CONTRIBUTIONS
OF THE
UNIVERSITY OF CALIFORNIA
ARCHAEOLOGICAL RESEARCH FACILITY

Number 41 **December 1979**

STUDIES IN ANCIENT MESOAMERICA, IV
Edited by John A. Graham

ARCHAEOLOGICAL RESEARCH FACILITY
Department of Anthropology
University of California
Berkeley

CONTRIBUTIONS

OF THE

UNIVERSITY OF CALIFORNIA

ARCHAEOLOGICAL RESEARCH FACILITY

Number 41 December 1979

STUDIES IN ANCIENT MESOAMERICA, IV

Edited by

John A. Graham

Archaeological Research Facility
Department of Anthropology
University of California
Berkeley

TABLE OF CONTENTS

THE GREAT MOUND OF LA VENTA

by

John Graham and Mark Johnson

One of the great architectural features of the La Venta site is the great mound, Structure C-1, marking the south terminus of Complex A. Long thought to be a rectangular platform of the truncated-pyramid type, its unusual present form was not accurately perceived until it was cleared of vegetation and carefully mapped during brief field seasons in 1967 and 1968. [1] Although we now know the present form of this great construction, interpretation of its ancient aspect is uncertain and controversial.

Exposure and inspection of the surface of Structure C-1 during the 1967 and 1968 field seasons revealed the approximately 30 meter high mound to have a subrectangular base plan and to support a series of alternating prominent ridges and valleys or "ravines" which slope from the small platform at the summit of the construction to the mound's base. The long ridge formations, which number ten in all, separate an equal number of "ravines" which vary somewhat in width and depth. Quite regular in their form with the exception of obvious disturbances, particularly on the west and north sides, the ridges and ravines are sufficiently symmetrically distributed around the structure that there seems to be little doubt as to their reflecting intentionally made features of the original structure. [2]

Our late colleague, Robert F. Heizer, believed the structure to have been a truncated cone and argued that it might be an effigy of a volcanic cone. [3] The series of ravines leading down from the summit of C-1 were believed by Heizer to be an intentional effort to replicate the eroded cinder cones which are to be seen in the neighboring Tuxtla highlands.

The nature of the "ravines" is obviously of primary significance in interpretation of the ancient form of the structure. During the 1968 season when the mound was mapped and most thoroughly examined, the question of erosion, its extent and effect, was repeatedly discussed. Heizer and Graham, together with our surveyor, Lewis Napton, and our colleague in geology, Howel Williams, all agreed that the ridges could not be fully accounted for solely by evoking erosion. Although some irregularities were clear, it was equally clear that these were at least partly to be explained by the intensive use of a foot path on the north side and by "treasure" digging there and elsewhere on the mound. Otherwise, the regularity of the surface was impressive and inconsistent with the notion of a purely naturally induced erosion. Attempts were made to estimate the amount of mound structure that would have been removed had the "ravines" been entirely the result of erosion, and it was concluded that such erosion would have produced sufficiently great "alluvial fans" at the base of the mound which could be detected. Not only were such features not in evidence but the basal platform upon which the mound rests still preserves a regularity of outline. While considerable erosion has surely occurred, we did not, and

we still do not, think it even remotely likely that erosion has totally transformed the original aspect of the mound so that no clues survive as to its original form. [4]

Some measure of the extent of erosion at C-1 might be gauged if better data were available on Monuments 25, 26 and 27 which were found positioned along the south base of C-1. Apparently, the tops of these jaguar mask reliefs, whose thinness suggests to us that they were wall panels, were only slightly beneath modern ground surface (Drucker, Heizer and Squier 1959: 120; 206-209). Since their excavators believe these monuments were "braced" against C-1, being set into a "shelflike" bench cut along the base of the structure, we conclude it is surprising that they were not more deeply buried by slope wash from the mound. However, since two of the monuments were inverted, it is unlikely that the monuments occupy their original positions, and how great an interval of time between completion of C-1's construction (and perhaps abandonment of original use) and the positioning of the monuments cannot be determined on the basis of data presently available. [5]

When the present nature of C-1 was first revealed, we were impressed by the resemblance of the structure's plan to that of the famous Preclassic platform from Uaxactun, Structure E-VII sub, with its four stairways, one descending each side of the construction. That plan is not unusual in Maya architecture, and we are tempted to compare La Venta C-1 with the great 100 foot high Preclassic Tikal Structure 5C-54, described by W.R. Coe as one of the greatest platform structures of its time (W.R. Coe 1967: 90). Like Uaxactun E-VII sub, Tikal 5C-54 possesses a stairway on each of its four sides. The structure also has inset corners which, on the structure's east side, are fashioned as sloping buttresses, an engineering device which may have been employed to assist in the attainment of the structure's great height. The form and distribution of the "ridges" and "ravines" of La Venta C-1 seem quite reminiscent of the latter features and may well have had a similar function. The hypothetical reconstructions we offer in Figure 1 are based upon this resemblance, real or fancied. The fact that Monuments 25, 26, and 27 are positioned in a straight line along the base of La Venta C-1 may lend weight to our view that C-1 was not circular in plan as is often stated (e.g. Heizer, Drucker and Graham 1968: 12); the force of this argument is weakened by the fact that the monuments may have been positioned long after abandonment of the structure's original function.

Our Figure 1 was first prepared a good many years ago. It should be noted that we showed our hypothetical reconstructions to Heizer. Although he acknowledged the possibility that the reconstructions might have some validity, he preferred to hold to his original interpretation. In support of his view, one can cite the great circular platform at Cuicuilco, almost in the shadow of nearby volcanic cones. And, in addition to the great mound, there were other circular or elliptical structures of Preclassic date at the site. Furthermore, the astonishing buried jaguar mosaic masks at La Venta can plausibly be suggested to be offerings to a subterranean force, and since earthquakes and volcanic activity are often related, the building of a volcanic effigy is not entirely

farfetched. We feel, however, that precedence more greatly favors our suggested reconstructions. But until that remarkable edifice is subjected to careful excavation further speculation may be idle.

NOTES

1. The University of California, Berkeley, investigations at La Venta in 1967 and 1968 were made possible by the generous support of the National Geographic Society which has made possible so much of our present knowledge of the ancient Olmec. Unfortunately, it was not possible to fully realize the objectives of the 1967 and 1968 field explorations because of constant harrassment, threat of bodily harm and imprisonment, immediate confiscation of newly discovered sculptures and all stone of a greenish hue, and other unpleasant difficulties instituted by the local political authority.

2. A contour map at 2 foot intervals is provided in Heizer, Graham, and Napton 1968.

3. The notion of architectural effigys at Olmec sites has been entertained by others as well. There has been some speculation that Complex A at La Venta might have been intended to represent a jaguar mask while M. Coe has expressed his belief that the plateau and ridges of the San Lorenzo site represent "some kind of gigantic annimal effigy -- a huge quadruped as seen from above" (Coe 1967: 6).

4. We thus disagree with Beverido who views the "ravines" as entirely the work of erosion. Beverido also believes that the San Lorenzo ravines are the product of erosion, and he cites several arguments in support of the view (Beverido 1972: 84). Lacking first hand knowledge of the San Lorenzo situation, we withhold judgment on this controversy. We would point out, however, that the situations are hardly comparable. For one thing, there are springs and permanent streams in most of the San Lorenzo ravines (Coe 1968: 44).

5. The practice of positioning monuments in an inverted position is best documented in the Maya area where it has been interpreted as possibly reflecting the acitivites of later people who have lost contact with the old traditions. Although modern archaeologists have occasionally inverted ancient sculptures through a failure to understand ancient art forms, we are not persuaded, on reflection, that this is a satisfactory explanation of all ancient monument inversions.

References Cited

Beverido, F.
1972 "Las ciudades." In: El arte olmeca, ed. B. de la Fuente. Artes de Mexico, no. 154, ano 19. Mexico.

Coe, M. D.
1967 Map of San Lorenzo, An Olmec Site in Veracruz, Mexico. Department of Anthropology, Yale University. New Haven.

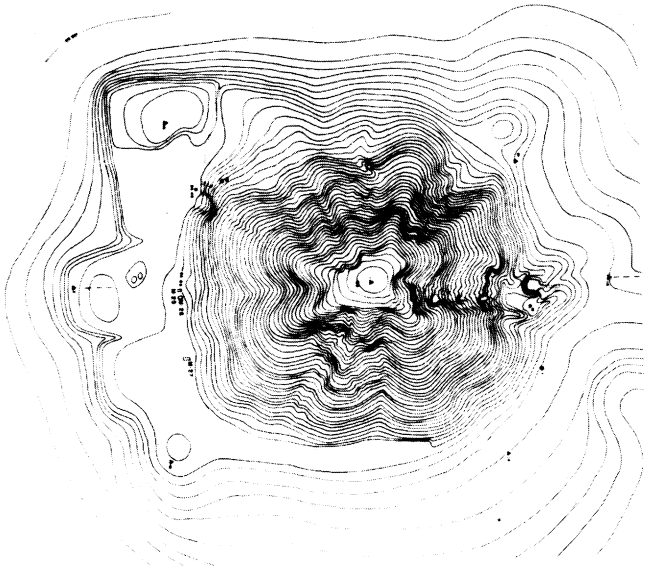
1968 San Lorenzo and the Olmec Civilization. In: Dumbarton Oaks Conference on the Olmec, E. Benson (ed.). Dumbarton Oaks, Washington.

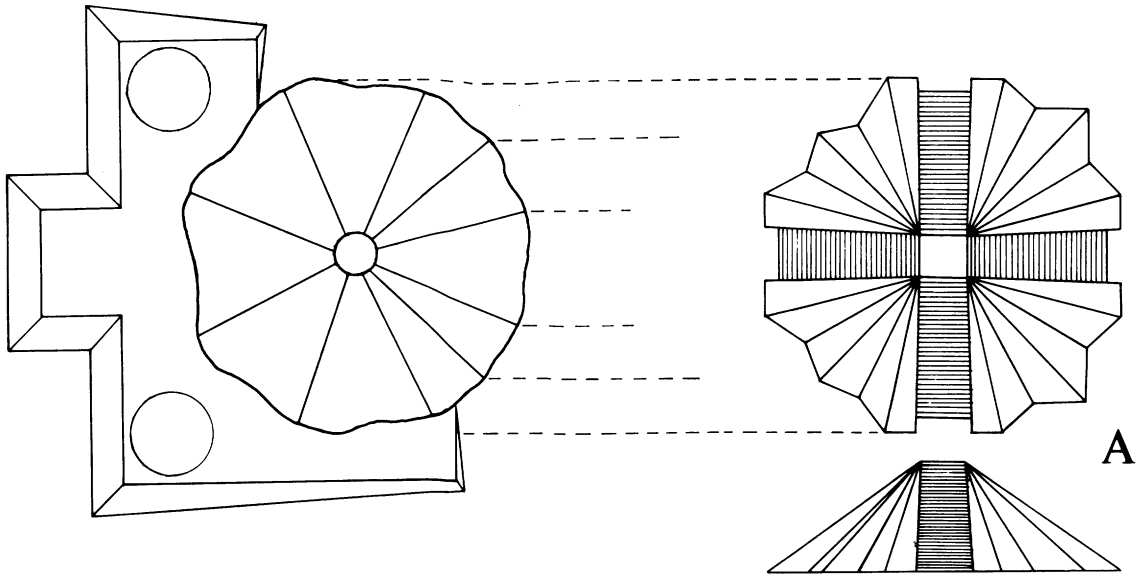
Coe, W. R.
1967 Tikal, a handbook of the ancient Maya ruins. Univerisity Museum, Philadelphia.

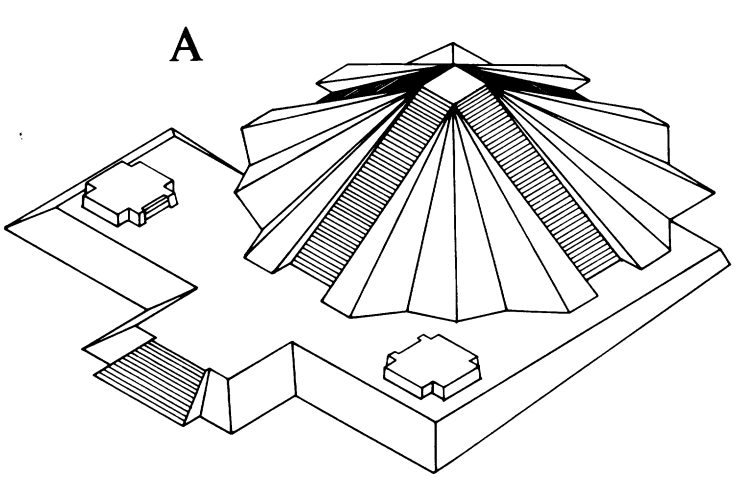
Drucker, P., R. Heizer and R. Squier
1959 Excavations at La Venta, Tabasco, 1955. Bureau of American Ethnology Bulletin 170. Smithsonian Institution, Washington.

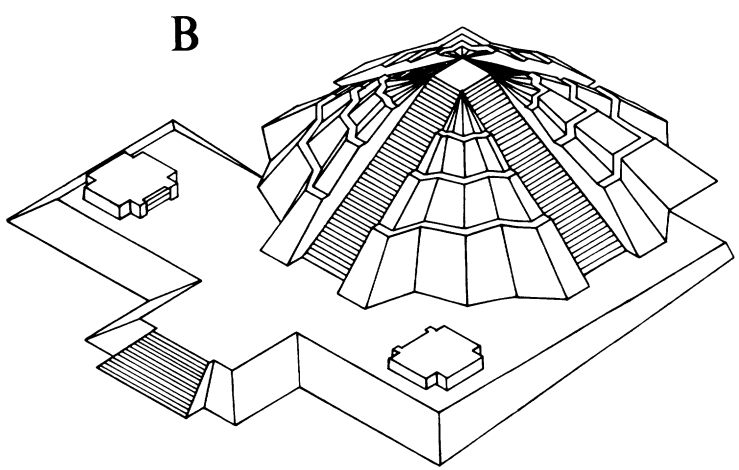
Heizer, R. F., P. Drucker and J. A. Graham
1968 Investigations at La Venta, 1967. Contributions of the University of California Archaeological Research Facility No. 5. Berkeley.

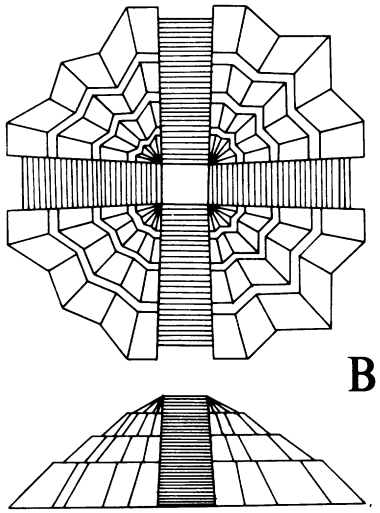
Heizer, R. F., J. A. Graham and L. K. Napton
1968 The 1968 investigations at La Venta. Contributions of the University of California Archaeological Research Facility No. 5. Berkeley.











LA VENTA, TABASCO, MEXICO

COMPLEX C

FIG. 1

RUINS OF SEMETABAJ, DEPT. SOLOLA, GUATEMALA

by

Edwin M. Shook, Marion P. Hatch, Jamie K. Donaldson

In memory of

Peter H. Mack, M. D.

Founder of the John Lloyd Stephens Foundation

The following archaeological report results from financial support provided by the John Lloyd Stephens Foundation. The funds allocated by this Foundation permitted the authors to spend three weeks in the field studying the ancient ruins of Semetabaj, its immediate environs, and to excavate nine test pits strategically located throughout the site. A further nine weeks of laboratory studies were required to wash, catalogue, photograph, draw, and analyze the archaeological material recovered from the controlled stratitests and from the uncontrolled collections. The latter include surface finds from the site of Semetabaj and miscellaneous material accidentally discovered in the environs during modern agricultural or construction activities.

The research at Semetabaj was due solely to the interest and stimulus of the land owner, John E. Mack of Pasadena, California on whose property, Finca Santa Marta (recently named Lomas del Lago Atitlan), are located the majority of the archaeological mounds of Semetabaj. Official permission for the archaeological investigations at Semetabaj was granted by Dr. Luis Lujan Muñoz, Director del Instituto de Antropologia e Historia de Guatemala. We are deeply indebted to Mrs. Henry Lee Whitbeck and her daughter Lucy Sturgill of Finca San Rafael, Guatemala City for their many kindnesses and for providing us with a fully furnished, beautiful and comfortable house in the Colonia Santa Marta which served as base camp and field laboratory during our three weeks stay at Semetabaj. We also wish to thank Carolyn Hatch, Virginia B. Shook, Clive Carruthers, and Father Carleton Sage for performing some of the indispensable but less exciting and dirty chores associated with archaeological fieldwork. Sr. Otto Krings, the administrator of the Colonia Santa Marta, gave us his full cooperation and his helpful advice was invaluable in our dealings with the people of San Andres Semetabaj.

Note: Since this report was written, Sr. Otto Krings' workmen accidentally discovered a major Preclassic tomb 65 m. opposite and in a straight line from Str. 4 and our Pit 2 (Fig. 1). The tomb is a subterranean chamber, cut into the natural talpetate and underlying white pumice, having a tunnel entrance facing toward Str. 4. Reportedly there are 27 whole vessels, skeletons of four individuals, placed on a red painted floor. This important find, evidentally the oldest completely preserved chambered tomb yet discovered in the Western Hemisphere, has been resealed awaiting excavations and study by the authors in November 1978. A separate report will be published on the tomb and its furniture.

To our knowledge the first published reference to the ruins of Semetabaj is a brief statement by Lothrop (1933: 103, 104) who says: "This small town (San Andres Semetabaj), the first encountered on the road from Panajachel to Godinez, stands perhaps 1000 ft. above the lake (Atitlan). On the southern edge of the town is the Finca Santa Marta, property of don Eduardo Diaz. Immediately west of the main road where it crosses this land there is a group of a dozen or more mounds, the largest (Str. 4) of which is about 30 feet high.

"Semetabaj mounds belong to a well-recognized type found in the highlands of Guatemala, distinguished by the fact that they are constructed almost entirely of earth.

Agua Escondida, Chirijuyu and Chiche have similar structures. In each case the mounds at these sites have been devoted to agriculture, with the result that the outlines have been lost and today they are simply domes of earth." Lothrop also astutely observed that surface potsherds indicated that Semetabaj was settled fully as early as the Chukumuk I period, the oldest occupation he encountered at Chukumuk across Lake Atitlan from Semetabaj.

After Lothrop's publication in 1933 there have been brief visits to Semetabaj by other archaeologists, including A. V. Kidder and E. M. Shook, during which time surface pottery samples were collected (Lot E-10, deposited in the Museo Nacional de Arqueologia, Guatemala), photographs taken, and a rough sketch map drawn (Shook, 1945, Field Book #287, p. 3). The information gathered by Shook at the site and his study of the pottery confirmed Lothrop's early dating of Semetabaj.

The presence of Sacatepequez White Paste White, Utatlan, Glossy Black-Brown Wares and zone punctated decoration on jars indicated at least a Middle Preclassic occupation. The material also showed that habitation continued in the Late Preclassic and into the Classic period. Whether the Classic was Early, Late or both could not be determined. The collections contained no ceramics of the Post-Classic period. The majority of the archaeological material collected by Shook between 1942 and 1946 (Lot E-10) came from a flat area just south and southeast of Str. 4 (Fig. 1). There the soil and clay was being dug for use in manufacturing adobes, bricks, and roof tiles to supply the local needs of the town of San Andres Semetabaj. As ancient potsherds, obsidian, and other stone artifacts interfered with the puddling of the soil and clay, the workmen would throw these objects to one side. Among these objects, other than potsherds, were miniature vessels, one almost complete tripod bowl (Fig. 15e) and stone artifacts. The latter included obsidian flake blades, spherical jade beads, manos and metates, perforated "doughnut" stones, a "mushroom" stone and a small vessel or cup (Fig. 5f).

Semetabaj, located in the Dept. of Solola on the high north rim of Lake Atitlan, east of Panajachel, rests on an open tongue or bench of land sloping southwesterly from a range of mountains that hem the northern horizon. The land drops off rapidly on the west side of the bench from the 1970 m. elevation of the site, to the deep trough of the Rio Panajachel 400 m. below. The east side of the bench is less sharply defined, sloping gently to the drainage of the Rio Pachib which with other tributaries entering from the east swings around the south end of the Semetabaj bench. Here the stream, now called the Rio Tzala, becomes sharply entrenched before it cascades into the Rio Panajachel valley. The site location, 400 m. above Lake Atitlan, commands a spectacular view to the south over the magnificent lake towards the volcanos Cerro de Oro, Toliman, Atitlan, and San Pedro. To the north looms the rugged range of mountains forming the continental divide. The elevation and the average mean temperature places Semetabaj in what locally is called "tierra fria" or cold land. It has, as much of the Guatemala Highlands, a distinct dry and rainy season, each lasting approximately six months. The dry season extends from November through April, the remainder of the year being the wet season. However, even during the dry months, heavy moisture-laden clouds and fog often roll

over Semetabaj from the south across Lake Atitlan. The site, being open and exposed, is subject to frequent strong winds, occasionally approaching hurricane force. Also seismic disturbances are not uncommon. Many homes, public buildings, and the recently built church of San Andres Semetabaj were destroyed in the February 1976 earthquakes. Previous ones, possibly the severe earthquakes of 1773, left the Spanish colonial church a ruined shell of masonry.

The modern town of San Andres Semetabaj lies on the eastern periphery of the ancient site with the town cemetery actually situated within the central archaeological zone (Fig. 1, 13c). The modern community of approximately 1,500 inhabitants are largely Cakchiquel Indians with the minority ladinos. The Maya language, Cakchiquel, is the preferred tongue with Spanish spoken as a second language. Spanish is taught in the local schools and is understood and spoken by most of the inhabitants. The largest number of the people and those of the surrounding hamlets (aldeas) within the municipality of San Andres Semetabaj are farmers with small land holdings. The principal crops are corn, black beans, and wheat with minor plantings of fruits and vegetables. The town is noted for corn, beans, and wheat which are produced in sufficient quantities to permit a surplus to be sold as a cash crop. It appears quite probable that the availability of adequate soil for the production of corn and beans, plus the ready supply of water were the basic conditions for the ancient settlement of Semetabaj. Also, its position suggests that ancient trade routes may have been another important asset. Trade routes during the Spanish Colonial Period passed through San Andres Semetabaj, as do modern ones, and these are important economically to the town.

Observable are fifteen archaeological mounds in Semetabaj (Fig. 1). All bear evidence of disturbance to a greater or lesser degree from centuries of cultivation by hoe or plow (Fig. 13b, c), cutting away for building material, excavations by treasure hunters, or for access to the modern cemetery. Some mounds surely have disappeared entirely because of these activities. The fifteen remaining mounds range from 1 m. (Str. 15) to 9 m. in height (Str. 4). They are constructed essentially of earth with only an occasional use of stone. The structure arrangement approximately depicted in the rough sketch map (Fig. 1) does not conform to a standard or recognizable pattern. The normal plaza or formal court arrangement appears to be absent. The larger structures, 4, 7, 11 and 12 are dispersed irregularly with smaller units scattered around and between them. There is no evidence or suggestion of a ballcourt at the site of Semetabaj. It should be re-stated that the map is simply a sketch, to show the approximate disposition of the structures, and that until an accurate topographic plan is made of Semetabaj, the correct positioning of the units cannot be ascertained. The site is compact and oriented generally on the axis of the natural bench of the land about Mag. N. 40° East.

The natural stratigraphy of Semetabaj consists of a thin 20-40 cm. surface layer of dark brown soil, directly overlying a thicker bed, 50-100 cm. of hard, semi-solidified yellowish-brown earth locally called talpetate. Below the talpetate occurs a deep stratum of fine white volcanic pumiceous ash which is stained yellow or rust color at the contact with the talpetate. This pumice or ash is known locally as tierra blanca or arena blanca (white earth or sand).

Natural stone of volcanic origin occurs at a considerable depth below the talpetate and white ash deposits. It is exposed by erosion of the overburden in the deep ravines nearby and especially on the precipitous slope to the Rio Panajachel west of the site.

There are no human cultural remains found in the talpetate or the volcanic ash. Pottery and stone artifacts are confined to the thin layer of surface soil unless man at some time has quarried or dug intrusive pits into the talpetate and ash.

Our test pits and observations of the Semetabaj structures proved that the builders had performed an incredible amount of earth moving. They cut down the natural material, talpetate and white ash, to various depths over a considerable extent of the site. The north-south slope of the natural terrain was cut at several intervals in terraces stepping downward toward toward the south. Also, platforms of the sterile natural material were left standing in relief. These served as foundation cores for individual structures. In some examples the cores were built up vertically with additional material, while in others, the cores were leveled, terraced and finished exteriorly as complete structure units. Fig. 2a, b illustrate the construction technique utilized by the builders of Semetabaj. The drawing is fairly accurate for the surface outline and position of the natural central cores of Strs. 4 and 5. We have no information on architectural details such as the stairways, terraces, and exterior finish of the structures. The ancient technique of artifacially lowering the surrounding terrain leaving elevated platforms of sterile natural material in planned positions as foundation cores for individual platforms and pyramids occurrs frequently in the Maya area. One dramatic example, demonstrating this technique, is the great Southwest Group at Kaminaljuyu (Shook, 1941, Bk. 285, p. 15-17). There, in Preclassic times, two contiguous plazas, orientated north-south, and the surrounding areas were excavated by the Maya to at least four meters depth. They left in relief eleven platforms of natural talpetate and white volcanic pumice in formal positions around the two plazas. These platforms served as interior cores for the finished substructures which supported buildings and temples made of perishable material.

The same principal was utilized by the Maya in many sites in the northern lowlands; Palenque, Piedras Negras, Yaxchilan, Uaxactun, Tikal, etc., where the surface limestone or bedrock was cut down in a similar manner as the natural talpetate and volcanic ash at Semetabaj and Kaminaljuyu.

The test pits excavated by us were confined to the lands pertaining to Finca Santa Marta which fortunately include most of the ruins of Semetabaj. Structures not on land of the finca are Nos. 2, 3, 5, 6, 11 and the area of the modern cemetery. Surface inspections and collections, however, could be made throughout the site. One greatly destroyed mound, Str. 6, provided the largest sample from its fill and surface of the earliest material, Middle and Late Preclassic, recovered at Semetabaj. The location of our controlled 2 x 2 m. stratitests are shown in Fig. 1. All, except Pit 9, produced deep stratigraphy and some structural data. Pit 9, nearest to the modern town, proved to be in an area recently disturbed for adobe-making, a fact not apparent from the appearance of the surface before excavations.

Pits 1, 2, 3, dug at the center base of the south, west, and north sides of Str. 4, passed through the surface accumulation of eroded soil washed off Str. 4 after its abandonment. Below this in Pits 1 and 2, (Fig. 3a, b), was encountered fill of a Preclassic construction added to the exterior base of Str. 4. This fill had deeply buried the lowest and earliest plaza floors surrounding Str. 4.

Pit 3 did not conform to the building sequence found in Pits 1 and 2. Instead, after penetrating the surface deposit of eroded material from the north face of Str. 4, we encountered an irregular level of dark brown soil (Fig. 3c). This level probably represents the remnants of the latest plaza floor. Below it was fill, containing Early Classic sherds, which extended to the natural sterile white volcanic ash. Even assuming the original Preclassic plaza floor or floors on the north side had been completely removed by Early Classic activities, the level of the natural ash is still 1 to 1.5 mts. higher than the artificially built plaza floors on the west and south sides. Therefore, some means of access would have been required to reach from the higher level on the north to the lower floors on the west and south sides. We believe this was accomplished by a terrace wall extending east and west from the N.E. and N.W. corners of Str. 4. The Preclassic construction fill observed in Pits 1 and 2 appears to be the addition which raised the general level around the base of Str. 4 to that of the north side.

The location of Pit 4, in the open area north of the modern cemetery and just east of a road and water pipeline, was selected because workmen in digging the trench for the pipeline recently had encountered an unusual amount of broken pottery and stone artifacts. This evidence suggested the possibility of our finding a deposit of well-stratified remains. The stratitest produced an abundance of potsherds, stone artifacts and charcoal for a depth of just over 2 m., even though vertical stratigraphy was imperfect. This condition was due to several intrusive and overlapping ancient pits, each with rubbish between an upper and lower strata of black soil which appeared to have been old plaza surfaces (fig. 3d). Below the lower plaza floor stratum, the dark, medium to light brown soil overlying white ash produced no pottery, charcoal, or stone artifacts.

Pit 5 was sunk through the top center of Str. 9, a low sprawling mound considerably cut down and spread by modern hoe and plow cultivation. Here, once the churned surface 20 cm. layer had been removed, the entire test to 3 m. depth was through sherd-bearing strata (Fig. 4a). Again, a layer of homogeneous black soil, suggesting an old ground surface, was encountered 1.90 m. below the top of Str. 9. The stratum is comparable to the two similar layers in Pit 4 but its level is 1.40 m. higher than the upper one in that pit. Below the black soil in Pit 5, sherds continue in a decreasing amount for another meter in depth.

Pit 6, the most northerly area of Semetabaj tested, was excavated on the central axis and at the south base of Str. 13. The principal features consisted of an upper 1.8 m. of artificially laid plaza fill covering a well-tamped, level, and smoothed plaza floor of dark brown soil (Fig. 4b). Below the plaza floor the fill lacked pottery but contained scattered tiny lumps of charcoal for another 60 cms., then sterile soil.

Str. 11, a fairly long, steep-sided substructure (Fig. 1) suggests, by its size and position in the assemblage of Semetabaj structures, that it may have been of considerable importance. The former owner of Finca Santa Marta, Sr. Eduardo Diaz, had workmen dig a narrow longitudinal trench from west to east into the heart of Str. 11. This trench, dug sometime between 1937 and 1942, was made in search of treasure. Today, the sides of the trench have partly caved in and large pine trees grow in and around the trench edges. We removed the scrub growth, leaving the full grown trees, searched the back dirt and collapsed fill for ceramics and artifacts, and cleaned a section of the side walls to observe the type of construction fill. A variety of fill had been used including tough brown clay, talpetate and white ash. Also, remnants of several earth floors indicated that Str. 11 had two or more building phases.

Pit 7, on the north-south axis and at the south base of Str. 11, first penetrated the shallow surface talus from the mound (Fig. 4c). Below the churned 20 cm. surface stratum was a deep, over 2.2 m., mixed fill representing a major building stage of raising the court or plaza level south of Str. 11. This thick fill overlay an earlier plaza floor of dark brown earth which sealed another thick deposit of hard-packed brown and light brown soil containing cultural material for at least 1.8 m. below the brown earth floor. Sterile yellowish soil finally was reached at a total of 4.0 m. depth below the present surface.

Pit 8 was dug from the top center of the small, low, plowed-down Str. 8 located in approximately the north-south center of the site (Fig. 4d). The top surface 20 cm. of earth, extensively churned by hoe cultivation, represented the latest building stage of Str. 8. Once removed, we discovered a flagstone paving which served as a base for an earth floor covering the platform top of an earlier phase of Str. 8. The stone paving effectively capped and sealed a contemporaneous, 1.7 m. thick fill. Below this lay buried two earlier structures, one superimposed over the other representing the oldest building units exposed in Pit 8. Both of these early platforms had been built of an adobe, puddled and thickly mixed with grass, applied wet and solidly tamped. Once dry the fill became exceedingly tough and hard. The grass admixture eventually rotted, leaving clear, rust-colored casts of the grass blades and stems. Each platform had at one time supported a perishable building, perhaps a shrine or temple, its thatch roof supported by large wood posts. Both buildings eventually had burned, accidentally or purposely fired, leaving evidence of this by the quantity of clean charcoal and burned adobe within the post holes and the fired brick consistency of the adobe floor around the post holes. Sometime during the use of the second or later platform, a large pit had been dug into the southeast portion of the platform. We encountered the intrusive pit in the edge of the test cut and cleared as much of the old pit as could be reached. The pit had been re-filled with many heavily burned stones from fist to brick-size, burned lumps of adobe, charcoal, ashes and soft brown earth. Our expectations of discovering the first human burial or cache of pottery and jades at Semetabaj received a brutal jolt when after careful excavation our efforts were rewarded by only a few potsherds. Disappointed over the lack of a cache or burial, we then entertained the thought that the evidence might indicate a Preclassic sweat-bath, that the pole and thatch building which had burned down may have served as a

ceremonial sweat-house. It remains a possibility that the heavily burned stone and adobe lumps, the ashes and the charcoal in the pit may be the discarded debris from fires used in heating a sweatbath.

Pit 9, as earlier mentioned, turned out to be a dud. The location (Fig. 1), in an open level area half-way between Strs. 6 and 7, was selected as the only testing on the eastern periphery of the site and nearest to the modern town. The top meter of soil in the pit overlay natural talpetate and had been churned and disturbed recently by the villagers making adobe blocks for house construction.

In summary, the nine pits and the examination of Str. 11 and other partly destroyed mounds of Semetabaj provided ceramic stratigraphy, a repertoire of stone artifacts, data on architectural practices and importantly the time span of the principal occupation of the archaeological site.

Working backward in time, today and during the past 450 years since the Spanish Conquest and for an uncertain number of centuries prior to the Conquest, the area and environs of Semetabaj have been occupied by the Cakchiquel speaking Maya. With this historical knowledge, it is difficult to understand why we found no archaeological evidence of this Cakchiquel occupation, particularly material of the Late Post-Classic period dating approximately from 1200 to 1525 A.D. Material of the proto-historic time span has characteristic and easily recognized ceramic types which are widely distributed throughout the Southern Highlands of Guatemala. Yet our reconnaissance of Semetabaj produced no Late Post-Classic ceramics. We believe nevertheless, that a more intensive archaeological study of the region of San Andres Semetabaj would uncover evidence of the proto-historic Cakchiquel occupation.

We did record a few scattered finds in the area dating from the Early Post-Classic Period (900-1200 A.D.). Also, a single sherd of Tohil plumbate pottery came from the surface level in Pit 1, Lot S-11 and another plumbate sherd from the disturbed soil in Pit 9. These few Early Post-Classic ceramic specimens suggest that the Semetabaj region sustained a thinly distributed population, perhaps only farmers, with virtually no use of the archaeological site.

Equally incomprehensible is the total absence of any evidence of habitation at Semetabaj or the immediate surroundings during the Late Classic Period from 550 to 900 A.D. Elsewhere in Guatemala and neighboring regions, the Maya were enjoying their greatest cultural attainments in science, art, architecture, as well as in political and social organization. Population, particularly in the adjacent South Coast area, reached a density in the Late Classic unequaled before or in later Pre-Conquest times. Yet, Semetabaj with its cool climate, productive soil, excellent water supply, and its spectacular natural setting overlooking Lake Atitlan, according to present evidence, was void of human population during the Late Classic Period.

This seemingly unique condition also existed during the upper half of the Early

Classic Period from approximately 400 to 550 A.D. We found no remains of that time span which is termed the Esperanza Phase in Kaminaljuyu when that great center received such a wealth of cultural traits from distant Teotihuacan in the Valley of Mexico.

The archaeological evidence gathered by our excavations and reconnaissance of Semetabaj clearly demonstrates that the ancient city was abandoned as a functioning entity around 400 A.D. From that date forward the city fell into a ruined state of eroded earth mounds and remained basically the same in appearance as it does today.

The early half of the Early Classic Period, from 200 to 400 A.D., witnesses a vigorous community living and functioning in Semetabaj. Remains of this habitation occurred in the upper levels of all the test pits and on the site surface. The ceramics, obsidian, and other stone artifacts demonstrate that trade flourished with selective regional and distant places. The area of trade extended to the Quezaltenango-Salcaja Valley to the west; to the far northwest state of Hidalgo, north of Mexico City, for green obsidian; to central Quiche and Peten Lowlands on the north; and to Kaminaljuyu in the Valley of Guatemala on the east. Indications were rather sparse of trade with the very near region of the Pacific Coastal Plain. Why so little trade by the people of Semetabaj with their thriving neighbors on the South Coast? Did warfare, feuds, or some political or ethnic animosity exist between the people of Semetabaj and those of the South Coast during 200-400 A.D. period? As our evidence and interpretations are based largely on the presence and absence of recognizable ceramic wares, another interpretation may be advanced that the Semetabaj people were fully self-sufficient and satisfied with their own pottery and ceramics produced by other nearby Highland centers, that trade with the South Coast consisted of perishable tropical food products, salt, dried fish, cotton, etc. rather than in hard goods. It might be noted that in Monte Alto on the South Coast certain Highland products were found such as specific ceramic types, obsidian, jade, etc. which dated within the same time range of the Early Classic.

Proceeding backward in time, archaeological material dating from the Proto-classic or a late phase of the Late Preclassic Period about 100 to 200 A.D. was discovered near a water source called Xecotoj, 500 m. north of Semetabaj (Fig. 1). The material came from the surface soil to 1 m. depth in an uncontrolled excavation by local workmen while extracting clay for brick-making. The ancient material included an adult human skeleton with a pair of jade earplugs, stone artifacts, sherds and restorable pottery vessels. Among the stone artifacts there were fragments of metates and manos, a "doughnut" stone, and obsidian flake blades. The ceramics consisted of types not encountered or recognized in the stratitests at Semetabaj. However, the proximity of Xecotoj indicates that a settled population existed in the general area, if not on the site of Semetabaj, during the Late Preclassic Period. The time range represented is approximately that of the Santa Clara Phase at Kaminaljuyu.

Also noticeably slim was evidence at Semetabaj and the immediate environs of ceramics equivalent to the important Late Preclassic Arenal Phase of Kaminaljuyu which may date as late as 100 B.C. to 100 A.D. The Arenal phase represented a time

of widespread trade and perhaps the cultural peak of the Preclassic at the major site of Kaminaljuyu. The very small amount of material representing this time span in Semetabaj as well as in the general Lake Atitlan region strikingly emphasises the woeful state of our knowledge of Maya cultural history not only of this important lake region but of most of the Southern Highlands of Guatemala.

The presence of Late Preclassic Miraflores Phase ceramics, questionably dated from 300 to 100 B.C., and ample evidence of Middle Preclassic pottery permit us to interpret more firmly the story of Semetabaj. Toward the end of the Middle Preclassic Period, estimated to date from 500 to 300 B.C., presumably a Maya speaking people moved into the area and established Semetabaj as the largest ancient city known today in the region of Lake Atitlan. Perhaps the favorable environs with permanent water sources and good soil for the production of corn, beans, avocados and other high altitude food crops led to the development of such a center. It is certain that these culturally advanced people had a highly developed social organization with the manpower to undertake a huge public operation of earth moving and the building of major substructures. They selected the sloping bench of land overlooking the spectacular Lake Atitlan, laid out a city, terraced the land for courts and plazas, and erected platforms and pyramids to support temples, palaces and public buildings made of wood, mud and thatch. The remains of these earth substructures of the ancient city essentially are the same in plan and size as seen today, Fig. 4. We assume that the majority of the populace lived close in and around the public edifices in houses built of wood posts, walls of poles daubed with mud or adobe, and roofed with grass thatch. This type of wattle and daub construction, examples of which were recovered in our excavations, served admirably as protection against destructive earthquakes as well as from the cold temperatures and occasional wind storms of the Highlands.

Semetabaj as a flourishing community in Middle Preclassic times carried on trade with the surrounding regions in the Southern Highlands and South Coast of Guatemala. Some imports found in Semetabaj were jade, obsidian and pottery. The latter included Glossy Black and Glossy Orange wares from the west and northwest, Utatlan Ware from Central Quiche to the north, Sacatepequez White Paste White Ware from the east and Usulutan pottery from the South. From Middle Preclassic trade material present in Semetabaj, one might postulate peaceful relations with surrounding communities and the general well-being and prosperity of the local inhabitants. These conditions for unknown reasons apparently changed after about 200 B.C. and only returned once again in the life span of Semetabaj during the brief 200 to 400 A.D. period of the Early Classic.

Prior to the influx of the vigorous Middle Preclassic people around 500 B.C. only occasional ceramic evidence was found in Semetabaj of an earlier population. This evidence consisted of a few sherds identified as Ocos types of Early Preclassic times. The pottery indicates at least an occupation of the area perhaps as early as 1000 B.C. even though we do not accredit these early pioneers as the builders of Semetabaj.

Archaeological material recovered:
Artifacts:

1. Perishable material:

a. Avocado seeds. Carbonized seeds of avocado (Persea Americana) came from the Preclassic fill below the plaza floor in Pit 7, Lot S-171. Burned avocado seeds previously have been discovered in Middle Preclassic rubbish-filled pits at Kaminaljuyu in the Guatemala Valley and Zacat in the Dept. of Sacatepequez (Shook 1948: 65a).

b. Grass. Casts of decomposed grass blades and stems were common in the adobe fill of two Preclassic structures in Pit 8 (Fig. 14a, 20s).

c. Wood. Carbon from burned wooden main posts of two buildings was recovered from the post holes in Preclassic levels of Pit 8. The wood posts, 25 and 28 cm. in diameter, had been sunk 68 cm. into the adobe supporting platforms. Often casts of small, 2-3 cm. diameter, wood poles preserved in burned adobe fragments appeared in the fill of the test pits. These indicate that wattle and daub wall construction was common in Semetabaj. Wood charcoal also occurred in concentrated batches or in scattered fragments in all test pits. Samples were obtained from Pits 2, 4, 5, 6, 7 and 8.

2. Stone:

a. Sculpture. One fragment of a pedestal-based sculpture (Fig. 14b), was recovered from Level i, in Pit 4. The fragment bore traces of an all-over red pigment. These normally pertain to Middle and Late Preclassic Periods in the Southern Highlands and South Coast of Guatemala (Shook 1970: 73-74).

b. Jade.

1. Beads, pendants and earplug flares. We recovered no jade ornaments in our excavations. However, our local workmen assured us that ear flares, small pendants and beads, particularly spherical ones, were found frequently during cultivation of the soil. We were shown several jade earplug flares and plain, spherical beads. One workman, Carlos Garcia, discovered a burial with a pair of jade earplug flares at a Late Preclassic habitation site of Xecotoj, on the north fringe of Semetabaj. The human bones were carefully collected in a box and re-buried in the modern cemetery. The jade flares were sold in Panajachel.

2. Celts. One fragment came from the surface (Lot E-10) (Fig. 14c) and we were shown several complete jade and greenstone celts by the local people. They invariably associate celts with thunder and lightening, believing that celts and obsidian flake blades were hurled to earth by bolts of lightening.

c. Obsidian.

1. Flake blades and cores (Fig. 14d, e). These unaltered, primary flake-blades were the most prevalent artifacts in all test pits, and on the surface at Semetabaj. Few were complete. Those and fragments of flake-blades totaled 609 from

all excavations. Most were short and rather wide in proportion to their length (range 7 to 9 cm. length, 1.7 to 3.4 cm. width) often broadening toward the butt or striking platform. The presence of obsidian cores in Semetabaj indicates that blade-flaking was done locally. One expended core measured 4.7 cm. and another 9 cm. in length. 91% of the obsidian appears to be of the same dark veined type which has a characteristic pebbled, rippled, or grained surface. This grainy surface does not have the high, mirror-like reflection of other obsidians. It has the characteristic color and surface of obsidian from the San Martin Jilotepeque source in the Dept. of Chimaltenango. Geographically, San Martin Jilotepeque is the closest known obsidian source to Semetabaj. Other flake blades, 7.5% of the total, are slender, thinner and more delicate (Fig. 14h) of light smokey black obsidian with a clean, glassy surface. Among the 609 fragments there were 46 of this type obsidian whose source might be Chayal, just N.E. of Guatemala City. No cores of this type of obsidian were recovered in our Semetabaj excavations. Most surprising to us were 9 fragments (1.5% of the total) of dark green obsidian (Fig. 14g) which were imports evidently from as far off as Cerro de Navajas, Hidalgo, just north of the Valley of Mexico. All nine fragments of the green obsidian came from the upper levels in Pits 3, 5, 7 and 8 or the beginning of the Early Classic in Semetabaj.

2. Scrapers. Among the numerous unaltered chips of obsidian which may be the wastage from local flake-blade manufacture, were some surely used as scraping tools. A few scrapers have re-touched edges (Fig. 14f). These were of the predominent grainy type of obsidian. All specimens recovered in our excavations may be dated from Middle Preclassic to the early half of Early Classic, although they could not be separated typologically within that time span.

d. Metates and Manos. A few fragments of metates and manos came from the test pits, and others from the surface and immediate environs of Semetabaj. Two types of metate were present. One, a simple, elongated trough-type without supports, shows a minimum pecking of the original volcanic lava stone. A small, short, slightly round-ended rectangular mano which wears a lengthwide groove in the grinding stone probably belongs to the trough metate. This type of metate is typical of those found associated with Preclassic remains throughout the Southern Highlands and South Coast of Guatemala. The second metate type shows somewhat more shaping into a rectangular thick slab of lava stone and bears two low, flattish rounded legs at one end (Fig. 14i). The two-legged metate may be a local innovation toward the end of the Preclassic or a new type introduced in the first half of the Early Classic Period. One example of the two-legged metate was discovered with an Early Classic burial in the Tiquisate area of the South Coast (Shook 1965: Fig. 20). No recognizable examples of three-legged metates were found in Semetabaj comparable to those of the Early Classic Esperanza Phase in Kaminaljuyu (Kidder, Jennings, and Shook 1946: Fig. 158). The stone grinder or mano was common at Semetabaj. Most were small, short, ovoid in section, with blunt rounded ends suitable for the trough type metates. Another was a rounded loaf-shaped stone (Figs. 5b, 14l) which may have been used for grinding or as an anvil stone.

e. Mortars and Pestles. A thin stone slab and a re-used metate showing a worn circular depression on the grinding surface was found in Pit 7 (Fig. 14k).

Another mortar came from the Late Preclassic deposit at Xecotoj and shows depressions on the upper and lower surfaces (Fig. 5c, 14j), resulting from grinding with a pestle or small round stone. One round, flattish, loaf-shaped stone (Fig. 14m), may have served in some way as a pestle, mano, or grinder. These few examples of mortars and pestles likely served to grind paint pigments and certain foods.

f. Perforated "doughnut" stones. These artifacts, common in the Southern Highlands and South Coast (Shook 1940: 14, 2021), apparently make their first appearance in the Santa Clara Phase (Late Preclassic) in Kaminaljuyu, and reach their greatest popularity during the Classic Period. The present consensus of opinion favors the use of these stones as weights for the planting or digging stick exactly as they are used on digging sticks in modern agriculture in Eastern Africa from Abyssinia to South Africa (Clarke 1944). In that area, the shape, weight, and size of the perforated stones are the same as the archaeological "doughnut" stones of Southern Mesoamerica. Also, the latter stones differ basically in size and weight, being larger and heavier, from the smaller artistically wrought and finely finished mace or war-club heads of Costa Rica, Panama, Colombia, and the Andean area of South America. We also eliminate from consideration because of their form, design, and symmetry, the oft-repeated opinion that the perforated "doughnut" stones of Southern Mesoamerica were used as door hinges. Typically they are not conically, but biconically perforated, subspherical in shape, and when decorated the design most frequently continues from top to bottom (Fig. 5d, e; 15a-d). Weights in pounds of seven complete perforated stones taken at random from the Guatemala Highlands and South Coast gave 3.5, 3.5, 3.5, 3.5, 3.5, 5.0, 5.5 demonstrating very consistent weights. Maximum diameters range from 10 to 16 cm. The Semetabaj specimens came mostly from the uncontrolled surface collections but fragments of two were found in our excavations, one in Level k of Pit 5 and the second in Level 1 of Pit 7. Both of these were associated with levels which divided the Preclassic from Early Classic deposits. We believe these two examples and the surface specimens pertain to the latest occupation of the Preclassic or Protoclassic and the first part of the Early Classic Period.

g. "Mushroom" stones. One plain, tripod mushroom stone was collected (Lot E-10) from the brick-yard diggings south of Md. 4. The re-shaped and re-used head of a second "mushroom" stone (Fig. 5a) was found on the surface at the east base of Str. 4. Both of these, Lot E-10, are unassignable chronologically.

h. Miscellaneous. One small heavy-walled vessel or cup (Lot E-10, Fig. 5f) was cut from a fine-grained laminated light cream-white stone. The date is probably Preclassic.

3. Mica: Thin sheets of mica lay scattered among charcoal bits and obsidian flake blades on the earth floor of Pit 6, Level i. Other small mica pieces occurred in the Preclassic fill of Pit 2.

4. Paints: In Pit 7, Level b, were a number of fragments of an adobe floor or terrace facing. All of these fragments had one smoothed surface painted a dark red,

suggesting that a structure, terrace wall, or a plaza floor had been solidly painted red. Also, the pedestal sculpture (Fig. 14b) from Pit 4 had been painted red.

5. Bone: Several examples of animal and bird bone were found in random fill of Pits 3, 5, and 7. No human bones were recovered. The bones from Pit 3 were those of a large, complete rodent lying in an animal burrow and could be of a recent date. The few bones scattered through and contemporaneous with the fill of Pits 5 and 7 were bird bones.

6. Pottery:

Introduction

A total of 5697 pottery sherds was recovered from the excavations at Semetabaj in the 1978 field season and were sorted and analyzed in the Shook Laboratory, Antigua, Guatemala. Of these, 1366 sherds are recognized as Preclassic wares, the rest being almost entirely Early Classic (Fig. 5g). The Late Classic period is not represented in the sample. There are two Postclassic Tohil Plumbate sherds, and a few Colonial or modern examples, these coming from the surface and upper levels of the excavations.

The Preclassic ceramics include some Early Preclassic sherds, but the greatest amount can be assigned to the Sacatepequez (and of Middle Preclassic) and Miraflores (beginning of Late Preclassic) phases, indicating a substantial occupation and construction activity during this time. There is a scant amount of material from the latter part of the Late Preclassic. The beginning of the Early Classic (Aurora phase) is accompanied by a change in ceramic wares and an immense new building operation which was superimposed on the Preclassic floor levels. The site was apparently abandoned after the Aurora phase.

It is not yet clear to us whether the earliest major construction at Semetabaj is associated with the Sacatepequez or with the Miraflores phase, although we suspect it is the former. This uncertainty is due to our lack of control over the two major Preclassic wares at the site, Semetabaj Brown Ware and Glossy Orange Ware. Semetabaj Brown is a local ware, probably manufactured locally or in a nearby area. It is not a recognized trade ware in the Guatemala Highlands and therefore its stylistic development relative to that of better known wares is not established. Glossy Orange, on the other hand, is a very familiar Preclassic trade ware in the department of Quiche and Quezaltenango, probably beginning in Middle Preclassic times and continuing through the Late Preclassic. However, a definitive study of this ware in the Guatemala Highlands has not yet been done, so that we do not know the evolution of the forms and decoration which are specific to the earlier or later parts of the sequence. At Semetabaj good Sacatepequez phase diagnostic types occur in association with Semetabaj Brown and Glossy Orange, such as Sacatepequez White Paste White Ware and Utatlan Ware. A good Miraflores diagnostic, Kaminaljuyu Fine-Incised Black-Brown Ware, is also present. However, all this cultural material occurs above the floor levels (which rest on sterile soil), implying a date later than the

floor itself, but how much later cannot be determined at the present time.

It is certain that the major Preclassic construction is no later than the Miraflores phase because the Arenal and Santa Clara phases are barely represented in the material from the excavations. For instance, a major Arenal diagnostic at Kaminaljuyu, a coarse-incised Buff "flowerpot", is absent in the Semetabaj sample. Protoclassic forms, such as tetrapods with large swollen mammiform vessel supports, are represented by a few sherds only. The Santa Clara (Protoclassic) phase is best represented by a collection of vessels and sherds from a burial at nearby Xecotoj along the fringe area of the site (500 mts. distant), indicating that there was some occupation in the vicinity during that time.

The lack of a well-developed Arenal phase at Semetabaj makes it impossible to specify what relationships there may be, if any, between the Preclassic and Early Classic occupations. The absence of any sterile deposit between the two major construction periods suggests that no hiatus occurred in the occupation sequence. The most common Early Classic Ware at the site (Fig. 5g) is Santa Marta Brown Ware, a utilitarian pottery probably manufactured locally or in the vicinity. We suspect that Santa Marta Brown jars may be derived from Semetabaj Brown jars because both share lip to shoulder strap handles and punctate decoration; however, this may be no more than a shared tradition. Without being able to follow the development of Semetabaj Brown Ware through the Arenal phase there is no way to identify a generic relationship between the two. Second in frequency at the site during the Early Classic is Esperanza Flesh Ware, probably imported from the department of Chimaltenango. It is accompanied in popularity by Streaky Brown Ware, a local product already present in Protoclassic times, but which apparently began to imitate Esperanza Flesh Ware when this ware was introduced into the area.

The Early Classic period at Semetabaj witnesses a new vigour in construction activity, a sudden increase in sherd quantity, and a ceramic inventory which reflects an abrupt shift in trade orientation. Whether this is due to a new population at the site, or to a new social order bringing in altered trade relationships is not known. During the Preclassic phases the major imported wares are Glossy Orange and Glossy Black, both probably from the department of Quiche to the north, and Quezaltenango to the west. A minor quantity of Miraflores Black-Brown Fine-Incised Ware undoubtedly came in from Kaminaljuyu, and White Paste White Ware from the department of Sacatepequez. The major trade orientation in ceramics during Preclassic times was thus to the north and west, with less to the east of the site. In contrast, during Early Classic times, the abundance of Esperanza Flesh Ware imported from the department of Chimaltenango shows a trade orientation primarily to the east. The fact that this pottery style is imitated in Streaky Brown Ware suggests that the import had some intrinsic value or prestigious quality for the inhabitants. There is a weaker trade relationship to the north. Possibly Mahogany Brown Ware has northern ties as it appears to be related to styles common in Late Classic times in the department of Quiche.

The Protoclassic burial Xecotoj lot may express an interim set of trade relationships. In some respects it contrasts with, and in others it ties together the ceramics

of the Preclassic and Early Classic periods. Included in the collection are a number of Glossy Orange tetrapods, a ware lingering from the Preclassic but exhibiting new forms; the ware does not survive after the Protoclassic. Also represented is Streaky Brown Ware, not seen in earlier phases but common during the Early Classic. Other unrelated vessels in the lot show style affinities with wares familiar at the site of Monte Alto, department of Escuintla on the South Coast of Guatemala. The collection may possibly reflect a period of reorganization and realignments, but it is risky at this time to draw conclusions on the basis of the one burial lot.

Semetabaj was abandoned at the beginning of the Esperanza Phase of the Early Classic period. There appears to be no major occupation after that time, although the modern town of San Andres Semetabaj undoubtedly carries on an occupation that was in existence during the Conquest. At the present time San Andres Semetabaj serves as a redistribution center for dried fish and vegetables coming up from Lake Atitlan in exchange for maize and beans from the Tecpan-Chimaltenango valleys. The town and site of Semetabaj are in an excellent location for this exchange of produce between the two contrasting ecological zones, and the economic base may be an ancient one. It is interesting that the distribution of modern Cakchiquel speakers is similar to the trade bond reflected ceramically in Early Classic times between Semetabaj and the department of Chimaltenango. Why Semetabaj ceased to function as a central place, what the generic ties are to earlier and later sites, and what brought about the changes reflected in the ceramic sequence are problems for future research.

Apparently the same range of pottery that we found at Semetabaj has also been recovered from the surface of the ruins of Aguas Escondidas. This site is located east of Lake Atitlan in an elevated plain comparable to Semetabaj (Lothrop 1933: 105).

Preclassic Ceramic Wares

Early Preclassic
Semetabaj Brown
Glossy Orange
Glossy Black
Polished Black-Brown Fine
Utatlan
Fine Red
Purple on Fine Red
Sacatepequez White Paste White
Sacatepequez-Providencia Red
Sacatepequez Red on Unpolished Buff
Orange Slipped
Preclassic Red Paste
Scored Censor Covers

Early Preclassic Wares

Total: 15 sherds
% of Preclassic Total: 1.0%
% of Site Total: .26%

Discussion: A few sherds from the Semetabaj excavations are recognized as Early Preclassic wares known from other sites of the Highlands and South Coast of Guatemala, and undoubtedly came into the site as trade wares. These examples came from all levels, apparently being mixed with later types in the construction activity.

Paste: In most cases the texture is medium-fine and is hard-fired; color is light brown at the edges with a thick light gray core. In others the paste is medium textured with sandy inclusions, and the color is yellowish-brown to pinkish-brown.

A. Vessel Form: Curved wall bowls with direct rounded rim. The bowl has an all-over burnish cream slip with a band of red paint from the edge of the rim down 1.5 cm. on the exterior, and there is evidence of red painted decoration on the wall below (Fig. 17m). (Cuadros or Jocotal Phase?)

Total: 1 rim, 1 body

B. Vessel Form: Curved wall bowls with "club head" rim. The rim on these bowls spreads out to a wider diameter than the wall thickness. The flat surface of the rim slopes downward slightly from the rounded exterior lip to the sharp interior lip; it bears a deep, narrow, encircling groove. The outer lip is decorated with continuous tool-indentations. (Ocos Phase?)

Total: 1 rim

C. Vessel Form: Tecomates. From the globular body the wall thickens towards a direct flat rim with sharp upper and lower lip. The exterior bears an all-over (?) thin orange slip, and a finely incised line encircles the wall 1 cm. below the orifice. (Early Preclassic)

Total: 1 rim

D. Vessel Form: Thin-walled tecomates (Fig. 17l). The wall thickness ranges from .5 to .8 cm.; the body is globular to a direct sharp rim which is beveled on the lower surface. There is a burnished red slip from the lower edge of the rim over the wall exterior. A finely incised line encircles the exterior .5 cm. below the orifice and there is a second line 2.5 cm. below it. (Ocos Phase)

Total: 1 rim, 1 body

E. Vessel Form: Low-necked jars. From a globular body the wall curves upward on the exterior to a short neck (1.5 cm. in height) with direct flattish rim. On the interior the neck is vertical to a sharp junction with the body. There is a burnished whitish slip from the neck interior over all (?) the exterior. At the base of the neck on the exterior there is a row of closely spaced tool-indentations. (Cuadros or Jocotal Phase)

Total: 1 rim

Body sherds: Several body sherds are from vertical or flaring-wall bowls, probably with flat base. One of these is of a gray paste, unslipped, with a rasped or intentionally roughened exterior surface over which was applied coarse-incised criss-crossed lines. Another is slipped black-brown, is well-polished, and shows three coarse-incised slant lines with a parallel line of triangular punctates. One body sherd of a curved wall bowl or jar shows an appliqued crescent-shaped fillet on a background of gash-incised criss-crossed lines (Fig. 17k). On the fillet there is polished red paint. (Cuadros or Jocotal Phase)

Total: 8 bodies

Semetabaj Brown Ware

Total: 582 sherds
% of Preclassic Total: 42%
% of Site Total: 10.2%

Discussion: This is the most common pottery at Semetabaj during the Preclassic occupation, and may represent a locally produced ware. In paste, form, and decoration it shows strong similarities to El Balsamo Brown Ware (Shook and Hatch, in press) known from the site of El Balsamo, department of Escuintla, during the period equivalent to the Sacatepequez phase in the Guatemala Highlands. It is noteworthy that the bolstered rim jars (Vessel Form E) are very similar in form to those of Polished Red on Unpolished Buff Ware of the Sacatepequez phase in the Guatemala Highlands (Shook and Hatch, ms. in prep.). The lower levels of the excavations at Semetabaj produced sherds of Semetabaj Brown Ware together with Sacatepequez phase diagnostics, but it is certain that the ware continues into the Late Preclassic. Its Early Classic counterpart, Santa Marta Brown Ware, may have developed directly from Semetabaj Brown Ware jars.

Paste: Medium-fine textured, compact, and hard-fired. Color ranges from dark chocolate brown to reddish-brown to light brown, frequently with a thick gray core. Under a hand lens can be seen numerous very tiny black particles and rounded glassy inclusions which glisten in the light.

Surface finish: Vessels are all-over slipped (jars on the exterior only) the same color as the paste and are low- to well-burnished. Sometimes there is the addition

of a red or specular hematite red paint. Typically there is punctate decoration, occasionally incising or modeling.

A. Vessel Form: Comales and curved wall bowls. Some of the comales are quite flat, the wall thickness varying from .7 to 1 cm., with slightly upcurving flattened rim. Other examples, including both comales and bowls, have a curved wall with direct flat or thinned rim, or rim with rounded outer lip and sharp inner lip (Fig. 6c). The comales are better smoothed on the interior than the exterior, while the bowls are well-smoothed and burnished on both surfaces. The following variations occur:

1. Exteriorly thickened rim with sharp inner lip and rounded outer lip bearing indentations 2.5 cm. apart around the edge (Fig. 16a).

2. Polished red paint from the outer lip of the direct flattish rim down 3.7 cm. on the interior with two parallel crescent lines incised through the red paint (Fig. 6a).

3. Red paint from the interior of the rounded rim down 2 to 2.5 cm. on the exterior. Below the red band there are traces of incised decoration. These bowls are similar in style to the restricted orifice bowls with red rim band found in El Balsamo Brown Ware.

4. One body sherd of a curved wall bowl shows on the upper wall exterior a red band which terminates at an encircling low ridge above the shoulder. Below the ridge are incised vertical lines.

Total: 18 rims, 9 bodies

B. Vessel Form: Vertical to flaring-wall bowls with direct rounded or flat thickened rim or flaring rim with rounded lip. This form includes both thin and thick-walled bowls. The following variations occur:

1. An incised line encircles the flaring wall on exterior 1 cm. below the thick, flattened rim; there is polished red paint on the flat rim surface and again below the incised line on exterior (Fig. 6b, 16e).

2. A low ridge encircles the flaring wall on exterior 1 cm. below the direct rounded rim; specular hematite red paint extends from the edge of the rim over all interior.

3. Wall exterior bears two or more encircling rows of punctates.

4. Wall is thin, flaring, with direct flat rim bearing low tabs on the exterior lip; vessel is all-over slipped red and polished.

5. Wall is thin, vertical (rim form is uncertain), all-over slipped red and polished, and bears incised decoration on the exterior.

6. Wall is thick, vertical, with rounded wall-base junction to a flat base (rim form uncertain). On the wall exterior are two parallel incised stepped lines which delineate zoned areas of polished red paint.

Total: 7 rims, 3 bodies

C. Vessel Form: Composite silhouette bowls. The upper wall is outflaring or outcurving to a direct rounded or flat rim. From the junction with the lower wall (which in some cases forms a low shoulder) the body curves to a rounded base. Some bowls are unpainted (Fig. 6h), but commonly they have polished red or specular hematite red paint from the outer lip or just below the rim on exterior over all the interior. The following variations occur:

1. Two or more parallel encircling rows of punctates just above the shoulder or curving lower wall (Fig. 16g).

2. A single row of punctates at the junction with the curving lower wall, and vertical parallel incised lines below it.

3. A row of punctates on the curved lower wall.

4. Two encircling rows of punctates just above the shoulder and spaced low vertical ridges extending from the shoulder to the base; one has broad shallow flutes instead of ridges (Fig. 16k).

5. A pronounced ridge at the shoulder bearing spaced finger-indentations; polished specular hematite red paint covers from the wall above the shoulder to 1 cm. below the ridge.

6. Fingernail indentations on the curved lower wall.

Total: 10 rims, 5 bodies

D. Vessel Form: Restricted orifice bowls and neckless jars (tecomates). These range from small, thin-walled vessels (Fig. 6e) to very large, thick-walled ones. The body is globular to a direct rounded or thinned or flattened rim. One example may have had red paint on the flattened surface of the rim, and another shows a portion of a small boss on the wall exterior.

One very large restorable tecomate (diameter at rim is 34 cm.) (Fig. 16o) came from an intrusive pit exposed in the wall of Pit #4. It may have been re-deposited in Early Classic times.

Total: 12 rims, 72 bodies

E. Vessel Form: Necked jars (Fig. 6f, g, i-l; 16b-d, f, h-j, l). The neck varies from 2 to 6 cm. in height, and is straight-flaring to a direct rounded, thinned, or flattened rim, or the rim may have a sharp inner lip and a low flat 1 to 1.5 cm. wide bolster on the exterior. From the base of the neck the body rounds directly to a globular form. Typically there are two opposite lip to shoulder strap handles. Some of the direct rim examples are undecorated. Most, however, have variations as follows:

1. Polished red paint from the exterior of the rim or lower edge of the bolster over all the neck interior.

2. A row of punctates below the rim or rim bolster and another one or two rows at or above the neck-body junction.

3. The neck is plain but there are punctates or zoned punctates on the jar body.

4. The strap handles are undecorated except for two examples which bear multiple narrow vertical grooves (Fig. 16b).

A variation is included which may be a later development or degeneration of this rather standardized jar form. Instead of having the row of punctates there is a crude tool-indented fillet just below the direct rounded rim (Fig. 16d). The examples are not numerous, but they may prove to be a critical time marker for the Late Preclassic. We have observed that there is possibly a time gap at Semetabaj between the latter part of the Late Preclassic and the Early Classic. During the Early Classic the Santa Marta Brown Ware jars have an everted rim and punctates on the wide strap handle rather than on the jar neck or body. The vertically grooved lip to shoulder strap handle is also found in the Santa Marta Brown jars, but the grooves are finger-wide and separate from each other, very casually applied, contrasting with the neat multiple narrow grooves seen on the Semetabaj Brown examples.

Total: 61 rims, 15 bodies

F. Vessel Form: Everted rim jars and miscellaneous jars. This category includes jar forms which do not qualify under Vessel Form E. The everted rim examples have a globular body which terminates abruptly in a flat everted rim with rounded lip. (This may be the prototype for the "tear-drop" jar form present in Early Classic Red Paste Ware). The following variations are present:

1. Polished red paint on the upper surface of the rim and a tool-impressed narrow fillet extending vertically from the lower lip of the rim down to the jar body.

2. The jar form is similar to Vessel Form E except that the handle is attached at the middle of the neck rather than at the rim and there are multiple rows of small punctates on the neck.

3. The jar has a convex or bulbous neck with flaring rim; the neck bears punctates, sometimes with a modeled face (Fig. 16n).

Two miniature jars are included in this category. One (Fig. 6m, 16m) is a collared tecomate or jar with lip to shoulder strap handle; the collar is painted red and the body has rectangular panels of tiny punctates. The other miniature jar has a low neck to direct rounded rim. The globular body is covered with large coarse punctates, and there is polished red paint over all the interior to just below the rim on exterior.

Total: 6 rims, 6 bodies.

Jar body sherds indicate that some had horizontal or vertical ridges as found among the composite silhouette bowls, while a few had encircling plain or tool-indented fillets. There are several examples of modeling with fillets. One body sherd has multiple encircling incised lines, and one shows lightly incised crossed lines. Another has adjacent vertical finger-pressed grooves, and one bears "pseudo-rocker stamping" of elongated zig-zag lines.

Total: 283 bodies

G. Vessel Form: Incensario (Fig. 6d). One sherd was recovered which is possibly an incensario cover like those described by Borhegyi (1951: Fig. 4c').

Total: 1 sherd

Total Semetabaj Brown Ware body sherds, form not identified: 103 bodies.

Glossy Orange Ware

Total: 258 sherds
% of Preclassic Total: 18.8%
% of Site Total: 4.5%

Discussion: This is a common pottery in the Guatemala Highlands beginning possibly as early as the Middle Preclassic (Brockington 1967: 10-12; Ichon, personal communication), and continuing well into the Late Preclassic. At Semetabaj this ware is second only to Semetabaj Brown Ware in sherd frequency within the Preclassic levels of the excavations.

The variation in paste within Glossy Orange Ware suggests that more than one

ware is involved; we hope at a later date to secure the technological assistance necessary for more accurate analysis of the paste composition.

Paste: Medium to medium-fine textured. Color ranges from brown to reddish-brown to light brown to pinkish, occasionally with a gray core. Most examples have abundant and conspicuous white pumice particles throughout, and one has a very micaceous paste.

Surface finish: All-over slipped orange to brownish-orange and polished to a high gloss. Characteristically there are gray to black firing clouds. Decoration, when present, usually consists of pre-slip and pre-polish grooving or (rarely) incising; many examples show Usulutan resist decoration.

A. Vessel Form: Open bowls with vertical, straight-flaring, curved, or outcurving wall to direct rim (Fig. 6 p-s; 16p, q, s, v, w). The rim may be rounded, thinned rounded, flat, or exteriorly thickened and rounded. On the vertical wall bowls the lower portion of the wall curves to what is probably a rounded or flattish base. Most of these have one or more encircling grooves just below the rim on the exterior; one has a low ridge encircling the wall exterior 1.5 cm. below the rim with multiple encircling grooves below it (Fig. 6p, 16p).

The bowls with straight-flaring to outcurving wall (Fig. 6s; 16q) have a rounded to sharp wall-base junction with slightly sagging or flattish base. A number of these bowls have one or more encircling incised lines or grooves on the rim interior (Fig. 6r). Others have no decoration on the interior, but on the wall exterior there are encircling grooves (Fig. 16v), ridges, and/or sets of parallel slant lines or bent lines (Fig. 16w).

Total: 62 rims

B. Vessel Form: Open bowls with straight-flaring to outcurving wall; rim is beveled, or offset slightly from the wall interior, or everted. The straight-flaring wall bowls probably have a flat base, while the outcurving wall bowls have a rounded wall-base junction to a sagging base. Most of the examples show Usulutan resist decoration either in multiple parallel lines or clouds. Variations occur as follows:

1. One or more encircling grooves on the face of the rim bevel (Fig. 6t, u; 16r, t).

2. Everted rim with a deep finger-wide encircling groove on the upper surface.

3. Everted rim with an encircling narrow groove just above the junction with the wall interior; from the encircling groove to the rim edge are spaced slant lines.

4. Wide flat everted rim with grooved beveled lip and an encircling groove at the junction with the wall interior.

5. Outcurving wall with rim offset from the wall on interior; on the exterior the rim has a 2.5 cm. wide rounded bolster (Fig. 6v; 16x).

Total: 23 rims, 2 bodies

C. Vessel Form: Open bowls with "hooked-in" rim. These have a shallow curved or outflaring wall which sharply angles or flares inward 1 to 1.5 cm. below the direct rounded rim, giving the effect of a "hooked-in" rim (Fig. 6o). Two of the examples have an encircling groove on the upper wall exterior just below the rim.

Total: 3 rims

D. Vessel Form: Composite silhouette bowls and cuspidors. The cuspidor example has a vertical upper wall to a direct rounded rim; the lower wall is rounded to the base (Fig. 6w). There is an encircling line .5 cm. below the rim and another at the junction with the lower wall; on the lower wall there are spaced vertical lines. The composite silhouette bowls have a flaring to outcurving upper wall to a direct rounded or beveled rim while the lower wall is offset or rounded to the base. The offset example has a beveled rim with two encircling grooves on the face of the bevel (Fig. 6n; 16u).

Total: 4 rims

E. Vessel Form: Restricted orifice bowls and jars. Variations occur as follows:

1. Globular body with direct rounded rim; there are at least two encircling grooves below the rim on exterior.

2. Straight insloping neck to direct thinned rounded rim; the body is probably globular. The wall tends to be thin (.5 to .6 cm.) and has at least one encircling groove just below the rim on exterior and another at the neck-shoulder junction.

3. Small jars with vertical neck to a direct rounded rim. One example has two encircling grooved lines below the rim on exterior.

4. Jars with low, vertical neck to a direct flat rim (Fig. 6x). From the base of the neck the body rounds directly to a globular form; around the body exterior are broad shallow vertical flutes.

Total: 10 rims

Body sherds: One flat base sherd indicates that the floor of the vessel had grooved parallel lines. Another flat base sherd has a low solid nubbin foot. No other

vessel support in this ware was recovered from the excavations.

Total: 164 bodies

Glossy Black Ware

Total: 65 sherds
% of Preclassic Total: 4.7%
% of Site Total: 1.1%

Discussion: This ware resembles Glossy Orange Ware in surface finish, but the slip color is dark brown to jet black. It is a common pottery especially in the Quezaltenango area, probably starting in the Middle Preclassic and continuing at least through the Late Preclassic.

Paste: Texture varies from fine to medium-coarse; color is light to medium brown, to gray, to black. Most examples show fine white (pumice?) and shiny particles distributed throughout.

Surface finish: All vessels have an all-over thick dark brown to jet black slip which is polished to a high gloss. In some cases the shiny particles in the paste show through onto the surface and glisten in the light. Decoration, when present, is usually by pre-slip and pre-polish grooving and incising.

A. Vessel Form: Open bowls, wall curving evenly from a rounded or flattish base to a direct rounded or flat rim (Fig. 6y; 17h). One example with a rounded base has an encircling groove 1.5 cm. below the rim on exterior (Fig. 6aa; 17d). The rest are undecorated.

Total: 3 rims, 1 body

B. Vessel Form: Open bowls, wall straight-flaring to slightly outcurving to a direct rounded, thinned, or flattened rim, or an everted rim. Base is probably flat. Included is one rim with a low labial ridge 1.5 cm. below the thinned rim. Vessels may be undecorated or there may be one or more encircling grooves on the wall exterior (Fig. 17a). One has on the upper surface of the everted rim two parallel grooves interrupted by a groove-outlined boss.

Total: 5 rims, 1 body

C. Vessel Form: Composite silhouette bowls and cuspidors. This is the most common form of this ware recovered from Semetabaj. The upper wall is vertical or outcurving to a direct rounded or thinned rim; the lower wall rounds to a sagging or flat base (Fig. 6bb, 6 cc; 17f). Some vessels are undecorated but most have an encircling

line or groove just below the rim on exterior, and another at the junction with the lower wall. The area between these two lines may be plain, or there may be an encircling line at the center, or there may be two parallel undulating lines (Fig. 6ee; 17b), or opposed sets of slant lines (Fig. 6z; 17i). Some have a row of punctates just below the rim or at the junction with the lower wall. Several examples have spaced or continuous gashes on the curving lower wall (Fig. 17e).

Total: 9 rims, 4 bodies

D. Vessel Form: Restricted orifice bowls and jars. On the restricted orifice bowls the wall curves from the base to a direct rounded or thinned rim. Some of these (Fig. 6 dd;17j) have just below the rim on the exterior two or three encircling grooves interrupted by one or more bosses. One example has at least three deep encircling grooves between low ridges starting 2 cm. below the rim on exterior (Fig. 17g). The one jar sherd has an insloping neck to a direct rounded rim (Fig. 17c). From the neck base the body is probably globular. There is a shallow grooved encircling line .5 cm. below the rim on exterior.

Total: 5 rims, 2 bodies

Body sherds: Among the body sherds is a flat base sherd with a low solid nubbin foot. Another sherd is unusual in having post-slip incised triangles filled with cross-hatching.

Total: 38 bodies

Polished Black-Brown Fine Wares (Preclassic)

Total: 169 sherds
% of Preclassic Total: 12.3%
% of Site Total: 2.9%

Discussion: This category includes more than one ware, only one of which is recognized with certainty (Type I). The rest comprise a small lot of miscellaneous Black-Brown slipped and polished vessels and are held together in Type II until more accurate identification is possible.

I. Type: Kaminaljuyu Fine-Incised Black-Brown Ware

Discussion: This is the same ware as described by Shook and Kidder (1952: 68) at Kaminaljuyu, and undoubtedly was imported into Semetabaj from that region. The ware is also described under Pumiceous Black-Brown Ware, Type II, in the Monte Alto Report (Shook and Hatch, ms. in prep.). This pottery serves as a hallmark of the Miraflores and Arenal phases of the Guatemala Highlands.

Paste: Fine to medium-fine in texture. Color is usually reddish-brown but ranges to light brown to gray due to firing. The paste characteristically has very fine white pumice particles generously distributed throughout, and there are occasional tiny flecks of mica.

Surface finish: All-over slipped dark reddish-brown to brown to black, and well-polished to a "velvety" glossy finish. Decoration consists of fine incising of hairline thickness, probably accomplished by a needle point after firing. Body portions without decoration have undoubtedly been included among the body sherds of Type II.

A. Vessel Form: Open bowls with straight, slightly flaring low wall to a flat everted grooved rim. The lower wall is probably slightly curved to a small flat or recurved base. Only one small rim of this form is represented in the Semetabaj sample.

Total: 1 rim

B. Vessel Form: Cylinders. Wall is vertical to a direct rounded or thinned rounded rim. Base is probably flat. This form at Semetabaj is represented by two rims. Both have a shallow encircling pre-slip groove .8 to 1.2 cm. below the rim on exterior, and parallel to it a fine-incised encircling line. One body sherd (Fig. 7c) shows on the exterior an encircling pre-slip grooved line and below it there is fine-incised decoration of scroll bands as described by Shook and Kidder (op. cit.: Fig. 17d).

Total: 2 rims, 1 body

C. Vessel Form: Composite silhouette bowls with direct rounded rim (Fig. 7a). The wall curves outward from a shallow rounded lower wall. The curve of the lower wall forms a low ridge at the wall-base junction from which the base is sagging or rounded. A fine-incised line encircles the wall exterior just below the rim and there are two more at the junction of the outcurving upper wall with the rounded lower wall. Below the upper encircling line is a line of continuous fine-incised arcs or scallops. This form and decoration is present in the Miraflores phase tombs at Kaminaljuyu (Ibid.: Fig. 19c).

Total: 1 rim

Body sherds: A number of the bowl body sherds show fine-incised scroll patterns on the vessel floor (Fig. 7b).

Total: 7 bodies

D. Vessel Form: Jars. One jar body sherd (Fig. 7d) came from the intrusive pit deep within Pit #8. The wall exterior bears two parallel fine-incised curvilinear lines suggesting the arm or leg of a monkey design similar to that illustrated in Shook and Kidder (op. cit.: Fig. 18g). It cannot be determined at this time whether this particular sherd pertains to the Miraflores or Arenal phase.

Total: 1 body

II. Type: Miscellaneous Preclassic Black-Brown Wares

Discussion: This category contains the remaining sample of the polished black-brown fine wares recovered from Semetabaj which are considered to be Preclassic in date. Classification in some cases is based on provenience, in others on form and decoration. Clearly several wares are represented, but with such a small sample it seems unwise at this time to define precise boundaries. Many of the sherds probably qualify as Pumiceous Black-Brown Ware, Types I and III, as described for Monte Alto (Shook and Hatch, ms. in prep.).

Paste: Generally fine, but occasionally ranging to medium in texture. Color varies from brown to reddish-brown to black, usually with fine white particles lightly distributed throughout.

Surface finish: Vessels are all-over (jars on exterior only) slipped black-brown and are well burnished. Slip color ranges from jet black to dark brown to reddish-brown.

A. Vessel Form: Open bowls, wall flaring or outcurving to a direct rounded or thinned rim, or rim with sharp inner lip and rounded outer lip. Body sherds indicate that the base is flat to slightly sagging. One body sherd has a labial or medial flange. Some examples (Fig. 7e) have two parallel incised lines encircling the wall exterior .8 cm. below the rim. One of these (Fig. 7f; 17o) has white paint rubbed into the lines, and another has criss-crossed lines on the wall below the encircling lines. One has coarse-incised slant lines. One unusual example is a small light brown slipped bowl with the wall strongly outcurved to a direct thinned rim. The base is flat with probably three small solid nubbin feet (Fig. 17n). On the floor of the bowl there are very lightly incised crescent lines pendant from the wall junction.

Total: 6 rims, 2 bodies

B. Vessel Form: Cylinders. These have a vertical or slightly outcurving wall and a flat base. One example has a thick vertical wall which outcurves at the top to a flat rim with sharp interior and exterior lip. One body sherd has a thick vertical wall with broad vertical shallow flutes continuous around the exterior, and another has incised vertical panels filled with cross-hatching. One thin-walled body sherd has two pre-slip encircling narrow grooves below the rim on exterior, with two parallel post-slip incised lines below the grooves.

Total: 1 rim, 3 bodies

C. Vessel Form: Restricted orifice bowls. This form is represented by two rims, both direct rounded. The more complete example (Fig. 7g; 17p) has a straight

insloping wall from a sharp shoulder; the lower wall is rounded towards the base. Both have an encircling pre-slip groove on the wall exterior 1 cm. below the rim, and the large example has another just above the sharp shoulder.

Total: 2 rims

D. Vessel Form: Jars. The single rim represented is from a small low-necked jar, the neck flaring outward to a direct flat rim; there is no decoration. Among the body sherds is a small jar with very sharp shoulder, the lower body curving towards the base. The jar is low-polished on the exterior, and just above the shoulder is a row of deep horizontal gashes. A second example (Fig. 7h; 17q) is similar in form and in having the row of gashes, but the shoulder is not as sharp; the lower wall is highly polished on the exterior and bears criss-crossed finely incised lines. One globular body sherd is well polished on the exterior and has pre-slip multiple parallel encircling grooves 2 to 2.5 cm. apart.

