 1	3	2.400	.324%	
N777 E 2	1	.800	.108%	
N777 E 8	23	18.400	2.484%	
N777 E 18	3	2.400	.324%	FEATURES
N777 E 32	4	3.200	.432%	
N777 E 34	1	.500	.108%	
N777 E 34	5	4.000	.540%	
N999 E 1	7	5.600	.756%	
N999 E 2	44	35.200	4.752%	TRENCHES
N999 E 4	4	3.200	.432%	
TOTALS	125	100.000%	13.499%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 86 E129	1	.332	.108%
N 92 E131	1	.332	.108%
N 92 E132	4	1.329	.432%
N 94 E129	4	1.329	.432%
N 94 E125	10	3.322	1.080%
N 94 E130	3	.997	.324%
N 94 E131	3	.997	.324%
N 95 E126	8	2.658	.864%
N 95 E124	8	2.658	.864%
N 95 E125	1	.332	.108%
N 95 E130	1	.332	.108%
N 95 E131	2	.664	.216%
N 95 E132	4	1.329	.432%
N 96 E121	8	2.658	.864%
N 96 E123	3	.997	.324%
N 96 E124	7	2.326	.756%
N 96 E122	1	.332	.108%
N 96 E130	4	1.329	.432%
N 96 E131	5	1.661	.540%
N 96 E132	4	1.329	.432%
N 97 E119	1	.332	.108%
N 97 E120	1	.332	.108%
N 97 E121	6	1.993	.648%
N 97 E122	3	.997	.324%
N 97 E130	2	.664	.216%
N 97 E131	11	3.654	1.188%
N 98 E123	5	1.661	.540%
N 98 E116	5	1.661	.540%
N 98 E118	3	.997	.324%

N 98 W130	3	.997	.324%
N 98 W131	1	.332	.108%
N 98 W132	1	.332	.108%
N 99 W 99	1	.332	.108%
N 99 W101	2	.664	.216%
N 99 W115	4	1.329	.432%
N 99 W116	4	1.329	.432%
N 99 W117	2	.664	.216%
N 99 W130	2	.664	.216%
N 99 W131	3	.997	.324%
N 99 W132	2	.664	.216%
N100 W 87	1	.332	.108%
N100 W 97	14	4.651	1.512%
N100 W100	11	3.654	1.188%
N100 W107	1	.332	.108%
N100 W111	1	.332	.108%
N100 W113	1	.332	.108%
N100 W114	2	.664	.216%
N100 W115	4	1.329	.432%
N100 W116	1	.332	.108%
N100 W117	1	.332	.108%
N100 W120	4	1.329	.432%
N100 W124	6	1.993	.648%
N100 W125	1	.332	.108%
N100 W126	2	.664	.216%
N100 W127	11	3.654	1.188%
N100 W128	7	2.326	.756%
N100 W129	25	8.306	2.700%
N100 W136	2	.664	.216%
N100 W139	1	.332	.108%
N101 W100	18	5.980	1.944%
N101 W110	1	.332	.108%
N101 W113	1	.332	.108%
N101 W114	4	1.329	.432%
N101 W116	1	.332	.108%
N101 W117	1	.332	.108%
N101 W124	3	.997	.324%
N101 W125	2	.664	.216%
N101 W127	9	2.990	.972%
N101 W128	5	1.661	.540%
N102 W124	7	2.326	.756%
N102 W126	3	.997	.324%
N102 W128	2	.664	.216%
N103 W125	1	.332	.108%
N103 W126	2	.664	.216%
N103 W128	1	.332	.108%
TOTALS	301	100.000%	32.505%

PROVENIENCE	LEVEL 2 NUMBER	%-BY-LEVEL	PERCENTAGE
N 94 W124	3	.792	.324%
N 94 W125	1	.264	.108%
N 94 W126	3	.792	.324%
N 95 W124	4	1.055	.432%
N 95 W125	4	1.055	.432%
N 96 W 85	1	.264	.108%
N 96 W121	5	1.319	.540%
N 96 W123	2	.528	.216%

N 96 W124	2	.528	.216%
N 96 W122	3	.792	.324%
N 97 W 99	1	.264	.108%
N 97 W101	1	.264	.108%
N 97 W119	11	2.902	1.188%
N 97 W120	8	2.111	.864%
N 97 W121	6	1.583	.648%
N 97 W122	8	2.111	.864%
N 98 W 76	1	.264	.108%
N 98 W 99	1	.264	.108%
N 98 W100	2	.528	.216%
N 98 W101	1	.264	.108%
N 98 W103	8	2.111	.864%
N 98 W116	2	.528	.216%
N 98 W117	4	1.055	.432%
N 98 W118	3	.792	.324%
N 99 W 99	3	.792	.324%
N 99 W100	1	.264	.108%
N 99 W101	5	1.319	.540%
N 99 W115	2	.528	.216%
N 99 W117	4	1.055	.432%
N100 W 97	1	.264	.108%
N100 W 97	5	1.319	.540%
N100 W107	1	.264	.108%
N100 W110	1	.264	.108%
N100 W111	5	1.319	.540%
N100 W113	3	.792	.324%
N100 W116	7	1.847	.756%
N100 W117	2	.528	.216%
N100 W124	4	1.055	.432%
N100 W125	8	2.111	.864%
N100 W127	2	.528	.216%
N100 W128	39	10.290	4.212%
N100 W129	99	26.121	10.691%
N100 W136	1	.264	.108%
N101 W 98	3	.792	.324%
N101 W100	1	.264	.108%
N101 W112	4	1.055	.432%
N101 W113	3	.792	.324%
N101 W114	4	1.055	.432%
N101 W116	8	2.111	.864%
N101 W117	7	1.847	.756%
N101 W124	5	1.319	.540%
N101 W125	1	.264	.108%
N101 W126	2	.528	.216%
N101 W128	19	5.013	2.052%
N102 W109	3	.792	.324%
N102 W110	1	.264	.108%
N102 W115	5	1.319	.540%
N102 W116	11	2.902	1.188%
N102 W117	3	.792	.324%
N102 W124	1	.264	.108%
N102 W125	1	.264	.108%
N102 W126	4	1.055	.432%
N102 W127	3	.792	.324%
N103 W126	2	.528	.216%
N103 W127	2	.528	.216%
N103 W129	5	1.319	.540%
N104 W129	2	.528	.216%
N104 W130	1	.264	.108%
TOTALS	379	100.000	40.929%

LEVEL 3

PRIVILEGE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 91 [illegible] 85	1	.826	.108%
N 97 [illegible] 99	5	4.132	.540%
N 97 N120	4	3.306	.432%
N 97 N122	1	.826	.108%
N 98 [illegible] 99	1	.826	.108%
N 98 N100	1	.826	.108%
N 98 N101	3	2.479	.324%
N 98 N103	10	8.264	1.080%
N 98 N117	1	.826	.108%
N 99 [illegible] 99	2	1.653	.216%
N 99 N116	1	.826	.108%
N 99 N117	2	1.653	.216%
N 99 N120	1	.826	.108%
N100 N100	31	25.620	3.348%
N100 N105	1	.826	.108%
N101 N106	3	2.479	.324%
N100 N107	1	.826	.108%
N100 N108	2	1.653	.216%
N100 N109	1	.826	.108%
N100 N110	2	1.653	.216%
N100 N113	2	1.653	.216%
N100 N129	7	5.785	.756%
N101 N115	13	10.744	1.404%
N101 N116	1	.826	.108%
N101 N117	6	4.959	.648%
N102 N115	3	2.479	.324%
N102 N116	4	3.306	.432%
N102 N117	3	2.479	.324%
N102 N127	2	1.653	.216%
N102 N128	2	1.653	.216%
N103 N125	1	.826	.108%
N103 N129	3	2.479	.324%
TOTALS	121	100.000%	13.067%

DISTRIBUTION OF INDIAN SHERDS--INCISED

THERE ARE 574 INCISED .

PROVENIENCE	NUMBER	X-BY-LEVEL	PERCENTAGE	
NO PROV	9	13.846	1.568%	
N 92 W129	2	3.077	.348%	SURFACE
N 93 W127	1	1.538	.174%	
N 94 W127	5	7.692	.871%	
N102 W 75	7	10.769	1.220%	
NO. PROV.	1	1.538	.174%	
N777 1	4	6.154	.697%	
N777 8	8	12.308	1.394%	FEATURES
N777 65	1	1.538	.174%	
N777 34	5	7.692	.871%	
N999 1	1	1.538	.174%	
N999 2	18	27.692	3.136%	TRENCHES
N999 4	3	4.615	.523%	
TOTALS	65	100.000%	11.324%	

LEVEL 1

PROVENIENCE	NUMBER	X-BY-LEVEL	PERCENTAGE
N 86 W100	2	.976	.348%
N 93 W129	1	.488	.174%
N 94 W124	7	3.415	1.220%
N 94 W125	9	4.390	1.568%
N 94 W130	1	.488	.174%
N 95 W126	8	3.902	1.394%
N 95 W124	7	3.415	1.220%
N 95 W131	3	1.463	.523%
N 95 W132	3	1.463	.523%
N 96 W121	6	2.927	1.045%
N 96 W123	4	1.951	.697%
N 96 W124	7	3.415	1.220%
N 96 W122	6	2.927	1.045%
N 96 W130	1	.488	.174%
N 96 W131	1	.488	.174%
N 96 W132	3	1.463	.523%
N 97 W119	2	.976	.348%
N 97 W120	1	.488	.174%
N 97 W121	4	1.951	.697%
N 97 W122	4	1.951	.697%
N 97 W130	1	.488	.174%
N 97 W131	4	1.951	.697%
N 97 W132	1	.488	.174%
N 98 W 99	2	.976	.348%
N 98 W103	4	1.951	.697%
N 98 W116	3	1.463	.523%
N 98 W117	1	.488	.174%
N 98 W130	1	.488	.174%
N 99 W 99	2	.976	.348%
N 99 W101	1	.488	.174%
N 99 W115	5	2.439	.871%
N 99 W116	3	1.463	.523%
N 99 W117	1	.488	.174%

N 99 W130	2	.976	.348%
N 99 W131	5	2.439	.871%
N 99 W132	3	1.463	.523%
N100 W 97	11	5.366	1.916%
N100 W100	6	2.927	1.045%
N100 W106	2	.976	.348%
N100 W107	1	.488	.174%
N100 W108	1	.488	.174%
N100 W114	1	.488	.174%
N100 W115	1	.488	.174%
N100 W117	1	.488	.174%
N100 W120	4	1.951	.697%
N100 W124	4	1.951	.697%
N100 W125	4	1.951	.697%
N100 W126	1	.488	.174%
N100 W127	3	1.463	.523%
N100 W128	1	.488	.174%
N100 W129	13	6.341	2.265%
N101 W100	5	2.439	.871%
N101 W116	1	.488	.174%
N101 W124	5	2.439	.871%
N101 W125	1	.488	.174%
N101 W126	2	.976	.348%
N101 W127	3	1.463	.523%
N101 W128	2	.976	.348%
N102 W115	2	.976	.348%
N102 W124	4	1.951	.697%
N102 W127	1	.488	.174%
N102 W128	1	.488	.174%
N103 W125	2	.976	.348%
N103 W126	2	.976	.348%
N105 W130	1	.488	.174%
TOTALS	205	100.000%	35.714%

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 86 W100	2	1.020	.348%
N 94 W126	2	1.020	.348%
N 95 W126	2	1.020	.348%
N 95 W124	4	2.041	.697%
N 95 W125	2	1.020	.348%
N 96 W 85	1	.510	.174%
N 96 W121	4	2.041	.697%
N 96 W123	1	.510	.174%
N 96 W124	1	.510	.174%
N 96 W122	5	2.551	.871%
N 97 W100	2	1.020	.348%
N 97 W119	3	1.531	.523%
N 97 W120	6	3.061	1.045%
N 97 W121	4	2.041	.697%
N 97 W122	5	2.551	.871%
N 98 W 99	1	.510	.174%
N 98 W101	1	.510	.174%
N 98 W103	4	2.041	.697%
N 98 W116	1	.510	.174%
N 98 W117	4	2.041	.697%
N 98 W118	2	1.020	.348%
N 99 W 99	1	.510	.174%

N 99 W100	2	1.020	.348%
N 99 W101	11	5.612	1.916%
N 99 W115	1	.510	.174%
N 99 W116	2	1.020	.348%
N 99 W117	5	2.551	.871%
N100 W 89	1	.510	.174%
N100 W 97	9	4.592	1.568%
N100 W111	1	.510	.174%
N100 W112	1	.510	.174%
N100 W114	1	.510	.174%
N100 W116	1	.510	.174%
N100 W117	3	1.531	.523%
N100 W125	4	2.041	.697%
N100 W127	3	1.531	.523%
N100 W128	12	6.122	2.091%
N100 W129	33	16.837	5.749%
N100 W139	2	1.020	.348%
N100 W144	2	1.020	.348%
N101 W 97	1	.510	.174%
N101 W 97	1	.510	.174%
N101 W112	2	1.020	.348%
N101 W113	1	.510	.174%
N101 W114	1	.510	.174%
N101 W116	4	2.041	.697%
N101 W117	1	.510	.174%
N101 W124	4	2.041	.697%
N101 W125	1	.510	.174%
N101 W126	2	1.020	.348%
N101 W128	2	1.020	.348%
N101 W 89	2	1.020	.348%
N102 W109	1	.510	.174%
N102 W115	2	1.020	.348%
N102 W116	3	1.531	.523%
N102 W117	3	1.531	.523%
N102 W126	1	.510	.174%
N102 W127	1	.510	.174%
N103 W126	1	.510	.174%
N103 W127	2	1.020	.348%
N103 W129	2	1.020	.348%
N104 W129	3	1.531	.523%
N104 W130	1	.510	.174%
N105 W130	2	1.020	.348%
TOTALS	196	100.000%	34.146%

LEVEL 3

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 74 W 84	1	.926	.174%
N 97 W 99	8	7.407	1.394%
N 97 W119	2	1.852	.348%
N 98 W 99	2	1.852	.348%
N 98 W100	2	1.852	.348%
N 98 W101	3	2.778	.523%
N 98 W103	8	7.407	1.394%
N 98 W117	1	.926	.174%
N 99 W 99	1	.926	.174%
N 99 W100	2	1.852	.348%
N 99 W116	1	.926	.174%
N100 W100	30	27.778	5.226%

N100 W106	4	3.704	.697%
N100 W108	1	.926	.174%
N100 W110	2	1.852	.348%
N100 W111	1	.926	.174%
N100 W129	8	7.407	1.394%
N101 W115	8	7.407	1.394%
N101 W116	1	.926	.174%
N101 W117	6	5.556	1.045%
N101 W124	1	.926	.174%
N102 W115	2	1.852	.348%
N102 W116	2	1.852	.348%
N102 W124	5	4.630	.871%
N103 W129	2	1.852	.348%
TOTALS	108	100.000%	18.815%

DISTRIBUTION OF INDIAN SHERDS--PUNCTATE

THEME 4/8 72 PUNCT

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE	
NO PROV	1	11.111	1.389%	
N 93 W127	1	11.111	1.389%	SURFACE
W777 A	1	11.111	1.389%	
W777 B	2	22.222	2.778%	FEATURES
N999 2	1	11.111	1.389%	
N999 2	1	11.111	1.389%	
N999 4	1	11.111	1.389%	
N999 2	1	11.111	1.389%	TRENCHES
TOTALS	9	100.000%	12.500%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 94 W124	1	4.545	1.389%
N 95 W124	1	4.545	1.389%
N 96 W121	1	4.545	1.389%
N 96 W124	1	4.545	1.389%
N 99 W 99	1	4.545	1.389%
N100 W 97	2	9.091	2.778%
N100 W119	1	4.545	1.389%
N100 W120	1	4.545	1.389%
N100 W126	1	4.545	1.389%
N101 W130	1	4.545	1.389%
N 94 W124	1	4.545	1.389%
N 98 W132	1	4.545	1.389%
N100 W 97	2	9.091	2.778%
N103 W115	1	4.545	1.389%
N100 W124	1	4.545	1.389%
N100 W129	1	4.545	1.389%
N101 W130	1	4.545	1.389%
N101 W126	1	4.545	1.389%
N103 W125	1	4.545	1.389%
N100 W136	1	4.545	1.389%
TOTALS	22	100.000%	30.556%

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 95 W124	1	3.125	1.389%
N 96 W121	1	3.125	1.389%
N 97 W120	1	3.125	1.389%
N 99 W101	1	3.125	1.389%
N100 W113	1	3.125	1.389%
N100 W117	1	3.125	1.389%
N100 W128	1	3.125	1.389%
N100 W129	6	18.750	8.333%
N102 W117	1	3.125	1.389%
N102 W128	1	3.125	1.389%
N105 W130	1	3.125	1.389%