Total: 1 rim, 31 bodies

Type II Bowl Body Sherds: 39 bodies
Miscellaneous Body Sherds, All Vessel Forms: 63 bodies

Utatlan Ware

Total: 19 sherds
% of Preclassic Total: 1.1%
% of Site Total: .28%

Discussion: This pottery was named and described by Lothrop (1933: 112). It is most common in the area of the department of Quiche and may be confined to the Middle Preclassic.

Paste: Medium-fine texture, light to dark brown at the edges with thick gray core. Fine white particles are distributed throughout the paste. The ware is typically hard-fired.

Surface finish: The bowl interior and base exterior are unslipped but well-smoothed and polished, the color ranging from light to dark brown according to the paste. Wall exterior is decorated with red or specular hematite red paint alternating with areas of graphite paint in geometric patterns.

Vessel Form: Most examples are from open bowls with straight-flaring wall to a direct flat rim; base is flat (Fig. 7i, j; 17s). Polished red paint extends from the inner lip down to an encircling incised line 1 to 1.3 cm. below the rim on exterior. Below this there are alternating zones of red and graphite paint outlined by incised lines.

Included is a rim of a square bowl with vertical wall to direct flattish rim, and probably a flat base. The corners of the bowl are sharp rounded. Specular hematite paint extends from 1 cm. down on interior over all the exterior.

Total: 14 rims, 5 bodies

Fine Red Ware

Total: 17 sherds
% of Preclassic Total: 1.2%
% of Site Total: .29%

Discussion: This is the same ware as that identified at Kaminaljuyu and described by Shook and Kidder (1952: 90). It was considered to be an import at that site. Apparently the ware has its beginnings in the Sacatepequez phase and continues through the Miraflores and Arenal phases. Only a few sherds of Fine Red Ware were recovered from Semetabaj.

Paste: Fine textured, charcoal gray in color with abundant very fine white particles.

Surface finish: Vessels bear an all-over thick reddish-orange slip which is well burnished. Some have Usulutan resist decoration.

A. Vessel Form: Curved wall bowls and/or "sapo" bowls. These are shallow bowls with the wall curving evenly to a direct rounded or flattish rim. The outline of the rim suggests that it was a toad effigy or "sapo" bowl (Ibid.: 91).

Total: 1 rim, 1 body

B. Vessel Form: Open bowl with straight-flaring wall to direct rounded rim. Base is probably flat. There is no decoration.

Total: 3 rims, 6 bodies

C. Vessel Form: Open bowl with wall outcurving to an everted rim with sharp lip (Fig. 7k). Vessel has a faceted wall-base junction and slightly sagging base. One example recovered has two pre-slip encircling grooves on the upper surface of the rim, and on the wall interior there is Usulutan decoration in multiple parallel lines.

Total: 2 rims, 3 bodies

D. Vessel Form: Restricted orifice bowls. The one rim recovered comes from a deep bowl with wall curving evenly to a direct rounded rim (Fig. 7l). One body

sherd is of similar form, but possibly comes from a necked vessel. Both examples are slipped and well polished on interior and exterior.

Total: 1 rim, 1 body

Purple on Fine Red Ware

Total: 1 sherd
% of Preclassic Total: .07%
% of Site Total: .01%

Discussion: Only one dubious example of this ware was recovered from the excavations at Semetabaj. The ware is confined to the Sacatepequez phase in the Guatemala Highlands, and is similar in paste to Fine Red Ware but differs in having purple or graphite painted decoration.

Paste: Fine textured, pinkish-brown with abundant fine white particles.

Surface finish: Vessel bears an all-over thick reddish-orange slip over which was applied purple painted decoration. Surface was then well-burnished.

Vessel Form: The single example is of an open bowl with flaring wall to an interiorly beveled rim. A shallow groove encircles the wall on the exterior 1 cm. below the rim. The groove bears purple paint, and there is another purple band on the wall interior just below the junction with the rim bevel. On the face of the bevel there are crescent grooved lines filled with purple paint.

Total: 1 rim

Sacatepequez White Paste White Ware

Total: 20 sherds
% of Preclassic Total: 1.4%
% of Site Total: .35%

Discussion: This pottery at Semetabaj was undoubtedly imported directly or indirectly from the department of Sacatepequez where it was manufactured (Shook 1951: 97). The ware is a diagnostic of the Sacatepequez-Providencia phase of the Guatemala Highlands.

Paste: Medium fine textured, white, often with a light gray core. Tiny flakes of gold mica are sparsely distributed through the paste.

Surface finish: Vessels are unslipped, the same color as the paste, but usually well smoothed and burnished with occasional gold mica flakes showing on the surface. When red painted decoration is added, the red is also polished.

A. Vessel Form: Curved wall bowls. This form is represented by body sherds only. Two examples show pre-polish grooved decoration on the wall exterior.

Total: 2 bodies

B. Vessel Form: Open bowls with vertical, straight-flaring, or outcurving wall to direct rounded or thinned rim, or everted rim. One vertical wall example has an encircling shallow groove .8 cm. below the rim on exterior and a narrow red band on the top surface of the rim. One flaring wall example has red paint from the rim down at least 1.5 cm. on exterior; another example (Fig. 7m) has an everted rim with a red rim band from the outer lip down 1.5 cm. on interior.

Total: 4 rims

C. Vessel Form: Open bowls with flaring to outcurving wall and labial or medial ridge. Rim is direct rounded. The medial ridge example has an outcurving upper wall and traces of a red rim band. The lower wall is curving toward the base. Both the medial and labial ridge examples have sets of at least two gashes on the upper surface of the ridge.

Total: 1 rim, 2 bodies

D. Vessel Form: Composite silhouette or cuspidor. This form is represented by one body sherd. The upper wall is outcurving while the lower wall rounds to the base. Grooved decoration is present on the exterior of the lower wall.

Total: 1 body

E. Vessel Form: Jars. This form is represented by body sherds only. These show a globular body; one example has an encircling 2 cm. wide red band on the shoulder.

Total: 6 bodies

Miscellaneous Body Sherds of Sacatepequez White Paste White Ware: 4 bodies

Sacatepequez-Providencia Red Ware

Total: 1 sherd
% of Preclassic Total: .07%
% of Site Total: .01%

Discussion: The recognition of this ware at Semetabaj is based on a single example which was classified as such with some hesitation, as indicated below.

The ware apparently has its origins in the Guatemala Highlands where it is confined to the Sacatepequez and Miraflores phases (Shook, ms. in prep.).

Paste: Fine textured, reddish-brown throughout with occasional tiny white particles.

Surface finish: All-over slipped red to dark red, well polished.

Vessel Form: Restricted orifice bowl with sharp shoulder (Fig. 7n). From the sharp shoulder the wall flares inward for 1 cm. to a direct rounded rim. The lower wall curves toward the base. The example from Semetabaj has an encircling pre-slip groove .5 cm. below the rim on exterior. This decoration is not known elsewhere in association with these bowls; otherwise the sherd is typical of the ware.

Total: 1 rim

Sacatepequez Red on Unpolished Buff Ware

Total: 4 sherds
% of Preclassic Total: .29%
% of Site Total: .07%

Discussion: This is a common ware in the department of Sacatepequez, Chimaltenango, and Guatemala during the Sacatepequez phase (Shook, ms. in prep.), and was apparently imported into Semetabaj.

Paste: Medium textured, reddish-brown, with abundant small white pumice temper and occasional ferruginous inclusions.

Surface finish: See under Form.

Vessel Form: All sherds recovered of this ware at Semetabaj are from jars. One, at least, has a short vertical neck to a direct rounded rim(Fig. 7o; 17r); from the base of the neck the body rounds to a globular form. On the neck interior and over all exterior the vessel bears a very light orange to buff unpolished thin slip. Over the buff slip there is red paint from the top of the rim to the base of the neck on exterior, and below this are finger-wide red lines running down the shoulder. The red paint is cursively burnished, the polishing strokes sometimes extending onto the buff areas.

Total: 1 rim, 3 bodies

Orange Slipped Wares

Total: 116 sherds
% of Preclassic Total: 8.4%
% of Site Total: 2.0%

Discussion: This category includes all orange slipped wares recovered from Semetabaj other than Glossy Orange Ware. A few of these have Usulutan resist decoration (Type I). Another group has a fairly glossy slip which is highly micaceous (Type II). Most of the material is probably of Preclassic date, although undoubtedly some mixing with Early Classic types has occurred.

I. Type: Orange slipped with Usulutan resist decoration.

Paste: Medium to fine texture with fine white particles distributed throughout. Color ranges from reddish to light brown to light tan, often with a thick gray core.

Surface finish: Vessels are all-over slipped dark to light orange and are well burnished. Usulutan resist decoration is present usually in multiple parallel straight or wavy lines; less frequently there are clouds or blotches.

A. Vessel Form: Curved wall bowls. The wall curves upward from a rounded base to a high rounded shoulder which terminates in a direct rounded rim. One example has two encircling pre-slip grooves just below the rim on exterior.

Total: 2 rims

B. Vessel Form: Flaring-wall bowls, base probably slightly sagging. On one example the wall is straight-flaring to a direct rounded rim. On the wall exterior there are two encircling incised lines, and below this there are parallel curved lines. Another example has a flaring wall to an interiorly beveled rim. There is an encircling pre-slip groove just above the junction of the rim bevel with the wall interior.

Total: 2 rims, 1 body

C. Vessel Form: Composite silhouette bowl with triangular rim. From the sharp lip the rim slopes downward on the exterior, then turns inward abruptly to meet the wall. This lower edge of the rim bears shallow notches. On the interior the wall is straight to the sharp lip of the rim. The wall-base junction is sharp rounded; base is flattish.

Total: 1 rim

D. Vessel Form: Small jar. The single example has a low neck which is outcurving to a direct rounded rim. Body is probably globular.

Total: 1 rim, 1 body

Body sherds: One body sherd, probably of a flaring wall bowl, has a medial or labial ridge. There is one example of a small solid nubbin vessel support and another showing what may be part of a ring base or the attachment of a large hollow mammiform support.

Total: 4 bodies

II. Type: Micaceous Orange Slipped

Discussion: This type is probably related to Protoclassic Glossy Orange Ware, which is slightly micaceous. It is definitely associated with Preclassic levels in the excavations at Semetabaj, although it probably continues into the Early Classic. Some examples are quite glossy and but for the presence of the micaceous slip would have been classified as Glossy Orange Ware.

Paste: Medium to medium-fine texture. Color ranges from medium brown to reddish-brown to pinkish-tan, usually with abundant small white particles of sand or quartz. Some examples also have a large amount of mica in the paste.

Surface finish: Vessels bear an all-over (jars on exterior only) well polished thick orange slip which is very micaceous.

Vessel Forms: All examples come from bowls with flaring wall and probably a flat or slightly sagging base. Variations occur as follows:

1. Direct rounded rim with an encircling pre-slip groove .5 cm. below the rim on exterior. One body has a similar groove just above the sharp wall-base junction.

2. Direct flat rim with red paint extending from the outer lip of the rim down 1 cm. on the interior. The wall exterior shows evidence of negative painting.

3. Interiorly beveled rim with an encircling pre-slip groove on the face of the bevel.

4. Everted rim, the upper surface being slightly convex to a rounded lip. On the surface of the rim near the junction with the wall interior there is an incised encircling line, and from it are evenly spaced short lines extending toward the outer lip.

5. One bowl sherd has a 1.5 cm. wide medial flange.

Body sherds: There are two hollow cylindrical vessel supports, and a

number of jar body sherds.

Total for Type II: 7 rims, 20 bodies

III. Type: Miscellaneous Orange Slipped

Discussion: This category includes all orange slipped examples that do not fit other classifications of Preclassic and Early Classic types.

Paste: Texture ranges from fine to medium coarse, the latter having conspicuous white particles of pumice or quartz. Color ranges from reddish-brown to light brown to light pinkish-tan.

Surface finish: Vessels bear an all-over (jars on exterior only) orange slip which is moderately to well polished. One body sherd shows negative painting (?), with dark orange streaks against the lighter mottled orange background.

Vessel Forms: These include the following:

1. Flaring-wall bowl with direct rounded rim. The paste of this bowl is quite coarse with large white inclusions.

2. Flaring-wall bowls with beveled or everted rim, some of these with an encircling finger-wide pre-slip shallow groove on the face of the bevel or upper surface of the rim. Two examples without a rim groove have pre-slip notching on the outer lip and post-slip incised decoration on the wall exterior; this example is highly polished.

3. Bowl with very thin (.4 cm.) flaring wall to a direct sharp rim; base is probably rounded. A very shallow finger-pressed pre-slip groove encircles the wall exterior 1 cm. below the rim.

4. Bowl with wall which is slightly curved on the exterior, straight on the interior to a direct rounded rim.

5. Small, low-necked jars. One of these has a direct flat rim. The rim form on the other example is uncertain, but there is a wide lip to shoulder strap handle. One small jar body sherd has a modeled elongated boss on the exterior.

6. One example is possibly a vessel lid. The side is very thin (.4 cm.) tapering to a direct flat rim; there is a sharp junction with the flat top of the lid.

Body sherds: Among the bowl body sherds is one solid tapering foot, and one hollow cylindrical mammiform vessel support with small rounded terminal. There are

several thick-walled jar body sherds, one with multiple encircling pre-slip grooves, and another with an encircling tool-indented fillet.

Total for Type III: 14 rims, 63 bodies

Preclassic Red Paste Ware

Total: 15 sherds
% of Preclassic Total: 1.0%
% of Site Total: .26%

Discussion: A few jar body sherds and one rim of Red Paste Ware were recovered from the Preclassic levels of the Semetabaj excavations; the sample is insufficient to determine what relationship there is, if any, to the Protoclassic and Early Classic Red Paste Wares.

Paste: Medium to medium-coarse texture. Color ranges from brick red to brown, most examples having conspicuous white particles.

Surface finish: In some cases the jar surface is smoothed only and left unslipped and unburnished. Others bear on the exterior a red or reddish-brown slip which is burnished.

Vessel Forms: All examples are from jars. The one rim recovered is from a wide-mouthed jar; the body is probably globular to a flaring rim with flattish lip. The upper surface of the rim bears polished red paint.

Total: 1 rim, 14 bodies

Scored Censor Covers

Total: 5 sherds
% of Preclassic Total: .36%
% of Site Total: .08%

Discussion: Scored censor covers are common in the Guatemala Highlands during the Sacatepequez phase, probably continuing into the Late Preclassic.

Paste: Medium-coarse textured. Color is ruddy or reddish-brown, thickly sown with fine to medium quartz particles which glisten in the light.

Surface finish: Surfaces are all-over smoothed but left unslipped and unpolished. After smoothing, coarse gash-incised line decoration was applied as described below.

Vessel Form: This type of cover typically has the form of a bowl with flaring wall to a direct rim; base is strongly recurved. Coarse incising occurs on the wall exterior and underside of the recurved base. One example shows gash-incised parallel lines, another has criss-crossed lines, and a third has the lines at right angles to each other.

Total: 2 rims, 3 bodies

Protoclassic Ceramic Wares

Glossy Orange
Streaky Brown
Red Paste
Red on Buff
Orange Slipped (Usulutan)

The Protoclassic period at Semetabaj is very lightly represented, if at all, in the material from the excavations. It is known primarily from Lot #23, a ceramic collection purchased from a local worker, Carlos Garcia, who reported that it came from a burial exposed when he was digging a barro pit in the vicinity of "Xecotoj" on Finca La Vega, about 500 meters north of the site. The lot consists of several partially restorable vessels and large sherds of others.

Some mixing with earlier and later material is evident in Lot #23, this material being as follows:

1. One rim sherd of a Preclassic Semetabaj Brown jar with lip to shoulder strap handle showing multiple parallel tool-impressed grooves.

2. One loop handle of an Early Classic Santa Marta Brown Ware comal; the handle bears finger indentations.

3. Four fragments of trough-handled ladle censors; one is of Early Classic Mahogany Brown Ware, and the others of a coarse brown ware of uncertain identity.

4. Two fragments of hollow-handled ladle censors, one being of either Early Classic Esperanza Flesh Ware or Late Classic Amatle Hard Ware. The other is Postclassic, ware unidentified; it has a modeled face at the end of the handle.

An unrecognized ware is present, being of fine paste, light brown in color. Vessels are thin-walled (.4 cm.), all-over well smoothed, and bearing a thin lightly burnished orange-brown slip. Vessel forms include a plain simple silhouette bowl and an outcurving wall bowl with rounded base; both have a direct rounded rim. There is one

long hollow cylindrical vessel support with traces of appliqued decoration. The chronological placement of this ware is not known, possibly it is Early Classic.

Protoclassic Glossy Orange Ware

Total: 14 sherds

Discussion: These vessels appear to be a later development of Preclassic Glossy Orange Ware, showing similarities in surface treatment but striking differences in vessel form. The ware does not seem to continue into the Early Classic at Semetabaj.

Paste: Medium to medium-coarse texture. The color is gray-brown to reddish-brown throughout, with numerous fine to coarse white particles and occasional ferruginous inclusions. Many examples have abundant tiny mica flakes in the paste, which are only occasionally visible on the slipped surface.

Surface finish: All vessels bear a thick reddish-orange slip which is polished to a gloss. On some examples the slip is crazed.

Vessel Forms: The following variations occur:

1. Shallow bowls with straight-flaring to outcurving wall; base is rounded and there is a very low basal ridge (Fig. 17z, aa). The rim may be direct rounded or flat grooved, or everted to a rounded lip with two pre-slip encircling grooves on the upper surface. One very shallow example (Fig. 7p; 17x) has a short, widely flaring wall to a direct rounded rim; the rounded base has four long hollow cylindrical vessel supports. This tetrapod vessel is similar to one from the Salcaja-Momostenango area illustrated by Lothrop (1936: Fig. 91b), and one from Nebaj (Smith and Kidder 1951: Fig. 75k).

2. Open bowls with straight-flaring wall to direct, slightly sharpened rim. There is no decoration (Fig. 17y).

3. Open bowl with flaring wall to an everted rim with rounded or flat lip (Fig. 17bb). One small fragment has on the wall exterior a modeled face with "coffee bean" eye; the face is outlined by a punctated fillet.

Total: 12 rims, 2 bodies

Protoclassic Streaky Brown Ware

Total: 22 sherds

Discussion: At Semetabaj Streaky Brown Ware apparently begins in Protoclassic times and continues into the Early Classic. The paste and surface finish is consistent

but the forms differ slightly in the later times.

Paste: Medium texture with sporadic small to large white inclusions, probably quartz and pumice. Paste color is dark to medium reddish-brown.

Surface finish: Vessels are all-over slipped orange-brown and burnished. The slip color is uneven and patchy, in some areas being bright reddish-orange but grading into medium to dark brown. The burnishing causes some streaking of the slip, but this is not as pronounced as it is in Early Classic times.

A. Vessel Form: Curved wall bowls. The one example is from a deep bowl with the wall curving evenly from the rounded base to the direct, slightly thinned rim. Incised decoration is present on the wall exterior, consisting of two encircling lines below the rim and another on the curve of the lower wall towards the base. Between these framing lines are opposed sets of slant lines (Fig. 7s; 17dd).

Total: 1 rim, 1 body

B. Vessel Form: Deep bowls. The wall is vertical, then flares outward to a direct flattish rim with rounded inner lip and sharp exterior lip (Fig. 17cc). The base is flat. Most base sherds are without vessel supports, but one has a solid nubbin foot (Fig. 17ff).

Total: 2 rims, 4 bodies

C. Vessel Form: Wide-mouthed jars. These have a deep globular body which curves inward to a short outcurving neck with everted rim to a rounded or slightly sharpened outer lip. In some cases the neck on the interior curves evenly to the everted rim, and in other cases there is a sharp junction to a flat everted rim (Fig. 7q; 17ee).

Total: 6 rims, 3 bodies

Body sherds: Among the body sherds are several forms of vessel supports, in addition to the solid flat nubbin foot mentioned above. There is one long hollow cylindrical foot with flat base (Fig. 17hh), one large hollow bulbous support with circular vent (Fig. 17gg), and one small hollow bulbous support like those of Vessel Form B in Early Classic Streaky Brown Ware. There is one solid and one hollow conical foot.

Total: 5 bodies

Protoclassic Red Paste Ware

Total: 10 sherds

Discussion: Two types can be distinguished in this ware, Type I being of a non-pumiceous paste and hard-fired, and Type II being conspicuously pumiceous. The same differences are noted for the Early Classic Red Paste Wares. Red Paste Wares are present in very small quantity in the Preclassic levels at Semetabaj and become well-developed in the Protoclassic and Early Classic Times.

I. Type: Non-pumiceous Red Paste

Discussion: This type is represented by three sherds only; two being of a comal form that is typical of Early Classic Mahogany Brown Ware.

Paste: Medium fine texture, dense, without conspicuous inclusions. Color is characteristically brick red but ranges to dark brown from firing.

Surface finish: The surface is cursively to well smoothed but not burnished. Two of the examples bear an all-over fugitive white to silvery slip.

Vessel Forms: One example is a portion of a tall pedestal base from a large bowl with gently rounded base. The other two examples are a rim and base sherd of a comal, the wall curving to a direct flattened rim. On the wall exterior is an encircling deep narrow groove. The base sherd is flat and on the floor there are finger-pressed grooves in a swirling pattern similar to the comales of Early Classic Mahogany Brown Ware.

Type I Total: 1 rim, 2 bodies

II. Type: Pumiceous Red Paste

Discussion: This pottery resembles a type from the Pacific Coast of Guatemala. It is found at Monte Alto, department of Escuintla, where it is classified as Molina Red Paste Ware, Fuego Bright Micaceous Type. It is found in abundance at the site of Bilbao (Parsons 1967: 106) where it is termed Baul Reddish-Brown Paste Ware, Fuego Ceramic Group, Fuego Bright-Micaceous: Fuego Variety.

Paste: Coarse textured, dull brick red in color with abundant large and conspicuous particles of white pumice and quartz.

Surface finish: One example is very roughly smoothed and left unslipped and unburnished. The other has an all-over thin unburnished micaceous orange slip, over which there is red painted decoration.

Vessel Forms: All sherds come from two jars. One has a tall, vertical neck (13 cm. high) with direct, slightly thickened rim (Fig. 17 ll). A wide strap handle projects horizontally from the rim, then curves directly downward to its lower attachment at the base of the neck where the body slopes downward to a globular form. The other example is from a large thick-walled jar with wide flaring rim to a flat, grooved lip (Fig. 7t). On the neck there is a modeled fillet which outlines a circular area containing an upper and lower row of widely spaced appliqued flat buttons. Between the rows of buttons is a line of closely spaced reed impressions. The jar bears an all-over orange micaceous thin slip or wash; there is a purplish-red painted band on the flat grooved lip of the rim, and the same paint covers the circular area outlined by the fillet. Body sherds show red paint in broad line designs. The jar is unburnished.

Type II Total: 3 rims, 4 bodies

Protoclassic Red on Buff Ware

Total: 32 sherds

Discussion: This ware at Semetabaj is similar to Monte Alto Red on Buff Ware which is common at the site of Monte Alto during the Late Preclassic Arenal phase. In a careful study of this ware at Monte Alto (Shook and Hatch, ms. in prep.) it was observed that the pottery starts there as a local copy of Sacatpequez Polished Red on Unpolished Buff Ware imported from the Guatemala Highlands during the Sacatepequez phase, and continues to develop as a popular type in Late Preclassic times. The ware at Semetabaj is very close in style of surface finish and decoration, but shows a slightly different form inventory although in both areas the ware is primarily associated with the jar form. It cannot yet be determined how closely the ware at Semetabaj is related to that at Monte Alto, but it is noteworthy that in the Protoclassic Lot #23, of the four major wares recovered, two (Red Paste and Red on Buff) are also familiar pottery styles on the South Coast of Guatemala during approximately the same time span or slightly earlier.

Paste: Medium to medium-coarse texture. Color ranges from buff to pinkish to reddish-brown, with small to large (in the coarser texture) inclusions of white pumice and quartz, and very tiny black crystals and mica flakes which occasionally show on the surface and glisten in the light. Frequently there are large gray firing clouds.

Surface finish: Vessels are well smoothed on the exterior, cursively smoothed on the interior. The exterior bears a thin white or pinkish-cream to buff wash which usually is moderately burnished, occasionally left unburnished. Over this slip there is unpolished red painted decoration.

A. Vessel Form: Deep bowls (Fig. 8a; 17ii). The body is ovoid, with probably a rounded base and slightly restricted at the top where the body meets the short flaring rim with rounded lip. The form is intermediate between the burial urn form and

the "tear-drop" shaped jar seen in the Early Classic. Unpolished red paint extends from .5 cm. down on the rim interior over the exterior to the junction with the body. There is red painted decoration on the body exterior in vertical panels of broad lines and solid triangles.

Total: 3 rims, 2 bodies

B. Vessel Form: Jars. Two forms are represented. One form has a short neck with two opposite wide, flat, lip to shoulder strap handles, similar to the Santa Marta Brown jars of the Early Classic. The other form has a tall (up to 12 cm. in height) flaring or outcurving neck to an everted rim with flat or rounded lip (Fig. 7r). Some of these jars have a strap handle which is attached to the neck 2 cm. below the rim, extending to the shoulder (Fig. 17jj). Others have the strap handle on the globular body (Fig. 17kk), and one has a lip to shoulder handle. Most have red paint on the upper surface of the rim and handle, with broad lines or solid dots of red paint on the body; one has red paint over all the neck exterior and other has red paint on the body only.

Total: 7 rims, 20 bodies

Protoclassic Orange Slipped Ware

Total: 1 sherd

Discussion: One body sherd of an orange slipped bowl with cloudy Usulutan decoration was recovered in the Protoclassic Lot #23. Usulutan decorated wares do not continue into the Early Classic at Semetabaj.

Paste: Medium texture, dark brown to black from firing, with conspicuous white particles and scattered ferruginous lumps.

Surface finish: All-over slipped and polished light orange, with pale blotches caused by resist painting. The bowl interior is fire-blackened.

Vessel Form: The bowl has a vertical wall with a low ridge with finger-indentations at the wall-base junction. The base is slightly sagging and at the outer edge there is evidence of a hollow bulbous vessel support.

Early Classic Wares

Santa Marta Brown
Esperanza Flesh
Streaky Brown
Mahogany Brown Slipped
Red Paste
Red on Buff
Coarse Pink
Creamy Brown Slipped
Early Classic Polished Black-Brown
Graphite on Red
Peten Polychrome
Early Classic Fine Paste
Micaceous Slipped
Red Painted

Santa Marta Brown Ware

Total: 1261 sherds
% of Early Classic Total: 29.6%
% of Site Total: 22.1%

Discussion: In total number of sherds recovered, Santa Marta Brown Ware exceeds all other wares at Semetabaj (Fig. 5g). It was probably manufactured locally and appears to be a strictly utilitarian ware, being represented by jars and comales only. It is possible that the ware has its origins in Preclassic Semetabaj Brown Ware, although further comparative ceramic study is needed before a definite statement can be made. Both wares are associated with wide lip to shoulder strap handles and punctate decoration. The evidence suggests that the paste of Semetabaj Brown Ware becomes coarser through time, less hard-fired, and lighter in color, and that the neck gradually acquires a more everted rim until it results in the flat everted rim in Early Classic Santa Marta Brown Ware. However, this development can only be surmised at the present time because the Arenal phase, so critical for following this sequence, is only weakly represented at Semetabaj.

Santa Marta Brown Ware may also be related to Streaky Brown Ware which it sometimes resembles in surface finish. Both of these and Semetabaj Brown Ware were probably locally produced and, if not related generically, may have been subject to the same style influences.

Paste: Medium to medium-coarse, with abundant quartz, white pumice, and black particles. Paste color ranges from light reddish-brown to medium chocolate brown, rarely with a darker core.

Surface finish: Comales are better smoothed on interior than exterior, and are left unslipped. Jars are smoothed over all exterior and on interior to base of the neck. Some jars are unslipped, but characteristically there is a thin orange-brown slip or wash applied cursively on the neck interior, over the rim and neck, and on the horizontal section of the wide strap handle. This slipped area is very casually and streakily burnished, the strokes leaving darker brown lines and giving an appearance similar to Streaky Brown Ware.

A. Vessel Form: Comales (Fig. 8e). One form of comal in this ware is a shallow simple silhouette bowl with the wall curving evenly to a direct rounded rim. From the rim project two opposite loop handles with a row of closely spaced finger indentations on the outer edge. This comal is similar in form to one of the forms described under Vessel Form A of Mahogany Brown Slipped Ware.

A second form in this category is a very shallow flat bowl with low wall strongly curving inward to a direct rim with sharp interior lip. There is no evidence of handles.

Total: 8 rims

B. Vessel Form: Wide-mouthed jars (Fig. 8b, c; 18e, h). The body is globular, curving to a short neck (2 to 3 cm. high) which ends abruptly in a flat everted rim with rounded lip. There are two opposite, wide, lip to shoulder strap handles. The handle extends horizontally from the lip, then curves down to a right angle to meet the jar body. This handle is a flat wide strap, being widest at its junction with the rim, then tapering slightly. About 50% bear coarse punctates on the upper surface of the horizontal part of the handle (Fig. 8d; 18d). One example has the punctated area outlined by a coarse-incised line (Fig. 18a). Several have finger-impressed grooves on the horizontal section rather than punctates (Fig. 18g). There is no other decoration on these jars except for one example that has an encircling row of closely spaced punctates at the neck-body junction.

Total: 73 rims, 1120 bodies

C. Vessel Form: Neckless jars (Fig. 8f). This category is represented by three rim sherds only. They are of tecomate form with a globular body to a direct rounded or thinned rim. One has an encircling fillet 1.5 cm. below the rim on exterior.

Total: 3 rims

Esperanza Flesh Ware

Total: 807 sherds
% of Early Classic Total: 18.9%
% of Site Total: 14%

Discussion: Esperanza Flesh Ware is a well-known diagnostic for the beginning of the early Classic period in the Highlands of Guatemala, and was found to be one of the most abundant of the finer paste wares (as opposed to coarse paste wares) at Kaminaljuyu during the Esperanza phase (Kidder, Jennings and Shook 1946: 174). The ware has been found in greatest concentration in the department of Chimaltenango where it eventually develops into Late Classic Amatle Hard Ware. It seems probable that the manufacturing center was near the area of the modern town of Chimaltenango. However, the greatest frequency of this pottery at Semetabaj (Fig. 5g) raises the possibility of a nearby source there or, perhaps more likely, that there was a strong trade orientation toward the Tecpan-Chimaltenango region. At the present time San Andres Semetabaj functions as a center for redistribution of dried fish and vegetables coming up from Lake Atitlan which are exchanged for maize and beans of the surrounding region and the Chimaltenango-Tecpan valleys. In other words, it operates as a center which connects contrasting ecological zones occupied by Cakchiquel speakers, and as such may reflect an ancient pattern.

Paste: Color is pinkish-orange to ruddy to brown, to gray from firing. Texture ranges from medium-fine to medium-coarse, the coarser paste typically showing numerous fine white pumice particles. The ware is generally hard-fired and rings when struck or thumped.

Surface finish: Most vessels are all-over slipped and burnished (necked jars on exterior only). The slip is characteristically a bright pinkish-orange or "flesh" color, often with flushes of blue-gray or silvery-gray from firing. The burnishing tends to be streaky, with the strokes appearing blue-gray against the normal pink surface. Decoration is not common, but when present it consists of modeling and/or punctates, and grooving.

A. Vessel Form: Open bowls with direct rim, the wall shallow curved or straight-flaring from a rounded base (Fig. 8h; 18w, aa), some probably with ring base support. The rim is usually rounded or thinned but in some cases is sharp on the exterior, rounded on the interior, approaching an interiorly beveled rim. A few examples have a slightly thickened rounded rim with an encircling finger-pressed groove 1 to 2 cm. below the rim on exterior. Several examples have a modeled boss on the exterior just below the rim, and one has appliqued fillets with a "coffee-bean" eye to represent a human face (Fig. 8i; 18t).

Total: 51 rims, 3 bodies
Bodies of Ring Bases: 19

B. Vessel Form: Tripod bowl with flaring or outcurved wall; rim may be direct rounded but more commonly is outcurving to a rounded or thinned lip, or flaring with interior bevel (Fig. 8k; 18bb). Two base forms are represented. One has a flattish base with a rounded to sharp wall-base junction where there are attached three evenly spaced hollow hump-back rattle feet (Fig. 8j; 18y). The other form has a flat to slightly sagging base with sharp basal ridge and three evenly spaced hollow bulbous rattle feet attached at

the outer edge of the ridge (Fig. 8l; 18u). The rim form of the latter is uncertain as all base sherds lack the upper wall and rim, but presumably the bowl is similar to an Early Classic vessel from Nebaj, illustrated by Smith and Kidder (1951: Ifg. 72i). One body sherd shows an encircling molding with upper and lower ridges framing a row of buttons, as shown on the vessel from Nebaj. Several examples have a low encircling ridge on the wall exterior just below the flaring rim.

Total: 65 rims, 3 bodies
Hump-back Feet: 14 bodies

C. Vessel Form: Deep bowls with direct or flaring rim. These tend to be large bowls with rounded or flattish base, the wall flaring to a direct rounded rim, or the wall may curve to a flaring rim with rounded lip or rim with interior bevel (Fig. 8g,m, n; 18 v, z). There is no decoration nor any evidence of vessel supports.

Total: 44 rims, 2 bodies
Bowl Body Sherds, Vessel Forms A-C: 243 bodies

D. Vessel Form: Wide-mouthed jars (Fig. 8o, p; 18cc). The body of these jars is globular, similar to some of the bowls in Vessel Form C except that the orifice is more restricted. The rim is flaring to a rounded lip, or is flat everted. One example with flat everted rim has a wide lip to shoulder strap handle.

Total: 21 rims, 3 bodies

E. Vessel Form: Necked jars (Fig. 18x). The neck on these jars is vertical, averaging 5 cm. in height, terminating in a slightly flaring to wide-flaring to everted rim with rounded lip. Body sherds indicate a globular body. Most of the neck sherds have one or two parallel horizontal rows of punctates (Fig. 8q); one has evidence of a modeled face (?) outlined in punctates. One example has a low encircling ridge 1 cm. below the rim on exterior, and some of the others have one or more encircling ridges on the neck or at the neck-body junction.

Total: 6 rims, 12 bodies

Jar Body Sherds, Vessel Forms D and E: 293 bodies
Hollow Bulbous Feet: 16 bodies

Streaky Brown Ware

Total: 515 sherds
% of Early Classic Total: 12.1%
% of Site Total: 9.0%

Discussion: This is a common pottery at Semetabaj, probably having a nearby source of manufacture as it is not a familiar trade ware in the Guatemala Highlands. It is so closely related to Esperanza Flesh Ware in certain forms and in surface treatment that in small sherds the two are almost indistinguishable. Streaky Brown, however, apparently antedates Esperanza Flesh is not, and it exhibits earlier form modes such as large swollen hollow mammiform vessel supports.

In certain cases Streaky Brown Ware also shows an affinity with Preclassic Glossy Orange Ware, raising the very tentative possibility of a generic link between the two. If true, it suggests that Streaky Brown Ware may have originated to the north of Semetabaj (with Glossy Orange Ware), and was already in existence when Esperanza Flesh Ware was introduced from the east. After this introduction it may have begun to imitate the imported ware in forms and surface finish. Further study should resolve these questions and clarify the relationship between the wares.

Paste: Medium fine to medium coarse, with the coarser paste showing conspicuous quartz and pumice particles. Color is reddish-brown to yellowish-brown. The paste is not as hard-fired as Esperanza Flesh Ware.

Surface finish: Vessels are all-over (jars on exterior only) slipped and burnished. The burnishing strokes tend to leave slight depressions which can be felt with the fingers, although on some examples the burnishing is very smooth, with the surface attaining a very high polish. Slip color is basically reddish-brown, but is characteristically streaky and variegated, ranging from dark chocolate brown to red to orange to pinkish on the same vessel. At times the burnishing strokes show up as darker streaks on the reddish-orange surface.

A. Vessel Form: Open bowls with wall shallow curved or straight-flaring from a rounded base to a direct rounded or flat rim, the form resembling Esperanza Flesh Ware Vessel Form A. Several examples have a shallow finger-pressed groove on exterior 1.5 cm. below the rim (Fig. 9a). Among the body sherds are several examples of ring bases.

Total: 15 rims, 4 bodies of ring stands

B. Vessel Form: Tripod bowls with flaring or outcurving wall: rim is direct rounded (Fig. 9b) or beveled on the interior, or slightly everted (Fig. 19a) to a rounded or thinned lip; at least one of the latter has an encircling shallow rim groove (Fig. 19d).

As in Esperanza Flesh Ware Vessel Form B, there are two distinct base forms. The more common form has a flat base with sharp basal ridge with three evenly spaced hollow bulbous rattle feet attached at the edge of the ridge (Fig. 9c; 19b). One of these has a basal molding consisting of an upper and lower ridge; between the ridges is a row of closely spaced horizontally gashed flat "buttons" or "coffee-bean" eyes (Fig. 9e; 19c), a decoration also found in Esperanza Flesh Ware. The less common form has a sagging base with a sharp-rounded wall-base junction where there are attached three evenly spaced hollow hump-back rattle feet (Fig. 19f). One example of this form has a modeled "coffee-bean" eye on the wall exterior.

Included in this category is one large hollow mammiform foot (Fig. 19e) which may have been from a tetrapod, probably Protoclassic.

It should be noted that in Streaky Brown Ware, the hollow bulbous vessel support on the flat base is much more common than the hump-back foot on the sharp-rounded wall-base junction. In Esperanza Flesh Ware it is just the reverse, the hump-back footed vessel being the more popular.

Total: 61 rims, 17 bodies
Plain and Modeled Body Sherds of Vessel Form B, with Hollow Bulbous Rattle Feet: 47
Hump-back Feet: 4 bodies
Conical Feet: 2 bodies

C. Vessel Form: Deep bowls (Fig. 9d; 19g-i, k). The wall is vertical or slightly curving from a flat or rounded base. Rim is direct rounded or strongly outflaring to a rounded lip. These are typically large bowls with thick walls, of coarser paste than the other forms. The slip color is very uneven and the burnishing is streaky. There is no decoration.

Total: 47 rims, 52 bodies

Body Sherds of Bowls, Vessel Forms A-C: 240

D. Vessel Form: Necked jars. These have a vertical to outcurving neck, from 2 to 5 cm. in height, to a direct rounded or flaring or everted rim with rounded lip. One example with neck 5 cm. in height has two encircling ridges about 2 cm. apart, and an encircling punctated fillet at the neck-shoulder junction (Fig. 9f; 19j); the form of the body is not known, probably is globular.

Total: 8 rims, 36 bodies, including 6 handles

Mahogany Brown Slipped Ware

Total: 410 sherds
% of Early Classic Total: 9.6%
% of Site Total: 7.1%

Discussion: This ware may be related to certain red-brown slipped vessels that became popular in the department of Quiche (particularly at the site of Zacualpa) during the Early Classic and Early to Late Classic Transition, and in the department of Quezaltenango and Chimaltenango during the Late Classic; the appropriate references are given in the description of vessel forms. Mahogany Brown Slipped Ware does not appear to be derived from any of the earlier wares known from Semetabaj, and, like Esperanza Flesh Ware, is a good diagnostic for the Early Classic at this site.

Paste: Medium-fine texture with very fine quartz and black particles (easily visible with a hand lens) evenly distributed throughout the section. Characteristically it does not have conspicuous white pumice particles. Paste color is light pinkish-tan.

Surface finish: Vessels bear a thin reddish-brown slip, about the color of mahogany wood stain, which contrasts with the lighter color of the paste. Typically there are jet black firing clouds. Burnishing varies from very cursive with a matte finish, to a good polish. The slip tends to flake off in weathering.

A. Vessel Form: There are several forms of comales in this ware, the most common having two opposite loop handles projecting vertically from the rim of a large simple silhouette bowl (Fig. 9g; 18i). The base of the bowl is flat, the wall curving upward evenly to a direct rim with rounded outer lip and sharp inner lip. The comal bears an all-over slip which is more highly burnished on the interior than the exterior. The floor of the comal has pre-slip finger-pressed shallow grooves in a swirling pattern (Fig. 18b, f), and there are spaced finger indentations on the outer edge of the loop handles. This comal may be related to those at Zacualpa (Wauchope 1975: Fig. 61e) described as having a reddish-brown matte slip on both surfaces, but apparently lacking the finger-grooving on the floor and indentations on the loop handle. Wauchope assigns these to Early Classic Balam 2, but the form apparently continues into the Early to Late Classic Balam-Pokom Transition at that site (Ibid.: Fig. 90c).

A second comal form is recognized by the presence of several portions of "bail" or "market basket" handles. This type of handle is attached to the rim at two opposite sides of the comal, forming an arc over the comal in basket-fashion. The incomplete handles recovered are solid, rounded on the upper surface, flat on the underside, the ends flattening and spreading out where they join the rim. One bears a section of a slant-gashed fillet on the upper surface 6 cm. from the rim junction (Fig. 18c). The comal body sherds suggest that the form of this comal is similar to that with the opposite loop handles described above. This comal form is present at Zacualpa (Ibid.: Fig. 69j) in Early Classic Balam 2 and continues or reappears in Early to Late Classic Balam-Pokom Transition (Ibid.: Fig. 90a).

A third comal form represented by one body sherd is a shallow simple silhouette bowl with probably a direct rounded rim and lug handle with circular perforation at the center. Other shallow comales have flattened clay buttons pressed onto the rim, either continuous or in sets.

Total: 21 rims, 24 plain bodies, 25 bodies with finger-impressed shallow grooves

B. Vessel Form: Deep bowls. The upper wall curves outward very slightly to a thickened direct rounded rim or rim with sharp inner lip, or flaring rim with interior bevel. On at least one example the lower part of the wall curves from a low ridge or thickening to meet the flat base. The wall is thick and on the exterior there is typically coarse-incised decoration in patterns of rectilinear (Fig. 9k; 18n, q) or zig-zag or slant lines (Fig. 18j) applied before adding the mahogany brown slip. Several examples have multiple finger-wide encircling grooves on the wall exterior, and some have decoration on the rim bevel consisting of an encircling line of incised continuous crescents or zig-zag lines. All of these bowls are very lightly to moderately burnished on interior and exterior. On some the interior was left unslipped but the burnishing strokes picked up some of the reddish-brown slip from the exterior, leaving streaky horizontal patches of color.

Total: 8 rims, 32 bodies

C. Vessel Form: Jars. There are at least two jar forms. One form has a globular or "tear-drop" shaped body which terminates abruptly in a flat everted rim. These may be small and thin-walled jars (Fig. 9p) or large and thick-walled. One thin-walled example has two encircling grooves on the upper surface of the rim (Fig. 9o). One thick-walled example has three or more encircling grooves on the body just below the everted rim (Fig. 9n; 18k); another has a thick rounded collar rather than an everted rim.

A second jar form has a vertical to outcurving neck 5 cm. or more in height. The wall is of medium thickness (.8 cm.) and there is an encircling sharp ridge at or just above the neck-body junction (Fig. 9i; 18m). None of the neck sherds has the rim attached; the one rim sherd present is of a flaring wedge-shaped rim (Fig. 9m).

Jar body sherds indicate that the exterior was slipped and cursively burnished at least to the base. The neck interior was burnished with the characteristic streaking of the slip as seen on the interior of deep bowls. All handles appear to be vertical strap attached probably at two opposite sides of the jar body. One handle is modeled of two strips of clay joined at the ends where the handle meets the body, and another shows a twisted rope design as described below.

Many body sherds (Fig. 18s) indicate an encircling ridge just above the maximum diameter of the jar. There are two cases of an encircling finger-indented fillet on the jar shoulder, and above or below this is an undulating line (Fig. 18l) suggestive of the "squiggle" associated with Late Classic Amatle Hard Ware (Rands and Smith 1965 (2): 134) from the department of Chimaltenango. Another example has the undulating line with a

fillet; attached above and below the squiggle, straddling it, is a strap handle which has along the center a modeled twisted rope design (Fig. 9j; 18p). There is one example of a wide flat strap handle with the squiggle above it; between the handle and the squiggle are multiple shallow punctates.

Two body sherds have dentate-stamp decoration (Fig. 18o, r) very similar to a Late Classic jar collected by Shook from Finca Arabia, department of Quezaltenango (Kidder 1954: Fig. 5e). The Finca Arabia jar has an encircling ridge at the middle of the neck, is slipped a color resembling mahogany brown, and may possibly represent a later development of this ware.

Total: 6 rims, 280 bodies including 8 handles

D. Vessel Form: Ladle incersarios (Fig. 9l). These have a shallow oval bowl with direct rounded rim. The handle is of the open trough form with a finger-wide channel running the length of it.

Total: 6 rims, 8 bodies

Red Paste Ware

Total: 495 sherds
% of Early Classic Total: 11.6%
% of Site Total: 8.6%

Discussion: This ware at Semetabaj has been divided into three types. Types I and II are similar in paste, but differ in form and surface treatment, probably reflecting utilitarian versus ceremonial purposes. Type III differs in having conspicuous and abundant coarse pumice in the paste. We do not yet understand the precise relationship between the types, and until they can be accurately identified it seems best to keep them in one generalized ware category but distinguished from each other within it.

A few examples of Types I and III were recovered from Preclassic levels at Semetabaj but as small sherds only from which the vessel forms cannot be determined. Type II is apparently most popular during the Protoclassic at Semetabaj (Lot #23).

I. Type:

Discussion: This type seems confined to utilitarian use as there are only two forms present, comales and jars.

Paste: Medium to medium-coarse with irregular quartz particles and occasional mica flecks. Color is brick red to reddish-brown.

Surface finish: See under Vessel Form.

A. Vessel Form: Walled comales (Fig. 10a). These have a flat base, the wall curving or flaring from a rounded to sharp-rounded wall-base junction to a direct rounded rim. The wall is noticeably thicker than the base. The comal is better smoothed on the interior than the exterior, and some bear a thin light orange micaceous wash. The floor of the comal may be smoothed like the wall interior, or it may be coarsely striated. At least some of these comales bore handles. There is one example of a circular lug handle projecting from the rim; it has a small round perforation through the center of it and deep gashes around the outer edge. Another has a triangular lug handle with a large circular perforation through the center. Among the body sherds there is a section of a "bail" or "market basket" style handle which has a rounded upper surface while the underside is flat.

The flaring-wall comales seem to have a long life in the Highlands of Guatemala. The form is common in a red paste ware comal at the site of Amatitlan during the Late Classic (Shook Laboratory sample).

Total: 54 rims, 27 plain bodies, 15 striated bodies,
1 lug handle, 1 bail handle

B. Vessel Form: Short-necked jars with globular body and lip to shoulder strap handles. The more common jar form has an everted rim with rounded lip (Fig. 10b) from which a wide flat strap handle projects horizontally, then makes a right angle to meet the jar body. The form is similar to Santa Marta Brown jars. One example, instead of an everted rim has a sub-labial ridge just below the rim; the wide strap handle projects directly from the ridge in the manner just described. The second form has a short neck with direct rounded rim (Fig. 10c). On the exterior the neck-body junction is evenly curved, while on the interior the neck curves to a sharp neck-body junction. The strap handle springs from the rim and curves to its point of attachment above the jar shoulder.

Some of these jars are unslipped. Others have a sloppily applied white slip on the neck interior and again on the exterior starting from the lower edge of the everted rim and extending over the jar body. The white slip may be low-burnished and is often very micaceous. The upper surface of the rim and handle is left unslipped and unburnished or it may have a thin red slip which is low-burnished.

Body sherds indicate that some of these white-slipped jars have one or two encircling ridges on the body exterior. One example has below the two ridges a red-painted dot over the white slip.

Total: 24 rims, 186 bodies, including handles

II. Type:

Discussion: This type differs from Type I in forms and is generally thicker walled and of coarser paste.

Paste: Medium to medium-coarse with many light colored volcanic ash (?) and quartz inclusions, some of these ranging up to 1 cm. in diameter. Color is brick red to reddish-brown.

Surface finish: Surface is roughly smoothed only and is typically left unslipped and unburnished. Color is the same as the paste, often with large black firing clouds. The surface of jars (Vessel Form C) appears to be intentionally roughened or striated. Occasionally on the spiked vessels of Vessel Form D there is a thin fugitive white slip.

A. Vessel Form: Shallow bowls and comales. The comales are flat, either slightly upcurving at the rim or with flaring wall to a direct rounded rim. The wall-base junction is rounded with the wall slightly thicker than the base (Fig. 10d). The shallow bowls are similar to the comales in form but are smaller in diameter. The base is thick with rounded wall-base junction, the wall thinning noticeably toward the direct rounded rim, giving the appearance of a saucer (Fig. 10e). Both the comales and small shallow bowls are better smoothed on the interior than the exterior.

Total: 19 rims, 3 bodies

B. Vessel Form: Open bowls with wall curving to a beveled or everted rim with flattish or thinned lip. One very thick-walled example has a rounded base and evidence of a solid tripod support (Fig. 10f). Vessels are roughly smoothed on interior and exterior.

Total: 2 rims, 3 bodies

C. Vessel Form: Jars. These apparently have an elongated "tear-drop" shaped body which terminates in a flat everted rim with rounded lip. The base is probably flattish, according to the body sherds recovered. The interior of the jar is left very rough. The exterior has a striated surface achieved by scraping it with a rough-edged tool.

Included is one rim which came from the surface of Pit #6. It is similar to the wide-flaring rim jars as described for Protoclassic Red Paste Ware. It bears an all-over thin light orange micaceous slip.

Total: 8 rims, 26 bodies

D. Vessel Form: Spiked vessels, censors, etc. One of these is a large cylindrical vessel (censor?) with basal ridge and flat, slightly sagging base. The rim form is uncertain. The vessel is crudely modeled and left very rough on the interior.

The spiked vessels have finger-pinched daubs of clay on the exterior (Fig. 10g). One example has a flaring wall to direct rounded rim, and bears an all-over thin red unburnished slip. Another has a slightly curving wall to a direct rim with finger-pressed tabs of clay continuous around the exterior. The vessel bears a thin fugitive white slip on the exterior.

Total: 109 sherds (rims and bodies)

III. Type:

Discussion: This category consists of a few sherds only which do not appear to belong to Types I and II. They resemble most closely the Red Paste Ware of the Protoclassic, and may be related to it.

Paste: Coarse textured with abundant and conspicuous pumice particles throughout. Color is brick red to reddish-brown.

Surface finish: Most are smoothed but left unslipped and unburnished. Several have a thin unburnished orange slip, and one jar sherd is slipped red on the exterior and cursively burnished.

Vessel Form: Most sherds come from jar bodies with strap handles. One jar rim is present; this jar has a short neck which terminates abruptly in a flat everted rim.

Total: 1 rim, 6 bodies

Red on Buff Ware

Total: 29 sherds
% of Early Classic Total: .68%
% of Site Total: .50%

Discussion: This pottery is probably the same as or a slightly later development of Protoclassic Red on Buff Ware. It is a very minor category of the Early Classic wares.

Paste: Coarse textured, the color ranging from pinkish to tan, with abundant large conspicuous pumice and sand particles.

Surface finish: The jars are smoothed on the exterior and in some cases there is a thin burnished whitish slip on the neck and body exterior, and interior of rim and neck. Some have unpolished red paint on the upper surface of the rim and handle, and red painted broad line decoration on the exterior at and below the neck-body junction.

Vessel Forms: All examples seem to come from large, medium to thick-walled jars with vertical to flaring or outcurving neck. The rim is beveled on the interior to a flat lip, or flaring or everted with a rounded lip. From the neck base the body is probably globular; among the body sherds is a thick strap handle.

Total: 6 rims, 36 bodies

Coarse Pink Ware

Total: 172 sherds
% of Early Classic Total: 4.0%
% of Site Total: 3.0%

Discussion: At Semetabaj Coarse Pink Ware is confined to the Early Classic levels of the excavations. Its friable nature and lack of care in manufacture suggests it was a local ware which was produced, at least in part, for ceremonial use.

Paste: Medium to coarse texture, the coarser paste showing abundant pumice and sand particles. Some examples also have numerous large and conspicuous red ferruginous inclusions. Paste color is pinkish tan to light pink to gray.

Surface finish: The majority of vessels are all-over smoothed but left unslipped and unburnished. Others are slipped the same color as the paste and moderately burnished. Some of the vessels bear a thin fugitive white unburnished slip.

A. Vessel Form: Open bowls with curved to flaring wall from a flat base. Rim may be direct rounded or flat, or beveled on the interior, or slightly everted. One restorable example (Fig. 10n) recovered from Pit #3 has a beveled rim to a thinned lip, sharp basal ridge, and three solid tapering feet. It was undoubtedly deposited as an offering along with other large sherds of a similar vessel (Fig. 10m) without the basal ridge and tripod supports. Some of the direct rim examples have spaced pointed tabs projecting vertically from the rim, while others have finger-pressed daubs of clay continuous around the rim exterior or overlapping both sides of the rim (Fig. 10j). One example has a finger-indented "pie-crust" rim and traces of fugitive white paint on the interior and exterior. Among the body sherds is a ring stand base from a large bowl with basal ridge.

Total: 50 rims

B. Vessel Form: Curved wall bowls with flat everted rim; the base is probably rounded. The wall curves on the interior to a sharp junction with the flat everted rim with rounded or sharp outer lip (Fig. 10h). One body sherd suggests that these bowls may have had loop handles on the wall exterior. There is no slip or painted decoration.

Total: 3 rims, 5 bodies, including 3 ring stand bases

C. Vessel Form: Other bowls. These tend to be thick-walled, rather coarsely fashioned bowls. The wall is vertical (Fig. 10l), curved (Fig. 10k), or flaring (Fig. 10i) to a beveled or everted rim with a rounded lip. Wall-base junction is rounded to a flattish base. Vessels are smoothed on the interior and exterior, and some bear an all-over burnished slip which is whitish or the same color as the paste. One has a fugitive white slip on the interior and is unburnished.

Total: 16 rims, 7 bodies

D. Vessel Form: Neckless jars. These tend to have a thinner wall than the deep bowls. The body is globular or sub-globular, the upper wall making a smooth curve to a direct or slightly upturned rim. The rim may be rounded (Fig. 10p) but more commonly is thinned sharpened (Fig. 10o), rounding on the interior to make a smooth junction with the wall.

Total: 4 rims
Bowl Body Sherds: 74 bodies

Creamy Brown Slipped Ware

Total: 72 sherds
% of Early Classic Total: 1.6%
% of Site Total: 1.2%

Discussion: This ware is found in small quantity at Semetabaj but it comprises a distinct category in the Early Classic levels. In surface treatment and a few forms it shares the style of an Early Classic streaky brown slipped ware from the area of Tiquisate, department of Escuintla, but in certain other forms and in paste the two are very different.

Paste: Medium to medium-fine in texture. Color ranges from brick red to light pink, with tan to gray to dark gray central core. All examples have varying amounts of fine to medium white pumice and quartz particles. Some also have numerous small to large conspicuous red ferruginous inclusions.

Surface finish: Vessels characteristically have an all-over brown to black well-polished slip which appears patchy and streaky, the darker tones grading into lighter cream-colored ones, giving a "creamy" or "milky" effect. The slip often contains small gold mica flakes which glisten on the polished surface.

A. Vessel Form: Curved wall bowls. Some of these are simple silhouette bowls with the wall curving evenly to a direct thinned rounded rim (Fig. 10t; 19m). Others are similar in form except the wall is more flaring from the rounded base and there is

an encircling finger-wide groove on the exterior just below the direct rounded rim (Fig. 10v; 19n). Apparently some of the bowls had a ring base (Fig. 19p). A number of the examples have conspicuous ferruginous particles throughout the paste.

Total: 13 rims, 20 bodies including 3 ring bases

B. Vessel Form: Open bowl with flat base; from a sharp wall-base junction the wall is outcurving to a direct flat rim (Fig. 10s). The single vessel represented is thick-walled and one base sherd shows evidence of a hollow cylindrical support. Paste is pumiceous with some mica flakes, and there is also mica in the mottled creamy-brown slip. The base sherd has at least one pre-slip deep coarse-incised encircling line on the wall exterior .5 cm. above the junction with the base.

Total: 2 rims, 1 body

C. Vessel Form: Deep bowls with basal ridge or flange. These are generally large cylindrical or slightly flaring-walled vessels with flat or sagging base. At the wall-base junction there is a pronounced encircling ridge or flange, and most examples bear evidence of hollow (tripod?) supports. The one rim recovered and the majority of body fragments come from a single vessel (Fig. 10q; 19l). This rim is direct thinned rounded, and 4.3 cm. below it on the interior is an encircling pre-slip groove. There is no decoration on the wall exterior other than an encircling narrow ridge on the upper surface of the basal flange. Probably belonging to this vessel is an elongated tapering hollow foot with flattish terminal and two opposite vertical slot vents at the sides. Another example from a similar vessel has an encircling sharp ridge 2 cm. above the basal flange. A third example has incised decoration on the wall exterior consisting of an encircling line 1 cm. above the basal flange and extending from it are parallel vertical lines (Fig. 19o).

Possibly associated with these bowls is a fragment of what may have been a cover or lid with thick, flat, 1 cm. wide molding at the wall junction; the molding is decorated with spaced deep slanted gashes (Fig. 17w).

Total: 4 rims, 32 bodies

Early Classic Polished Black-Brown Wares

Total: 337 sherds
% of Early Classic: 7.9%
% of Site Total: 5.9%

Discussion: This category includes all the polished black-brown slipped wares recovered from the Early Classic levels of the excavations at Semetabaj which are not recognized as Preclassic types. Certainly more than one ware is represented and

undoubtedly some mixing with Preclassic wares has occurred, especially among the body sherds. Further study is necessary before accurate ware distinctions can be made.

Paste: Medium to fine texture. The color ranges from reddish to brown to black from firing. The finer paste has very tiny pumice particles scattered throughout with occasional ferruginous inclusions. The coarser paste has conspicuous medium-sized particles of pumice and sand.

Surface finish: Vessels bear an all-over (jars on exterior only) polished reddish-brown to dark brown to black slip. The darker slip sometimes contains numerous mica flecks.

A. Vessel Form: Curved wall bowls. These are simple silhouette bowls, the wall curving evenly from the base to a direct rounded rim. The wall is thin (.5 cm.). The slip on these bowls is reddish-brown, and there are conspicuous red ferruginous particles in the paste. There is no decoration.

Total: 3 rims, 1 body

B. Vessel Form: Open bowls with wall flaring to an everted rim. One example has on the upper surface of the rim incised multiple zig-zag lines bearing red paint. The slip on these bowls varies from medium brown to jet black.

Total: 3 rims

C. Vessel Form: Vertical wall bowls and cylinders (Fig. 10r). The vertical wall bowls are wider in diameter than the cylinders. Other than jars, this is the most common form in Early Classic polished black-brown wares. The wall is vertical or very slightly outcurving to a direct rounded or thinned rim; the base is probably flat. One vertical wall bowl has shallow parallel vertical finger-wide pre-slip grooves around the wall exterior. One of the cylinders has a pre-slip incised decoration of opposed slant lines on the wall exterior below the rim. Another has post-slip and post-polish incised decoration consisting of a band of hatched triangles below the rim on exterior and .5 cm. below these is an encircling line (Fig. 17t). The wall below the encircling line has decoration of cross-hatched panels alternating with parallel slant lines.

Total: 7 rims, 1 body
Bowl Body Sherds: 31 bodies

D. Vessel Form: Restricted orifice bowls and jars. The restricted orifice bowls are represented by body sherds only. One of these has a sharp shoulder with a straight upper wall sloping inward to the rim. The wall below the shoulder is rounded towards the base. Above the sharp shoulder is a row of flat buttons with horizontal slit through the center (Fig. 17u). Another body sherd shows the upper wall curving inward from the shoulder, then becoming vertical toward the rim. There is an encircling sharp

ridge above the shoulder and at least two rows of the horizontally slit "buttons". A third example has a sharp-rounded shoulder with an incised zig-zag line above it.

There is one example of a neckless jar with globular body which terminates in an exteriorly bolstered rim with flattened lip. The bolster is 2.5 cm. wide. One jar has an everted rim which is flat on the upper surface, rounded on the underside. A polished black micaceous slip extends from the neck interior over the flat everted rim surface, the lower side of the rim being left unslipped. This vessel apparently had two opposite 4.5 cm. wide strap handles on the globular jar body. Another jar rim is similar in form but the outer edge is notched; a polished reddish-brown slip covers the rim surface but the underside is left unslipped. This jar may have had a sharp shoulder.

Among the jar body sherds are a number with sharp or sharp-rounded shoulder; one of these shows evidence of red-painted decoration. Others have a globular body, occasionally with incised encircling or curvilinear lines.

Total: 5 rims, 299 bodies

Graphite on Red Ware

Total: 8 sherds
% of Early Classic Total: .18%
% of Site Total: .14%

Discussion: We suspect that this pottery is a later development from Preclassic Utatlan Ware.

Paste: Medium fine texture. Color is brick red with a grayish brown core. Visible throughout the section are very tiny white (quartz?) and mica particles.

Surface finish: All vessels bear a polished dark red slip over which is applied graphite painted decoration (see under Vessel Form).

A. Vessel Form: Basal ridge bowls (Fig. 9h; 17v). The form is similar to the Peten Polychrome basal ridge bowls of the Tzakol phase. The wall is straight-flaring to a direct rounded or flattish rounded rim. On one example there is a shallow encircling groove on the interior 1 cm. below the rim; on another the rim interior is offset from the wall for a distance of 1.2 cm. A sharp basal ridge encircles the bowl exterior at the wall-base junction. The base is rounded, but whether the vessel was supported by tripod feet or ring base is not evident. The bowl interior and wall exterior as far as the upper surface of the basal ridge is slipped a dark red or specular hematite red and is highly polished. The base exterior and lower surface of the ridge is left unslipped but cursively polished, the burnishing strokes leaving dark brown streaks on the reddish-brown surface. Graphite paint fills the interior rim groove or offset portion, and on the wall exterior there is graphite painted decoration in rectilinear designs.

Total: 7 rims, 1 body

B. Vessel Form: Jar or restricted orifice bowls. This form is represented by one body sherd only. It suggests a globular jar body which is unslipped and unpolished on the interior. The exterior is slipped dark red and is low-burnished, with graphite painted decoration in vertical lines 1.5 cm. apart.

Total: 1 body

Peten Polychrome Ware

Total: 7 sherds
% of Early Classic Total: .16%
% of Site Total: .12%

Discussion: The few sherds recovered are typical of Polychrome basal-ridge bowls from the Peten during the Tzakol Phase, and undoubtedly represent a direct import from that area into the Highlands.

Paste: Medium fine to fine texture; color varies from pinkish-orange to ruddy to light pinkish-tan, to an occasional light gray core.

Surface: All vessels are slipped on interior and exterior with a light creamy underslip, over which is applied a bright orange slip. Wall exterior has red and black painted decoration. All surfaces are highly burnished except for a fragment of a base with a ring stand which is slipped and polished on the vessel floor only.

Vessel Form: All sherds are apparently from basal-ridge bowls. The wall is straight-flaring to slightly outcurving to a direct rounded rim or a rim which is very slightly beveled on the interior. From the sharp ridge at the junction with the wall the base curves to (probably) a low ring-stand. Two examples have a red painted rim band with the paint extending from the outer edge of the rim, over the edge, and down .5 cm. on the interior; one example has the red paint extending .5 cm. down on interior and exterior. The other example is too severely weathered to see the rim band. One sherd shows an encircling .5 cm. wide black band on the wall interior below the red rim band. All have a thin black line encircling the wall exterior either at the lower edge of the red rim band or 1 cm. below it. One example has a 1 cm. wide black band encircling the wall exterior just above the basal ridge, and the other example has black paint covering the upper surface of the basal ridge. There are red and black painted designs on the wall exterior, but all examples are too weathered or fragmentary to discern more than faint outlines or small traces of the pattern.

Total: 3 rims, 4 bodies

Early Classic Fine Paste Ware

Total: 10 sherds
% of Early Classic Total: .23%
% of Site Total: .17%

Discussion: This is a very small ceramic category at Semetabaj, but is distinguished by being of very fine paste.

Paste: Very fine in texture, some examples bearing no obvious temper and others having fine white or black particles seen best with a hand lens. Color ranges from light pinkish-tan to light gray.

Surface finish: Some examples bear an all-over highly polished light gray slip. Others are unslipped but well-smoothed, and a few bear traces of thin micaceous white slip which weathers readily.

Vessel Forms: One example with polished gray slip has a flat, slightly recurved base and curved wall; the rim is not present. Another has a very flat base. The unslipped examples come from curved wall bowls with rounded base. One example with traces of white slip has a straight-flaring wall to direct rounded rim, and another is from a necked jar.

Total: 2 rims, 8 bodies

Micaceous Slipped Wares

Total: 21 sherds
% of Early Classic Total: .49%
% of Site Total: .36%

Discussion: This is a very small category of pottery (probably all Early Classic) which is characterized by having a very micaceous slip.

Paste: Medium texture, dark brown to light brown in color with conspicuous small to medium sized white particles throughout. Some examples have mica flakes in the paste.

Surface finish: Vessels bear an all-over thin micaceous slip which ranges in color from pinkish-cream to gray to black. Some have, in addition, decoration in thin red paint.

Vessel Forms: One rim sherd is of a simple silhouette bowl, the wall curving slightly to a direct rounded rim. There is an all-over micaceous slip; the interior is well smoothed, of pinkish-tan color, while the outside is less well smoothed and is fire-blackened. There is a band of thin red paint from the top of the rim down .7 cm. on the interior. Another rim is from a globular jar with low outcurving neck to a flat everted rim with rounded lip. The jar bears an all-over highly micaceous black slip. Among the body sherds is one from a jar with encircling low sharp ridge on the exterior. The jar bore an all-over pinkish-cream micaceous slip and there is a thin red paint over the ridge. Another has a similar ridge but lacks the red paint.

Total: 2 rims, 19 bodies

Red Painted Wares

Total: 60 sherds
% of Early Classic Total: 1.4%
% of Site Total: 1.0%

Discussion: This is a miscellaneous category of ceramics which do not qualify within the other classifications, and are distinctive in bearing red painted decoration on the unslipped or slipped vessel surface. Most appear to be certainly Early Classic.

I. Type: Red on Brown (Unslipped)

Paste: Ranges from fine, non-pumiceous, to medium-coarse with conspicuous white particles. Color is medium to dark brown, often with a gray core.

Surface finish: Vessels are all-over smoothed and burnished but left unslipped, the surface color being the same as that of the paste. All have decoration of burnished orange-red to red paint.

A. Vessel Form: Open bowls with flaring wall to everted rim. Two rims have a flat lip on exterior; the other two have a wavy rim edge with rounded lip. One of the latter has a coarse-incised crescent line on the upper rim surface. All bear orange-red burnished paint on the upper rim surface to the edge of the lip.

Total: 4 rims

B. Vessel Form: Cylinders. The single example is 11 cm. in diameter; the wall is vertical to a slightly flaring rim which is rounded on the interior, sharp on the exterior. Below the rim on the exterior are two encircling incised lines 1 cm. apart, with the area between them filled with red paint; vessel is all-over well polished. On one side, at least, there is a circular perforation through the vessel wall near the upper edge of the red band.

Total: 1 rim

C. Vessel Form: Jars. Most examples come from jars with tall outcurving neck (up to 10 cm. in height). On one example the neck terminates in a direct flat rim; polished red paint covers the neck exterior to the rim. On others the neck terminates in a wide-flaring rim. The neck exterior on these makes a smooth curve to the rim, and there is a wide (5 cm.) polished red band encircling the base of the neck. On the interior there is a sharp rim-neck junction, and polished red paint on the upper surface of the rim. One body sherd is of a small thin-walled jar with sharp shoulder and rounded lower wall to the base. Above the shoulder there is a band of polished orange-red paint with concentric crescents incised through the paint.

Total: 8 rims, 8 bodies

Type I body sherds, vessel form not identified: 13 bodies

II. Type: Red on Orange Slipped

Paste: Medium to fine texture, color is light reddish-brown to light tan, some with a gray core.

Surface finish: All vessels bear a cream to bright orange slip. This slip ranges from thick to very thin, is polished, and in one case is slightly micaceous. Over the orange slip there is red painted decoration.

A. Vessel Form: Curved wall bowls. Two examples have a direct rounded or flat rim; one of these has red paint on the rim, and the other has red paint from the outer lip of the flattish rim down 1.3 cm. on the exterior. Another example has a curved wall to everted rim with sharp outer lip; on the exterior below the rim is an encircling finger-depressed groove. In the groove are two encircling incised lines; red paint covers from the interior of the rim, over it and down 2 cm. on the exterior to just below the groove.

Total: 3 rims

B. Vessel Form: Flaring wall bowls. Several of these have a straight-flaring wall to a direct rounded or flat rim. Decoration occurs as follows:

1. A red painted band from the rim edge down .5 cm. on exterior.

2. Wall is thick (1.5 cm.) with a red painted band on the flattish rim surface.

3. Wall is thin (.5 to .7 cm.) and bears a light micaceous wash on the exterior above and below two encircling incised lines 1.7 cm. apart. Red paint covers the flat rim surface and the area between the encircling lines.

One example has a straight-flaring wall to an interiorly beveled rim with a pre-slip encircling groove on the bevel surface. Red paint covers from .5 cm. below the bevel, over the rim, and down 1 cm. on the exterior. One body sherd is from a flaring wall bowl with sharp wall-base junction and sagging base; a 1 cm. wide red band encircles the bowl at the wall-base junction.

Total: 6 rims, 5 bodies

III. Type: Red on White Slipped

Paste: Medium fine to fine texture; color ranges from light pinkish-tan to brown to gray. Some examples have fine white particles scattered throughout the section.

Surface finish: Vessels bear a thick white to grayish-white burnished slip over which there is decoration in polished red paint.

Vessel Forms: This is a very small category. The one rim is of a vertical wall bowl with direct rounded rim; on the exterior there is an encircling pre-slip groove 1 cm. below the rim. Polished red paint fills the groove and there is red painted decoration on the wall below it. All body sherds are from curved or flaring wall bowls, most with encircling bands of red paint; one has an encircling ridge covered with red paint. One example is of a curved wall bowl with vertical fluting on the exterior; red paint covers the wall exterior.

Total: 1 rim, 6 bodies

Postclassic, Colonial, and Modern Pottery

Total: 71 sherds

Discussion: This category consists of a very small quantity of sherds found at or just below the surface level of the excavations, and one restorable jar which is probably intrusive into Pit #3.

Postclassic Tohil Plumbate Ware

The Postclassic is represented by one rim and body sherd (not from the same vessel) of Tohil Plumbate Ware. The paste is very fine in texture, hard-fired, and medium gray in color. There is an over-all lustrous slip which grades in color from orange to gray. The rim is from a small jar with slightly outcurving neck to direct thinned rim. The body sherd is also from a jar and shows pre-slip curvilinear grooving.

Total: 1 rim, 1 body

Colonial and Modern Pottery

There are several examples of glazed (Totonicapan?) pottery, and one jar neck sherd which may be of modern Chinautla white ware.

Total: 3 rims, 6 bodies

One restorable jar (Fig. 11b) probably represents an intrusive cache or offering in Pit #3, interred in comparatively recent times. The paste is medium-coarse, soft and friable, and very sandy in consistency. The paste color is light pinkish-brown to brown. The surface is unslipped and unpolished, the same color as the paste, with large black firing clouds. The jar has a globular body, very thin-walled, with very low flaring neck to direct flattish rim. Placed just above the jar shoulder are two opposite vertical loop handles.

Total: 6 rims, 54 bodies

Unidentified Wares

Total: 9 sherds

A few sherds remain unidentified, either on the basis of paste and surface finish or by being unusual in vessel form. All examples come from the Early Classic levels of the excavations, but of course may be of earlier date.

There are two rim sherds of a medium-coarse, light reddish-brown paste. One is unslipped, while the other has an all-over burnished slip the same color as the paste. Both are from deep bowls with thick vertical or flaring wall. One has a direct rounded rim with deep encircling groove on the interior 1.5 cm. below the rim. On the other the rim on the interior rounds to the top directly from the wall; on the exterior the rim curves outward from the wall to terminate in a thinned, sharp, exaggerated outer lip.

Two rims are of medium to coarse sandy pinkish paste, and were either unslipped or have lost the slip through weathering. Both examples are from shallow bowls with very widely flaring rim to a thinned lip, or rounded upper lip and sharp lower lip.

There are a few small body sherds of fine gray to black paste, or medium texture brownish paste; these are all-over slipped white to grayish and are well-polished.

Total: 4 rims, 5 bodies

Pottery Artifacts

Total: 31 sherds

The pottery artifacts from the excavations consist of fragments of human figurines, animal figures, whistles and flutes, cut sherds, and flat rectangular slabs.

I. Human Figurines.

1. One fragment of a small solid human figurine head (Fig. 20c). Paste is medium textured, hard-fired, reddish-brown; the surface is well smoothed, unslipped, and unpolished. The eye is fashioned by two opposite horizontal jabs, the displaced clay leaving a raised "pupil" at the center. There is a small finger-pinched nose and the hair is represented by a smooth finger-pinched edge around the head. This fragment was recovered from the Preclassic level of the excavations.

2. Two solid body fragments, probably representing the shoulder and upper arm (Fig. 20a, b). Paste is medium textured, hard-fired, brown with black firing clouds. The surface is well smoothed but left unslipped and unpolished. Preclassic.

3. One fragment of a solid torso, flat at the back and rounded over the front (Fig. 20d). Paste is medium textured, hard-fired, brown at the edges with thick light gray core. Surface is slipped specular hematite red and burnished. Preclassic.

4. Hand and arm fragments from a hollow figure. Paste is medium textured, hard-fired, dull orange in color. Surface is well smoothed but unslipped and unpolished. The arm is short, thick and stubby, with three modeled fingers suggesting a hand or paw with a modeled wrist band (Fig. 20g). Preclassic?

II. Animal Figures.

1. Solid animal effigy head (Fig. 20f). Paste is medium textured, hard-fired, pinkish-orange at the edges with a thick light bluish-gray core. The surface is smoothed and shows traces of fugitive white paint. The head is crudely modeled to show an elongated animal head with wide, flat upturned snout. The ears are pointed, formed by a V-shaped cut at the top of the head. The eyes are two appliqued flat disks. Early Classic.

2. Thick cylindrical solid column suggesting an animal foot (Fig. 20h). The column is slightly curving from a flat base. Paste is medium coarse, sandy, pinkish at the edges with a thick gray core. There is no slip or polish. Early Classic.

III. Pottery whistles, flutes, etc.

1. Mouthpiece of a double-chambered whistle (Fig. 20m). The paste is medium fine, hard-fired, light pinkish-brown throughout. The surface is smoothed, the

same color as the paste with dark gray firing clouds, and with traces of thick white paint. The mouthpiece is tubular, 6 cm. in length, the tube expanding slightly to its division into two adjacent hollow bulbous resonating chambers. At the top of the whistle, at the junction of the two hollow chambers, is a bird-head effigy. These double whistles are known from the Las Charcas phase at Kaminaljuyu (Shook, field notes). Although recovered from the upper levels of the excavations (undoubtedly occuring in mixed fill of the construction), the fragment is certainly of Preclassic date.

2. Five fragments of flutes (Fig. 20i-l, n). Paste is medium to fine textured, hard-fired, pinkish at the edges with a light gray core. The surface is smoothed, the same color as the paste except for two fragments which show traces of white paint. The flute is tubular, consisting of a linear series of segmented resonating chambers similar to one reported by Shook from the department of Quezaltenango (Boggs 1974: Fig. 4). One mouthpiece section shows a rudimentary appliqued bird head on the first bulbous chamber. The "coffee bean" eye of the bird is an oval strip of clay with horizontal slit through the center. The beak, now broken, protruded between the eyes, and just below it is a small appliqued round clay pellet. Early Classic or later.

3. One tubular mouthpiece from a whistle. Paste is medium textured, hard-fired, dark brown; the surface is unslipped and unpolished. Chronology uncertain.

4. One fragment of a round clay pellet, probably from a rattle. The paste is fine, hard-fired, brown. There is no slip or polish. Early Classic or earlier.

IV. Cut sherds.

1. One cut sherd is from the body of a thick-walled jar (Fig. 20o). The paste is medium-textured, pinkish-orange, with fine sand temper. The surface on the interior is cursively smoothed, the exterior smoothed but unslipped and unpolished. The shape is roughly oval and reflects the curvature of the globular jar body. No later than Early Classic.

2. Three cut sherd disks from thin-walled vessels (Fig. 20p-r). All are circular, from 3 to 4 cm. in diameter. One is of fine brown paste and is from a jar which was slipped dark brown on exterior and polished. One is of fine light pink paste with light gray core, and is from a bowl slipped white and polished on interior and exterior. The third is from an Esperanza Flesh Ware jar. The paste is medium textured, pinkish to gray, with abundant pumice particles. Surface color is gray. This sherd is certainly Early Classic; the date of the other two is uncertain but no later than Early Classic.

V. Rectangular clay slabs.

Two fragments are of very flat, thin (.6 to .8 cm.) clay rectangular slabs; one has a width of 5 cm. (Fig. 20u), the other is broken. One is of medium-coarse

sandy brown paste, unslipped, and cursively smoothed. Possibly these are portions of bases which supported modeled clay animal figures as Shook noted at Kaminaljuyu. Chronology uncertain.

VI. Unidentified fragments.

There are seven miscellaneous fragments which come from unrecognized clay artifacts or vessels (Fig. 20e, t, v).

Miscellaneous Ceramics Recovered from the Site Area

The first lot of vessels and sherds described below were recovered by workers while digging for construction purposes on Finca Santa Marta, San Andres Semetabaj, and were donated or loaned to the Project for study. The samples ranged from Late Preclassic to Early Classic in date. The second lot came from a refuse pit discovered by workers on Finca Santa Marta after the Project excavations were completed. The contents of the pit were removed and from it a selected sample was loaned to the Project for comparison with the wares from the excavations. The pit clearly is Preclassic in date but it is evident that some mixing has occurred (probably from surface scatter), and that only the larger, better preserved, and more interesting specimens were saved. As such, the refuse pit is of reduced value for chronological association.

Not included is Lot #23 which is held apart as a special sample, being described under the section on Protoclassic Ceramic Wares.

I. Whole vessels and selected sherds from the site area.

1. Small tecomate (Fig. 11e). The body is globular with direct, slightly thinned, rounded rim. Paste is of medium texture, gray-brown to dark gray, with abundant white particles. Vessel is slipped dark brown on the exterior and low burnished. The exterior has red painted broad-line zoned curvilinear designs, the red lines outlined by incising. The red painted areas are more highly polished than the unpainted areas. This vessel was found about 500 mts. west of Str. 4, next to a small spring-fed brook. Preclassic.

2. Small flaring-wall bowl with direct rounded rim (Fig. 11c). The base is flat with three small solid nubbin feet around the edge. The paste is fine textured, medium brown. The vessel is all-over slipped black and well polished. The exterior, though somewhat weathered, shows lighter patches or clouds of orange-brown color, suggesting negative resist painting. Found in association with the small tecomate described above. Preclassic.

3. One large body sherd similar to (2) except the vessel is larger, the wall thinner, and there is no evidence of vessel supports. There is an all-over well-polished

black slip with patches and clouds of white, suggesting negative painting. Found in association with the small tecomate described above. Preclassic.

4. One body sherd of a scored censor cover. The scored underside is concave, while the top is flat; at the top edge there apparently was a strap handle which arched over the censor cover. Preclassic.

5. Deep bowl with thick, flaring wall to direct rounded rim (Fig. 11f). The base is flat from a rounded wall-base junction. The paste is very coarse, pinkish at the edges with thick gray core, showing abundant and conspicuous white particles and large (up to .7 cm. in diameter) ferruginous inclusions. Vessel bears an all-over thin, dull red slip which is only cursively burnished, and which weathers easily. This vessel was found as a cache with obsidian blades, rotted bones, a very large body sherd of Esperanza Flesh Ware, and a small red-slipped jar body sherd similar to the ware of the bowl. Early Classic.

6. Three rim sherds of deep bowls similar to (5), the wall being straight-flaring to an interiorly beveled rim. The paste is coarse, light brown to gray from firing, with abundant coarse sandy particles. One example has a finger depressed encircling groove on the rim bevel; another has an all-over dull red slip which is cursively burnished. End of Late Preclassic or beginning of Early Classic.

7. One rim of a vessel similar in paste to (6). The wall is outcurving at the top to a direct rounded rim. A wide shallow groove encircles the wall interior 1 cm. below the rim. End of Late Preclassic or beginning of Early Classic.

8. One large rim sherd of a small simple silhouette bowl (12 cm. in diameter) of paste similar to (6). The wall curves from the rounded base to a direct thinned rim. The bowl is crudely fashioned, unslipped and unpolished, the exterior showing uneven finger-pressed manufacture. Early Classic (?)

9. Three body sherds similar in paste to (6). One is from a curved wall bowl or jar; on the exterior there is evidence of a wide encircling appliqued band of raised clay disks bearing a circular impression (perhaps reed-punched) at the center. The second body sherd has a dull orange-red lightly burnished slip on the exterior. The third example is a portion of a curved strap handle, probably from a jar. Probably Early Classic.

10. Jar or deep globular bowl with flaring rim (Fig. 11d). The rim flares directly from the rounded body to a sharp lip. The paste is medium coarse. Paste color is pinkish brown to a gray core, with abundant small conspicuous white particles and occasional ferruginous inclusions. Vessel is all-over very casually smoothed but left unslipped and unburnished. Found about 200 mts. west of Str. 4. End of Preclassic or beginning of Early Classic.

11. Large sherds of a bowl similar in form to (10) but not as deep. The wall curves to a flaring rim with a "pie crust" edge; a very shallow groove encircles the rim on the interior. The paste grades from pinkish-tan to gray, with abundant tiny particles and occasional small ferruginous inclusions. The vessel is well smoothed on interior and exterior, and there are traces of an all-over thin orange burnished slip. End of Preclassic?

12. One sherd of a Tiquisate Ware simple silhouette bowl (Fig. 10w). The wall is very slightly curving to a direct rounded rim. The paste is medium textured, or ruddy color with numerous small ferruginous inclusions. There is an all-over burnished cream-colored slip with traces of orange flushes. Early Classic.

13. Large sherd of a Peten Polychrome basal flange bowl, Tzakol phase (Fig. 10u). From the flange the wall is straight-flaring to a direct rounded rim. Below the flange the base is rounded, probably with a ring-stand support. The paste is medium-fine, dull orange in color. There are traces of an all-over light orange underslip with a polished orange secondary slip. The upper surface of the flange is painted black, and there is decoration in red and black on the wall exterior, but the sherd is too weathered to discern more than faint traces of color. Early Classic.

14. Five large sherds of a deep cylindrical bowl with wide-flaring rim. The wall is thick (1.2 cm.), vertical to a sharp junction with the flaring rim. The rim edge is missing. Paste is medium in texture, brick red with fine sand and large ferruginous particles. The exterior bears a thin cream-colored slip which is low burnished; the interior is unslipped and unburnished. Around the wall on the exterior are shallow finger-wide pre-slip vertical grooves about 4.5 cm. apart which terminate at an encircling thick, rounded ridge at the junction with the flaring rim. Found just west of Str. 12. End of Preclassic?

15. Fragmentary pottery censor of unique form and construction (Fig. 12a, b; 19q-t). It consists of a base portion that is virtually square in plan, having a depth of about 5.5 cm., like an open tray. The exterior is made up of a rectangular basal molding, a sunken zone, and an upper rectangular molding. Within the tray in each corner is a hollow circular tube or column rising from the floor to join the base of another tray-like square, each column bearing a seated human figure facing outward. The legs of the figure rest on the rim of the lower tray, the hands on his chest. The face shows an open mouth with teeth and there is a curl on each cheek suggesting the curled ends of a handlebar moustache. There are two large ear plugs and a scroll-like element on either side of the face. The face suggests that it was mold-made, the other elements being modeled and appliqued. At the center of the lower tray, surrounded by the four columns, is a human bust with arms and head. This figure (or god?) has its hands fingertips to fingertips, in praying position. The face is broken off and missing.

The upper tray is of the same form as the lower one but is slightly deeper (7 cm. in depth). It also has a rectangular basal molding, a sunken panel, and upper rectangular molding. Each corner of the tray carries a seated monkey, its tail curled

up to the sunken panel on the side of the tray, the hands on either side of the head as if suffering from a headache, or in "hear no evil" position. The head projects 3 cm. above the top of the tray. The interior of the upper tray is heavily smoke blackened from burning in presumed service as a censor.

The paste is coarse, pinkish-red, containing ferruginous, quartz-like and pumice particles, and probably some mica. The exterior is unslipped, cursively smoothed but unpolished. All the exterior of the lower and upper trays and interior of the upper tray bore fugitive white paint. The human and monkey effigies bear traces of fugitive red and yellow paint over the white.

These fragments were a casual find near a spring about 2 kms. southeast of Semetabaj on the Rio Chicasanrres. With the lot came a fragment of a simple silhouette bowl with pedestal base, apparently of the same ware as the censor. Although the chronological placement of the lot is uncertain, it may be towards the end of the Late Classic, or even later, perhaps on the Tohil Plumbate horizon of the Early Postclassic.

16. In the same general area as the above, workmen also found what was apparently a burial containing two red ware tripod jars of Tohil Plumbate form, with jade beads. We were able to record one of the jars (Fig. 15f). This jar has three hollow "cascabel" feet with rattles and a single slot vent on the outer face. All the exterior has a low polished orange slip. Early Postclassic.

17. Red ware tripod bowl (Fig. 15e). Each foot is a hollow open-bottomed cylinder bearing a modeled human effigy face. The bowl has a lightly sagging base and a straight-flaring wall to an outflaring rim. There is a sharp basal molding, and another molding just below the rim. An encircling band of circular disks or buttons occurs just above the basal molding and between the upper molding and the rim. Total height: 13.5 cm. Diameter at rim: 22 cm. Found just south of Str. 4. Early Classic.

18. A small, solid cylindrical stamp, purchased from one of the workmen at Semetabaj (Fig. 20w). Probably Preclassic.

II. Refuse pit.

The majority of these sherds falls into wares familiar from the excavations, the greatest number being of Glossy Orange Ware. All examples described below are of Preclassic date unless noted otherwise.

A. Glossy Orange Ware. A large number of the sherds of this ware are from restorable, nearly complete vessels. Total sherds in the sample: 36 rims, 14 bodies.

1. Open bowl with wall outcurving to a direct, slightly thickened, flattish rim. The base is flat from a sharp-rounded wall-base junction with an encircling groove just above it on the exterior (Fig. 11h). The bowl shows cloudy Usulutan resist decoration.

2. Open bowl with flaring wall to a direct flattish rim which is slightly thickened on the exterior. The wall-base junction is rounded to a flat base. On the exterior there is an encircling groove just below the thickened rim, and below this are sets of three to four bent lines (Fig. 11a). Cloudy Usulutan resist decoration is present.

3. Open bowl with wall outcurving to a direct rounded rim. The wall-base junction is sharp-rounded to a flat base. The wall exterior bears encircling multiple grooves (Fig. 11j), with black clouds of Usulutan resist decoration on the orange surface.

4. One rim sherd of a bowl with straight-flaring wall thickening towards the top to a direct flat rim. The base is probably flat. There is no decoration.

5. There are several examples of flat everted rims from at least four vessels. The wall portion is not present, but was probably flaring. Variations are as follows:

a. Rim is 4 cm. wide; the lower edge is beveled. On the upper surface there is a shallow encircling groove just before the outer edge of the rim, and there is another just before the sharp-rounded junction with the wall interior.

b. Rim is 4 cm. wide and has four encircling shallow grooves on the upper surface.

c. Rim is 5 cm. wide, with four encircling grooves on the upper surface.

d. Rim is 5 cm. wide and has three encircling grooves on the upper surface.

B. Semetabaj Brown Ware. Total: 3 rims, 20 bodies

1. Three rims and one neck sherd come from jars with flaring neck and lip to shoulder strap handles. One has an exteriorly bolstered rim with a row of punctates below the bolster, and has red paint on the neck interior. The others are plain.

2. One body sherd is from a jar with strap handle from the middle of the neck to the shoulder; the neck interior is painted red.

3. One very large strap handle (11 cm. wide) may be from a Semetabaj Brown Ware jar.

C. Other wares.

1. There is one example of a coarse brown ware bowl with flaring wall to direct thinned rim with sharp inner lip. The vessel is unslipped and unpolished. On the wall exterior are deep vertical gouges, .8 to 1 cm. in width, applied in the wet clay after smoothing. This ware is not recognized.

2. One Sacatepequez White Paste White Ware body sherd of a curved wall bowl.

3. One polished black-brown body sherd from a jar with globular body.

4. One jar rim and one comal rim, probably Postclassic or later.

5. One incomplete cylinder stamp (Fig. 11i).

6. One complete stemmed stamp, monkey design (Fig. 11g).

7. Five miscellaneous body sherds, unidentified.

References Cited

Boggs, S. H.
1974 Notes on Pre-Columbian wind instruments from El Salvador. Sonderduck aus Baessler-Archiv. Beitrage zur Volkerkunde, Band XXII.

Borhegyi, S. F.
1951 A study of three-pronged incense burners from Guatemala and adjacent areas. Carnegie Institute of Washington Notes on Middle American Archaeology and Ethnology No. 101.

Brockington, D. L.
1967 The ceramic history of Santa Rose, Chiapas, Mexico. Papers of the New World Archaeological Foundation No. 23.

Clarke, J. D.
1944 The use of bored stones in Abyssinia. Man Vol. XLIX, No. 25. *Royal Anthropological Institute: London.*

Kidder, A. V.
1954 Miscellaneous archaeological specimens from Mesoamerica. *Carnegie Institute of Washington Notes on Middle American Archaeology* and Ethnology No. 117.

Kidder, A. V., J. D. Jennings, and E. M. Shook
1946 Excavations at Kaminaljuyu, Guatemala. Carnegie Institute of Washington Publication 561.

Lothrop, S. K.
1933 Atitlan: an archaeological study of ancient remains on the borders of Lake Atitlan, Guatemala. Carnegie Institute of Washington Publication 444.

1936 Zacualpa: a study of ancient Quiche artifacts. Carnegie Institute of Washington Publication 472.

Parsons, L. A.
1967 Bilbao, Guatemala. Milwaukee Public Museum Publications in Anthropology No. 11.

Rands, R. L. and R. E. Smith
1965 Pottery of the Guatemalan Highlands. Handbook of Middle American Indians, Volume 2.

Shook, E.M.

1941 Field Notes, Book 285, pp. 15-17.

1945 Field Notes, Book 287, p. 2-3a.

1947 Historia arqueologica del Puerto de San Jose, Guatemala. Antropologia e Historia de Guatemala, Vol. I, No. 2.

1951 The present status of research on the Pre-Classic horizons in Guatemala. In: Proceedings of the 29th International Congress of Americanists, Volume 1, S. Tax (ed.). Chicago.

1970 Inventory of some Pre-Classic traits in the Highlands and Pacific Guatemala and adjacent areas. Contributions of the University of California Archaeological Research Facility No. 11.

Shook, E.M. and M. P. Hatch

in press The ceramics of El Balsamo.

in prep. Excavations at Monte Alto, Guatemala

Shook, E.M. and A. V. Kidder

1951 Excavations at Nebaj, Guatemala. Carnegie Institute of Washington Publication 594.

Wauchope, R.

1975 Zacualpa, El Quiche, Guatemala: an ancient provincial center of the Highland Maya. Tulane University Middle America Research Institute Publication 39.

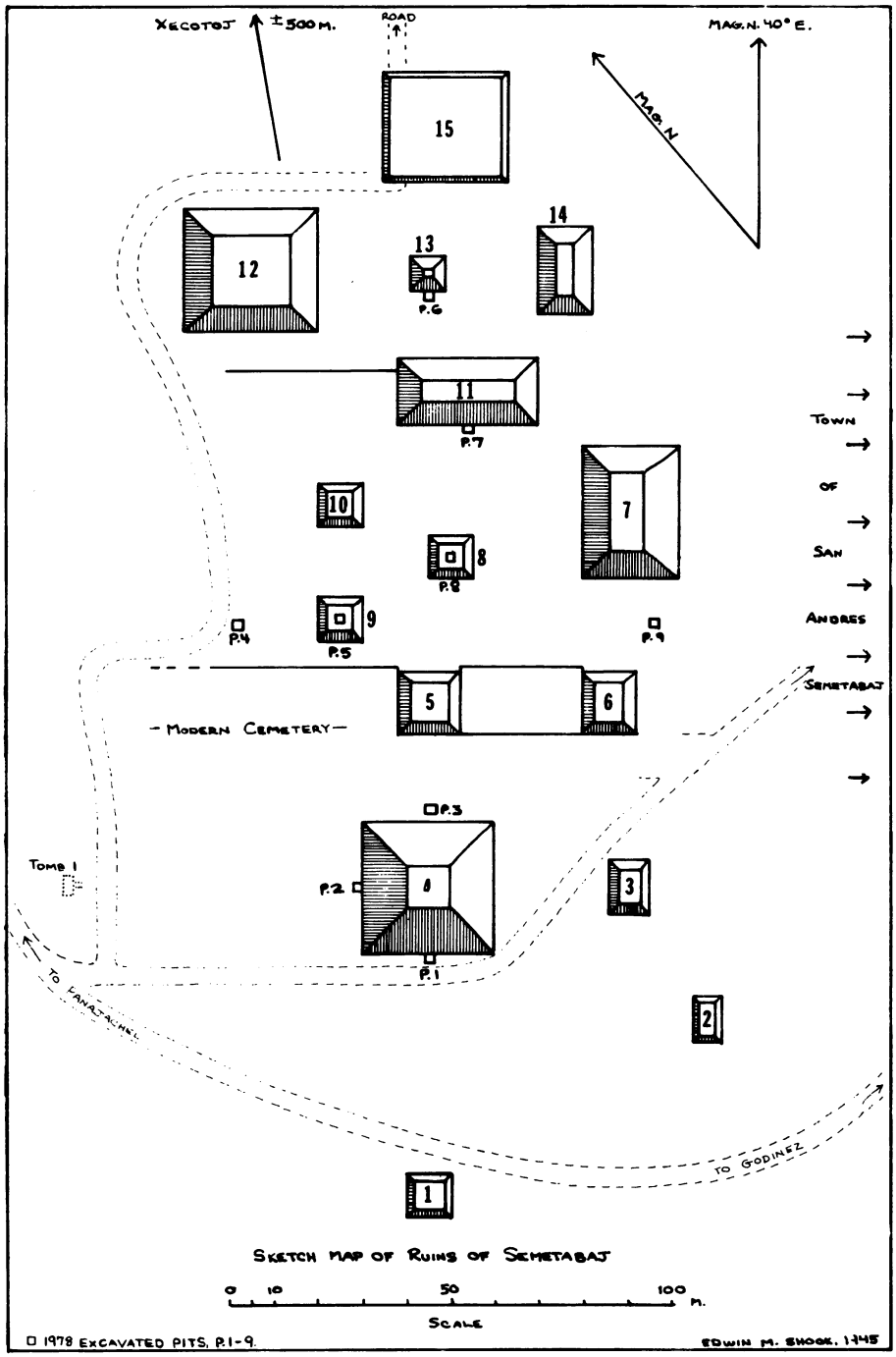

XECOTOJ ±500 M.
ROAD
MAG. N. 40° E.
MAG. N
15
14
13
12
P.6
11
P.7
TOWN
OF
SAN
ANDRES
SEMETABAJ
7
10
8
P.8
9
P.4
P.5
P.9
5
6
- MODERN CEMETERY -
P.3
TOMB 1
P.2
4
3
P.1
2
TO CHAJALJUYUB
TO GODINEZ
1
SKETCH MAP OF RUINS OF SEMETABAJ
0 10 50 100 M.
SCALE
□ 1978 EXCAVATED PITS, P.1-9.
EDWIN M. SHOOK, 1945

FIGURE 1

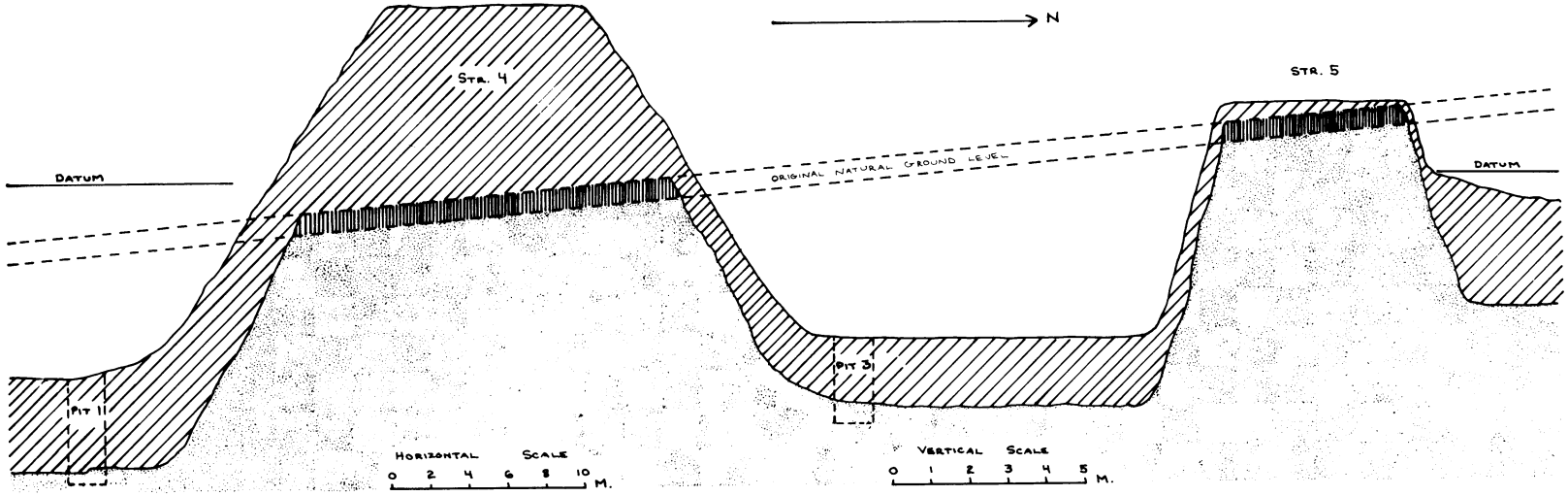


Figure 2

a. Reconstruction section through Strs. 4 and 5 showing natural talpetate and volcanic ash cut in ancient times, leaving elevated stubs of the natural material to serve as foundation cores for finished structures.

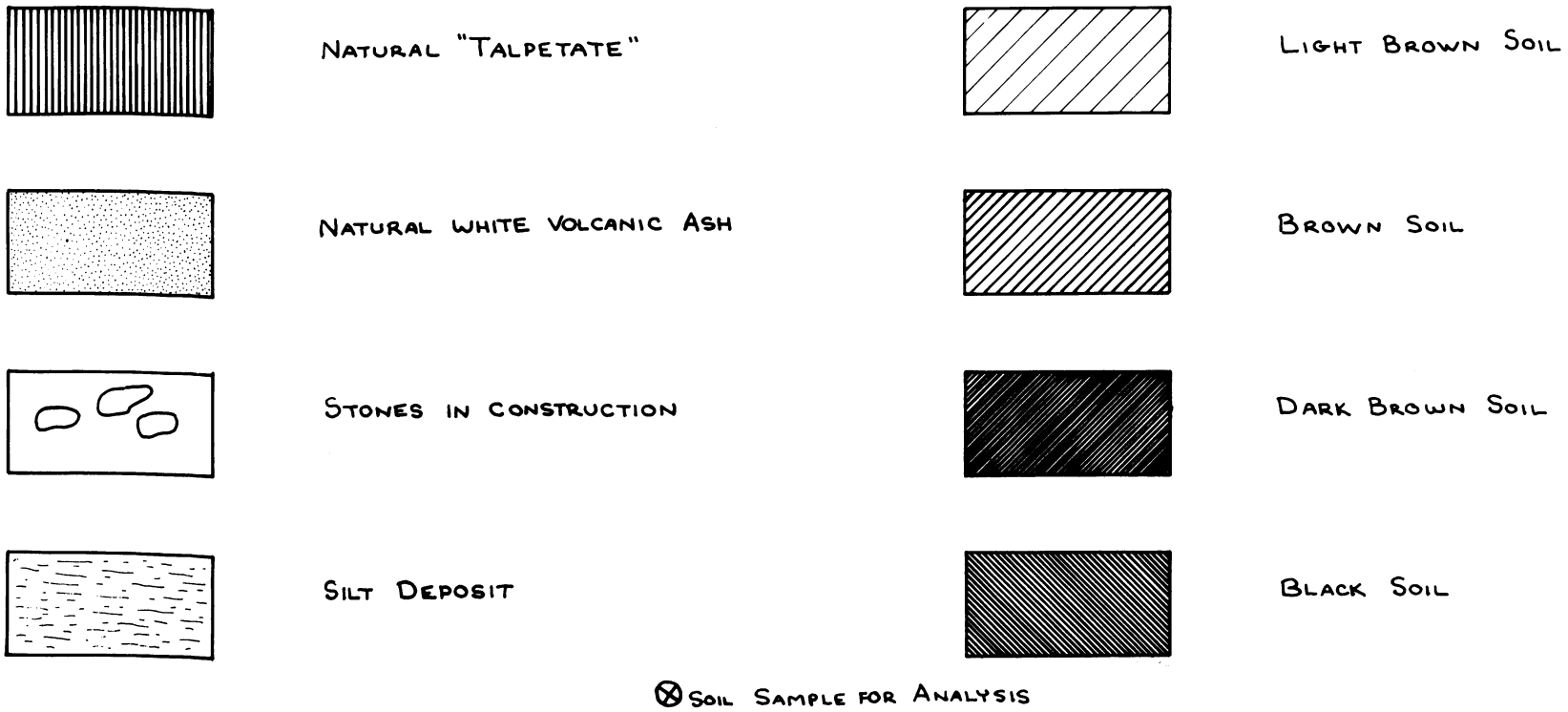


Figure 2

b. Key symbols used in cross-sections of excavated pits.

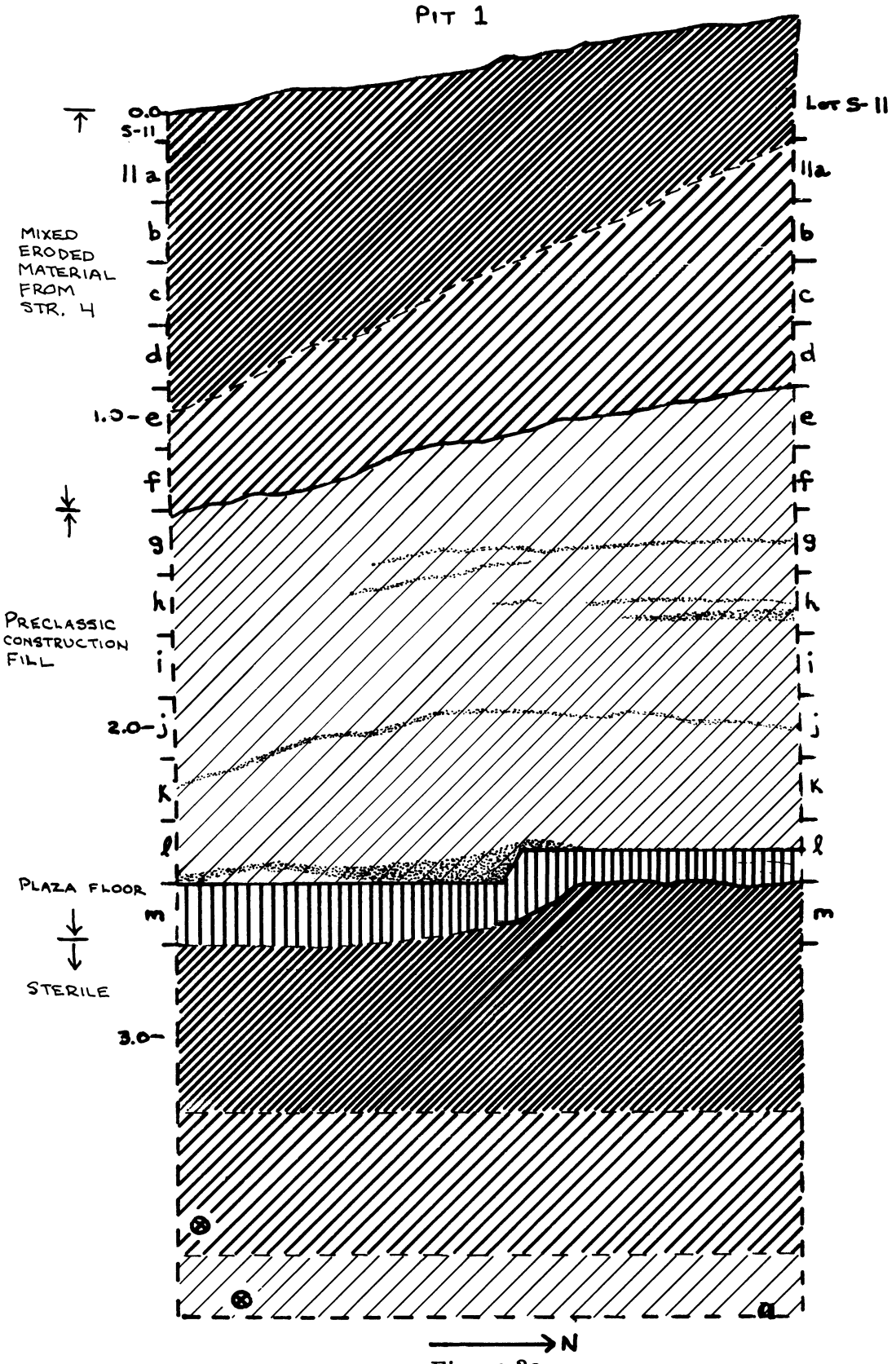


Figure 3a

Cross-section of stratitest 1.

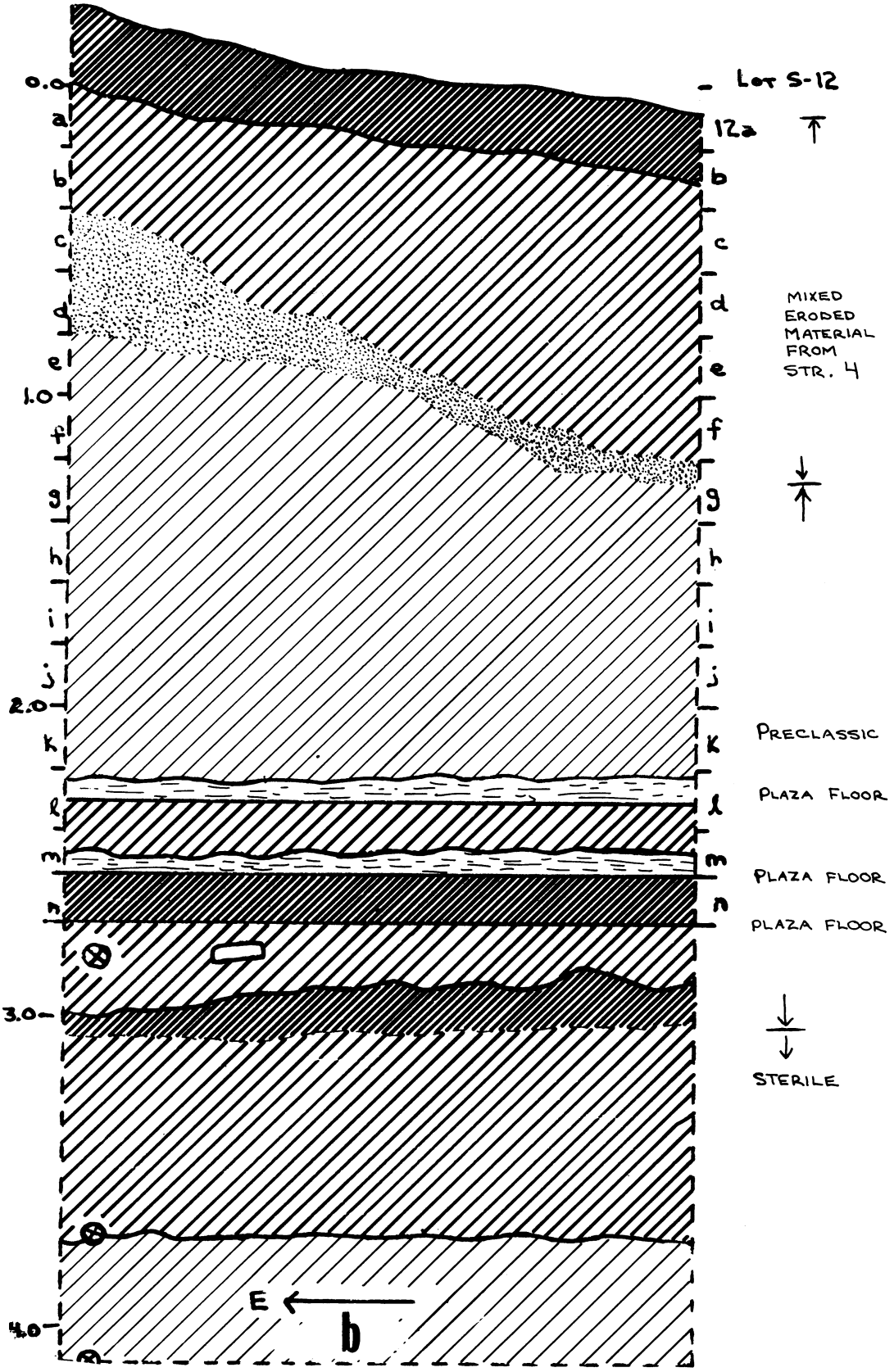


Figure 3b
Cross-section of stratitest 2.

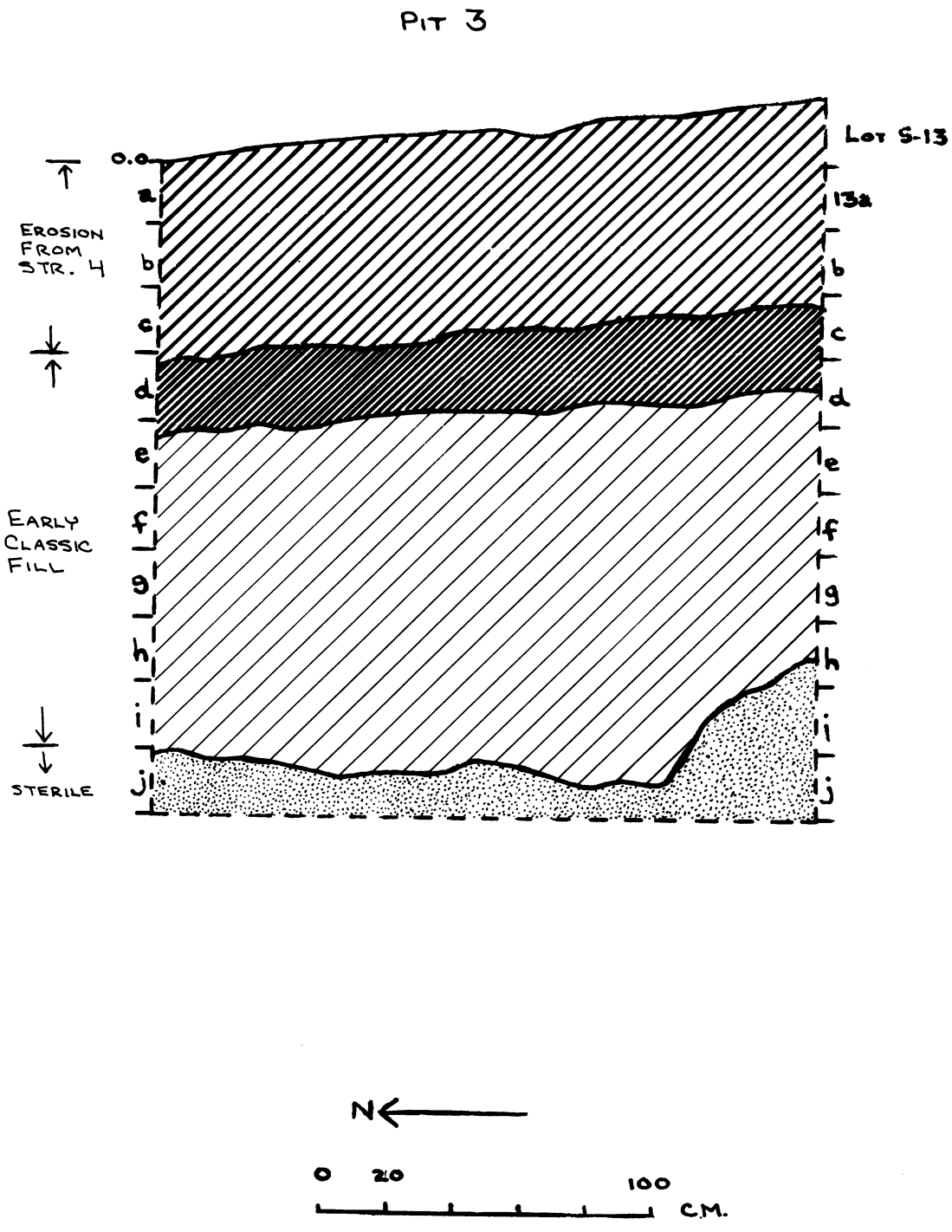


Figure 3c
Cross-section of stratitest 3.

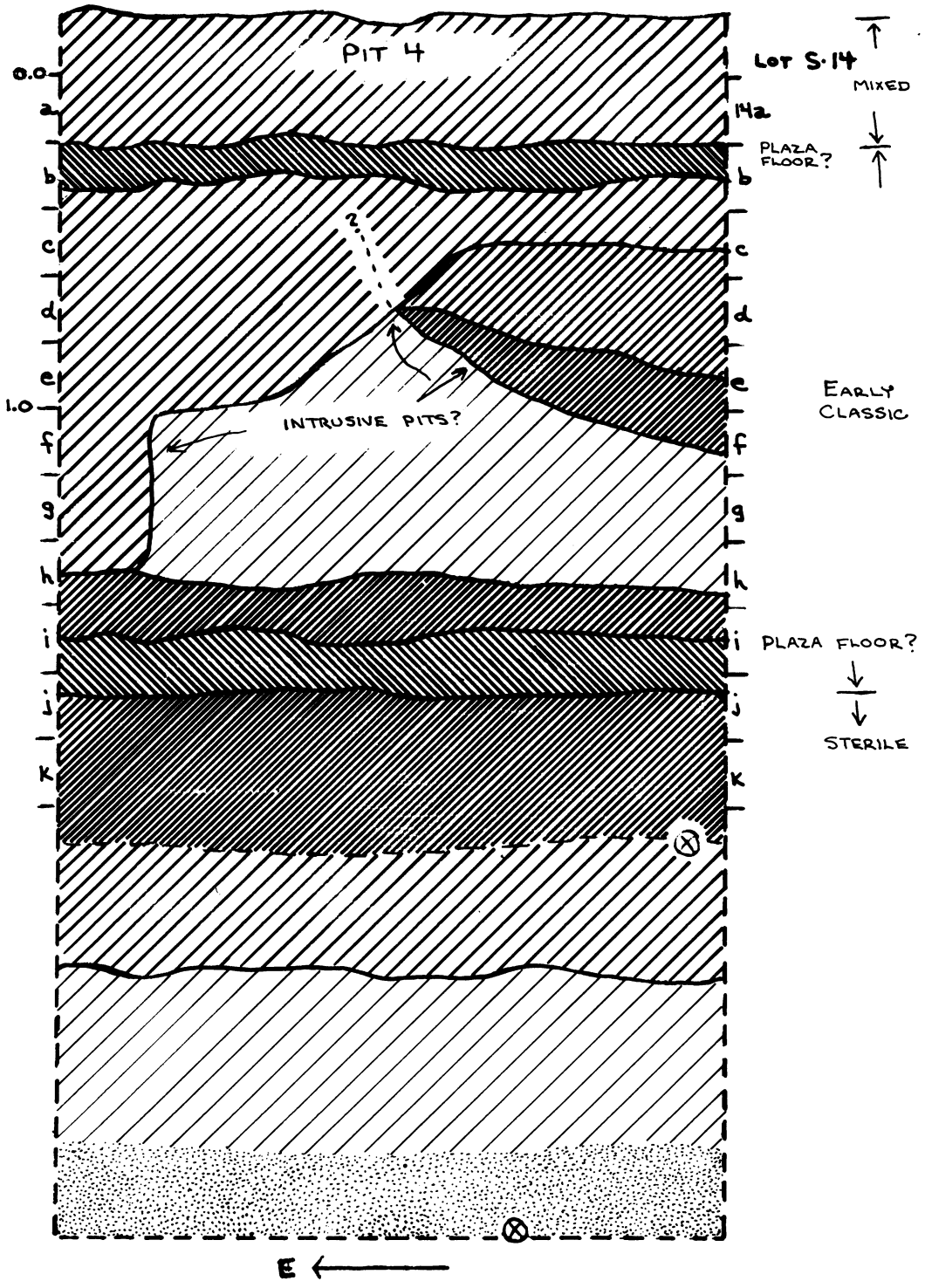


Figure 3d
Cross-section of stratitest 4.

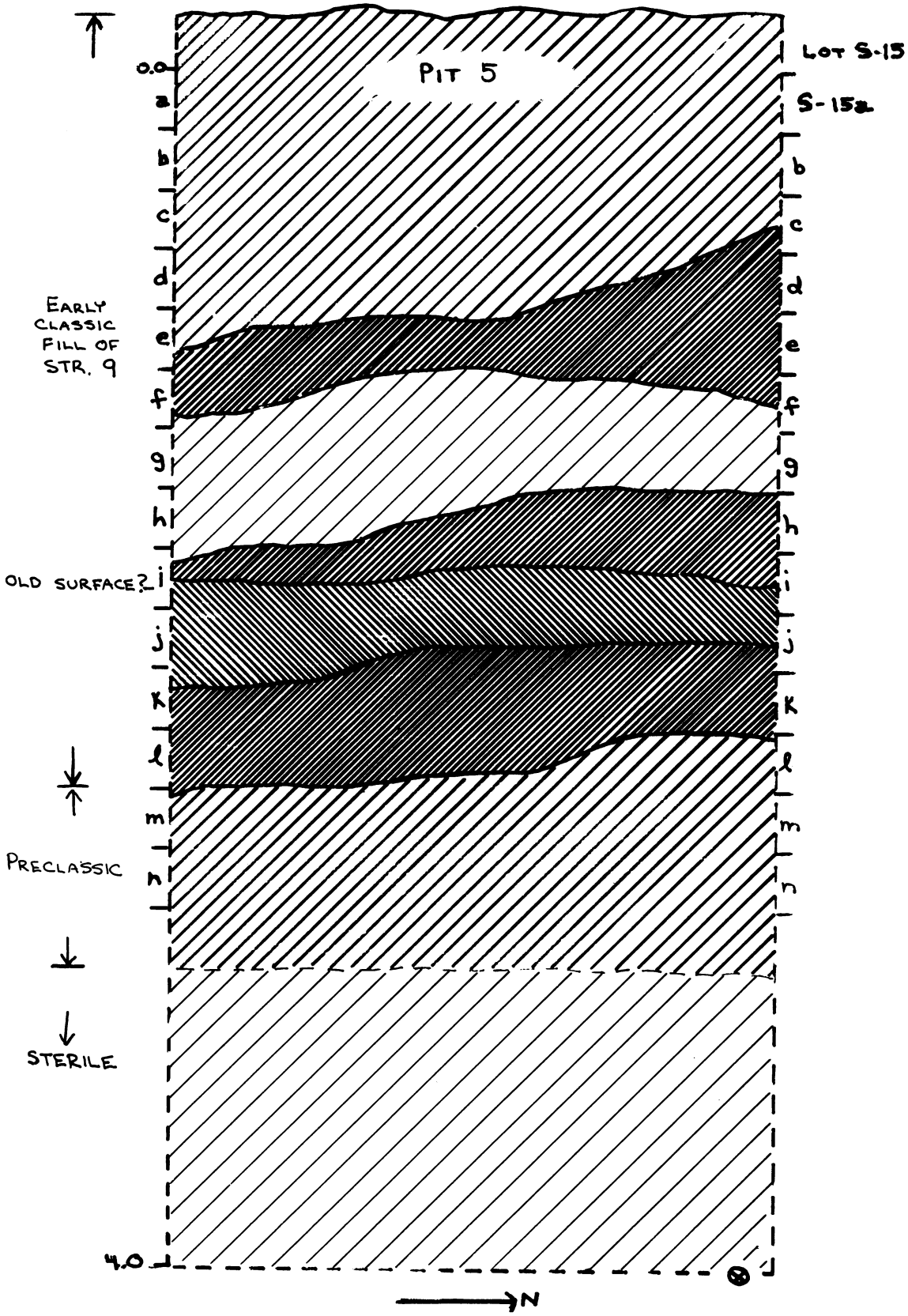


Figure 4a
Cross-section of stratitest 5.

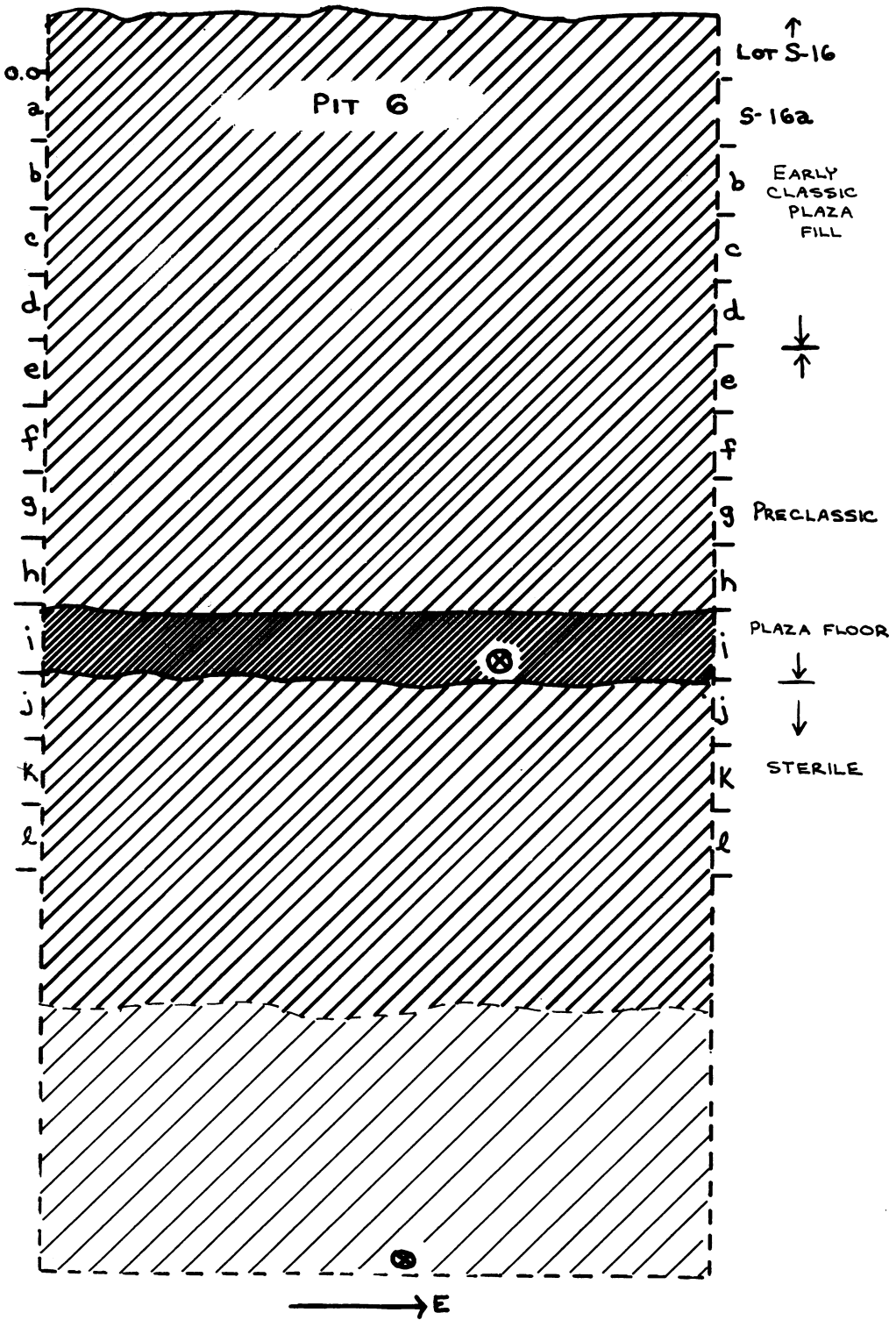


Figure 4b
Cross-section of stratitest 6.

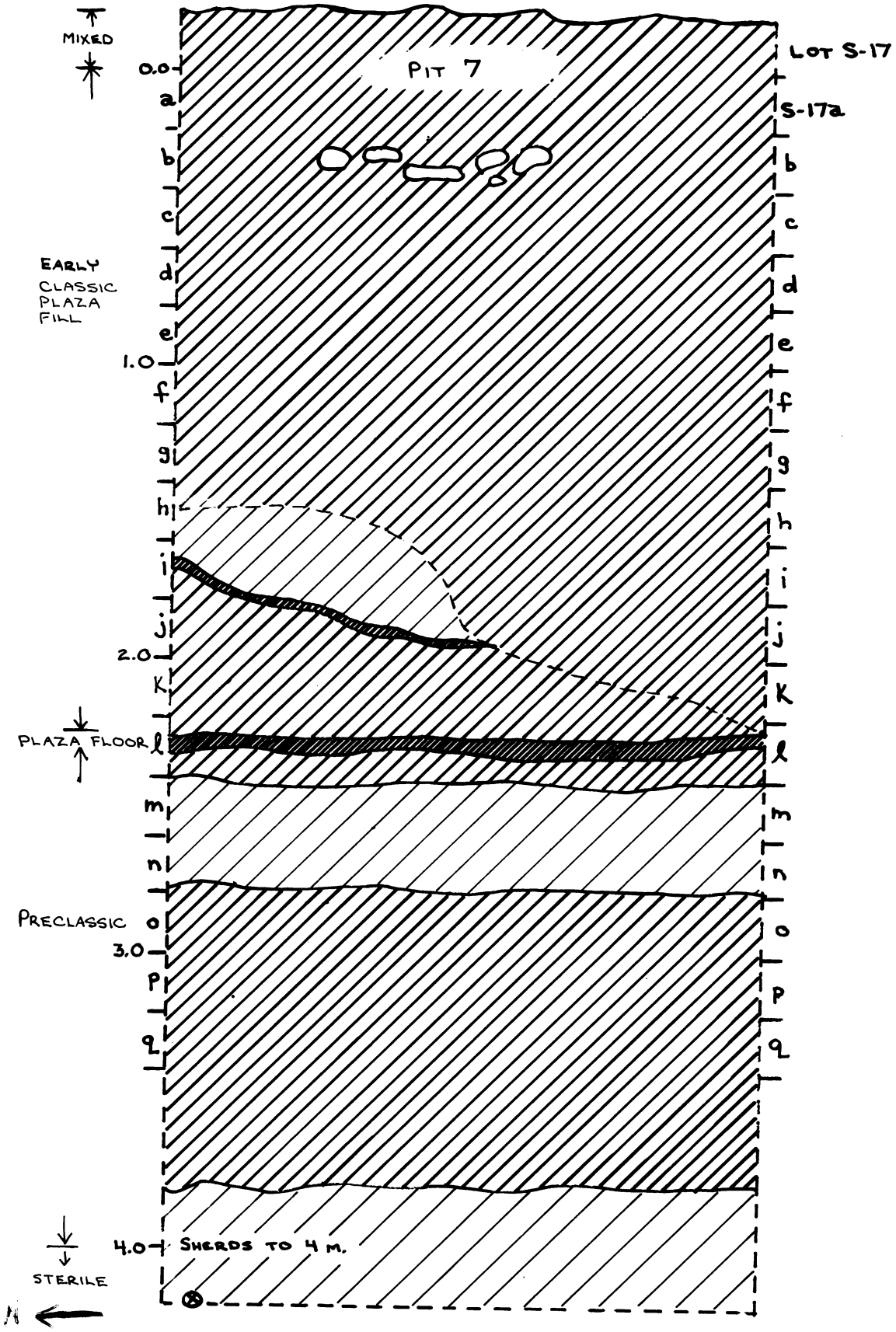


Figure 4c

Cross-section of stratitest 7.

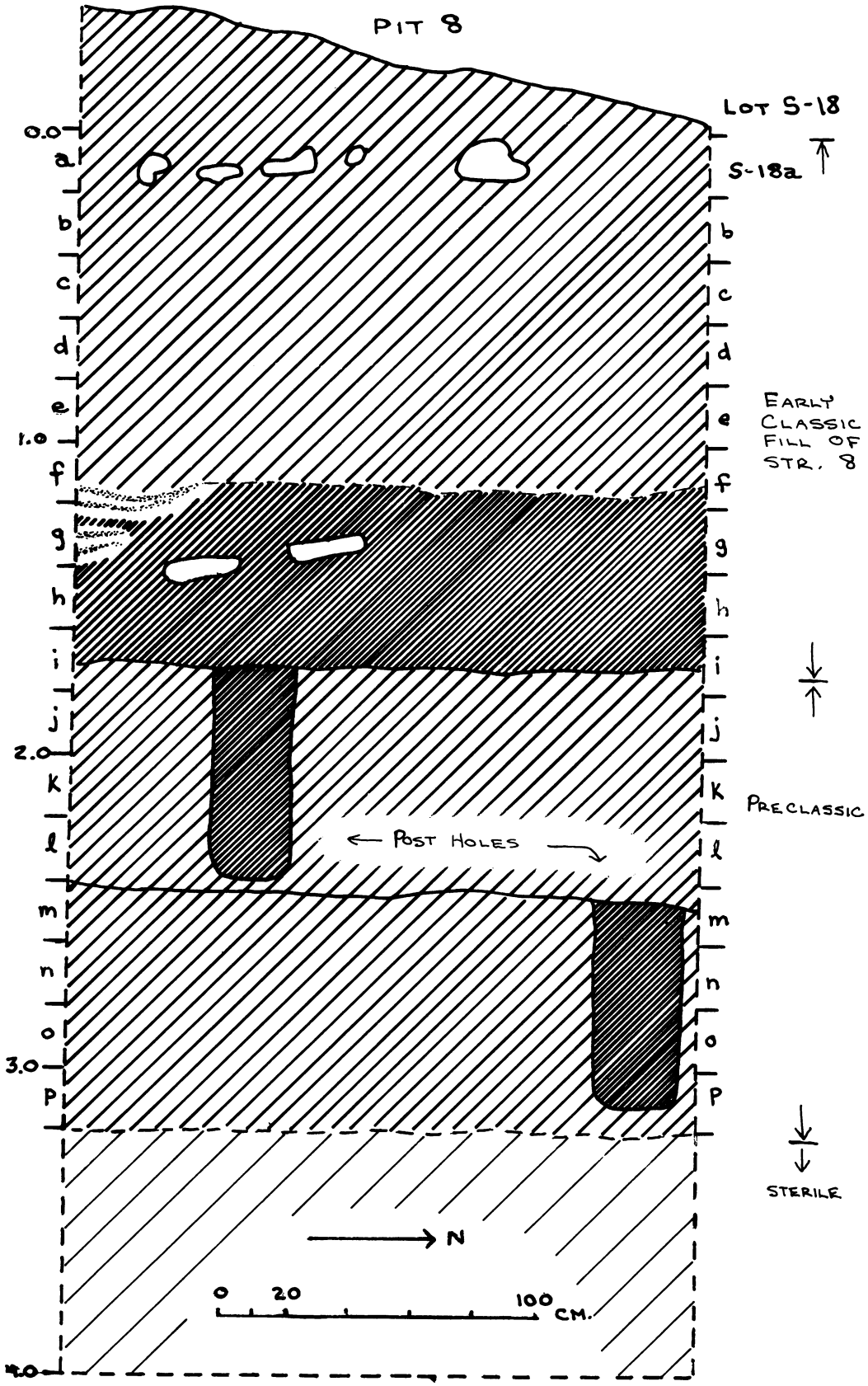


Figure 4d

Cross-section of stratitest 8.

Figure 5

a-f: Stone artifacts. Scale: 1/3

a. Head of "mushroom" stone, re-used as grinder, hammer or anvil stone. Lot. E-10.

b. Plain circular grinder or anvil stone. Lot. E-10.

c. Plain circular mortar. Lot. S-23.

d, e. Carved "doughnut" or digging stick weights. Lots. E-10 and S-23.

f. Plain stone cup or vessel with small circular depression in center of base. Lot. E-10.

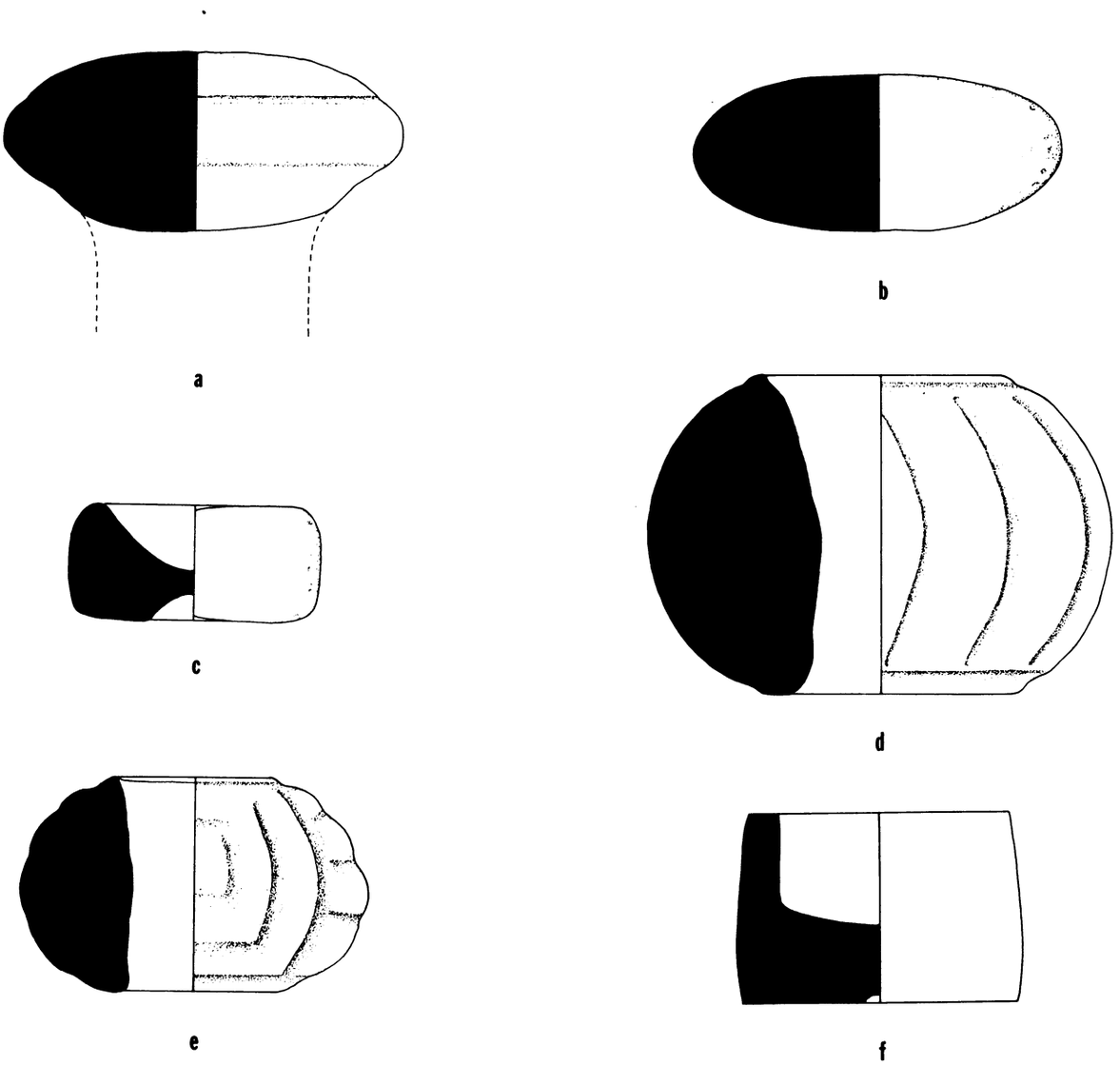
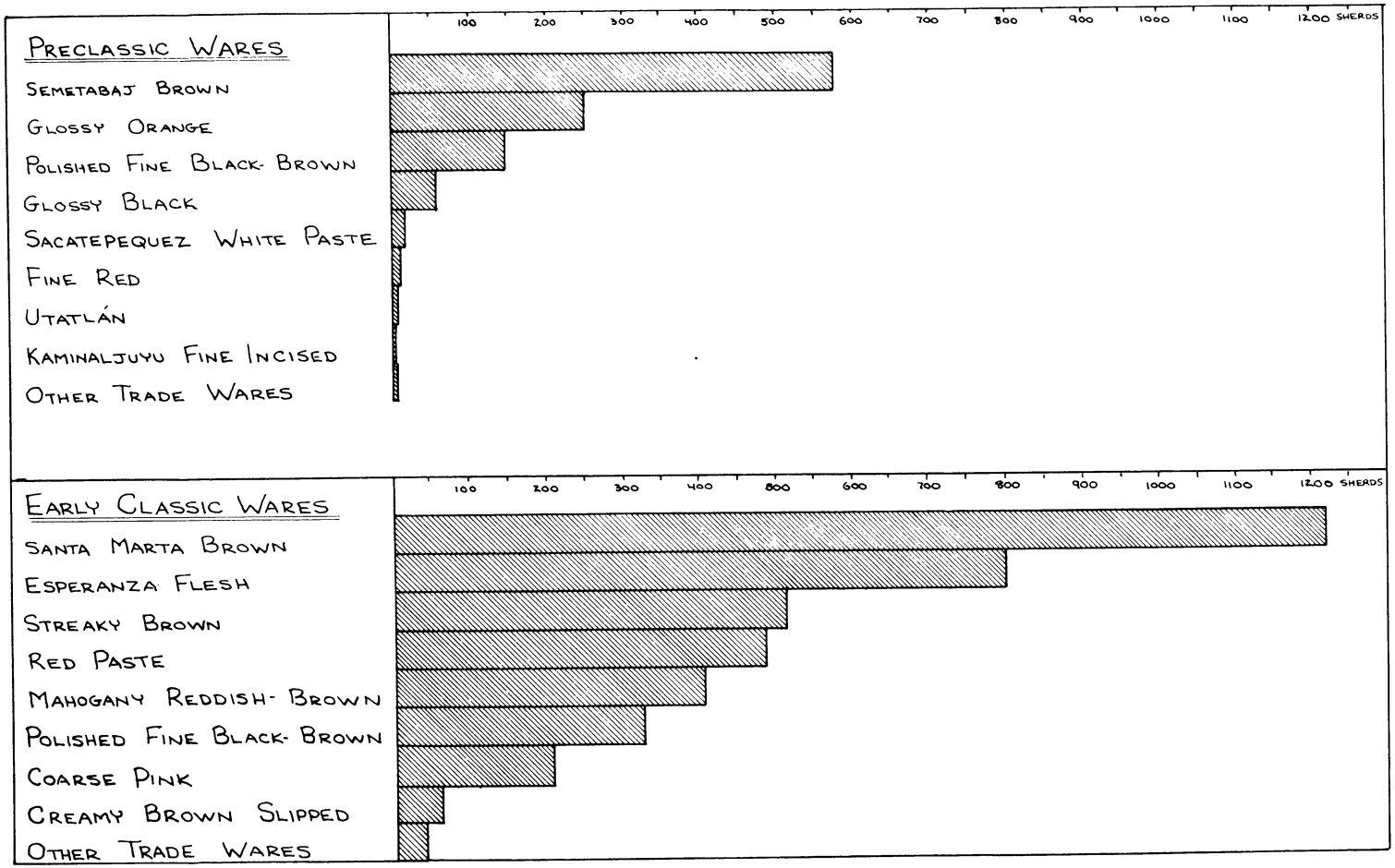


FIGURE 5



Frequencies of pottery wares from stratitests 1-9.

FIGURE 5g

Figure 6

a. Semetabaj Brown-A
b. Semetabaj Brown-B
c. Semetabaj Brown-A
d. Semetabaj Brown-G
e. Semetabaj Brown-D
g. Semetabaj Brown-E
h. Semetabaj Brown-C
i. Semetabaj Brown-E
j. Semetabaj Brown-E
k. Semetabaj Brown-E
l. Semetabaj Brown-E
m. Semetabaj Brown-F
n. Glossy Orange-D
o. Glossy Orange-C
p. Glossy Orange-A
q. Glossy Orange-A
r. Glossy Orange-A

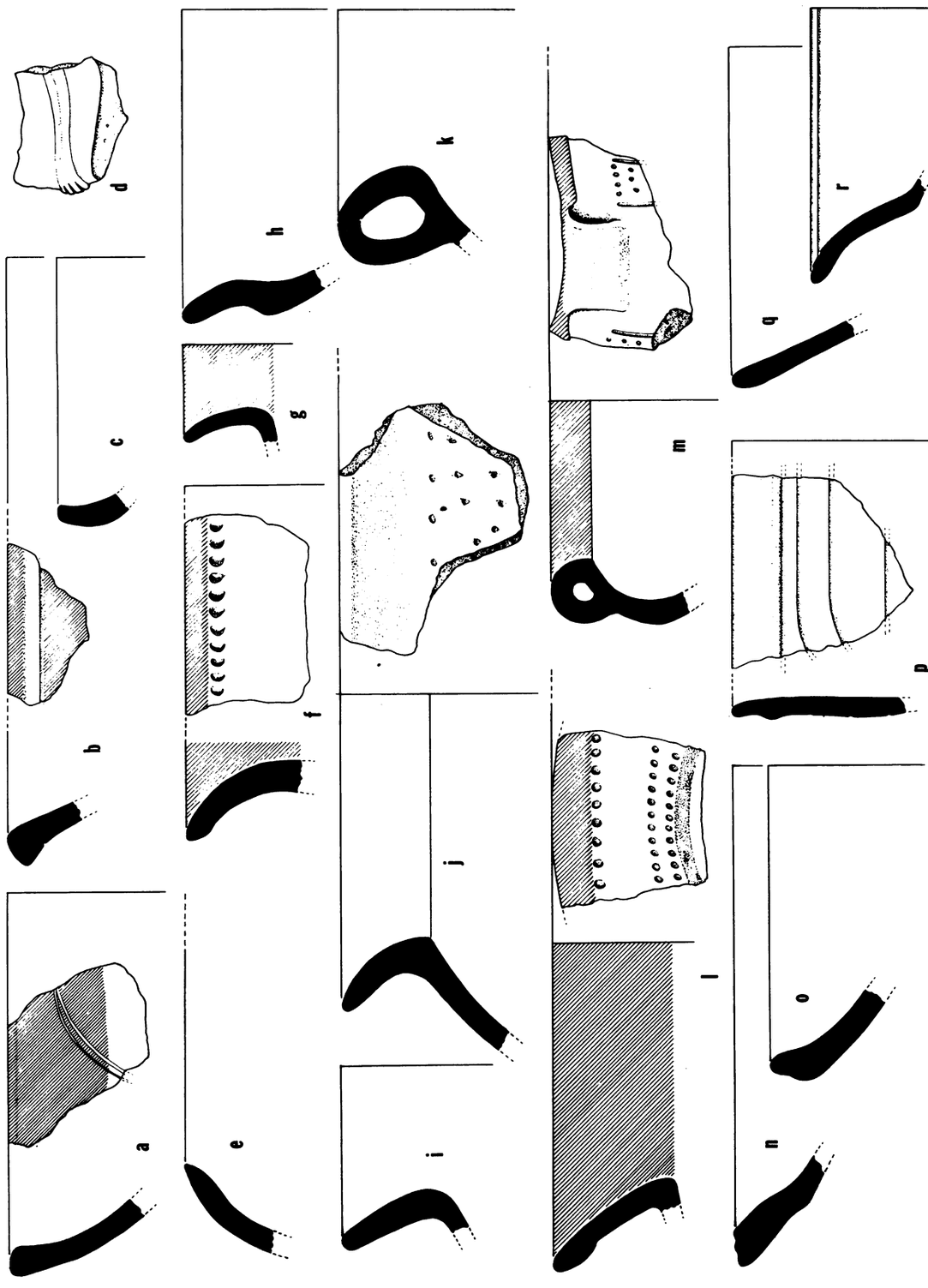
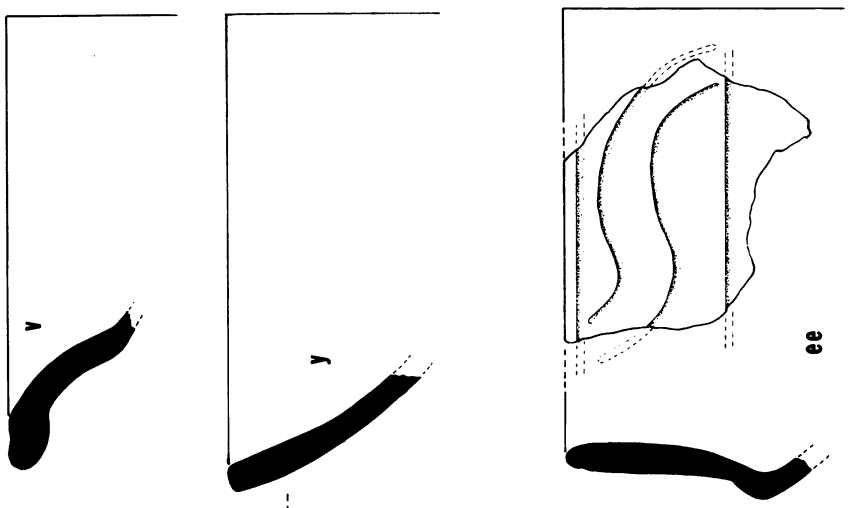


FIGURE 6

Figure 6

a. Semetabaj Brown-A
b. Semetabaj Brown-B
c. Semetabaj Brown-A
d. Semetabaj Brown-G
e. Semetabaj Brown-D
f. Semetabaj Brown-E
g. Semetabaj Brown-E
h. Semetabaj Brown-C
i. Semetabaj Brown-E
j. Semetabaj Brown-E
k. Semetabaj Brown-E
l. Semetabaj Brown-E
m. Semetabaj Brown-F
n. Glossy Orange-D
o. Glossy Orange-C
p. Glossy Orange-A
q. Glossy Orange-A
r. Glossy Orange-A



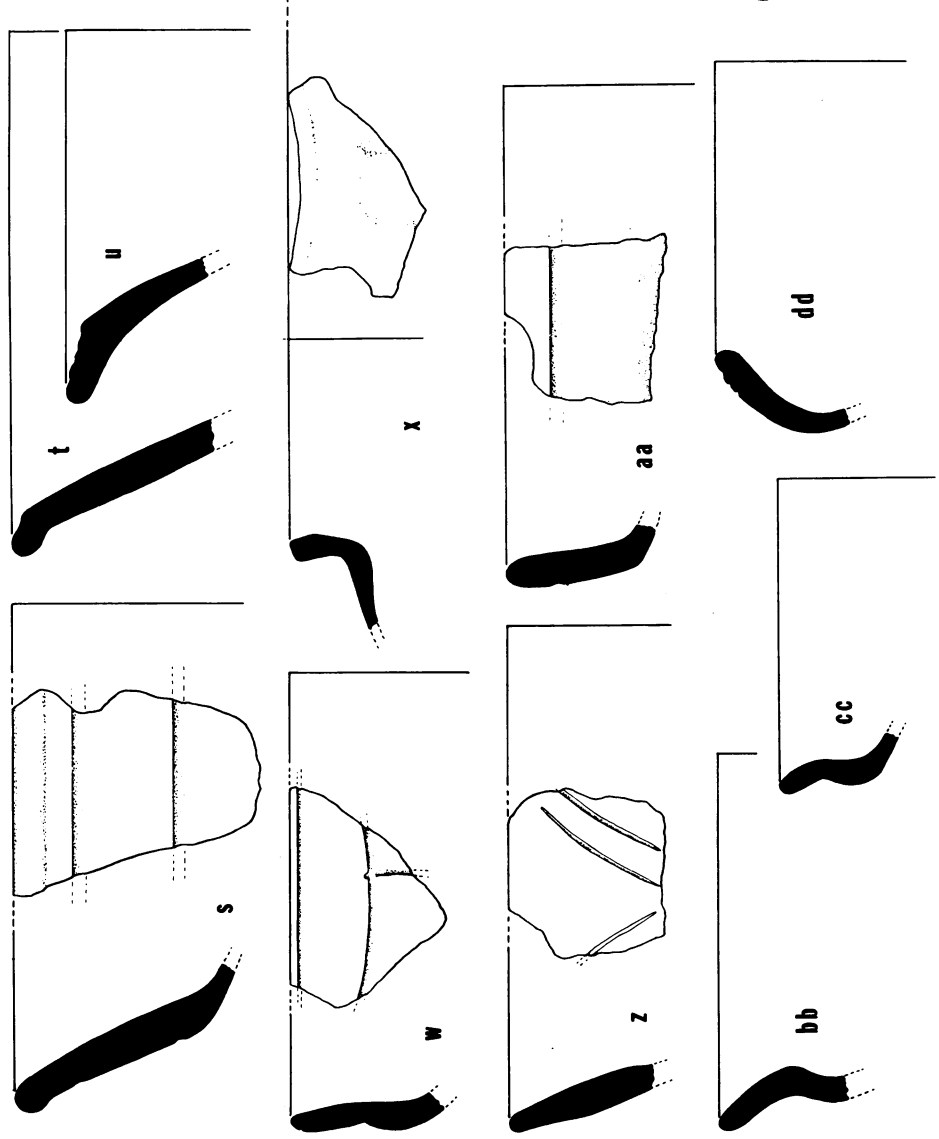


FIGURE 6 continued

Figure 7

a. Kaminaljuyu Fine-Incised Black-Brown-C
b. Kaminaljuyu Fine-Incised Black-Brown-bowl body sherd
c. Kaminaljuyu Fine-Incised Black-Brown-B
d. Kaminaljuyu Fine-Incised Black-Brown-D
e. Fine Black-Brown-A
f. Fine Black-Brown-A
g. Fine Black-Brown-C
h. Fine Black-Brown-D
i. Utatlan Ware bowl
j. Utatlan Ware bowl
k. Fine Red-C
l. Fine Red-D
m. Sacatepequez White Paste White-B
n. Sacatepequez-Providencia Red Ware bowl
o. Sacatepequez Polished Red on Unpolished Buff Ware jar

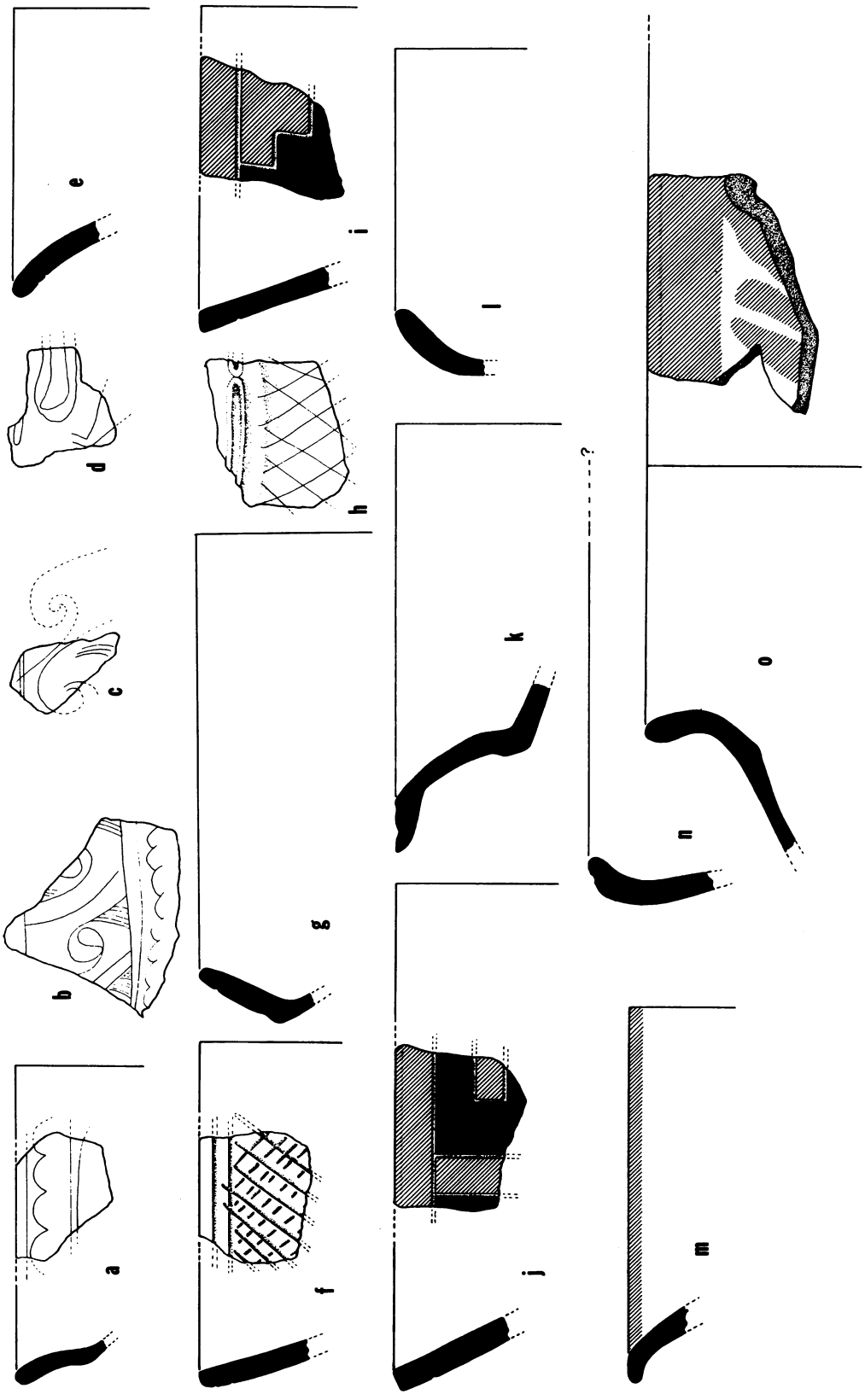


FIGURE 7

Figure 7 (continued)

p. Protoclassic Glossy Orange tetrapod
q. Protoclassic Streaky Brown-C
r. Protoclassic Red on Buff-B
s. Protoclassic Streaky Brown-A
t. Protoclassic Pumiceous Red Paste jar

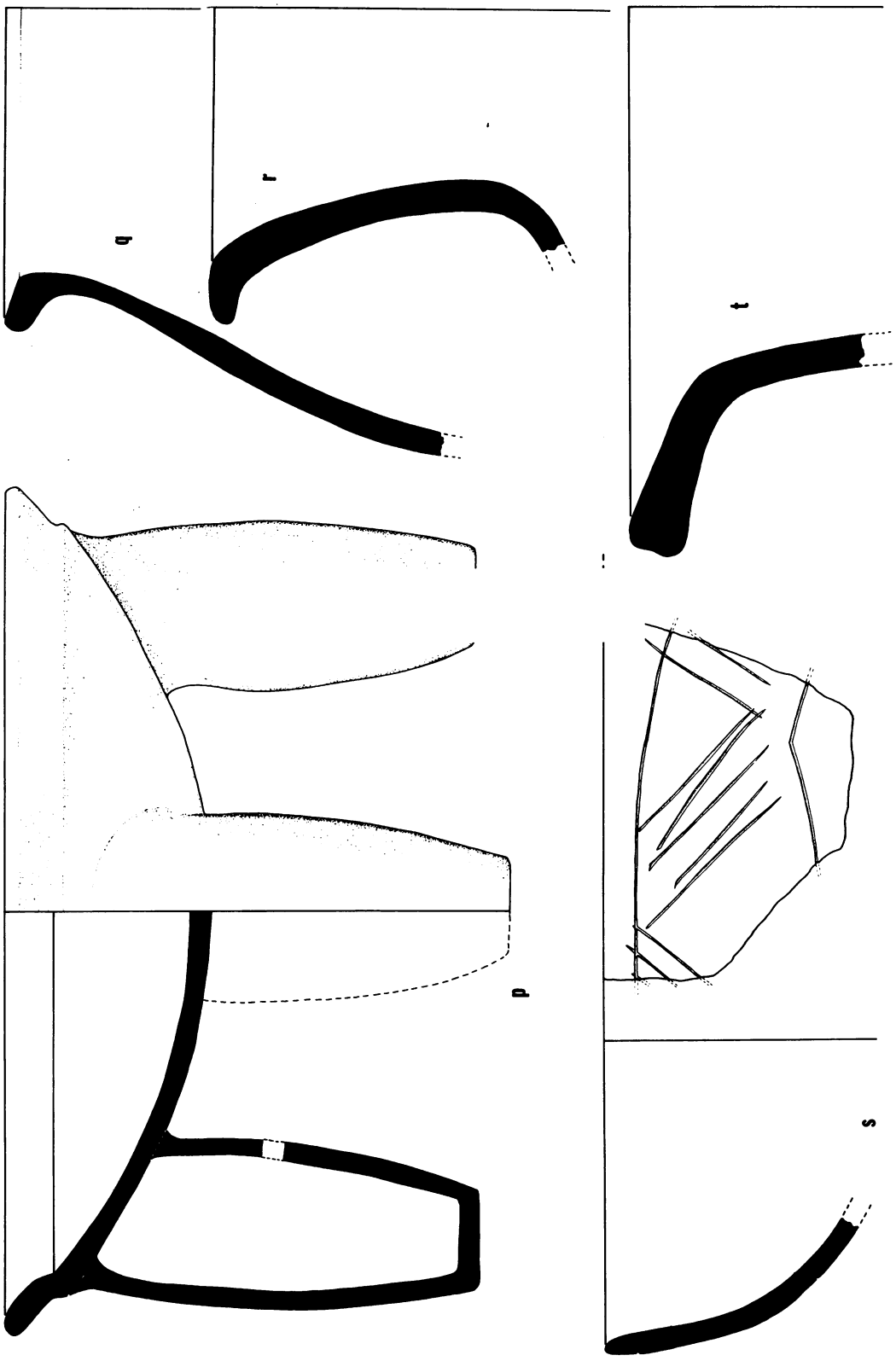


FIGURE 7 continued

Figure 8

a. Protoclassic Red on Buff-A
b. Santa Marta Brown-B
c. Santa Marta Brown-B
d. Santa Marta Brown-B

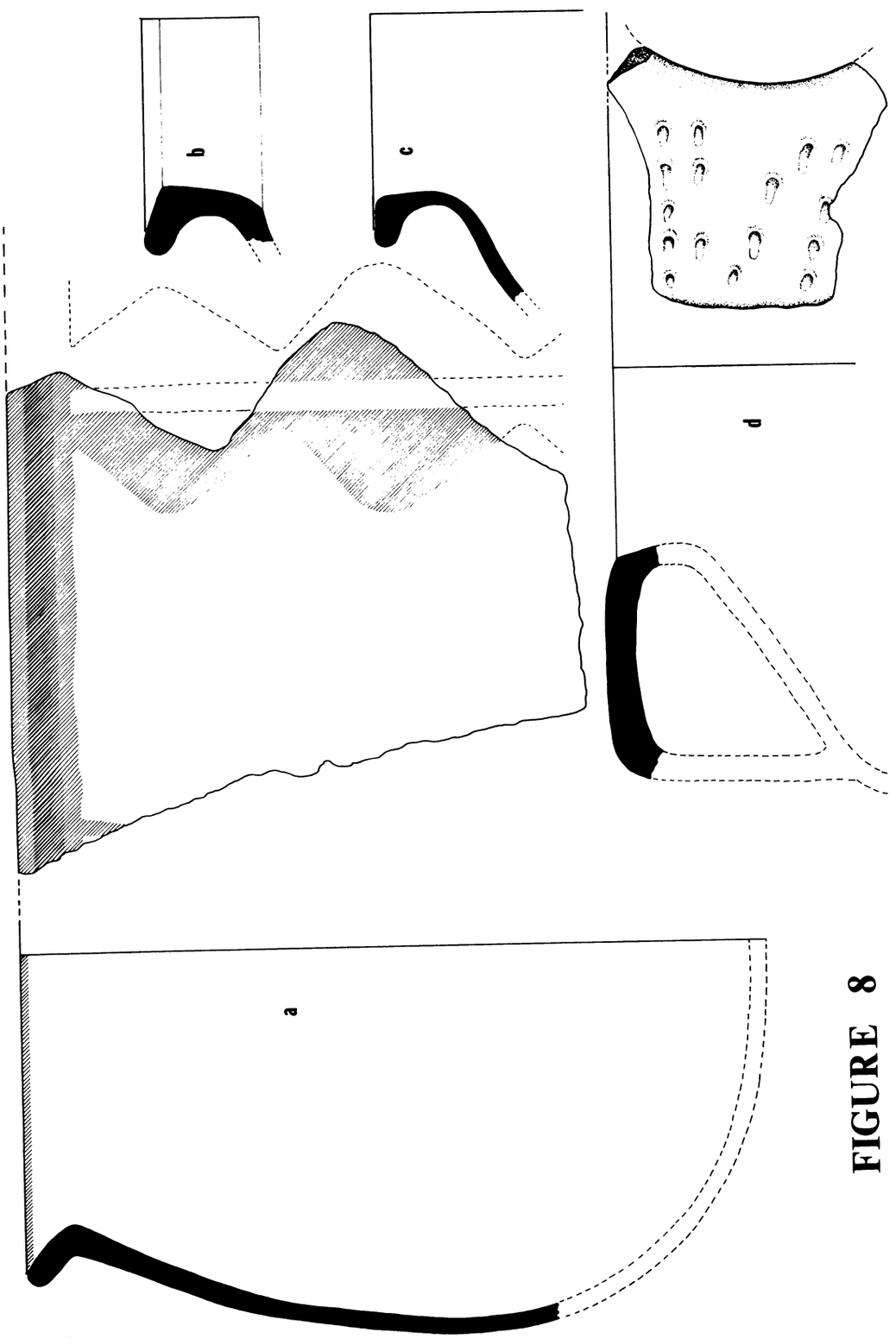


FIGURE 8

Figure 8 (continued)

e. Santa Marta Brown-A
f. Santa Marta Brown-C
g. Esperanza Flesh-C
h. Esperanza Flesh-A
i. Esperanza Flesh-A
j. Esperanza Flesh-B
k. Esperanza Flesh-B
l. Esperanza Flesh-B bulbous foot
m. Esperanza Flesh-C
n. Esperanza Flesh-C
o. Esperanza Flesh-D
p. Esperanza Flesh-D
q. Esperanza Flesh-E