N 95 W124	1	3.125	1.389%
N 96 W123	1	3.125	1.389%
N 97 W119	2	6.250	2.778%
N 97 W120	1	3.125	1.389%
N 98 W116	1	3.125	1.389%
N100 W111	1	3.125	1.389%
N100 W124	1	3.125	1.389%
N100 W129	1	3.125	1.389%
N101 W113	1	3.125	1.389%
N101 W126	1	3.125	1.389%
N103 W127	1	3.125	1.389%
N 99 W101	1	3.125	1.389%
N 94 W124	1	3.125	1.389%
N 97 W120	1	3.125	1.389%
N 97 W122	1	3.125	1.389%
TOTALS	32	100.000%	44.444%

LEVEL 3

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 97 W 99	1	12.500	1.389%
N 98 W100	1	12.500	1.389%
N100 W100	2	25.000	2.778%
N100 W110	1	12.500	1.389%
N100 W129	1	12.500	1.389%
N101 W115	2	25.000	2.778%
TOTALS	8	100.000%	11.111%

LEVEL 4

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N101 W115	1	100.000	1.389%
TOTALS	1	100.000%	1.389%

DISTRIBUTION OF INDIAN SHERDS--PUNCTATE-INCISED

THERE ARE 128 P-I

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE	
NO PROV	1	11.111	.781%	
S777 34	1	11.111	.781%	FEATURES
S999 1	1	11.111	.781%	
S999 2	5	55.556	3.906%	TRENCHES
S999 4	1	11.111	.781%	
TOTALS	9	100.000%	7.031%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
S 92 N132	1	1.695	.781%
S 94 N121	1	1.695	.781%
S 94 N125	2	3.390	1.563%
S 94 N130	1	1.695	.781%
S 95 N125	1	1.695	.781%
S 95 N131	1	1.695	.781%
S 95 N132	1	1.695	.781%
S 96 N121	1	1.695	.781%
S 96 N131	1	1.695	.781%
S 97 N131	6	10.169	4.688%
S 99 E 99	1	1.695	.781%
S 99 N130	13	22.034	10.156%
S 99 N131	5	8.475	3.906%
S100 E 97	1	1.695	.781%
S100 N124	2	3.390	1.563%
S100 N126	2	3.390	1.563%
S100 N128	1	1.695	.781%
S100 N129	16	27.119	12.500%
S101 N130	1	1.695	.781%
S103 N126	1	1.695	.781%
TOTALS	59	100.000%	46.094%

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
S 94 N125	1	2.128	.781%
S 98 N130	1	2.128	.781%
S 99 N117	1	2.128	.781%
S100 E 97	2	4.255	1.563%
S100 N125	1	2.128	.781%
S100 N127	1	2.128	.781%
S100 N128	23	48.936	17.969%
S100 N129	11	23.404	8.594%
S101 N128	1	2.128	.781%
S102 N119	1	2.128	.781%
S102 N127	2	4.255	1.563%
S103 N127	1	2.128	.781%
S103 N129	1	2.128	.781%
TOTALS	47	100.000	36.719%

LEVEL 3

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
[illegible]	1	7.692	.781%
[illegible]	1	7.692	.781%
[illegible]	1	7.692	.781%
[illegible]	10	76.923	7.813%
TOTALS	13	100.000%	10.156%

DISTRIBUTION OF INDIAN SHERDS--SMALL

THESE ARE 5349 SMALL

PROVENIENCE		NUMBER	%-BY-LEVEL	PERCENTAGE	
NO PROV		91	15.243	1.701%	
N 65 E 65		3	.503	.056%	
N 80 E 130		4	.670	.075%	
N 91 E130		6	1.005	.112%	
N 92 E 129		7	1.173	.131%	
N 93 E127		17	2.848	.318%	SURFACE
N 94 E127		60	10.050	1.122%	
N 95 E132		1	.168	.019%	
N100 E 97		2	.335	.037%	
N102 E 75		65	10.888	1.215%	
NO PROV		33	5.528	.617%	
N777	1	3	.503	.056%	
N777	2	2	.335	.037%	
N777	8	78	13.065	1.458%	
N777	14	14	2.345	.262%	FEATURES
N777	32	16	2.680	.299%	
N777	34	4	.670	.075%	
N777	65	3	.503	.056%	
N777	34	49	8.208	.916%	
N999	1	28	4.690	.523%	
N999	2	69	11.556	1.290%	TRENCHES
N999	4	42	7.035	.785%	
	TOTALS	597	100.000%	11.161%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 80 E130	7	.334	.131%
N 91 E 65	2	.096	.037%
N 91 E127	4	.191	.075%
N 91 E131	6	.287	.112%
N 92 E128	1	.048	.019%
N 92 E130	5	.239	.093%
N 92 E131	15	.717	.280%
N 92 E132	33	1.577	.617%
N 93 E126	3	.143	.056%
N 93 E129	1	.048	.019%
N 93 E130	2	.096	.037%
N 93 E131	8	.382	.150%
N 93 E132	1	.048	.019%
N 94 E124	47	2.246	.879%
N 94 E125	48	2.293	.897%
N 94 E130	14	.669	.262%
N 94 E131	13	.621	.243%
N 94 E132	27	1.290	.505%
N 94 E129	5	.239	.093%
N 95 E126	52	2.484	.972%
N 95 E128	52	2.484	.972%
N 95 E125	23	1.099	.430%
N 95 E130	20	.956	.374%
N 95 E131	7	.334	.131%

N 95 W132	27	1.290	.505%
N 96 W 85	1	.048	.019%
N 96 W121	23	1.099	.430%
N 96 W123	26	1.242	.486%
N 96 W124	55	2.628	1.028%
N 96 W125	18	.860	.337%
N 96 W130	15	.717	.280%
N 96 W131	13	.621	.243%
N 96 W132	27	1.290	.505%
N 97 W119	12	.573	.224%
N 97 W120	13	.621	.243%
N 97 W121	49	2.341	.916%
N 97 W122	18	.860	.337%
N 97 W123	3	.143	.056%
N 97 W130	27	1.290	.505%
N 97 W131	83	3.966	1.552%
N 97 W132	12	.573	.224%
N 98 W 76	1	.048	.019%
N 98 W 99	3	.143	.056%
N 98 W100	4	.191	.075%
N 98 W101	5	.239	.093%
N 98 W103	22	1.051	.411%
N 98 W115	23	1.099	.430%
N 98 W117	9	.430	.168%
N 98 W118	26	1.242	.486%
N 98 W130	20	.956	.374%
N 98 W131	15	.717	.280%
N 98 W132	16	.764	.299%
N 99 W 99	13	.621	.243%
N 99 W101	20	.956	.374%
N 99 W115	36	1.720	.673%
N 99 W116	14	.669	.262%
N 99 W117	9	.430	.168%
N 99 W130	27	1.290	.505%
N 99 W131	19	.908	.355%
N 99 W132	21	1.003	.393%
N100 W 88	2	.096	.037%
N100 W 89	2	.096	.037%
N100 W 97	104	4.969	1.944%
N100 W100	59	2.819	1.103%
N100 W106	13	.621	.243%
N100 W107	3	.143	.056%
N100 W108	1	.048	.019%
N100 W109	1	.048	.019%
N100 W110	2	.096	.037%
N100 W111	1	.048	.019%
N100 W112	8	.382	.150%
N100 W113	13	.621	.243%
N100 W114	9	.430	.168%
N100 W115	21	1.003	.393%
N100 W116	11	.526	.206%
N100 W117	4	.191	.075%
N100 W120	13	.621	.243%
N100 W124	44	2.102	.823%
N100 W125	35	1.672	.654%
N100 W126	32	1.529	.598%
N100 W127	28	1.338	.523%
N100 W128	40	1.911	.748%
N100 W129	93	4.443	1.739%
N100 W136	15	.717	.280%
N100 W139	5	.239	.093%

N100 A144	2	.096	.037%
N101 A 87	2	.096	.037%
N101 A110	126	6.020	2.356%
N101 A110	4	.191	.075%
N101 A111	7	.334	.131%
N101 A113	5	.239	.093%
N101 A114	16	.764	.299%
N101 A116	8	.382	.150%
N101 A117	8	.382	.150%
N101 A124	40	1.911	.748%
N101 A125	10	.478	.187%
N101 A126	12	.573	.224%
N101 A127	13	.621	.243%
N101 A128	24	1.147	.449%
N101 A 89	4	.191	.075%
N102 A110	2	.096	.037%
N102 A116	2	.096	.037%
N102 A115	15	.717	.280%
N102 A116	1	.048	.019%
N102 A117	2	.096	.037%
N102 A124	25	1.194	.467%
N102 A125	6	.287	.112%
N102 A126	9	.430	.168%
N102 A127	10	.478	.187%
N102 A128	9	.430	.168%
N103 A125	14	.669	.262%
N103 A126	14	.669	.262%
N103 A128	15	.717	.280%
N103 A129	7	.334	.131%
N105 A130	1	.048	.019%
TOTALS	2093	100.000%	39.129%

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 86 A130	7	.373	.131%
N 91 A 85	1	.053	.019%
N 94 A124	20	1.066	.374%
N 94 A125	6	.320	.112%
N 94 A126	46	2.451	.860%
N 95 A126	5	.266	.093%
N 95 A124	29	1.545	.542%
N 95 A125	20	1.066	.374%
N 96 A 95	6	.320	.112%
N 96 A121	34	1.811	.636%
N 96 A123	10	.533	.187%
N 96 A124	12	.639	.224%
N 96 A122	31	1.652	.580%
N 97 A 99	8	.426	.150%
N 97 A130	12	.639	.224%
N 97 A131	1	.053	.019%
N 97 A119	51	2.717	.953%
N 97 A121	60	3.197	1.122%
N 97 A121	46	2.451	.860%
N 97 A122	22	1.172	.411%
N 98 A 99	16	.852	.299%
N 98 A100	14	.746	.262%
N 98 A121	32	1.705	.598%
N 98 A123	51	2.717	.953%

N 98 W116	9	.479	.168%
N 98 W117	18	.959	.337%
N 98 W118	12	.639	.224%
N 99 W 99	40	2.131	.748%
N 99 W100	24	1.279	.449%
N 99 W101	33	1.758	.617%
N 99 W115	8	.426	.150%
N 99 W116	10	.533	.187%
N 99 W117	46	2.451	.860%
N100 W 87	8	.426	.150%
N100 W 88	2	.107	.037%
N100 W 89	7	.373	.131%
N100 W 97	64	3.410	1.196%
N100 W105	1	.053	.019%
N100 W107	5	.266	.093%
N100 W108	1	.053	.019%
N100 W110	10	.533	.187%
N100 W111	20	1.066	.374%
N100 W112	11	.586	.206%
N100 W113	2	.107	.037%
N100 W114	4	.213	.075%
N100 W115	5	.266	.093%
N100 W116	29	1.545	.542%
N100 W117	6	.320	.112%
N100 W124	9	.479	.168%
N100 W125	61	3.250	1.140%
N100 W126	8	.426	.150%
N100 W127	17	.906	.318%
N100 W128	149	7.938	2.786%
N100 W129	313	16.676	5.852%
N100 W136	13	.693	.243%
N100 W144	4	.213	.075%
N101 W 87	1	.053	.019%
N101 W 88	3	.160	.056%
N101 W 97	3	.160	.056%
N101 W 98	12	.639	.224%
N101 W100	3	.160	.056%
N101 W112	6	.320	.112%
N101 W113	18	.959	.337%
N101 W114	12	.639	.224%
N101 W116	31	1.652	.580%
N101 W117	24	1.279	.449%
N101 W124	34	1.811	.636%
N101 W125	15	.799	.280%
N101 W126	8	.426	.150%
N101 W127	3	.160	.056%
N101 W128	22	1.172	.411%
N101 W 89	1	.053	.019%
N102 W109	6	.320	.112%
N102 W110	11	.586	.206%
N102 W115	42	2.238	.785%
N102 W116	20	1.066	.374%
N102 W117	9	.479	.168%
N102 W125	1	.053	.019%
N102 W126	8	.426	.150%
N102 W127	7	.373	.131%
N102 W128	3	.160	.056%
N103 W126	4	.213	.075%
N103 W127	9	.479	.168%
N103 W128	1	.053	.019%
N103 W129	32	1.705	.598%

N104 W129	19	1.012	.355%
N104 W130	12	.639	.224%
N105 W129	1	.053	.019%
N105 W130	7	.373	.131%
TOTALS	1877	100.000%	35.091%

LEVEL 3

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 96 W 95	11	1.429	.206%
N 97 W 99	22	2.857	.411%
N 97 W101	1	.130	.019%
N 97 W119	4	.519	.075%
N 97 W122	2	.260	.037%
N 98 W 76	5	.649	.093%
N 98 W 99	26	3.377	.486%
N 98 W100	9	1.169	.168%
N 98 W101	22	2.857	.411%
N 98 W113	82	10.649	1.533%
N 98 W117	1	.130	.019%
N 98 W118	4	.519	.075%
N 99 W 85	24	3.117	.449%
N 99 W 99	19	2.468	.355%
N 99 W100	7	.909	.131%
N 99 W117	7	.909	.131%
N100 W 87	1	.130	.019%
N100 W100	249	32.335	4.655%
N100 W105	24	3.117	.449%
N100 W106	15	1.948	.280%
N100 W107	1	.130	.019%
N100 W108	3	.390	.056%
N100 W109	3	.390	.056%
N100 W110	18	2.338	.337%
N100 W124	1	.130	.019%
N100 W125	1	.130	.019%
N100 W127	2	.260	.037%
N100 W128	3	.390	.056%
N100 W129	56	7.273	1.047%
N101 W112	4	.519	.075%
N101 W115	60	7.792	1.122%
N101 W116	7	.909	.131%
N101 W117	9	1.169	.168%
N101 W124	7	.909	.131%
N101 W125	1	.130	.019%
N101 W127	2	.260	.037%
N102 W115	5	.649	.093%
N102 W116	11	1.429	.206%
N102 W117	23	2.987	.430%
N102 W124	3	.390	.056%
N102 W127	3	.390	.056%
N103 W128	2	.260	.037%
N103 W129	8	1.039	.150%
N105 W129	2	.260	.037%
TOTALS	770	100.000%	14.395%

LEVEL 4

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE

N101 W115	6	85.714	.112%
N102 W124	1	14.286	.019%
TOTALS	7	100.000%	.131%

LEVEL 5

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N101 W115	5	100.000	.093%
TOTALS	5	100.000%	.093%

DISTRIBUTION OF EIGHTEENTH-CENTURY SOFT-PASTE EARTHENWARE

THERE ARE 789 18TH CENT

PROVENIENCE		NUMBER	%-BY-LEVEL	PERCENTAGE	
NO PROV		8	9.195	1.014%	
N 92 W129		1	1.149	.127%	
N 93 W127		1	1.149	.127%	
N 94 W127		1	1.149	.127%	SURFACE
N100 W 97		1	1.149	.127%	
N101 W116		1	1.149	.127%	
N102 W 75		2	2.299	.253%	
NO PROV		7	8.046	.887%	
N777	1	2	2.299	.253%	
N777	5	17	19.540	2.155%	
N777	18	7	8.046	.887%	
N777	32	4	4.598	.507%	FEATURES
N777	65	1	1.149	.127%	
N777	34	8	9.195	1.014%	
N999	1	12	13.793	1.521%	
N999	2	9	10.345	1.141%	TRENCHES
N999	4	5	5.747	.634%	
	TOTALS	87	100.000%	11.027%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 86 W100	3	.836	.380%
N 92 W128	1	.279	.127%
N 92 W130	1	.279	.127%
N 92 W132	2	.557	.253%
N 94 W124	5	1.393	.634%
N 94 W125	1	.279	.127%
N 94 W127	1	.279	.127%
N 94 W130	3	.836	.380%
N 94 W131	1	.279	.127%
N 94 W132	2	.557	.253%
N 94 W129	1	.279	.127%
N 95 W126	4	1.114	.507%
N 95 W130	1	.279	.127%
N 96 W121	1	.279	.127%
N 96 W123	1	.279	.127%
N 96 W124	9	2.507	1.141%
N 96 W122	2	.557	.253%
N 96 W131	1	.279	.127%
N 96 W132	1	.279	.127%
N 97 W121	2	.557	.253%
N 97 W122	1	.279	.127%
N 97 W123	3	.836	.380%
N 97 W131	3	.836	.380%
N 98 W100	1	.279	.127%
N 98 W103	8	2.228	1.014%
N 98 W117	1	.279	.127%
N 98 W130	1	.279	.127%
N 99 W 99	5	1.393	.634%
N 99 W101	6	1.671	.760%

N 97 W 99	1	.543	.127%
N 97 W100	2	1.087	.253%
N 97 W101	1	.543	.127%
N 97 W119	1	.543	.127%
N 97 W120	3	1.630	.380%
N 97 W121	2	1.087	.253%
N 97 W122	1	.543	.127%
N 98 W 99	6	3.261	.760%
N 98 W100	4	2.174	.507%
N 98 W101	4	2.174	.507%
N 98 W103	9	4.891	1.141%
N 99 W 99	7	3.804	.887%
N 99 W100	4	2.174	.507%
N 99 W101	2	1.087	.253%
N 99 W117	1	.543	.127%
N100 W 87	1	.543	.127%
N100 W 88	7	3.804	.887%
N100 W 89	9	4.891	1.141%
N100 W 97	16	8.696	2.028%
N100 W105	4	2.174	.507%
N100 W107	1	.543	.127%
N100 W108	1	.543	.127%
N100 W109	2	1.087	.253%
N100 W110	1	.543	.127%
N100 W111	1	.543	.127%
N100 W112	1	.543	.127%
N100 W113	1	.543	.127%
N100 W115	3	1.630	.380%
N100 W116	1	.543	.127%
N100 W125	1	.543	.127%
N100 W128	3	1.630	.380%
N100 W129	24	13.043	3.042%
N101 W 87	1	.543	.127%
N101 W 88	2	1.087	.253%
N101 W 98	5	2.717	.634%
N101 W100	3	1.630	.380%
N101 W114	1	.543	.127%
N101 W116	2	1.087	.253%
N101 W117	1	.543	.127%
N101 W124	1	.543	.127%
N101 W125	1	.543	.127%
N101 W128	1	.543	.127%
N101 W 89	5	2.717	.634%
N102 W109	3	1.630	.380%
N102 W115	1	.543	.127%
N102 W116	4	2.174	.507%
N102 W117	5	2.717	.634%
N102 W125	2	1.087	.253%
N102 W126	1	.543	.127%
N102 W128	1	.543	.127%
N104 W130	1	.543	.127%
N105 W130	1	.543	.127%
TOTALS	184	100.000%	23.321%

LEVEL 3

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 97 W 99	11	6.962	1.394%
N 97 W101	2	1.266	.253%

N 99 W115	1	.279	.127%
N 99 W131	2	.557	.253%
N 99 W132	1	.279	.127%
N100 W 87	2	.557	.253%
N100 W 88	3	.836	.380%
N100 W 89	1	.279	.127%
N100 W 97	75	20.891	9.506%
N100 W100	79	22.006	10.013%
N100 W106	3	.836	.380%
N100 W107	1	.279	.127%
N100 W108	2	.557	.253%
N100 W109	1	.279	.127%
N100 W112	3	.836	.380%
N100 W114	3	.836	.380%
N100 W115	5	1.393	.634%
N100 W116	2	.557	.253%
N100 W124	4	1.114	.507%
N100 W125	1	.279	.127%
N100 W126	1	.279	.127%
N100 W136	5	1.393	.634%
N100 W144	1	.279	.127%
N101 W 87	1	.279	.127%
N101 W 88	2	.557	.253%
N101 W100	49	13.649	6.210%
N101 W110	1	.279	.127%
N101 W111	4	1.114	.507%
N101 W112	4	1.114	.507%
N101 W113	2	.557	.253%
N101 W114	2	.557	.253%
N101 W116	1	.279	.127%
N101 W124	3	.836	.380%
N101 W125	2	.557	.253%
N101 W126	2	.557	.253%
N101 W127	1	.279	.127%
N101 W 89	3	.836	.380%
N102 W109	1	.279	.127%
N102 W110	2	.557	.253%
N102 W116	3	.836	.380%
N102 W124	2	.557	.253%
N102 W127	2	.557	.253%
N103 W128	2	.557	.253%
N103 W123	1	.279	.127%
N105 W130	1	.279	.127%
TOTALS	359	100.000%	45.501%

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 55 W 55	1	.543	.127%
N 74 W 84	1	.543	.127%
N 86 W100	1	.543	.127%
N 91 W 85	3	1.630	.380%
N 93 W 85	2	1.087	.253%
N 94 W124	1	.543	.127%
N 94 W126	3	1.630	.380%
N 95 W125	2	1.087	.253%
N 96 W 85	1	.543	.127%
N 96 W121	1	.543	.127%
N 96 W122	1	.543	.127%

N 98 W 76	2	1.266	.253%
N 98 W 99	3	1.899	.380%
N 98 W100	4	2.532	.507%
N 98 W101	6	3.797	.760%
N 98 W103	4	2.532	.507%
N 98 W118	1	.633	.127%
N 99 W 85	2	1.266	.253%
N 99 W 99	4	2.532	.507%
N 99 W100	2	1.266	.253%
N100 W100	77	48.734	9.759%
N100 W105	11	6.962	1.394%
N100 W106	3	1.899	.380%
N100 W107	1	.633	.127%
N100 W108	3	1.899	.380%
N100 W110	1	.633	.127%
N100 W129	1	.633	.127%
N101 W115	10	6.329	1.267%
N101 W116	3	1.899	.380%
N101 W117	1	.633	.127%
N102 W115	2	1.266	.253%
N102 W117	4	2.532	.507%
TOTALS	158	100.000%	20.025%

LEVEL 4

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE

LEVEL 5

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N101 W115	1	100.000	.127%
TOTALS	1	100.000%	.127%

DISTRIBUTION OF FAIENCE/DELFT

THERE ARE 214 FAIENCE DELF

LEVEL 0

PROVENIENCE		NUMBER	%-BY-LEVEL	PERCENTAGE	
NO PROV		1	5.263	.467%	
NO PROV		3	15.789	1.402%	
N777	1	1	5.263	.467%	
N777	8	4	21.053	1.869%	FEATURES
N777	16	1	5.263	.467%	
N777	32	1	5.263	.467%	
N999	1	5	26.316	2.336%	
N999	2	1	5.263	.467%	TRENCHES
N999	4	2	10.526	.935%	
	TOTALS	19	100.000%	8.878%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 94 W128	2	2.041	.935%
N 94 W127	1	1.020	.467%
N 95 W126	1	1.020	.467%
N 97 W122	1	1.020	.467%
N 97 W131	2	2.041	.935%
N 98 W103	1	1.020	.467%
N 99 W115	1	1.020	.467%
N100 W 98	1	1.020	.467%
N100 W 97	31	31.633	14.486%
N100 W100	24	24.490	11.215%
N100 W106	1	1.020	.467%
N100 W108	1	1.020	.467%
N100 W109	1	1.020	.467%
N100 W112	1	1.020	.467%
N100 W115	2	2.041	.935%
N100 W116	1	1.020	.467%
N100 W124	1	1.020	.467%
N100 W126	1	1.020	.467%
N101 W100	12	12.245	5.607%
N101 W111	3	3.061	1.402%
N101 W112	1	1.020	.467%
N101 W113	1	1.020	.467%
N101 W114	1	1.020	.467%
N101 W126	1	1.020	.467%
N102 W116	2	2.041	.935%
N102 W124	1	1.020	.467%
N103 W128	1	1.020	.467%
N103 W129	1	1.020	.467%
TOTALS	98	100.000%	45.794%

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 86 W100	1	2.500	.467%
N 91 W 85	1	2.500	.467%

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 94 W126	1	2.500	.467%
N 96 W 85	1	2.500	.467%
N 97 W100	1	2.500	.467%
N 97 W120	1	2.500	.467%
N 98 W 99	2	5.000	.935%
N 98 W100	2	5.000	.935%
N 98 W101	2	5.000	.935%
N 98 W103	3	7.500	1.402%
N 99 W 99	3	7.500	1.402%
N 99 W100	1	2.500	.467%
N 99 W101	1	2.500	.467%
N100 W 97	5	12.500	2.336%
N100 W108	1	2.500	.467%
N100 W111	1	2.500	.467%
N100 W129	1	2.500	.467%
N101 W 87	1	2.500	.467%
N101 W 98	1	2.500	.467%
N101 W100	2	5.000	.935%
N101 W114	1	2.500	.467%
N101 W116	1	2.500	.467%
N101 W 89	3	7.500	1.402%
N102 W109	1	2.500	.467%
N102 W115	1	2.500	.467%
N102 W117	1	2.500	.467%
TOTALS	40	100.000%	18.692%

LEVEL 3

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 97 W 99	4	7.018	1.869%
N 98 W 76	2	3.509	.935%
N 98 W 99	3	5.263	1.402%
N 98 W100	2	3.509	.935%
N 98 W101	1	1.754	.467%
N 98 W103	1	1.754	.467%
N 99 W 85	2	3.509	.935%
N 99 W 99	1	1.754	.467%
N100 W100	30	52.632	14.019%
N100 W105	4	7.018	1.869%
N100 W106	1	1.754	.467%
N100 W108	2	3.509	.935%
N101 W115	3	5.263	1.402%
N101 W116	1	1.754	.467%
TOTALS	57	100.000%	26.635%

DISTRIBUTION OF MAJOLICA

THERE ARE 109 MAJOLICA

LEVEL 0

PROVENIENCE		NUMBER	%-BY-LEVEL	PERCENTAGE	
NO PROV		2	15.385	1.835%	
N777	8	3	23.077	2.752%	
N777	18	1	7.692	.917%	FEATURES
N777	32	3	23.077	2.752%	
N999	1	3	23.077	2.752%	
N999	4	1	7.692	.917%	TRENCHES
	TOTALS	13	100.000%	11.927%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 98 W103	1	1.818	.917%
N 98 W130	1	1.818	.917%
N 99 W 99	1	1.818	.917%
N 99 W101	2	3.636	1.835%
N100 W 87	1	1.818	.917%
N100 W 97	14	25.455	12.844%
N100 W100	23	41.818	21.101%
N100 W106	1	1.818	.917%
N100 W114	1	1.818	.917%
N100 W116	1	1.818	.917%
N101 W100	6	10.909	5.505%
N101 W112	2	3.636	1.835%
N102 W127	1	1.818	.917%
TOTALS	55	100.000%	50.459%

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 97 W101	1	4.348	.917%
N 97 W119	1	4.348	.917%
N 98 W103	1	4.348	.917%
N 99 W 99	2	8.696	1.835%
N 99 W100	2	8.696	1.835%
N100 W 87	1	4.348	.917%
N100 W 88	1	4.348	.917%
N100 W 89	1	4.348	.917%
N100 W 97	3	13.043	2.752%
N100 W109	1	4.348	.917%
N100 W128	1	4.348	.917%
N100 W129	3	13.043	2.752%
N101 W 98	2	8.696	1.835%
N101 W100	1	4.348	.917%
N101 W 89	2	8.696	1.835%
TOTALS	23	100.000%	21.101%

LEVEL 3

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 97 W 99	1	5.556	.917%
N 99 W 99	1	5.556	.917%
N100 W100	14	77.778	12.844%
N101 W116	1	5.556	.917%
N101 W117	1	5.556	.917%
TOTALS	18	100.000%	16.514%

DISTRIBUTION OF UNDECORATED SOFT-PASTE EARTHENWARE (WHITE)

THERE ARE 232 UNDEC-S-P-E

LEVEL 0

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE	
N101 116	1	5.000	.431%	SURFACE
N102 75	1	5.000	.431%	
NO PROV	2	10.000	.862%	
N777 1	1	5.000	.431%	
N777 8	8	40.000	3.448%	
N777 18	2	10.000	.862%	FEATURES
N777 32	1	5.000	.431%	
N999 1	3	15.000	1.293%	TRENCHES
N999 2	1	5.000	.431%	
TOTALS	20	100.000%	8.621%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N100 W 97	0	.000	.000%
N100 W100	0	.000	.000%
N 86 W100	3	2.679	1.293%
N 92 W130	1	.893	.431%
N 92 W132	1	.893	.431%
N 94 W124	2	1.786	.862%
N 94 W132	1	.893	.431%
N 94 W129	1	.893	.431%
N 96 W121	1	.893	.431%
N 96 W123	1	.893	.431%
N 96 W124	2	1.786	.862%
N 96 W131	1	.893	.431%
N 97 W121	1	.893	.431%
N 97 W123	1	.893	.431%
N 98 W100	1	.893	.431%
N 98 W103	3	2.679	1.293%
N 99 W 99	2	1.786	.862%
N 99 W101	3	2.679	1.293%
N100 W 87	1	.893	.431%
N100 W 88	1	.893	.431%
N100 W 97	17	15.179	7.328%
N100 W100	22	19.643	9.483%
N100 W106	1	.893	.431%
N100 W107	1	.893	.431%
N100 W108	1	.893	.431%
N100 W112	1	.893	.431%
N100 W115	2	1.786	.862%
N100 W136	5	4.464	2.155%
N101 W 87	1	.893	.431%
N101 W 88	2	1.786	.862%
N101 W100	19	16.964	8.190%
N101 W110	1	.893	.431%
N101 W111	1	.893	.431%
N101 W112	1	.893	.431%
N101 W113	1	.893	.431%
N101 W114	1	.893	.431%
N101 W116	1	.893	.431%

N101 W124	2	1.786	.862%
N101 W125	1	.893	.431%
N101 W 89	1	.893	.431%
N102 W109	1	.893	.431%
N102 W110	1	.893	.431%
N102 W116	1	.893	.431%
TOTALS	112	100.000%	48.276%

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 55 W 55	1	2.000	.431%
N 74 W 84	1	2.000	.431%
N 93 W 85	2	4.000	.862%
N 97 W100	1	2.000	.431%
N 98 W 99	3	6.000	1.293%
N 98 W100	1	2.000	.431%
N 98 W101	2	4.000	.862%
N 98 W103	4	8.000	1.724%
N 99 W 99	1	2.000	.431%
N 99 W100	1	2.000	.431%
N100 W 88	1	2.000	.431%
N100 W 89	4	8.000	1.724%
N100 W 97	5	10.000	2.155%
N100 W105	1	2.000	.431%
N100 W107	1	2.000	.431%
N100 W109	1	2.000	.431%
N100 W110	1	2.000	.431%
N100 W112	1	2.000	.431%
N100 W115	3	6.000	1.293%
N100 W125	1	2.000	.431%
N100 W128	1	2.000	.431%
N100 W129	5	10.000	2.155%
N101 W 98	1	2.000	.431%
N102 W109	2	4.000	.862%
N102 W116	2	4.000	.862%
N102 W117	1	2.000	.431%
N102 W125	2	4.000	.862%
TOTALS	50	100.000%	21.552%

LEVEL 3

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 97 W 99	4	8.163	1.724%
N 97 W101	2	4.082	.862%
N 98 W100	1	2.041	.431%
N 98 W103	2	4.082	.862%
N 99 W 99	1	2.041	.431%
N 99 W100	1	2.041	.431%
N100 W100	21	42.857	9.052%
N100 W105	4	8.163	1.724%
N100 W108	1	2.041	.431%
N100 W110	1	2.041	.431%
N101 W115	6	12.245	2.586%
N101 W116	1	2.041	.431%
N102 W115	2	4.082	.862%
N102 W117	2	4.082	.862%
TOTALS	49	100.000	21.121%

DISTRIBUTION OF GREEN-GLAZED EARTHENWARE (FINE PASTE)

THERE ARE 12 GREEN GL FIN

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE	
N 93 127	1	25.000	8.333%	SURFACE
NO PROV	1	25.000	8.333%	
N999 1	1	25.000	8.333%	TRENCHES
N999 4	1	25.000	8.333%	
TOTALS	4	100.000%	33.333%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N101 W100	1	100.000	8.333%
TOTALS	1	100.000%	8.333%

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 94 W124	1	14.286	8.333%
N 94 W126	1	14.286	8.333%
N 95 W125	1	14.286	8.333%
N100 W 89	1	14.286	8.333%
N100 W105	1	14.286	8.333%
N101 W116	1	14.286	8.333%
N101 W128	1	14.286	8.333%
TOTALS	7	100.000%	58.333%

DISTRIBUTION OF GREEN-GLAZED EARTHENWARE (COARSE PASTE)

THERE ARE 7 GRNCOARSE

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE	
NO PROV	1	50.000	14.286%	
N100 W100	1	50.000	14.286%	SURFACE
TOTALS	2	100.000%	28.571%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 94 W124	1	50.000	14.286%
N 96 W122	1	50.000	14.286%
TOTALS	2	100.000%	28.571%

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 95 W126	1	33.333	14.286%
N100 W 97	1	33.333	14.286%
N101 W125	1	33.333	14.286%
TOTALS	3	100.000%	42.857%

DISTRIBUTION OF BROWN-GLAZED EARTHENWARE

THERE ARE 27 BROWN GLAZE

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE	
N100 ∧ 97	1	33.333	3.704%	SURFACE
N777 34	2	66.667	7.407%	FEATURES
TOTALS	3	100.000%	11.111%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 96 W124	2	13.333	7.407%
N 96 W122	1	6.667	3.704%
N 99 W101	1	6.667	3.704%
N100 ∧ 97	4	26.667	14.815%
N100 W100	2	13.333	7.407%
N101 W100	3	20.000	11.111%
N102 W110	1	6.667	3.704%
N102 W127	1	6.667	3.704%
TOTALS	15	100.000%	55.556%

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N100 ∧ 97	1	50.000	3.704%
N102 W116	1	50.000	3.704%
TOTALS	2	100.000%	7.407%

LEVEL 3

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 98 W101	1	14.286	3.704%
N100 W100	6	85.714	22.222%
TOTALS	7	100.000%	25.926%

THERE ARE 6 TLAXCALAN

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 97 W121	1	25.000	16.667%
N100 W 89	1	25.000	16.667%
N101 W100	1	25.000	16.667%
N101 W125	1	25.000	16.667%
TOTALS	4	100.000%	66.667%

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 94 W126	1	100.000	16.667%
TOTALS	1	100.000%	16.667%

LEVEL 3

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N102 W117	1	100.000	16.667%
TOTALS	1	100.000%	16.667%