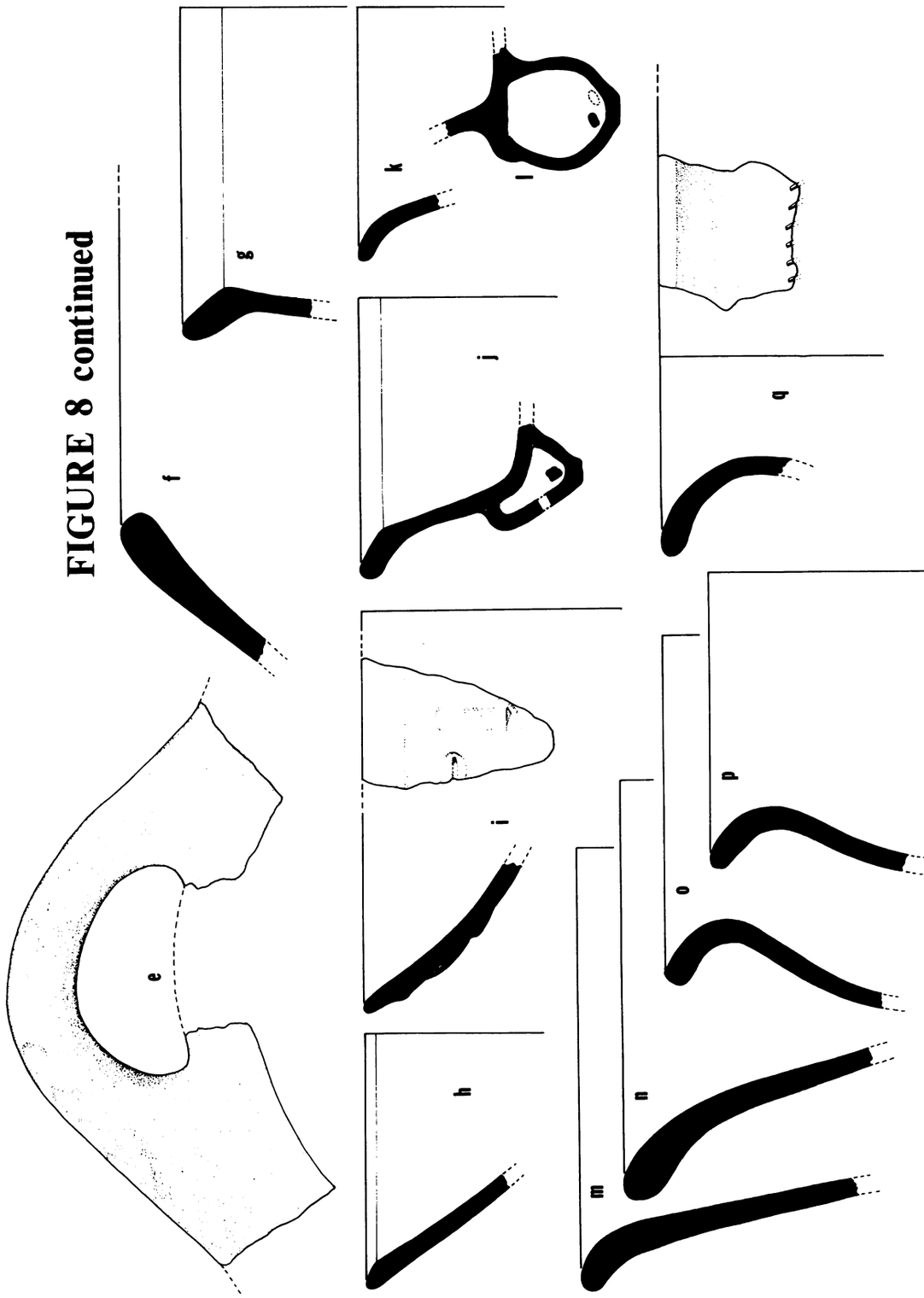


Figure 9

a. Streaky Brown-A
b. Streaky Brown-B
c. Streaky Brown-B bulbous foot
d. Streaky Brown-C
e. Streaky Brown-B
f. Streaky Brown-D
g. Mahogany Brown-A
h. Graphite on Red-A
i. Mahogany Brown-C
j. Mahogany Brown-C

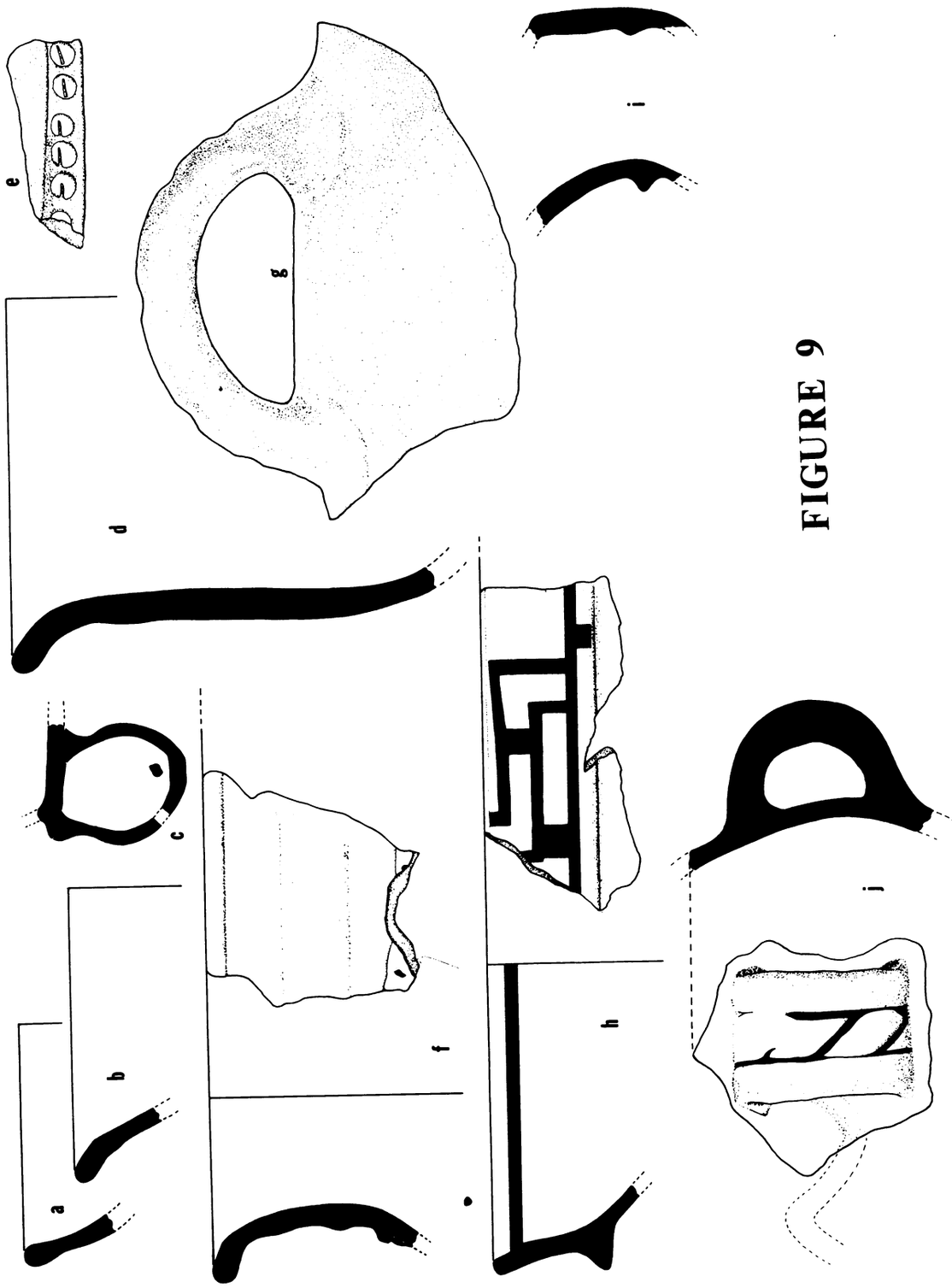


FIGURE 9

Figure 9 (continued)

k. Mahogany Brown-B
l. Mahogany Brown-D
m. Mahogany Brown-C
n. Mahogany Brown-C
o. Mahogany Brown-C
p. Mahogany Brown-C

FIGURE 9 continued

Figure 10

a. Red Paste, Type I-A
b. Red Paste, Type I-B
c. Red Paste, Type I-B
d. Red Paste, Type II-A
e. Red Paste, Type II-A
f. Red Paste, Type II-B
g. Red Paste, Type II-D
h. Coarse Pink-B
i. Coarse Pink-C
j. Coarse Pink-A
k. Coarse Pink-C
l. Coarse Pink-C
m. Coarse Pink-A
n. Coarse Pink-A
o. Coarse Pink-D
p. Coarse Pink-D

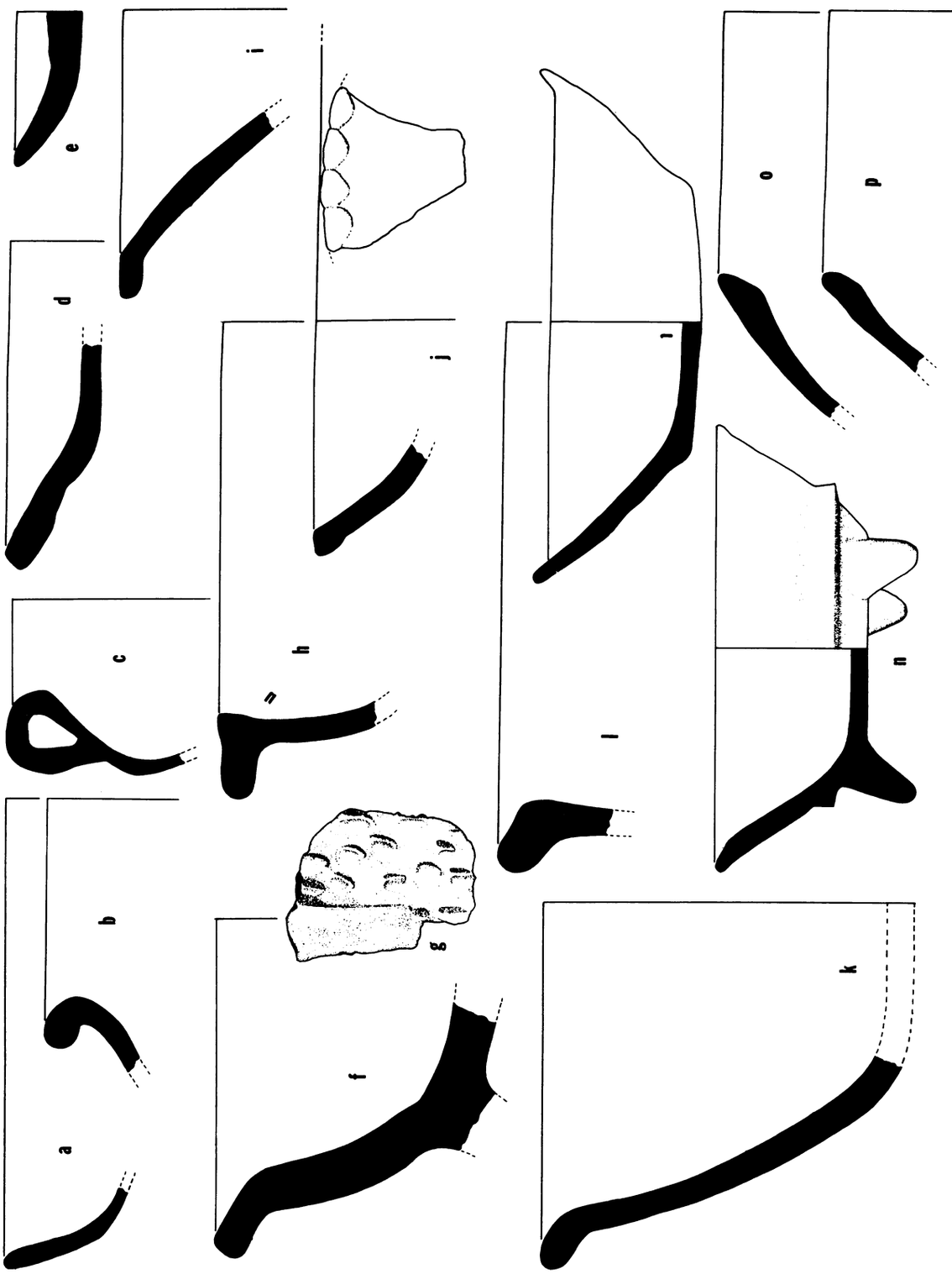


FIGURE 10

Figure 10 (continued)

q. Creamy Brown Slipped-C
r. Polished Black-Brown-C
s. Creamy Brown Slipped-B
t. Creamy Brown Slipped-A
u. Peten Polychrome bowl (Lot S-24)
v. Creamy Brown Slipped-A
w. Tiquisate Ware bowl (Lot S-24)

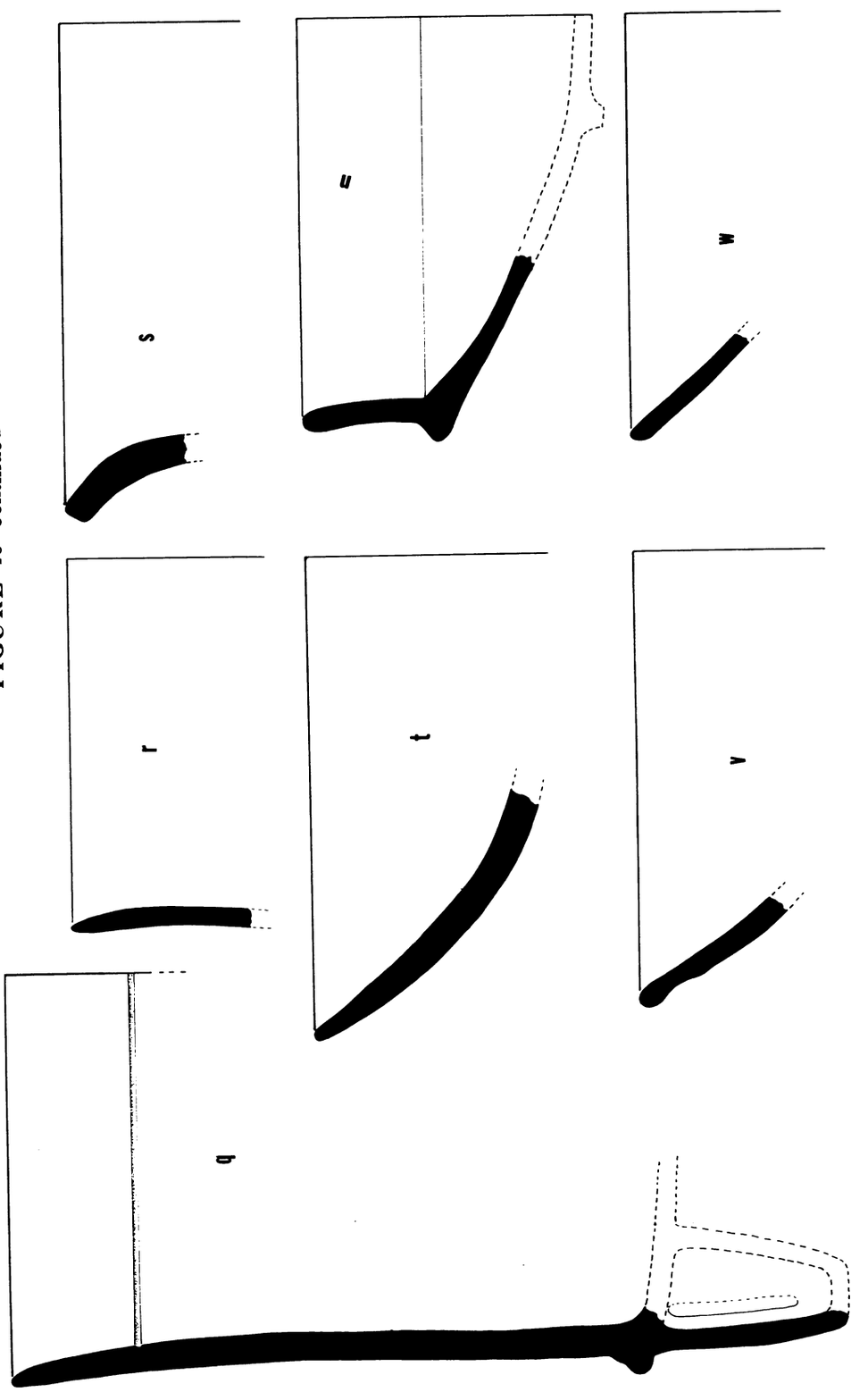


FIGURE 10 continued

Figure 11

a. Glossy Orange Ware bowl sherds from refuse pit
b. Colonial or modern jar
c. Miscellaneous, black ware bowl (Lot E-10)
d. Miscellaneous, jar or deep bowl (Lot S-24)
e. Miscellaneous, small tecomate (Lot E-10)

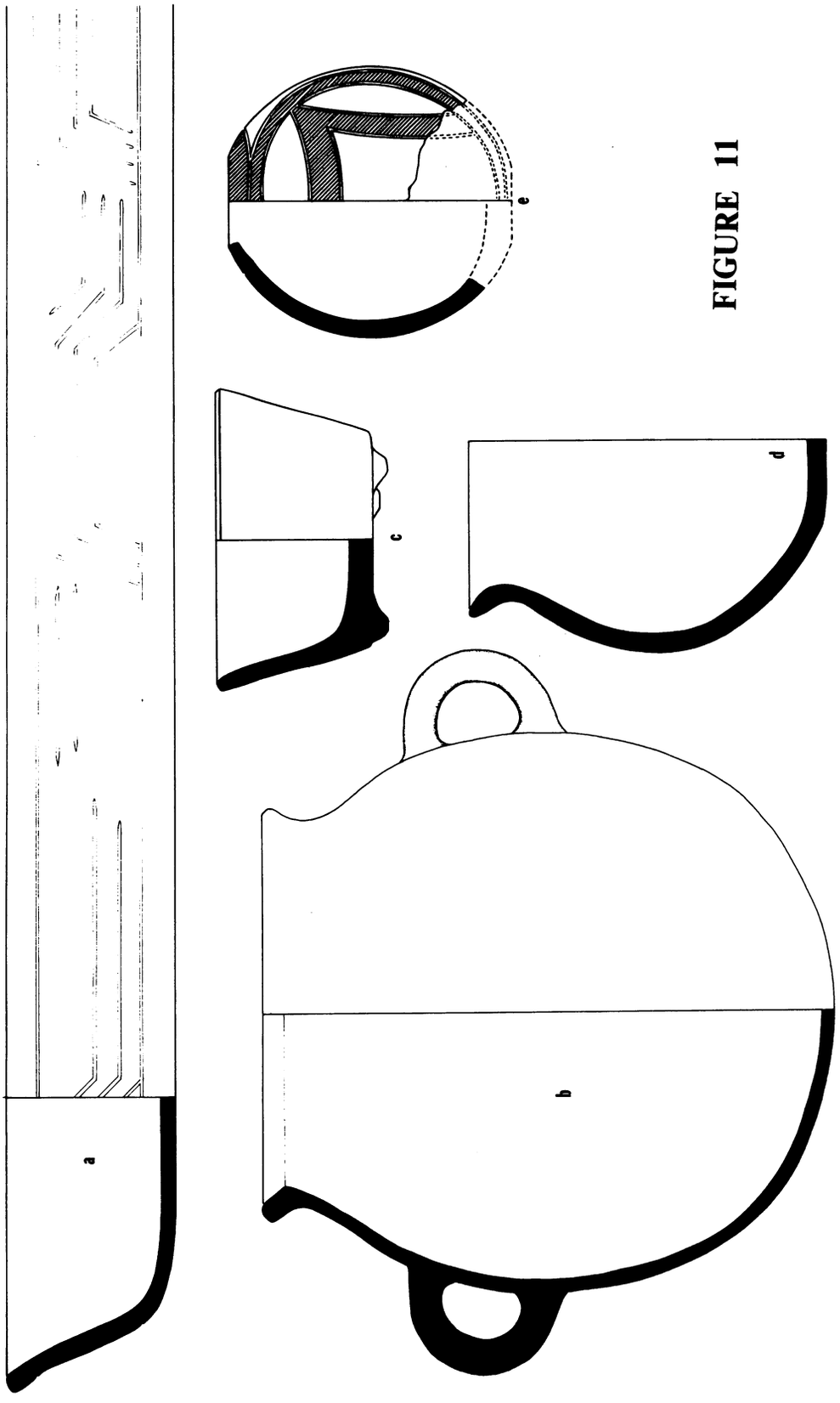


FIGURE 11

Figure 11 (continued)

f. Miscellaneous, coarse ware bowl (Lot S-24a)
g. Monkey stamp from refuse pit
h. Glossy Orange Ware bowl sherds from refuse pit
i. Cylindrical stamp from refuse pit
j. Glossy Orange Ware bowl sherds from refuse pit

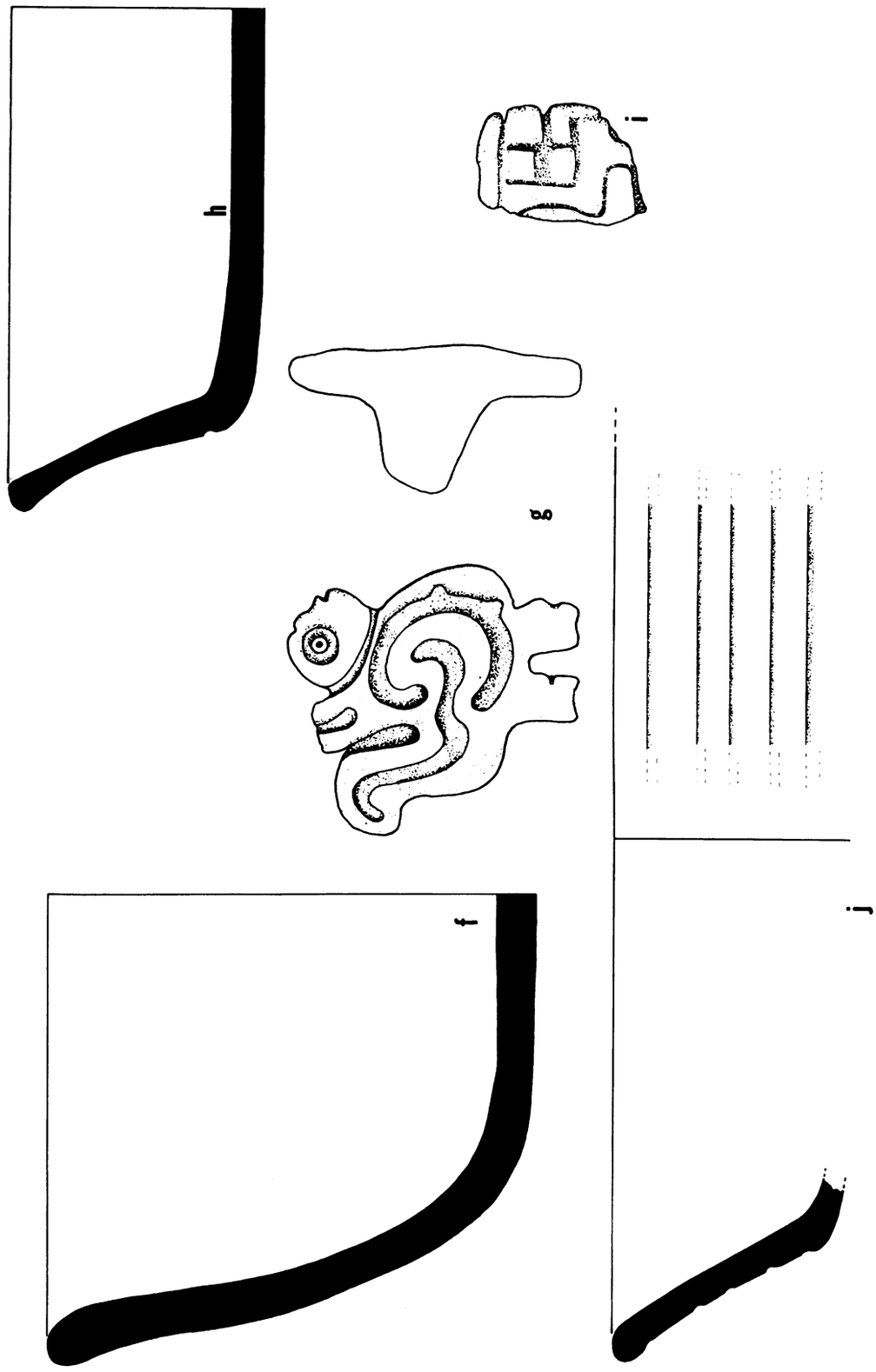
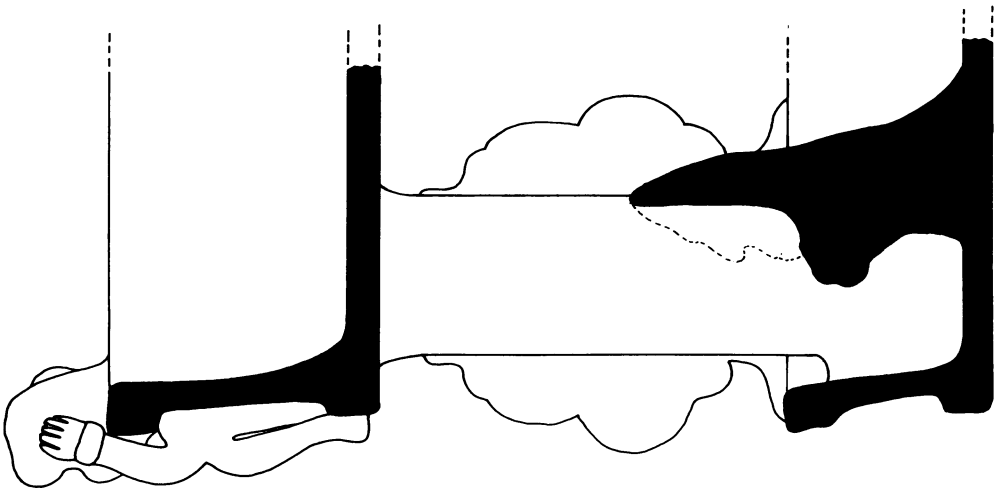
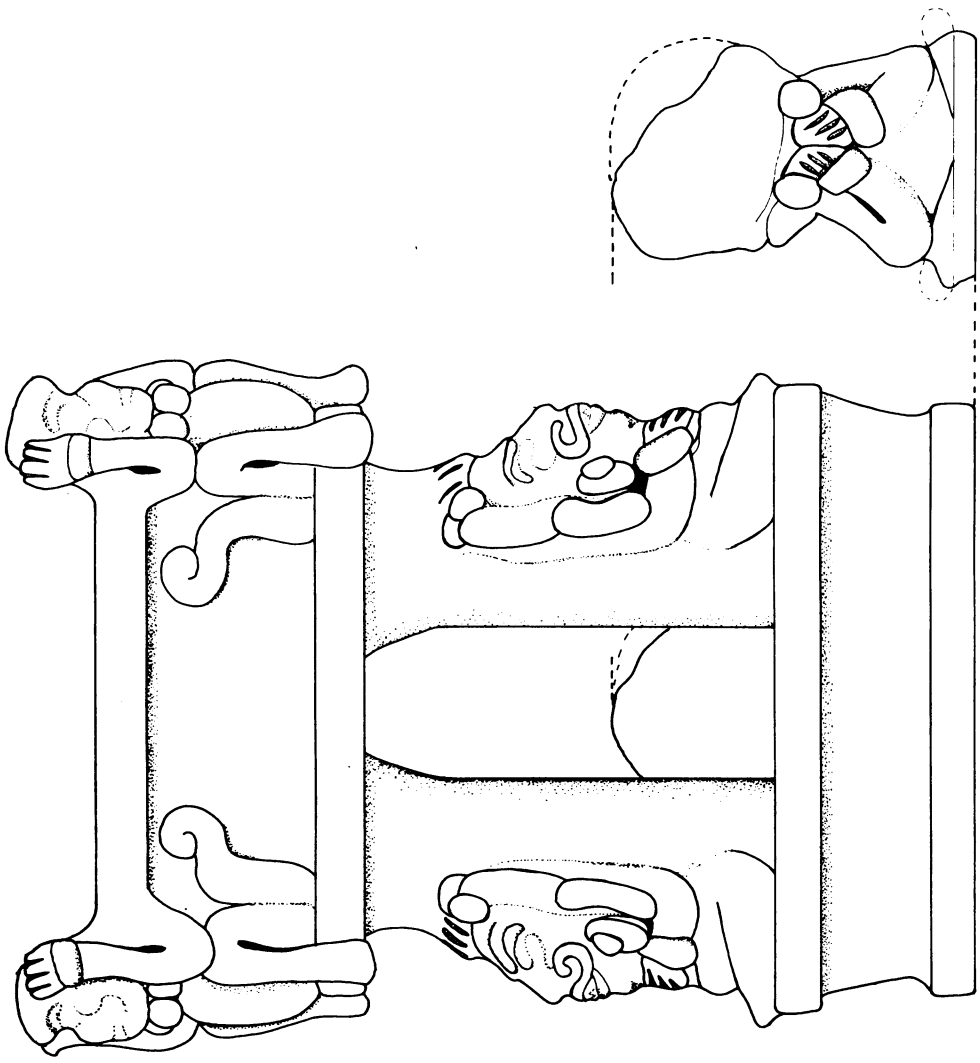


FIGURE 11 continued



b. Same, profile



a. Miscellaneous, pottery censor (Lot S-24a)

FIGURE 12

Figure 13

a. Looking northwest from town of San Andres Semetabaj to archaeological mound, Str. 7, in background. Photo courtesy of Frank June, 1942.

b. Archaeological site of Semetabaj. Photo taken in 1937 from Str. 12, looking south, showing from left to right the west end of Str. 11, the large mound Str. 7, with the modern town behind, Strs. 6, 8 and edge of Str. 10. Note modern contour cultivation done by hand using wide hoe, extending to the very top of the ancient mounds.

c. View from the same position as b, looking south southwest over Str. 10 in foreground, and Strs. 8 and 6 at left. The small Str. 9 lies between Str. 10 and the modern cemetery, while Str. 5 is partly cut away at the east end of the cemetery, and the largest mound, Str. 4, rises under the dense cluster of cypress and pine trees beyond the cemetery.

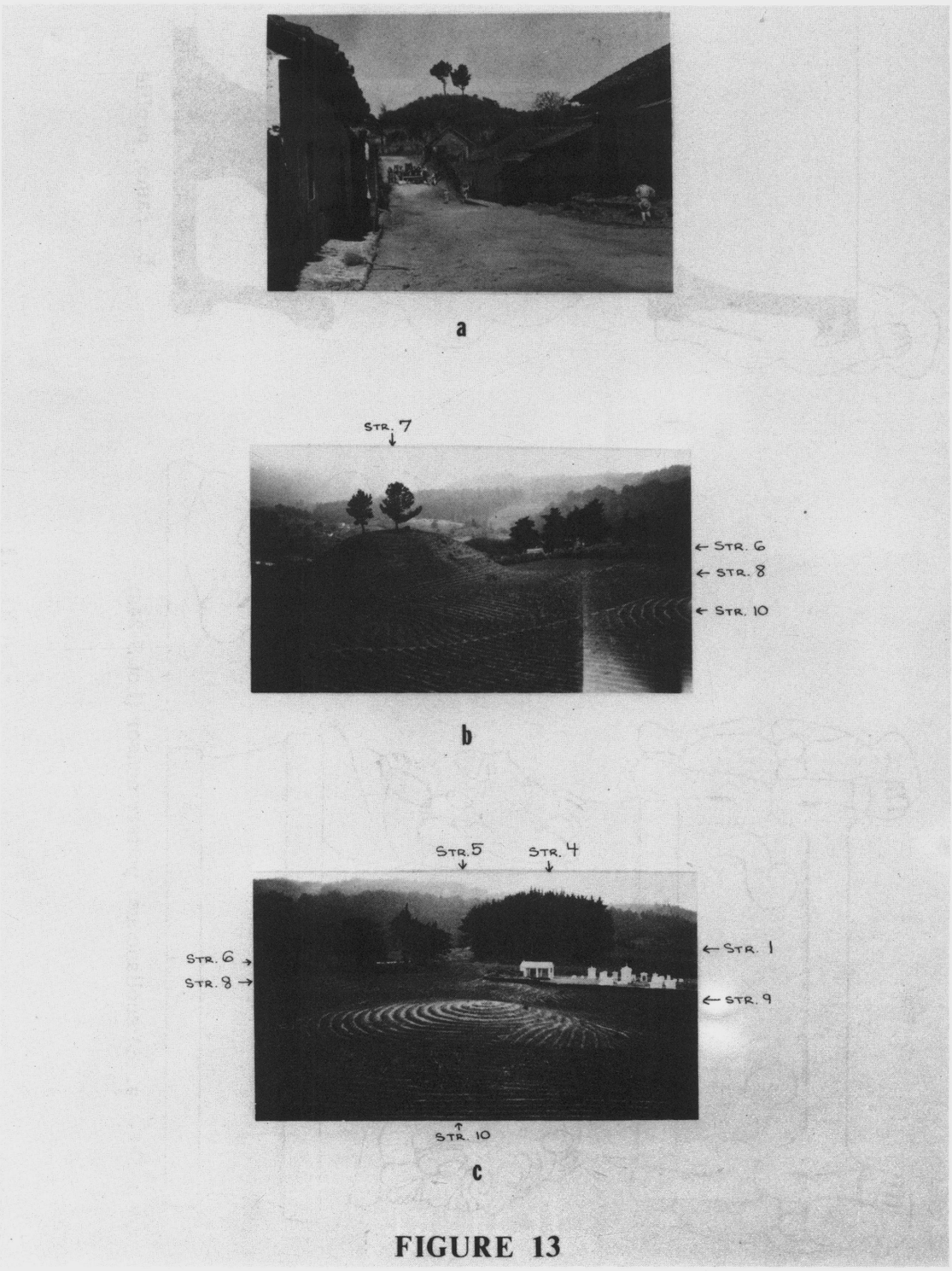


FIGURE 13

Figure 14

a. Fragment of burned adobe showing impressions of grass, corn leaves (?), and wood stems. Max. width 9 cm. Lot S-21.

b. Fragment of pedestal base sculpture, of coarse, light-colored volcanic stone. Horizontal band represents platform above which sat the figure. Stone bore all-over red paint. Max. width 20 cm. Lot S-14.

c. Fragment of mottled greenstone celt. Max. height 6 cm. Lot E-10.

d. Obsidian flake blades, grainy texture. See text for sizes. Provenience: various.

e. Obsidian cores, grainy texture. See text for sizes. Provenience: various.

f. Obsidian scrapers, grainy texture. Lower specimen, 5.5 cm. height. Lots S-20, S-23.

g. Obsidian flake blades, dark green type. All from Early Classic deposits. Lots S-14, 14b, 14d, 15c, 17a.

h. Obsidian flake blades, clear glassy texture. Lots S-19d, S-12a.

i. Legless metate, coarse gray volcanic stone. Width 21 cm., thickness 7 cm. Lot S-14.

j. Small mortar, coarse gray volcanic stone. Max. diameter 8.8 cm. Lot-S-23. Same as Figure 5c.

k. Metate, re-used as mortar. Coarse gray volcanic stone. Max. width 18 cm. Lot S-17c.

l. Plain, circular grinder or anvil stone, coarse gray volcanic stone. Diameter 12.6 cm. Lot E-10. Same as Figure 5b.

m. Small grindstone. Lot S-19c.

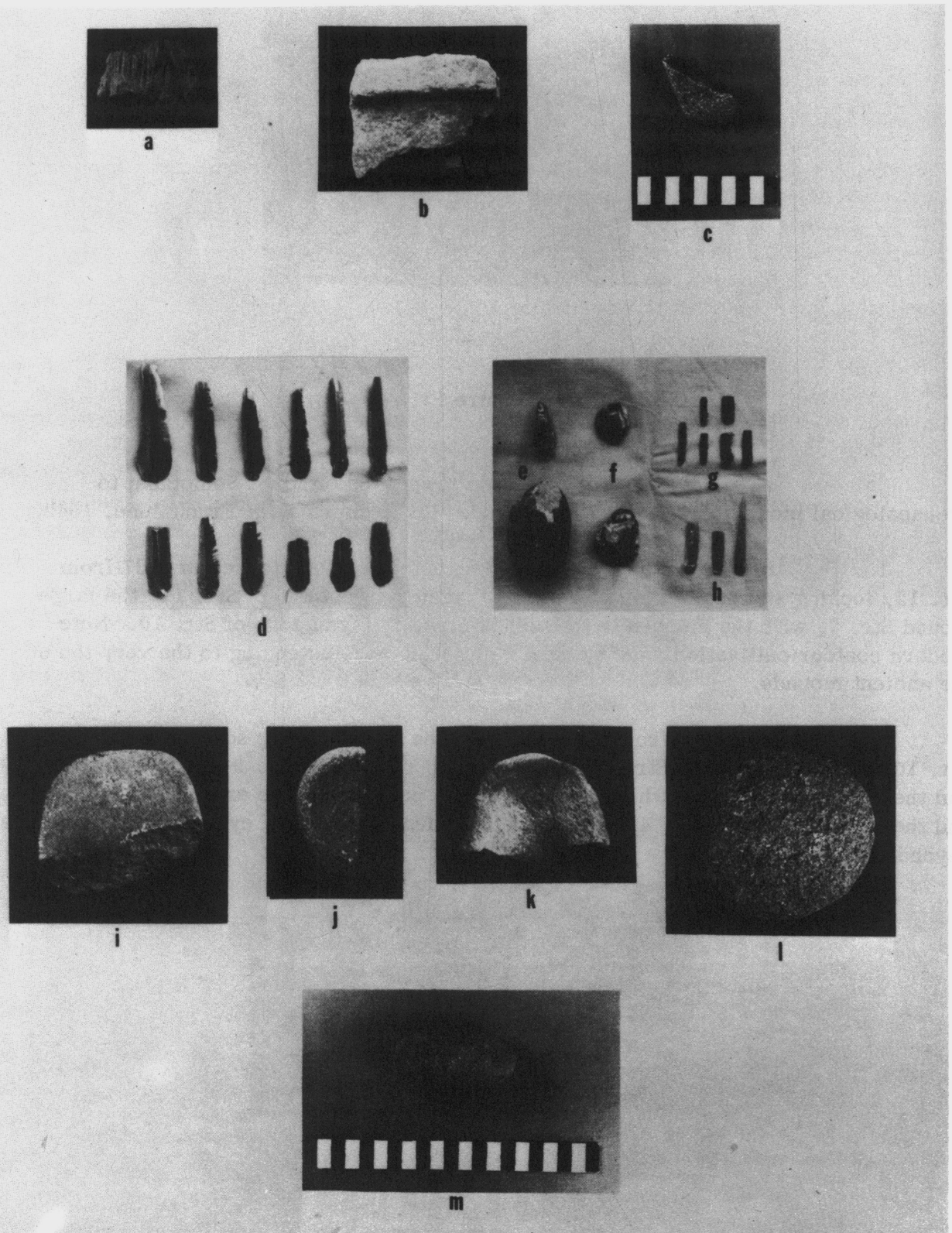


FIGURE 14

Figure 15

a-d. Perforated "doughnut" stones or digging stick weights.

a. Carved exterior. Coarse gray volcanic stone. Same as Figure 5e Lot S-23.

b. Plain, complete "doughnut" stone. Light gray pumiceous volcanic stone. Max. diameter 14.0 cm., height 11.0 cm. Lot S-23.

c, d. Carved exterior and biconically perforated interior. Coarse, gray volcanic stone. Same as Figure 5d. Lot E-10.

e. Redware tripod bowl with hollow open effigy feet. Height 13.5 cm. Diameter at orifice 22 cm. Lot E-10.

f. Early Post Classic tripod jar with hollow bulbous rattle feet. Diameter at orifice 9 cm., diameter at shoulder 15 cm., height to shoulder 7.5 cm., to neck 11.5 cm., to rim 15.0 cm.

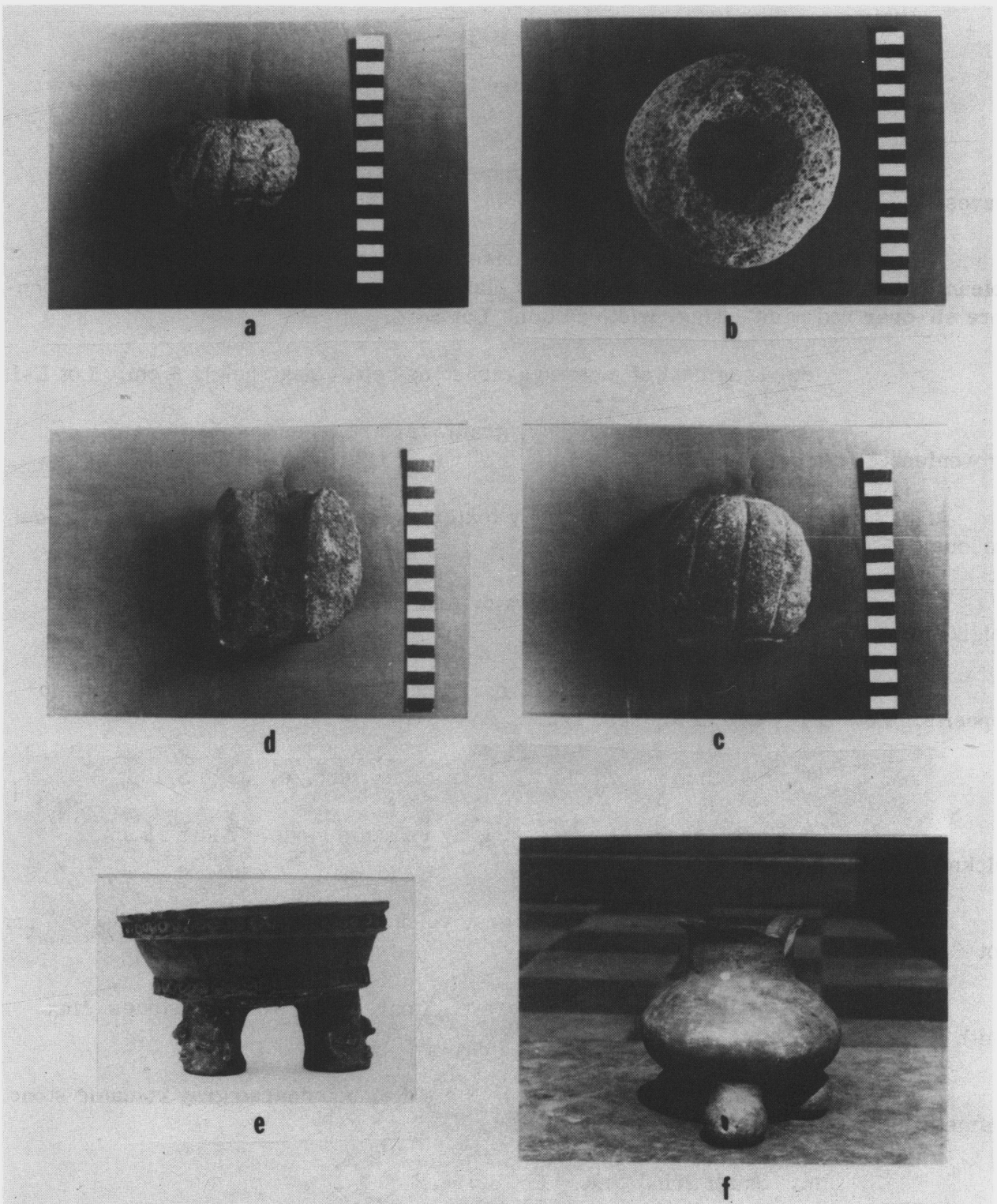
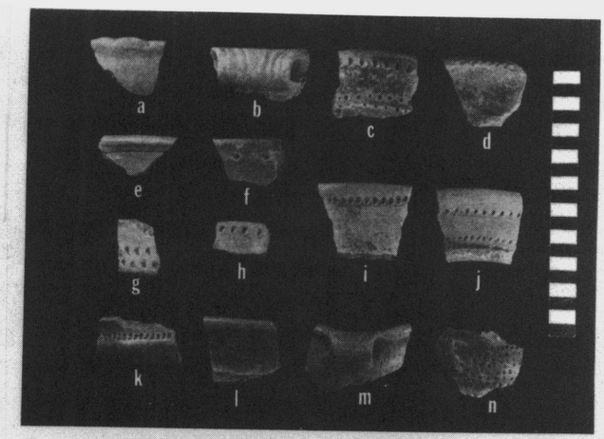
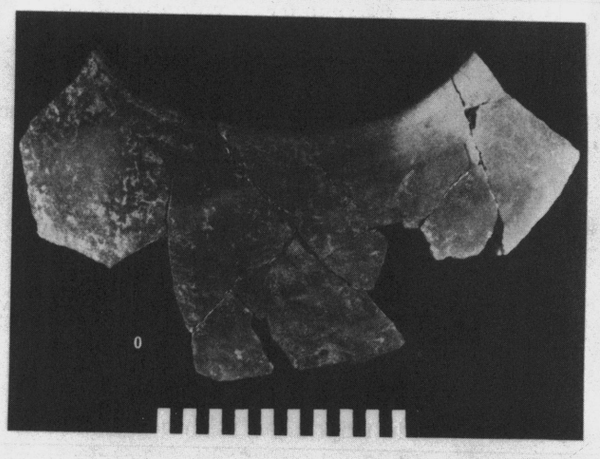


FIGURE 15

Figure 16

a. Semetabaj Brown-A
b. Semetabaj Brown-E
c. Semetabaj Brown-E
d. Semetabaj Brown-E
e. Semetabaj Brown-B
f. Semetabaj Brown-E
g. Semetabaj Brown-C
h. Semetabaj Brown-E
i. Semetabaj Brown-E
j. Semetabaj Brown-E
k. Semetabaj Brown-C
l. Semetabaj Brown-E
m. Semetabaj Brown-F
n. Semetabaj Brown-F
o. Semetabaj Brown-D
p. Glossy Orange-A
q. Glossy Orange-A
r. Glossy Orange-B
s. Glossy Orange-A
t. Glossy Orange-B
u. Glossy Orange-D
v. Glossy Orange-A
w. Glossy Orange-A
x. Glossy Orange-B





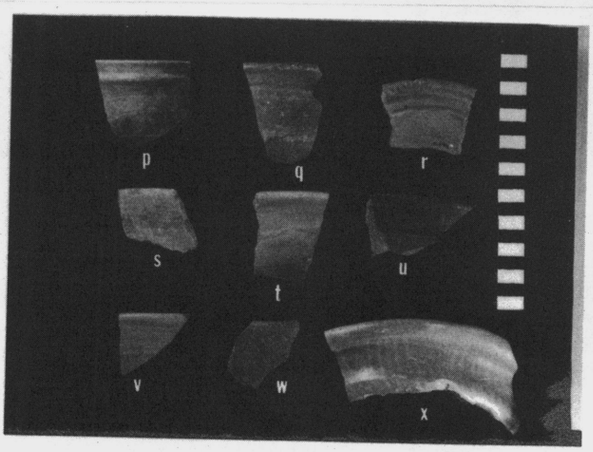
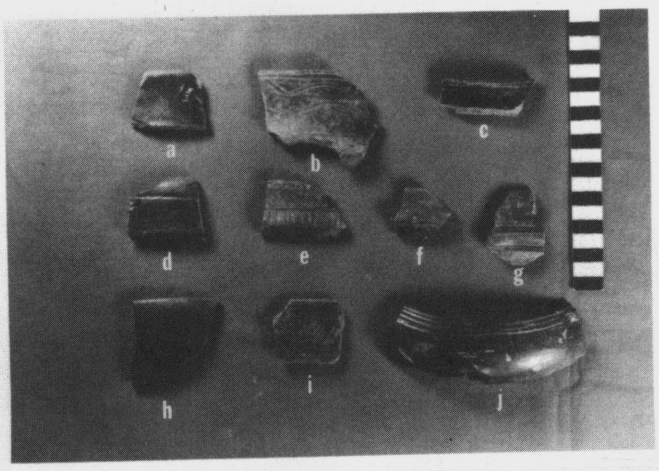
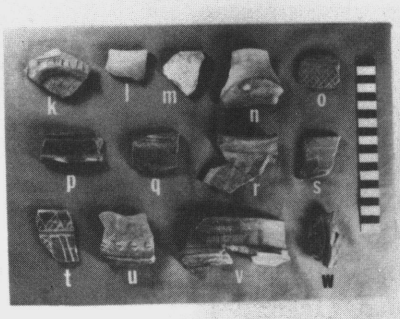


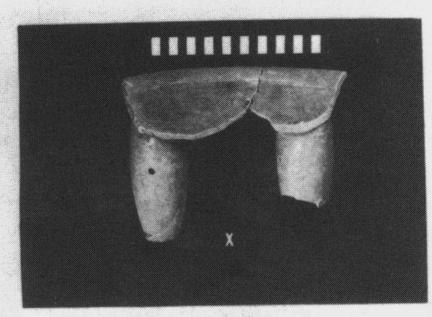
FIGURE 16

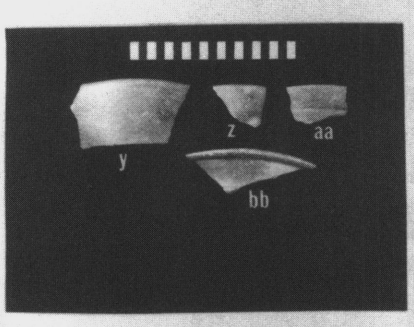
Figure 17

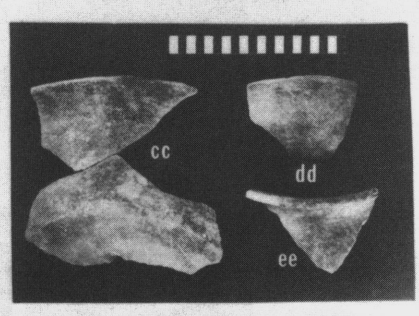
a. Glossy Black-B
b. Glossy Black-C
c. Glossy Black-D
d. Glossy Black-A
e. Glossy Black-C
f. Glossy Black-C
g. Glossy Black-D
h. Glossy Black-A
i. Glossy Black-C
j. Glossy Black-D
k. Early Preclassic jar body sherd (Cuadros or Jocotal Phase)
l. Early Preclassic thin-walled tecomate (Ocos Phase?)
m. Early Preclassic curved wall bowl (Cuadros or Jocotal Phase?)
n. Miscellaneous Preclassic Black-Brown Wares-A
o. Miscellaneous Preclassic Black-Brown Wares-A
p. Miscellaneous Preclassic Black-Brown Wares-C
q. Miscellaneous Preclassic Black-Brown Wares-D
r. Sacatepequez Polished Red on Unpolished Buff Ware jar sherd
s. Utatlan Ware bowl
t. Early Classic Polished Black-Brown-C
u. Early Classic Polished Black-Brown-D
v. Early Classic Graphite on Red-A
w. Creamy Brown Slipped Ware (cover?)
x. Protoclassic Glossy Orange tetrapod
y. Protoclassic Glossy Orange bowl
z. Protoclassic Glossy Orange (tetrapod?)
aa. Protoclassic Glossy Orange (tetrapod?)
bb. Protoclassic Glossy Orange bowl
cc. Protoclassic Streaky Brown-B
dd. Protoclassic Streaky Brown-A
ee. Protoclassic Streaky Brown-C
ff. Protoclassic Streaky Brown-B
gg. Protoclassic Streaky Brown-vessel support
hh. Protoclassic Streaky Brown-vessel support
ii. Protoclassic Red on Buff-A
jj. Protoclassic Red on Buff-B
kk. Protoclassic Red on Buff-B
ll. Protoclassic Pumiceous Red Paste Ware jar

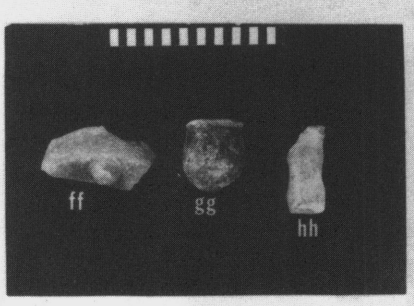












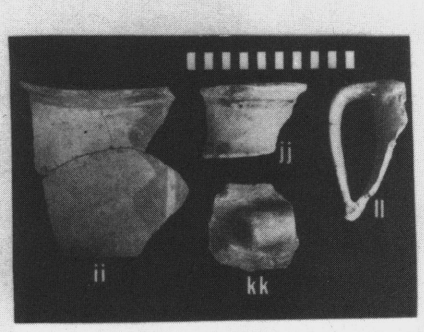
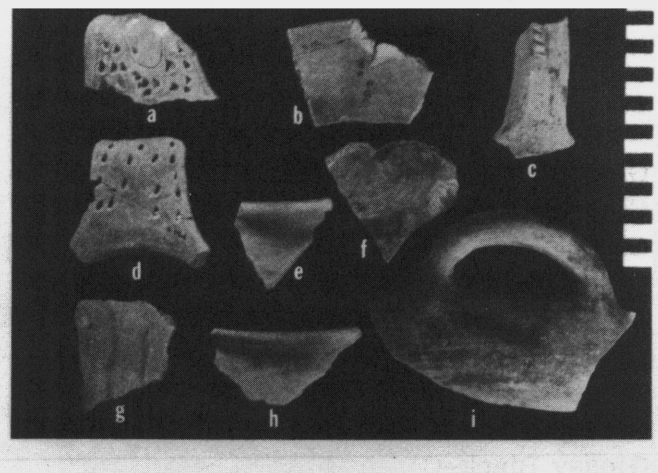
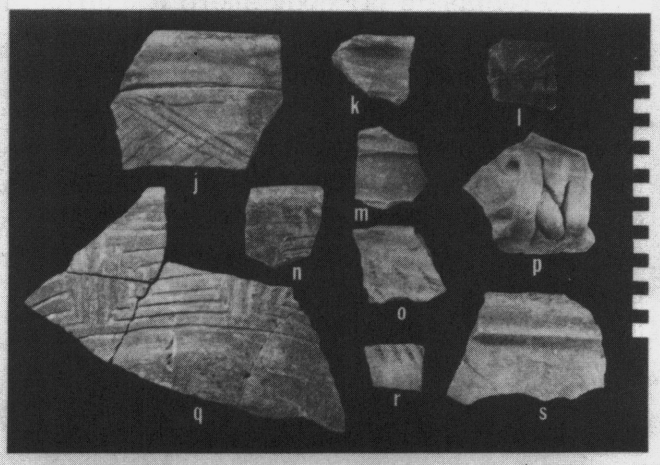


FIGURE 17

Figure 18

a. Santa Marta Brown-B
b. Mahogany Brown-A
c. Mahogany Brown-A
d. Santa Marta Brown-B
e. Santa Marta Brown-B
f. Mahogany Brown-A
g. Santa Marta Brown-B
h. Santa Marta Brown-B
i. Mahogany Brown-A
j. Mahogany Brown-B
k. Mahogany Brown-C
l. Mahogany Brown-C
m. Mahogany Brown-C (sherd position inverted)
n. Mahogany Brown-B
o. Mahogany Brown-C
p. Mahogany Brown-C
q. Mahogany Brown-B
r. Mahogany Brown-C
s. Mahogany Brown-C
t. Esperanza Flesh-A
u. Esperanza Flesh-B
v. Esperanza Flesh-C
w. Esperanza Flesh-A
x. Esperanza Flesh-E
y. Esperanza Flesh-B
z. Esperanza Flesh-C
aa. Esperanza Flesh-A
bb. Esperanza Flesh-B
cc. Esperanza Flesh-D





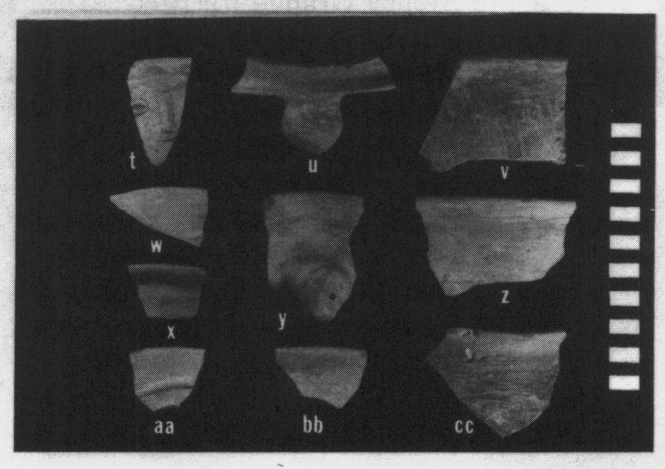
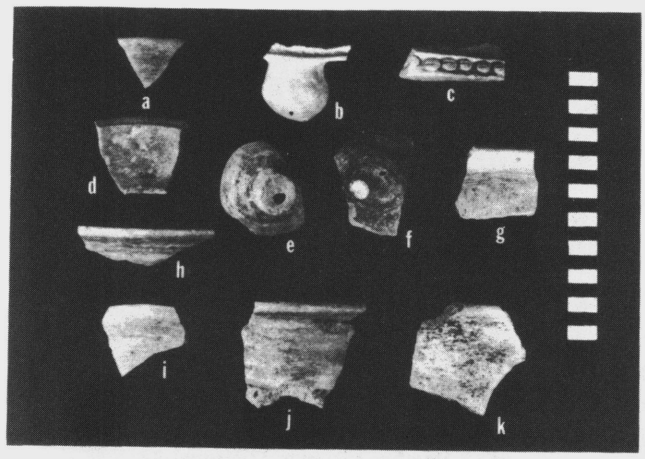
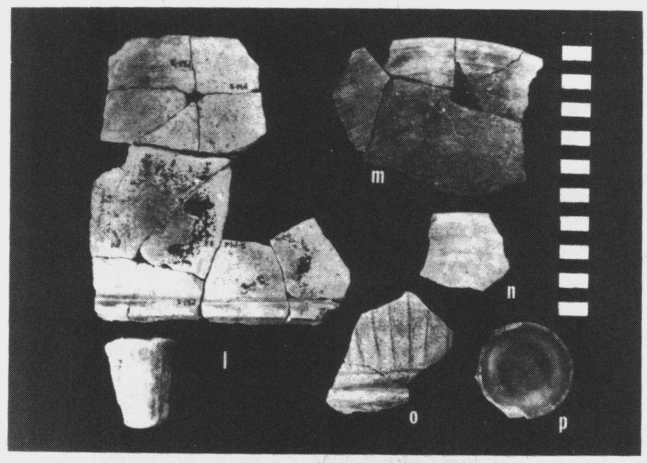


FIGURE 18

Figure 19

a. Streaky Brown-B
b. Streaky Brown-B
c. Streaky Brown-B
d. Streaky Brown-B
e. Streaky Brown-B
f. Streaky Brown-B
g. Streaky Brown-C
h. Streaky Brown-C
i. Streaky Brown-C
j. Streaky Brown-D
k. Streaky Brown-C
l. Creamy Brown Slipped-C
m. Creamy Brown Slipped-A
n. Creamy Brown Slipped-A
o. Creamy Brown Slipped-C
p. Creamy Brown Slipped-A
q-t. Miscellaneous pottery censor from site area





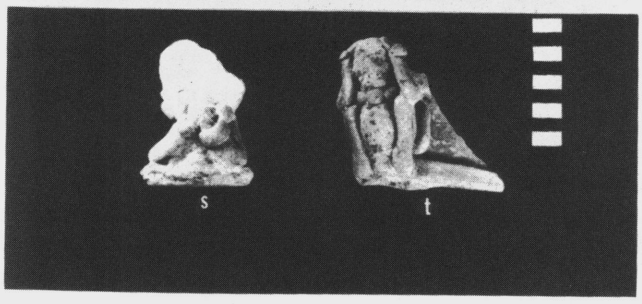


FIGURE 19

Figure 20

Pottery artifacts

a. Human figurine body fragment
b. Human figurine body fragment
c. Human figurine head
d. Human figurine torso
e. Miscellaneous pottery artifact
f. Animal effigy head
g. Figurine hand or paw
h. Solid column (animal foot?)
i. Fragment of flute
j. Fragment of flute
k. Fragment of flute
l. Fragment of flute
m. Mouthpiece of a double-chambered whistle
n. Fragment of flute
o. Cut sherd
p. Cut sherd
q. Cut sherd
r. Cut sherd
s. Burned adobe with stem impressions
t. Miscellaneous, clay fragment
u. Rectangular clay slab
v. Miscellaneous, clay fragment
w. Miscellaneous, solid cylindrical stamp

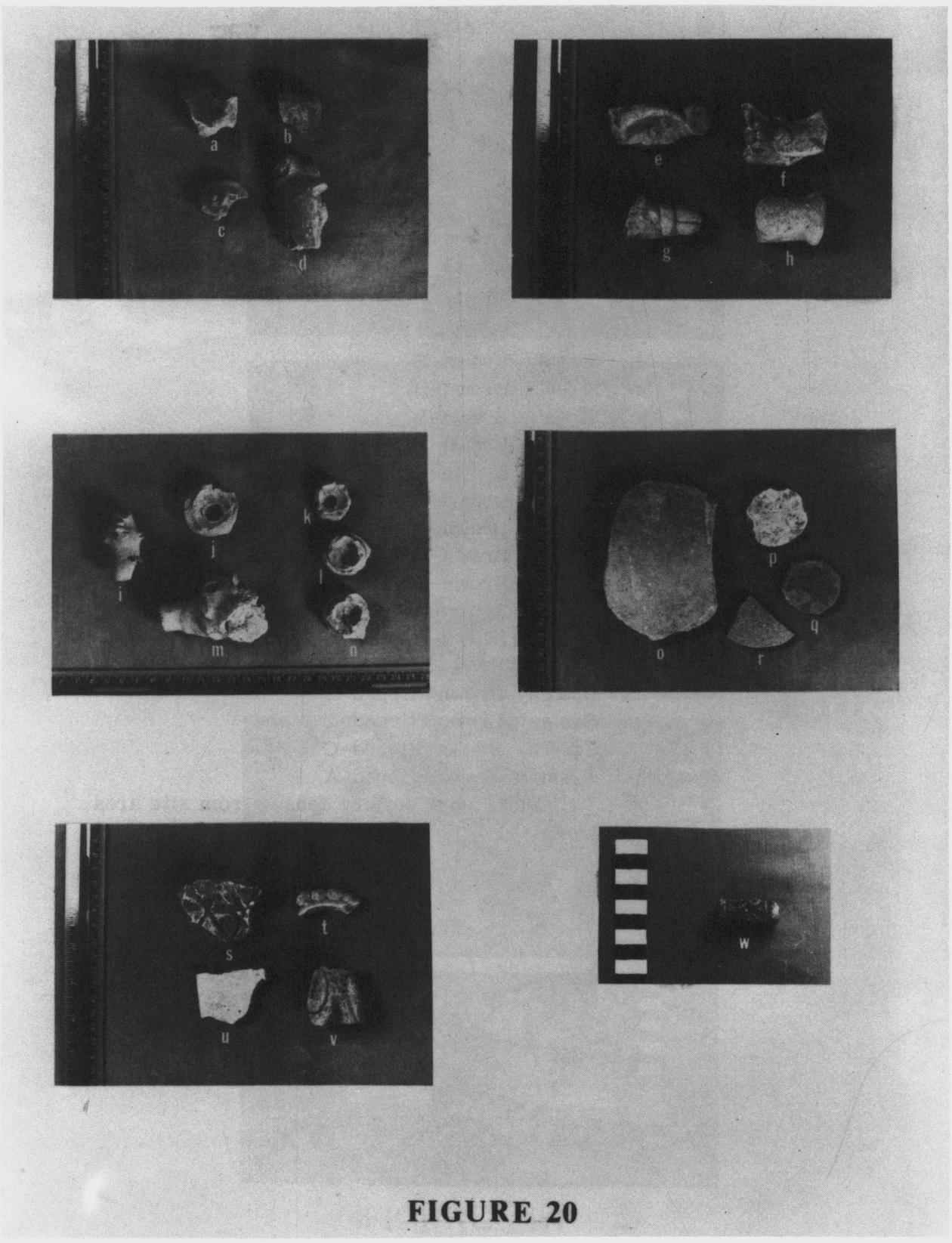


FIGURE 20

Addendum

Semetabaj Radiocarbon Age Determinations

Five charcoal samples from the Semetabaj excavations were submitted for C-14 Analysis in September 1978 to: Krueger Enterprises, Inc., Geochron Laboratories, 24 Blackstone St., Cambridge, MA 02139. The following results received April 1979 were not known to the authors during the compilation of the Semetabaj report in July 1978. However, the C-14 dates appear to conform well with the proposed dating of the site's occupation.

1. Sample No. GX-5856, wood charcoal from a burned main post in the lower of two adobe constructed platforms, Fig. 4, Pit 8. Reserve sample of charcoal held in Shook Laboratory, Antigua, Guatemala.

Age: 1840 ± 120 C-14 years B. P. 110 A. D. ± 120
(Late Pre-Classic)

2. Sample No. GX-5857, wood charcoal from a burned main post in the upper of two adobe constructed platforms, Fig. 4, Pit 8. Reserve sample held in Shook Laboratory, Antigua, Guatemala.

Age: 1865 ± 130 C-14 years B. P. 85 A. D. ± 130
(Late Pre-Classic)

3. Sample No. GX-5858, charred avocado seeds (Persea americana) from plaza fill in Pit 7, Level S-171, Fig. 4.

Age: 1960 ± 135 C-14 years B. P. 10 B. C. ± 135
(Late Pre-Classic)

4. Sample No. GX-5859, charcoal fragment from the plaza fill in Pit 2, Level S-12i-k, Fig. 3.

Age: 2660 ± 175 C-14 years B. P. 710 B. C. ± 175
(Middle Pre-Classic)

5. Sample No. GX-5860, wood charcoal fragments from heavily burned area in intrusive ancient pit and around large, broken pottery tecomate, Fig. 3, Pit 4, Level S-14e.

Age: 1485 ± 140 C-14 years B. P. 465 A. D. ± 140
(Early Classic)

THE EARLY PRECLASSIC SEQUENCE IN THE OCOS-SALINAS LA BLANCA AREA, SOUTH COAST OF GUATEMALA

by

Edwin M. Shook and Marion P. Hatch

Dedication

We dedicate this study with sincere appreciation to Reverend Carleton M. Sage, S. S., formerly of the Seminario de San Jose, Solola, Guatemala, C. A. and now residing at the St. Charles Villa, Baltimore, Maryland, U. S. A. Padre Carlos, as we affectionately call him, not only served as a field assistant, assumed a portion of the costs of the field operations, but importantly provided us with encouragement and stimulation by his constant interest and enthusiasm.

Acknowledgments

The archaeological research in the field and the laboratory was made under official permission granted by the Instituto de Antropologia e Historia de Guatemala through its director at the time, Dr. Luis Luján Muñoz. Financial costs were borne principally by the authors with welcome contributions from Rev. Carleton M. Sage, Mr. Landon T. Clay and Mrs. Jon (Francesca) Wiig.

Jamie K. Donaldson aided us both in the field and especially in the Antigua Laboratory. Her valued assistance included all the drawings presented in this report, the many typings of the manuscript, the ceramic recording, and other laboratory tasks. We are greatly indebted to Jamie for her efficient participation.

Introduction

Studies undertaken from 1971 through 1979 by Shook and Hatch on the ceramics of the Pacific South Coast of Guatemala, particularly those from the Ocos-Salinas La Blanca area, suggest that a modification should be made in the generally accepted sequence of phases for the Early to Middle Preclassic time span. This paper presents the new information resulting from a stratigraphic test excavation at Salinas La Blanca, including our observations on the material collected from other mounds in the immediate vicinity, with our analysis of the ceramics. We believe the findings pertain to important problems of early cultural development in the Pacific Coastal environment.

The initial archaeological survey of the virtually unknown coastal region between the Naranjo and Suchiate rivers which had been conducted by Shook in 1947 brought to light many Preclassic sites (Shook 1947: 179-184) and led to Coe's interest in investigating the site of La Victoria. This productive research at La Victoria (Coe 1961) and the subsequent and equally valuable pioneering studies by Coe and Flannery (1967) at Salinas La Blanca and the environs, enabled a chronological sequence for the Preclassic on the South Coast of Guatemala to be established which then provided the framework for the Early Preclassic of Chiapas, Mexico (e.g., Green and Lowe 1967; Ekholm 1969). This sequence has since then been adhered to without question by most archaeologists involved in the studies of the Pacific coastal area. However, in archaeology there is an ever-present risk that once a well-devised sequence has become firmly established through publication, it can influence unconsciously and certainly unintentionally the thinking of co-investigators to such an extent that new data from excavations may be skewed to fit the published and accepted cultural sequence.

Shook, though admittedly biased for reasons stated below, has never fully accepted the early chronological ordering of the archaeological sequence presented by Coe and Flannery (1967). Despite the overwhelming amount of published and unpublished data from extensive surveys and excavations by the New World Archaeological Foundation in Coastal Chiapas, he believes there remain other possible explanations and ordering of the cultural sequence in the area. This skepticism is based on the following considerations:

1. Coe's original report on La Victoria (Coe 1961) clearly describes the stratigraphic conditions he found at the site. Essentially, the major occupation of La Victoria and all the mound construction examined pertain to the Middle Preclassic Conchas Phase. This phase directly overlay and intermingled with the Early Preclassic Ocos Phase material apparently without a defineable stratigraphic break (Coe 1961: 33, 34, Fig. 7). The field conditions encountered and the continuity of certain ceramic types and artifact assemblages led Coe to the logical conclusion that Conchas evolved directly from the underlying Ocos occupation.

2. The Ocos Phase has small handmade human, animal, and bird figurines and whistles. These are also manufactured during Conchas Phase, possibly continuing an uninterrupted custom or tradition from Ocos times. During both phases the figurines were

purposefully and thoroughly broken in the same manner by the people (Coe 1961: 91). The immense quantity of Conchas figurines is comparable only to Tlatilco in Mexico and the Las Charcas Phase at Kaminaljuyu. The Cuadros and Jocotal Phases, originally not identified at La Victoria, are typically without a figurine cult. It does not seem logical to interrupt the Ocos-Conchas figurine tradition by inserting the Cuadros and Jocotal Phases between them (an estimated span of 200-300 years), as proposed by Coe and Flannery.

3. The presence of solid tripod supports on many Ocos Phase tecomates, and a hollow cylindrical foot from a bowl of the same phase (not reported by Coe, but among his Ocos sherds in the NMAH collection at Guatemala City), and the frequent occurrence of solid and hollow supports on Conchas Phase tripod grater bowls suggest a continuity of the use of vessel supports from Ocos to Conchas times. The placement of the Cuadros and Jocotal Phases, neither with evidence of vessel supports, between Ocos and Conchas again does not seem realistic.

4. Coe (1961: 31) states that "form continuity is a feature of La Victoria particularly in the Ocos and Conchas Phases", and he also points out the hopelessness of attempting to classify by macro-inspection the paste and temper of Ocos and Conchas pottery because of the sameness. The continuity of certain pottery types, forms, and paste from Ocos into the Conchas Phase suggests cultural continuity. These ceramic similarities doe not appear possible with a 200-300 year separation between the two phases when the Cuadros and Jocotal Phases are inserted.

5. Ocos and Conchas Phase ceramics share specific surface decorative techniques such as broad-line and indented-line burnishing (also known as pattern burnishing), micaceous slips, and polished black slip, sometimes with red pigment rubbed into incised designs or matte areas to increase the contrast. These characteristics also suggest cultural continuity between the two phases.

6. Coe states (1961: 103) that the artifact assemblage of the Conchas Phase, with a few important exceptions, duplicates that of the Ocos Phase. However, the artifacts of the Cuadros and Jocotal Phases, though hardly distinctive, have little to offer as an intervening local cultural development between Ocos and Conchas. One of Coe's distinctions between Ocos and Conchas Phases in the artifact inventory at La Victoria is the absence of clay napkin-ring earspools in the Ocos and the abundance of these in the Conchas Phase. This stated exception in the artifact assemblage at La Victoria apparently does not hold in Coastal Chiapas. Napkin-ring earspools are found to occur abundantly in Ocos levels at Paso de la Amada (Lowe 1975: 33; Ceja 1978: Fig. 54) and one fragment was recovered from a Barra Phase level at Altamira (Green and Lowe 1967: 126).

7. The archaeological sites of Salinas La Blanca and La Victoria occupy the same ecological zone, and are located only two kilometers apart on oppostie sides of the Rio Naranjo. In view of the proximity of the two sites one would expect a strong

relationship between them. Such is indeed the case in the uppermost levels which contain Late Preclassic (Crucero Phase) material, but the main fill of the two sites exhibits totally different ceramic complexes. Salinas La Blanca disclosed deeply stratified refuse from intensive human occupation associated with pottery and artifacts which constitute the successive Cuadros and Jocotal Phases; these phases were not recognized in the La Victoria excavations. We believe that Coe and Flannery correctly evaluate the Cuadros and Jocotal ceramics as being distinctive and chronologically separate from the La Victoria complex, but we disagree with the subsequent insertion of these phases between the Ocos and Conchas Phases as proposed by these authors in their 1967 report.

During 1972-1973 Shook conducted an archaeological salvage operation which focused mainly on the major site of La Blanca, situated on the east bank of the Rio Naranjo, 10 kms. north and inland from the Pacific Ocean and just north of the modern town of La Blanca. These ruins are different from those which Coe reported (1961: 147, Fig. 2) and named La Blanca, then later renamed Bocana (Coe and Flannery 1967: 95, Fig. 49) after the nearby village of Bocana. The ruins of Bocana, also known locally as Los Cerritos, are likewise distinct from those of Salinas La Blanca which lie one kilometer to the south, towards the Pacific Ocean. While carrying out the salvage work in the area, Shook took the opportunity to make a small excavation at Salinas La Blanca. The site was examined again in 1979 by Shook, Hatch and Jamie K. Donaldson during a brief field survey of the La Blanca and Salinas Tilapa region. The results of the excavation and field surveys provide the basis for the subject matter of this paper.

The archaeological site of Salinas La Blanca consists of two large, adjacent mounds as reported by Coe and Flannery (Fig. 1; Coe and Flannery 1967: Fig. 4). Depending upon the viewpoint of the investigator, the two mounds may be thought of as comprising a single site. However, the mounds are in fact an integral part of a continuous circle of similar mounds surrounding an extensive salt flat or "playa" known locally as Salinas Tilapa or Salinas La Blanca (Coe and Flannery 1967: Fig. 47). The activities of present-day salt production, though greatly expanded since 1962, still do not extend to the maximum area utilized for salt-making in Pre-Columbian times. The ancient salt flats actually reached the eastern fringes of the Salinas La Blanca mounds as well as to the fringes of other archaeological mounds along the edge of the playa. Mounds are also distributed sporadically and irregularly within the salt flats.

The extensive explorations by Coe and Flannery (1967: 85-99) and our more limited ones of the Salinas Tilapa salt playa indicated that there was either a huge complex of mounds forming a single great site or that there are innumerable small sites like Salinas La Blanca which consist of a single mound or small clusters of mounds. Until a carefully surveyed map is available showing size, shape, height, and distribution and relationship of archaeological structures in and around Salinas Tilapa, only generalized statements can be made. During the 1979 field survey we briefly visited a dozen or more mounds within and surrounding the Salinas Tilapa salt playa, including those of Salinas La Blanca. For convenience, we have temporarily designated each mound referred to in this study by the name of the milpero (Carlos, Alfredo, Monteroso, etc.) who today

utilizes it for the cultivation of corn, beans, and squash. On several mounds we collected surface sherds, and on the Monteroso Mound a shallow test excavation was made on the mound slope. At the Carlos Mound, where a bulldozer had cut away a section exposing the structural fill to over 4 m. in depth, a large collection of fill sherds was recovered.

All the mounds that we examined exhibit a general similarity in appearance and height, and seem to represent a fairly intensively occupied period devoted primarily to the salt-making industry. The general uniformity in mound height may be a factor of the principle of least net effort, i.e., that when a certain height was reached it became more efficient to move to an adjacent new area than to climb to a higher point on the accumulated mound debris. The mound patterning suggests that each location was probably utilized by the same cultural group for some length of time, either seasonally during the dry season to prepare and extract salt, or throughout the year. Should the latter be the case, agriculture would have occupied the inhabitants during the wet season. The individual mounds appear for the most part to represent comparatively homogeneous, single component occupations, thus providing the archaeologist with excellent material for comparative studies. We were constantly surprised to find that even on the surface of these mounds all the sherds usually pertained to a single ceramic phase. Material representing not only various phases of the Preclassic was observed, but also of Late Classic, Post-classic, and modern times.

The land to the north of the salt flats and the area beyond the flooding of sea water undoubtedly served for agriculture as it does today, providing a basic diet of agricultural products which was supplemented by the rich marine resources of the immediate area. One might speculate that the majority of the sites close to the Pacific Ocean on the estuaries, lagoons, and salt flats were occupied by small colonies of working class people primarily for the production of salt. They may have been controlled and administrated by a socio-political system emanating from a center established further inland on the agriculturally rich South Coastal plain or even in the highlands of Guatemala and Chiapas. These colonies would have been subject to the vagaries of political control from inland people under the particular political power unit. A secondary purpose of the colonies would be to supply fish, mollusks, and other marine food products, and perhaps shell for lime, ornaments, and tools. The single phase occupation indicated by some archaeological mounds and the sporadic intervals of occupation or reoccupation of others may reflect the political fortunes of the inland power structure.

If such a model has any basis in fact, the estuary-riverine adaptation as proposed by Coe and Flannery for the people of Salinas La Blanca becomes less appropriate. Instead, we would have an agriculture-based society which is exploiting the coastal resources in a much more complex system of exchange. To substantiate such a model, we propose that the major site of La Blanca, 10 kms. inland from the sea, was the cultural center and seat of political power for the interval represented by the Conchas Phase. The La Blanca artifact and pottery inventory is elaborate and sophisticated. The Carlos Mound, situated on the edge of the Salinas Tilapa salt flats, represents one of several salt manufacturing colonies in the Tilapa-Ocos area; the fill of this mound consists

of only utilitarian pottery (tecomates and jars) of the Conchas Phase. The obvious explanation would seem to be that the colonists, being basically workmen assigned to the task of salt-making, would not have had the full inventory of cult objects that is found at their capital, La Blanca. This study and the accompanying data will be more fully developed and represented in a forthcoming report (Shook and Hatch, ms. in prep.).

Shook's purpose in excavating the east mound at Salinas La Blanca in 1973 was to make a comparison of the stratigraphy and ceramic assemblage of the east mound with that of the west mound excavated in 1962 by Coe and Flannery and described in their 1967 report. The west mound today reaches a height of just over 4.5 m. above the surrounding ground level, whereas the east mound is about 3 m. high. Both of the mounds were undoubtedly slightly higher in ancient times but have been lowered more recently by the construction of modern dwellings on them. The east mound has been occupied for the past twenty years or more by the Navarijo family, and therefore we have dubbed it the Navarijo Mound, to distinguish it from the west or "Cuadros" mound which was occupied by the Cuadros family when Coe and Flannery worked there.

The Navarijo Mound has been disturbed principally at the very top and along the northeast and southeast slopes for modern houses, corrals, and pig pens belonging to the family (Fig. 5a). The western slope of the ancient mound appears less disturbed, being littered with Cuadros-type tecomate sherds exposed by erosion from rains and daily sweeping of the "front yard" by the Navarijos. Permission was most generously granted by these people to dig in their front yard. Not only did they tolerate good-naturedly the disturbance of their normal living caused by the excavation activity and clutter of equipment, but they were also of considerable assistance in digging, hauling water, washing and storing sherds, loaning tables and chairs from their meagre supply of furniture. They succeeded in preventing the more than 130 members of the household (counting children, dogs, cats, pigs, chickens, turkeys, parrots, and rabbits) from falling into the deep test pit which was located directly within their normal path and habitat.