DISTRIBUTION OF GUANAJUATO LEAD-GLAZED

THERE ARE 4 GUANAJUATO

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE	
N999 2	2	100.000	50.000%	TRENCH
TOTALS	2	100.000%	50.000%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N100 W129	1	50.000	25.000%
N102 W128	1	50.000	25.000%
TOTALS	2	100.000%	50.000%

DISTRIBUTION OF ENGLISH SALT-GLAZED STONEWARE

THERE ARE 3 ENG SALT GLA

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE	
N777 18	1	100.000	33.333%	FEATURE
TOTALS	1	100.000%	33.333%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N101 W100	1	100.000	33.333%
TOTALS	1	100.000%	33.333%

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE

LEVEL 3

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N100 W106	1	100.000	33.333%
TOTALS	1	100.000%	33.333%

DISTRIBUTION OF ENGLISH CREAMWARE

THERE ARE 20 CREAMWARE

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE	
NO PROV	1	25.000	5.000%	
N101 W127	1	25.000	5.000%	SURFACE
N777 132	1	25.000	5.000%	
N999 1	1	25.000	5.000%	TRENCHES
TOTALS	4	100.000%	20.000%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 97 W123	1	11.111	5.000%
N 98 W103	1	11.111	5.000%
N 99 W 99	1	11.111	5.000%
N 99 W132	1	11.111	5.000%
N100 W100	1	11.111	5.000%
N100 W115	1	11.111	5.000%
N101 W 89	1	11.111	5.000%
N101 W100	1	11.111	5.000%
N103 W128	1	11.111	5.000%
TOTALS	9	100.000%	45.000%

LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 97 W121	1	50.000	5.000%
N 99 W 99	1	50.000	5.000%
TOTALS	2	100.000%	10.000%

LEVEL 3

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 99 W 99	1	20.000	5.000%
N100 W 97	2	40.000	10.000%
N100 W105	1	20.000	5.000%
N102 W117	1	20.000	5.000%
TOTALS	5	100.000%	25.000%

LEVEL 0

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE	
N 92 W129	1	8.333	1.042%	SURFACE
N 94 W127	1	8.333	1.042%	
NO PROV	1	8.333	1.042%	
N777 8	1	8.333	1.042%	
N777 18	2	16.667	2.083%	
N777 32	1	8.333	1.042%	FEATURES
N777 65	1	8.333	1.042%	
N777 3	1	8.333	1.042%	
N999 2	3	25.000	3.125%	TRENCHES
TOTALS	12	100.000%	12.500%	

LEVEL 1

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 92 W126	1	2.381	1.042%
N 92 W132	1	2.381	1.042%
N 94 W125	1	2.381	1.042%
N 94 W130	3	7.143	3.125%
N 94 W131	1	2.381	1.042%
N 94 W132	1	2.381	1.042%
N 95 W12	1	2.381	1.042%
N 95 W130	1	2.381	1.042%
N 96 W124	5	11.905	5.208%
N 96 W12	1	2.381	1.042%
N 96 W132	1	2.381	1.042%
N 97 W123	1	2.381	1.042%
N 97 W131	1	2.381	1.042%
N 98 W103	1	2.381	1.042%
N 98 W117	1	2.381	1.042%
N 99 W131	2	4.762	2.083%
N100 W 97	5	11.905	5.208%
N100 W100	1	2.381	1.042%
N100 W114	2	4.762	2.083%
N100 W124	3	7.143	3.125%
N100 W125	1	2.381	1.042%
N100 W144	1	2.381	1.042%
N101 W100	3	7.143	3.125%
N101 W126	1	2.381	1.042%
N102 W124	1	2.381	1.042%
N105 W130	1	2.381	1.042%
TOTALS	42	100.000%	43.750%

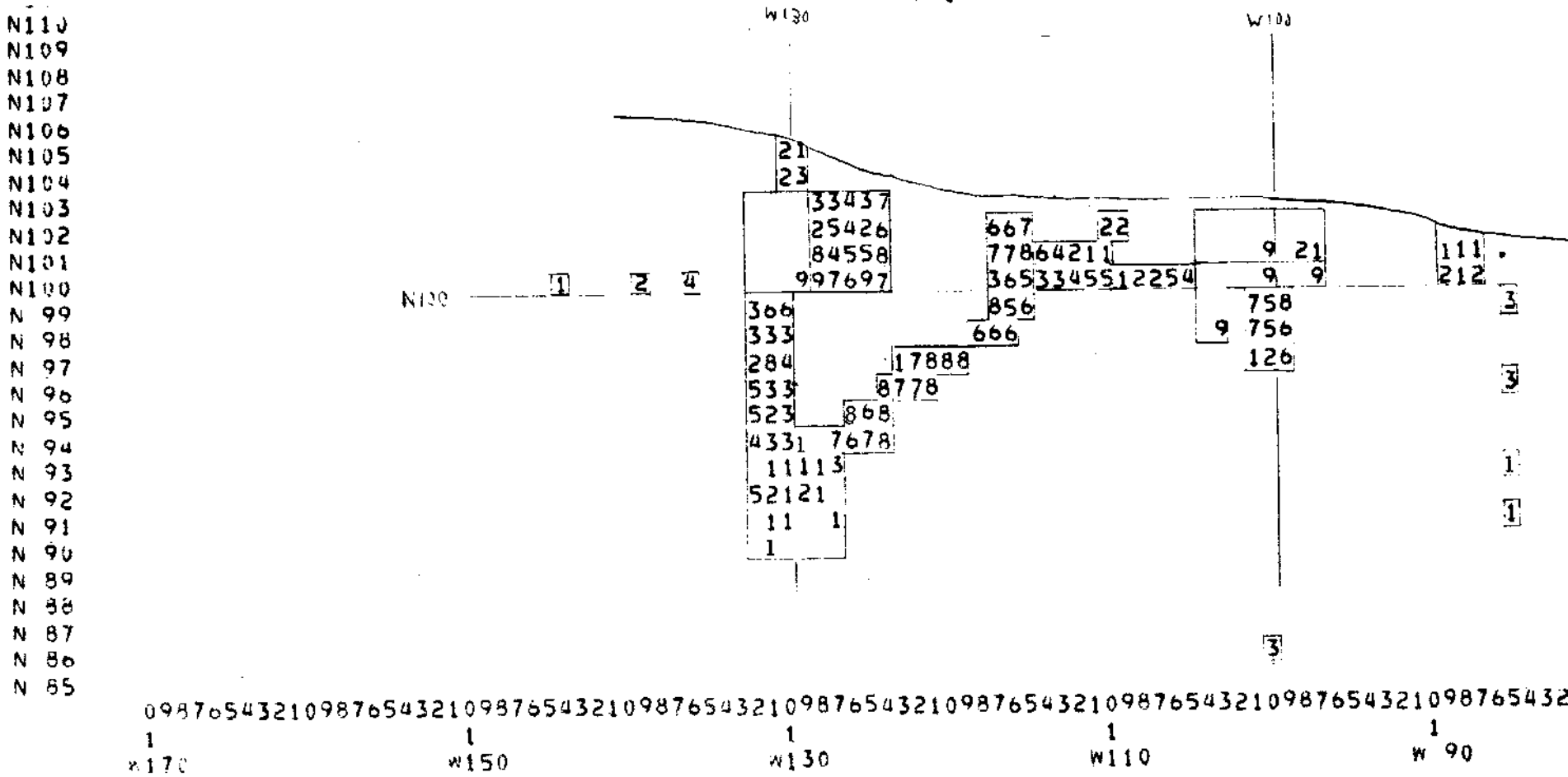
LEVEL 2

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 91 W 85	1	3.125	1.042%
N 95 W125	1	3.125	1.042%
N 96 W121	1	3.125	1.042%
N 97 W120	2	6.250	2.083%

N 97 W121	1	3.125	1.042%
N 97 W122	1	3.125	1.042%
N 99 W117	1	3.125	1.042%
N100 W 97	1	3.125	1.042%
N100 W105	2	6.250	2.083%
N100 W113	1	3.125	1.042%
N100 W116	1	3.125	1.042%
N100 W128	1	3.125	1.042%
N100 W129	11	34.375	11.458%
N101 W117	1	3.125	1.042%
N101 W124	1	3.125	1.042%
N102 W116	1	3.125	1.042%
N102 W117	1	3.125	1.042%
N102 W126	1	3.125	1.042%
N104 W130	1	3.125	1.042%
N105 W130	1	3.125	1.042%
TOTALS	32	100.000%	33.333%

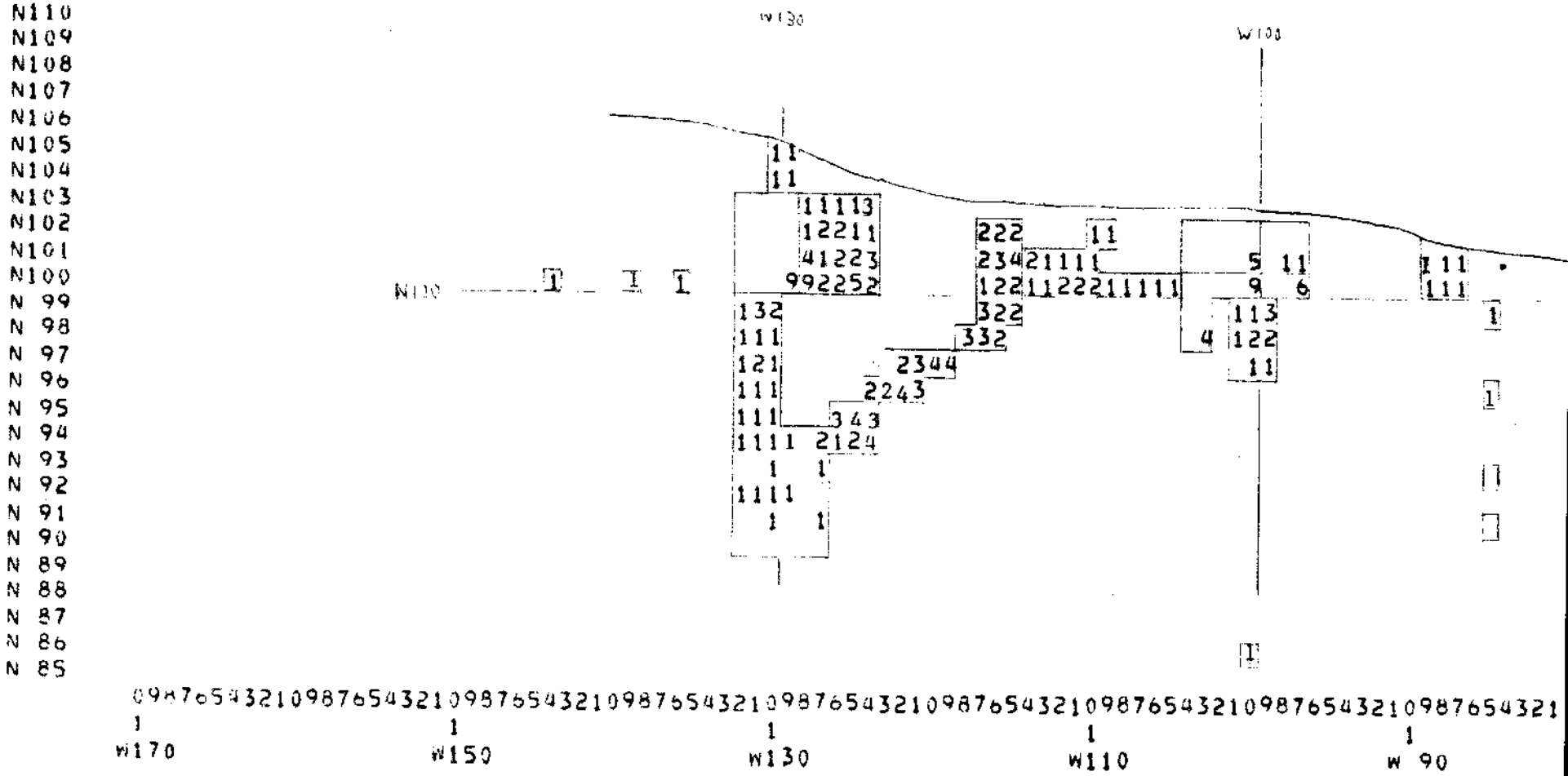
LEVEL 3

PROVENIENCE	NUMBER	%-BY-LEVEL	PERCENTAGE
N 97 W 99	2	20.000	2.083%
N 98 W103	1	10.000	1.042%
N 98 W118	1	10.000	1.042%
N 99 W100	1	10.000	1.042%
N100 W100	2	20.000	2.083%
N100 W105	1	10.000	1.042%
N100 W129	1	10.000	1.042%
N101 W115	1	10.000	1.042%
TOTALS	10	100.000%	10.417%



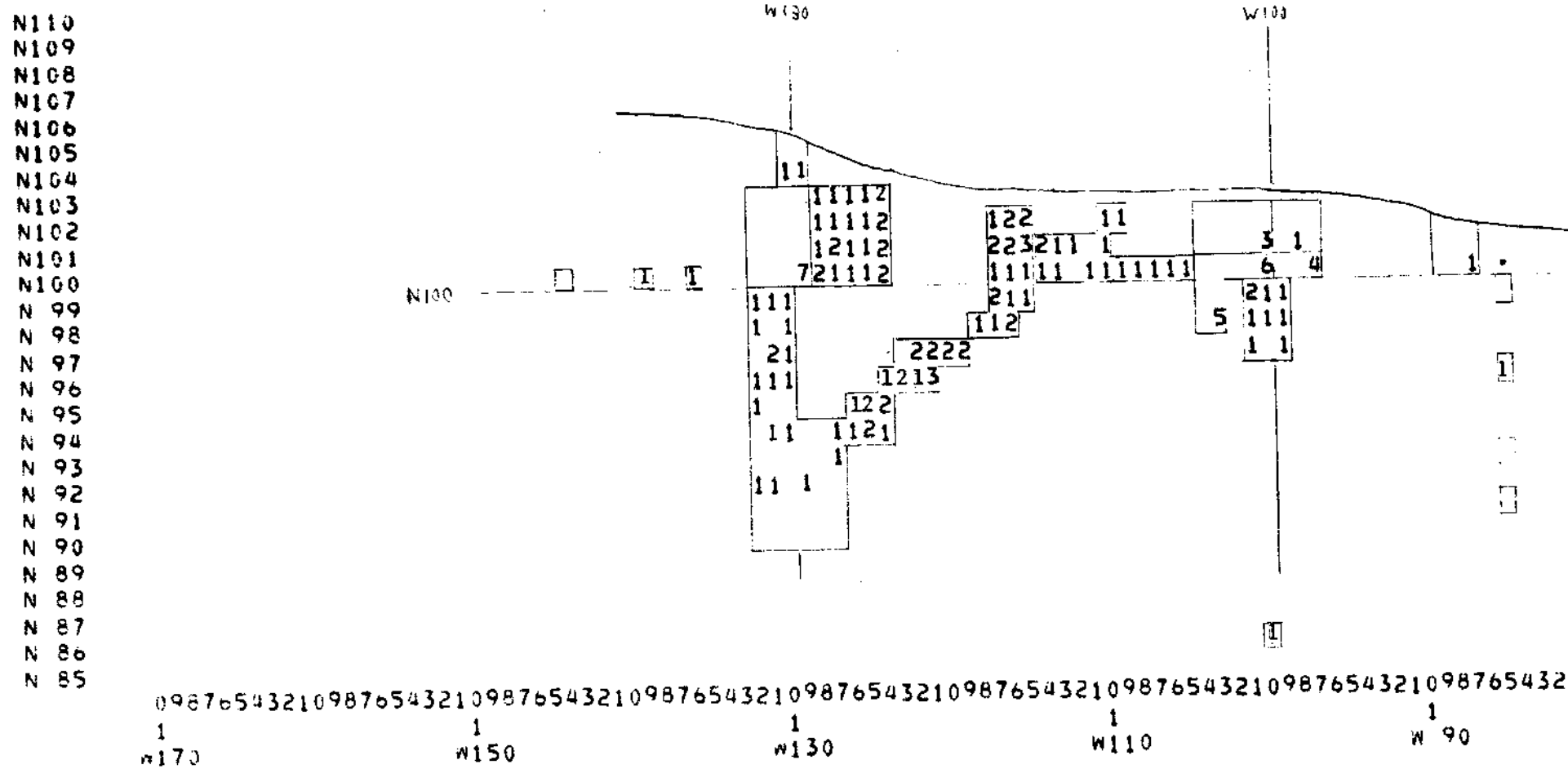
MAP/ALL ABORIGINAL SHERDS

1: 1- 10
2: 11- 20
3: 21- 30
4: 31- 40
5: 41- 50
6: 51- 60
7: 61- 70
8: 71- 90
9: 91-200



MAP/PLAIN SHERDS

1: 1- 5
2: 6- 10
3: 11- 15
4: 16- 20
5: 21- 30
6: 31- 40
7: 41- 70
8: 71- 90
9: 91-200

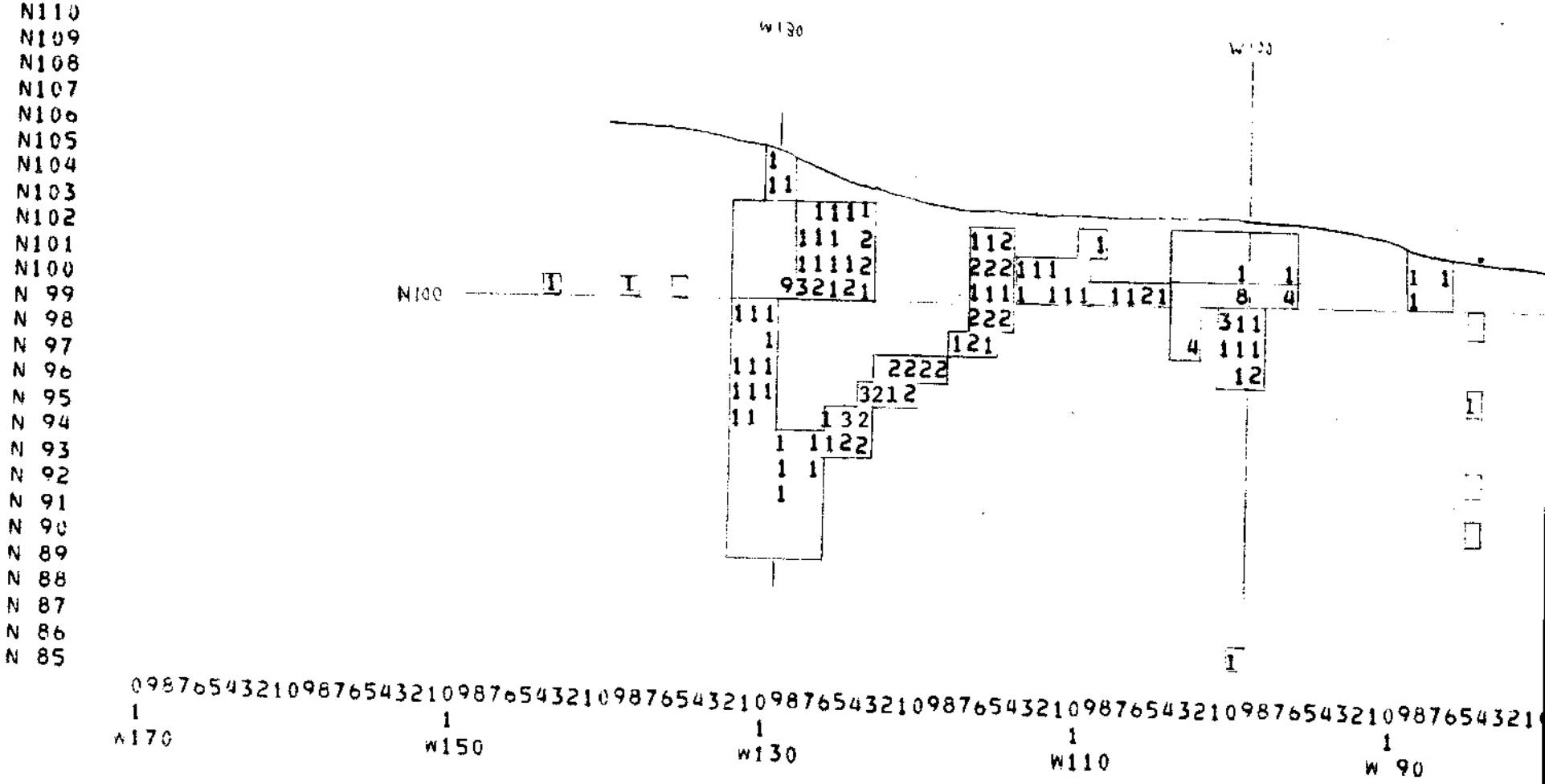


MAP/ENGRAVED SHERDS

1: 1- 5
2: 6- 10
3: 11- 15

4: 16- 20
5: 21- 25
6: 26- 30

7: 31- 35
8: 36- 40
9: 41-200

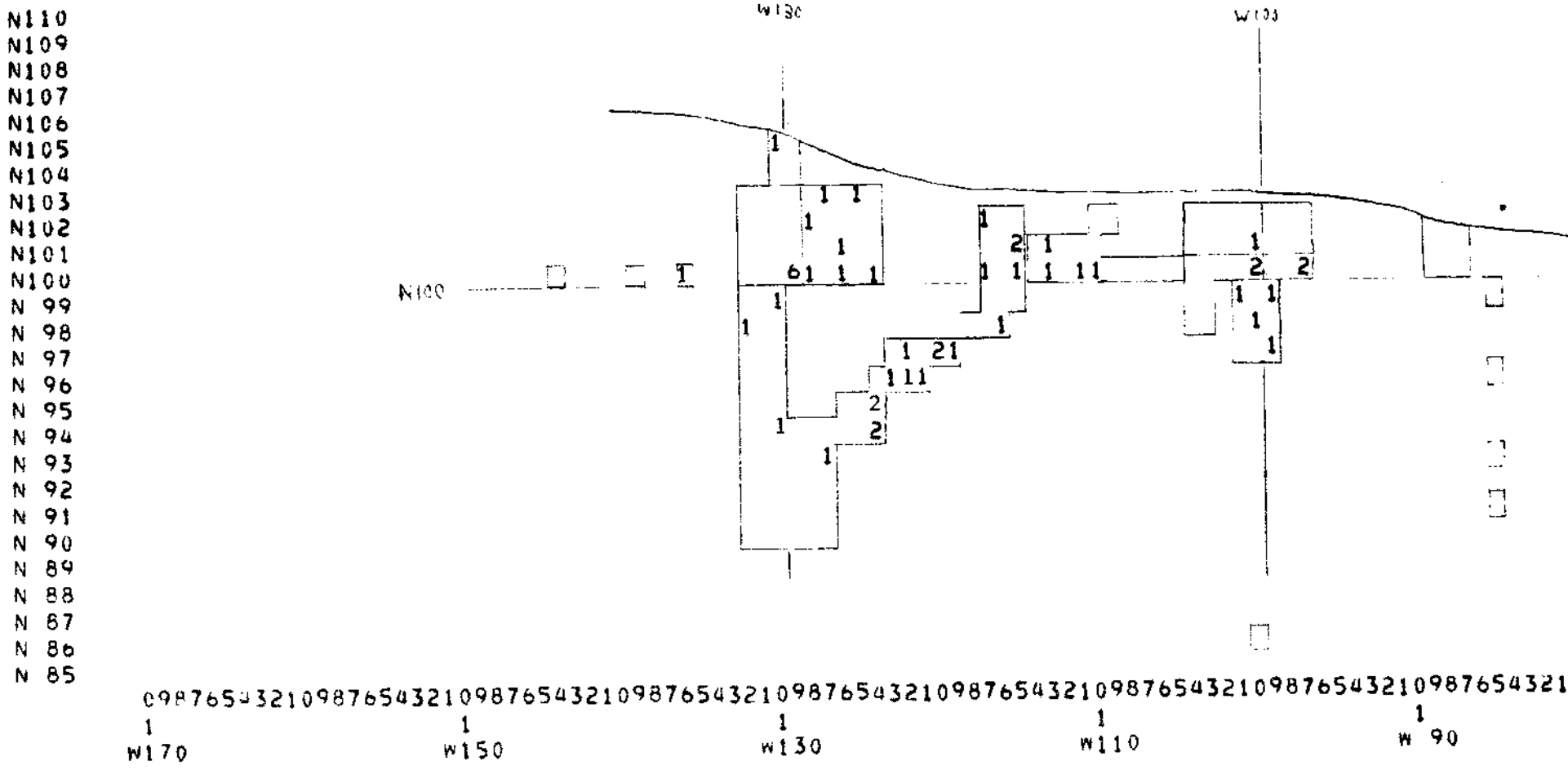


MAP/INCISED SHERDS

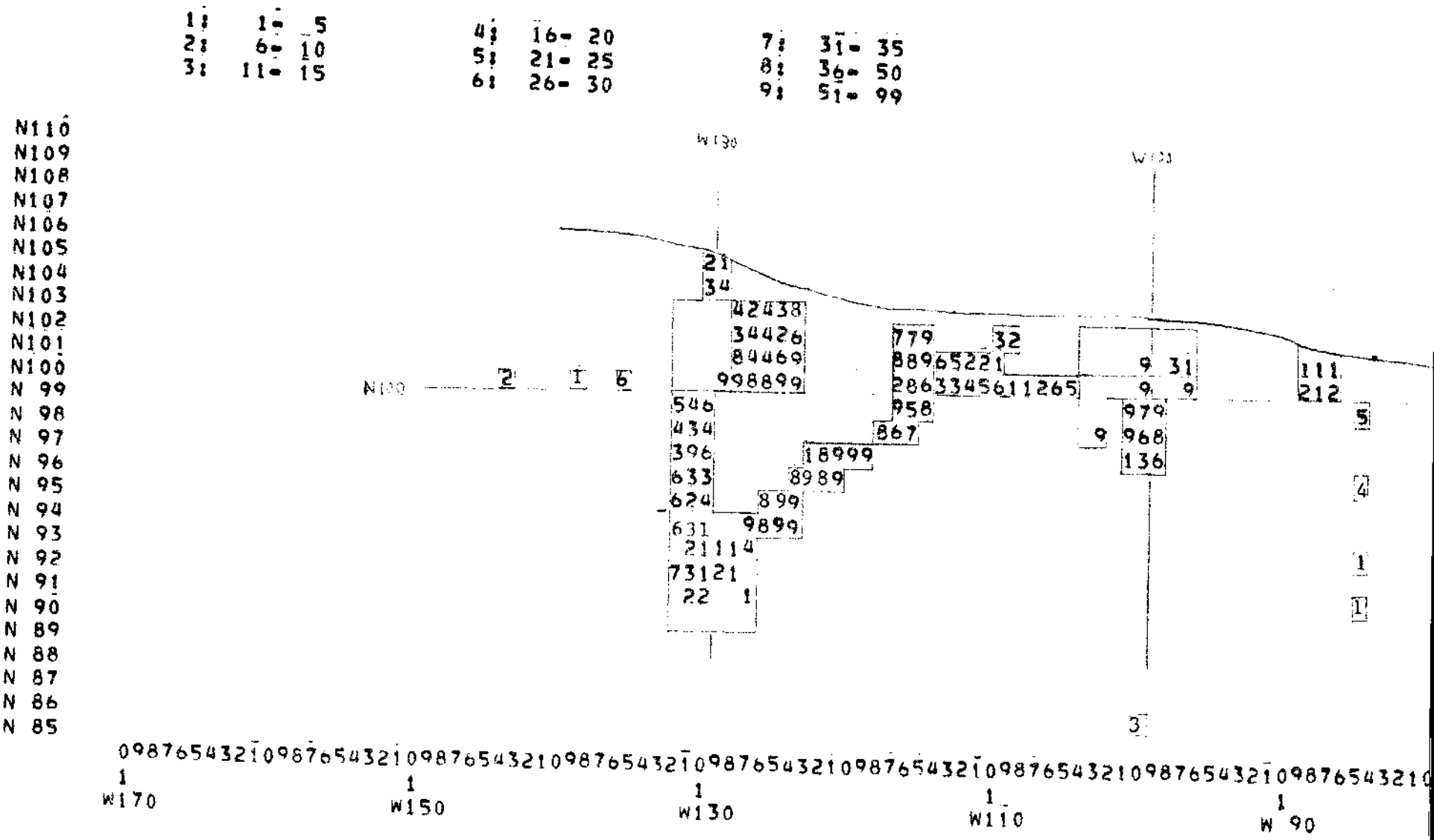
1: 1- 2
2: 3- 4
3: 5- 6

4: 7- 8
5: 9- 10
6: 11- 15

7: 16- 20
8: 21- 25
9: 26- 99



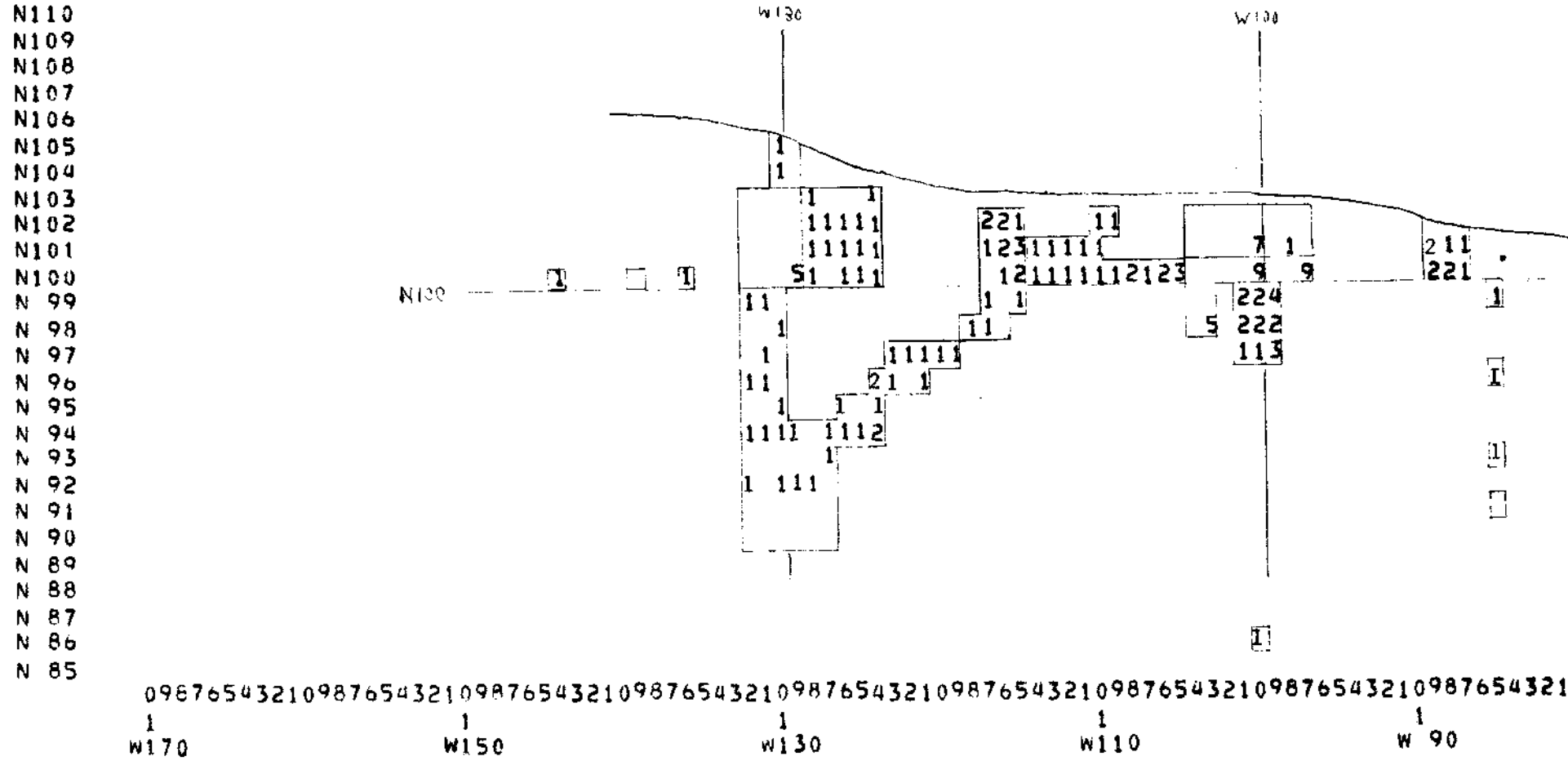
MAP/PUNCTATE SHERDS


1: 1- 5
2: 6- 10
3: 11- 15
4: 16- 20
5: 21- 25
6: 26- 30
7: 31- 35
8: 36- 50
9: 51- 99
N110
N109
N108
N107
N106
N105
N104
N103
N102
N101
N100
N 99
N 98
N 97
N 96
N 95
N 94
N 93
N 92
N 91
N 90
N 89
N 88
N 87
N 86
N 85
W130
W110
N100
21
34
42438
34426
84469
998899
546
434
396
633
624
631
21114
73121
22 1
899
9899
18999
8989
867
958
779
32
88965221
28633456
11265
9 31
9 9
979
9 968
136
111
212
5
4
1
1
3
W170
W150
W130
W110
W 90
MAP/SMALL SHERDS