The excavation of the Navarijo Mound consisted of a 2 x 2 m. square test pit which was taken down in arbitrary levels of 20 cm. each to sterile clay at 2.2 m. in depth below the surface (Fig. 2b). In general, the conditions encountered in the Navarijo Mound were similar to those found by Coe and Flannery in the Cuadros Mound. There was a series of horizontal pink or purple clay floors, often heavily burned to a brick red. Tightly packed upon many of these floors were thick layers of tecomate sherds, also heavily burned. The impression given was one of an exceedingly untidy people who were living, cooking, eating, and breaking an incredible number of large heavy-walled tecomates, leaving all debris scattered on the floor and walking over the trash until it became either too uncomfortable for bare feet or the stench too unbearable. At this point more of the local purple, pink, or grey earth was hauled up, spread over the rubbish, and tamped to form a new and temporarily clean living level.

One small lot of charcoal was collected from the various floors in the Navarijo

Mound test pit between levels .60 to 1.9 m. below the surface. This charcoal sample was submitted to the Radiocarbon Dating Laboratory, Dept. of Geology at the University of Miami, Florida. The results of the analysis, provided through the kindness of the laboratory director, Dr. J.J. Stipp (letter, June 1, 1973), were as follows: Lab. No. UM-101 Apparent Age: 3135 $\pm$ 120 years B. P. or an age of approximately 1185 B. C.

The succession of clay floors or earth leveling making up the Navarijo Mound began atop a sterile light grey-brown compact clay approximately 1 m. above the natural ground level. This situation differs strikingly from the conditions encountered by Coe and Flannery in the Cuadros Mound. There, cultural debris was found at great depths of 1.8 m. below the natural ground level surrounding the mounds. One possible explanation of this phenomenon may be that the earliest inhabitants for practical purposes took advantage of the elevated remnants of an ancient river levee along the east bank of the Rio Naranjo to live upon. Their continued occupation and the successive accumulation of trash-earth floors eventually built up the Navarijo Mound to or near its present height and size. It is possible that during this considerable period of occupation the course of the Rio Naranjo may have shifted westward slightly, an event frequently happening even today. Such a shift of the river bed would have left the Navarijo Mound separated from the river's edge by a wide natural bench or sloping bank (Fig. 1). Habitation, then, (for convenience to the water source) may have shifted or expanded westward to the river edge. Here, we know from Coe and Flannery's excavations, the long occupation and accumulation of household rubbish eventually created the west, or Cuadros, mound. Should our interpretation be correct, it would account for the chronologically later debris occurring in the Cuadros Mound to a depth below the 1962 water level as discovered by Coe and Flannery. Otherwise, it is difficult to understand how the adjacent Navarijo Mound could produce ceramics of an older occupation at a higher level than the west mound, where Cuadros material occurred much deeper and down to the bottom of the excavations made by Coe and Flannery.

As noted previously, the main objective of the excavation in the Navarijo Mound was to compare the ceramic assemblage with that of the Cuadros Mound. Although most of the fieldwork took place in 1973, it was not until 1979 that we had the opportunity to make a close analysis of the ceramics recovered from the mound. It then became apparent that the pottery, though closely related to the material of the Cuadros Mound, exhibited important differences. This observation raised such vital questions to us that we initiated further inquiry into other ceramic assemblages of the Rio Naranjo drainage, some of these already collected by Shook and deposited for study in the Antigua laboratory. In addition, the brief 1979 field survey of the region of Salinas Tilapa and Salinas La Blanca served to amplify and extend the range of the laboratory samples.

From the great quantity of mounds in the vicinity of Salinas Tilapa we were able to locate several which were associated with occupations (all clearly involved in the activity of salt production) representing single phases which directly concerned our study. One of these (the Alfredo Mound) had abundant Cuadros ceramic material; another (the Monteroso Mound) had types related to Ocos ceramics; a third (the Carlos Mound) was

entirely restricted to Conchas Phase pottery. Our Antigua laboratory material consisted of:

1. The stratified sample from the test pit in the Navarijo Mound at Salinas La Blanca.

2. Cuadros and Jocotal Phase ceramics from the Navarijo, Cuadros and Alfredo Mounds at Salinas La Blanca.

3. Ocos and Conchas Phase sherds from La Victoria.

4. A very large Conchas Phase sample from controlled excavations at the site of La Blanca.

5. Mixed surface collections from numerous other archaeological sites in the Pacific Coastal area, principally within the drainage of the Rios Suchiate, Naranjo, and Ocosito or Tilapa.

The mass of pottery from these sites and the literature already published on the South Coast of Guatemala and Chiapas provided the basis for our analysis of the ceramic sequence of the Early to Middle Preclassic period on the South Coast.

The methodology used for the pottery analysis is one arrived at by Shook and Hatch in the Antigua laboratory, but is neither new nor unique in its approach. Basically, the technique is one of pottery seriation. In briefest terms, the first step in our method is to sort the pottery according to a simple but workable classificatory scheme in which the basic unit is the "ware". For us, "ware" is a category of pottery held together by consistency of paste and surface treatment, with a special inventory of vessel forms and range of decoration. A ware may be subdivided into types, but we consider all types within a single ware to be generically related. The ware and type categories then provide the framework for identifying the chronological changes according to seriation of the vessel forms and style of decoration.

The "ware" concept is vital in pottery seriation as the investigator must be certain that he is comparing units which are part of the same tradition and line of development. Intrinsic to our system of analysis is the notion that pottery categories are never static but are constantly changing through time according to influences upon the technique of manufacture which the potter may not even be aware of. We view this pottery evolution as a continuum in which the type, form, or style of decoration can be traced from one extreme until it eventually develops or blends into another (unless, of course, the sequence is interrupted). We object to the cumbersome nomenclature of the Type-Variety classificatory system, and also feel that such a method causes the types to become rigid and frozen in time due to the strict boundaries which are imposed to separate one unit from another. The marginal zones and overlapping of units which actually exist and must be recognized in order to trace the direction of change are frequently ignored in

Type-Variety analysis, resulting in the loss of significant comparative details (For further discussion, see Shook and Hatch 1978).

The Ceramics of the Navarijo Mound

The test excavation in the Navarijo Mound demonstrates both stratigraphically and in ceramic content a marked change at the floor level 35 cm. below surface. The fill above this level contained sherds which could be identified as the standard Guamuchal Brushed tecomates characteristic of the Cuadros Phase on the Pacific Coast of Guatemala (Coe and Flannery 1967: 28-30). No ceramics later than this phase were encountered in the entire sample. Below the 35 cm. level there occurred a few sherds of differentially fired white-rimmed black bowls and a great quantity of sherds from tecomates which, in spite of several living floors, exhibit sufficient consistency and standardization to suggest that a relatively short period of time may be represented. Although these tecomates are not exactly the same as Guamuchal Brushed, they show enough similarity to them in paste, form, and surface treatment to indicate a generic relationship. We recognize a developmental trend within them evolving into the Cuadros types which are present in the overlying stratum and in the lowest deposits of the adjacent west mound excavated by Coe and Flannery at Salinas La Blanca. Thus we feel quite certain that the lower fill of the Navarijo Mound belongs within a time just prior to the fully developed Cuadros Phase. Because of the distinctive qualities of the Navarijo assemblage, we consider it appropriate to identify it as a Navarijo Phase which evolves directly into Cuadros ceramic types.

Coe and Flannery assume (Coe and Flannery 1967: 26), apparently, that the Cuadros Phase develops directly out of an earlier Ocos complex; however it is noteworthy that the Navarijo assemblage, obviously formative to Cuadros pottery, gives no evidence that it derives from or has its origins in Ocos-style ceramics. The Navarijo assemblage reflects predominantly a tecomate tradition, exemplified by large tecomates with thick walls, but simpler and more restricted in its inventory than in later Cuadros times. There are no figurines, thin-walled Ocos tecomates (either tripod or unsupported), everted or beveled rim bowls, iridescent paint, rocker or shell-edge stamping. There is only one unusual example of a jar, and one example of a tecomate with zone burnished specular hematite red slip. In other words, the sample lacks the tradition of a figurine cult, elaboration of vessel forms, and sophistication in surface manipulation that characterized the Ocos Phase on the South Coast of Guatemala. This observation strongly suggests that the Ocos Phase is a product of a completely different line of development which does not lead forward into the Cuadros complex, and may not even be chronologically earlier.

Because of the standardization reflected in the tecomates of the Navarijo assemblage, we have lumped the great majority into a single basic unit which we call Salinas Ware. This ware continues as the most common ceramic category at Salinas Tilapa through Cuadros and Jocotal times, the basic unit being held together by

similarities in paste and surface manipulation, and an emphasis on the tecomate form. During the Navarijo Phase the ware is virtually restricted to the tecomate form, usually bearing a red slip or wash. In the subsequent phases the tecomate continues to predominate, usually with unslipped or unwashed surface, but new forms appear. The chronological differences that are manifest in the ware become phase diagnostics, and therefore we subdivide Salinas Ware into Navarijo Type, a Cuadros Type, and a Jocotal Type.

Salinas Ware

I. Type: Navarijo

Discussion: Of the total 220 rim sherds recovered from the Navarijo test excavation, 200 are from tecomates, and of these 196 belong to Salinas Ware (Fig. 2a). Although there is a slight variation in surface finish among the tecomates, the overwhelming majority exhibit an apparent red tecomate tradition. These tecomates have a red surface achieved by one of the following methods: (1) red-fired paste; (2) reddish-orange wash; (3) reddish-orange slip. The techniques may overlap, i.e., a red-fired paste may also have a red wash, a thicker reddish-orange wash becomes a slip, etc. In vessel form, decoration, and visible paste composition they are indistinguishable.

Paste: The paste composition (unfortunately we have not had the means for technological analysis of the paste) appears to be the same for all tecomates of this ware. It is well-fired, of medium texture, slightly gritty or sandy to the touch, with abundant visible fine quartz and black glassy crystals, occasional white particles, and larger ferruginous inclusions. Sporadic gold platy flecks of mica show on the surface and reflect the light. The paste color normally ranges from yellowish-brown to grey-brown to pinkish-red, sometimes almost lavender, throughout the section. The reddish-fired paste is common in the sample, but whether this is a deliberate effect or accidental is uncertain. The color runs slightly more to the browns and the texture may be somewhat coarser and less hard-fired than Salinas Ware tecomates of the Cuadros and Jocotal Phases.

Surface finish: All over well-smoothed, probably wet-wiped, before adding decoration to the exterior. The interior of the tecomate bears only occasional traces of smoothing by fingers, rag, or fine-edged tool. On tecomates which lack either slip or wash, the surface is the same color as the paste. Others may bear on the exterior a thin reddish-orange wash or thicker red-orange slip which contrasts with the brown or grey paste color, but in all cases the surface is left with a matte finish. The red-orange wash is often so thinly applied that the paste color shows through in some areas; it may wear off in the weathering process but characteristically does not peel or flake. The slip is the same color as the wash, but is thick and opaque and less resistant to weathering, readily peeling off in large flakes. These slipped tecomates do not survive beyond the Navarijo Phase, whereas those with thin red-orange wash continue to be represented in the Cuadros and Jocotal Phases, and may even be the antecedent of Red Unburnished tecomates and jars of the Las Conchas Phase (Coe 1961: 63).

A. Vessel Form: Tear-drop shaped tecomates (see Fig. 3a for hypothetical

reconstruction of this form). These have a rounded lower body from which the wall slopes inward and upward to a direct rounded or flattish rim, giving the vessel a "tear-drop" shape. On the exterior the wall curves smoothly up to the rim; on the interior the wall turns upward abruptly from the rounded body and then rises steeply to the rim. On the interior the wall is thickest at the junction with the body, thinning again as it meets the insloping rim. The manufacture technique was apparently to position the fingers vertically against the interior of the orifice, pressing the thumb along the rim exterior (Fig. 2c). Circumscribing the orifice in this manner would cause a steep interior wall below the rim, the soft clay mounding up at the fingertips where the body expands outward to the globular lower section. Simultaneously, the opposite hand would press on the wall exterior to control the smooth slope upward to the direct rim.

A few examples of a somewhat similar tecomate form with upsloping rim are illustrated for the Ocos Phase (Coe 1961: Figs. 15, 16), the Barra Phase in Chiapas (Lowe 1975: Figs. 16, 19), and for the Burrera Phase at Santa Cruz (Sanders 1961: Figs. 16, 19), but in each case the paste and style of surface treatment is distinct from Navarijo Ware.

Total: 108 rims

1. Decoration: None (Fig. 3a). It is possible, however, that some vessels may have had a horizontal tool-indented fillet, as these are present on a number of body sherds. We suspect that they go with Vessel Form B, but the lack of whole vessels causes some uncertainty.

Total: 59 rims

2. Decoration: A shallow groove encircles the orifice .5 to 1 cm. below the rim on the exterior (Figs. 2f, g; 5b). This groove was applied before wet-wiping or adding the wash or slip. Occasionally there may be a second encircling groove 4.5 to 6 cm. below the upper one. One example has a slightly curved groove (probably one of a continuous series) connecting the upper and lower horizontal grooves. There is apparently no other decoration on these tecomates, other than the possibility of a tool-indented fillet as in Decoration 1.

Total: 48 rims

3. Decoration: (Figs. 2e; 5c). One unusual example is of red-fired paste and has a slightly upturned direct flat rim with sharp upper and lower lip. The wall is thickest at the flattened edge, then thins toward the body. The vessel is undecorated except for an encircling row of spaced jabs 3 cm. below the rim on exterior; the jabs give the effect of a series of low short vertical ridges about 1 to 1.5 cm. apart. In paste composition, color, and surface finish the example is identical to others of Salinas Ware of the Navarijo Phase.

B. Vessel Form: (Fig. 2h-l). Globular tecomates, most with an encircling raised convex zone 3 to 5 cm. below the rim, giving a "complex" profile. The raised band varies from 3.5 to 6.5 cm. in width. The form is similar to or the same as that of Guamuchal Brushed tecomates of the Cuadros Phase at Salinas La Blanca (Coe and Flannery 1967: Fig. 12). The rim is direct rounded to thinned, in some cases slightly upturned, but in other instances the upper wall curves inward directly to the rim from the shoulder or convex bulge without change of direction. In most cases there is some thickening or swelling of the wall on the interior below the rim as seen in Vessel Form A, but occasionally the wall is of uniform thickness and terminates in a direct rounded or blunt rim. All have brushed or brushed-and-impressed decoration applied to the raised convex zone.

The examples recovered from the upper 35 cm. of the Navarijo test cut probable qualify as Guamuchal Brushed tecomates, and certainly they exhibit a later stage in the development of the complex profile tecomate than those of the lower mound fill. It is always difficult to decide where to draw the boundary line when one is working with a continuum in a gradually changing sequence; it is thus a moot question as to whether these tecomates define the end of the Navarijo Phase or the beginning of the Cuadros Phase. At the present time we have opted to keep them at the end of the Navarijo sequence, within Salinas Ware Type I, in this way holding all the mound contents together as one complex and unit of time.

The tecomate form with complex profile seems to have evolved from and gradually replaced the tear-drop form, as the latter is no longer manifest in the fully developed Cuadros Phase at Salinas La Blanca. We suspect that the desire for brushed and impressed decoration on the tecomate shoulder led directly to the evolution of the complex profile. The decoration was probably applied to the soft clay on the exterior by an instrument held in one hand, while the fingers of the other hand pressed upward against it from the interior of the tecomate, the thumb being braced on the rim exterior (Fig. 2d). As the entire orifice of the pot continued to be manipulated in this manner, the pressure on the interior against the decorating tool would result in the low encircling raised and impressed band or bulge that is seen on this form. The thumb on the rim exterior would inadvertently pull downward on the rim while acting as a leverage against the upward thrust of the fingers. Such a process would have quickly eliminated the upturned rim of Vessel Form A and would explain its rapid disappearance after Navarijo times. Furthermore, the pressure between the thumb and fingers would cause a thinning of the rim towards the lip while the soft clay on the underside of the orifice mounded into the curvature of the hand and the fingers pushed upward on the wall interior. The result would be the swelling and thickening of the wall interior below the rim as is characteristic of Vessel Form B and Cuadros Phase tecomates. The technique is not far removed from that described for Vessel Form A, and would appear to be derived from it. The difference lies mainly in that for Vessel Form B the position of the fingers is more horizontal and they extend further into the vessel interior.

Toward the end of the Cuadros Phase and during the ensuing Jocotal Phase

the tecomate with complex profile gradually evolves into a simple globular form. On these the wall is of even thickness and terminates in a direct rounded or blunt rim (Coe and Flannery 1967: Fig. 13). By this time the manufacture technique of Vessel Form A appears to have been dropped and forgotten. To achieve the evenly rounded from, the method would be to exert uniform pressure on the fingers in smoothing over the interior and exterior, resulting in a wall of consistent thickness. The pinched or thinned rim with interior swelling would give way to a direct rounded or blunt rim by the process of circumscribing the interior edge of the orifice with thumb or finger. Such a form is typical of tecomates of the Jocotal Phase and in the succeeding Conchas Phase the tecomates commonly have a direct flat rim with sharp upper and lower lip (Coe 1961: Fig. 24k; Shook and Hatch, ms. in prep.), probably due to more pressure being applied to the fingers as they circumscribe the orifice.

Total: 88 rims

Decoration: Most tecomates of Vessel Form B have a smooth rim band 3 to 5 cm. wide (usually closer to 5 cm.) with an encircling groove just below the rim on the exterior. All have a band of brushed or brushed-and-impressed decoration which is applied directly to the raised convex zone. The brushing and impressing contrasts somewhat with that of Guamuchal Brushed decoration of the Cuadros Phase in that there is less variety and the impressed decoration is deeper and coarser, obviously applied while the clay was still very wet and pliable. The decoration consists of the following:

1. Brushing, usually vertical or slanted (Fig. 5p). Brushing is sometimes, but not always, accompanied by impressed decoration as described below.

2. Basket (?) impression, or braided fibers wrapped around a paddle (Fig. 5d, e). One example (Fig. 5d) differs from others of Vessel Form B in having a narrow rim band of specular hematite purplish-red paint extending from the inner lip down to an encircling groove 1 cm. below the rim on the exterior. The surface below the rim band bears no slip or wash, being the deep brown color of the paste.

3. Sets of deeply incised lines on the brushed band (Fig. 5f).

4. Multiple jabs by tool or finger, or spaced diagonal rows of jabs on the brushed band (Fig. 5g-o).

5. Finger-punching from the interior to form a small protrusion or bulge on the exterior which may then be pinched to form shallow depressions in the protrusion (Fig. 5q-s). In some cases the bulge is modeled to form a monkey or bird face positioned horizontally on the vessel shoulder (Fig. 5t).

6. Body sherds show that commonly there is a horizontal encircling or partially encircling tool-indented fillet appliqued on the vessel shoulder (Fig. 5u, v).

C. Vessel Form: Bowls (Fig. 2m). All examples of bowls of Salinas Ware in the Navarijo Mound came from the upper 20 cm. of the test cut, associated with tecomates which are in the process of becoming or have already evolved into Guamuchal Brushed types. It is thus probable that the bowl form in Salinas Ware is associated with the beginning of the Cuadros Phase.

Two bowls (five sherds) have a flat base with straight-flaring wall to direct flat rim. One is all-over smoothed; the other is smoothed on the interior while the exterior is left with a rasped surface.

The two remaining sherds come from bowls similar to the above in form but there is a low flat bolster 1 to 2 cm. wide on the exterior of the rim. Both are smoothed on the interior, the wall exterior below the bolster left with an intentionally roughened or rasped surface.

Total: 7 rims

Specular Hematite Red Slipped Tecomates

Discussion: This category is represented by two rims only in the Navarijo sample, one of these being very weathered. They do not qualify as Salinas Ware and therefore have been assigned a separate classification, but without sufficient information for a ware definition.

Paste: Similar to that of Salinas Ware of the Cuadros Phase, being of medium texture, very hard-fired, and compact. The color is light brown to greyish, one rim having a thick medium-grey core. There are abundant fine quartz and mica particles with occasional larger ferruginous inclusions.

Vessel Form: (Figs. 3b; 5w). Both rim sherds present are from tear-drop shaped tecomates similar to Vessel Form A of Salinas Ware during the Navarijo Phase. The wall is thick (1.2 to 2.0 cm.) and rises steeply from a globular lower body to a direct thinned rounded rim. The wall thickens slightly on the interior below the rim, then thins again as it begins the expansion of the globular lower body.

Surface finish and decoration: The tecomate is all-over well-smoothed, probably by fingers or rag, the interior being slightly less so than the exterior. There is a thick specular hematite red slip over all the exterior, lapping over the rim down 5 to 6 cm. on the interior. The slip on the interior of the orifice is applied more thinly than on the exterior and appears in fine horizontal strokes which sometimes barely cover the surface. The better preserved example shows zone burnishing of the slip, the zoned areas outlined by shallow grooves which do not penetrate the slip. A burnished band extends from the inner lip of the rim down to 4 cm. on the exterior, and below is an encircling row of burnished semi-circles, the upper edge of the curves lying 1.5 cm. below the rim band. The area between the burnished semi-circles is left with a matte

surface, causing the visual illusion of the burnished zones to appear darker than the unburnished areas. There is no other decoration.

Total: 2 rims, 2 bodies

Cream-Orange Slipped Ware

Discussion: This is a tentative ware designation which includes two tecomates, two restricted orifice bowls, and one unusual jar form. All forms and surface treatment differ radically from Salinas Ware vessels of the Navarijo Phase. Sherds of this ware were recovered as deep as 100-120 cm. below surface in the Navarijo Mound test cut.

Cream-Orange Slipped Ware may have some relationship to Conchas White-to-Buff (Coe and Flannery 1967: 42), but the sample is insufficient to make adequate comparisons. Similarities between the two are restricted to the slip quality which is thick, highly polished, sometimes micaceous, and uneven in color. The forms represented are not characteristic of the white slipped wares of Chiapas, Salinas La Blanca, or La Victoria.

Paste: Color is brown to reddish-brown to dark grey from firing. The texture is medium, sandy in consistency, with abundant visible quartz and mica particles and occasional larger white lumps and ferruginous inclusions.

Surface finish: All vessels represented are well-smoothed, slipped, and burnished on the exterior; the interior is cursively smoothed and left unslipped. The slip, which is highly resistant to weathering, is uneven in color and tends to be streaky and cloudy, ranging from light orange to cream to buff to white. It is usually thickly applied and polished to a low gloss. In some cases, but not always, there are fine mica flecks in the slip.

A. Vessel Form: Globular tecomates (Figs. 3c; 5x). These have a rounded body, the wall curving to a direct thinned rim. The wall is lightly thickened on the interior below the rim. The form of the base is uncertain. One example has an encircling groove 1 cm. below the rim on exterior, applied after slipping but before polishing. The other has two parallel encircling pre-slip grooves, the first being .8 cm. below the rim, the second 1 cm. below it. No other decoration is present.

Total: 2 rims

B. Vessel Form: Restricted orifice bowls (Figs. 3d; 5y). The form is globular, the wall curving evenly to an exteriorly bolstered rim with thinned lip. The bolster is 2.5 cm. in width and tapers to the thinned edge of the rim, so that it is triangular in cross-section. The better preserved example is undecorated. The other example has an encircling incised line 1 cm. below the rim on exterior.

A similar form is illustrated for differentially fired black and white bowls at Trapiche in Veracruz (Garcia Payon 1966: 88).

Total: 5 rims, 4 bodies

C. Vessel Form: Jar (Figs. 3e; 5z). The single rim is from a jar with a tall narrow neck to a direct rounded rim. The vessel approaches the bottle form. The non-micaceous well-polished white-to-orange slip extends from 2 cm. below the rim on the interior over all the exterior. There is no decoration.

Total: 1 rim, 1 body

Differentially Fired White-and-Black Ware

Discussion: In the sample from Navarijo Mound this ware consists entirely of open bowls with a white rim and black lower wall and base, the color difference a result of firing.

Differentially fired white-and-black pottery comprises a strong and lengthy tradition in Mesoamerica. On the South Coast of Guatemala the style is confined to the Early Preclassic, but apparently survives into the Late Protoclassic (Istmo Phase) at Chiapa de Corzo, Mexico (Lowe and Agrinier 1960: Fig. 55a). There is an obvious need for a detailed study of this pottery style in order to distinguish the various wares and direction of change through time in vessel form and manufacturing technique. At this writing we lack the necessary analytical data to determine ware categories and therefore hold all differentially fired black and white pottery together as a single unit, regardless of the particular effect achieved by the controlled smudging and oxidation in firing.

White rimmed black bowls are generally considered to be part of the Olmec horizon style. However, our studies at La Blanca (Shook and Hatch, ms. in prep.) indicate that white rimmed black bowls do not occur in the Olmec-related Conchas Phase, although differential firing is a common techinque in one of the black wares. White rimmed black bowls, classified as Pampas Black and White are well-represented during the Cuadros and Jocotal Phases at Salinas La Blanca (Coe and Flannery 1967: 33), Izapa (Ekholm 1969: 39), and Altamira (Green and Lowe 1967: 108). Bowls with white interiors and black exteriors, identified as Morena Black, occur during Cuadros and Jocotal Phases at Salinas La Blanca (Coe and Flannery 1967: 32) and Izapa (Ekholm 1969: 41); at Altamira (Green and Lowe 1967: 108) these bowls are apparently included with Pampas Black and White. Coe (Coe and Flannery 1967: 32) recognizes the presence of Morena Black pottery at La Victoria during the Conchas Phase (called Ocos Black in Coe 1961: 71). Both Coe and Ekholm observe a close relationship between Morena Black and Pampas Black and White pottery. Ekholm also considers Coapa Black and Cambil Black at Izapa to be close relatives of Pampas Black and White and Morena Black (Ekholm 1969: 41). One suspects some overlapping between these types as well as intersite variations.

Paste: Very fine, homogeneous in texture. Color ranges from white or light tan to grey to jet black, due to firing. Fine white particles are visible in the black fired sections, fine black ones on the white areas. Some examples show abundant tiny flecks of mica (?) or talc (?) on the surface which glisten in the light.

Vessel Form: (Fig. 3f, g). All examples are from open bowls with flat base and flaring wall to direct flat rim with sharp interior and exterior lip. Most examples have a straight flaring wall, but a few have a slightly curved wall, and one has an outcurving wall.

Surface finish and decoration: All examples are unslipped. Some vessels are all-over well-smoothed and burnished on both interior and exterior (Fig. 5aa) while others are well burnished on the interior and down to 1.3 to 2.0 cm. below the rim on the exterior. On the latter the polished area on the exterior is zoned by an encircling incised line; below this the surface is left with an intentionally roughened or rasped texture. One example has curvilinear lines incised into the rasped zone (Fig. 5bb).

This ware typically shows orange streaks on the white surface, possibly deliberately caused during the manufacture of the vessel by applying a liquid organic substance which functioned as a kind of negative painting.

Total: 8 rims, 5 bodies

The Ceramics of the Cuadros Phase

Our observations on the ceramic complex of the Cuadros Phase are based on the study published by Coe and Flannery of Salinas La Blanca (1967), and our ceramic sample of 144 sherds collected in May of 1979 from the Alfredo Mound at Salinas Tilapa. Cuadros Phase Guamuchal Brushed tecomate sherds are absent in the main fill of the Navarijo Mound, although a small quantity recovered from the upper 35 cm. of the test cut and surface of the Navarijo Mound are similar enough to indicate that they have already evolved into the Cuadros types. It is evident that Cuadros Phase ceramics follow the Navarijo types and derive directly from them.

We are of the opinion that the earliest ceramics of the Cuadros Mound at Salinas La Blanca probably date from a time well into the Cuadros Phase, and for the pottery description the publication by Coe and Flannery is sufficient. Our comments are limited to the development we see within Salinas Ware and to those aspects which we feel might explain, alter, or amplify what is known of the phase.

Salinas Ware

II. Type: Cuadros

Discussion: We have incorporated within Salinas Ware of the Cuadros Phase

the Guamuchal Brushed, Mendez Red-rimmed, and probably Mapache Red-rimmed tecomates (the latter are not present in our sample from Salinas Tilapa), as described by Coe and Flannery for Salinas La Blanca. These tecomates appear to be of similar paste, surface treatment, and general vessel form as Salinas Ware tecomates of the Navarijo Phase, but there are important differences, as explained below. Absent from Salinas Ware during the Cuadros Phase are tear-drop shaped tecomates, all-over reddish-orange slip, and basket-impressed decoration. Additions to the ware at this time are bowls, jars (possibly coming late in the phase), new modes of decoration, and certain form modifications.

Paste: Same as that described for Guamuchal Brushed tecomates (Coe and Flannery 1967: 28), and very similar to that of Navarijo Phase Salinas Ware, but typically harder fired and greyer in color. Occasionally it is fired to a pinkish or reddish-orange, as in the Navarijo Sample, and frequently there are large firing clouds.

Surface finish: The same as that described for Guamuchal Brushed tecomates, being all-over well-smoothed except for the brushed zone, and more carefully finished on the exterior than on the interior. The surface is characteristically unslipped but occasional examples show a thin all-over reddish-orange wash, as is common in the Navarijo Phase. About one-third of the tecomates collected from the Alfredo Mound have a red painted rim band.

A. Vessel Form: Same as that described for Guamuchal Brushed tecomates. These are generally of complex profile with an encircling brushed and impressed raised zone below a smoothed rim band 2 to 4 cm. in width. The rim is thinned to rounded with a slight thickening or swelling below it on the interior. For probable technique of manufacture, see discussion under Salinas Ware of the Navarijo Phase, Vessel Form B.

The form of Cuadros Phase brushed tecomates is in some cases the same as Vessel Form B of the Navarijo Phase Salinas Ware, but during the phase there is an evolution toward flattening of the convex zone and a narrowing of the rim band which now frequently bears red paint over the whole width of the band. The rim band on Navarijo Phase tecomates is typically 4 to 5 cm. in width, whereas the majority of those from the Alfredo Mound average 2 to 3 cm.

We perceive three stages in the evolution of the complex profile tecomate during the Cuadros Phase. During state 1 the rim may be slightly upturned, the rim band is 4 to 5 cm. in width, and below it the convex zone rises abruptly (Coe and Flannery 1967: Fig. 11, Plates 7b, e, 8i, j, l) as seen on Vessel Form B of the Navarijo Phase (Fig. 2h, j, l). In state 2, which is more common during Cuadros times, the rim continues directly from the convex zone; on these the smoothed rim band is narrower and is only separated from the brushed zone by an incised encircling line (Fig. 3h, i, j; and Coe and Flannery 1967: Figs. 10a, c, f, 12e, f, h, Plates 7f, k, 8a-q). In stage 3 the convex zone is completely lost, its former presence only being recalled by two encircling incised lines which frame a lightly brushed band (Fig. 4a, b; Coe and Flannery

1967: Plates 9d, 11b). Such tecomates of simple globular profile and with cursive brushing are found at the end of Cuadros and beginning of the Jocotal Phase.

According to the above reasoning, the profile of Mapache Red-rimmed tecomates, Nonspecular Variety (Coe and Flannery 1967: Fig. 9, Plate 12a-j) places them as a late arrival during the Cuadros Phase. Coe (Coe and Flannery 1967: 26) believes that these evolve directly from Mapache Red-rimmed Specular Hematite Variety tecomates of the Ocos Phase. Both variations are absent from the Alfredo Mound sample. We suspect the style of the Nonspecular Variety is a later development during the Cuadros Phase and, if derived from the Ocos variety, this source is probably located outside of the Salinas Tilapa area.

Decoration: All tecomates of Vessel Form A have an encircling incised line just below the rim on exterior; those of the developmental states 2 and 3 (described above) have a second encircling incised line just above the brushed band. Brushing is done in a horizontal or slanted direction, sometimes horizontally on the convex zone, slanted on the shoulder below it. In contrast to the decoration of the Navarijo Phase which was apparently applied to the surface when the clay was still very soft and wet, during later Cuadros times the decoration, though still crisp and distinct, is often impressed more lightly, probably applied to the clay when dried to a harder consistency.

About a third of the tecomates collected from the Alfredo Mound have a non-specular red rim band, the red paint extending from the lip of the rim down to the upper framing line of the brushed zone. These are probably the same as those identified by Coe and Flannery as Mendez Red-rimmed tecomates (Coe and Flannery 1967: 27). These red-rimmed tecomates do not occur in our sample from the Navarijo Mound nor in our Jocotal sample from the west (Cuadros) mound at Salinas La Blanca.

Impressed decoration on the brushed zone occurs as follows:

1. Multiple continuous incised slant lines parallel or in herring-bone pattern (Fig. 6e-g).

2. S-shaped incised lines or arcs alternating with sets of slant lines (Fig. 6a-c).

3. Punctates, multiple or in slanted rows, or in a row just below and parallel to the upper framing line of the brushed band (Fig. 6h-l).

4. Triangular zones of rocker-stamping on the brushed band (Fig. 6d).

5. Finger-pressing from the interior to form a protrusion or bulge which may be modeled to form an animal or bird face (Fig. 6m).

An appliqued tool-indented fillet may occur on the shoulder, either encircling

the vessel or placed as a short horizontal strip which in some cases turns at a right angle to terminate at the convex zone (Fig. 6n; Coe and Flannery 1967: Plate 8o, p, r).

Total: 107 rims, 12 bodies

B. Vessel Form: Jars (Fig. 4c, d). It appears that wide-mouthed jars begin in the Cuadros Phase, where the form is rare; they become more common in the Jocotal Phase. The two examples from the Alfredo Mound indicate that they have evolved out of the tecomate form. Both of these have an insloping neck, 3 to 4 cm. high, to a direct rounded rim. The neck turns upward from an encircling incised line, one example having a row of punctates below the line and cursive brushing on the shoulder as seen on the tecomates (Fig. 6o). The implication here is that the rim band of the tecomates has simply been pulled upward to form a necked jar. The plain example has a tool-indented fillet encircling the shoulder.

There are few jars described by Coe and Flannery for the Cuadros Phase at Salinas La Blanca. One low-necked jar is illustrated in Pampas Black and White pottery (Coe and Flannery 1967: Fig. 15j; we identify Fig. 15k as a restricted orifice bowl). Two are listed for Pacaya Red pottery, and one of these is illustrated (Coe and Flannery 1967: Fig. 16h). Two jars with rather high, narrow necks are illustrated in Tilapa Red-on-White pottery (Fig. 18f, h). During the Cuadros Phase at Altamira the jar form is not found except in Cuchilla White pottery (Green and Lowe 1967: 110). At Izapa, jars also appear to be rare during the Cuadros Phase (Ekholm 1969: 36-51).

Total: 2 rims

C. Vessel Form: Open bowls with flaring wall to direct rim, flat base (Fig. 4e). In Salinas Ware the bowl form probably begins in the Cuadros Phase. The only bowl sherds recovered from the Navarijo Mound were in the upper 35 cm. of the cut, associated with tecomates that may already be evolved into Guamuchal Brushed types.

Bowls of the Navarijo and Alfredo Mounds are of typical Salinas Ware paste, sometimes fired to reddish-orange or pinkish-red. All have a straight-flaring wall to a direct flattish-rounded rim. The interior is well-smoothed but unburnished; the exterior is cursively smoothed or left with a rasped surface. There is no decoration, but some examples appear to have a very thin milky-white wash on the interior.

Total: 5 rims, 2 bodies

Differentially Fired Black-and-White Ware

Discussion: This category shows considerably more variation than was exhibited in this ware during Navarijo times. It is possible that more than one ware is represented, as about half of the sherds are of medium-textured sandy paste like that of Salinas Ware, while the rest are of fine paste more typical of Differentially Fired

Black-and-White Ware of the Navarijo Mound. All examples are less carefully made and finished than was characteristic of the Navarijo sample. It may be that the finer paste examples are imports and the others made locally. In general the pottery is comparable to Pampas Black-and-White and Morena Black examples at Salinas La Blanca (Coe and Flannery 1967: 33), Altamira (Green and Lowe 1967: 108), and Izapa (Ekholm 1969: 39). For further discussion of this ware, see Navarijo Phase section.

Paste: Ranges from fine and homogeneous, to medium-coarse with conspicuous white sandy grains and occasional red ferruginous inclusions. In all cases there are fine gold platy flecks of mica which show on the surface and reflect the light.

Surface finish: These bowls are usually unslipped, although there are a few exceptions. All are well-smoothed and burnished on the interior. The exterior is either cursively smoothed with strokes remaining evident, or fairly well-smoothed but left with a fine rasped texture.

Vessel Form and Decoration: Most examples come from open bowls with flaring wall to direct rim (Fig. 4f, g); in all cases the base is flat. Some coarser paste examples have a straight-flaring to slightly curved wall to a direct rounded or thinned sharp rim (Fig. 4h). These bowls are unslipped, and differential firing has produced a white rim on interior and exterior, the lower wall being dark grey to black. Some finer paste examples have a vertical to straight-flaring or slightly curved wall to a direct rounded rim. The curved wall example has a white rim; the other bowls are black on the interior and white or white and black on the exterior. Two examples of the latter have an encircling press-incised line 3 to 3.5 cm. down from the rim on the exterior, and one of these has press-incised slant lines below the encircling line (Fig. 6p).

Also represented are bowls with vertical to straight-flaring wall to an exteriorly thickened or bolstered rim (Fig. 4i). The top of the rim is flat with sharp or sharp-rounded inner lip and a thickened rounded bolster on the outer edge of the rim. Two of these have a finely incised line encircling the flat rim .5 cm. from the inner lip. Another example has on the exterior thickening deep finger-depressions spaced 3 cm. apart. A slightly aberrant example has a slightly thickened flat rim with sharp inner and outer lip, with finger-depressions on the outer lip (Fig. 6q); the bowl interior has a thin reddish-orange wash. Both coarse and fine paste is represented, and on all differential firing has resulted in black clouds and blotches.

One final example is of a bowl with straight-flaring wall to a direct rounded rim. On the interior there is a burnished streaky grey slip which extends over the rim down 3 cm. on the exterior; below the wall is left roughly smoothed and unslipped. The firing is uneven, but the greyish-white slip gives the effect of a white rim on the exterior. This is clearly a marginal example and may be an early example of Ocos Grey (Coe and Flannery 1967: 46) which is common during the succeeding Jocotal Phase.

Total: 14 rims, 1 body

Tilapa Red-on-White Ware

Discussion: One sherd only of this ware was recovered from the Alfredo Mound; although slightly different in its style, we believe it probably belongs to Tilapa Red-on-White pottery as identified and described at Salinas La Blanca (Coe and Flannery 1967: 38). The ware is poorly represented in all of our samples from the South Coast of Guatemala, and it is apparently also rare at Altamira (Green and Lowe 1967: 110). We suspect it appears in late Cuadros times.

The single example (Fig. 6r) from the Alfredo Mound is from a globular tecomate with direct thinned rim. The paste is very fine, compact, and hard-fired; paste color is medium brown to grey with very fine white lumps and glassy particles, combined with a few slightly larger ferruginous inclusions. The exterior bears a thin white low-burnished slip and over this is painted a red rim band, also low-polished, extending from the lip down 3 cm. in width. Within the red band and 1 cm. below the rim is a deep V-shaped encircling pre-slip groove.

Total: 1 rim

The Ceramics of the Jocotal Phase

Our study of the Jocotal Phase is based on our sample (approximately 200 sherds) in the Antigua laboratory from the upper levels of the west (Cuadros) Mound, and on the ceramic analysis of the site published by Coe and Flannery (1967). We are in agreement with them that the complex evolves directly out of the Cuadros Phase and develops into the Conchas Phase on the South Coast of Guatemala. The Jocotal complex is adequately described by those authors, but of particular interest to us is the continued evolution within Salinas Ware.

The Jocotal Phase in the Rio Naranjo drainage is estimated (Coe and Flannery 1967: 68) to be of fairly short duration, about 50 years in length. If this is true, the phase exhibits for so brief time unusual vigour and rapid change. It may have endured longer in other regions of the South Coast of Guatemala and Chiapas where the Conchas Phase is absent. In the Rio Naranjo drainage Salinas Ware during the Jocotal Phase shows clear evidence of evolution into pottery types of the Conchas Phase.

Salinas Ware

III. Type: Jocotal

Discussion: During the Jocotal Phase there is a continued emphasis on the tecomate form, now mainly of simple globular profile and with a marked loss of interest in surface decoration. Certain jar and bowl forms are also included.

Paste: Identical in texture, visible composition, color, and firing to that of Salinas Ware during the Cuadros Phase.

Surface finish: Like this ware during the Cuadros Phase, the tecomates are all-over smoothed but left unslipped, although a few bear a thin reddish-orange unburnished wash on the exterior. Bowls are well-smoothed on the interior, the exterior only cursively smoothed or left with a rasped texture. Some bowls appear to have a very thin streaky white wash or slip.

A. Vessel Form: Tecomates of simple profile, globular to sub-globular in form (Fig. 4j - o). These are the same as Suchiate Brushed tecomates (Coe and Flannery 1967: 30). The body is rounded with the wall curving or rising smoothly to a direct rounded or blunt rim. The wall is characteristically of even thickness, the convex bulge is no longer present, and there is no swelling of the wall below the rim on the interior. For probable technique of manufacture see Vessel Form B of Salinas Ware during the Navarijo Phase section.

Decoration: As noted above, there occurs during the Jocotal Phase a loss of interest in decoration on tecomates. Brushing continued below the rim on the exterior, as in the Cuadros Phase, but it is lightly and cursively applied and may go several directions (vertically, horizontally, slanted) within the same area. The brushing often extends almost to the rim edge or within one or two centimeters of it, in which case the area may be lightly burnished with long horizontal strokes left plainly visible (Fig. 6s, t). The encircling incised line seen during the Cuadros Phase just below the rim on the exterior is usually absent, and in some cases the second line just above the brushing is also lacking. The phase witnesses the loss of the red-painted rim band, incised decoration over the brushing, and finger-punching from the interior. Occasionally there is punching from the exterior by finger or by a large hollow reed-like implement (Fig. 6u). Some examples have a row of gashes to simulate an encircling tool-indented fillet (Fig. 6v) on the shoulder, or an appliqued fillet to imitate a horizontal or undulating strip of cord with one end hanging down vertically (Coe and Flannery 1967: Plate 16d - f).

Total: 84 rims, 22 bodies

B. Vessel Form: Jars (Fig. 4p). These are not common, but when present the form has a straight vertical neck (up to 6 cm. in height) with a direct rounded rim. There is no decoration, though some examples bear traces of dull red paint on the neck exterior, suggesting a relationship to Conchas Red Unburnished jars of the Conchas Phase (Coe 1961: 63).

Total: 2 rims, 1 body

C. Vessel Form: Open bowls with straight-flaring wall to direct flat or rounded rim; base is flat. These bowls are very similar to Salinas Ware bowls of the Cuadros Phase. In some cases there is a thin streaky white wash on the interior, while

on others there is a low-burnished thin white slip. A number of the bowls are decorated by an encircling lightly incised line .5 to .7 cm. below the rim on the interior.

It is probable that the white slipped bowls are early examples of Conchas White-to-Buff pottery (Coe 1961: 64). In this case it is hard to determine where to draw the boundaries, for in paste and form and in having the roughened exterior the bowls qualify as Salinas Ware, yet on the basis of the white slip other students would place them in Conchas White-to-Buff. However, we feel such a placement is premature, and prefer to reserve the term "Conchas White-to-Buff" for the pottery when it has already developed the characteristics which define the Conchas Phase, i.e., a highly polished thick white micaceous slip over the interior and exterior of bowls, and more specialized inventory of bowl forms.

Total: 42 rims, 14 bodies

Differentially Fired White-and-Black Ware

Discussion: This ware resembles the coarser paste examples associated with the Cuadros Phase, and may be the same as Pampas Black and White pottery at Salinas La Blanca (Coe and Flannery 1967: 33), Izapa (Ekholm 1969: 39) and Altamira (Green and Lowe 1967: 108).

Paste: Medium-coarse, sandy texture with tiny white particles and mica flecks which show on the surface. The color is black or whitish-tan according to the firing effect.

Surface finish: All vessels are unslipped, but are moderately to well burnished on the interior. The exterior is left rough or smoothed but unburnished. Most are fired to show a distinct white rim; one example has a black interior and a light exterior which is coated with a thin, streaky white wash.

Vessel Form: All examples are of open bowls with straight-flaring wall to direct flat or flattish-rounded rim, and flat base. The form is similar to the flaring-wall bowls of the Cuadros Phase.

Total: 8 rims

The Monteroso Mound

The Monteroso Mound, named after its owner who cultivates a milpa on it, is situated on the northeasterly edge of Salinas Tilapa immediately adjacent to other mounds around the salt flat. Despite its proximity to the Alfredo Mound (Cuadros Phase) on one side and the Carlos Mound (Conchas Phase) on the other, it exhibits a contrasting ceramic assemblage. Although time did not permit a controlled test excavation, we were able to

put in a cut on one side of the mound slope in order to obtain a sub-surface sample. The tecomate sherds from the fill appear to be identical in nature to most of the large quantity we collected from the surface.

The sample from the Monteroso Mound consists of a few sherds of thin-walled tecomates and a large amount of thicker-walled tecomates which appear to be directly related to them in style, and may be derived from them. The thin-walled tecomates are identical to those classified as Michis Thin tecomates of the Ocos Phase at Izapa (Ekholm 1969: 27) and Altamira (Green and Lowe 1967: 104). A few sherds of the same type were found at El Balsamo (Shook and Hatch, ms. in prep.), at Monte Alto in the Department of Esquintla and at La Blanca and other sites in the Rio Naranjo drainage (Shook and Hatch, ms. in prep.), always in mixed deposits with presumable later material.

During our studies of the ceramic sequence of the South Coast of Guatemala, we have long been interested in a particular ware which occurs as occasional sherds within Early but especially in Middle Preclassic assemblages. The distinguishing feature of bowls and tecomates of this ware is the combination of very fine, hard-fired paste, thin-walled vessels, with fine press-incised line decoration, sometimes so lightly applied that it is barely visible. The ware is usually associated with well-polished slips, specular hematite red paint, and a developed inventory of bowl forms. Michis Thin tecomates are definitely members of this pottery style and thus we have assumed that the ware pertains to the Ocos Phase. All tecomates of the Monteroso Mound are apparently related to this tradition. Thin-walled tecomates, like Michis Thin, are present but the majority range to medium and thick-walled tecomates also bearing the characteristic press-incised line decoration. In fact, within this lot a continuum can be observed from thin to thick-walled tecomates (or vice versa). We suspect that this sample may demonstrate a continuous development from the thin-walled, fine-paste tecomates into a coarser paste, thick-walled tradition wherein the press-incised decoration is ultimately dropped at the end of the sequence. This hypothesized evolution resembles the trend recognized in the Cuadros-Jocotal Phases which sees a gradual loss of interest in surface manipulation on tecomates, the end product being a plain, globular, thick-walled tecomate with direct blunt rim, the form typical of the Conchas Phase.

A puzzling aspect of the sample from the Monteroso Mound is the frequency of jar rims on the mound surface; these are different from the tecomates in paste and surface treatment. Although the test cut provided only a limited sample, no jar rims came from the deeper mound fill. These jar rims are similar to ones found in surface collections which include Jocotal material from other sites in the general area. Characteristically at Salinas Tilapa the necked jar replaces the tecomate form after the Conchas Phase (which has both forms).

Monteroso Ware

Discussion: Because of the internal consistency exhibited by the tecomates from the Monteroso Mound in paste, form, and style of decoration, and the contrast with those of Salinas Ware, we have assigned them to a category which we call Monteroso Ware.

Paste: Fine textured, very dense, compact, and hard-fired. Under a hand lens can be seen abundant tiny black crystals, and less frequent quartz, ferruginous inclusions, and mica flecks. Paste color is characteristically light greyish-tan, but ranges to the pinks and greys from firing.

Surface finish and Decoration: See below under Vessel Form.

A. Vessel Form: Globular tecomates (Fig. 4q-aa). The body is rounded with the wall curving evenly to a direct rounded rim or rim with sharp upper lip and rounded lower lip. Typcially the diameter of the orifice is less than those of tecomates of the Cuadros and Jocotal Phases. Several examples are thin-walled (Fig. 6w), comparable to Michis Thin tecomates at Izapa, but are smaller in size. The exterior is all-over well-smoothed, while the interior is cursively smoothed only. Most tecomates have a burnished band 4.5 to 5 cm. wide extending from the lip of the rim down the body exterior; the area below this is left unburnished and very frequently bears an orange-red or reddish-brown wash. The burnished band is sometimes painted with a pinkish "iridescent" paint (Fig. 6y). In other cases the paint is dull red, purplish-red, or orange, but in every case, whether paint is present or not, the burnishing of the rim band causes it to appear a brighter color than the unburnished lower section. The burnished band commonly has a thin, even press-incised line encircling the wall 1 to 1.5 cm. below the rim (Fig. 6z-cc); occasionally there are two encircling lines, one just below the rim and the other 2.5 to 3 cm. below it (Fig. 6x).

Some of the tecomates have no burnished rim band; most, if not all (some examples are too weathered to discern) have a reddish-brown or orange-red wash over all the exterior. These unburnished examples characteristically have no press-incised line decoration (Fig. 6dd, ee). One exception has an encircling line 4.5 cm. below the rim and below this are criss-crossed press-incised lines (Fig. 6ff), as seen on Monte Incised Pottery at Altamira during the Barra Phase (Green and Lowe 1967: 103; Lowe 1975: 23).

We believe that we have in this sample from the Monteroso Mound an evolutionary development from the Ocos-style thin-walled tecomate into a thicker-walled one which still retains the burnished and painted rim band and encircling press-incised line. At the end of the sequence the burnished band and encircling lines seem to be dropped. The final product is a plain globular tecomate with all-over reddish-brown to orange-red unburnished wash, which in some cases is indistinguishable from Conchas Red Unburnished tecomates of the Conchas Phase at La Victoria (Coe 1961: 63). The pattern thus implies a generic evolution in the tecomates of the Ocos types into the standard utilitarian form of the Conchas Phase. If so, it suggests that the Monteroso sample links the Ocos and Conchas Phases, and also that the Monteroso sample is contemporaneous, at least at some point, with the Jocotal Phase from which Conchas ceramic types are also derived.

Total: 185 rims, 217 bodies

B. Vessel Form: Although bowls are rare in the sample, various forms are represented. One has a curved wall from a flat base with rounded wall-base junction (Figs. 4bb, 6gg). The orifice is slightly restricted, with direct rounded rim. The vessel is all-over smoothed and bears a thin orange-brown slip which is low-burnished. Just below the rim on the exterior is an encircling narrow pre-slip groove, and on the wall below it are vertical grooves 6 cm. apart. Two bowl body fragments have a flat base with sharp wall-base junction and are all-over slipped red and burnished. One of these shows encircling parallel chamfering on the exterior.

Total: 1 rim, 3 bodies

Ware Unidentified

Discussion: The surface of the Monteroso Mound was scattered profusely with sherds from Monteroso Ware as well as many from other unrelated types, some of which seem to hold together as a ware. The chronological placement of this ware is uncertain, although it is obvious that they are later in date than the Monteroso tecomates from the mound fill. Among the other sherds from the mound surface, some could be recognized as at least Late Preclassic in date. However, because of the presence of what appears to be a local utilitarian ware whose date and exact relationship to other known wares is uncertain, we offer a brief description of it below.

Paste: Medium coarse, very sandy, with abundant tiny black particles, white quartz crystals, and a sprinkling of micaceous flecks. The color is predominantly pink to pinkish-orange but grades to yellowish-tan throughout the section.

Surface finish: The surface was cursively smoothed with the ridges and striations left by the horizontal tool strokes being very apparent, especially on jar necks. The vessels are apparently unslipped, or there may have been a thin slip the same color as the paste which has been lost through weathering.

Vessel Form: Wide-mouthed jars (Fig. 4cc). The neck is slightly flaring, 4 to 6 cm. in height, with a direct rounded to thinned rim. From the base of the neck the body rounds to (probably) a globular form. There is no decoration present.

Total: 14 rims

The Placement of the Ocos Phase, and Conclusions

Most Mesoamericanists at the present time appear to accept the chronological placement of the Ocos Phase prior to and formative to the Cuadros Phase. The ceramic assemblage from the Navarijo Mound at Salinas La Blanca gives new evidence to the contrary, for this material clearly antedates and anticipates the development of the Cuadros types. This fact indicates that they cannot possibly be derived from an Ocos antecedent,

as the Navarijo ceramics show no affiliation with the Ocos style. The tear-drop shaped tecomate which is so definitely a part of the Navarijo complex may have a slight counterpart in forms of the Barra Phase in Chiapas, although the wares are entirely different and unrelated. The early radiocarbon date for the Navarijo Phase (approximately 1200 B.C.) hints that it may possibly overlap with the end of the Barra Phase. Although much remains to be learned about the Ocos Phase, there seems little doubt that in Chiapas it postdates the Barra complex and has some generic relationship to it. Barra Phase Cotan Grooved Red ceramics, for instance, show continuity and evolution into Ocos forms and types (Lowe 1975: 33); the type is considered the direct antecedent of Ocos Specular Red pottery (Lowe 1975: 25).

Although we have not yet had access to all of the reports currently in press by Ceja regarding studies undertaken at Aquiles Serdan, it appears that the Navarijo Phase is not present or not yet recognized in Chiapas, and that the Cuadros Phase may have arrived there already fully developed. Tecomates with complex profile, the hallmark of the Cuadros Phase, are fairly common at Izapa (Ekholm 1969: 36), but are rare at Altamira (Green and Lowe 1967: 106) and at Chiapa de Corzo during the Cotorra Phase (Dixon 1959: 4-19). The implication is that these Early Preclassic tecomates in Chiapas belong to the late Cuadros and Jocotal Phases. Interestingly enough, tear-drop shaped tecomates are found in the Burrero Phase at Santa Cruz (Sanders 1961: Figs. 16, 19), but they contrast markedly from those of the Navarijo Mound in style of decoration.

The Altamira test cuts (Green and Lowe 1967; Lowe 1975) repeatedly show Jocotal occupation debris mixed with Ocos Phase ceramics. This is explained by the authors as either indicating a hiatus in occupation between Ocos and Jocotal times, or that the Cuadros material was cleared away before Jocotal construction activity began. Nevertheless, the evidence indicates that clear-cut Cuadros levels are absent in the stratigraphy. Sherds of Guamuchal Brushed tecomates barely appear, while Barra and Ocos sherds continue in all cuts mixed with Jocotal types almost to the surface. These are explained (Green and Lowe 1967: 58, 93) as "carry-ups" or secondary deposition caused by selectivity due to their unusual attractiveness (and Cuadros sherds less so?). An alternative explanation is to accept some contemporaneity between Jocotal and Ocos, as even the authors admit. The work at Aquiles Serdan currently in press may clarify the picture as, according to Lowe (1975: 18), it has an extraordinarily dense "early Olmec horizon which is primarily Cuadros Phase" directly overlying an Ocos level. The site of Izapa contains Ocos, Cuadros, and Jocotal sherds in the mound fill, but the lack of stratigraphy renders it impossible to determine the relationship between them and the relative chronologies.

Lowe (1971: 221-223) speaks of an "Ocos horizon" which underlies and forms much of the foundation for the development of Olmec society in the Greater Isthmus Area (southern Veracruz, western Tabasco, southeastern Oaxaca, and southern, perhaps also central Chiapas). However, a serious problem exists in the definition of an Ocos horizon style, as its chronology and internal development is not yet understood. The usual identification of Ocos or Ocos-like complexes often appears to be based on the

presence of thin-walled tecomates. As far as can be determined at present, on the South Coast of Guatemala Ocos-style tripod tecomates with iridescent painting have so far been found only at La Victoria (Coe 1961). In Chiapas they are present at Paso de la Amada (Ceja 1978: Fig. 40). Bowls with crenelated rims appear at La Victoria and Izapa; thin-walled tecomates have a wider distribution. It is not yet possible to determine which of these distinctive traits is earlier or later, whether they appear only briefly and locally, how long the "horizon" may endure, etc.

In reference to investigations made by Sisson in the Chontalpa region of Tabasco, Lowe (1971: 221) alludes to "deep pre-Olmec" deposits which contain some Ocos-like traits. The actual report by Sisson (1970: 44) indicates that a few Ocos-like sherds were present in collections obtained from the surface of sites in the area and on this basis an "earlier Ocos-like" phase was postulated. While the assumption is very likely valid, it remains to be tested. The earliest phase actually excavated by Sisson included brushed tecomates and differentially fired black and white pottery, as well as plain and dentate rocker stamping, traits which he considered to have close affiliations with ceramics of the Bajio and Chicharras Phases at San Lorenzo Tenochtitlan, Veracruz. These phases at San Lorenzo were found by Coe overlying the Ojochi, or earliest, phase at the site which contained pottery described (Coe 1970: 22) as a "country cousin" of the Ocos ceramics, being similar but lacking certain distinctive Ocos decorative traits. It is difficult to determine from Coe's and Sisson's reports how closely the ceramics are allied to Ocos, Cuadros, and Jocotal types. The information is also insufficient to verify the presence of an Ocos horizon below the Olmec-related occupation in the region.

To recapitulate somewhat on points touched upon in the Introduction to this paper, it seems worth mentioning again that at the site of La Victoria on the South Coast of Guatemala, Coe (1961) found the Ocos complex directly beneath Conchas Phase ceramics, whereby he concluded that there was an uninterrupted development from the one into the other. After his work at Salinas La Blanca, he proposed (Coe and Flannery 1967: 21) that there was a 200-300 year hiatus between the two phases, although the gap does not appear in the stratigraphy. The hiatus was proposed to allow time for the Cuadros and Jocotal occupations which were considered to follow the Ocos Phase. Sherds of Cuadros and Jocotal were alleged to actually have been present in the La Victoria sample, but being unrecognized at the time, were said to have been lumped in the general category of Victoria Coarse pottery. A close inspection of the La Victoria report in light of the later corrections (Coe and Flannery 1967) reveals that there are virtually no ceramics which are diagnostic of the Cuadros Phase represented in the sample. There are no Guamuchal Brushed or Mapache Red-rimmed tecomates, Nonspecular Variety, or tecomates of complex profile. Suchiate Brushed tecomates (Jocotal Phase) are present (Coe 1961: Fig. 52a) in the Conchas Phase levels, as would be expected. Ocos sherds appear mixed likewise in the upper levels, which Coe (Coe and Flannery 1967: 21) attributes to redeposition. The important point here is that, as at Altamira, Ocos and Jocotal sherds appear mixed together, whereas Cuadros Phase material is absent.

Another observation on the La Victoria sample seems important. Coe (Coe and

Flannery 1967: 26) restricts Mapache Red-rimmed tecomates, Specular Hematite Variety, to the Ocos Phase, but believes that those of Nonspecular Variety, which are diagnostic of the Cuadros Phase, develop directly from them. Our study of the Navarijo and Alfredo Mounds suggests that tecomates with red rim bands are a development late in the Cuadros Phase. Rather than evolving directly from the Ocos type, it seems more likely that red rim bands on tecomates are a result of style sharing between Ocos and late Cuadros peoples. If this is so, it would indicate that the Ocos complex is vigorous and alive during the later part of the Cuadros Phase.

In our studies at Salinas Tilapa it was observed that the ceramics of the Monteroso Mound suggest evolutionary development from Ocos-style tecomates into Conchas Red Unburnished tecomates of the Conchas Phase. Such a development parallels the evolution from Jocotal ceramics into those of Conchas as seen in Conchas White-to-Buff pottery. Thus contemporaneity between at least the end of the Ocos Phase and the Jocotal Phase is implied in the Monteroso sample.

An interesting note on the possible contemporaneity of the Ocos and Jocotal Phases is to be found in the Izapa study. Ekholm (1969: 55) assigns Siltepec White pottery to both the Ocos and Jocotal Phases. It is not explained why the category is not represented in Cuadros Phase ceramics, presumably because sherds of this type were not found in it. A time gap in manufacturing the pottery seems unlikely, and again some relationship or overlapping between Ocos and Jocotal Phases is implied.

A comparison of Ocos traits with those of other phases on the Pacific South Coast of Guatemala and Chiapas points up some important differences. Ocos ceramics appear to derive, in part at least, from certain types of the Barra Phase. A generic link between the two phases seems realistic in Cotan Grooved Red pottery, and in the preference for thin-walled globular tecomates and restricted orifice bowls with decoration by fine press-incised lines. With Cuadros, Ocos shares certain decorative techniques such as stamped (rocker and dentate) and impressed decoration, and bowls with exteriorly thickened rim. With the Jocotal Phase the two have in common the globular tecomate form (of simple profile), and a developed inventory of bowl forms which include beveled and everted rims. The relationship of both the Cuadros and Jocotal Phases with Ocos ceramics thus seems to be one of style-sharing, rather than generic. Stronger ties, however, are implied in the similarities between Ocos and Conchas complexes, such as the general sophistication in ceramic technology, complex inventory of vessel forms, footed vessels, highly polished slips (sometimes micaceous), the use of napkin-ring ear spools, and the figurine cult. The ancient purpose of figurines is not understood, but there can be little doubt that they represent a belief system. Such systems are traditions by definition, extremely conservative and difficult to change. It is virtually inconceivable that such a tradition could exist (with the accompanying traits), be dropped for 200-300 years during the Cuadros and Jocotal Phases, to be re-adopted almost fanatically again in the Conchas Phase which is itself a product of a long period of local and steady evolution.

The evidence suggests that Barra-Ocos is a tradition that developed in the

Chiapas region, possibly at the same time that Cuadros is becoming evident in the Rio Naranjo drainage as well as elsewhere, perhaps, on the South Coast of Guatemala. We propose that these two traditions are different and develop independently until about the middle of the Cuadros Phase, when there occurs some cultural exchange which shows up in stylistic similarities in the ceramics. The interchange becomes stronger and more vigorous during the Jocotal Phase, with Jocotal being the more dominant of the two in most areas. However, in the Rio Naranjo drainage there appears to occur an actual fusion, the nature of which is not understood, between the Ocos and Jocotal complexes which we believe is directly related to the sudden and splendid florescence of the Conchas complex. Elsewhere, the Jocotal Phase shows evidence of a smooth development into other complexes, e.g., into the Duende Phase at Izapa and into the Balsamo Brown Ware complex at the site of El Balsamo, Department of Esquintla (Shook and Hatch 1978). Such a hypothesis eliminates the need to assume that most areas of the South Coast of Chiapas and Guatemala were abandoned during the Conchas Phase, as is shown on current phase chronology diagrams (e.g. Ekholm 1969: 19).

The Ocos complex is difficult to comprehend and fit into the chronology of Mesoamerica, and we do not pretend to have sufficient information to supply definite answers. The matter needs careful and thorough study. Nevertheless, we believe that the Navarijo complex and the Salinas Tilapa mounds have provided useful information for redefining the Early Preclassic sequence and ceramic complexes on the South Coast of Guatemala. It is hoped that this report will point out the necessity for further inquiry and investigation.

The proposed alignment with the Altamira sequence is as follows:

Period	Salinas La Blanca	La Victoria	Altamira (Green and Lowe 1967; Lowe 1975)
Late Preclassic	Crucero	Crucero	Crucero
Middle Preclassic	Conchas	Conchas	
Early Preclassic	Jocotal	Ocos	Jocotal
	Cuadros	-	Ocos
	Navarijo	-	Barra

References Cited

Ceja Tenorio, J. F.
1978 Paso de la Amada. Tesis, Universidad Veracruzana, Xalapa, Mexico.

Coe, M. D.
1961 La Victoria, an early site on the Pacific Coast of Guatemala. Papers of the Peabody Museum of Archaeology and Ethnology Vol. 53. Harvard University.

1970 The archaeological sequence at San Lorenzo Tenochtitlan, Veracruz. Contributions of the University of California Archaeological Research Facility No. 8. Berkeley.

Coe, M. D. and K. V. Flannery
1967 Early cultures and human ecology in South Coastal Guatemala. Smithsonian Contributions to Anthropology Vol. 3. Smithsonian Institution, Washington, D. C.

Dixon, K. A.
1959 Ceramics from two Preclassic periods at Chiapa de Corzo, Chiapas, Mexico. Papers of the New World Archaeological Foundation No. 5.

Ekholm, S. M.
1969 Mound 30a and the Early Preclassic ceramic sequence of Izapa, Chiapas, Mexico. Papers of the New World Archaeological Foundation. No. 25.

Garcia Payon, J.
1966 Prehistoria de Mesoamerica. Excavaciones en Trapiche y Chalahuite, Veracruz, Mexico, 1942, 1951, y 1959. Cuadernos de la Facultad de Filosofia, Letras, y Ciencias Vol. 31.

Green, D. F. and G. W. Lowe
1967 Altamira and Piedra Parada, Early Preclassic sites in Chiapas, Mexico. Papers of the New World Archaeological Foundation No. 20.

Lowe, G. W.
1971 The civilizational consequences of varying degrees of agriculture and ceramic dependency within the basic ecosystems of Mesoamerica. Contributions of the University of California Archaeological Research Facility No. 11. Berkeley.

1975 The Early Preclassic Barra Phase of Altamira, Chiapas. Papers of the New World Archaeological Foundation No. 38.

Lowe, G.W., and P. Agrinier
1960 Mound 1, Chiapa de Corzo, Chiapas, Mexico. Papers of the New World Archaeological Foundation No. 8.

Sanders, W.T.
1961 Ceramic stratigraphy at Santa Cruz, Chiapas, Mexico. Papers of the New World Archaeological Foundation No. 8.

Shook, E.M.
1947 Guatemala Highlands. Carnegie Institution of Washington Year Book No. 46. Washington, D.C.

Shook, E.M. and M.P. Hatch
1978 The ruins of El Balsamo. Journal of New World Archaeology Vol. III, No. 1. University of California, Los Angeles.

Sisson, E.B.
1970 Settlement patterns and land use in the Northwestern Chontalpa, Tabasco, Mexico: A progress report. Ceramica de Cultura Maya et. al. No. 6. Philadelphia.

Figure 1: Plan and section of Salinas La Blanca. The plan, slightly modified, is taken from Coe and Flannery 1967, Fig. 4 and shows the probable form of the west mound during the Cuadros, Jocotal and Crucero Phases. The section illustrates the postulated conditions of the site from the earliest Navarijo Phase occupation.

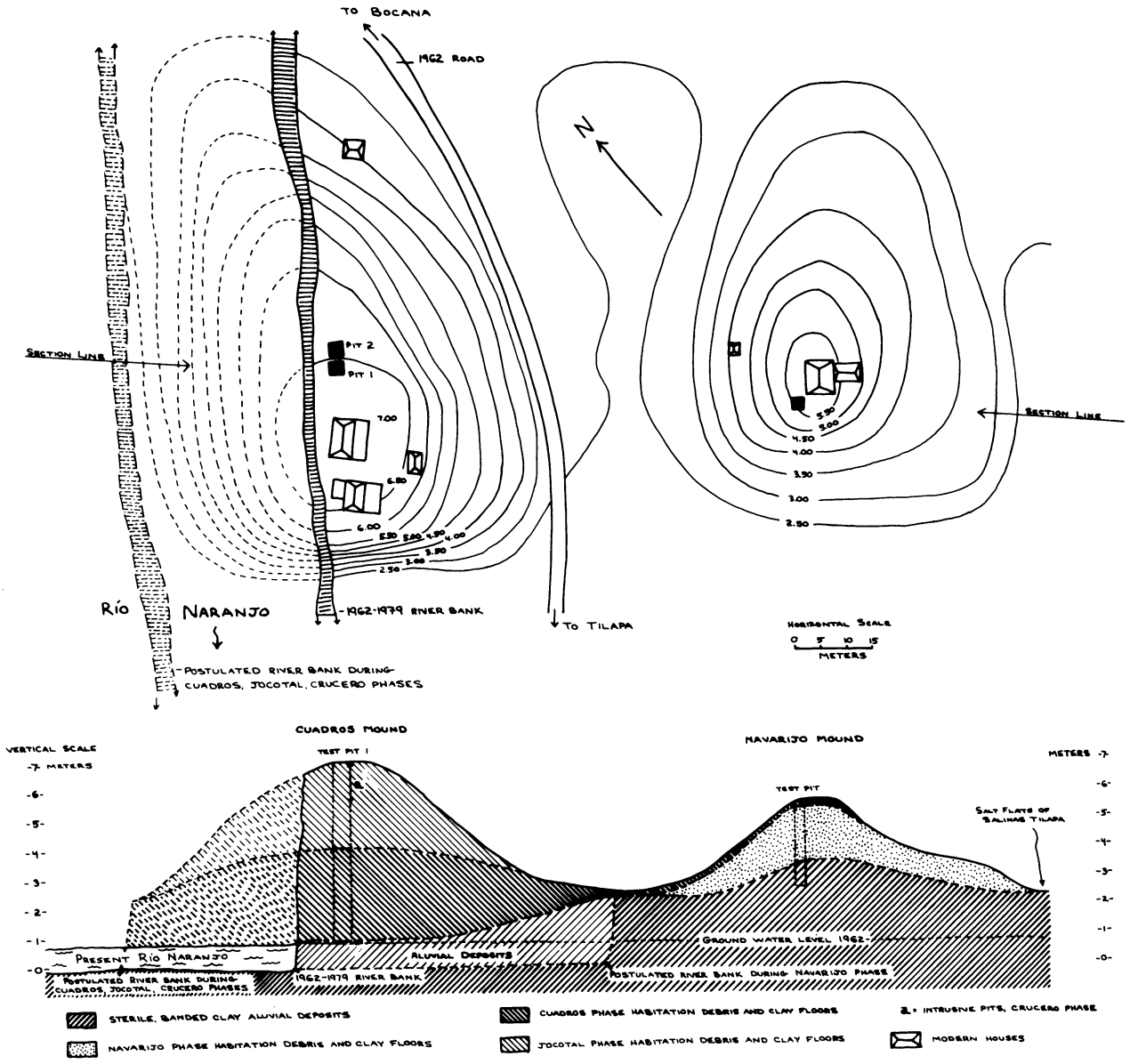
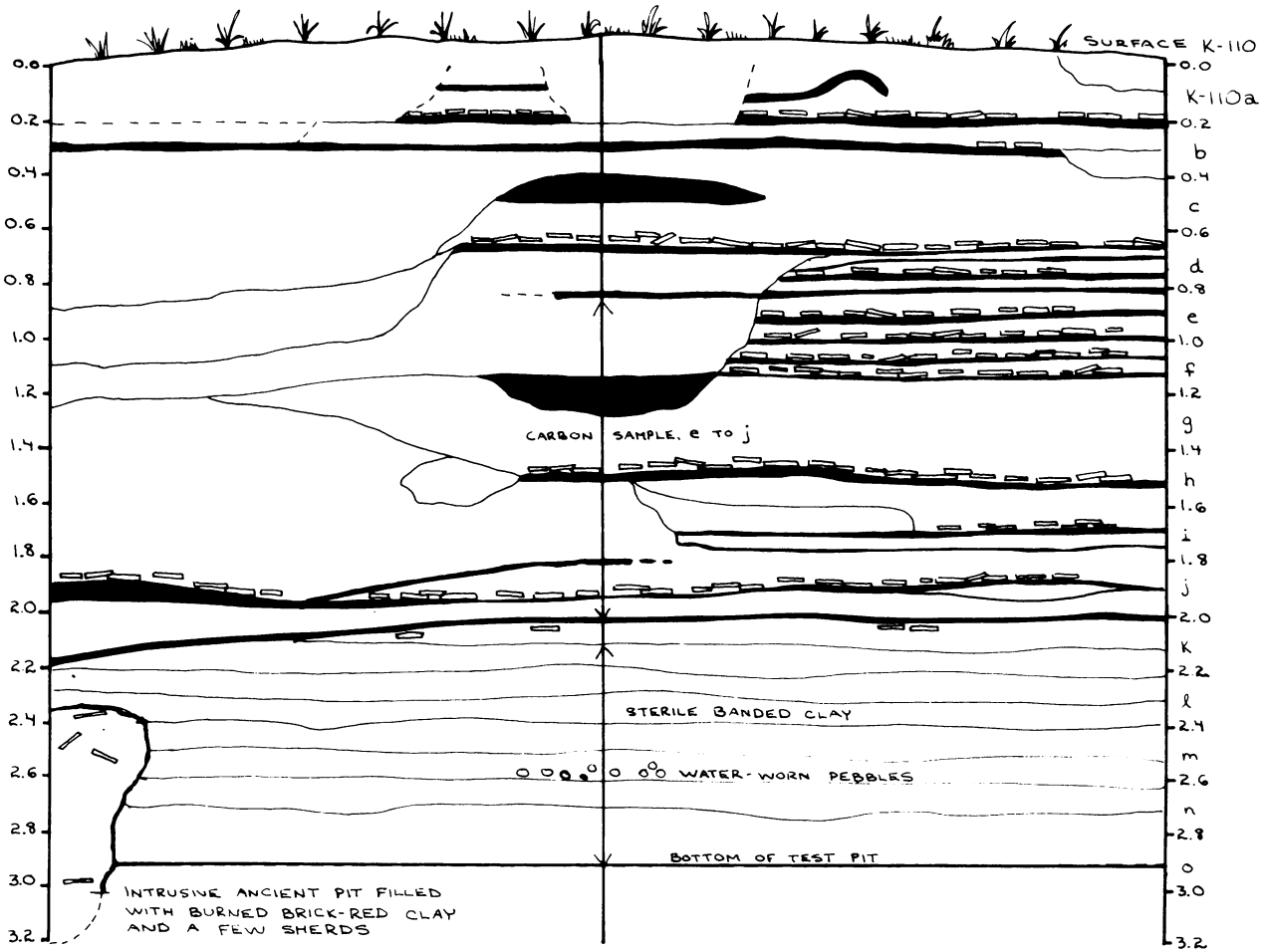


FIGURE 1

NAVARIJO MOUND SHERD COUNT

CERAMIC WARE	20 CM. LEVELS														
	K-110	110a	110b	110c	110d	110e	110f	110g	110h	110i	110j	110K	110l	110m	TOTALS
SALINAS WARE VESSEL FORM A	3	12	5	6	10	17	6	7	5	11	26				108
SALINAS WARE VESSEL FORM B	12	13	4	5	9	8	1	5	5	14	12				88
SALINAS WARE VESSEL FORM C	7														7
SALINAS WARE BODY SHERDS		546	84	114	107	130	70	59	54	86	324	15	16	5	1610
TOTAL OF SALINAS WARE	22	571	93	125	126	155	77	71	64	111	362	15	16	5	1813
SPECULAR HEMATITE RED				1						1		2			4
CREAM-ORANGE SLIPPED	2		2	1		1	6								12
DIFFERENTIALLY FIRED						1	2			4	6				13

FIGURE 2a



TEST PIT IN NAVARIJO MOUND

FIGURE 2b

Figure 2 (continued):

c. Hand Position in Manufacture of Vessel Form A, Salinas Ware, Navarijo Type (arrows indicate direction of pressure).

d. Hand Position in Manufacture of Vessel Form B, Salinas Ware, Navarijo Type (arrows indicate direction of pressure).

e. Salinas Ware, Navarijo Type, A-3.

f,g. Salinas Ware, Navarijo Type, A-2.

h-l. Salinas Ware, Navarijo Type, B.

m. Salinas Ware, Navarijo Type, C.

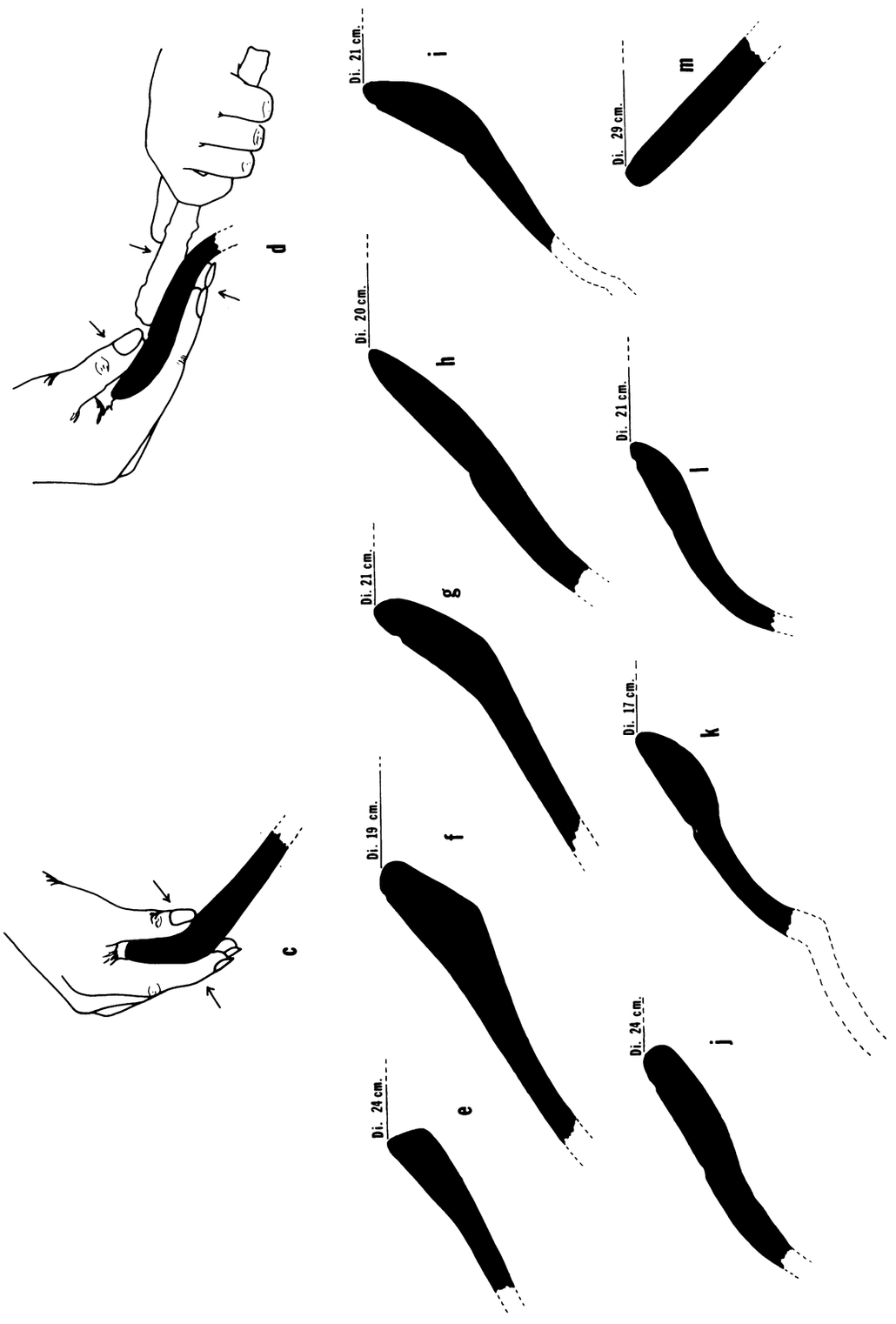


FIGURE 2 continued

Figure 3: a. Hypothetical Reconstruction of Vessel Form A, Salinas Ware, Navarijo Type.
b. Specular Hematite Red Slipped Tecomate.
c. Cream-Orange Slipped Ware, A.
d. Cream-Orange Slipped Ware, B.
e. Cream-Orange Slipped Ware, C.
f,g. Differentially Fired White-and-Black Ware bowl, Navarijo Phase.
h-j. Salinas Ware, Cuadros Type, A.