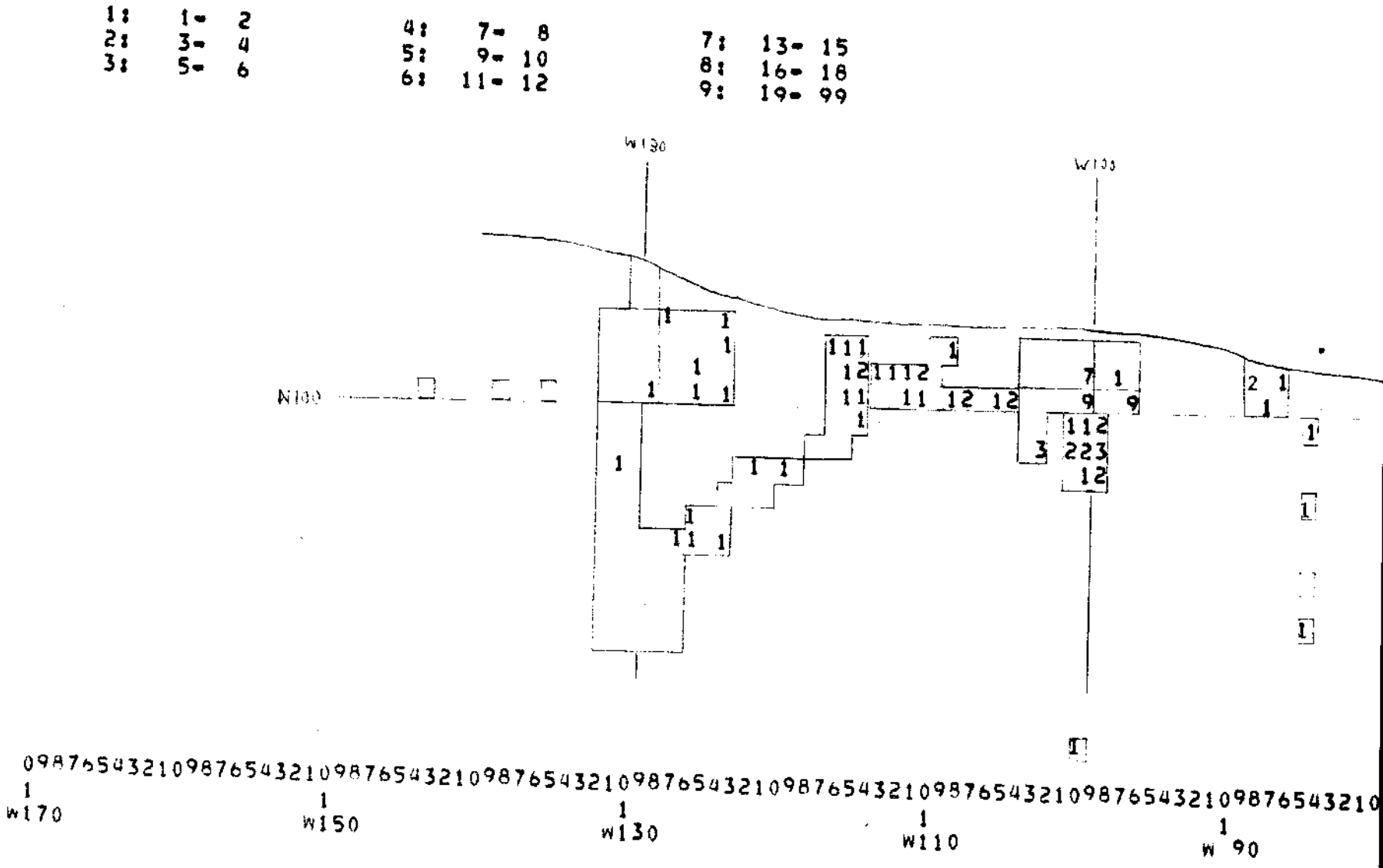
1: 1- 5
2: 6- 10
3: 11- 15

4: 16- 20
5: 21- 25
6: 26- 50

7: 51- 75
8: 76- 90
9: 91- 99



MAP/ALL NON-ABORIGINAL CERAMICS

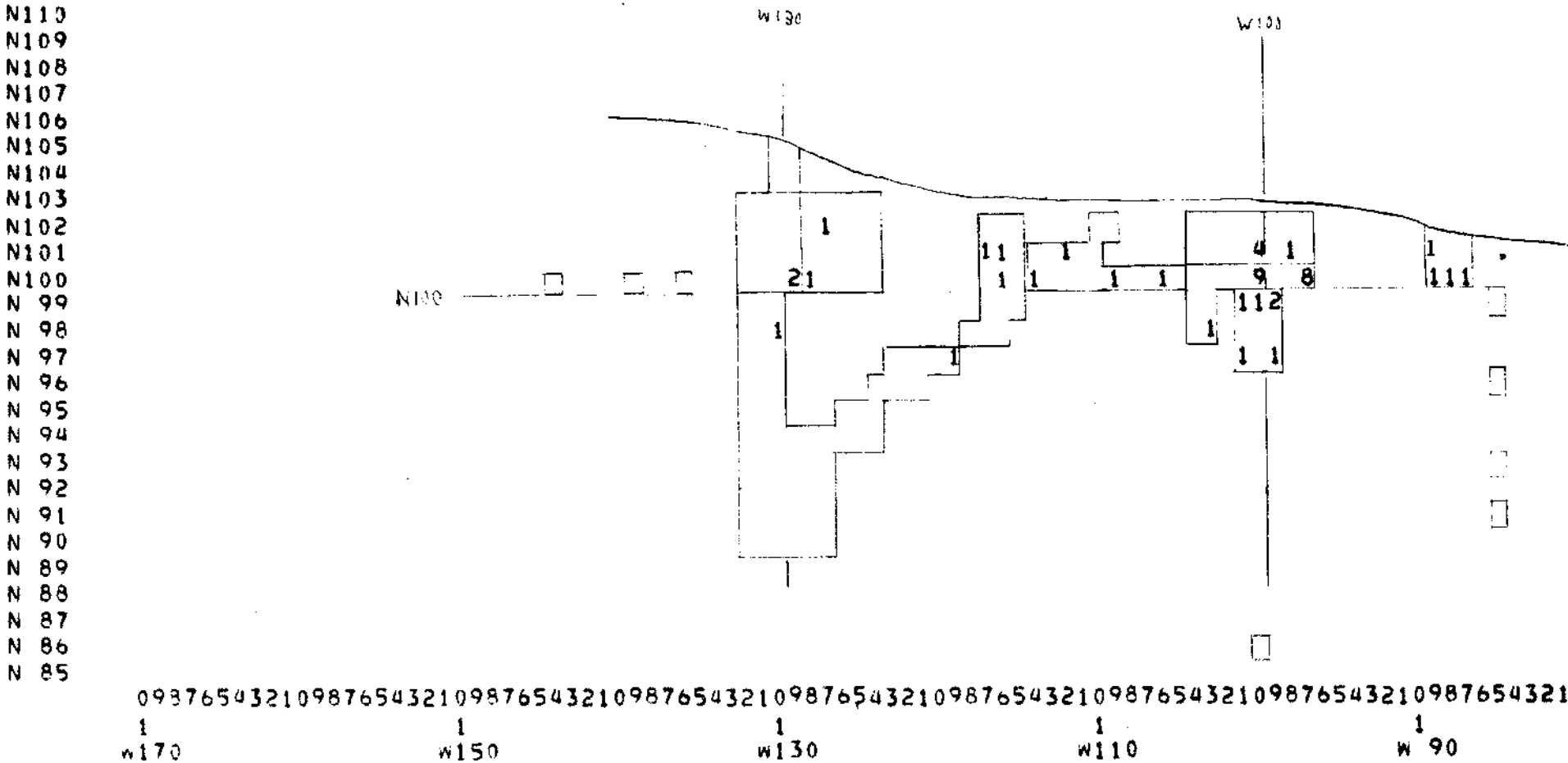


MAP/FAIENCE-DELFT SHERDS

1: 1- 2
2: 3- 4
3: 5- 6

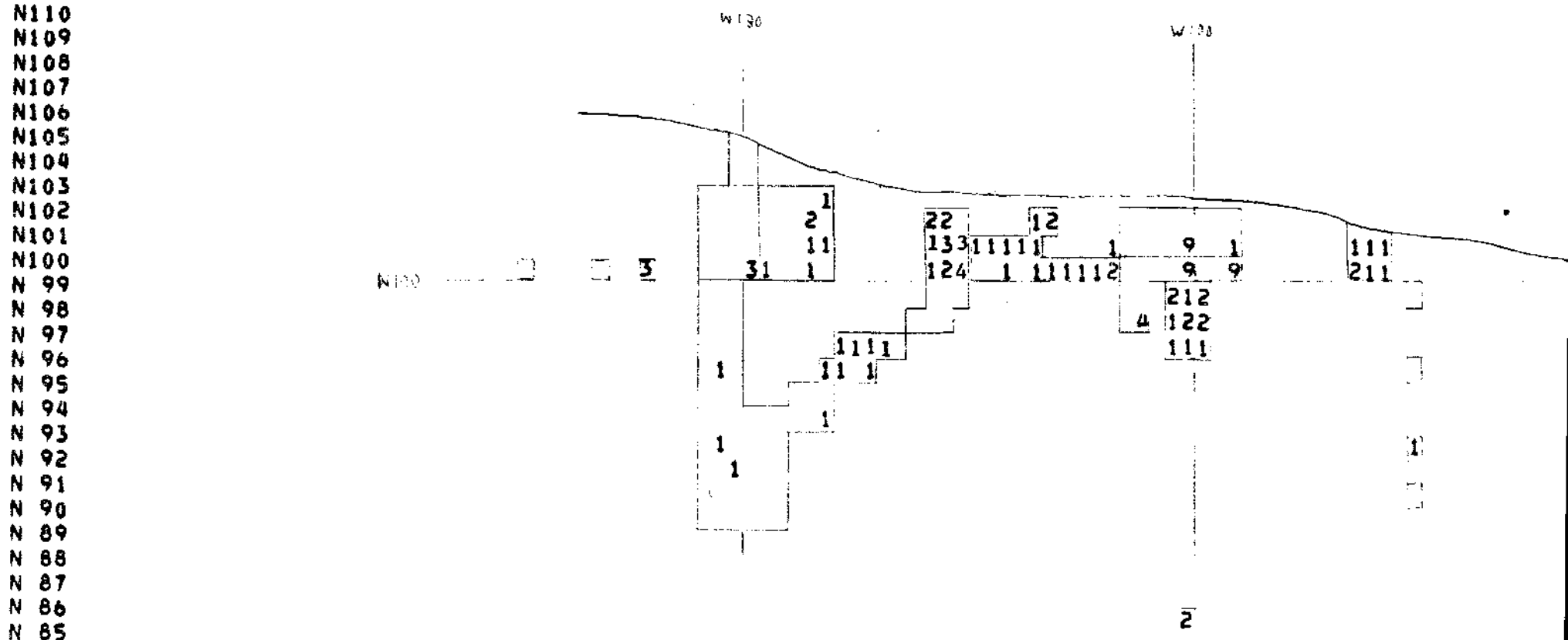
4: 7- 8
5: 9- 10
6: 11- 12

7: 13- 15
8: 16- 18
9: 19- 99



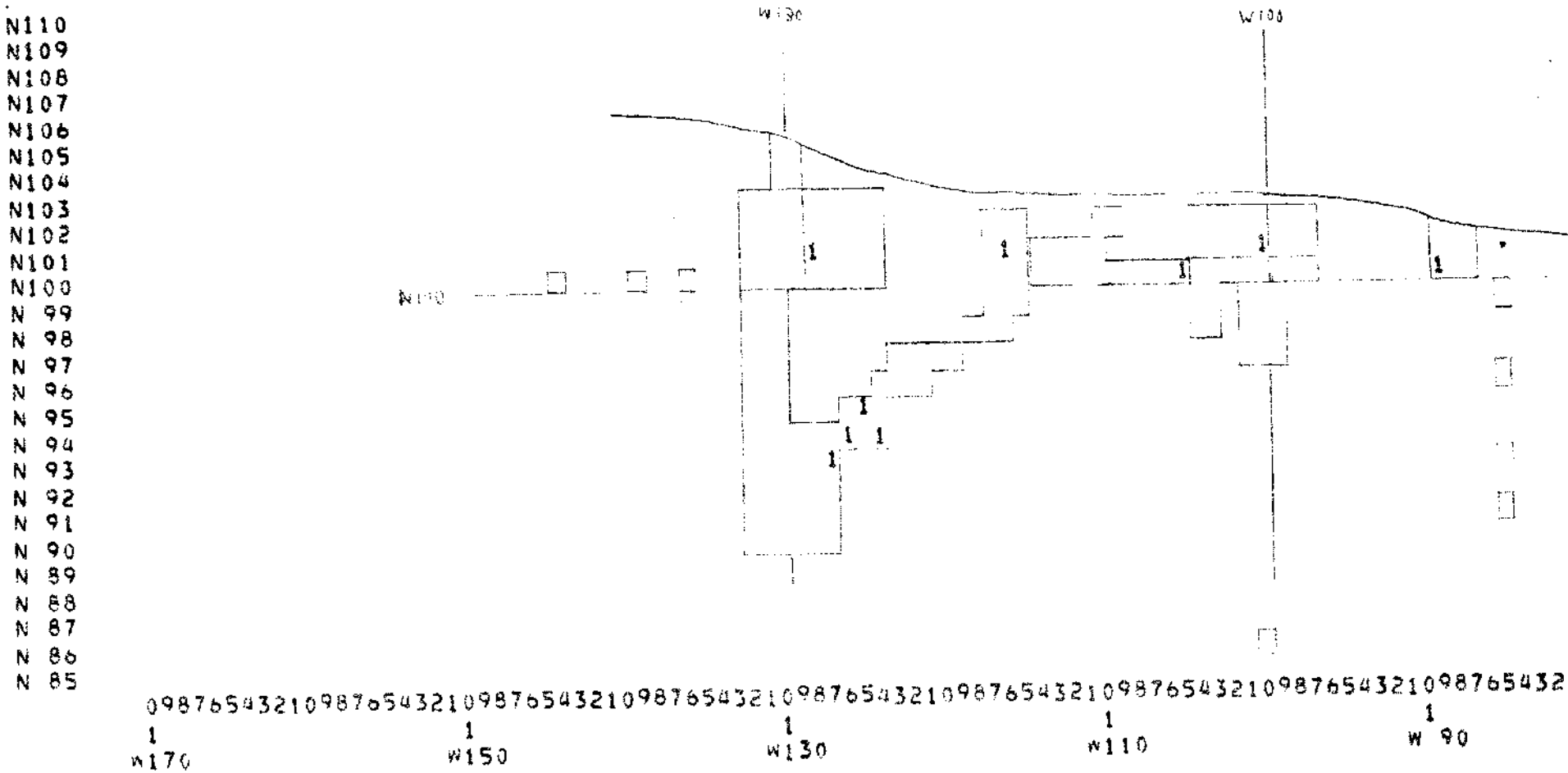
MAP/MAJOLICA SHERDS

1: 1- 2 | 4: 7- 8 | 7: 13- 15
2: 3- 4 | 5: 9- 10 | 8: 16- 18
3: 5- 6 | 6: 11- 12 | 9: 19- 99



MAP/UNDECORATED SOFT-PASTE EARTHENWARE

1:	1=	1	4:	4=	4	7:	7=	7
2:	2=	2	5:	5=	5	8:	8=	10
3:	3=	3	6:	6=	6	9:	11=	99

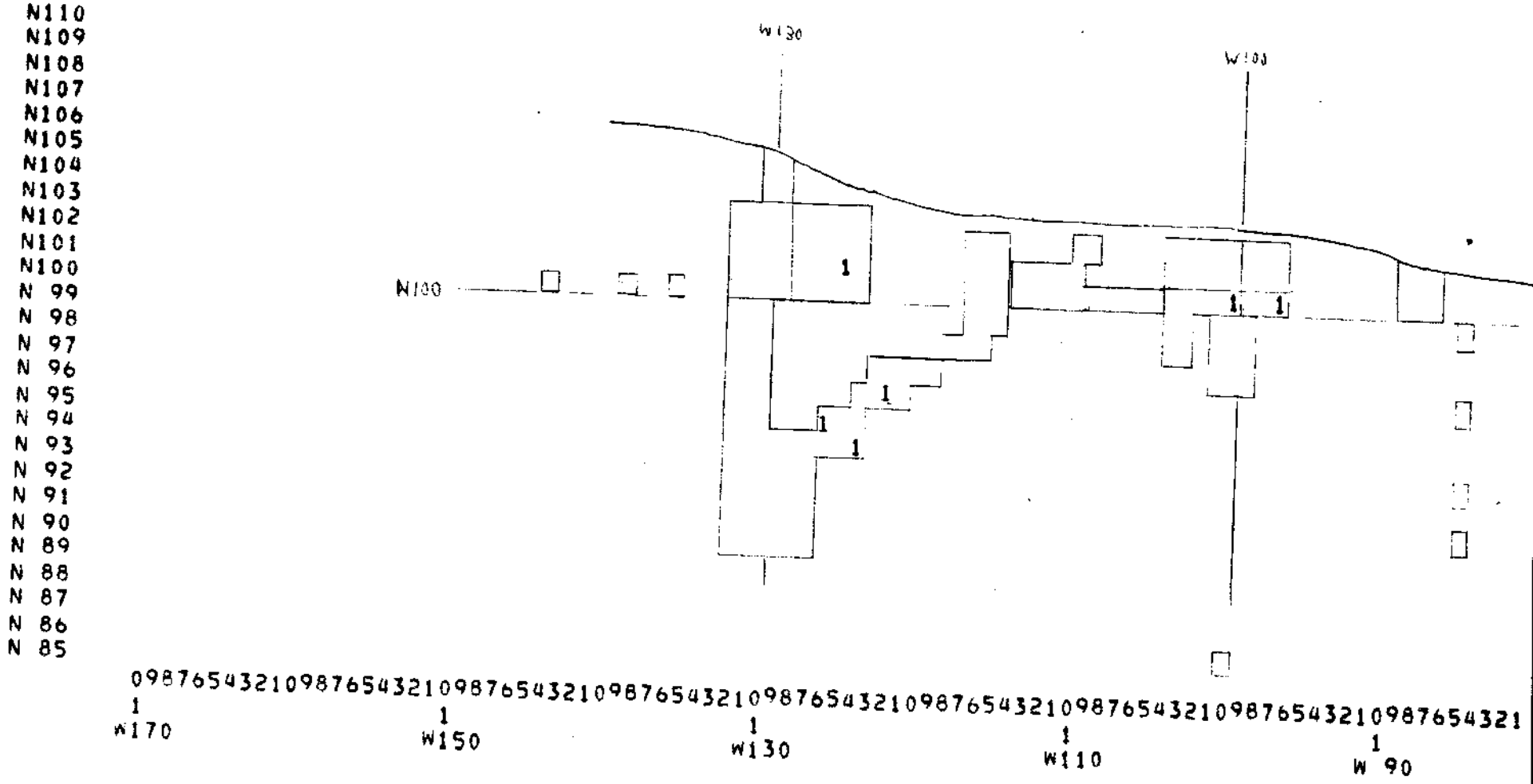


MAP/GREEN-GLAZED, FINE PASTE

1: 1- 2
2: 3- 4
3: 5- 6

4: 7- 8
5: 9- 10
6: 11- 12

7: 13- 15
8: 16- 18
9: 19- 99

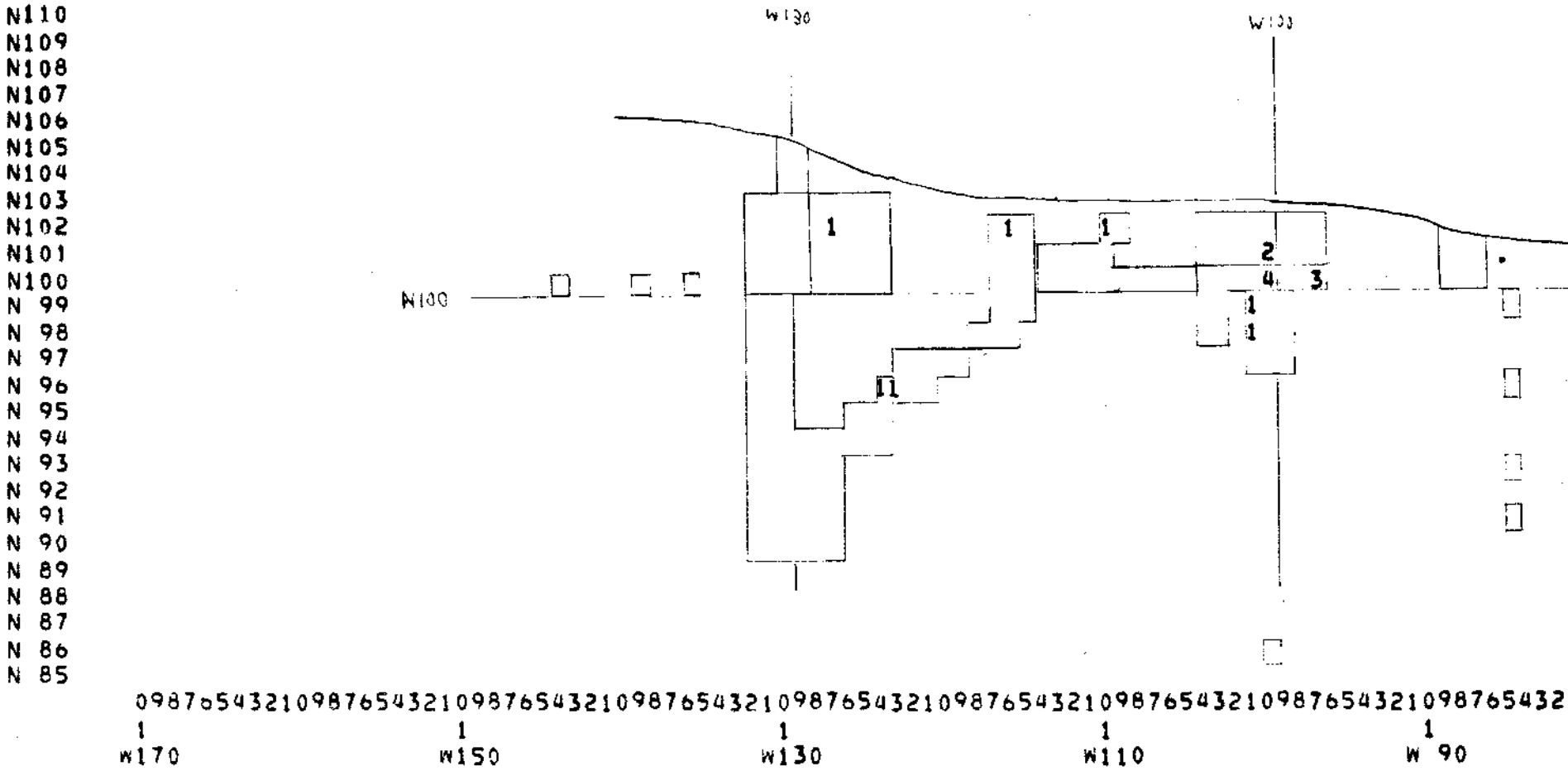


MAP/GREEN-GLAZED, COARSE PASTE

1: 1- 2
2: 3- 4
3: 5- 6

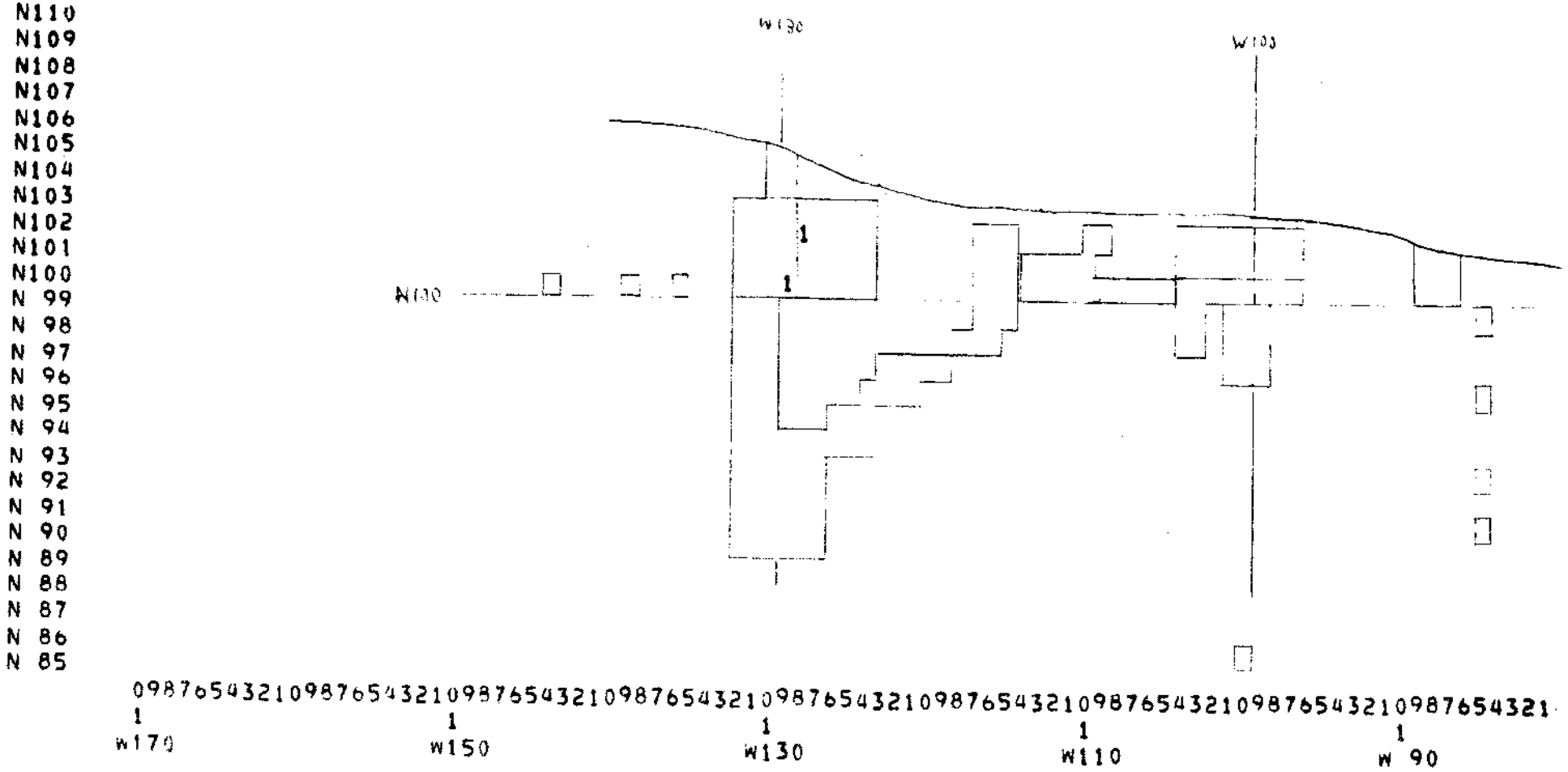
4: 7- 8
5: 9- 10
6: 11- 12

7: 13- 15
8: 16- 18
9: 19- 99

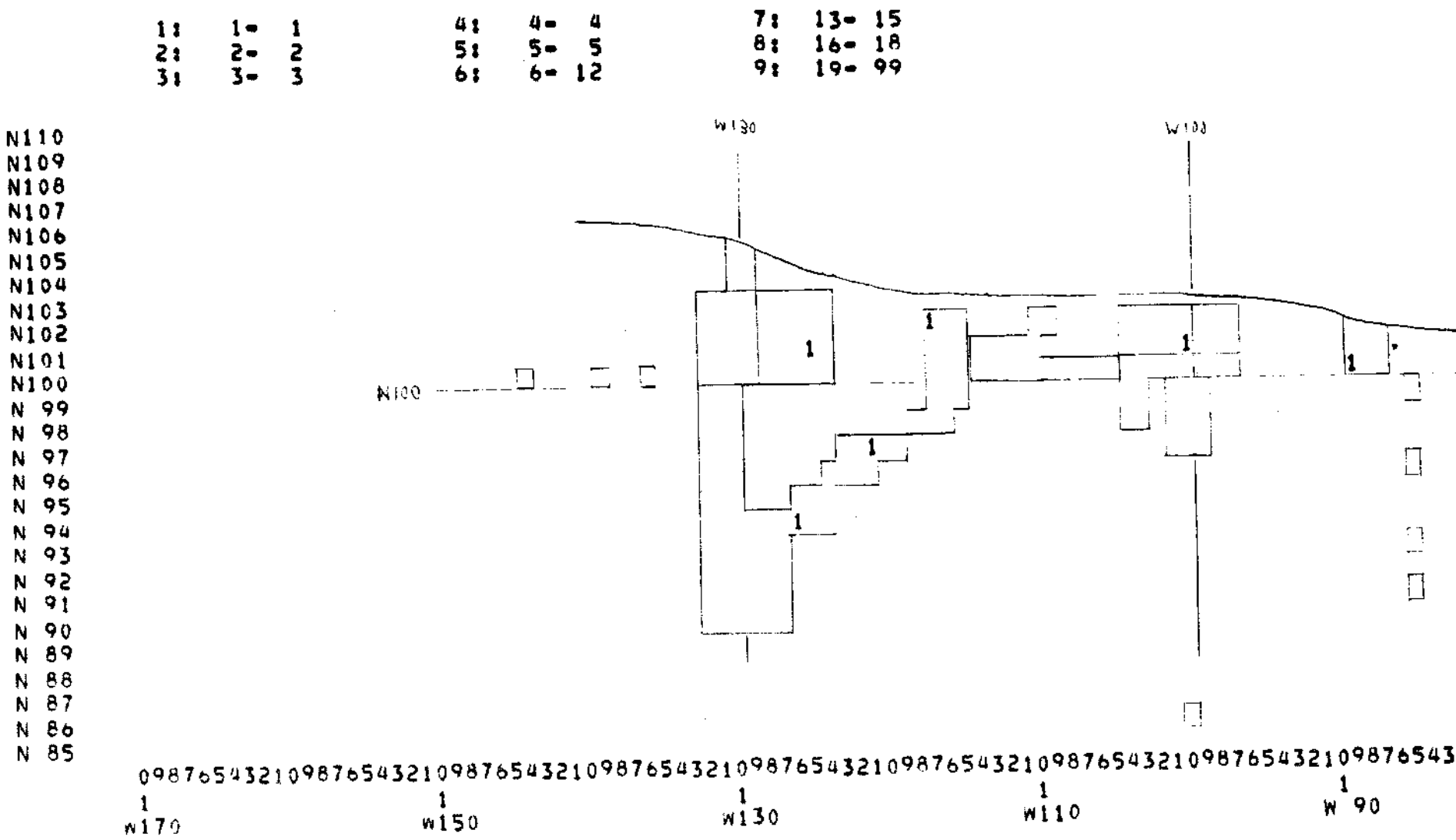


MAP/BROWN-GLAZED

1:	1- 1		4:	4- 4		7:	13- 15	
2:	2- 2		5:	5- 5		8:	16- 18	
3:	3- 3		6:	6- 12		9:	19- 99	