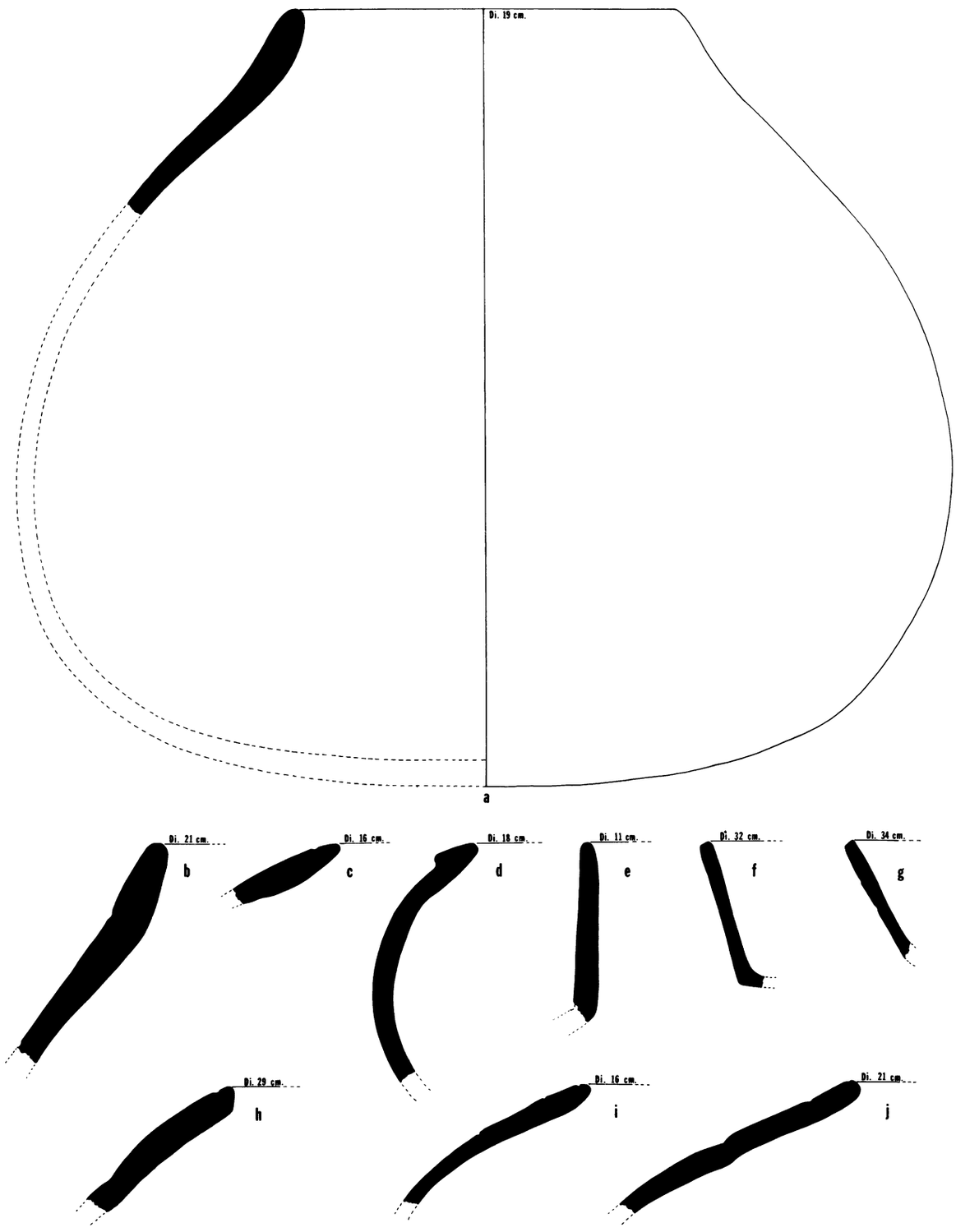


FIGURE 3

Figure 4: a,b. Salinas Ware, Cuadros Type, A.
c,d. Salinas Ware, Cuadros Type, B.
e. Salinas Ware, Cuadros Type, C.
f-i. Differentially Fired White-and-Black Ware bowl, Cuadros Phase.
j-o. Salinas Ware, Jocotal Type, A.
p. Salinas Ware, Jocotal Type, B.

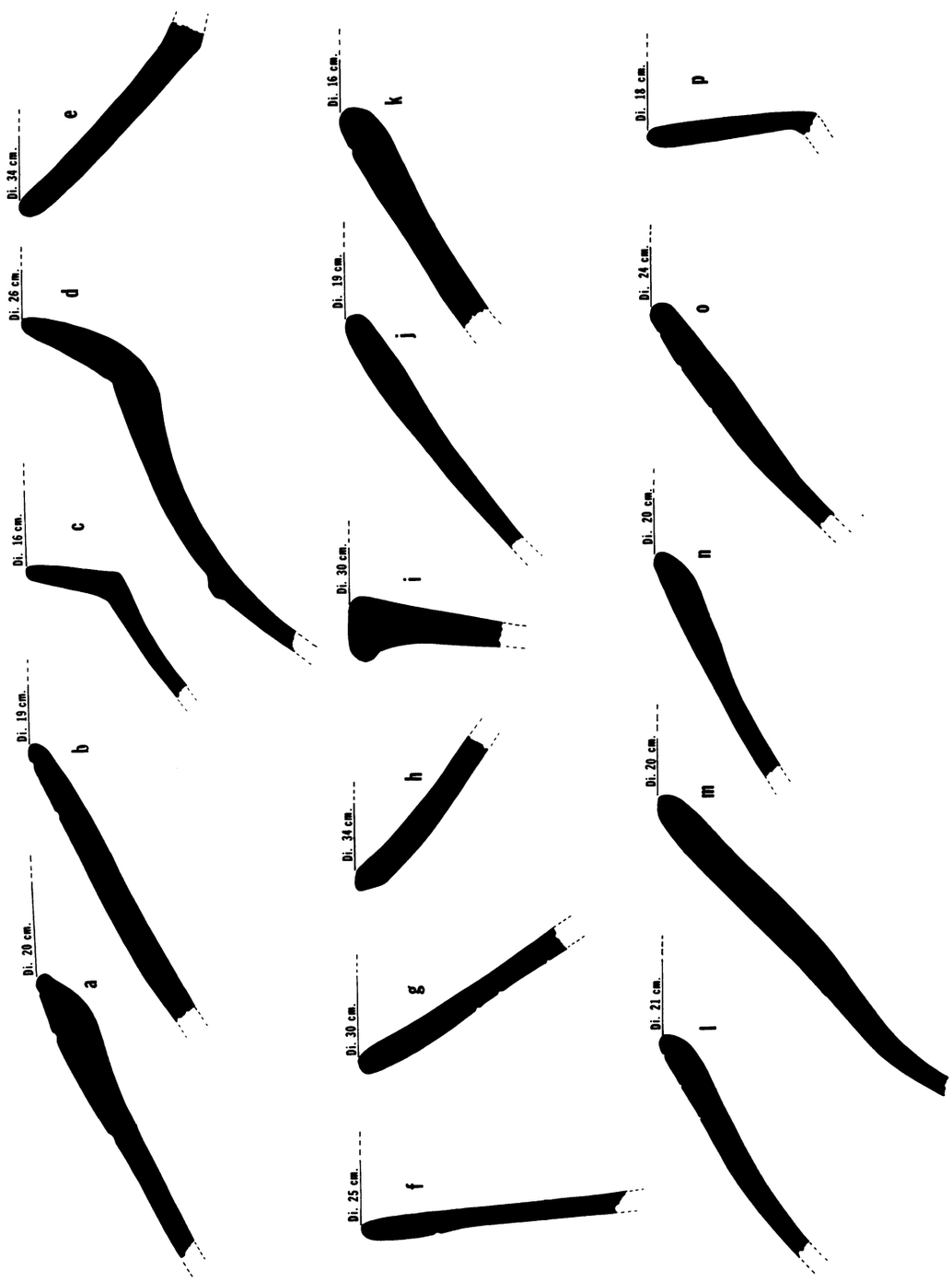


FIGURE 4

Figure 4 (continued):

q-aa. Monteroso Ware, A.
bb. Monteroso Ware, B.
cc. Ware Unidentified, Jar.

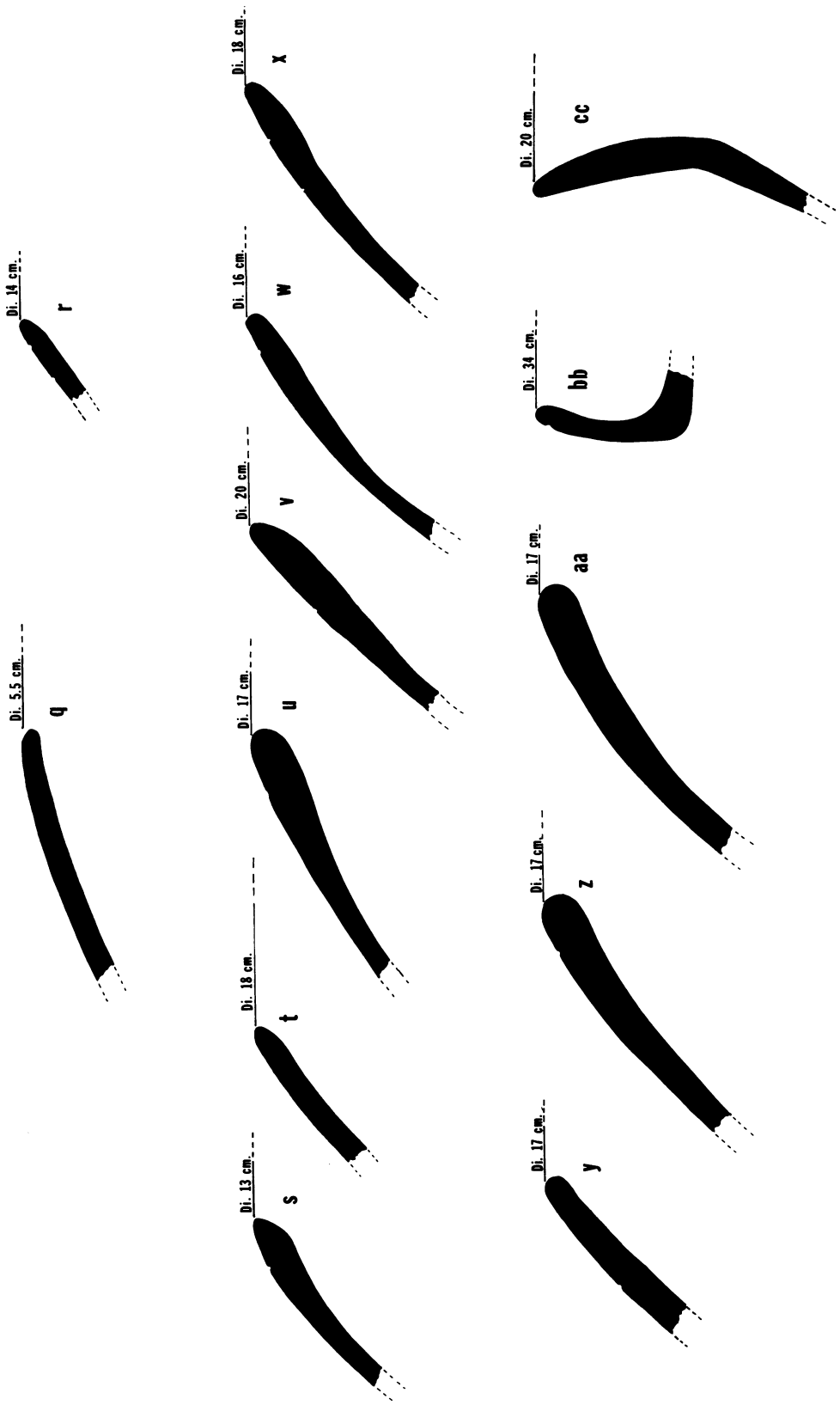


FIGURE 4 continued

Figure 5: a. The Navarijo Mound looking Northeast.
b. Salinas Ware, Navarijo Type, A-2.
c. Salinas Ware, Navarijo Type, A-3.
d,e. Salinas Ware, Navarijo Type, B-2.
f. Salinas Ware, Navarijo Type, B-3.
g-k. Salinas Ware, Navarijo Type, B-4.

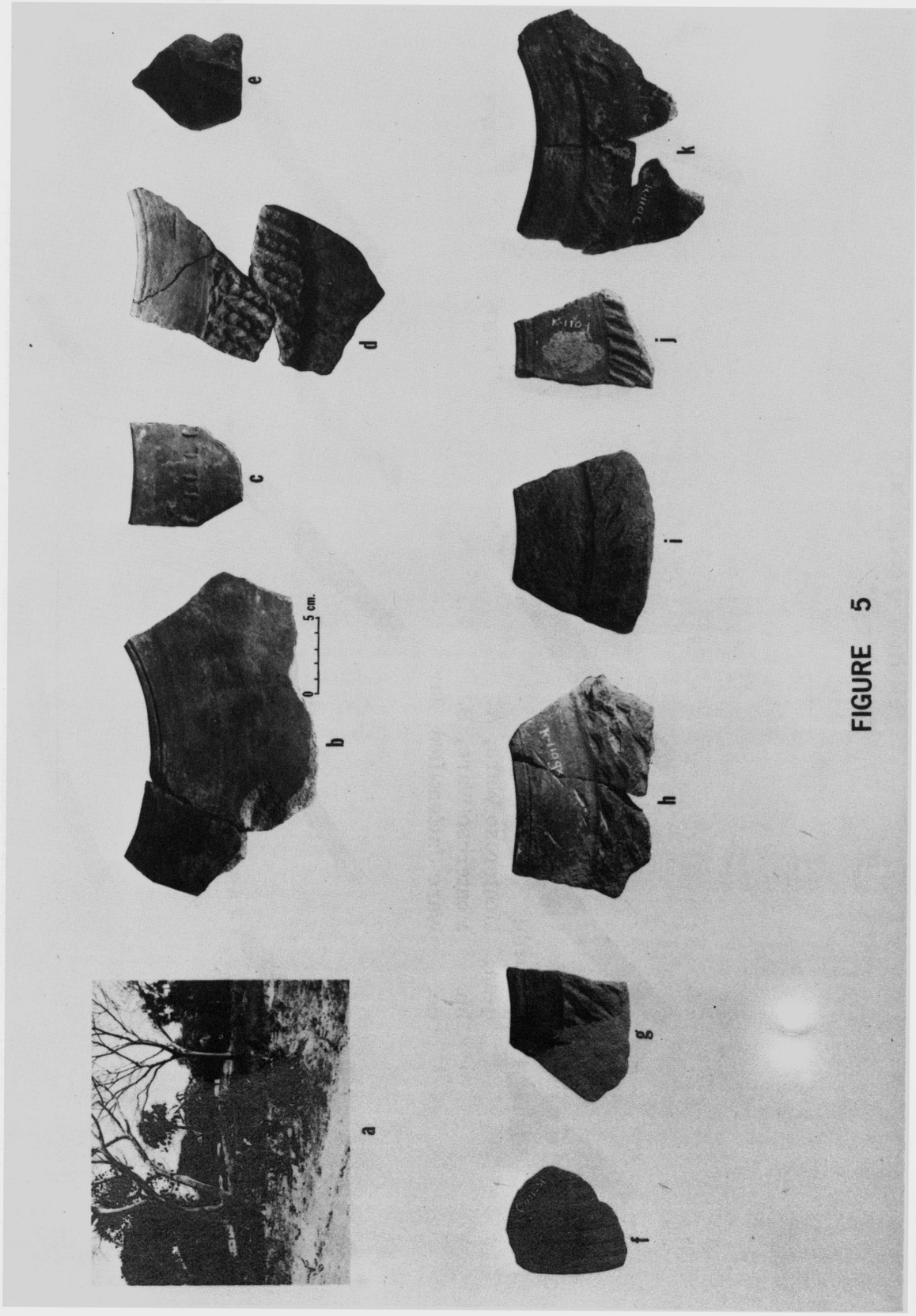


FIGURE 5

Figure 5 (continued):

l-o. Salinas Ware, Navarijó Type, B-4.
p. Salinas Ware, Navarijo Type, B-1.
q-t. Salinas Ware, Navarijo Type, B-5.
u, v. Salinas Ware, Navarijo Type body sherd.
w. Specular Hematite Red Slipped Tecomate
x. Cream-Orange Slipped Ware, A.
y. Cream-Orange Slipped Ware, B.
z. Cream-Orange Slipped Ware, C.
aa, bb. Differentially Fired White-and-Black Ware bowl, Navarijo Phase.

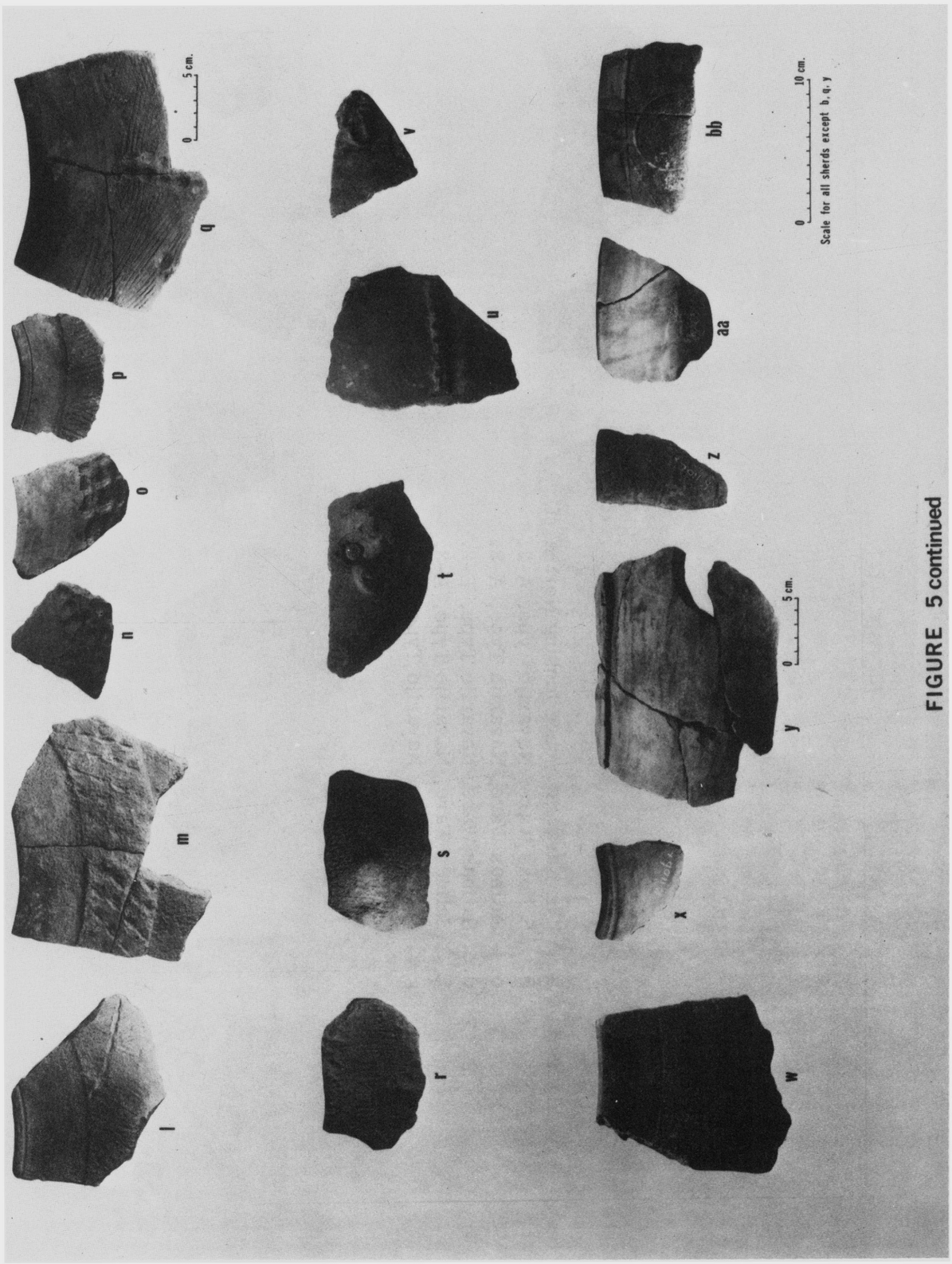


Figure 6:
a-c. Salinas Ware, Cuadros Type, A-2.
d. Salinas Ware, Cuadros Type, A-4.
e-g. Salinas Ware, Cuadros Type, A-1.
h-l. Salinas Ware, Cuadros Type, A-3.
m. Salinas Ware, Cuadros Type, A-5.
n. Salinas Ware, Cuadros Type body sherd.
o. Salinas Ware, Cuadros Type, B.
p,q. Differentially Fired White-and-Black Ware bowl, Cuadros Phase.
r. Tilapa Red-on-White Ware Tecomate.

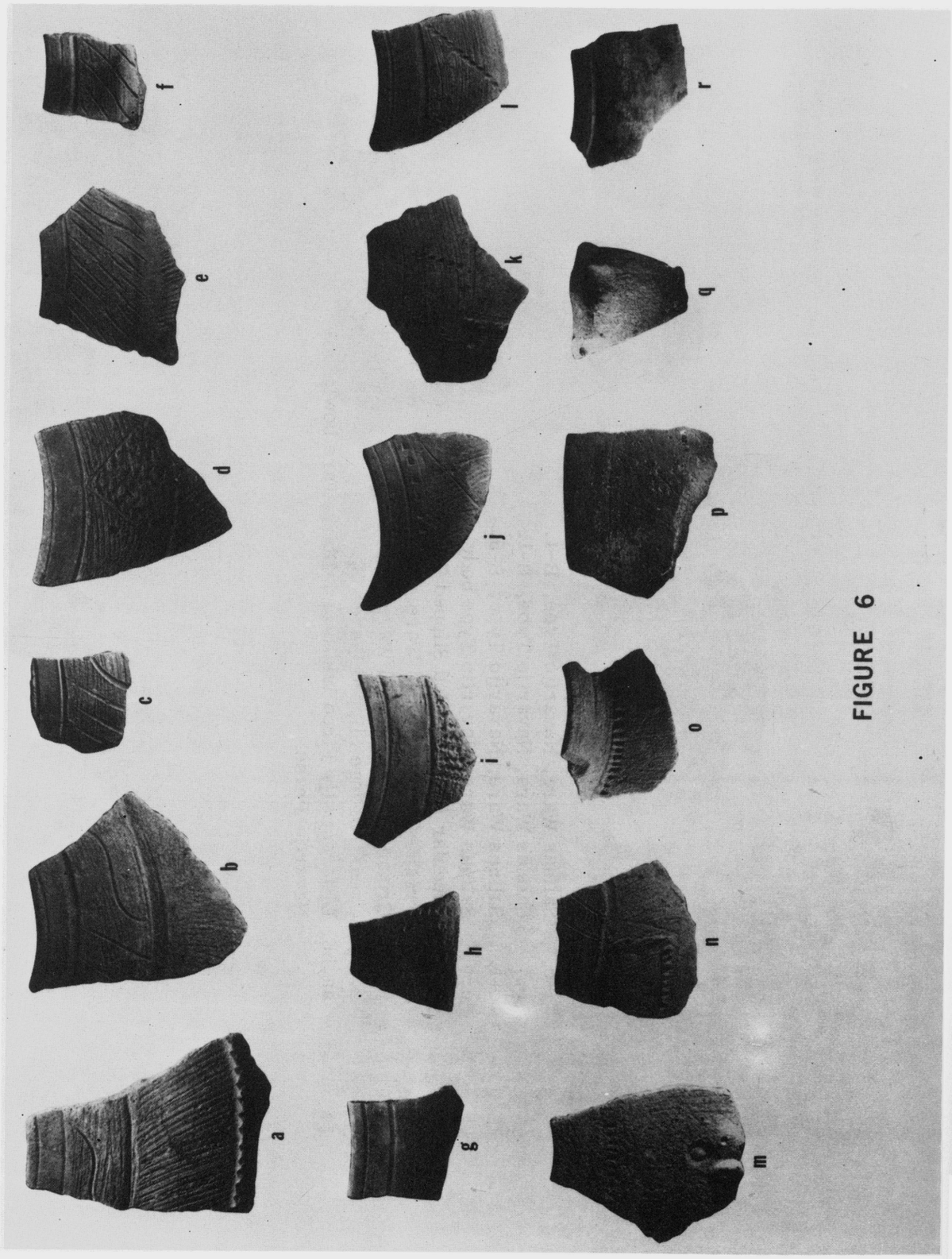


Figure 6 (continued):

s-v. Salinas Ware, Jocotal Type, A.
w-ff. Monteroso Ware, A.
gg. Monteroso Ware, B.

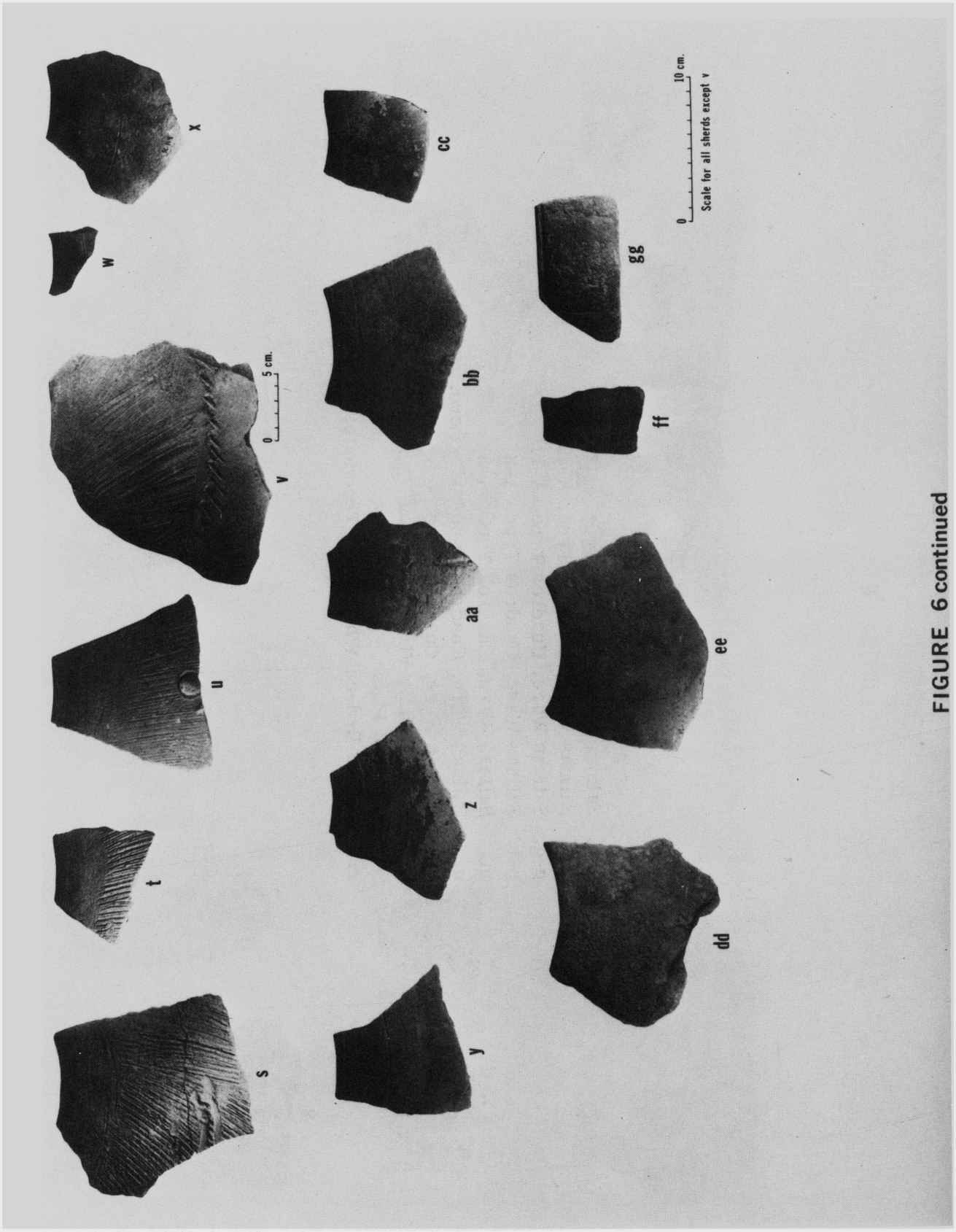


FIGURE 6 continued

THE ALTUN HA JADE PLAQUE: DECIPHERING THE INSCRIPTION

by

Peter Mathews and David M. Pendergast

Nine years ago, the junior author of this paper published a description of an inscribed jade plaque from the ancient Maya site of Altun Ha in Belize, then British Honduras (Pendergast 1969). The plaque, which measures 20.2 x 6.7 x 1.9 cm and weighs 583.5 grams, was recovered from the tomb of a ruler of the small city-state, and was part of a rich assemblage of burial accompaniments very briefly described in the 1969 article. The crypt (Tomb B-4/6) lay in the core of the level of modification designated B-4, 2nd D in the Temple of the Masonry Altars (Fig. 1), one of the major ceremonial structures in the central precinct of the site. The position of the tomb relative to earlier and later construction in the temple suggested a date for the interment of ca. A.D. 650, and vessels from the tomb, now reconstructed, support that suggestion. A full description of the tomb will appear in Volume 2 of the final report on Altun Ha excavations, scheduled to be published in 1979.

The beautifully executed carving on the obverse surface of the plaque, depicting a figure in right profile seated above two full-front faces (Fig. 2), was described in Pendergast's 1969 article. While the aesthetic and iconographic qualities of the front of the artifact lend it great importance, the feature of greatest significance consists of the 20 glyphs which adorn the reverse surface (Figs. 2, 3). The 1969 article contained an attempt at analysis of the hieroglyphic text which was, to put it kindly, not blessed with great success. Pendergast was not then, nor is he now, an epigrapher; this fact was surely apparent to readers of the article, even though the writing was done at a time when knowledge of the workings of the Maya hieroglyphic system was still in relatively short supply.

The 1969 list of glyphs was followed by a paragraph which seems, in retrospect, a bit too pessimistic even for that time. Pendergast wrote:

> "It should be apparent from the foregoing that, like most other Maya glyphic texts, this group of twenty glyphs seems a hopeless jumble of symbols and meanings, a maze through which no path can be cleared. Though the text is almost certainly meaningful, any attempt to read meaning into it would require flights of fancy beyond the bounds of propriety. Other than noting the frequency with which the prefix 11 occurs and the considerable number of celestial symbols present, it seems to me preferable to leave speculation regarding the significance of the text until such time as our knowledge of the meanings of the glyphs, as well as the workings of the system, has increased."

As will soon be apparent, the time mentioned in that pessimistic paragraph is now upon us. This is due in large part to the fact that there has been a steady advance in Maya hieroglyphic research since 1969, and also to the existence of a finished drawing of the plaque, from which the glyphs can be read far more easily than was possible with the drawings available at the time the original article was written. The new drawing likewise makes it possible to recognize some elements on the obverse surface of the plaque which was obscured by flaws in the stone, and not clearly shown in the earlier drawing. Most important among these is a small human figure reclining atop the tree-of-life behind the main personage, his face lying at the upper left corner of the scene. But it is not the purpose of this paper to re-examine the obverse carving; rather, we wish to present an interpretation of the glyphic text, as an illustration of the strides made in Maya epigraphy since the time of Pendergast's original article.

The twenty glyph blocks are to be read in the normal Maya manner, left to right and down the double column. From the presence of two dates in the text, we can divide the inscription into two clauses, the first comprising blocks A1 - A4, and the second B4 - B10. The presentation below follows the format of the 1969 article, treating the text block by block, but adds a new dimension in the form of discussion of each clause as a whole. Glyph identifications which precede the glyph block discussions utilize the notation system of J. Eric S. Thompson (1962).

Clause 1 (A1-A4)

A1 - B1) VIII.506:125/VII.109:552 "8 Kan 7 Zip"

All these elements are very clear. The placement of this date in the Maya Long Count will be discussed later.

A2) 126??.190.181

In modern Maya clause structure, the verb is normally the first element. It is now well established that this was also the case in Classic Maya times, for all the verbs that have been securely identified in the inscriptions ("birth", "accession", "death", etc.) are usually first in their clause, immediately following the date. It is therefore reasonable to expect that this glyph at A2 is a verb. This view is strengthened by the probable presence of postfix T181, which is commonly regarded as a verbal suffix indicating a past tense form. The 'main sign', T190, is an axe.

In several passages in the Madrid Codex an almost identical glyph can be seen in an apparent verbal context. In M96d there are four separate clauses; the first two are of three glyph blocks each, read vertically, and without accompanying picture. The third and fourth are of four blocks each, and each has an accompanying picture of a god fashioning a wooden mask. In the fourth clause, the first glyph appears to be exactly the same as that at A2 on the Altun Ha plaque. On page 97a of the Madrid Codex the same glyph begins all three clauses, although in the pictures below no axe is visible. On page

97b a similar, but not identical, glyph begins all three clauses, and the axe is visible in the pictures below. It thus appears that this glyph can function as a verb related to the fashioning of wooden masks.

However, another interpretation is possible. Thompson (1966: 6) gives examples of compounds with bat (baat means "axe" and is the reading which Thompson given to T190) referring to war. So a reference to war is at least indirectly supported here, and the event may well be a conquest by the personage whose name follows. This latter interpretation is somewhat strengthened by the reading given below for glyph A4.

B2) 228?.78?:513?.181?

Although only one of the constituent signs of this glyph can be fairly securely identified (the prefix T228), the glyph is in the position where the name of the protagonist of the clause is to be expected. In other words, this is the personal name of the man who is the subject of the verb at A2. The prefix, T228, is the third of Landa's a's (Tozzer 1941: 170), and is substitutable with T12, which can be read ah, following Knorozov (1955: 26). Clearly the two signs are related semantically, if not phonetically. Since the sign almost exclusively precedes names and titles (as it does here), the reading ah is a good possibility for T228, as ah is in most Maya languages a prefix denoting agent. The main sign is possibly T513. It is unclear whether the remaining detail is one sign or two. If two, T78 is likely as the superfix and T181 as the postfix, although T181 is rare in name glyphs.

In sum, all that can be said with certainty about this glyph is that it is the name of the subject of the verb at A2, and that this interpretation is supported by the presence of the prefix ah.

A3) 11.526:246 u-cab (or cognate form), "the second"

The prefix is T11, a functional equivalent of T1, which is generally accepted as the third person possessive pronoun u, "his, hers, its, theirs". Whether the equivalence is phonetic as well as semantic is not yet established. The main sign is clearly the same as the Caban day-sign, and there is good evidence for reading it "cab" in at least some non-calendrical contexts. Ru-cab is Quichean for "second" (the ru of Quiche is equivalent to Yucatec u). In view of this, it is interesting to note that the glyph is often recorded as the title of the second oldest son when he succeeds father and elder brother as ruler. Whether or not this is the correct interpretation of the glyph, it is clearly a title of Maya rulers. David Kelley has already argued that T1.526:246 be read u-cab and regarded as an "appellative" glyph (Kelley 1962: 324, Fig. 4).

B3) 671[544].116 chikin "west"

The main sign is the manik hand, and can be given the phonetic value chi/che.

It has the kin sign, T544, infixed, and a postfix read as syllable final -n. Hence as a whole the reading is chikin, which means "west". The directions often occur in title contexts, where the general sense is "lord (or some other title) of the west (or other direction)." Some examples, with the direction west, are shown in Fig. 4. On the Altun Ha plaque, the usual accompanying titles are not present, but there is a good possibility that the following glyph, A4, is a title.

A4) 109.299:548:126 chac pax, "great pax"

This is the last block of the first clause, and most likely accompanies the "west" glyph at B3. The main sign is clearly pax, although Thompson's Catalog (1962: 164) has no entries of pax in a non-calendrical context. Especially in view of possible interpretations of the verb of this clause, it may be significant that Landa (Tozzer 1941: 165) mentions a five-day martial festival during the month Pax, culminating in the holcan okot, "the dance of the warriors", also called the batel okot. The warlike aspect of this title is further supported when one considers that chac pax is glossed "war drum" in at least one Yucatec Maya dictionary (Pio Perez 1866-1877: 66). The prefix (T109, chac) is no doubt to be read here in its meaning of "great" rather than "red".

Clause 2 (B4 - B10)

B4) 11.573a:12

This is the so-called "Distance Number Introductory Glyph" of Thompson (1950: 160-162). However, in several examples (and this is one of them), there is no Distance Number associated. Thus, while the glyph usually precedes Distance Numbers, its function is clearly more general; apparently it serves to introduce any 'count' glyphs, including Calendar Round dates such as the one which follows here.

A5 - B5) VII. 526:125/V. 559:130? "7 Caban 5 Kankin"

Again there is no doubt about this Calendar Round date. Its placement in the Long Count is discussed below.

A6) 11.24?:713a.181

This is another event glyph, or verb, and inscriptions from other sites have to be reviewed as a basis for its interpretation. There are three other known examples of this glyph, one each at Palenque, Quirigua, and Yaxchilan (Fig. 5).

At Palenque (Fig. 5b), the event concerns 'Lord Hok' (Mathews and Schele 1974: 66-67). This lord is said in other Palenque inscriptions to have acceded to power on 9.13.10.6.8 5 Lamat 6 Xul. Since this is also the date of the clause at Palenque which contains the verb under discussion here, and since Lord Hok is named as protagonist, it is obvious that the verb must be a variant form of the statement for "accession".

The same glyph occurs on Stela J, Quirigua, as the verb for the clause dated 9.14.13.4.17 12 Caban 5 Kayab, where 'Two-legged Sky' is the protagonist (Fig. 5c). David Kelley has suggested that the verb is a functional equivalent of the 'up-ended frog' birth glyph (Kelley 1962: 327-328). However this does not now seem to be the case. On Stela D (west side, A1-A9) at Quirigua, the Initial Series date is 9.16.13.4.17 8 Caban 5 Yaxkin -- exactly two katuns after the Stela J date. 'Two-legged Sky' is again the protagonist, and the clause can be paraphrased "completion of two katuns [since] the accession of 'Two-legged Sky' ", with "accession" marked by the 'affix cluster' found so frequently after the 'seating' and 'toothache' glyphs for accession at Piedras Negras by Tatiana Proskouriakoff (1960: 469-470). Moreover, Zoomorph G at Quirigua (Y2 - Z2) records the important date 9.14.13.4.17 12 Caban 5 Kayab, again with 'Two-legged Sky'. The main sign of the verb (Y2a) is eroded, but it has the affix (actually a portmanteau for two affixes) which often occurs with the 'seating' glyph for accession. That the glyph at Y2a was indeed the seating glyph is indicated by the following glyph, which is Proskouriakoff's 'affix cluster' of accession. An excellent case can thus be made for this date being the accession of 'Two-legged Sky', rather than his birth, as Kelley suggested.

The Yaxchilan example of this verb is on the HS 3 (tread on the upper step of the middle doorway of Structure 44) (Fig. 5d). There is no evidence from the Yaxchilan inscriptions that makes it mandatory that the verb of the clause be read "accession", but the clause parallels the Quirigua Stela J statement, and the conclusion is obvious. The ruler involved is 'Shield-Jaguar'. In her important study of the Yaxchilan inscriptions, Proskouriakoff (1963: 155) found no clear accession statement for 'Shield-Jaguar', but it is noteworthy that she suggests that he must have come to power about 9.12.8.14.1, and certainly by 9.12.10.0.0. The accession date proposed here -- namely, 9.12.9.8.1 5 Imix 4 Mac -- is almost exactly half-way between these two.

On the basis of comparisons with the occurrences discussed above, the verb at A6 on the Altun Ha plaque can safely be interpreted as "accession", and the name of the new ruler can be expected to follow.

B6) 175?: 504variant.184 ____ k'ina, "--- lord"

Apart from the fact that in Maya clause structure the name of the protagonist is to be expected immediately following the verb, there is another reason for regarding this glyph as a personal name. It will be seen that the next glyph, at A7, is an Emblem Glyph, and personal names almost always precede Emblem Glyphs. This interpretation of B6 is further supported by the presence of affix T184, which is part of the honorific title read by Floyd Lounsbury (1974) as mah k'ina, which can be roughly translated "lord". The usual form of the affix is T74.184, as a prefix, but there are several examples at Palenque (where the compound is most common) which record only T184; the T74 is clearly an 'optional extra'. T184 alone presumably is to be read k'ina; this form is also documented in Colonial-period dictionaries as a title. At many sites (Copan, Quirigua, Tikal, Naranjo, Caracol, Yaxchilan -- see Fig. 6), postfixing the compound seems to have been the preference; this is also the case at Altun Ha. Unfortunately, the two nominal signs here

are unclear. The prefix looks most like the so-called 'Two-legged' (T175) of 'Two-legged Sky' of Quirigua. The main sign appears to be T504, akbal, with a cleft top. A suitable nickname for the ruler could thus be 'Akbal lord', with no implication that the first part of his name is an accurate reading.

It will be noted that the name of the protagonist of the second clause is not the same as that of the first. This does not necessarily mean, however, that the two were different people, for apparently it was not unusual for a ruler to take a royal name at accession. Many of the Palenque rulers, for example, had different names before and after their accession. Thus it may be that this ruler's personal name is the one at B2, but that upon accession (at 7 Caban 5 Kankin) he adopted a royal name. This speculation is somewhat enhanced by the presence of the honorific T184, k'ina in the proposed 'royal' name.

A7) 35.168:578?.116 (Emblem Glyph)

There is absolutely no doubt that this is an Emblem Glyph as defined by Heinrich Berlin (1958). It has both of the affixes diagnostic of Emblem Glyphs, namely one of Thompson's (1950, Fig. 43) 'water group' prefixes -- in the present case T35 -- and the T168 superfix. The latter is the superfix which Thompson (1950: 281) originally read ben-ich, later as ah (Thompson 1972: 151). More recently Floyd Lounsbury (1973) has amassed overwhelming evidence that it is to be read ahpo, "chief, ruler". The postfix to the main sign is clearly T116, the syllable-final -n discussed briefly above (B3); this clearly indicates that the reading of the main sign ends in -n. The main sign itself is a scroll; T576, 577 and 578 are all candidates for its identification, as well as T856.

What may be the same Emblem Glyph occurs on monuments from the Dos Pilas area (Dos Pilas, Arroyo de Piedra, Aguateca, Tamerindito) in Guatemala. It appears that there may have been a site in that area in Early Classic times with an Emblem Glyph identical with, or at least similar to, the one on the Altun Ha plaque. In view of this and the fact that the jade is obviously a portable object, the possibility that the plaque was an import from the Dos Pilas area cannot be ruled out. Nevertheless, this is far from established, and the extensive tradition of jade-working at Altun Ha may argue for identification of the plaque as a locally-produced object. In any case, it is not even certain that the Emblem Glyphs from the Dos Pilas area and Altun Ha are in fact the same, and so we can tentatively regard the Emblem Glyph at A7 as that of Altun Ha.

B7 - B10)

This statement must be considered as a whole before the single glyph blocks can be discussed adequately. A pattern similar to the statement can be seen in texts from almost all Classic Maya sites, in which the order is : (Date) (+ Event [Verb] +) Name 1 (+ Emblem Glyph 1) + glyph at B7 + Name 2 (+Emblem Glyph 2) + glyph at A10 + Name 3 (+ Emblem Glyph 3). In other words, we find a pattern with only one event expressed, but

three names mentioned. It is possible that the statement has to do with three people performing a single action, but is far more likely that it is an expression of some sort of personal relationship. This likelihood is strengthened by the fact that the name (2) following the B7 glyph is always female, while that following the A10 glyph (Name 3) is always male. Where we have adequate dating information, personages 2 and 3 can be shown to be older than personage 1 by about a generation. This enable us to hypothesize that the statement is one of parentage, with the glyph at B7 representing a mother-child relationship, and that at A10 a father-child relationship.

There is far more to the argument than can be presented here; other relationship glyphs, for example, can substitute for the ones at B7 and A10 of this text. A detailed discussion of 'parentage statements' in the Classic Maya inscriptions is the subject of a paper currently being prepared by Linda Schele, Floyd Lounsbury, and Mathews. Three such parentage statements are illustrated in Fig. 7.

B7) 126.19:670:??

This is one of the glyphs which expresses the relationship between mother and child (of either sex). However, it is still unclear whether the statement is to be interpreted as:

"Name 1/his mother Name 2/ his father Name 3";
or "Name 1/ child of Name 2/ child of Name 3";
or "Name 1/ child of Name 2, (who is the)/ wife of Name 3".

Present evidence suggests the second of these interpretations.

A8 - B9) 35.1002a/561a.24/??:501?.head/168:518a

These four glyphs record the name of the mother. The main sign of A8 is the female head T1002a, which is prefixed by one of the 'water group' prefixes, T35. B8 is a compound with "sky" as its main sign. Such a glyph is very common as the name or title of royal women at such sites as Tikal, Naranjo and Yaxchilan.

A10) 122.535.24

This glyph expresses the relationship between father and child. In most cases the 'capped ahau', T535, is prefixed by T1, u, as well as by the smoke scroll T122. Since u is the third person singular possessive pronoun in (Yucatec) Mayan, the sense "A, his child B", i.e., "B's child A", is implied. However, in the Altun Ha plaque example there is no u -- an omission which rarely occurs elsewhere -- so other possibilities for interpretation must be left open.

B10) 28:1031c "Katun"

This must be the name of the father. The glyph is simply a katun head variant. Such chronological elements are not uncommon in Classic Maya name glyphs; in title phrases, at any rate, statements such as "lord of three katuns" are not at all rare. The father of 'Shield-Jaguar' of Yaxchilan was called (in addition to his personal name 'Bird-Jaguar') "ah-6 tuns", "he of six tuns" (Fig. 9c). A lady of Piedras Negras was called "Lady ahpo katun".

On the basis of the text at A8 - B10, it is apparent that the parents of 'Akbal lord' were 'Lady Sky' (A8 - B9) and "Katun" (B10).

There remains the discussion of the Long Count positions of the two dates in this inscription. Pendergast has dated the burial at A.D. 650-700 (Pendergast 1969: 86), but additional data from Structure B-4 now indicate that the earlier of these two figures is most likely to apply to the interment. In the original article, he provides as the most likely Long Count positions for the two dates (9.6.15.6.4) 8 Kan 7 Zip and (9.7.11.2.17) 7 Caban 5 Kankin, A.D. 569 and 584 respectively. Reasonable Long Count positions for the dates are as follows:

(9.6.15.6.4)	(9.7.11.2.17)
(9.9.8.1.4) 8 Kan 7 Zip and	(9.10.3.15.17) 7 Caban 5 Kankin
(9.12.0.14.4)	(9.12.16.10.17)

The style of the glyphs in the text can be used to reduce these possibilities. The lack of T74 affixed to T184, for example, is predominantly an Early Classic phenomenon -- pre-9.10.0.0.0. However the best evidence is in the form of the day-sign Kan (A1). Before 9.10.0.0.0, Kan is almost universally depicted in the form it has on the plaque; after that date, it changes quite radically in style. Therefore, we can fairly safely eliminate dates after 9.10.0.0.0, and are left with the dates suggested in the 1969 paper as the best possibilities. There is, however, a chance that the dates should be placed on Calendar Round later, which would still not be inconsistent with Pendergast's dating of the burial.

As the reader can judge from the glyphic interpretations presented above, we are still a long way from being able to provide a reading of the glyphs in Maya. We are, however, now in a position to give an approximate paraphrase of the plaque text, with dates based on Thompson's revised correlation of the Maya and Christian calendars:

Clause 1 (A1 - A4)

"On (9.6.15.6.4) 8 Kan 7 Zip [May 2 (O.S.) or May 4 (N.S.), A.D. 569] the personage (at B2) who was the second chac pax of the west, made a conquest (?)."

Clause 2 (B4 - B10)

"On (9.7.11.2.17) 7 Caban 5 Kankin [Dec. 2 (O.S.) or Dec. 4 (N.S.), A.D. 584] the accession occurred of 'Akbal lord' (the ruler named at B6) of Altun Ha (?), who was the son of 'Lady Sky' and of 'Katun'."

We shall almost certainly never know whether the dates given in the text were the actual times of the events described, or points in the calendar which were ceremonially determined. The date situation here is standard, in that when two dates are recorded in a Maya inscription with no Distance Number to link them, it is usual that the second follows the first by less than a Calendar Round of 52 Maya years. In any event, the later date provides a terminus post quem for the manufacture of the plaque, and the sense of the text to which the dates refer is now clear. This is a far cry from Pendergast's "hopeless jumble of symbols and meanings, a maze through which no path can be cleared" of nine years ago, and it is but one of many examples of the ways in which epigraphic and archaeological research are combining to give us new insights into the achievements and the history of the ancient Maya.

References Cited

Berlin, H.

1958 "El Glifo 'Emblema' en las inscripciones Mayas." Journal de la Société des Américanistes, n.s., 47: 111-119.

Kelley, D.H.

1962 "Glyphic evidence for a dynastic sequence at Quirigua, Guatemala." American Antiquity 27 (3): 323-335.

Knorozov, Y.V.

1955 Sistema Pis'ma Drevnikh Maiia/La Escritura de los Antiguos Mayas. Moscow: Academia Nauk.

Lounsbury, F.G.

1973 "On the derivation and reading of the 'ben-ich' prefix." In: Mesoamerican Writing Systems, E.P. Benson (ed.): 99-143. Dumbarton Oaks.

1974 "Pacal." In: Primera Mesa Redonda de Palenque Part I, M. Greene Robertson (ed.): ii. Robert Louis Stevenson School.

Mathews, P. and L. Schele

1974 "Lords of Palenque - the glyphic evidence." In: Primera Mesa Redonda de Palenque Part I, M. Greene Robertson (ed.): 63-75. Robert Louis Stevenson School.

Pendergast, D.M.

1969 "An inscribed jade plaque from Altun Ha." Archaeology 22 (2): 85-92.

Pío Pérez, J.

1866-
1877 Diccionario de la lengua Maya. Mérida.

Proskouriakoff, T.

1960 "Historical implications of a pattern of dates at Piedras Negras, Guatemala." American Antiquity 25 (4): 454-475.

1963 "Historical data in the inscriptions of Yaxchilan." Estudios de Cultura Maya 3: 149-167.

Thompson, J.E.S.

1950 "Maya hieroglyphic writing. Introduction." Carnegie Institution of Washington Publication 589.

Thompson, J.E.S. (continued)
1962 A Catalog of Maya Hieroglyphs. University of Oklahoma Press.

1966 Preliminary Decipherments of Maya Glyphs 2. Privately printed, Saffron Walden, Essex.

1972 A Commentary on the Dresden Codex. American Philosophical Society.

Tozzer, A.M.
1941 "Landa's Relación de las Cosas de Yucatán." Papers of the Peabody Museum of American Archaeology and Ethnology 18. Harvard University.

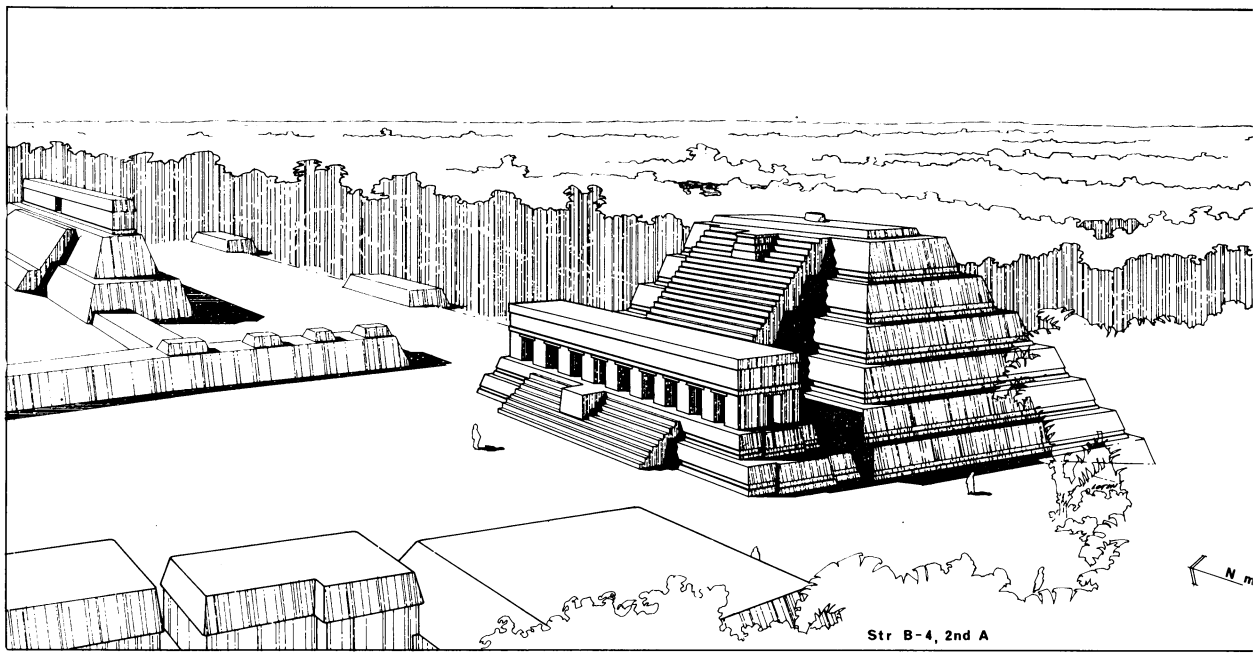


Figure 1a. Structure B-4 as it was before the construction which housed Tomb B-4/6. A slight modification of this stage is shown in the 1969 article.

Figure 1b. Structure B-4 at the level of modification which contained Tomb 6. The to lay beneath the small raised center section of the base stair.

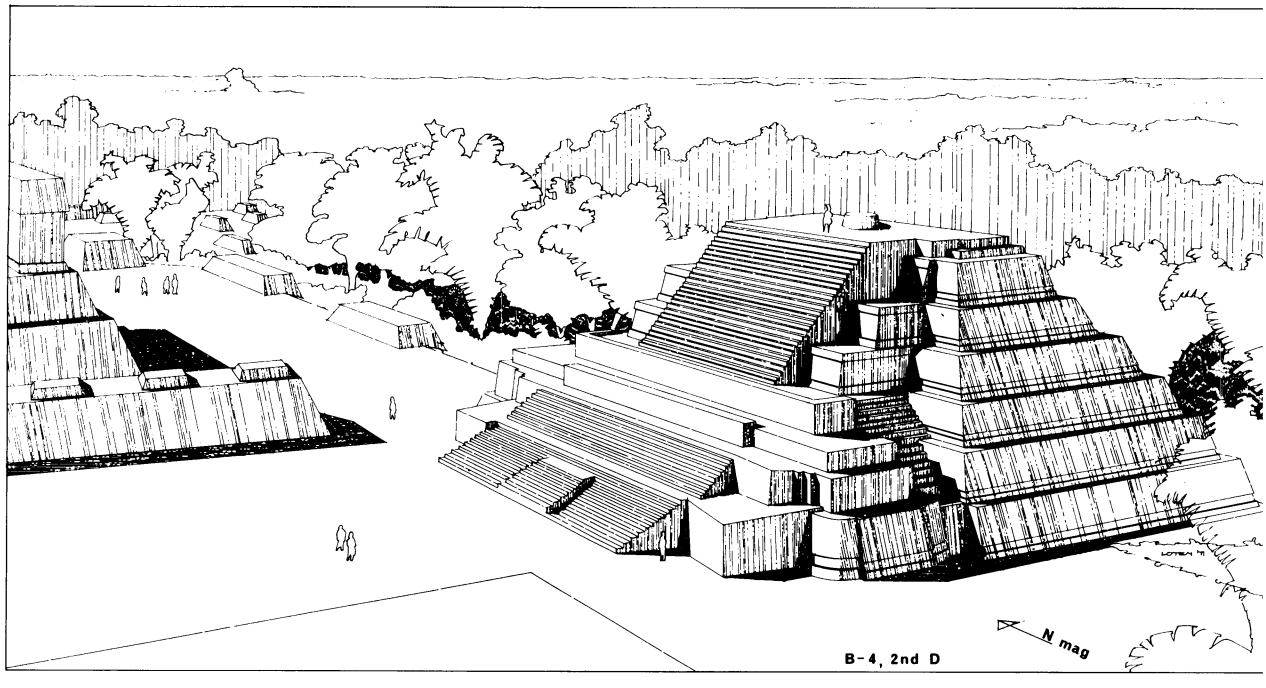


Figure 2. The Altun Ha Jade Plaque.

Figure 3. The Altun Ha Jade Plaque. Photo of Back.

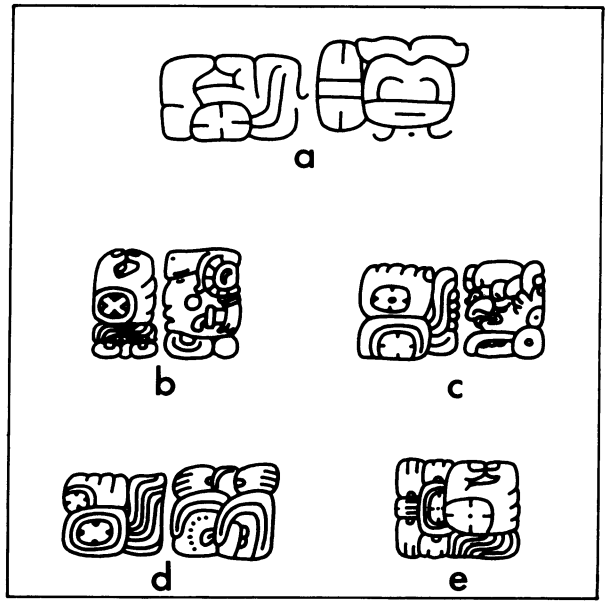


Figure 4. "West ---" Titles.

a. "West chac pax." Altun Ha Jade Plaque, B3-A4.
b. "West ahau." Quirigua Stela F, East, B17b-A18a.
c. "West 'batab'." Yaxchilan Lintel 1, H2-I2.
d. "West 'macuch'." Naranjo Stela 24, E9-D10.
e. "Mah k'ina of the west." Palenque area panel.

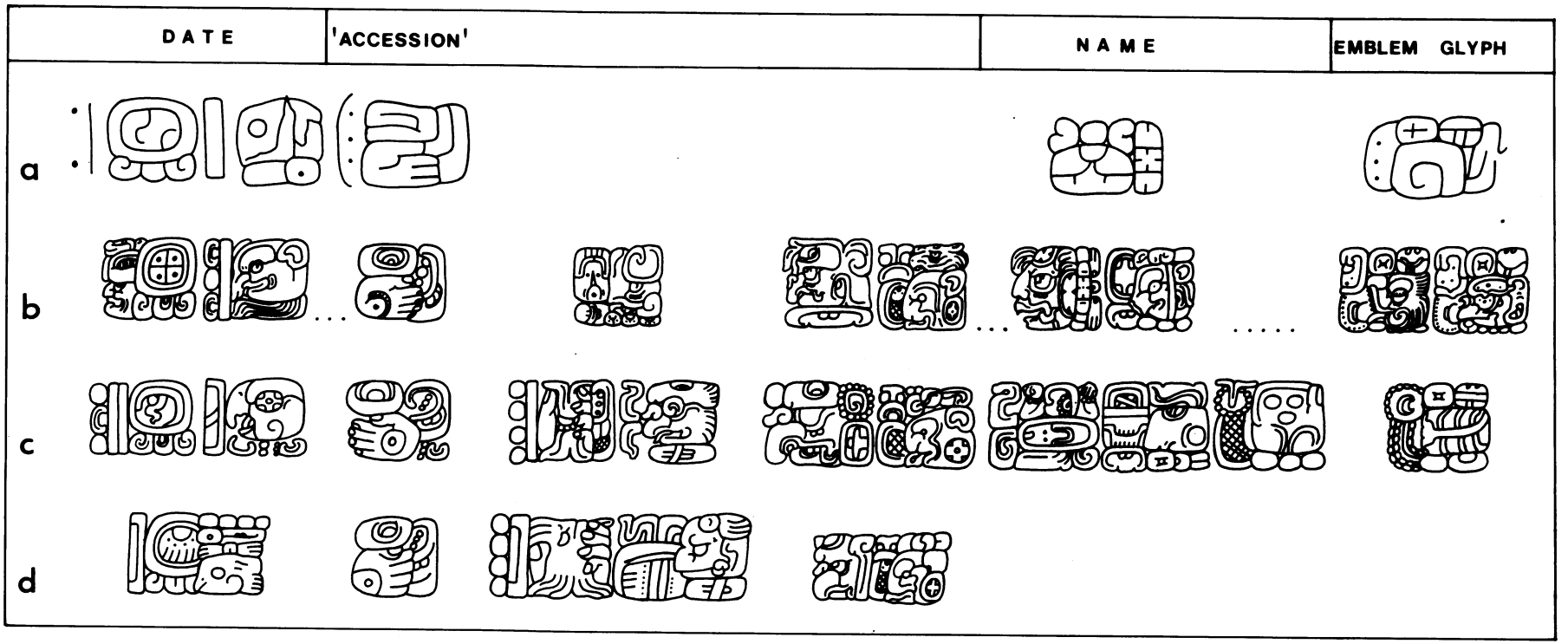


Figure 5. Accession Expressions.

a. Altun Ha Jade Plaque, A5-A7.
b. Palenque Palace Tablet, M15-P12 (some glyphs have been omitted for reasons of space).
c. Quirigua Stela J, F3-F8.
d. Yaxchilan H. S. 3 (Structure 44, Middle Door, Upper Step, C10-C13).

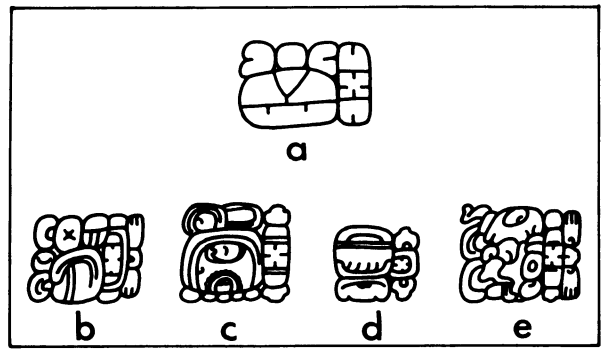


Figure 6. Glyphs with (mah) k'ina as suffix.
a. Altun Ha Jade Plaque, B6.
b. Naranjo Lintel 1, F3.
c. Tikal Stela 5, A7.
d. Yaxchilan Lintel 2, J2.
e. Aguateca Stela 1, D3.

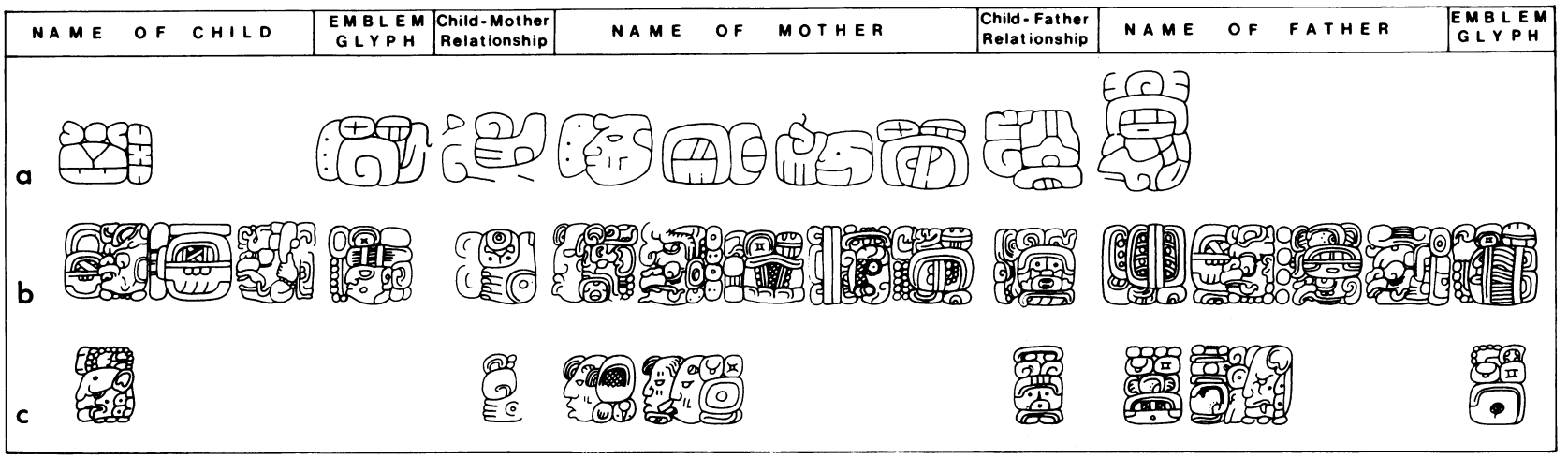


Figure 7. Parentage Expressions.

a. Altun Ha Jade Plaque, B6 - B10.
b. Tikal Stela 5, C5 - D12.
c. Yaxchilan H.S. 3 (Structure 44, Middle Door, Lower Step, B4b-A7a.

THE SWASEY CERAMIC COMPLEX OF NORTHERN BELIZE:

A Definition and Discussion

by

D. C. Pring

Prior to the work of the Corozal Project[1] in northern Belize, there was little to suggest that it was an area which might yield important evidence on the earliest Lowland Maya. Nearby Nohock Ek had been described by the Coe Brothers (Coe and Coe 1956) as an Early Preclassic site, but no evidence was given to back up this statement. Haberland (1958) had indicated a Middle Preclassic presence at Louisville; Pendergast had mentioned a few Mamom sherds at Altun Ha (personal communication to N. Hammond), and Bullard had discussed the possibility of a Mamom complex at San Estevan before rejecting it and opting for a "conservative Late Formative" date (Bullard 1965: 48). For the most part, however, it was the terminal part of the Preclassic that offered the most exciting possibilities. With the heavy concentration of Floral Park pottery in the eastern region and the known presence of Holmul I ceramics at four sites in the project's area, it "seemed a good place to examine the Preclassic-Classic transition and the role of the Protoclassic" (Hammond 1977a: 47).

At the end of the 1974 season, the situation appeared to have changed little. A few possible pieces of Mamom pottery had been found at several sites and a small group of sherds from the lowest levels of a test excavation at Nohmul (Hammond 1977a: 302b; 1975) clearly antedated the Cocos Chicanel material but did not appear related to the Mamom ceramic sphere. Other than that, there were no early indicators. On the other hand, excavation both at Nohmul and elsewhere had revealed the existence of the Freshwater Floral Park ceramic complex (Pring 1975a) and indicated the presence of a poorly defined late facet of Cocos Chicanel apparently contemporary with it. It was indeed, in an attempt to gain better stratigraphic definition of this late facet that the author undertook excavation at Cuello in the Corozal Project's 1975 field season since surface finds from that site revealed pottery that appeared transitional between the Late Preclassic and Early Classic periods.

---

1 The 1975-76 season work of the Corozal Project was sponsored primarily by the British Academy, Cambridge University, the University of Texas at San Antonio, Center for Archaeological Research, Gordon Roe Ltd., and Cooper Gay Ltd. under the direction of Dr. N. Hammond. Financial support for the author at the time of his research was provided by the tenure of a Parry award and, latterly, assisted by contributions made by the Central Research Fund of London University. In both seasons we were deeply indebted to Belize Sugar Industries for logistic support and to the Cuello brothers, owners of the site which has been named for them. I am most grateful to Dr. Hammond for his support and assistance throughout the Project and, specifically for several suggestions incorporated in this paper.

Operation 17B, a 2 metre square test trench on Platform 34 (Hammond 1975), which began with these limited objectives, quickly acquired a new significance as it penetrated a series of plaster floors, interspersed with sub-floor fill and occupation deposits, revealing, with good stratigraphic control, a sequence going back from Cocos Chicanel, through Lopez Mamom to material that was markedly different from the above and which, to judge from its depth of well over a metre, was of considerable duration. A second excavation, through a partially destroyed Protoclassic pyramid (Str. 39) some 150 metres east, descended by chance onto a burial cut into bedrock which contained five whole vessels of the same ceramic complex, which was subsequently named Swasey.[2] The importance of these finds was immediately apparent and was discussed in a paper given by the author at the Society of American Archaeology's annual general meeting held at Dallas, Texas later in the year. It was not until the first radiocarbon dates were processed and known, however, that the full significance of the site was appreciated. Subsequent excavation at the site in 1976 confirmed these initial findings and led directly to the creation of the Cuello Project in 1978 with plans to excavate a substantial further area of Platform 34 to provide as much information as possible on all aspects of the Preclassic occupation there.

If these early dates (ranging back to 2000 bc[3]) and the attendant archaeological data are accepted, the implications for early Maya prehistory are considerable. Current, or recent, thinking was based on the assumption (fast becoming a belief) that the earliest Maya in the Lowlands were represented by the Real Xe ceramic complex which was felt to be no earlier than the Middle Preclassic period. Thus Willey, in his summary chapter in The Origins of Maya Civilization, states that "the earliest firm and reasonably abundant evidence for Maya Lowland occupation comes from the Pasion Valley" (Willey 1977: 385) and later that "it was the unanimous opinion of the seminar that the Xe-Eb pottery-making immigrants first entered the Maya Lowlands at the very beginning of the Middle Preclassic Period" (Willey 1977: 401). If these were widely held views at the time, they have had to be modified considerably by those who accept the evidence from Cuello. Likewise, the question of the origin of these "immigrants" is at the very least obfuscated by the ceramic evidence of the Swasey complex. In addition, it represents a setback to those who argue that the earliest inhabitants of the lowland zone opted for a riverine environment, since the site is roughly equidistant between, and some distance from, the Nuevo and Hondo rivers.

Other examples could be cited as evidence of the disruptive effect that the Swasey data, if accepted, may have on traditional views held about the Early Preclassic Maya. However, there are a number of Mayanists who reject the evidence in the preliminary form in which it has so far been published or for one reason or another

---

2 Swasey, like all north Belize ceramic complexes, is named after a local stretch of water - Swasey Creek in this case.

3 Dates are given in uncalibrated radiocarbon years on the 5568 half-life. This implies no disrespect to Clark's or other calibrations; it is merely to provide easier comparison with other sites.

question its authenticity and reliability. For some, it is a proper scientific caution, in the light of new evidence. Others may feel it academically unwise to advocate acceptance, at such an early stage, of data that have such far-ranging significance. For others again, there is a question mark over the validity of the dates in the light of other evidence currently suggesting that radiocarbon dating may be more variable than was previously thought. Ceramicists may argue that the Swasey phase is unacceptably long considering the apparent lack of change therein, and feel that it is more a variant of the Eb and Real Xe complexes found elsewhere in the Maya Lowlands at the start of the Middle Preclassic. It is not being cynical to say that at the heart of these objections is the very fact that the new evidence does upset widely held views on the Maya Preclassic. Whilst it is right that new arguments be subjected to critical scrutiny before they are accepted, it is less defensible for archaeologists to adhere to old ideas in the face of new ones, especially if the old are based on insecure facts compounded by a series of assumptions. The flimsiness of that evidence will be outlined in further detail at a later stage. Apart from the radiocarbon dates, the bulk of the doubts appear to be centered on the interpretation of the ceramics and their relationship to the stratigraphy. As the initial excavator and the project's ceramicist whose opinions have been advanced in several publications already (Hammond 1975, 1976a, 1976b, 1977a, 1977b, 1977c; Hammond, Pring et al. 1976, 1979; Pring 1975b, 1976, 1977), I feel doubly compelled to defend the validity of the evidence from Cuello as it relates to the Swasey phase in particular. This I propose to do by setting forth the ceramic details as they relate to the stratigraphy and the radiocarbon chronology. After that, I shall offer some comments and thoughts, based on comparative ceramic studies, on the origins of the phase and its relationship to other ceramic compleses of the Lowland Preclassic.

Turning first to the stratigraphy, the critical excavations were, in the Corozal Project nomenclature, Ops. 17B and 17F. 17B was a 2 metre square test trench excavated by natural levels down to bedrock in 1975, while 17F consisted of two 5 metre square area excavations adjacent to 17B and likewise dug down to bedrock. The earlier excavation demonstrated both the strengths and weaknesses of what has been described as "telephone-booth" archaeology. Had it not been for this trial excavation carried out in a few weeks by two project members assisted by a couple of local workers, the Swasey phase would probably not have been known. At the same time, the area excavations of 1976 indicated that what had been interpreted as a series of platform floors, in fact represented the interiors of structures set around a patio. Nevertheless, the work in 1976 confirmed the stratigraphic sequence of the previous year, at the same time adding a great deal more information on which to base speculation about Preclassic society in the area. A glance at the section of Op. 17B (Hammond 1975: Fig. 8.5) shows that we are dealing with a series of superimposed floors, interspersed with occupation and fill deposits, most of which are in very good condition. Thus, although we might expect an upward mix, tending to blur the evidence relating to the terminal points of ceramic change, the sealing of the layers provides a clear-cut introduction point for ceramic modes since the pottery is extremely unlikely to seep down to lower levels. This expectation was realized in that the earliest levels provided unmixed Swasey deposits, while later layers contained a mix of Swasey and Lopez, both of which continued in decreasing quantities into the Cocos strata closest to the surface. It will be noted that there are no completely unmixed Lopez and Cocos levels, nor is this particularly surprising given the nature of the deposits. The evidence for ceramic

change is clear and, when combined with the stylistic distinctions (which will be dealt with at greater length subsequently), provides us with a very good data base on which to build hypotheses.

Full details of the ceramics, together with a more comprehensive comparative analysis are contained in my doctoral dissertation (Pring 1977). Here I shall outline a few of the salient features of the Swasey Ceramic Complex. We have two major redware Groups (Consejo and Ramgoat), a very substantial buff Group (Tiger) and a rather limited black Group (Machaca). In addition there are other Groups - Quamina (Cream), Stopper (Brown), and Chicago (Orange) - which are numerically less well represented. Dichrome pottery is even less common, though there is a representative sample of Tower Hill Red-on-cream, a couple of vessels of Ossory Red-on-orange and a few sherds of Red-and-unslipped pottery. The entire Swasey sample at present numbers some 10,000 sherds [4] almost all occurring in pure deposits from the excavations at Cuello indicated above. The presense of major red, buff and black Groups and their proportional relationship to one another is extremely significant when we come to consider the factors that suggest continuity between this and subsequent ceramic complexes. Of the red Groups, Consejo is easily the more recognisable by virtue of its glossy, vermilion red slip. The consistency and brightness of this slip appear to have been achieved by the application of a thin cream-to-white underslip. It is thus linked closely in technical terms with the Quamina group which employs the same underslip without the addition of the red, except in the case of Tower Hill Red-on-cream where bold quadrilaterals of cream are left reserved by the partial application of the same red slip. In the course of the 1979 season several sherds of this type were found to possess genuine resist decoration with patterns consisting primarily of squiggles or wavy lines, although in one instance a definite figure painting was found with what appeared to be a bird or ship resting on a series of such lines apparently representing water. Even after a brief acquaintance with sherds of this group, it would be hard to mistake them for any other Preclassic type in the area. Closest comparisons (if they must be made) are with some of the red gloss pottery of the Early to Middle Classic. The gloss on Consejo contrast markedly with the duller and much waxier surface encountered in both Lopez and Cocos. Ramgoat Red, on the other hand, is much less easily distinguished and might even be overlooked in deposits that are mixed. It lacks the underslip and consequently loses the homogeneity and brightness of its counterpart. Although it, too, lacks any waxy feel for most of the period, there are a number of sherds from later levels which appear to be transitional in terms of slip texture. The colour range is wider, from deep purple or even brown at one end of the scale through to a pale buff or orange at the other. The central colour is, however, a deep Indian Red and it will be appreciated that in this respect it is close to Joventud Red though the latter lacks the range. Whilst the Ramgoat Group appears to merge gradually into the Joventud Group, the evidence from the 1979 season would appear to

4 This figure is based on a sherd count at the end of the 1976 season. Subsequent work, in 1977 and 1979, has added another 1000-2000 sherds and has advanced our knowledge somewhat. This paper was originally written in 1978 but has been brought up to date by the inclusion of such additional knowledge as is relevant to the subject.

suggest that both Consejo Red and Tower Hill Red-on-cream actually persisted into the Middle Preclassic. Both types were found in some quantities mixed with Lopez Mamom deposits and whilst this may mean that they were merely absorbed into later deposits of a mixed nature, it is at least as plausble to suppose that they were actually being manufactured and used at this later date.

Both the Tiger and the Machaca Groups equate closely in terms of colour range with their Lopez Mamon successors, although the olive tinge detectable in the buff group is more pronounced in the Swasey complex. As with most Swasey sherds there is no trace of the waxiness that characterizes Lopez especially and to a lesser extent Cocos. The Stopper group has no equivalent in subsequent Preclassic periods though it is found again in the Classic. The last of the monochrome groups -- Chicago Orange -- is of considerable significance when discussing the issue of continuity within the Preclassic. The Chicago variety, found in the Swasey ceramic complex, is only distinguishable from the Warrie Camp and Chucun varieties (Lopez and Cocos respectively) on grounds of vessel shape. The paste and slip are such that body sherds from mixed deposits are indistinguishable. Another feature that is relevant to this argument is the presence of Red-and-unslipped pottery in both the Consejo and Ramgoat groups. The practice of leaving the outside walls of a vessel unslipped but with decorative techniques such as impressing and punctating employed on the unslipped surface is one that continues as a minor mode throughout the Preclassic in northern Belize.

On the Unslipped side, we have one major group -- Copetilla -- as well as a handful of striated sherds that have not been typed as yet although the 1979 excavations indicate that they were being made in small but not insignificant quantities during this period. Copetilla Unslipped is characterized by a well-smoothed and even on occasions lightly washed surface with a colour range from dark gray, through buff and tan to pale orange. In respect of surface smoothness it differs from subsequent unslipped types that are rather rougher, but this is a fine distinction only made possible by the purity of the Swasey deposits. Within this group is a pattern-burnished type originally named Yotolin in deference to Brainerd's and Smith's work on the pottery of Mani (Brainerd 1958; Smith 1971: 22, 133), although this name may have to be revised. The basic surface is similar to Copetilla Unslipped but with the addition of pattern-burnished decoration in the form both of thin bands and rectangular areas of cross-hatching. The decoration is faint, but when viewed in a strong cross light is strikingly similar to that described and illustrated by Brainerd (Brainerd 1958: Fig. 30c, 1, 10, 13, 28, 30, 31, 34). It was this fact that prompted the original name. However, a personal inspection of the Mani material (following a communication from Robertson-Freidel) indicates that the paste and texture of the Mani material are very different from those at Cuello.

If pattern-burnishing is one means of decoration in the Swasey ceramic complex, other decoration, on slipped pottery, is mostly limited to incising and modelling. The former is by far the more common, occurring with both pre-slip groove- and post-slip fine line-incisions. The groove-incising can be very faint and is found in the Consejo, Ramgoat, Tiger and Stopper Groups with, in most cases, one or two lines

placed horizontally round the exterior just below the rim. Occasionally, groups of diagonal, parallel lines are "framed" by the horizontal lines placed on the exterior both near the rim and the base. The fine-line incising, which is found in the Consejo (one sherd), Machaca, Tiger and Stopper Groups, is more varied and elaborate, particularly in the Tiger Group. Crossed lines and cross-hatching are popular, though ticking, parallel diagonal lines and triangles are also found. The cross-hatching is occasionally associated with faint modelling apparently designed to give the appearance of facial features (e.g., Pring 1976: Fig. 1d, j, 1977: Figs. 25r, 26a). Individually, this impression might be dismissed as fanciful but it occurs with too great consistency in a number of Swasey groups together with more fully modelled figurines and even resist painting designed to achieve the same effect (Hammond 1977c: Fig. 8).

In terms of shape, there is a fairly sharp distinction between those groups apparently used mainly for utilitarian purposes (Copetilla and Chicago for example) and those that are apparently rather finer such as Consejo, Ramgoat, Stopper and Machaca. The Tiger group, interestingly, has shapes that fall within both categories. In the "utilitarian groups" the jar form is very common and distinctive with a low-to-medium-high, flaring neck, thickened at the upper end with a square lip. Although this form appears to overlap slightly, in a modified version, into the succeeding phase, it is generally a diagnostic feature of the Swasey ceramic complex and one that could be spotted with ease from mixed deposits in northern Belize. Frequently associated with this shape is the "double-cylinder" handle which consists of two or occasionally more cylindrical rolls of clay joined together in a vertical plane generally attached to the rim at the upper end and pushed through or moulded onto the shoulder of the vessel below (Pring 1976: Fig. 1h). Less common, but of considerable interest, is the bottle shape. The evidence for this is based mainly on the thin, vertical or slightly tapered neck with its exterior folded rim. Prior to the 1979 season, the only suggestion as to what body shape accompanied the bottle neck was Brainerd's reconstructed shape based on material from Mani (Brainerd 1958: Fig. 31c, 8, 23) with a pointed base and apparently sloping sides with a medial angle of sorts. However, in 1979 enough broken sherds were found in a level of mixed Lopez and Swasey material to reconstruct an entire bottle with a globular body, long, hollow, single foot and at the upper end, a narrow cylindrical opening tapering to a rim diameter of 2-3 cms with a presumed exterior folded rim and pointed lip. The actual rim is missing but there does not appear to be much doubt as to its actual shape. This particular vessel occurred in mixed deposits and was placed within the Joventud Group on the gounds of slip characteristics but sufficient bottle necks and monopods have been found in unmixed Swasey deposits to indicate that this shape was not uncommon at that time. Other shapes include the tecomate (incurving-sided bowl with restricted orifice) and a small number of dishes and bowls.

Among the finer pottery, the range of shape is greater though the commonest by far are the vertical- or slightly flaring-sided dishes and plates with direct rims, and the incurved-recurved sided plates, again with a direct rim for the most part. Round- or out-curving sided vessels are also found, together with tecomates, bottles and low-necked jars. Appendages include monopods, strap handles, bosses and round-section

spouts. One of the features of this pottery is that there tends to be minimal rim alteration with generally round or square lips. Certainly, there is no suggestion, until very late in the phase of the heavily bolstered or exterior-folded rims that are so typical of the subsequent Preclassic ceramic complexes.