MAP/GUANAJUATO LEAD-GLAZED

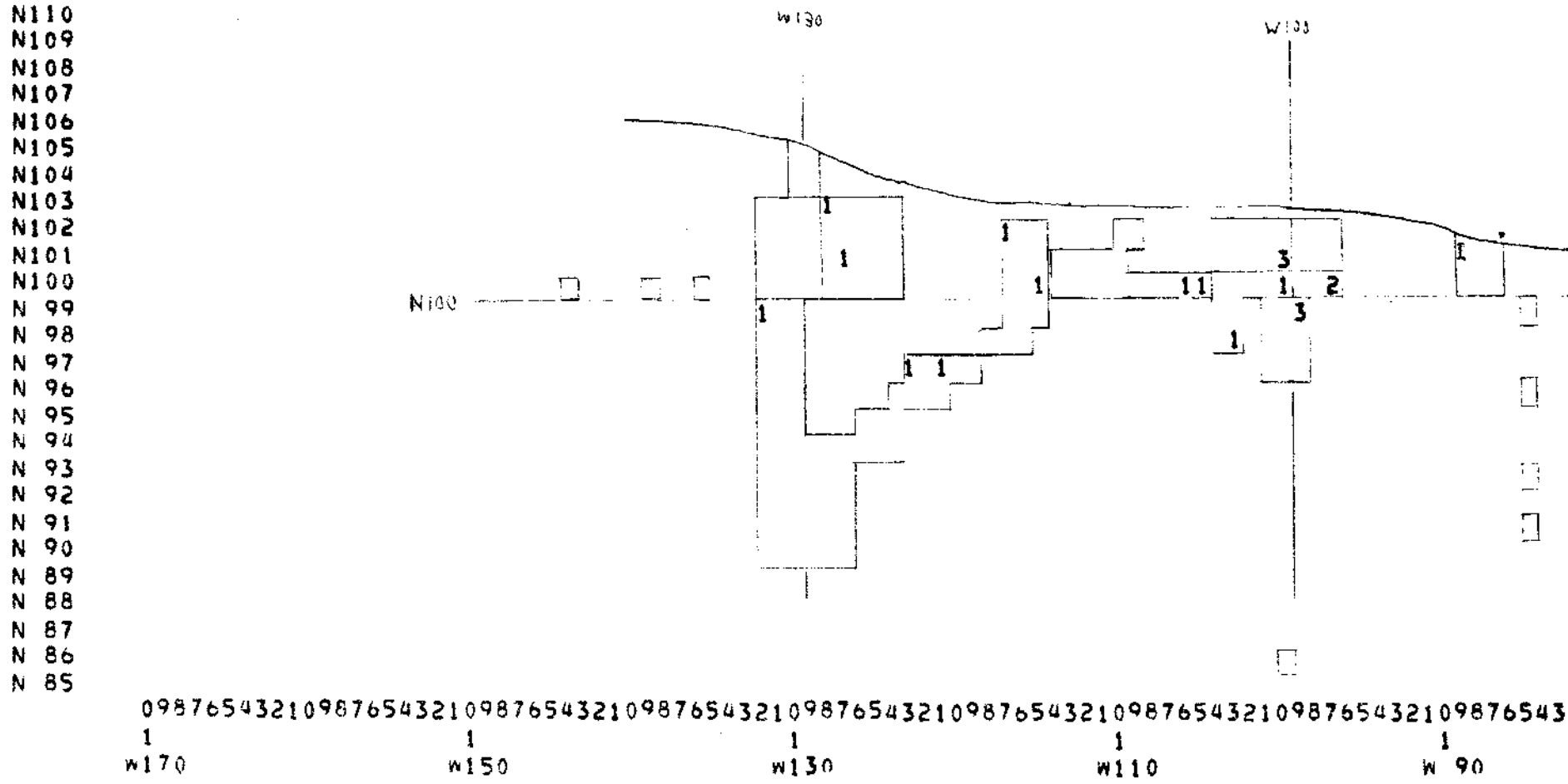


MAP/TLAXCALAN REDWARE

1: 1= 1
2: 2= 2
3: 3= 3

4: 4= 4
5: 5= 5
6: 6= 6

7: 7= 7
8: 8= 10
9: 11= 99

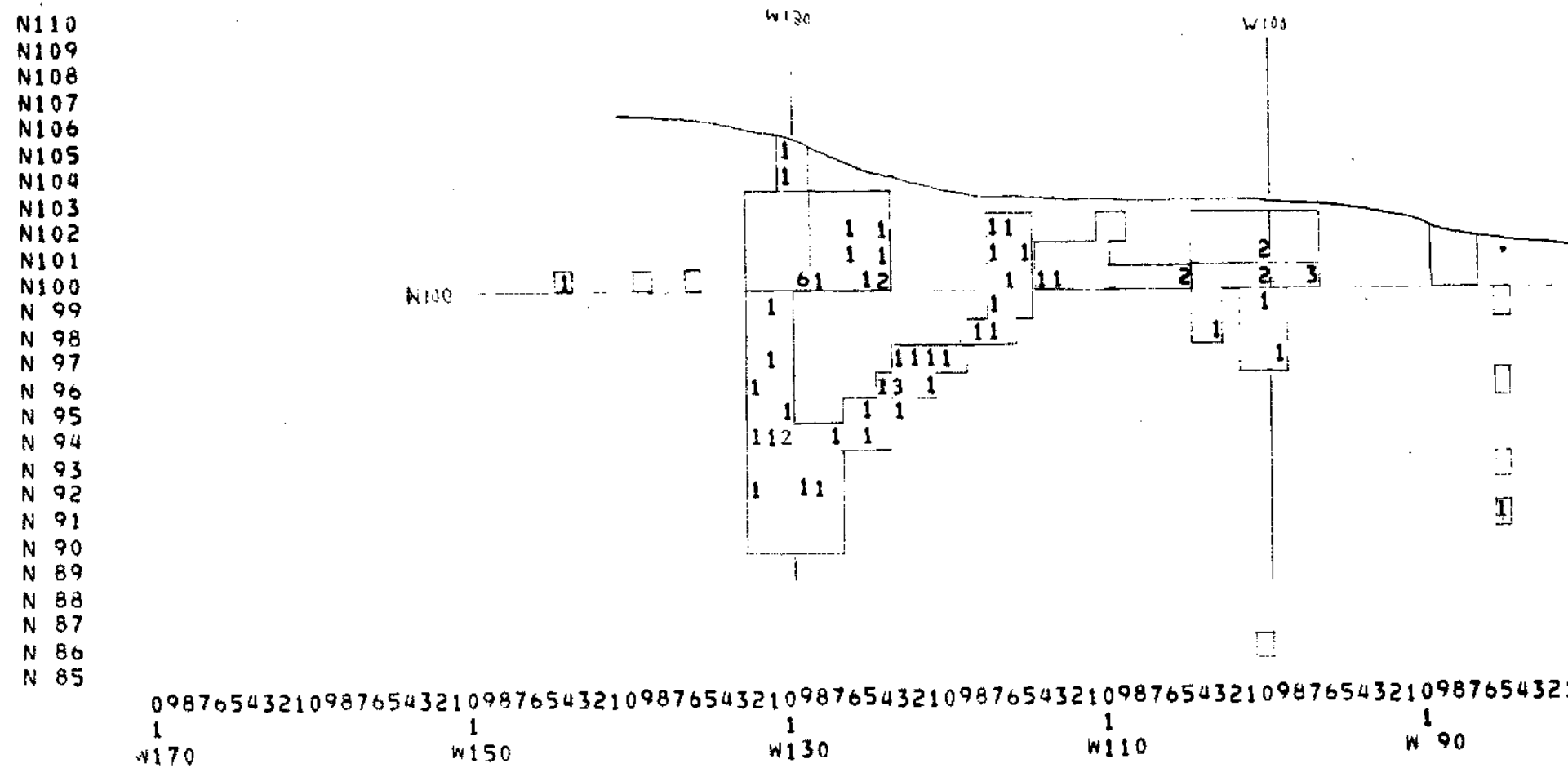


MAP/ENGLISH CREAM-COLORED EARTHENWARE

1: 1- 2
2: 3- 4
3: 5- 6

4: 7- 8
5: 9- 10
6: 11- 12

7: 13- 15
8: 16- 18
9: 19- 99



MAP/CHINESE PORCELAIN

APPENDIX IX
Computer Analysis

INTRODUCTION

Statistical analysis of the artifacts using the Univac-560 computer with CP-V operating system, the Statistical Package for the Social Sciences (SPSS) programs, and locally-designed archaeological programs, was one of the research goals of the SFA Faculty Research Grant (1115.03) under which this report was accomplished. This appendix explains the formats used in setting up the data files and the use of the locally-designed programs.

SITE FILES AND PROGRAMS

The SFA archaeological programs require as input a site file (data file) containing information gathered from the site either before or after analysis, and are designed to provide only numerical counts and percentages by area and/or level, and rough graphic maps. All programs except "PRINTART" allow multiple output with multiple sets of instructions. The site files and programs are set up to handle only one quadrant. For a site with more than one quadrant, or for sites dug by cultural activity areas (i.e., midden, etc.), codes would need to be devised for provenience, or the program could be modified. Large sites which would not conveniently fit on one map would have to have two or more maps printed using appropriate coordinates to include every section of the site. The actual artifact categories will vary from site to site.

Site Files

ARTS File

The main site file (ARTS) contains up to 23 artifact categories (called Art 1-23) which will hold the number of artifacts found within a given provenience by catalogue number. By changing the site file used by a program, the programs may be used on several different sites, or a single site may have multiple data files, for example, one file for Indian ceramics and one file for other artifacts. This permits greater flexibility and precision in classification of artifact categories in the field. It is advisable, if possible, to leave several artifact categories in the file blank so that totals may be combined by an auxiliary program for easy reference and comparison with individual artifact categories. Comparison can then be made between files. The data will be only as accurate as the preliminary artifact sort in the field and the subsequent manipulation (i.e., keypunching). After the analysis has been completed, the analyzed data can be input and graphs and maps compiled.

The ARTS file for 41SA25 contains the count totals of all of the unanalyzed artifact categories found at Mission Dolores. It follows the general format established for site files for input into SFA computer programs. Below is a listing of artifact categories by name and number for the site file ARTS:

Variable Name	Format	Card Col
Catalogue number	F4.0	1-4
Provenience	F6.0	5-10
Level	F1.0	11
Bone	F3.0	12-14
Indian sherds	F3.0	15-17
Arrowpoints	F3.0	18-20
Faience	F3.0	21-23

Variable Name	Format	Card Col
Beads	F3.0	24-26
Glazed earthenware	F3.0	27-29
Glass	F3.0	30-32
Lithic chips	F3.0	33-35
Metal	F3.0	36-38
Nails	F3.0	39-41
Chinese porcelain	F3.0	42-44
Rocks	F3.0	45-47
Spanish majolica	F3.0	48-50
Teeth	F3.0	51-53
Gunflints	F3.0	54-56
Lead	F3.0	57-59
Art 17	F3.0	60-62
Art 18	F3.0	63-65
Art 19	F3.0	66-68
Art 20	F3.0	69-71
Art 21	F3.0	72-74
Art 22	F3.0	75-77
Art 23	F3.0	78-80

INDCER File

The site file for 41SA25 for Indian ceramics (INDCER) was set up in the format described above, although this site file is for analyzed artifacts. More than just a count of the artifacts was desired, so attributes were analyzed, put into this format, and then the data were manipulated using SPSS to obtain statistical information and cross-correlation of attributes. Then the SFA computer programs were run to obtain information for graphs and the computer maps. A count column was included in one of the artifact categories (cc 43-45, artifact category II) to obtain total counts of the analyzed artifacts. Below is a listing for the site file INDCER:

Variable Name	Format	Card Col
Catalogue number	F4.0	1-4
Provenience	F6.0	5-10
Level	F1.0	11
Small miscellaneous sherds	F1.0	12
Blank	1X	13

Variable Name	Format	Card Col
Analysis group	F8.0	14-21
Blank	1X	22
Paste characteristics	F5.0	23-27
Blank	1X	28
Decoration technique	F1.0	29
Blank	1X	30
Mineral analysis	F3.0	31-33
Blank	1X	34
Luster	F1.0	35
Surface texture	F1.0	36
Lip shape	F1.0	37
Rim curvature	F1.0	38
Vessel part	F1.0	39
Misc	F1.0	40
Blank	2X	41-42
Count number	F3.0	43-45

EUROCER File

The following is the listing for the EUROCER file:

Variable Name	Format	Card Col
Catalog number	F4.0	1-4
Provenience	F6.0	5-11
Ceramic class	F1.0	12
Ceramic group	F1.0	13
Vessel shape	F1.0	14
Vessel part	F1.0	15
Paste color	F1.0	16
Glaze base color	F1.0	17
Glaze decoration color	F1.0	18
Rim decoration, geometric	F1.0	19
Rim decoration, foliate	F1.0	20
Body decoration, geometric	F1.0	21
Body decoration, foliate	F1.0	22
Decoration on both sides	F1.0	23
Degree of crazing	F1.0	24
Pitting	F1.0	25
Paste hardness	F1.0	26
Glaze fragment	F1.0	27
Paste fragment	F1.0	28
Glaze flaking	F1.0	29
Decoration style number	F1.0	30

Programs

PRINTART Program

The purpose of this program is to provide a listing of artifacts found at a particular site. The program requires as input a site file and a set of control cards to indicate which site file to reference. The output will be printed based upon the provenience. The output will have as a header the 23 artifact categories. The actual artifact type per category will vary from file to file and from site to site. Below is a sample deck of Control Cards:

Card #	
1	!JOB Account number (Box #: Name)
2	!SET F:107/File Name
3	!RUN (LMN, PRINTARTLX)
4	!FIN

Card #1: Only the box number and name in parentheses may be changed.
Card #2: Only the site file identification name (Fid) may be changed.
Card #3: May not be changed
Card #4: May not be changed

GRAFINFO Program

The purpose of this program is to provide information to be used in making graphs and plotting and listing distribution of artifact categories. The program requires as input a site file and a set of instructions indicating which artifacts to list. The program lists by level all of the proveniences of the specific artifact categories, the number of artifacts found per unit and what percentage this unit represents of the total number of this artifact category by level and: across the site. The following is a sample Control Card deck:

```
Card #

1            !JOB RLSOCUØØ, 1Ø46(Ø3-F:  WITCHES)
2            !SET F:1Ø7/site file name
3            !RUN (LMN,GRAFINFOLX)
4            !DATA
5            ARTIFACT #2 Ø1
6            ARTIFACT #2 Ø2
7            !EOD
```

Card #1: Only the box number and the name may be changed.
Card #2: Only the site file name may be changed.
Card #3: May not be changed.
Card #4: May not be changed.
Card #5-6: Two cards are listed and these cards will cause two outputs. If more than these are needed, additional cards must be placed before the !EOD card. One card will produce one output. The basic format is: card col 1-12, artifact name; card col 14-15, artifact number.

GRAF Program

The purpose of this program is to provide a map which will illustrate graphically the distribution of artifacts. The map covers a 41 by 125-unit area. One level or all levels combined may be illustrated by a map. A legend is provided to indicate the number of artifacts found in a particular grid location. One number represents a one-meter square. One disadvantage to this program is that the computer prints in a .1 x .15-inch rectangle rather than a square. This program requires for input the site file and a set of instructional control cards. The following is a sample control card deck and explanation.

```
Card #

1            !JOB RLSOCØØ, 1Ø46(ØZ-E:ARLAN)
2            !SET F:1Ø7/Site file name
3            !RUN (LMN,GRAFLX)
4            !DATA
5            41SA25 (Site number)
```

```
Card #
 6          ARTIFACT #01
 7          09
 8          1    5
 9          6    10
10          11   15
11-16       Cards 11-16 follow same format as cards 8-10
17          90   90
18          083179
19          !EOD
20          !FIN
```

Card #1: Only the account number, box number, and the name with the parentheses may be changed on this card.
Card #2: Only site file name may be changed.
Card #3: Must not be changed.
Card #4: Must not be changed.
Card #5: Site number must be placed within card columns 1-6.
Card #6: In card columns 1-12, the name of the artifact category should be placed, followed by its number in columns 14-15.
Card #7: The starting level of the map is placed in the first card column: 1 for level 1, 2 for level 2, 3 for level 3, etc. The final level is placed in cc 2. They must be in ascending order unless combined levels are desired; then a 21 is used.
Card # 8-16: These nine cards represent, respectively, the nine numerical codes which make up the legend: card 8 for code 1, card 9 for code 2, card 10 for code 3, etc., up to card 16 for code 9. The lower bound for each code is placed in cc 1-3, and the upper bound is placed in cc 5-7.
Card #17: This card contains the co-ordinates of the southeast corner of the map. The north grid number is placed in cc 1-3, and the west grid number in cc 5-7.
Card #18: The date of the map is placed in the first 6 columns. Should additional maps be desired, the additional sets of instructions should be placed after this card and before the !EOD card. These sets must follow the same format as found in cards 5-16.
Card #19: Must not be changed and must follow all instruction sets.
Card #20: Must not be changed and is the last card in the program.

The program will cause a map to be printed which will show the distribution of any artifact category number from the site at any or all levels. This sample control card deck will code and print one t five artifacts as a "1" on the map, 6 to 10 as a 2, etc.

An "E" indicates that a grid unit was dug and no artifacts were found. The map would have a southeast corner coordinate of N90/W90. The date of the map would be 8/31/79.

APPENDIX X
Analysis of Faunal Remains

Faunal remains were recovered from many areas of the excavated portions of the site of Mission Dolores. In general, these remains were small in size and in a much deteriorated condition. The exception to this was faunal remains recovered from Features 8 and 18, two large trash pits. Although the bones were fragile, most were recovered relatively intact.

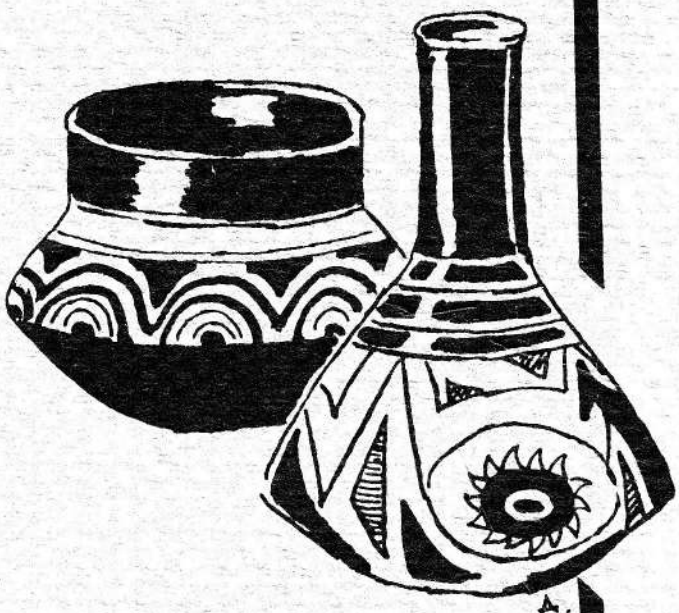
Unfortunately, the Anthropology Laboratory does not yet have a comparative faunal collection, so a detailed analysis of the faunal remains was not carried out. Limited funding of the overall project negated sending the faunal remains elsewhere for analysis. Nevertheless, some general statements can and should be made concerning these remains. In general, the majority of the bones are those of a large bovid, presumably Bos. One skull and several horn core fragments are definitely Bos. Large post-cranial elements are probably Bos, although there is a possibility that some are Bison. Faunal remains from smaller ungulates (e.g. Odocoileus sp., Ovis sp., and Capra sp.) also occurred in the trash pits. Skull fragments of animals this size were rare, and none were large enough for a positive identification, although a portion of antler would seem to indicate that some of these remains probably represent Odocoileus. Small mammal bones are not at all well represented, and these are only fragmentary. The

generally poor condition of the smaller bones will make future identification difficult. Aves are represented by only a few post-cranial elements and would appear to be in the size range of domestic chicken, or perhaps turkey (Meleagris).

Although not deemed particularly critical at this juncture, future analysis of faunal remains from past and (we hope) future excavations will be important. While we may not learn much new about food animals, etc., present at Spanish Colonial sites, we may gain some insight into the degree of local self-sufficiency at the remote East Texas missions and to what extent the personnel relied on trade or help from the aboriginal population.

Mission Dolores de los Ais

JAMES E. CORBIN
THOMAS C. ALEX
ARLAN KALINA



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NACOGDOCHES, TEXAS
1980

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