Looking at the Swasey pottery from a more general viewpoint, the most striking feature is its sophistication. As far as we know at present this is the earliest Maya pottery, yet it could never be compared with some of the other "earliest" ceramic complexes either in Mesoamerica or northern South America. The fairly simple forms and decoration of Pox, Purron, Valdivia I and even Barra are all wholly alien in character from Swasey. Indeed, it is the opinion of the author that the pottery of this period represents a high point in sophistication that is not again equalled until the Protoclassic period. It is interesting to note that Andrews IV (1968) expressed similar views on the pottery of Phase I (now Nebanche Mamom) at Dzibilchaltun. It was, in his view, "by far the best and the most aesthetically pleasing of any made at the site at any time." For Swasey, a wide range of shapes, a sure control over firing and slipping, elegant and occasionally complex decoration -- all suggest that the potters were no novices.

One of the more puzzling features of the Swasey phase was the apparent lack of ceramic change. If our radiocarbon determinations are correct, then we are speaking of a phase of over a thousand years, yet on the initial evidence it proved impossible to find any satisfactory criteria on which to define any facets. However, work at Cuello has already provided enough material to suggest that such a facet will be established, and it may be possible to do this when the sherds from the excavation have been analysed in depth. During the earlier part of the phase, we see Ramgoat Red, as the larger red-slipped group, forms appear to be slightly simpler and, in the case of those diagnostic modes such as jar necks and "double-cylinder handles," are unmodified. Tiger Buff is more important while Yotolin Pattern Burnished is confined to the earlier part. In the latter part, Consejo Red grows in importance, and indeed, as mentioned above, may even continue into the subsequent Middle Preclassic period. Bichrome painting, especially with Tower Hill Red-on-cream and Ossory Red-on-orange makes a late appearance and likewise may continue even further. This is welcome news, for the presence of such a long phase without any ceramic change would be hard to accept for many archaeologists. Yet, it must be admitted that our concept of ceramic change and the speed at which it operates may well be based on misleading premises. Thus it had been widely assumed that the Mamom ceramic phase stretched from approximately 550 to 250 B. C. - a span of only three hundred years. Yet these dates are by no means based on secure carbon dating. If the Cuello dates are accepted in their entirety, the Lopez Mamom complex may well range from 1050 B. C. to 250 B. C. - an 800 year stretch, with Cocos Chicanel lasting a further 500 years. Seen in this light we have a picture of long early ceramic complexes, gradually shortening and becoming more susceptible to ceramic change. If this is the case then the length of the Swasey phase is not too disturbing.

One of the more critical factors in our argument concerns the link between Swasey and Lopez Mamom. It should be stressed that this link and comparison is made

purely locally. I have elsewhere (Pring 1976, 1977) attempted to make comparisons with other areas both in the Maya Lowlands and beyond. Here, however, I shall be referring to the ceramics of northern Belize. It could be, and indeed has been argued that Swasey is unrelated to the Mamom pottery of the Middle Preclassic period and thus that the Swasey settlers were an isolated group that had little or no influence on subsequent events. The stratigraphy at Cuello argues against this view, but it is the ceramic evidence that is most compelling. First, however, we must establish the validity and unity of the Lopez Mamom ceramic complex. At Cuello, where most of the deposits have been found, it has proved possible to sort Lopez pottery from both earlier and later material on the basis of shape and slip texture. This distinction is possible despite, or perhaps because of, the fact that there have been no wholly pure deposits excavated at the site to-date. In northern Belize, as elsewhere in the Maya Lowlands, redware is numerically dominant among slipped pottery (an exception to this rule occurs at Barton Ramie in the Jenny Creek complex where the Joventud group is overshadowed by other monochromes). In terms of slip texture and colour it is similar to both Sierra Red of the Cocos complex and Ramgoat Red of the Swasey. Yet, on both of these grounds there are distinctions which are sufficient to warrant sorting of even undecorated body sherds. In view of the opinion generally held among Mayan ceramicists that there is virtually no slip distinction between Sierra and Joventud Red, this may be hard to accept. Nevertheless, such is the case in northern Belize and other ceramicists who have observed the criteria for sorting (Ball and Robertson-Freidel for example) are of the opinion that the distinctions are genuine. Specifically, the slip of Joventud Red is more crackly, much more waxy and of a more limited colour range than redware that either precedes or succeeds it. Whilst this is most noticeable in the Joventud group, it is also found in all the other slipped groups with the exception of Chicago Orange. Having established the integrity of the Lopez Mamom ceramic complex we may more confidently discuss the latter's relationship to Swasey. Perhaps the most obvious transition is between Ramgoat and Joventud Red. Although, at each end of the scale, they are readily separable, there are a number of sherds that are clearly transitional in terms of slip characteristics, and these are found in the upper Swasey levels. Equally apparent, the Chicago variety of Chicago Orange is quite indistinguishable from the Warrie Camp variety except in vessel shape. Of the Unslipped types, Copetilla Unslipped is hard to distinguish from its Lopez counterpart. Distinctions are greater with buff and black wares as well as of course with Consejo Red, but the very fact that red, buff and black are the predominant slip colours, in that order, argues for continuity in the area. Of the Minor groups, Tower Hill may well be a forerunner of Muxanal Red-on-cream; Lazaro variety found in Lopez Mamom, while the concept of red-and-unslipped decoration continued with the Bobo (Lopez) and the Puletan (Cocos) types. In terms of shape, we have already noted the gradual changes in the jar neck and the "double-cylinder" handle which persist into the Middle Preclassic in modified form. Another survivor is the bottle shape which is clearly present, though in smaller quantities, in Joventud Red. Tecomates continue in use, while the incurved-recurved sided vessels develop into the cuspidor bowl form. Strap handles persist and spouts are present with no great distinction. The sense of continuity is less apparent in the vertical or slightly flaring-sided vessels which become outcurving and frequently possess rim modifications that are quite extensive. The

principal decorative mode in Lopez Mamom consists of pairs of grooved-incised lines round the rim on both interior and exterior and down the side on the latter. This represents less variety than is found in the Swasey complex but there are obvious similarities between the two. To sum up, it is evident to this ceramicist at least and to others who have seen a representative sample of the material, that Swasey and Lopez are quite distinct from one another, but that the former is definitely ancestral to the latter. Swasey is thus a genuine complex in its own right and also can lay claim to being the earliest Maya ceramic complex yet known.

If the end of the period is clarified, and the middle satisfactorily described as far as its ceramics are concerned, the origins are still clouded in doubt and uncertainty. We have indicated that from the earliest levels, the pottery is sophisticated, but if this is so we must seek a reason for its sudden appearance, ready-developed at Cuello. My dissertation (Pring 1977: Chap. VIII) contains an extensive survey of other ceramic complexes, undertaken with precisely this question in mind, but the results of that survey were singularly unhelpful. The earliest ceramic complexes, from Tehuacan, through Puerto Marquez, South Coast Guatemala and Chiapas, Honduras and Monagrillo down to Puerto Hormiga and Valdivia and as far afield as Southeastern United States, all appeared quite different to me, although it should be noted that Lathrap (personal communication) did observe similarities with material that he had studied from Coastal Equador. Certainly, if an origin outside the Yucatan Peninsula is to be found for the Swasey pottery, then Northwestern South America would appear to be one of the more likely areas. At the moment, however, in the absence of any evidence, an equally appealing hypothesis is that the origins may well lie beneath the soil in the Maya Lowlands, awaiting discovery. After all, if the presence of Swasey was totally unknown for so long despite extensive work in the area then it is possible that other, earlier material remains to be discovered. The evidence of the three very early radiocarbon dates from the 1976 excavation at Cuello (discussed below) suggests the possibility of this. Furthermore, once the Swasey pottery had been discovered and defined, it quickly became apparent that it was not confined to Cuello but was found elsewhere in northern Belize and even beyond. There are definite traces of Swasey ceramics at Becan, for instance, and Ball is now of the opinion that Acachen is not the earliest ceramic complex in Southeastern Campeche "but that an earlier Swasey assemblage is waiting to be discovered" (Ball, personal communication). One of the most obvious links, however, occurs at Mani where bottles are found with similar neck forms and virtually indistinguishable pattern-burnishing even down to individual patterns (Brainerd 1958: 37, Fig. 30c, 1-4). Brainerd's assessment of this pottery as unique and very early has been challenged on numerous occasions but, on the evidence from Cuello, it would appear to be a very accurate and far-sighted one. Inspection of the Mani material in Merida suggests that it is cruder in texture and design which in turn suggest that it may be ancestral to the slightly more sophisticated version at Cuello. Certainly, if the Swasey ceramic complex is as early as we suggest, then further excavation at Mani must be an urgent task to complement the data from northern Belize.

Other links with Maya Lowland sites are more tenuous. At Dzibilchaltun, as indeed at Tikal, Seibal and a number of other sites there appears to be a progression from

a relatively non-waxy pottery into the Waxier surface traditionally associated with the Middle and Late Preclassic. We have already noted Andrews' comment on the sophistication of the Nabanche pottery. From the Central Peten, neither Uaxactun nor Tikal have much in common with Swasey and the same is true of Barton Ramie, despite the relative geographical proximity and the possibility of a temporal overlap (discussed below). In the Pasion zone, the Real Ceramic Complex at Seibal exhibits some similarities in the presence of flat-based, flaring-sided dishes and plates with direct rims (e.g., Sabloff 1975: Figs. 31, 65). At Altar de Sacrificios, this shape is also present together with tecomates and low- to medium-necked jars. In addition there are a number of sherds illustrated that bear a marked resemblance to the Swasey pottery. In particular, the "double-cylinder" handle is present in both Achiotes Unslipped (Adams 1971: Fig. 2v, 3b, d) and Abelino Red (Adams 1971: 3c). The blackware, incurving-sided bowl with impressed rows from Baldizon Punctated (Adams 1971: Fig. 1n) is similar to a sherd from Tiger Buff (Pring 1977: Fig. 24b). Some of the faint pre-slip, horizontal incising found in Abelino Red, Yaltata Orange and Pico de Oro Incised (Adams 1971: Figs. 4b, 5a, 7h respectively) resembles that found, especially in Backlanding Incised and Calcutta Incised, while the post-slip incision from Chompipi Incised is very close to Cowpen Incised: Cowpen variety (Adams 1971: Fig. 71a-d; cf. Pring 1977: Fig. 26f). There are other examples that could be cited and although they do not in any sense suggest that the complexes are related, they do offer the possibility of shared modes and hence perhaps contact of an as yet undefined nature.

The evidence for the radiocarbon dating is impressive. It must be admitted, as Culbert (personal communication) has pointed out, that all the dates come from one site and, for the most part, from one platform. Until we obtain Swasey material from other sites with roughly comparable dates, this fact will leave doubts in the minds of some. In addition, there are several archaeologically unacceptable samples in the dates. But there are few sites with a range of dates in which all are consistent and Cuello is one of the most impressive yet known for the Preclassic period of any Maya site. Indeed, the general paucity of radiocarbon dates for the Lowland Preclassic must be heavily emphasised, for it underlines the rather tenuous grounds on which Preclassic Maya chronology is based.

Thus, Sorensen (1977) lists 34 dates before Christ for the Maya Lowlands, of which 21 come from one site (Tikal) and all but a handful are from the Late Preclassic.

Hence it will be apparent that a great deal of the dating for the Preclassic, especially the earlier part of it, is based on conjecture allied to cross-referencing of ceramic modes. The evidence from Cuello is of a vastly different nature. Hammond, in conjunction with others, has recently published two articles (Hammond, Pring, et al. 1976; Hammond, Donaghey et al. 1977) in which he describes the dates available and the means by which they were obtained and tested. We have 9 dates from the 1975 excavation and 18 from 1976. Three dates from the former were unacceptable - probably through some undetected contamination before or during excavation. Of the remaining 24, one from 1976 came from a context later suspected of contamination while three appear to be too early for their context and may be of redeposited material. The remaining

20 are consistent both stratigraphically and ceramically, providing us with an impressive span of dates for the Preclassic. Twelve of these are association with the Swasey phase, giving a central date range of 2050 - 1050 B. C. Four samples are from Lopez Mamom contexts including one, the earliest, from a burial that is stratigraphcially transitional between Swasey and Lopez. The central dates for these range from 1020 - 240 B. C. The proximity of this starting date with the terminal Swasey date lends support to our belief that the later phase did in fact start around 1000 B. C. However, the rather large standard deviation of ± 195 years for the latest Lopez date means that we cannot feel as confident about its ending. Similarly, two samples from Cocos Chicanel levels gives dates of 330 and 174 B. C. and whilst these are clearly within or around the accepted Chicanel timespan, they do not help much to define that span. The dates then are most useful for determining the extent of the Swasey phase. It is to be hoped that the radiocarbon dates from the 1978-1979 excavations at Cuello will provide more chronological information for the later Preclassic period. In particular we are uncertain of the interface date for Lopez and Cocos. Nevertheless, the consistency and range of the dates give chronological framework, where before archaeologists were largely leaping in the dark. A case in point is Barton Ramie where in the 1950s a radiocarbon date was rejected as too early even though it came from the earliest levels (Willey et al. 1965: 29). Yet a more recent radiocarbon date from a similarly early cultural level excavated by the Corozal Project produced a date of 1205 ± 205 B. C. The three extremely early dates from the 1976 excavation (2790, 3190 and 3190 B. C.) may be interpreted as redeposited charcoal fragments from wood burnt either naturally or with human intervention. If the latter, of course, then the presence of man in the area would be pushed back even further.

In the preceding pages I have attempted to define and defend stratigraphically, chronologically and ceramically the evidence from Cuello as it relates especially to the Swasey phase. There are still question marks about all three. Stratigraphically, the case is the strongest, arguing for a lengthy period of Swasey occupation, followed by a Lopez presence and subsequent Cocos construction. Chronologically, the fact that radiocarbon samples are at present confined to one site is slightly disturbing, though the excavation at Barton Ramie in 1976 appears to fall within the time scheme established at Cuello. Although there may be some contamination of all Cuello dates this does not seem very plausible - the samples were assayed at two laboratories with concurrent results. Ceramically, the lack of change over a long period of time, the sophistication of the earliest pottery, the absence of any recognizable antecedents and the apparent restrictions to a relatively small area, all pose questions to which there are no simple answers. Indeed, it is important to stress that the presence of the Swasey inhabitants presents archaeologists with more problems than solutions. The greatest significance of the new evidence is precisely that - that it upsets hypotheses that had, by virture of their unchallenged use, come to be regarded as truths. To attempt to furnish answers on the basis of the limited data available would be to fall into the same errors for which we have criticised others. Nevertheless, some speculation is justified to indicate a direction or directions which future research might take.

One of the more obvious problems facing the contributors to the recent

seminar on the origins of Maya civilization at Santa Fe was the ancestry of the earliest, central-zone ceramic complexes. This problem has not been satisfactorily resolved. Culbert speaks of "the lack of close relationships between early ceramic complexes in the Southern Maya Lowlands" (Culbert 1977: 36) and Willey, in his summary chapter, states that "Pottery definitely identified to the Xe ceramic sphere has not yet been reported elsewhere in the Maya Lowlands" (Willey 1977: 386). He then reiterates Culbert's feelings and adds that the early facet of Jenny Creek falls into a similar position, having slight resemblances to Xe, but nothing of any significance. It would be pleasant and very tidy, if Swasey pottery provided the link between these disparate ceramic complexes. However, the evidence at present does not warrant the acceptance of such a hypothesis, though it does not altogether rule out the possibility. I have argued elsewhere (Pring 1977: 443) that Lowe's ethnic-rivalry model (Lowe 1977: 197-248) is one of the most plausible explanations for the earliest Maya presence in the central zone, if we set aside for the present the notion that there is further, unexcavated material of significance there. Yet where he speaks of bands of "slightly desperate commoners" who were outcasts from culturally superior people to the south and west, we would add that the same may have been occurring at a similar or slightly different period from north and east. There are some grounds for supposing that northern Yucatan, from northern Belize across to Becan and for an undetermined distance north, may have been developing as a regional entity even before the Middle Preclassic. Ball (1977: 103-104) hints at some such regionalism, although not along those precise lines, during the Acanche and Nabanche phases, but the presence of Swasey or Swasey-like pottery at both Becan and Mani means that it may go back even further. Such a link would not be implausible, particularly in view of the northern orientation of Cuello and surrounding sites as manifested in the Lopez Mamom ceramics. Moreover, the presence, at Mani, of fairly coarse pottery with decoration similar to that found in the earliest Swasey levels offers the hope that further excavation at the former may provide some important information about the latter's origins. The emphasis must now turn to excavation to provide more data on a period about which we now know more only to find that in fact we appear to know less.

References Cited

Adams, R.E.W.
1971 The ceramics of Altar de Sacrificios. Papers of the Peabody Museum of Archaeology and Ethnology 63 (1). Harvard University.

Andrews, E.W. IV
1965 Dzibilchaltun Program. In: Middle American Research Institute Publication 31. Tulane University.

1968 Dzibilchaltun, a northern Maya metropolis. Archaeology 21: 36-47.

Ball, J.W.
1977a The archaeological ceramics of Becan, Campeche, Mexico. Middle American Research Institute Publication 43. Tulane University.

1977b The rise of the northern Maya chiefdoms. In: The Origins of Maya Civilization, R.E.W. Adams (ed.). University of New Mexico Press.

Brainerd, G.W.
1958 The archaeological ceramics of Yucatan. Anthropological Records 19. University of California Press.

Bullard, W.R. Jr.
1965 Stratigraphic excavations at San Estevan, northern British Honduras. Arts and Archaeology Occasional Paper 9. Royal Ontario Museum, Toronto.

Coe, W.R.
1965 Tikal, Guatemala and emergent Maya civilization. Science 147: 1401-1419.

Coe, W.R. and M.D. Coe
1956 Excavations at Nohoch Ek, British Honduras. American Antiquity 21: 370-382.

Culbert, T.P.
1977 Early Maya development at Tikal, Guatemala. In: The Origins of Maya Civilization, R.E.W. Adams (ed.). University of New Mexico Press.

Haberland, W.
1958 An early mound at Louisville, British Honduras. Man, Shorter Note 172: 128-129.

Hammond, N. D. C.
1976 British archaeology in Belize, 1976. Antiquity 50: 61-65.

1977a Ex Oriente Lux: a view from Belize. In: The Origins of Maya Civilization, R. E. W. Adams (ed.). University of New Mexico Press.

1977b The earliest Maya. Scientific American 236: 116-133.

1977c The Early Formative in the Maya Lowlands. In: Social Process in Maya History, N. Hammond (ed.). Academic Press.

Hammond, N. D. C. (ed.)
1975 Archaeology in northern Belize. Corozal Project 1974-1975. Interim report. Cambridge University.

1976 Archaeology in northern Belize. Corozal Project 1976. Interim report. Cambridge University.

Hammond, N. D. C., S. Donaghey, R. Berger, S. de Atley, V. R. Switsur and A. P. Ward
1977 Maya Formative phase radiocarbon dates from Belize. Nature 267: 608-610.

Hammond, N. D. C., D. Pring, R. Berger, V. Switsur and A. P. Ward
1976 Radiocarbon chronology for early Maya occupation at Cuello, Belize. Nature 260: 579-581.

Hammond, N. D. C., D. Pring, R. Wilk, S. Donaghey, F. Saul, E. Wing, A. Miller and L. Feldman
1979 The earliest Lowland Maya: definition of the Swasey Phase. American Antiquity 44 (1): 92-109.

Lowe, G. W.
1977 The Mixe-Zoque as competing neighbors of the early Lowland Maya. In: The Origins of Maya Civilization, R. E. W. Adams (ed.). University of New Mexico Press.

Pring, D. C.
1975a Type descriptions of the Freshwater Floral Park ceramic complex in northern Belize. Manuscript on file at the Centre of Latin American Studies, Cambridge University.

1975b Corozal Project, 1975: general report. Cambridge University.

1976 Outline of the northern Belize ceramic sequence. Ceramica de Cultura Maya No. 9: 11-52.

Pring, D. C. (continued)
1977 The Preclassic ceramics of northern Belize. Doctoral dissertation at Institute of Archaeology, London University.

Sabloff, J. A.
1975 Excavations at Seibal: ceramics. Memoirs of the Peabody Museum of Archaeology and Ethnology 13 (2). Harvard University.

Smith, R. E.
1955 Ceramic sequence at Uaxactun, Guatemala. Middle American Research Institute Publication 20. Tulane University.

1971 The pottery of Mayapan. Papers of the Peabody Museum of Archaeology and Ethnology 66. Harvard University.

Sorensen, J. L.
1977 A Mesoamerican chronology. Katunob 18 (4): 41-55.

Willey, G. R.
1977 The rise of Maya civilization: a summary view. In: The Origins of Maya Civilization, R. E. W. Adams (ed.). University of New Mexico Press.

Willey, G. R., W. R. Bullard Jr., J. B. Glass and J. C. Gifford
1965 Prehistoric Maya settlement patterns in the Belize Valley. Papers of the Peabody Museum of Archaeology and Ethnology 54. Harvard University.

INTRODUCTORY ARCHAEOLOGICAL SURVEY OF THE CENTRAL PETEN SAVANNA, GUATEMALA

Don S. Rice
Department of Anthropology
University of Chicago

Prudence M. Rice
Department of Anthropology
University of Florida

Acknowledgements

We would like to acknowledge the support of the National Geographic Society in funding this research, and the Florida State Museum, Department of Natural Sciences, for furnishing the vehicle and transportation costs of the project. We were assisted by numerous friends in Guatemala, particularly the landowners named in this report, who graciously allowed us to wander undisturbed about their land. It would be inexcusable, however, if we did not issue an especially heartfelt "thank you" to Sr. Jaime Sobalvarro and his family for their generous and supportive help in so many ways during our stay in Peten.

Introduction, Background and Aims

An as yet unexplained anomaly in the tropical forest environment of Guatemala's Department of Peten is the existence of approximately 630 km^2 of savanna south of Lakes Sacpuy, Peten-Itza, Petenxil, and Quexil (Fig. 1). The Peten savannas are problematical because they do not conform to the normal pattern of edaphic grasslands: associations formed around water bodies or rain-catching depressions. Peten savannas are characterized by xeric flora on reddish-brown lateritic soils (Chachaclun series): the most typical tree species are nanze (Byrsonima crassifolia), cocoyol palm (Acrocomia mexicana), and mora or calabaza (Crescentia cujete). The savannas interdigitate with upland and flatland areas of higher mesophytic forest, associated with soils of higher fertility and erosivity, the brown calcareous lithosols of the Chacalte series (Simmons et al. 1959). The lack of both endemic plant species (Lundell 1937) and endemic herpetological faunas (Stuart 1935) in the savannas has led to the suggestion that they represent areas of deforestation, possibly by the Maya (Lundell 1937).

Most investigations into the age and possible Maya origins of Peten savannas have been paleolimnological: analyses of sediment cores from Lake Petenxil, Aguada de Santa Ana Vieja, and Lake Quexil (or Eckixil). The pollen stratigraphy from Lake Petenxil (though 30 km north of the main body of savanna) suggests that during the Maya Preclassic and Classic periods the Lake Peten-Itza district was increasingly a disturbed savanna, with tropical forest species first becoming significant in the area during Postclassic times (Tsukada 1966). Analyses of the core from Aguada de Santa Ana Vieja, in the savanna district farther south, appeared to support the same interpretation. The core profile suggested continuous agricultural activity in the vicinity and late development of typical tropical forest, corresponding to the Postclassic zone in the Petenxil stratigraphy (Cowgill and Hutchinson 1966). A seven-meter core from Quexil includes Petenxil's two pollen zones, the savanna and forest, with an underlying zone of high forest pollen (Vaughan 1976). Indicators suggest that the forest was already changing due to drier climate before humans entered the region, and later increased savanna and weedy species are considered to be cultural in origin (Deevey 1978).

If the Maya were responsible for the deforestation, one would expect that there would be archaeological evidence for agricultural settlement in the savanna area, particularly near better soils. Such evidence exists, but it is poorly known. The ruins of Chakantun, Polol, and Itsimte are located in or adjacent to the grasslands (Lundell 1934; Morley 1937-38), and Itzpone lies north of the isthmus between savanna lakes Ija and Pacay (or Oquevix). Lundell reported remains of "house" mounds scattered through the savanna (1937). Ethnohistoric data relating 17th century encounters with Itza Maya populations in Peten indicate that Cortes left the Itza capital at a Lake Chaltuna and marched south through savannas to an Indian town called Checan, on the bank of a large lagoon. G. Cowgill suggested that Checan was on the shores of Lake Pacay, although a cursory survey by him on the north shore produced no evidence of human occupation (1963).

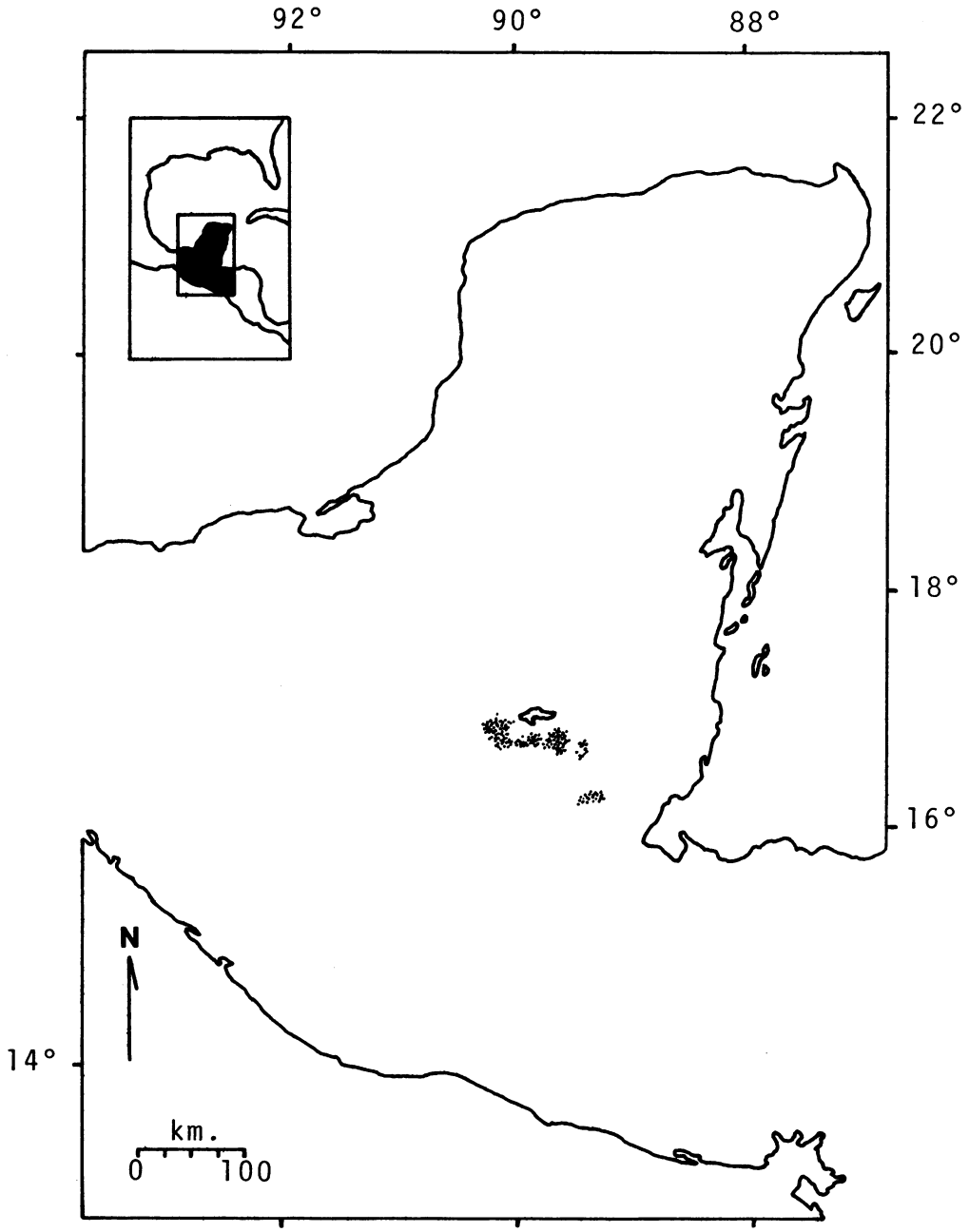


Figure 1. Savanna regions in the Maya Lowlands.

Unfortunately, none of the above sites or regions had been systematically investigated by archaeologists to determine the density of settlement or chronology. Shook and Smith (1950) report dense aboriginal settlement in the vicinity of Poptun, a pocket of pine-savanna formed on a different configuration of soils approximately 45 km to the southeast. Culbert et al. suggest high crop potential in this area (1976), but there is no indication of growth dynamics for aboriginal populations and no data are available to clarify which of the contiguous vegetation formations were utilized by an abandoned settlement. The central Peten savanna zones today are considered inadequate for maize or bean production because of high acidity, low fertility, and unreliable water supply. Lime and fertilizers are used, but represent a sizeable investment, and water supply represents the most significant limiting factor for agricultural usage. Savannas today either provide pasture for cattle or are planted in citrus, pineapple, or jocote marañon (cashew).

In spite of the availability of data from and about Peten savannas, the role of aboriginal Maya populations in their origin and spread is still unclear. The 1978 Introductory Archaeological Survey of the Central Peten Savanna was undertaken in order to address problems relating to aboriginal Maya occupation and utilization of these grasslands. Specifically, the aims of the project were as follows:

(1) To characterize the location, size, and settlement configuration of Maya settlement in the savannas.

(2) To establish a preliminary chronological framework for savanna settlement, given the apparent indicators of occupation from Preclassic through Postclassic times.

(3) To attempt to define the relationship between human land use and environmental resources, implied by the correlation of settlement and microenvironmental characteristics, in order to aid in evaluating the hypothesized role of the Maya in creating the savannas.

General Field Procedures

The archaeological reconnaissance carried out in pursuit of these objectives had two foci: (1) the sampling of savanna zones for which no archaeological data currently exist in order to locate settlement; and (2) the survey and mapping of settlement remains within areas of previously reported archaeological sites. For purposes of conceptualizing the area of study as well as for purely logistical concerns, the savanna region was divided into three zones identified by the nearest town in the vicinity. These towns are, from west to east, La Libertad, San Francisco, and Santa Ana (Fig. 2).

Savanna areas to be surveyed during the 1978 season were selected non-randomly on the basis of accessibility of the land owners, acquisition of permission to survey and/or excavate on the land (see below), and accessibility of the land itself given rainy season

conditions (see below). Areas of intensive survey were transects, approximately 2 km by 500 m in size which sampled vegetational (grassland and forest) and topographic (flatland and upland terrain) variability. Less intensive surveys were carried out in additional areas of savanna, sometimes adjacent to these transects.

The intensive surveys were carried out by walking over the territory in question, marking surface scatters of stone that appeared to indicate constructions and then pace mapping them using a meter tape, Brunton compass, and plane table. A number of the stone concentrations, selected on the basis of variations in form, size, or degree of preservation, were weeded and cleaned of grass and brush, drawn, photographed, and test pitted with a 2m x 2m test square excavated in 10 cm levels. Artifacts recovered were washed, catalogued, drawn and photographed, and taken to Tikal for storage. A soil auger was used to obtain soil samples from constructions in the savannas, from subsoil underlying such constructions, from open savanna soil away from areas of human activity, from savannas at the edge of upland forest and from forested upland. These soil samples will be analyzed chemically as well as for opal phytoliths as part of the project's effort to characterize savanna soils and the possible role of the Maya in their formation. The results of these analyses will be discussed in the final report to the National Geographic Society.

Before summarizing the results of the survey as they can be assessed at this point, it would be useful to mention briefly some of the logistical difficulties confronting the project:

(1) Multiple ownership of land on which a site occurs and the general problem of looting of archaeological sites in Peten caused some problems. The large site of Chakantun, discussed below, is spread over parcelas, or plots of land, owned by four individuals and is bisected by the Flores-Sayaxche highway. Two of the landowners, concerned about whether our visible presence on their land might serve as a stimulus to later looting, refused to allow us to excavate. Indeed, at all areas we worked there was evidence of small scale (and apparently fruitless) looting.

(2) Structures were poorly preserved, particularly in the Libertad savanna zone. This poor preservation is no doubt a consequence of a number of factors. Part of the savannas have been used as pasture since the early 1900s, and generations of cattle treading upon the structures have doubtless disturbed alignments and spread out scatters of stone. In addition, the savannas are burned each year in March or April to provide new young shoots of grass for cattle. This annual burning, followed by the typically heavy rains in May and June, has doubtless aided in pitting, cracking, and breaking the stones used in construction, and disturbance of construction patterns. Also, structure definition was impaired by the existence of heavy non-cultural surface stone, and hip-high grass.

(3) Unusually heavy rains during the 1978 summer months hampered travel to and within certain areas of savanna, but also brought to light some of the

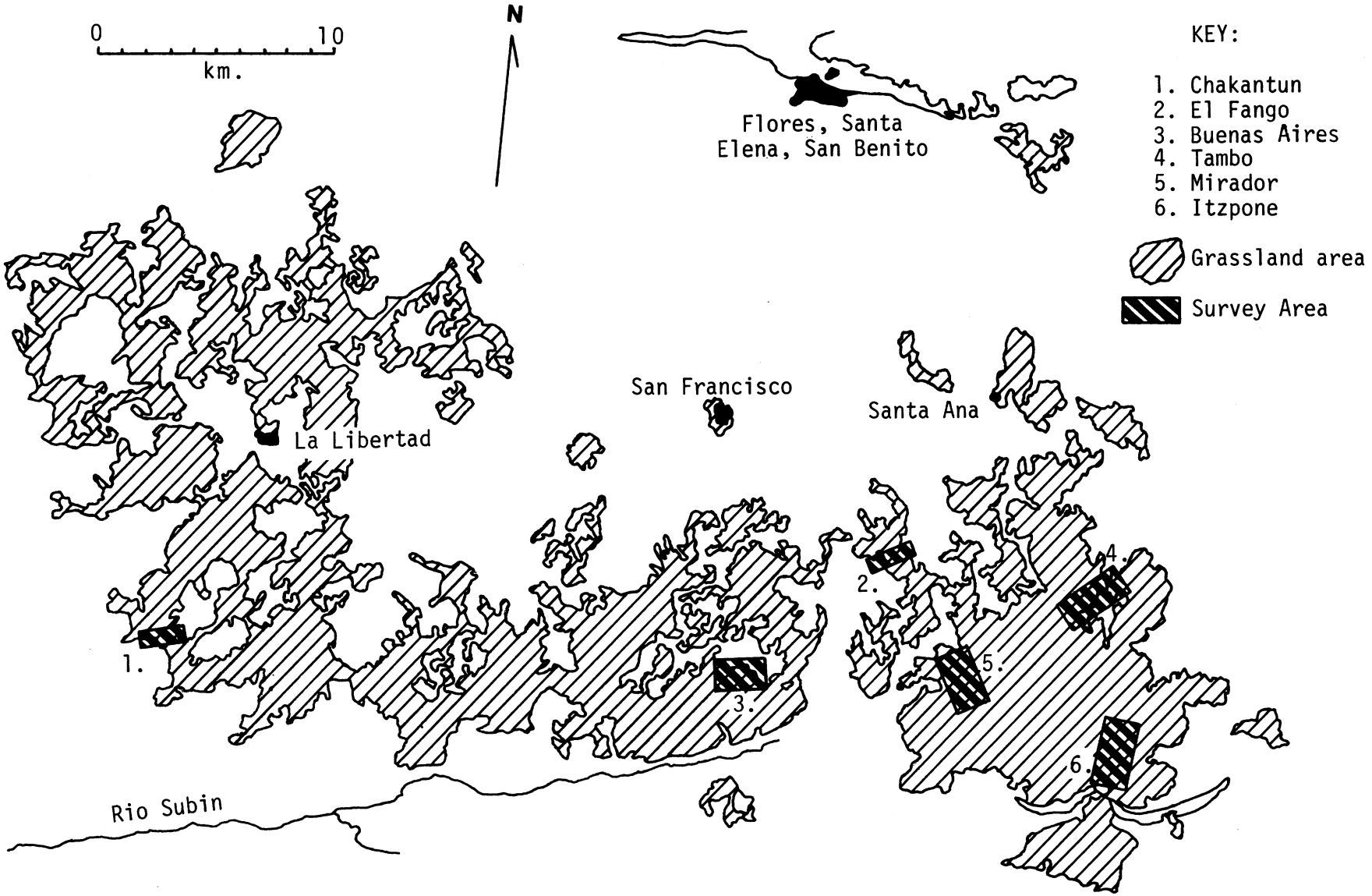


Figure 2. Survey transects in the Central Peten Savannas.

difficulties faced by aboriginal populations attempting to settle in the savannas. Rainfall from heavy afternoon thunderstorms, augmented by runoff from nearby upland areas, turned the savannas into shallow lakes, with several inches of standing water that did not absorb into the soil for several hours. Dirt "roads" in the savannas were impassable except with 4-wheel drive vehicles because of the sticky clay that remained after the water finally drained away.

1978 Survey Results

La Libertad Zone: Chakantun

La Libertad, a town of approximately 1306 persons located at km 33 on the Flores-Sayaxche road, lies near the western portion of the central Peten savanna belt. The savanna lands around Libertad were explored by Cyrus Lundell (1934) in a joint biological and archaeological survey. Two archaeological sites were reported by him: a classic period site, Polol, with 9.18.0.0.0 and 9.17.5.?.4 dated stelae, west of Libertad; and a site of indeterminate date located on the road 7 km south of Libertad to which he gave the name Chakantun (chakan = savanna; tun = stone). At Chakantun he reported:

> "...numerous low mounds, terraces, stone paved plazas and courts extending over an area more than 3 km long. The remains consist chiefly of stone foundations and floor of round and rectangular structures. The majority of the structures were doubtless of the thatch, pole and stucco type ... no stelae were encountered ... Chakantun apparently belongs to a late occupation of that region; it may have been contemporary with Tayasal ..." (1934: 175).

It should be noted parenthetically that in so saying, Lundell was accepting the Postclassic determination for the site of Tayasal current at the time. In addition to the site of Chakantun, he reported the existence of stone structure foundations throughout the savannas south and west of Libertad, providing two photographs in his 1934 report. No counts, dimensions, dates or densities were reported, however.

The 1978 Introductory Savanna Survey began work at the site of Chakantun (Fig. 3). As described by Lundell, the site is approximately 3 km long, extending in a north-south direction on either side of the Flores-Sayaxche highway. The site appears to be bounded to the east, west, and south by upland forest (monte) and/or flatland forest. The southeast portion of the site is a fenced-in cattle ranch, and we were not given permission to enter this portion of the site by the landowner.

Survey. Intensive survey operations at Chakantun were concentrated into a transect approximately 2 km long east-west and 500 m wide from roughly km 41 to km 41.5 on land owned by Sr. Carlos Jimenez of Flores. The largest area of this transect

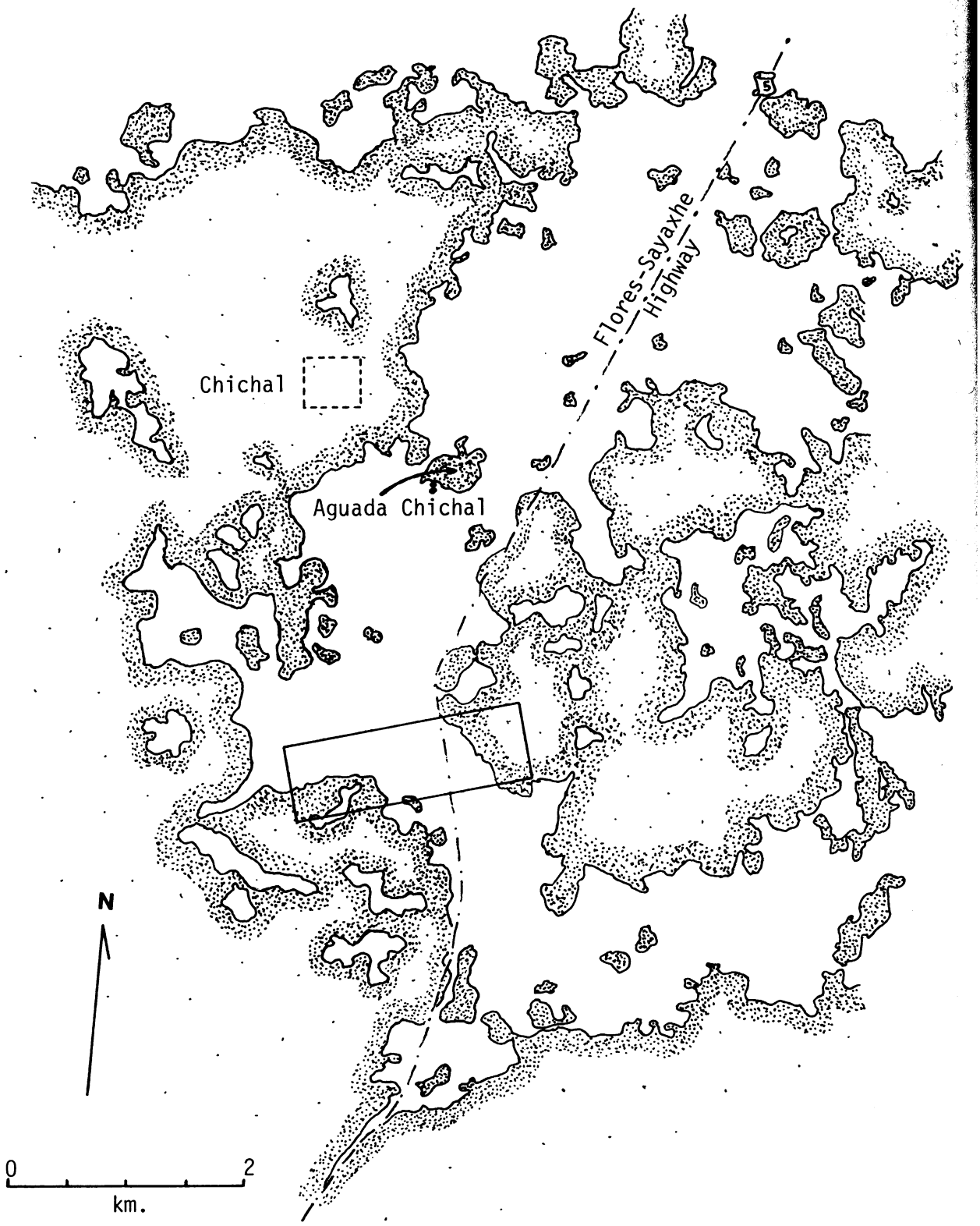


Figure 3. Chakantun survey region. Forested areas shown by stipple.

was in grassland, but a portion of the northeastern and southwestern corners was in monte, included for the purpose of determining differential occupation or utilization of monte as compared to savanna. Less intensive survey was carried out over the savanna outside the north and west limits of the transect to attempt to determine the boundaries or configuration of the site.

Within the transect, 80 "concentrations of stone" were located (Fig. 4). It is difficult to know what to call these, because of their extreme variability of size, preservation, and form. Some are clearly platforms, which probably supported perishable structures on top of them at one time. Only a few are raised or "mound"-like. Only about 20 or so have clear lines of stone that demarcate structure boundaries, walls, or subdivisions. Most are just amorphous scatters of stone, and to call them "structural remains" is misleading, since many may be natural.

Of the clearly identifiable structures, eleven are clearly rectangular, although many of these may have rounded corners (Fig. 5). Ten are circular structures: these may occur as two circles joined together in a "dumbbell" effect; as single round masses of stone; and as rings or doughnuts of stone (Fig. 6). Circular constructions were also visible on one or both ends of five of the rectangular platforms. The remaining "concentrations" are primarily amorphous scatters: 32 appear to be roughly square or more often rectangular, ranging in size from 3 m by 5 m to 20 m by 30 m. The others are variable in shape: oval, pentagonal, triangular, D-shaped, and so forth.

In addition to these individual structures mapped, reconnaissance in the northern and western extremes of the Chakantun savanna area, and in the surrounding high forest yielded additional evidence of Maya settlement and construction. Contour maps of the savanna drawn from aerial photographs indicated a slightly elevated strip of grassland immediately north of the survey transect that stretched from high forest on the eastern edge of the road across the road and savanna to another area of upland forest on the west. A similar low ridge was evident on the west side of the survey transect going north from upland forest to intersect with the same "corner" of upland forest as did the east-west ridge. When these two ridges were transversed on the ground, they proved to be almost solid areas of stone scatter. Some low mounds appeared on these scatters but, given the time limitations and objectives of our preliminary field season, any attempt to approach the complexities of mapping these vast areas seemed foolhardy. The elevated area of scatter to the north, however, looked particularly interesting since it bore what appeared to be the closest thing to ceremonial center-type architecture at the site. Large squared platforms, ca. one m in height, were visible and bore one or more mounds on their upper surface. About six such mounds or platforms were noted in a cursory walkover.

What has not been satisfactorily determined at this point is whether these elevated areas, and indeed some of the more amorphous stone scatters within the survey transect, are natural bedrock outcrops close to the surface, are artificial constructions, or are a combination: i.e., natural ridges modified by the Maya to suit their own purposes.

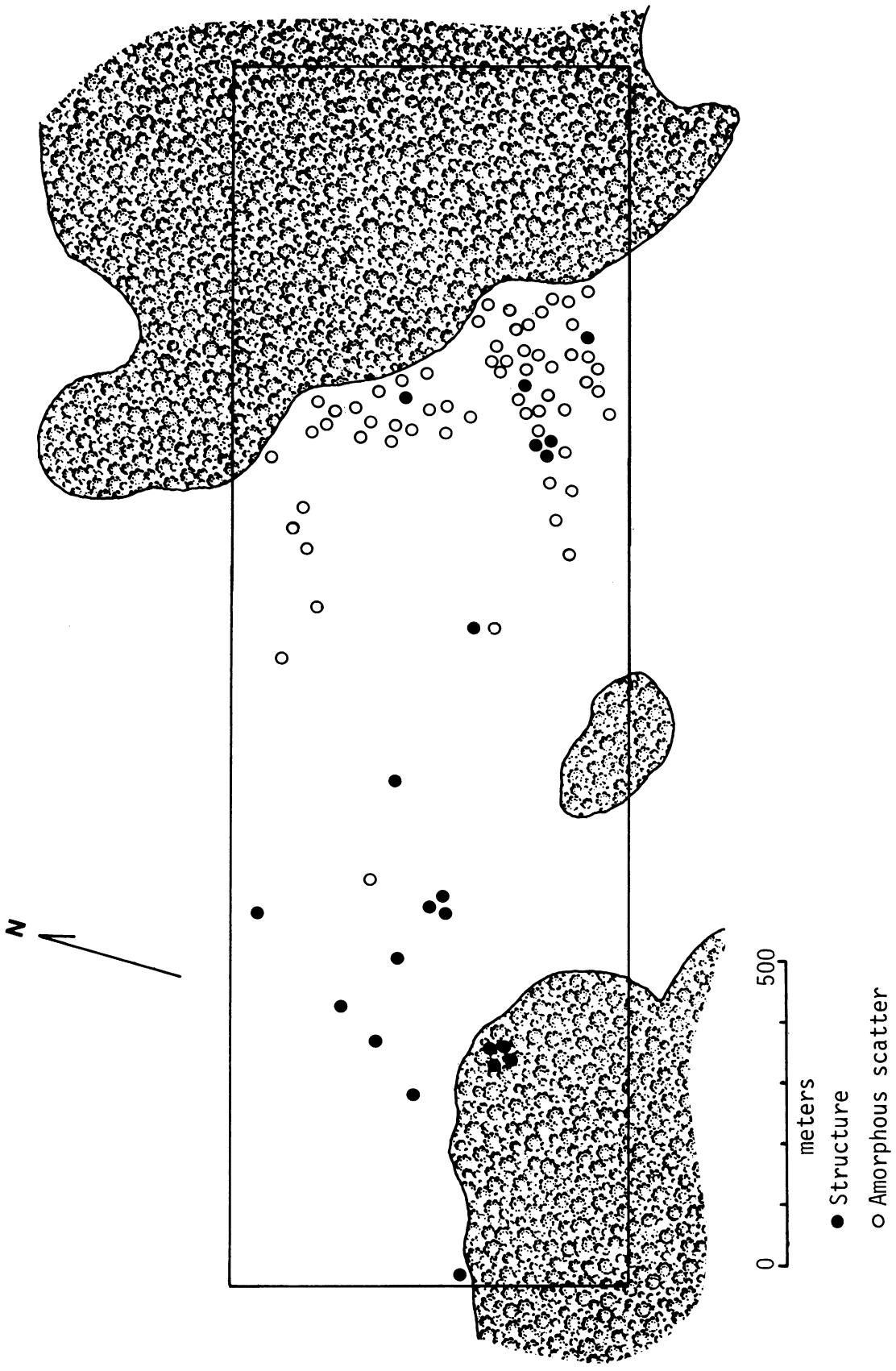


Figure 4. Chakantun transect.

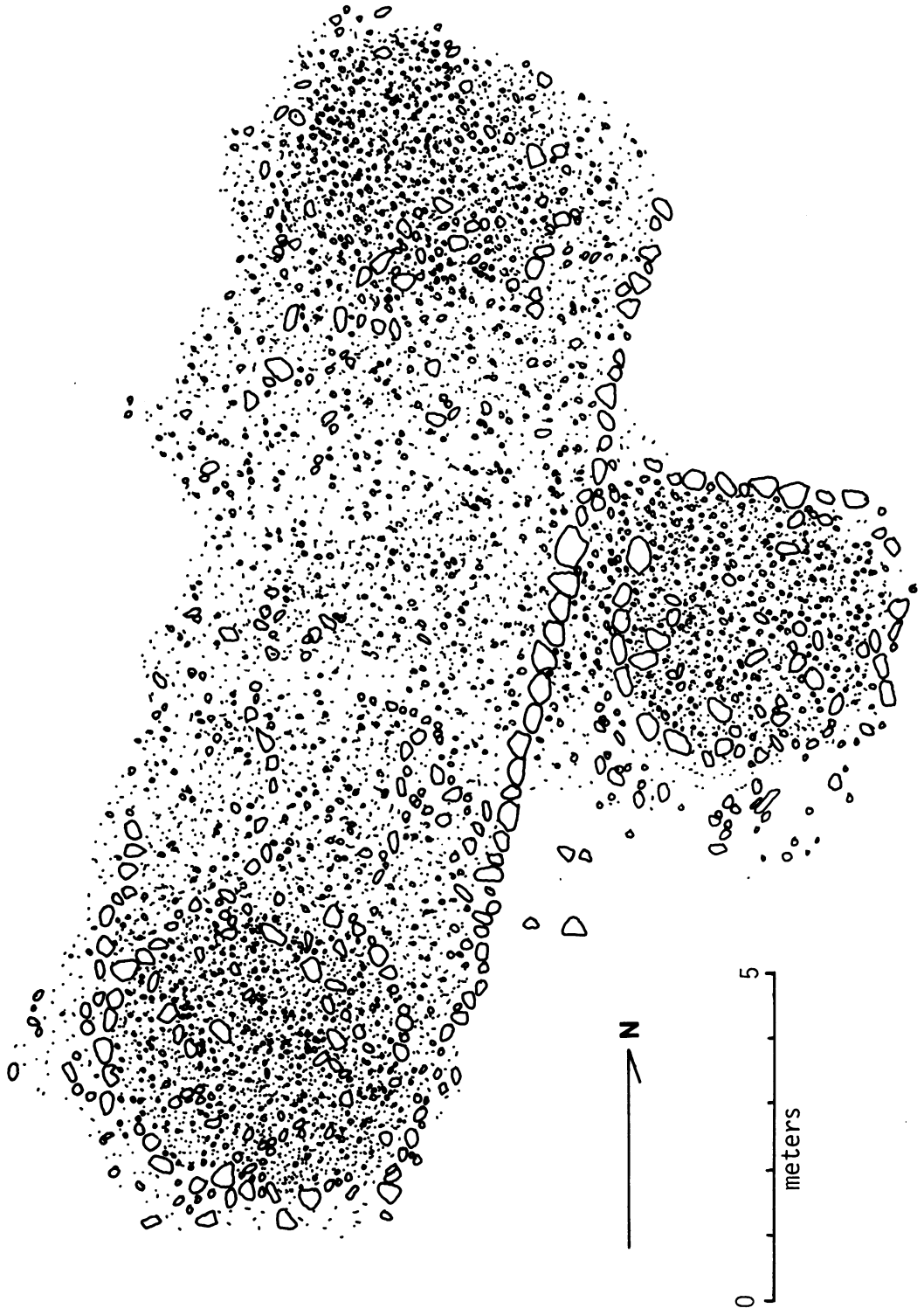


Figure 5. Chakantun Structure 24.

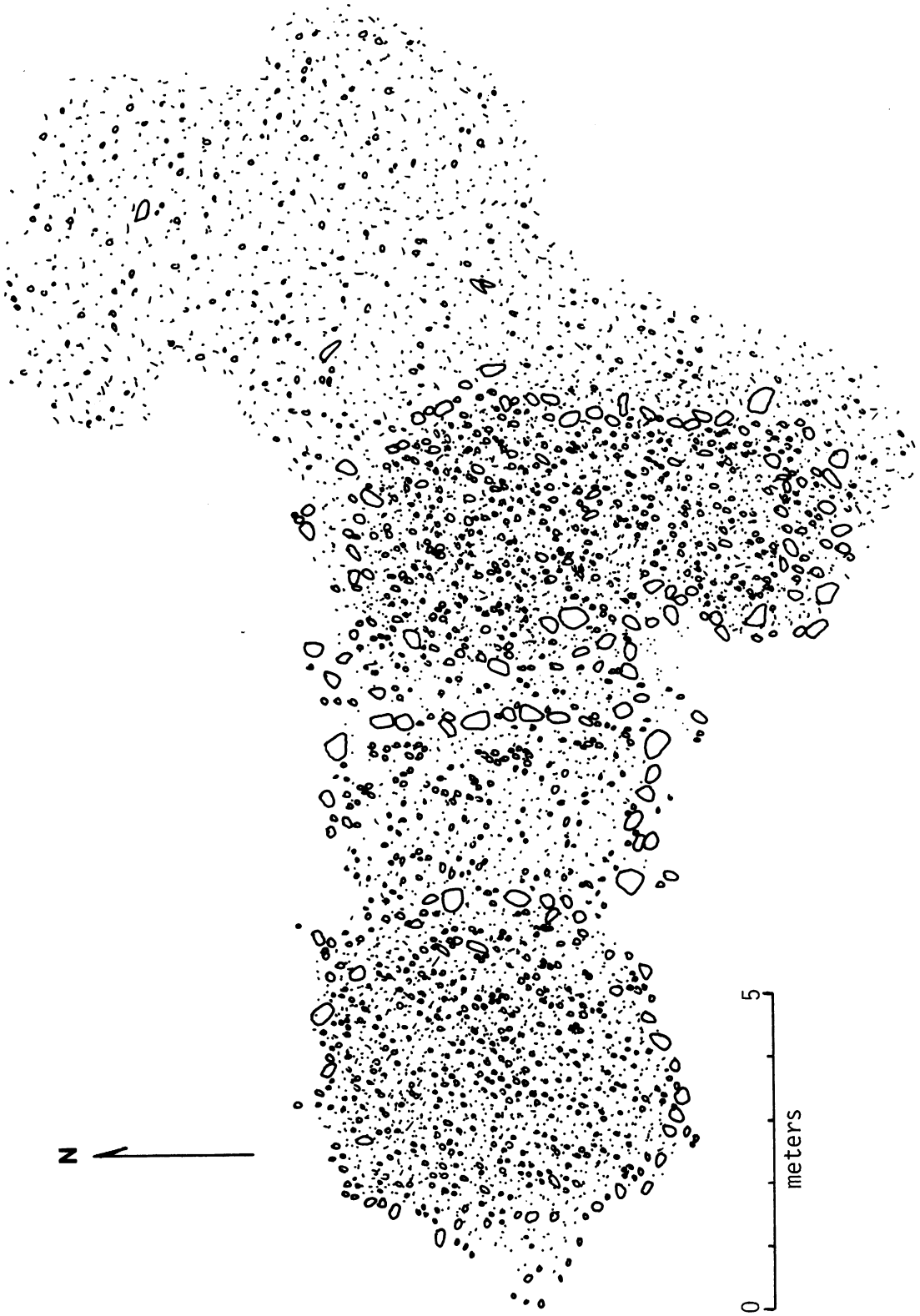


Figure 6. Chakantun Structure 18.

It does seem clear, however, that since the period of Maya occupation of this savanna area there has been little soil deposition or generation, since the rock is almost completely exposed on the surfaces.

The transect included, on its northeast corner and southern edge, an area of upland forest, which was included in the survey in order to compare differences in settlement of elevated forest versus flat savanna terrain. Only one small plazuela was located in forest west of the road and approximately 30 meters south of the savanna, and this is in flatland forest. It was a formal plazuela typical of forest sites in the northeast Peten, having four rectangular structures placed on top of an elevated substructure approximately 3m in height. No mounds were found in forest at the northeast part of the transect.

On the western edge of the transect several low rocky hills exist in grassland just on the edge of forest. The hills look mound-like but appear to be natural: the stone on the sides looks neither dressed nor formally set, and a looter's trench straight down into the top of one showed about 8 m of solid rock. On top of each of these two hills are one or two low mounds, approximately 80 cm in height. Lines of dressed stones forming the base of those mounds are visible.

Approximately 1.5 km north of the transect is a large ovoid patch of low forest in the middle of grassland; in the southwest part of this forest patch is an aguada, Aguada Chicha (see Fig. 3). Closer inspection of this aguada, which was empty at the time of our visit, showed it to be of human construction, rather than a natural feature. It has a raised edge, as though from piling up soil around the excavation, and its long axis runs approximately northeast - southwest. It is deepest at its northeast portion, and shallower to the southwest, with an estimated ca. 4-5 m depth and 10 m width. It does not appear to have been lined with stone.

One km northwest of Aguada Chicha, approximately 2.5 km north of the survey transect in low forest adjacent to upland forest, are the remains of a small Classic period site which we have named Chichal. The site consists of approximately 20-25 mounds, mostly fairly small (ca. 2-5 m in height) that appear to occur in some formal plaza arrangements. Again the site was not formally mapped so its size and configurations can only be estimated, but as it is visible on aerial photographs it appears to cover an area of 500 m by 500 m. The site is in a relatively flat area between savanna and uplands, once covered in forest, but in the past several years the forest has been cut down and the site used for milpa. When visited in July of 1978, part was in corn, part had just been harvested, and part looked as though it had been left fallow after milpa for several years. Few sherds were visible on the surface; the only one that appeared familiar was a Tzakol basal flange bowl.

One of the most interesting aspects of the site of Chichal is a series of three aguadas or reservoirs constructed in a ravine between three hills covered in high forest to the northwest of the site. It appears that the Maya built several dams or saddles across

the valley to act as catchments. There are two mounds at the northwest edge of the site leading to the aguadas, and one small low mound in a relatively flat area to the northeast of the central reservoir. These aguadas are approximately 30 m in diameter, and 5 m deep. They were currently (July 1978) planted in milpa. A "canal" drains water, presumably from monte areas to the northeast, into the central reservoir. At the junction of this "canal" with the reservoir, the opening is filled with ca. 20 cm-diameter chunks of limestone rock, locally interpreted to be an ancient "filter" for water.

In addition to this line of aguadas, there are three other aguadas on or near the site that appear to be human in origin. One is near the west central portion of the site; it is ca. 5 m deep and 15 m wide, and did not contain water. Two others occur at the eastern edge of the site closer to the border with the savanna. They were reported to have been Maya-made, but two years ago were enlarged by tractor, thus destroying evidence of human construction.

Excavations. Seven 2 m by 2 m test pits were placed in structures in the northwest portion of Chakantun, the structures being selected with an effort at sampling a variety of structural forms from this site. The overwhelmingly obvious conclusion from these excavations was that the occupations were shallow and, therefore, short. Sterile soil and soil above bedrock, distinguished by its red-brown color and heavy clay texture, occurs at a depth of approximately 20-30 cm below surface, overlaid by black-brown, slightly more friable clay-humus (Fig. 7).

In three of the pits bedrock was encountered at approximately 40 cm. Bedrock in this area is extremely deceptive. In the three pits in question the bedrock occurred in a sloping incline, the surface being relatively flat but broken-up as if consisting of irregular pieces of inlaid stone such as mosaic. The fractures sometimes occur in neat lines or corners, and the rock itself occurs in layers approximately 15-20 cm thick. In short, the total effect is very cultural-appearing, confusing both ourselves and our very experienced workmen.

Only two of the seven excavations yielded anything of any stratigraphic or architectural interest. One pit, placed in the center of Mound 62, the northernmost of a group of five stone-filled circles, yielded a Terminal Preclassic burial placed into subsoil. The burial was aligned north-south, and stone slabs ca. 25 cm high, 10 cm thick, and 30 cm long were placed on either side and at the end of the burial (Fig. 7c). The tops of the stones were 35 cm below surface (at the humus/fill and subsoil interface) and the base of the burial was approximately 60 cm below surface. Two ceramic vessels were recovered from the tomb. Vessel 1 was a Sacluc Black-on-orange "Usulutan" bowl with a single horizontal flute on the exterior (Fig. 8). Vessel 2 was apparently a hemispherical bowl with direct rim and a red slip. Both vessels were in terrible condition when excavated; they were already broken, presumably from the fill heaped on top of them, decomposed due to clay context and moisture, and were broken even more in the process of trying to extricate them from the sticky clay subsoil in which they were embedded. They also appeared to have been poorly fired, especially Vessel 2 which partially dissolved when the pieces were washed.

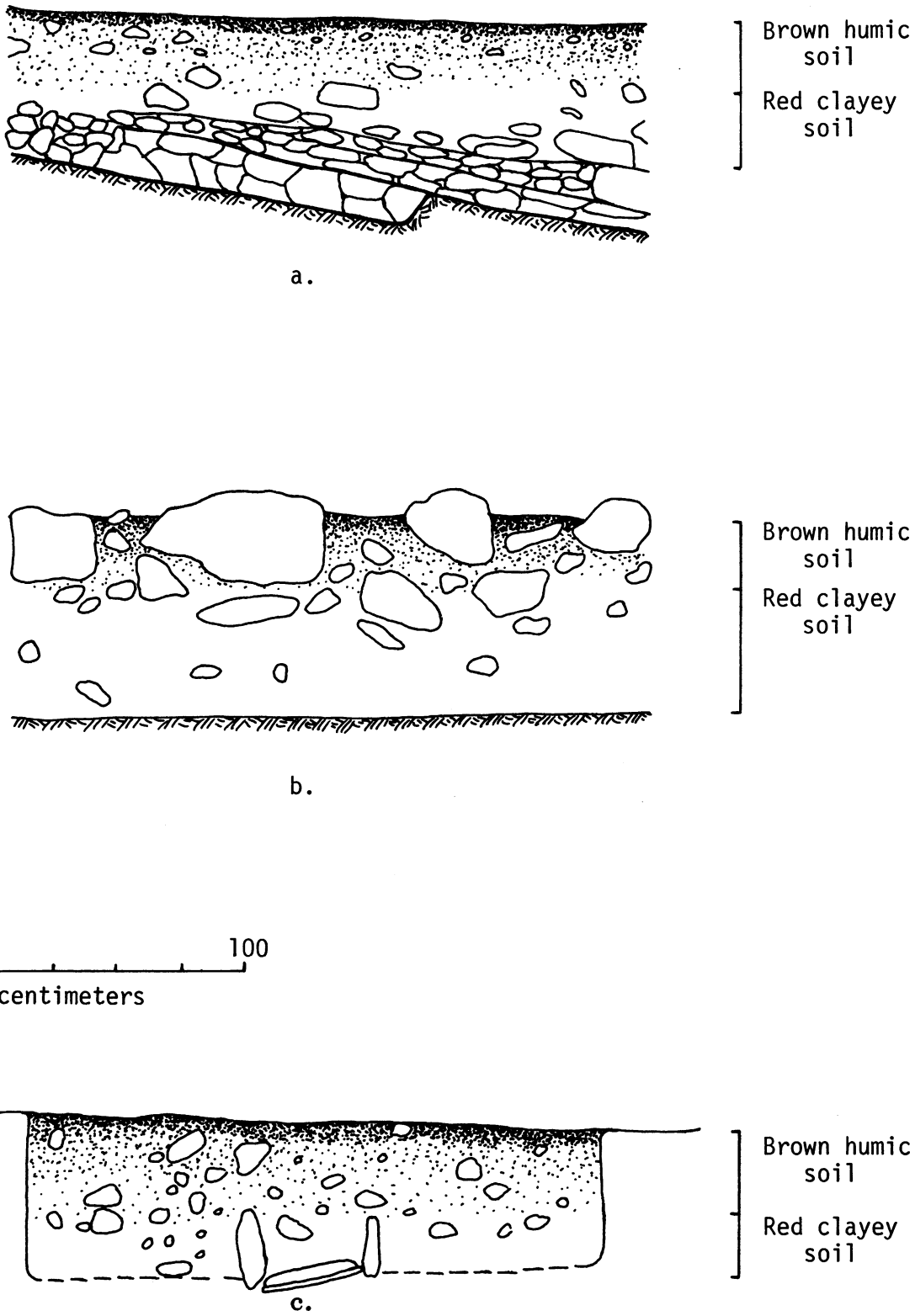


Figure 7. Chakantun test-pit profiles; a - Structure 56; b - Structure 71; c - Structure 62.

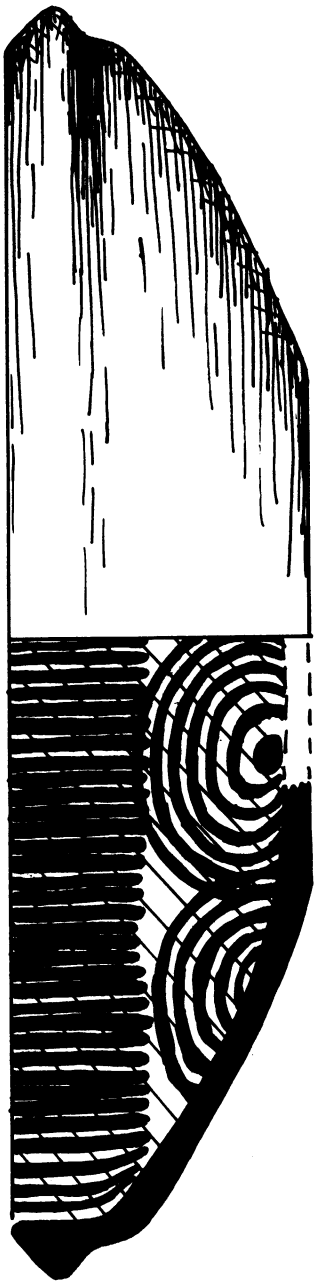


Figure 8. Chakantun, Sacluc Black-on-Orange "Usulutan" vessel recovered from burial in Structure 62. Approximately half-size.

The second pit of interest was into Structure 71, a 15.75 m-long rectangular platform oriented 352° north-south. The southern end of this platform bore a stone circle ca. 5 m in diameter, while the northern end appeared to be a raised mound ca. 80 cm in height. A 2m x 2m test pit into this raised area revealed a wall just below surface going at a slight diagonal of 10° across the length of the structure. The wall, about 40 cm wide, appeared to have been set at a depth of 20 cm below surface above a fill of red clay and large stones ca. 10-20 cm diameter. This fill was 20 cm thick; below it continued fill of red clay and tiny white particles with occasional small stones. This fill yielded Late Preclassic sherds to a depth of 70 cm, at which point the fill terminated and sterile red clay subsoil was encountered. No floors or other constructions were noted on either side of this wall, and this, plus its central longitudinal axis, suggests that it may have been some sort of internal partition rather than a main constructional support wall.

Mounds 72 (a rectangular stone scatter with no boundary lines), 83 (a "dumbbell" structure, Fig. 9), and 87 (the eastern structure in the plazuela located in monte) all appeared to be Early Classic constructions or occupations. Mound 89, a stone circle in Mound Group 2, was Late Preclassic in date. Mound 76, a rectangular structure, had only a few diagnostic sherds that suggested a late Classic date. Two mounds, 49 and 56, were undatable.

Excavations at Chakantun reinforced one of the impressions gained from surface observation, i.e. the existence of sizeable quantities of flint tools and debitage, as well as unworked nodules. On the basis of very preliminary observations, the utilized flint tools recovered, aside from a few fragments of shaped axes, knives, and hammerstones, seem to be of two main classes. One consists of chunks of flint, with evidence of secondary retouch and/or use on edges with steep angles and/or on notches (Fig. 10). The other consists of flakes, often with similar evidence of use in notches.

Other stone artifacts recovered from excavations at the site include two quartz (quartzite?) polishing stones; two limestone mano and metate fragments; a flat sandstone (?) scraping tool; a chipped flint digging tool with soil polish (Fig. 10e); four broken flint axes/knives; one flint drill; one small flint hammerstone; and seven pieces of obsidian. Thirteen clay or ochre lumps also were recovered.

San Francisco Zone: Fango and Buenos Aires

Surveys in areas south of the town of San Francisco included land belonging to the town itself, where a site we have named "El Fango" is located. Surveys were also conducted on private land, Finca El Zapote, owned by Sr. Jaime Sobalvarro of San Benito and Finca Buenos Aires owned by Pablo Ochaeta of Flores.

The savanna area south of San Francisco, where surveys were carried out, is visibly different from that at the site of Chakantun. Savanna occurs as small pockets of grassland between numerous low hills. These hills may be covered with high forest

Figure 9. Chakantun Structure 83.

or, in some cases, with grass and stone outcrops. Large open areas of savanna are comparatively rare. There also seems to be, for reasons as yet unknown, a heavier distribution of nanze trees in these smaller pockets of savanna than in large open areas.

The site of El Fango (Fig. 11) is a relatively densely settled, compact community in a pocket of savanna. The site is in the west-central part of a survey transect 500 m wide north-south by 2 km long east-west which was intensively surveyed. This transect included areas of upland forest in addition to areas of savanna grassland. The site is bounded on the north, southwest and east by high forest, on the south and northeast by small patches of high forest or zukches. On the west is a stony hill.

A total of 101 mounds were mapped in the transect. Of these, 83 occurred in what we are calling El Fango proper, and 18 were located in adjacent savanna pockets to the east. Structure density in the transect drops off markedly moving south, north, or east of Fango proper. Savanna pockets within an area 3 km long and 2 km wide, extending south to include Finca El Zapote, were surveyed less intensively, and 103 additional mounds were located in this area. One pocket southeast of El Fango had a particularly heavy occurrence, and this is tentatively referred to as "South Fango," rather than given a specific site name.

The site of El Fango is distinct from Chakantun is several respects. First, the density of securely defined structures at the site is quite high, 101 structures in an area of 1 km^2, as compared to ca. 21 per km^2 at Chakantun. (It should be remembered that most of the remains at the latter site were amorphous stone scatters, however.) Second, the structures at Fango are rectangular, smaller, and generally have much better preserved cut and dressed stone alignments than the large, predominantly circular or amorphous structures at Chakantun. Third, the structures are often grouped into plazuela-like arrangements of three or four mounds. Since such plazuela groupings are characteristic of the Late Classic period at forest sites in northern Peten, this arrangement immediately suggested a Late Classic date for El Fango.

The areas of structure debris vary in size from squarish constructions 4 to 5 m on a side, to rectangular platforms as large as 14 m by 7 m. Typical sizes for rectangular platforms are on the order of 9 to 11 meters long and 3.5 to 4.5 m wide. They are commonly oriented almost due north-south at 90-95°, or east-west at 180-185°. A variety of individual structure forms were noted (see Figs. 12-15). Large dressed stones form the boundaries of the rectangles and mark the outlines of interior living space. Collapse consists of smaller irregular stones ca. 10 to 20 cm in size. Living spaces appear to have been paved with small stones ca. 5 cm or so in size. There is no clue as to what, if anything, comprised the mortar between the stones. Platforms are generally elevated from 20 cm to about 50 cm at maximum height of collapse.

An unusual feature of El Fango is the existence of series of stone lines on inclines between forest patches or hills within the transect. The lines are not distinct or well-formed, consisting for the most part of sparse linear stone scatters from 50 cm to

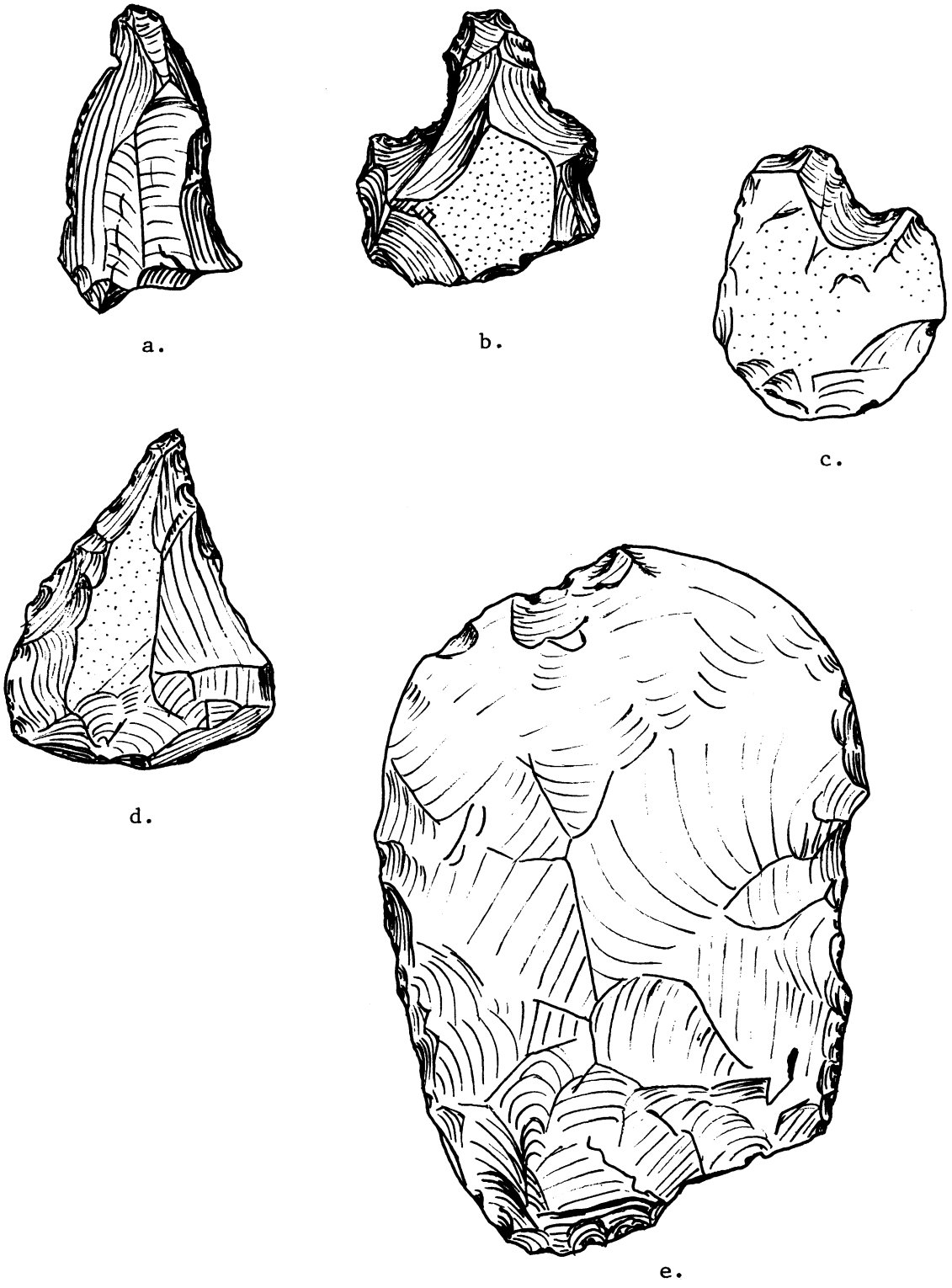


Figure 10. Chakantun, miscellaneous lithic artifacts; a - c, notched flakes and chunks; e - digging tool with soil polish.

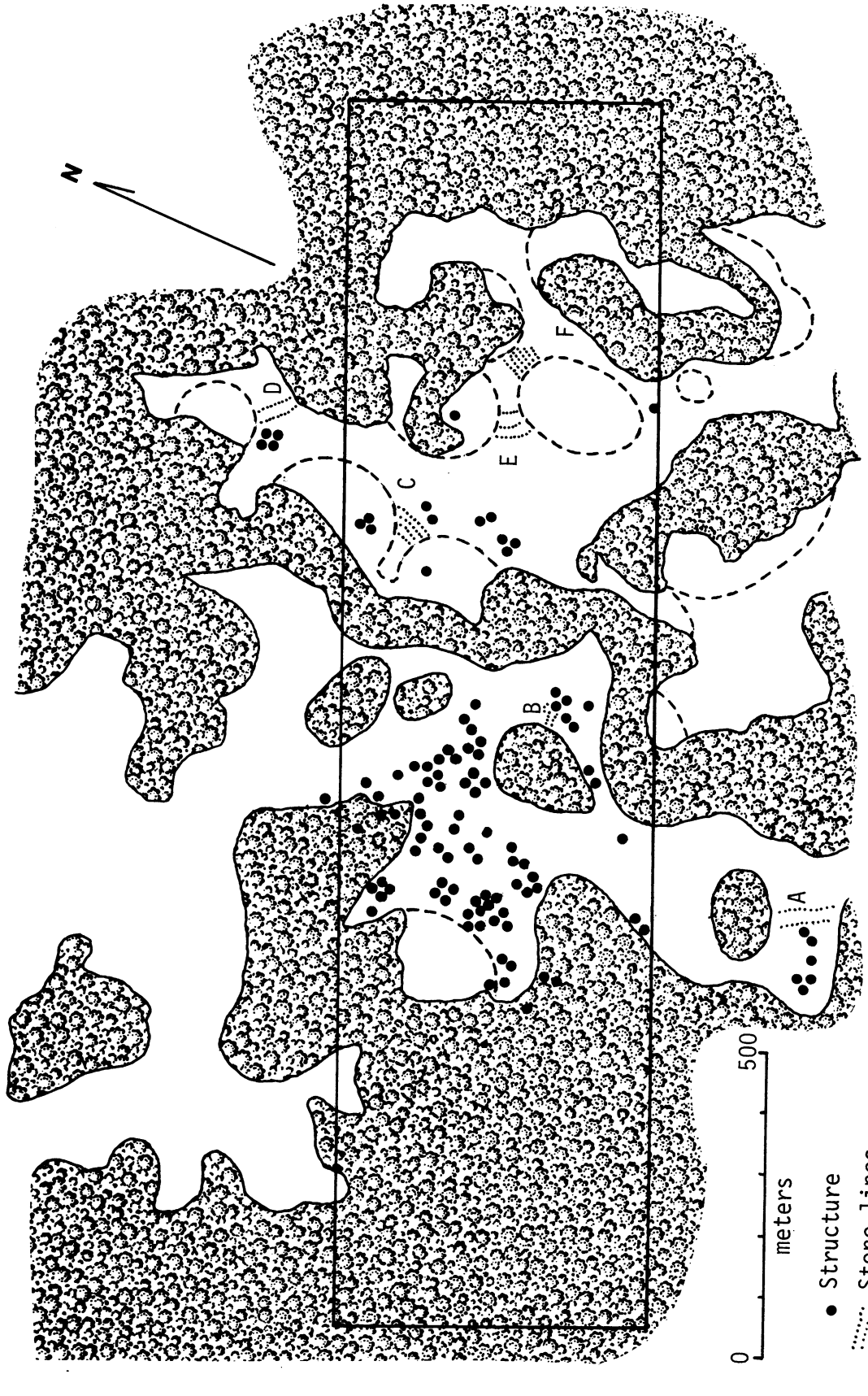


Figure 11. El Fango survey transect.

2 m in width. They occur in groups of three to six, and may be from 7 to 12 meters apart (Fig. 16). Six such locations of lines were located in the surveys, and all occurred on inclines of 2 to 2.5° slope.

The significance of these lines has not been determined. In order to learn whether they were cultural or natural (i.e., bedrock outcrops) in origin, excavations were undertaken in two of the lines around stones that looked most clearly intentionally placed. The stones were large dressed stones that extended 15-20 cm in thickness below surface. They were situated entirely in dark brown clay humus soil, about 25 cm in thickness. Below this dark brown/black surface soil is sterile red clay subsoil. No bedrock was visible immediately adjacent to any of the stones nor in the upper 30 to 35 cm of excavations. Clearly these stone lines were not lines of bedrock outcrop and natural fracture.

Another possibility for natural origin of the lines that could not be dismissed as easily is that the stones were washed down the incline by heavy rains or other water movement. Some of the scatters could indeed have been due to such a phenomenon, but the regular spacing and unbroken scatter of the lines and the extremely large size of some of the stones would argue against this interpretation. Also, some lines are straight while some curve in a direction counter to the natural contours.

We are accepting the cultural origin of the lines, but we do not yet know for what purpose the lines were created. They may have been to catch silt running down from hill slopes; they may have been to control water movement; they may have been agricultural terraces; they may have been formed through the process of clearing natural rock off a strip to be gardened and tossing the stones into a line; they may have had something to do with preventing the spread of savanna fires into certain areas. The two test pits excavated did not provide any clue to their function. An additional difficulty in interpreting the lines is that most of them stretch across a shallow valley between two low hills; but one set occurs along a slope with no hills either at the head or on the sides of the slope. It would seem that in such a situation both the origin and function of the lines might be slightly different.

Of the areas of flatland forest and upland forest in the survey transect that were searched for mounds, evidence of constructional activity appeared in only two portions in the southwest and the northwest parts of the transect. A small low plazuela with two mounds sits in flatland forest inside the southwest corner of the site and south of the stone hill that is El Fango's western boundary. A third long low rectangular mound is located 24 meters north of this plazuela, still in flatland forest. North of Fango, there are two low mounds in flatland forest that stretch north-south parallel to but just inside the forest-savanna boundary. One is 20 m long and 1 m high; the second, lying north of the long mound, is slightly less than 7 m long. Northwest of these mounds, in upland forest atop a rise, is a large plaza with three structures. At the north side sits a structure identical in form to structure F-9 (Fig. 13), with the open part to the south. The structure is well-preserved, with nice dressed stone lines marking the back wall. Southwest of

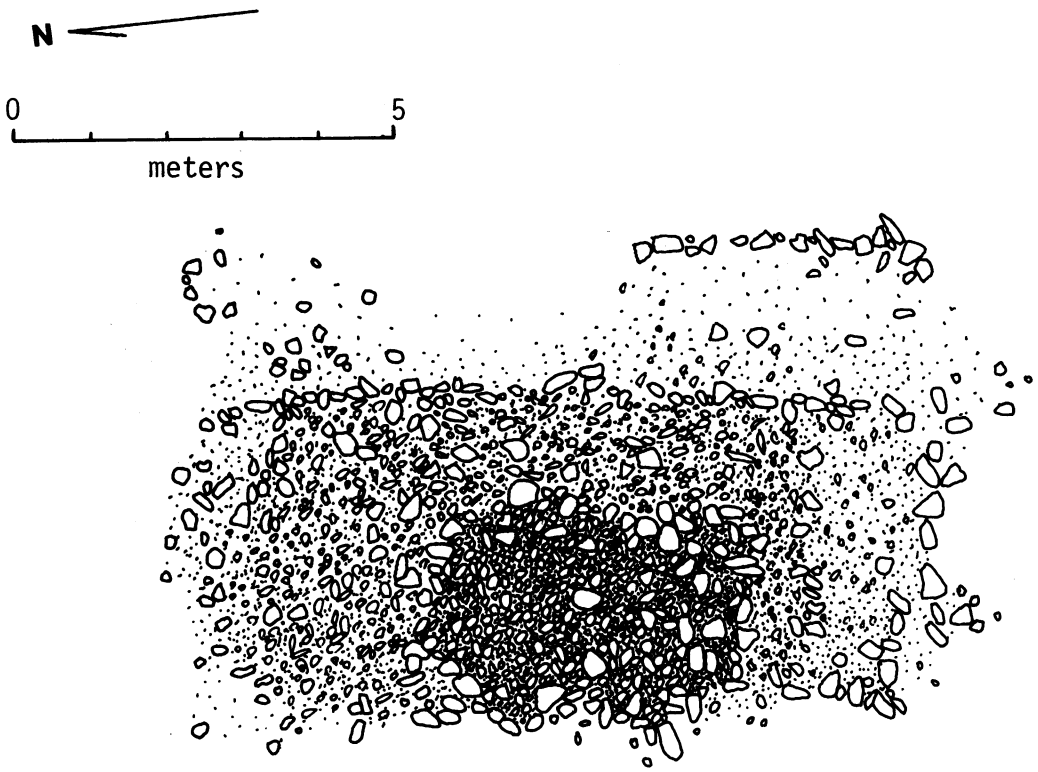


Figure 12. El Fango Structure 32.

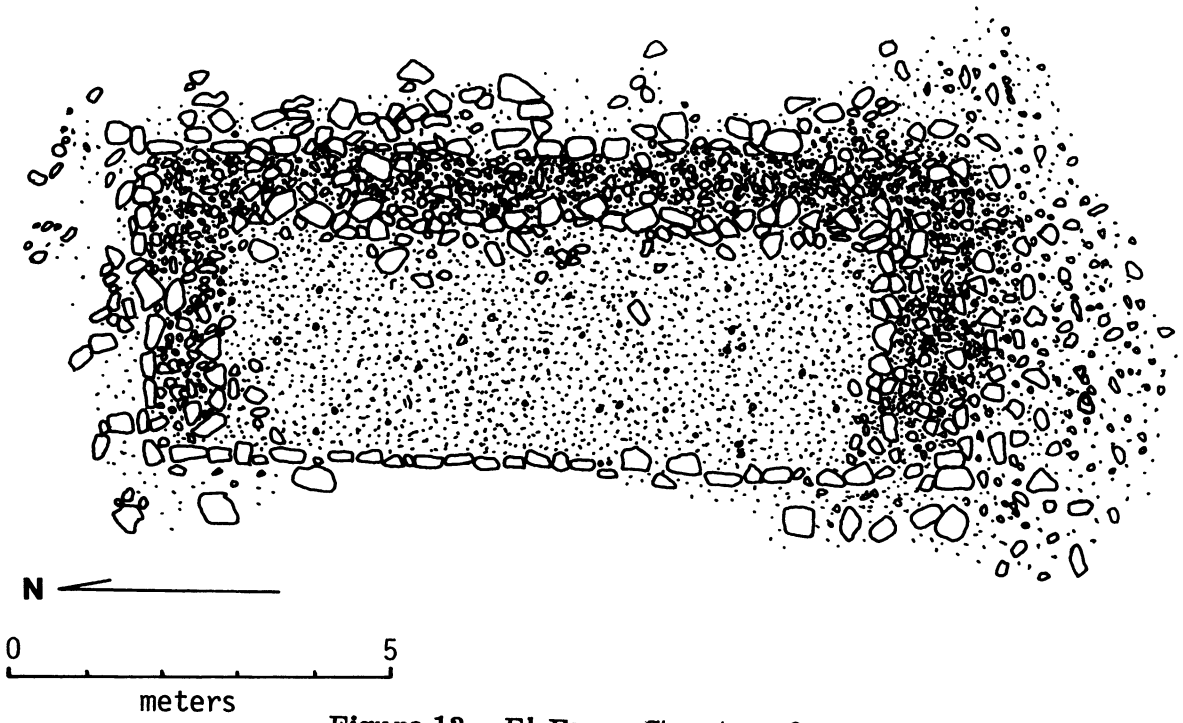


Figure 13. El Fango Structure 9.

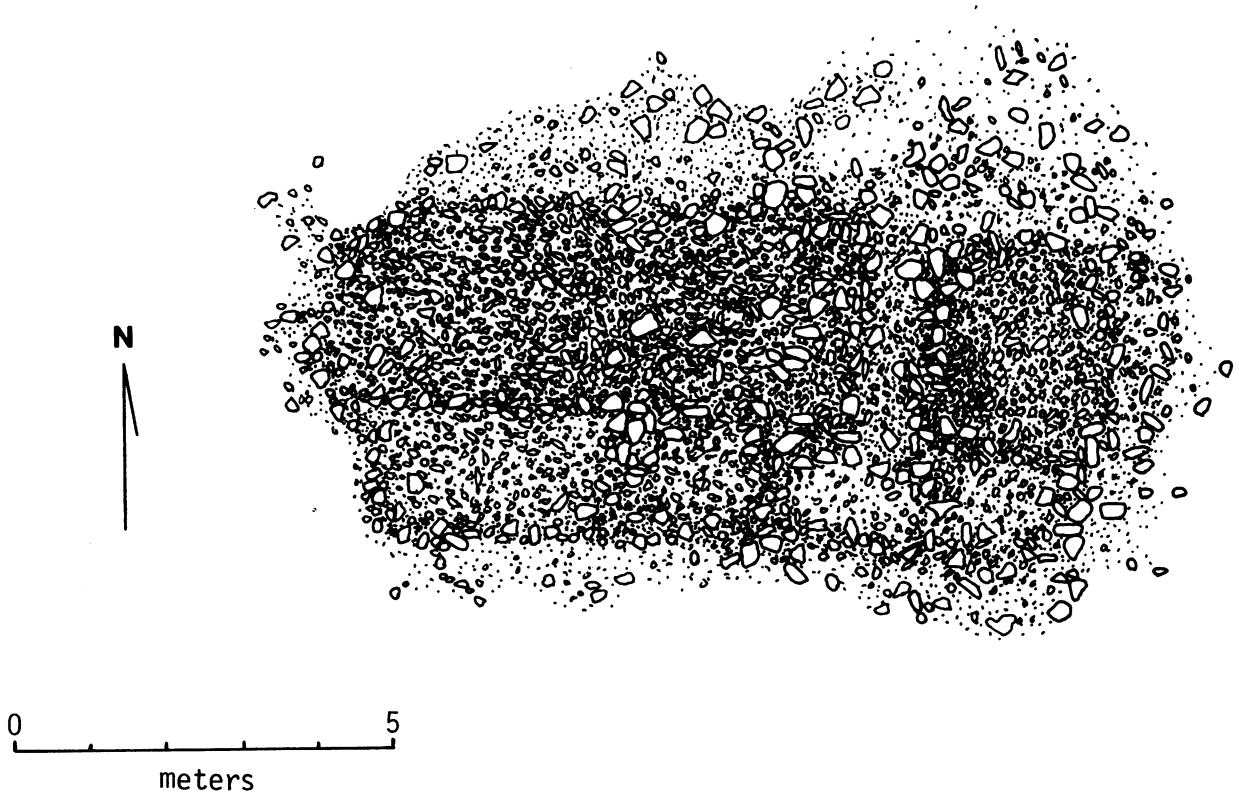


Figure 14. El Fango Structure 60.

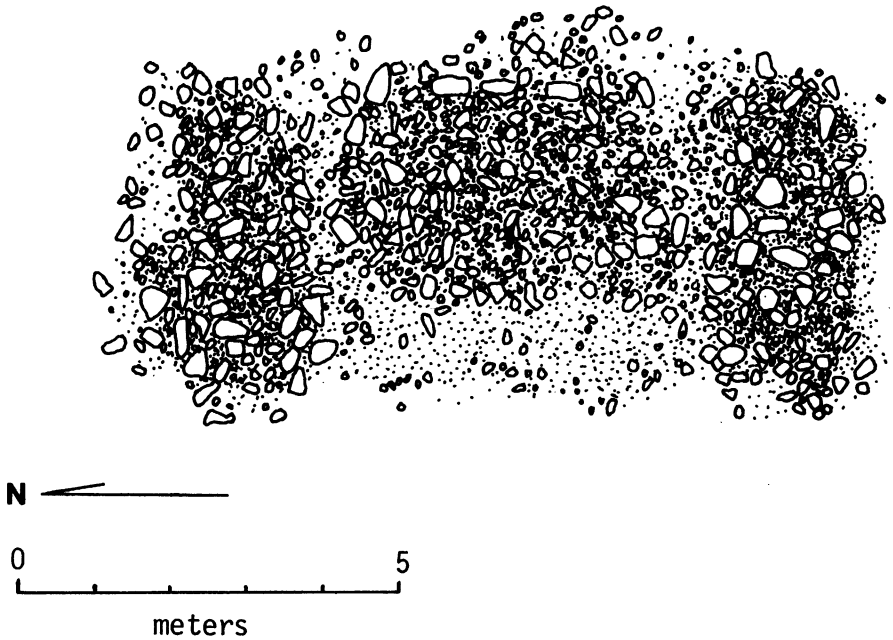


Figure 15. El Fango Structure 83.

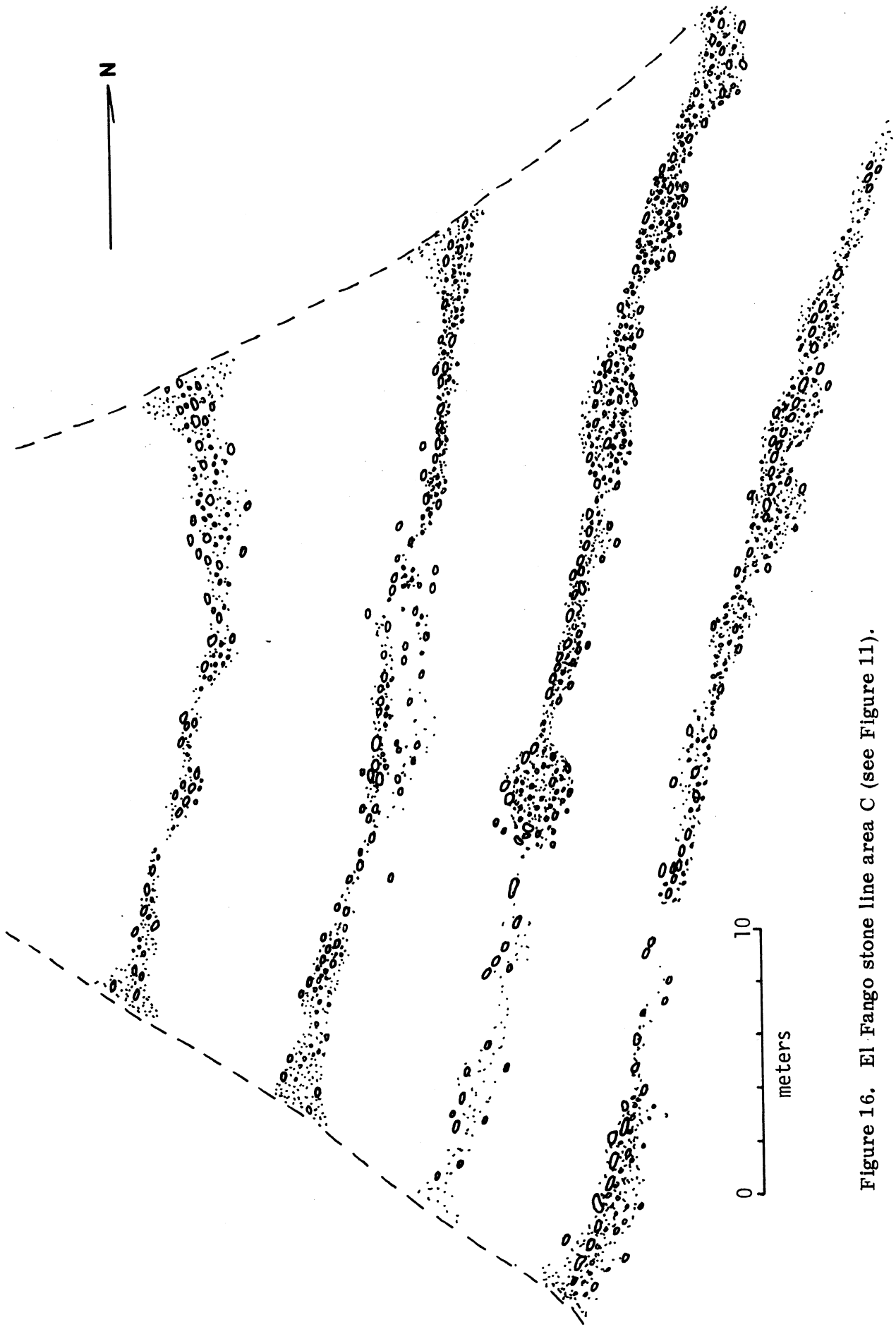


Figure 16. El Fango stone line area C (see Figure 11).

this mound (which is mound #79) is a low rectangular mound on the same platform, while on the southeast corner of the platform is a third smaller mound. A series of three terraces lead up to this elevated plaza from the south.

The final aspect of the site of Fango that was explored was the nature of the stony hills that appeared in the transect and in other parts of the San Francisco zone savannas. These hills are completely covered with stone, ranging from small pebbles to very large boulders ca. 75 cm. on a side. In viewing these hills from the flat savanna areas, they very frequently had the appearance of being terraced. That is, lines of stone, usually broken and incomplete but nonetheless discernible, stretched horizontally across the hills looking like tiers of constructed walls for agricultural terracing. In many places the stones had flat faces on tops and sides, suggesting that they were cut, dressed, and placed to form the walls. In other areas the surfaces were irregular and did not appear dressed or placed. The confusion in understanding the nature of these hills was caused by natural fracture characteristics of the limestone which, as noted at Chakantun, tends to fracture along flat, often nearly right-angled cleavage planes. Also, there did not appear to be flat areas suitable for farming behind the "terrace walls"; instead, the surface sloped (although this could presumably be explained by collapse of "walls" above). In addition, there was little to no soil visible behind the "walls" as would be expected if these were soil conservation constructions for agriculture.

To try to resolve the issue, test pits were placed on two stony hill slopes where the quasi-terraces were located, with excavations both in front and behind these "terrace walls." The excavations clearly revealed that they were bedrock outcrops, for flat and right-angled expanses of bedrock appeared in the test pits abutting and adjoining the visible lines. The excavations were terminated at 30 cm b. s., the conclusion being that these hills were not terraced.

Constructed mounds were visible on the tops of three of these stony hills. It may be significant that these mounds occur on hills adjacent to the stone line sequences. On the hill south of stone line sequence A was a single large mound, covered with trees and brush, constructed by incorporating the bedrock outcrop and stone scatter. On the stone hill north of the lines is a plazuela group of three mounds on a raised rectangular platform oriented north-south. Each of the three mounds on the platform have looters' trenches. On the stony hill due east of the cleared lines is a small oval mound.

In addition to the intensive survey of the east-west transect of El Fango, the more cursory survey of savanna pockets to the south within an area of approximately 6 km^2, including much of the area of Finca El Zapote, recovered a total of 43 plazuela-like groups or solitary constructions (Fig. 17). In general, densities were rather sparse except in one area southwest of El Fango. In this area (called South Fango) an open rolling savanna interspersed with small forest patches (zukches) and with stony hills on its north and east sides, 22 mounds or mound groups (60 individual mounds) were located during the survey. More intensive survey might reveal more structures in this area that are not now immediately visible because of heavy grass. Another interesting discovery

in the cursory survey of the area south of El Fango was an artificial aguada located near the western edge of savanna west of South Fango. This reservoir is estimated to be approximately 20 x 30 m in size. It has a built-up embankment on the north, east, and south sides, and is almost completely covered with forest, although one corner is visible in aerial photographs.

Excavations. Excavations were undertaken in eight structures at the site of El Fango. In all but one location (mound #79)in upland forest excavations were terminated in sterile red clay subsoil, which was encountered at a depth of 25 to 35 cm below surface. Constructional debris and artifacts were found in dark brown to black humus/clay in the upper 25-35 cm of these pits. Bedrock was not encountered in any of the excavations, providing a contrast with the excavations at Chakantun. However, as at Chakantun, the occupation and constructional activities at El Fango appeared to be shallow and of comparatively short duration.

Construction in the form of cut and set wall stones was visible in five of the excavations. In all but one of these pits (#79) the walls consisted of only one course of stones. Fill generally consisted of 20 to 30 cm of small to large stones in black clay/humus surface soil (Fig. 18). This fill generally lay directly over top of the red sterile subsoil, although in the case of mound #9 the stones were set into the red clay. Two mounds of a plazuela, mounds 51 and 52, had test pits placed in them. In both pits, two types of construction fill were noted. One consisted of substructure fill of large stones in red clay matrix; this fill was approximately 30 cm in depth and directly overlay sterile subsoil. Structural fill, in dark brown humus/clay matrix, overlay this stone/red clay mixture.

All excavations at El Fango yielded Late Classic -- Tepeu 2 and 3 -- ceramic material, indicating that the site was primarily a Late Classic occupation. Some Late Preclassic and Early Classic sherds were recovered from the excavations, suggesting at least a sparse occupation at that time period. The substructure (platform) fill of mounds 51-53 appears to contain only Preclassic and Early Classic material and nothing later. Late Classic ceramic types recovered in excavations at El Fango include: Cameron Incised, Subin Red, and Pantano Impressed: Pantano Variety. Only 2 polychrome sherds, both of unidentified type, were recovered.

Buenos Aires. A second area of reconnaissance in the San Francisco savanna zone was located farther to the south of El Zapote on Finca Buenos Aires. Finca Buenos Aires occupies the north edge of a very large open savanna, where there is some interdigitation of forest and grassland. This large savanna is bounded on the south by the upper reaches of the Rio Subin. There are numerous natural aguadas and zukches interspersed in this open savanna, but there was not any settlement around them.

A transect roughly 3 km long and 750 m wide was oriented east-west on and slightly to the east of Finca Buenos Aires, including upland forest on its northern edge (Fig. 19). One small scatter of stone was found east of the finca, close to the forest/

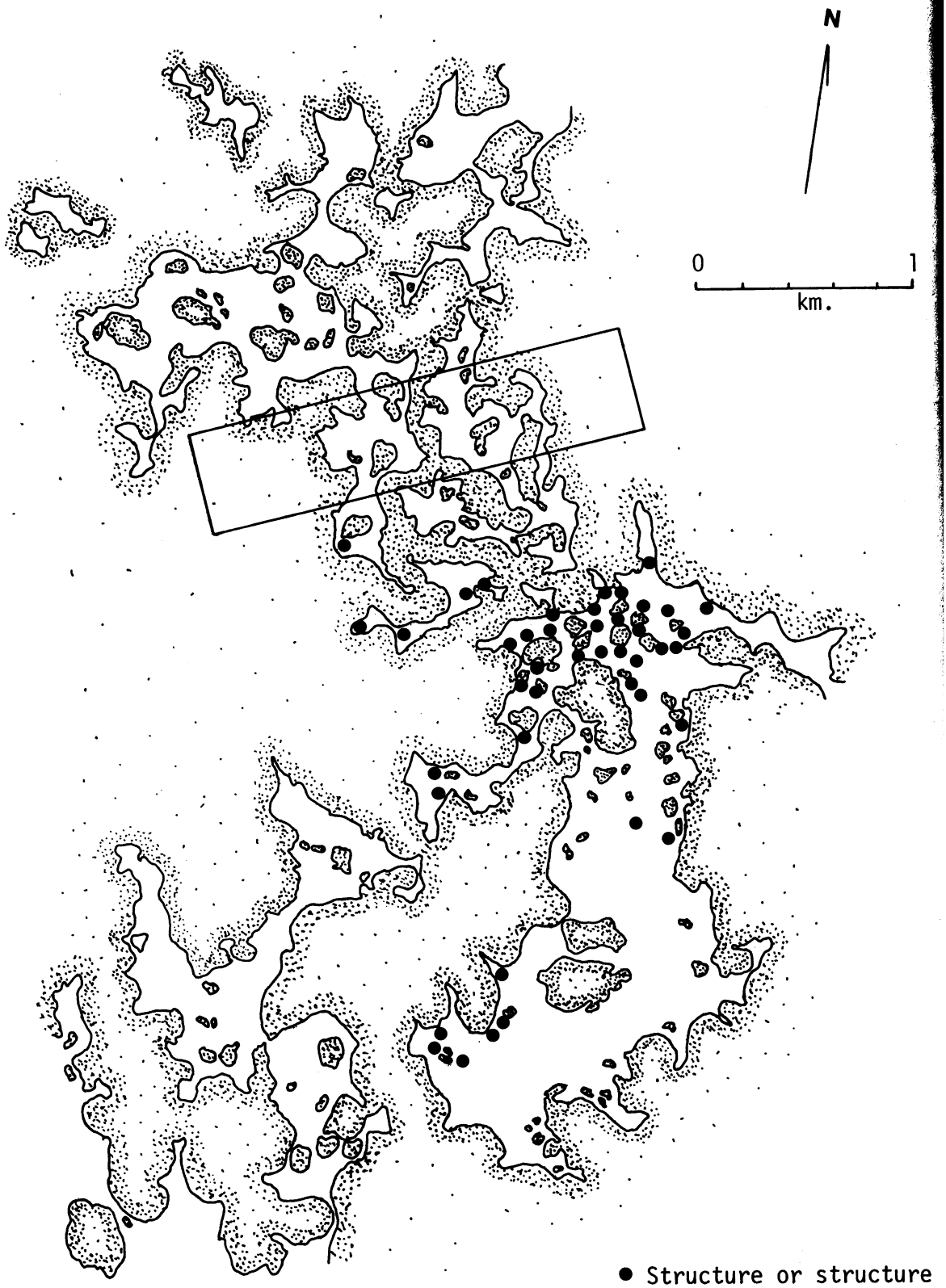


Figure 17. El Fango/El Zapote settlement area. Forested areas shown by stipple.

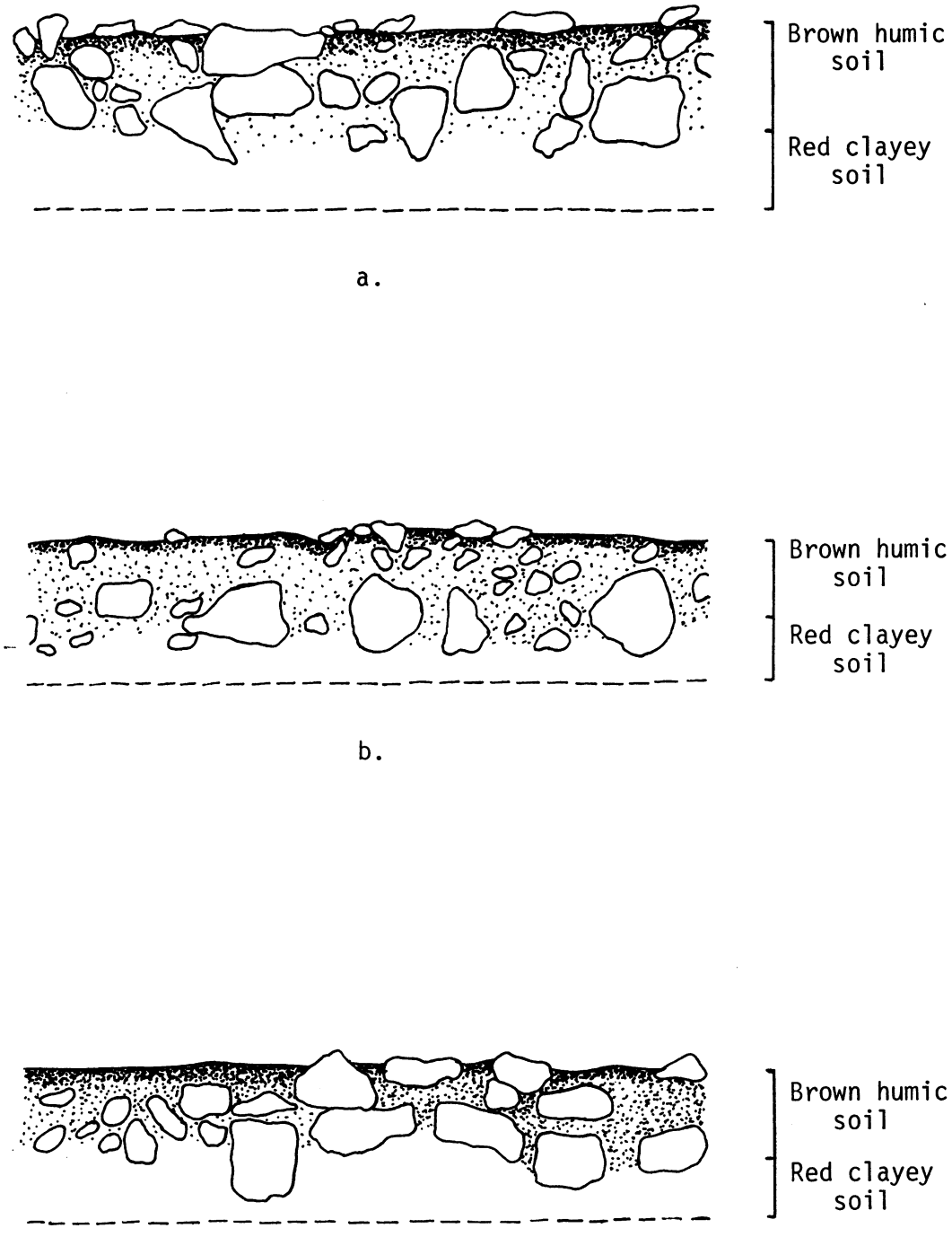


Figure 18. El Fango test-pit profiles;
a - Structure 83; b - Structure 32;
c - Structure 9.

savanna boundary. Farther to the west, on the finca proper, the transect included an area where pockets of savanna were intermixed with patches of forest. In these pockets were found sizeable quantities of fossiliferous chert cobbles, ranging in size from 10-18 cm diameter. Two single low mounds of these cobbles were found, but lacked any lines of stone (limestone) to demarcate clearly platform boundaries or suggest positively that they were of human construction.

Near the western edge of the same savanna pocket, two definite platforms were noted, constructed of limestone and chert cobbles, each with clear boundary lines. A probable third structure, a more or less amorphous scatter of limestone, was found to the south of these platforms.

No excavations were undertaken to date these structures. One of the definite platforms had evidence of a looter's trench in it, and although a few sherds were visible in the walls of the excavation none were diagnostic. Aside from a lack of dating these probable structures, an additional problem remains; that is, to ascertain whether the amorphous scatters of cobbles really are structures or not. This entire pocket has surface stone, primarily these round brown cobbles, all over it, with particularly heavy concentrations on the perimeters at the edge of forest. Flint debitage likewise occurs in sizeable quantities, though few tools were evident.

The dearth of settlement in this area, despite the abundance of water sources, suggests that the Maya avoided large open areas of savanna. The presumed poor fertility of these open areas, and the lack of available limestone sources for construction stone appear to have been more determining factors than the availability of water in influencing decisions as to savanna settlement.

Santa Ana Zone: Tambo, Mirador, and Itzpone

One survey transect, designated Tambo, in the Santa Ana savanna zone included an area of approximately 3.5 km^2 west of the Flores-Poptun road beginning at km 29 (Fig. 20). This savanna differs from areas previously covered in several respects. It may be generally characterized as large, open, and rolling terrain, with nanze and cocoyol trees rather sparse in occurrence except close to the edges of savanna. There are a lot of large bromeliads growing in the trees and the grass itself seems heavily matted; these observations suggest that this savanna has not been completely burned recently. Much of the grassland was plowed several years ago (this may contribute to the low incidence of nanze trees) and the area near the road has recently been planted in jocote marañon by the owner, Sr. Rafael Sagastume of Santa Elena. Natural water sources are conspicuous, with several aguadas in the immediate vicinity of the transect that contained water at the time of the survey. These presumably would have been available to aboriginal populations as well. There are no extremely high or abrupt hills bordering this savanna area as there were at El Fango, for example, and the bordering forest is low rather than upland (monte) forest. Last, there is very little surface limestone or chert in the central open portions of the savanna, and in the savanna/forest border areas there appears to be little stone available as source material.

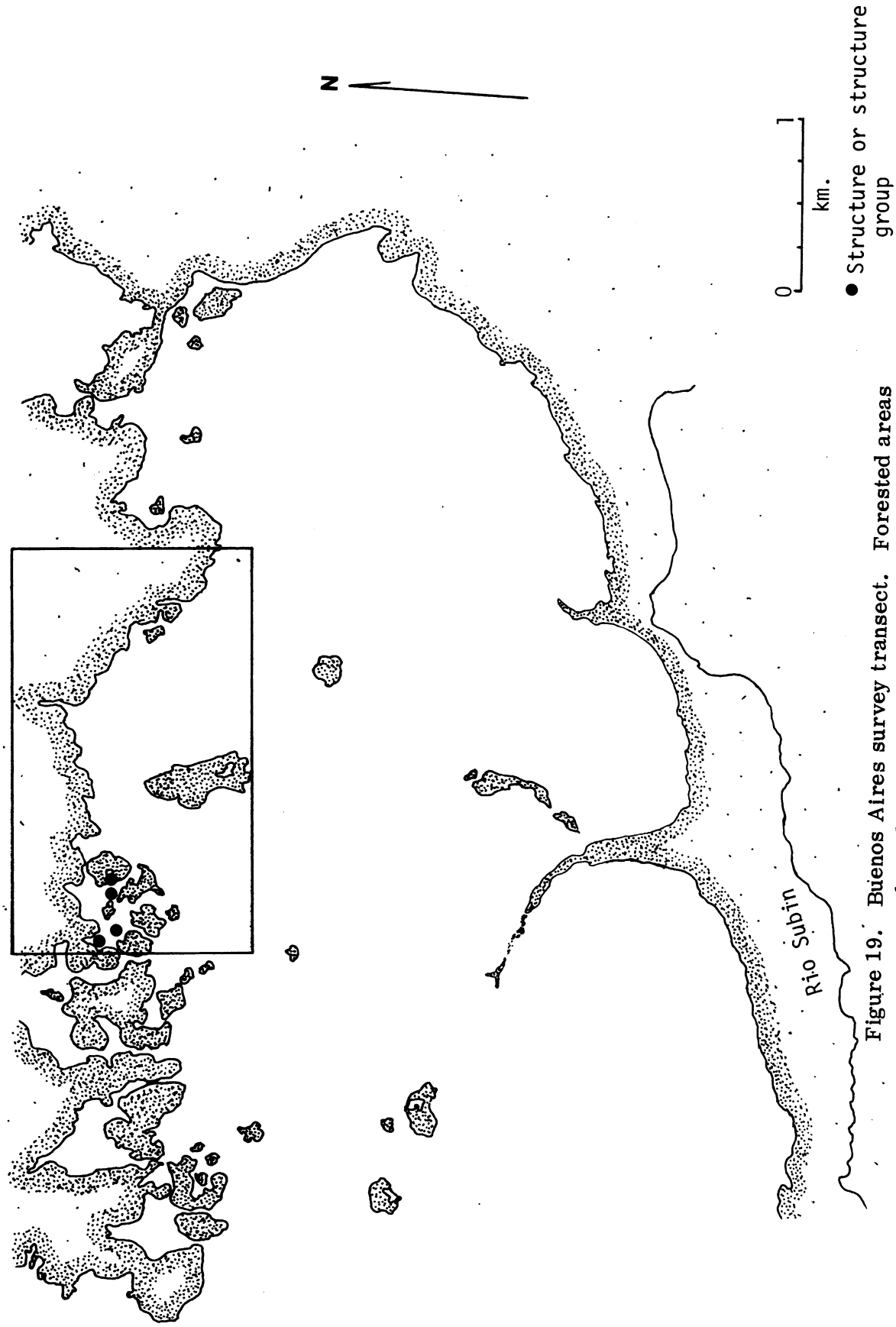


Figure 19. Buenos Aires survey transect. Forested areas shown by stipple.

Survey. One group of three mounds plus two solitary structures were discovered in the area of 3.5 km^2 surveyed. These were in grassland; no mounds were in the bordering forest areas that were searched. Group #1 is a large platform with three structures on a very low rise about two km west of the road. This group is unusual in that it is isolated and out in open savanna, rather than near forest. No artifacts were found on the surface. Mound #2, a small stone scatter with a few lines visible, was located approximately 50 m southeast of group #1. Mound #3 was a small low mound in a small savanna pocket ringed by monte, located just west of the Flores-Poptun road.

Group #1, after being weeded and cleared for drawing and photographing, proved to be a moderately-sized rectangular platform approximately east-west in orientation. It is 17 m in length, and 9 1/2 m in width at its widest (eastern) end. Two structures apparently faced each other on opposite ends of the platform, the easternmost appearing to be higher and better preserved. A third structure, having a somewhat rounded outline about 5 m in diameter, was situated 3 1/2 m north of the easternmost structure and off the platform proper. A possible fourth structure, indicated by a 3 m scatter of small stones, was located off the northwest corner of the western structure. This mound was given a "site name", Tambo (Fig. 21).

Excavations. Four 2m x 2m test pits were placed into this platform: one in the western structure, one in the "entranceway" of the eastern structure, one in the center of the eastern structure, and one in the northern structure. Excavations revealed that the platform was constructionally different from the platforms at El Fango and Chakantun. The stones on the surface are collapse stones rather than paving stones, and fill is almost pure soil rather than rock below the upper 10-15 cm (Fig. 22). It appears that the platform, which had a maximum height of about 80 cm, was constructed by mounding up clay savanna soil, rather than by mixing rock, plaster, and/or soil. Profiles typically show stone on the surface, an upper soil horizon of brown clay/humus, and a sterile lower horizon of red clay. Artifacts were sparse to nonexistent in the pits; sherds were Chicanel, with one Tzakol basal flange sherd.

The test pit on the western end of the platform revealed a tomb constructed of limestone slabs set in red clay, 2.3 m long and 1.2 m wide, oriented 190° north-south (Fig. 23). The upper edges of the stones were visible at 30 cm, with the individual placed, head to the north, at a level of 50-55 cm b. s. Two monochrome ring-based hemispherical ceramic bowls accompanied the burial: a large, red-slipped bowl inverted over the head and a smaller cream slipped bowl upright at the knee (Fig. 24). The vessels appear to be Terminal Preclassic in date. Bone preservation was terrible, and no sexing or stature measurements of the interred individual could be made.

In addition to the site of Tambo and surveys on the Sagastume finca, two other savanna areas in the Santa Ana zone were surveyed. No excavations were carried out in these areas, however, so they are undated.

(1) The first survey area, Mirador, was centered on a finca owned by Sr.

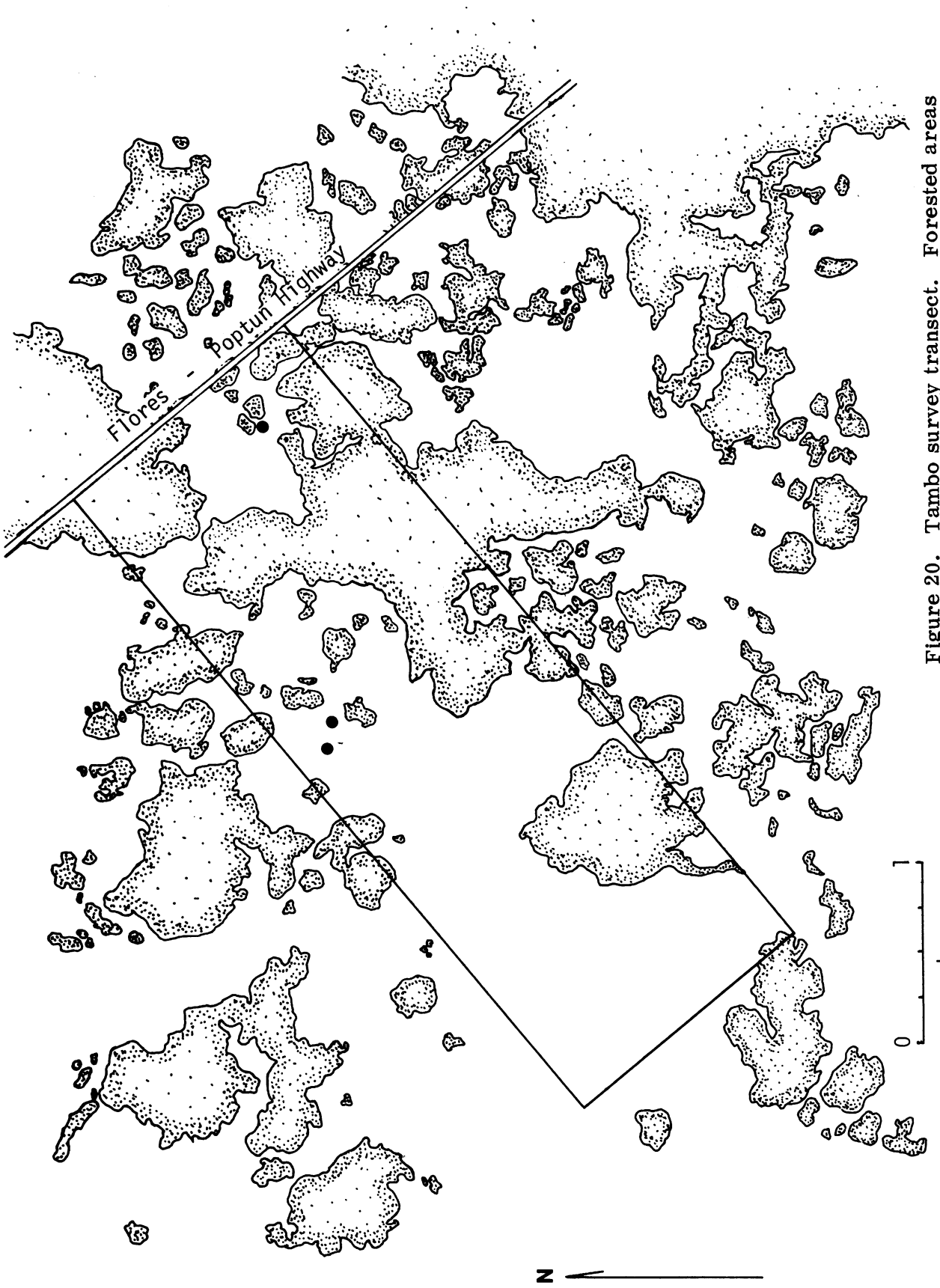


Figure 20. Tambo survey transect. Forested areas shown by stipple.

Figure 21. Tambo structure group.

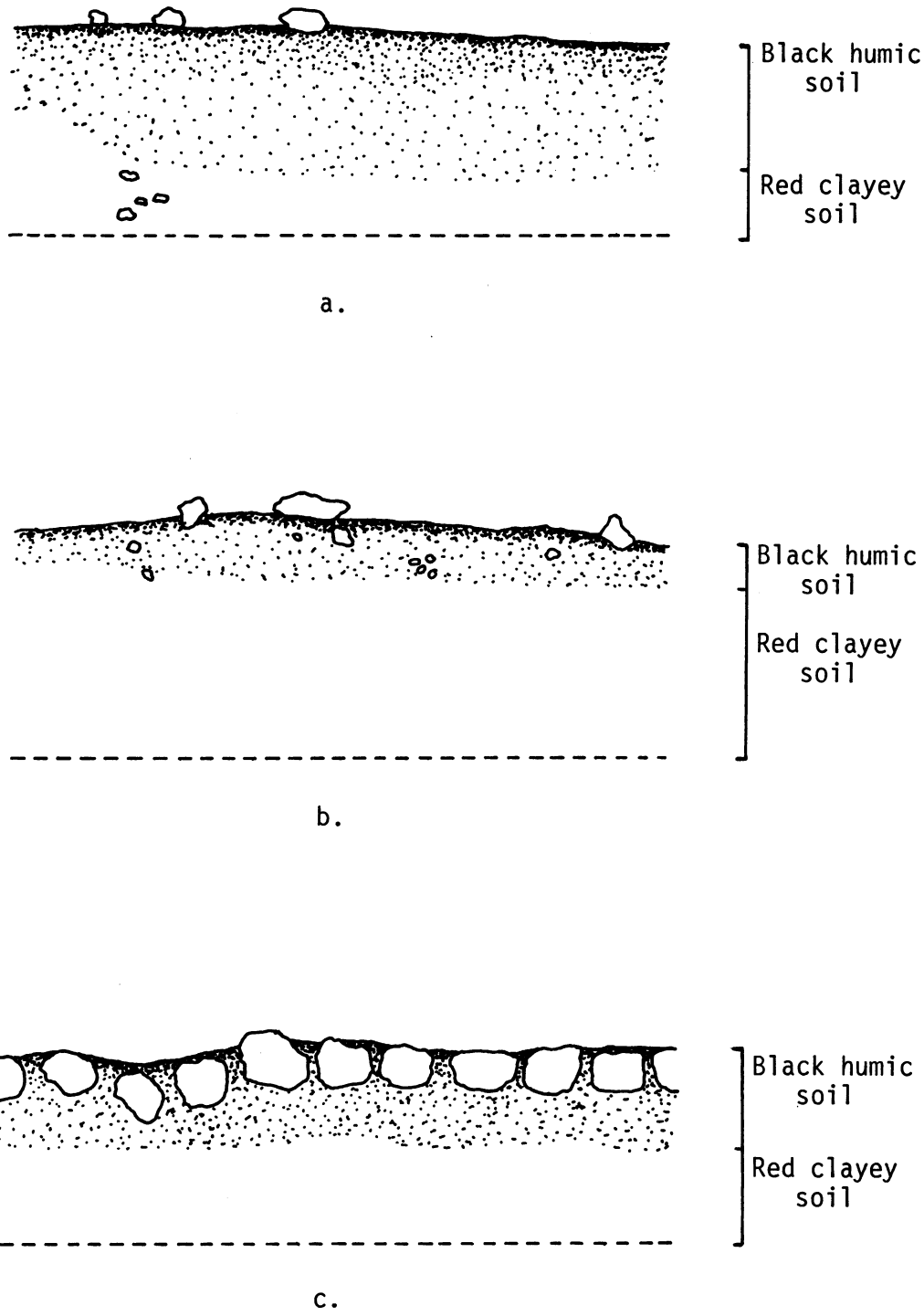


Figure 22. Tambo structure group test-pit profiles; a - test-pit C; b - test-pit D; c - test-pit B.

Frederico Garcia of Guatemala City, and included a high hill south of the finca known as Cerro Mirador or Cerro Miradero. A north-south survey transect approximately 2 km long and 1 km wide was located west of Cerro Mirador over an area where a large number of unforested grassy hills are evident (Fig. 25). Twenty-three of these hills (including Cerro Mirador) have single mounds or groups of 2 to 3 (rarely 4; one hill has 10) mounds on their summits. These are similar to those found on the stony hills at El Fango. It is difficult to believe that people actually lived on the tops of these hills because of problems of climbing them daily, providing water and food, etc. On many of these hills, the natural rock outcrops appear to have been modified and incorporated into the structure. Cut and dressed stones are rare. The roughness and unevenness of these irregular stones suggest that the platforms must have had plaster or tamped clay surfaces. Mounds generally are small -- 3-9 m in diameter -- and are roughly oval rather than clearly rectangular in form. The mounds atop Cerro Mirador are somewhat unusual; several lines of stone indicating clear rectangles are evident. In the southeast corner within a platform area atop Cerro Mirador is a small hollow circular arrangement of stones ca. 2 m in diameter and 1 m high, looking very much like an altar or tower base.

Flat areas between the hills are devoid of platforms as are forested areas. Between two hills there appear to be two natural (possibly modified) terraces which show up on the aerial photographs as dark stains. Two other level areas appear to be shallow catchment areas for water and soil coming off the hills.

(2) A second area of survey called Itzpone was centered on two fincas, Finca Pacay, owned by Sr. Guillermo Tager of Flores, and Finca El Trinidad, owned by Sr. Jose Victor Mix of Flores. In this area, a northeast-southwest transect approximately 2 km by 1 km just off the northwest corner of Lake Pacay was searched (Fig. 26). This region is mixed savanna interspersed with numerous pockets of low forest. It was initially hoped that the south shore of Lake Pacay could be surveyed, but the closer to the lake on the south end of the transect, the wetter was the land, until finally the project vehicle became stuck. At that point it was decided to survey only north of the lake. No mounds or constructions of any sort were noted in this area of survey.

A goal of surveys in the Santa Ana savanna zone was to locate the site of Itzpone, presumed to be in this transect. Itzpone has been suggested as the possible Itza town of Checan visited by Cortes on his march south from Lake Chaltuna. Checan was reported by Cortes to be approximately 8 leagues (ca. 33 km) from the south shore of Lake Chaltuna (i.e., Lake Peten-Itza) and situated on the edge of a very deep river (or large lake?) (Pagden 1971: 378). North of the town Cortes crossed open savanna, and south of it he traveled over 6 leagues of "very good ground, level and green, with no forests, only a few small woods" (Pagden 1971: 378). As mentioned in the introduction, G. Cowgill suggested that Checan may have been on Lake Pacay but he was unable to locate anything significant (1963). The former cabecera of Santa Ana was located in vicinity of Itzpone before moving to its present location (Soza 1965: 203).

The site of Itzpone is situated on high ground north of the isthmus between lakes

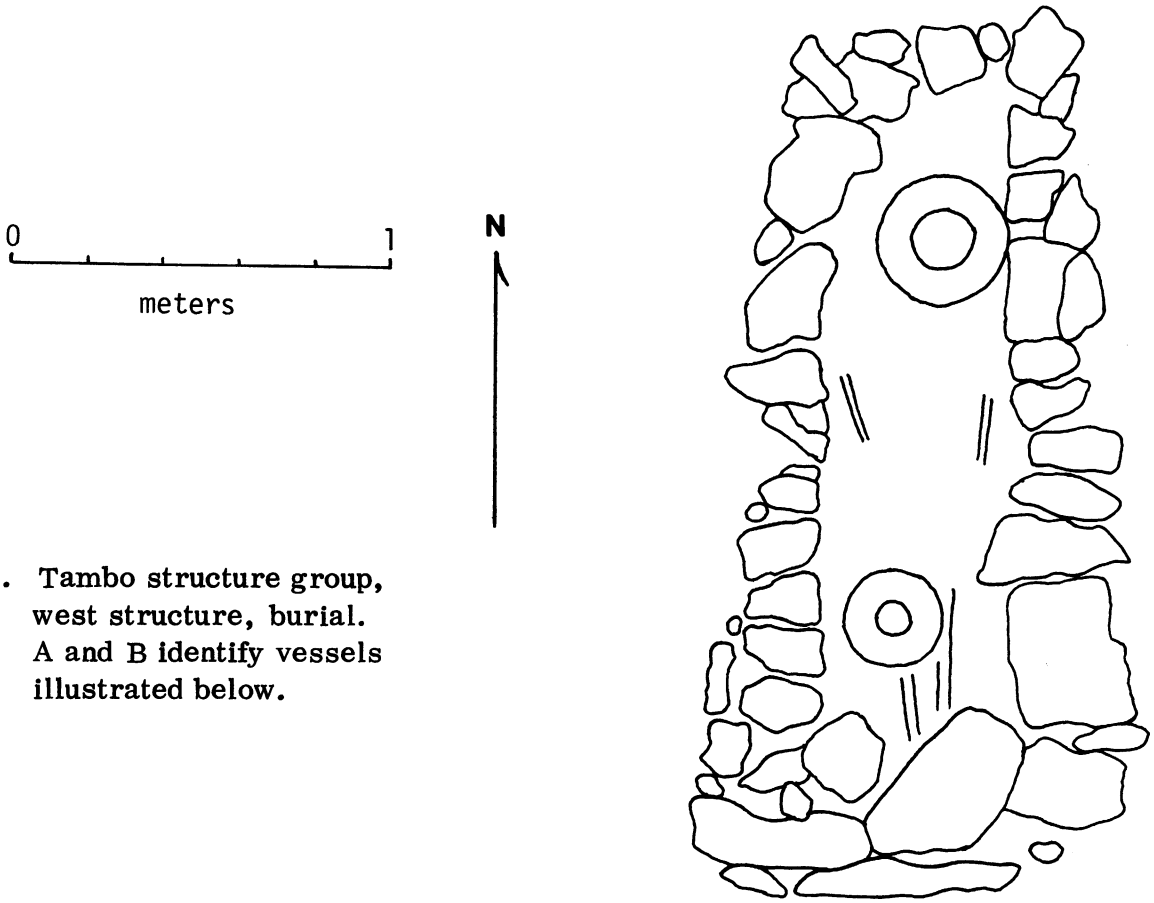
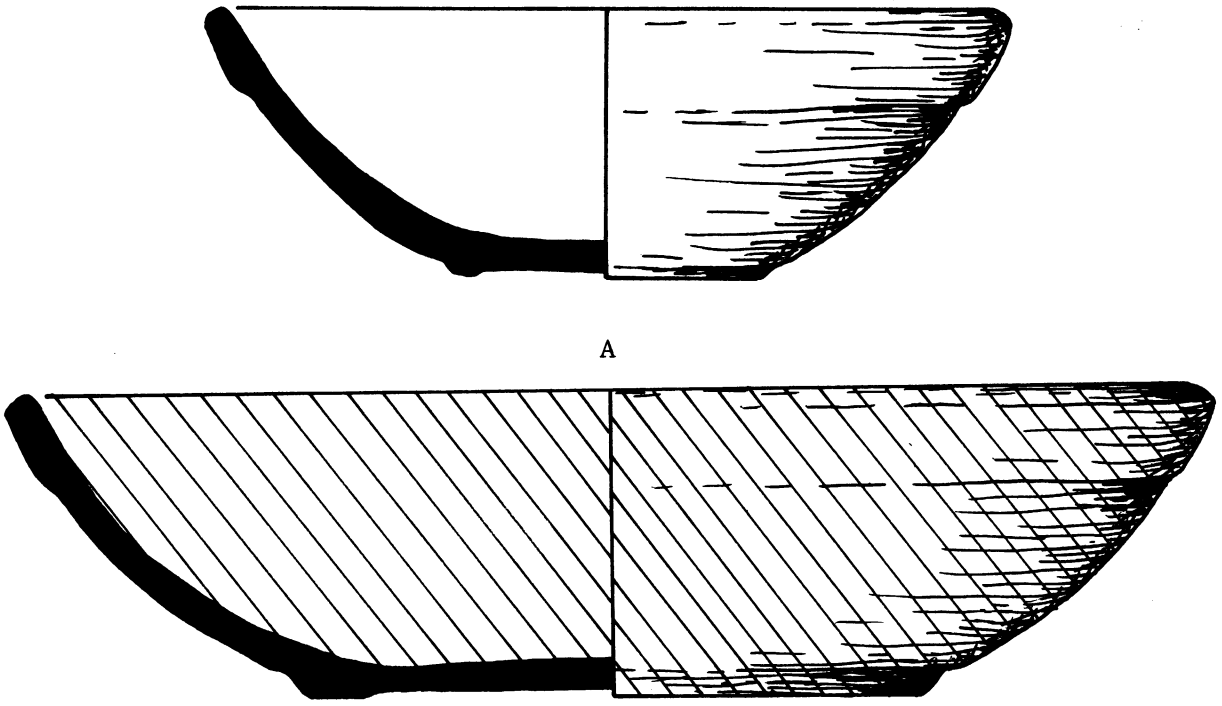


Figure 23. Tambo structure group, west structure, burial. A and B identify vessels illustrated below.



A

B

Figure 24. Tambo Structure Group, vessels accompanying burial in west structure. Letters correspond to positions in Figure 23. Shown approximately half size.

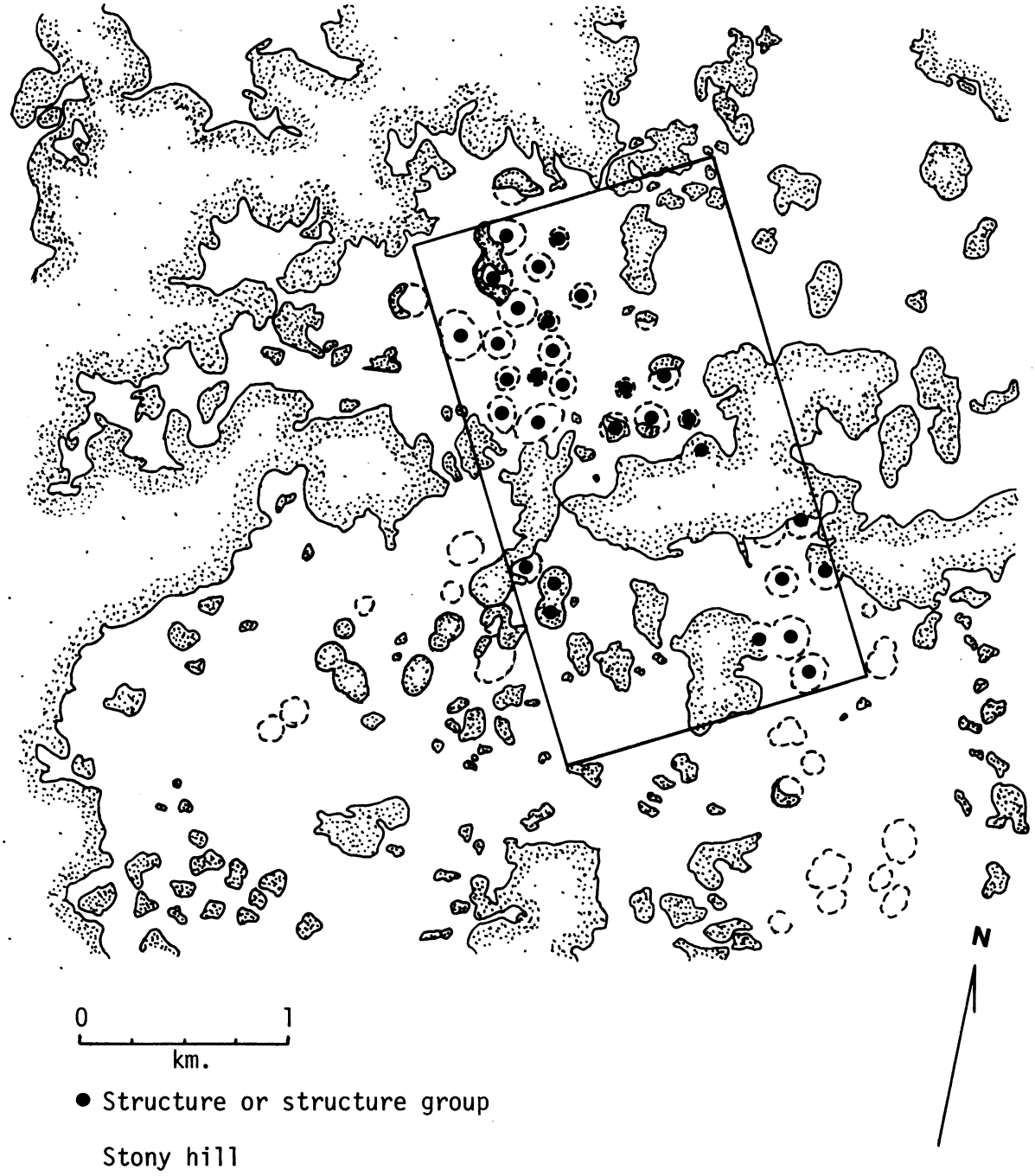


Figure 25. Mirador survey transect. Forested areas shown by stipple.

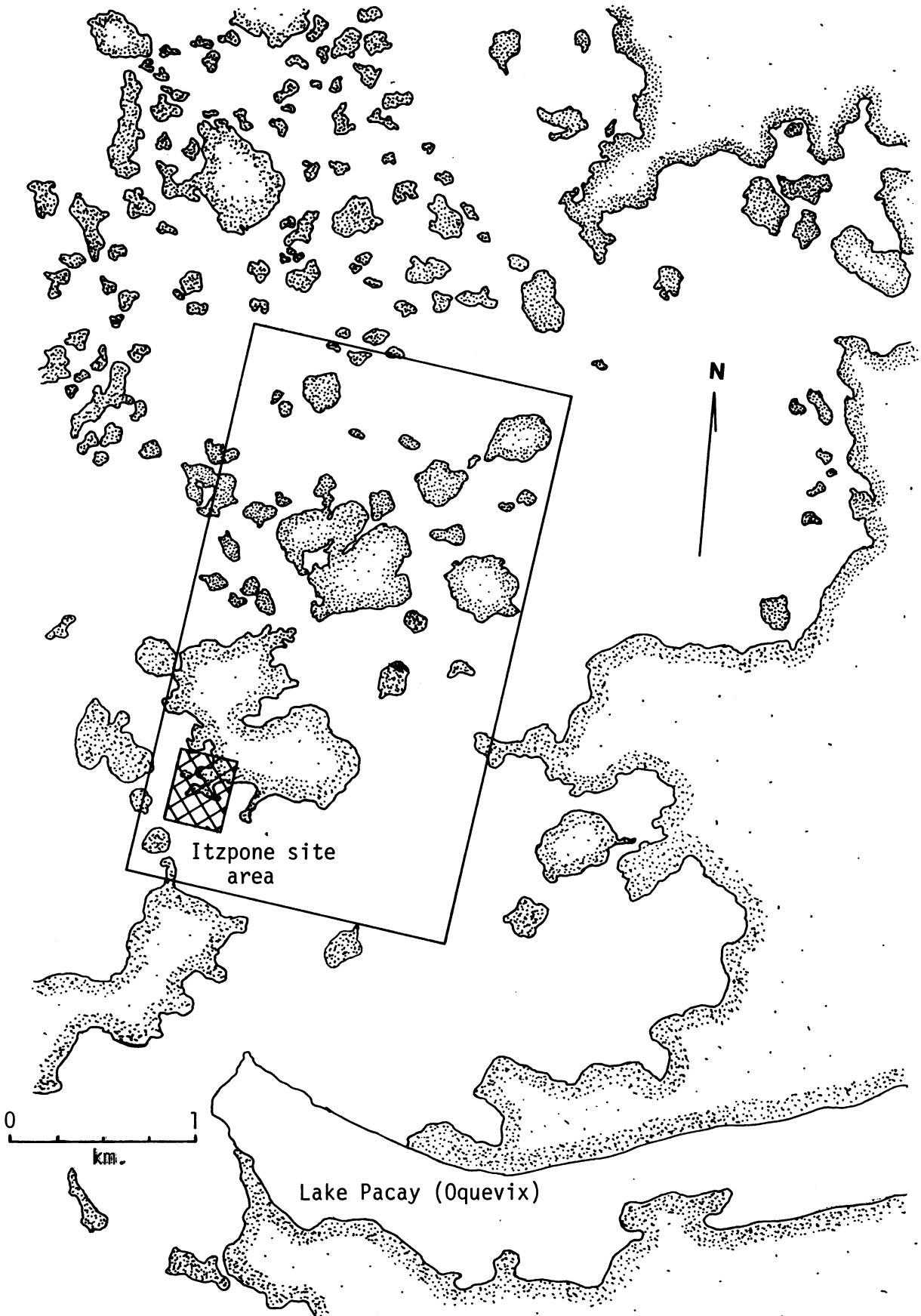


Figure 26. Itzpone survey transect. Forested areas shown by stipple.

Pacay and Ija (the latter being dry in 1978). Vegetationally the site appears to have been partially cleared, and includes nanze and savanna-type trees as well as larger forest species. The area is currently enclosed by fences. At the south end of the site are ruins of what appears to have been the old church of Santa Ana (Fig. 27). A rectangle 18 m by 13 m was formed by walls of stone and cement, approximately 50 cm thick and about 1 to 1.5 m high, and dominates the site. Other smaller structures exist nearby: a pila to the south and a house on the west edge, surrounded by columns. Farther to the west across a small but deep depression is another similar structure.

Farther to the north is the aboriginal site of Itzpone, consisting of roughly 15 low platform mounds (Fig. 28). They have a lot of stone visible, and occasionally lines marking walls, but no mortar or plaster was detectable. They are covered with grass and brush. The only evidence in support of the possible Postclassic date of this site is a fragment of the distinctive feet of Postclassic human effigy censers, which were found by one of the finca workmen at the site.

Conclusions

The objectives of the 1978 Introductory Savanna Survey had three general foci: (1) the location of settlement in the Central Peten savannas; (2) chronology of savanna settlement; and (3) evaluation of the hyopthesis of anthropogenic origins of the savannas.

With respect to the first goal of assessing the location, size, and settlement configuration of savanna occupation, transect surveys of approximately 30 km^2 of the Central Peten savanna zone suggested that settlement was located in flat grasslands, and usage of adjacent forested uplands was rare. Settlement was heaviest in small pockets of grassland interdigitating with forest and zukches; vast open areas of grassland were virtually or entirely devoid of settlement, except perhaps along their edges. Densities vary from zero to several mounds per km^2 in some transects, to 21 mounds per km^2 for the Late Preclassic site of Chakantun and 101/km^2 for the Late Classic occupation at El Fango. Settlement at Chakantun appeared to be a dispersed arrangement of single and paired oval or circular structures, as well as rectangular or squared stone concentrations suggesting platforms. At El Fango, on the other hand, well-constructed rectangular platforms, often with paved living areas, occurred as single structures or in plazuela groupings.

With regard to the second objective, that of determining a chronology for savanna occupation, no data were obtained to verify the Middle Preclassic occupation suggested by limnological evidence from Lake Petenxil, in a savanna to the north of the 1978 survey region. Earliest occupation in areas included in the 1978 survey was at Chakantun, south of La Libertad, where Late Preclassic and Early Classic constructions were identified.

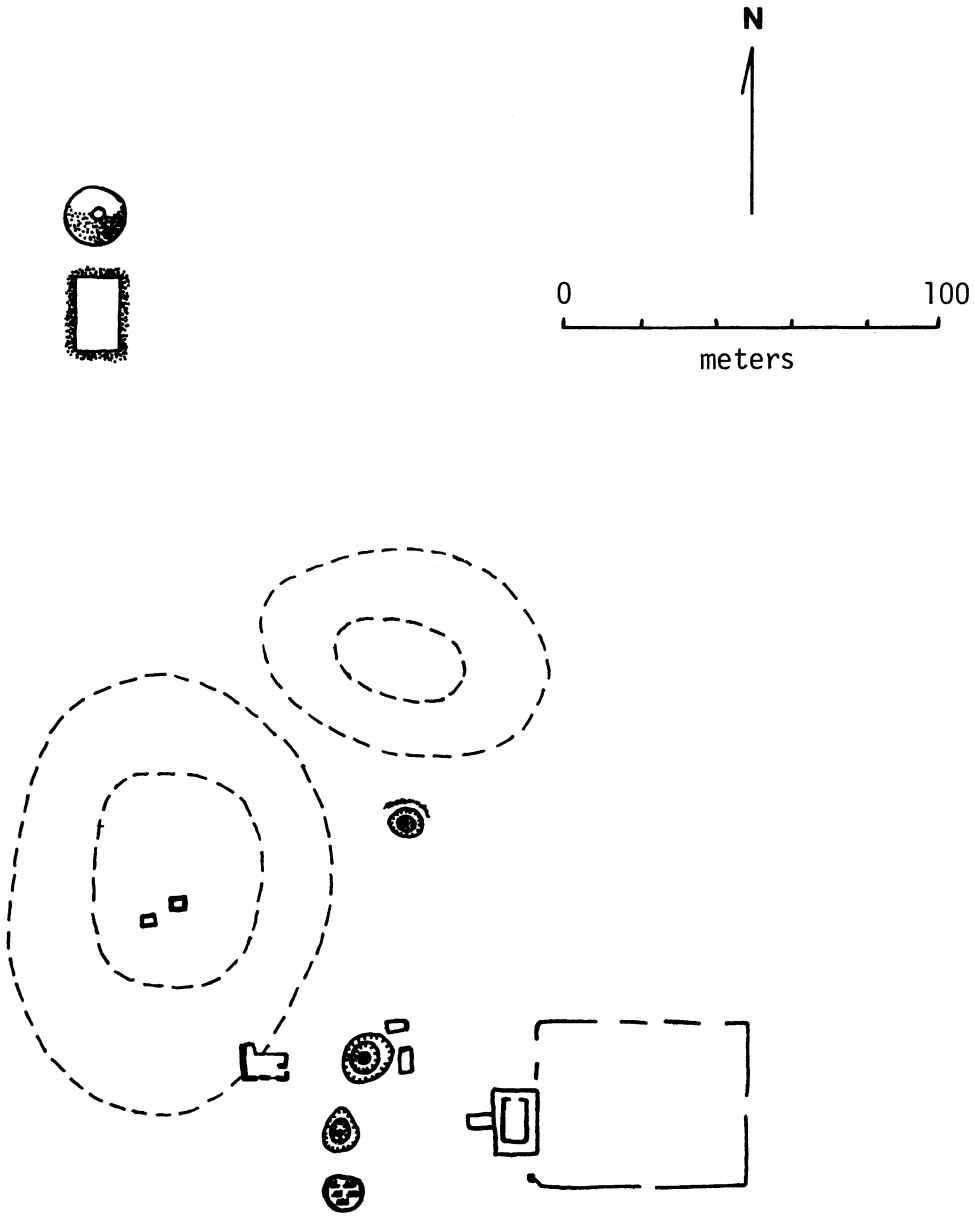


Figure 27. Itzpone church structures (after Kirsch).

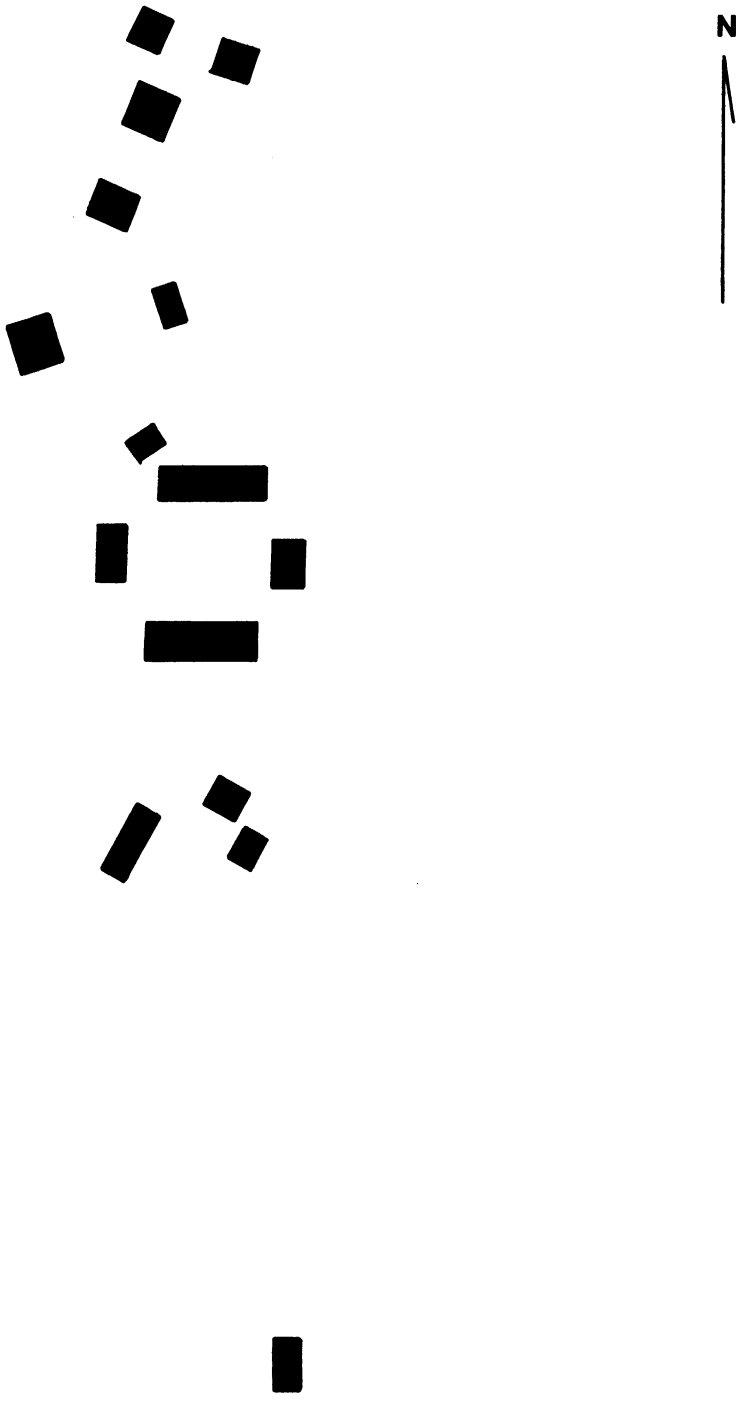


Figure 28. Sketch map of Itzpone aboriginal mounds (not to scale).

Savanna areas surveyed south of San Francisco, specifically El Fango and El Zapote, are late Late Classic in date. This date was derived from ceramics recovered in excavation but was anticipated by the plazuela-like arrangement of residences, a configuration characteristic of Late Classic northern forest sites.

South of Santa Ana the "site" of Tambo appears to be Terminal Preclassic in date. Only one artifact was recovered from the savannas to suggest Postclassic occupation: a fragment of a Postclassic human effigy censer said to have been picked up from the site of Itzpone, north of Lake Pacay.

Savanna settlement was found to be relatively short. Only one site, Chakantun, was composed of mounds that date from two phases, and only one plazuela, Mounds #51-53 at El Fango, was found to have two phases of construction. Excavations indicate single component constructions for the most part, with no structural modification or elaboration evident, very sparse artifactual material mixed in with the construction, and no midden or refuse accumulation. The paucity of sherd material and generally poor quality of those that were recovered suggest that people had a rather small inventory of ceramic utensils for cooking and storage. These functions may have been served by gourds and calabazas, since the mora or calabaza tree (Crescentia cujete) is evident in many areas of the savannas.

The third objective of the survey was to make some assessment of the relationship between land use and settlement in the savannas, with an eye toward evaluating the hypothesis that Maya occupation and agriculture may have "caused" the formation of savannas in regions that were previously forest. To aid in such determinations, soil samples were collected from areas with and without human construction in savannas and in forest. These samples of soil will be analyzed chemically as well as for opal phytoliths. Although these analyses have not yet been completed, some preliminary observations on settlement and savanna land use can be made.

Savanna soil profiles show two zones: an upper dark brown to black clay/humus zone, usually ca. 20-40 cm in depth; and a lower zone of sterile red sticky clay, the depth of which was not determined. Bedrock, flat or sloping mosaic-like cracked layers of rock, was evident in excavations at Chakantun as little as 40 cm b.s., but was not encountered in excavations in other zones.

Constructions in all zones occurred on top of the red clay, or revealed stone placements (for house walls as in El Fango Mound #9, or the burial in Mound #62 at Chakantun) set slightly into the red clay. Occasionally the red clay appears to have been mounded up (Tambo) or mixed with rock (Mound #71 at Chakantun) for mound fill. But the shallowness of the construction and of the upper humic zone, and the placement of structures directly on the red clay savanna soil, may argue that the area was savanna before the Maya began their occupation. Such determinations will have to await completion of geochemical and phytolith analyses.

Several different types of constructions also argue that the Maya were adapting to savannas rather than creating them. Human-made aguadas were evident just north of Chakantun and south of El Fango, suggesting that the modern-day problem of water supply may have existed in the past as well. The stone lines at El Fango may be an effort at controlling downslope movement of soil and/or water for agricultural purposes, although their function is not at all apparent at this juncture.

The activities of the Maya inhabiting the savannas -- the social, economic, political, or whatever reasons for settlement in grassland rather than forest -- are also unknown at this point. Savanna settlement presents a number of problems that would not have faced forest-dwelling Maya. Water supply is one such problem: too much water in the rainy season turning the savannas into lakes or seas of mud; and too little or an irregular supply in the dry season, making it the number one problem for agriculture in the savannas today. In the rainy season the savannas are unpleasant both for living and for agriculture: a part-time dry season occupation is a possibility for the Maya. Another savanna hazard is fire; today the savannas may be intentionally burned for pasturage, but some natural fires also start by lightning. Such fires sweeping through vast areas of grassland would have posed a real threat to human settlement. The smaller pockets of grassland surrounded by hills may have been relatively safer; additionally the stone lines noted at El Fango may not have been agro-engineering at all but some type of fire-break. Soil fertility and acidity is another difficulty; the savannas are not suited for growing the Maya staple crops, maize and beans, today. Finca owners today grow maize and beans on upland areas that fringe the savannas, reserving the flatlands for citrus or pineapple.

There may have been a similar adaptation during aboriginal times; settlement is found on flat grasslands and not in areas of upland forest, which may have been reserved for milpa. The fact that the Maya left the well drained and forested hill soils vacant and consciously settled in the poorly drained open savanna flatlands is a pattern contrary to early settlement decisions in the NE Peten (Puleston 1973; Rice 1976). The relatively short occupation at any of the surveyed areas may indicate that savanna settlement/usage was essentially an agricultural experiment, an experiment that was repeated several different times in several locations and with repeatedly poor success.

Alternatively, the Maya inhabiting the savannas may not have been milperos at all but may have had some economic specialization. The abundance of flint at Chakantun, parts of El Fango, and parts of Buenos Aires suggest flint tool manufacture, but the debitage does not look like preforms, rough-outs, core trimmings, or other lithic debris associated with tool manufacture; it looks like random natural fracturing. Specialized hunting is another unverified possibility. Cortes reported deer in abundance on his trip through savannas south of Taiza; turkey, rabbit, pisote, fox, and iguanas were also seen during the 1978 summer or reported ethnohistorically from this region. Deer and turkey in particular may have been drawn to the ash in savannas after natural burning of the grasslands by lightning strikes in the dry season.

A final possibility is that these settlements served as way stations on some sort of route of communication or trade between the Subin-Pasion Rivers and forest sites to the north. Certainly no exotic trade goods were found in support of a trade hypothesis, however, but perishable commodities or services may have been involved.

Some additional observations on savanna settlements may be offered here. Only one area in the 30 km^2 of savannas surveyed had any appearance of being ceremonial in function. One was a roughly circular arrangement of platforms and mounds north of the survey transect at Chakantun. These mounds were not excavated and hence are undated. A small Classic site, Chichal, is located in flatland forest approximately 2 km to the west. Nothing approximating ceremonial architecture was located near the relatively dense settlement of El Fango, nor in the Mirador/Itzpone areas.

Temporal variability between settlements has already been mentioned; functional variability is an unverified possibility also to be considered. A third possibility is ethnic differences, particularly at Chakantun where a variety of round structures are in evidence. Since round structures are unknown from elsewhere in the Maya Lowlands, ties to peripheral areas may be indicated. It is tempting to try to associate this occupation with a proto-classic population intrusion that R. E. W. Adams (1971) believes he has identified for the Pasion region at Altar de Sacrificios, but which does not seem evident at Seibal (Sabloff 1975: 232). It may also be significant that Seibal experienced a major decline and depopulation in the Early Classic, which began in the Late Preclassic.

Evaluation of these hypotheses of site function and land use will have to await additional survey excavation in the future.

References Cited

Adams, R.E.W.
1971 The ceramics of Altar de Sacrificios. Papers of the Peabody Museum of Archaeology and Ethnology 63 (1). Harvard University.

Cowgill, G.L.
1963 Postclassic period culture in the vicinity of Flores, Peten, Guatemala. Unpublished doctoral dissertation, Department of Anthropology, Harvard Universtiy.

Cowgill, U.M. and G.E. Hutchinson
1966 La Aguada de Santa Ana Vieja: the history of a pond in Guatemala. Archiv fur Hydrobiologie. Stuttgart.

Culbert, T.P. et. al.
1976 Slash-and-burn agriculture in the Maya Lowlands. Paper read at the International Congress of Americanists, Paris.

Deevey, E.S.
1978 Holocene forests and Maya disturbance near Quexil Lake, Peten, Guatemala. Pol. Arch. Hydrobiol. 25: 117-129.

Lundell, C.L.
1934 Ruins of Polol and other archaeological discoveries in the Department of Peten, Guatemala. Contributions to American Archaeology 2 (8). Carnegie Institution of Washington Publication 436.

1937 The vegetation of Peten. Carnegie Institution of Washington Publication 478.

Morley, S.G.
1937-1938 The inscriptions of Peten. Carnegie Institution of Washington Publication 437.

Pagden, A.R. (ed.)
1971 Hernan Cortes, Letters from Mexico. New York: Grossman.

Puleston, D.E.
1973 Ancient Maya settlement and environment at Tikal Guatemala: implications for subsistence models. Unpublished doctoral dissertation, Department of Anthropology, University of Pennsylvania.

Rice, D. S.
1976 Middle Preclassic Maya settlement in the Central Maya Lowlands. Journal of Field Archaeology 3: 425-445.

Sabloff, J. A.
1975 Excavations at Seibal: ceramics. Memoirs of the Peabody Museum of Archaeology and Ethnology 13 (2). Harvard University.

Simmons, C. S. et. al.
1959 Classificacion de reconocimiento do los Suelos de la Republica de Guatemala. Instituto Agropecuario Nacional, Servicio Cooperativa Inter-Americana de Agricultura. Ministerio de Agricultura, Guatemala.

Shook, E. M. and R. E. Smith
1950 Descubrimientos arqueologicos en Poptun. Antropologie e Historia de Guatemala 2 (2): 3-15.

Soza, J. M.
1965 Monografia de Deparamento de El Peten. Editorial "Jose de Pineda Ibarra," Guatemala.

Stuart, L.
1935 A contribution to a knowledge of the herpetology of a portion of Central Peten, Guatemala. University of Michigan Department of Zoology Museum Miscellaneous Publication No. 19. Ann Arbor.

Tsukada, M.
1966 "The pollen sequence." In: The chemical history of Laguna de Petenxil, El Peten, Guatemala, U. M. Cowgill and G. E. Hutchinson. Memoirs of the Connecticut Academy of Arts and Sciences XVII: 63-66.

Vaughan, H. H.
1976 Prehistoric disturbance - the area of Flores, Peten, Guatemala. Ecol. Soc. Am. Bulletin 57 (1): 9.