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KAMINALJUYU PROJECT - 1968 SEASON
PART I - THE EXCAVATIONS

by

WILLIAM T. SANDERS AND JOSEPH W. MICHELS

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STAFF OF THE KAMINALJUYU PROJECT - 1968 SEASON

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Junior Staff

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Sean Cardenas
Michael Davis
Dennis Dickinson

Guillermo Folgar
Dora Gonzalez
Robert Hirning
Gordon Lothson
Richard Pollnack
Gerald Schofer
John Warner

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INTRODUCTION

Background of the Project

Kaminaljuyu is one of the largest and historically most significant sites in Mesoamerica. It is located in the Valley of Guatemala in the Central Highlands of Guatemala at an elevation of approximately 5,000 feet above sea level. The site is located partially within and immediately west of Guatemala City. At the time Carnegie Institution conducted its excavations, the site consisted of approximately 200 mounds varying in size from a few meters up to 20 meters high, scattered individually or grouped into complexes, over an area of 5 km². A recent census reveals that over half of these mounds have been completely destroyed and at least half of the remainder are only partially preserved. Recent urban growth of the city has placed a number of intact and partially intact mounds in immediate peril. An extremely small area, perhaps 1/30 of the site, is presently under government protection as the "Parque de Kaminaljuyu." There are no immediate plans to increase this area and within the next few years, at the present rate of encroachment, the remainder of the site will be destroyed. The recent aerial photographs and city map indicate that approximately 2/3 of the area included in the Carnegie grid is covered by new buildings.

The site was visited, surveyed, and minor excavations conducted by a number of researchers prior to 1935. Evidence from this earlier research indicated a Formative and a Classic occupation.

Between 1936-1942, two large mounds (A and B) were excavated and reported in 1946 by Kidder, Jennings and Shook. In 1952, Berlin reported the excavation of another mound, D-III-13, and in 1952, Shook and Kidder reported on the excavation of Mound E-III-3.* Their efforts summarize the only major archaeological research reported on Kaminaljuyu, and all of them were last-minute efforts to salvage structures in immediate danger of destruction. The results of these excavations should be considered as one of the great achievements of American archaeology. They may be summarized as follows:

1. The establishment for the first time of a long consecutive chronological sequence for an area within the Guatemala highlands and also one of the most complete local sequences in Mesoamerica.

2. Major modification of our concepts as to the nature of the culture of the Formative Period. At least half of the 200 mounds are apparently Formative in date, including some of the largest structures of the site. The scale of the architecture and the wealth of the tombs located within the mounds demonstrated conclusively that archaeologists had grossly

* Since 1955, a number of other mounds have been excavated by the Guatemalan archaeologist, Gustavo Espinoza, the results of which, unfortunately, have not been published.

underestimated the size and degree of internal social differentiation of Formative societies. Prior to Kaminaljuyu the Formative was conceived of as a period of socially homogeneous, sedentary folk agricultural societies.

3. Mounds A and B were of Early Classic date and the association of Tzakol phase Maya and Teotihuacan III-IV ceramics in the same tomb completely altered our picture of the chronological interrelationships of the various Classic civilizations of Mesoamerica. Prior to the Carnegie excavations most researchers assumed that Classic Maya civilization started earlier and stimulated the growth of other Mesoamerican Classic civilizations. The excavations revealed the essential contemporaneity of the various regional cultures and in fact meant that much of the development of Teotihuacan was Formative in a chronological sense. This in turn has stimulated considerable controversy, as did the excavations of the Formative structures at Kaminaljuyu, with respect to regional precocity and retardation that has become a primary concern of the Mesoamerican archaeologist.

4. A major discovery in Mounds A and B was the extraordinary impact of Teotihuacan on Kaminaljuyu in Early Classic times. The tombs contained copies of or imported Teotihuacan pottery and the pyramids that contained them were copies of Teotihuacan architecture, including the typical specialized tablero-talud moldings. This discovery immediately initiated a series of controversies. Was the influence the product of peaceful contact between the native population and Teotihuacan priests or merchants, or did Teotihuacan dominate Kaminaljuyu politically? Some writers (notably Kidder) suggested that the principal occupants of the high status tombs were Teotihuacanos who had replaced native rulers as a dominant elite class. If the latter conclusion was correct, then the Classic began to look more and more like the Post-Classic and the supposed societal contrast between a peaceful, theocratic Classic and a secular Post-Classic seemed to need drastic redefinition.

5. The unpublished excavations of Espinoza in the Parque de Kaminaljuyu portion of the site have revealed a huge acropolis-like complex of buildings, all constructed in Teotihuacan style and dating from the Esperanza phase, that provided even stronger support for the thesis that Kaminaljuyu was a colonial outpost of a Teotihuacan-centered empire in Esperanza times.

Since the Carnegie Project, research all over Mesoamerica has substantiated and amplified the leads provided by Kaminaljuyu. Other Formative cultures of comparable societal complexity to Kaminaljuyu have been recorded in many of the Mesoamerican areas. On the other hand, much of the work at Kaminaljuyu was conducted at a time prior to several recent trends in archaeological methods - particularly settlement pattern surveys and excavation. The purpose of the Pennsylvania State University Kaminaljuyu project is to produce new data pertinent to both old and new problems in Kaminaljuyu archaeology; data which must be collected within the next five years if it is to be done at all.

In September 1967, the principal investigator of the project participated in a discussion with Gordon Willey (Harvard University), Ledyard

Smith (Harvard University), and William Coe (University of Pennsylvania) during the Americanists meetings in Buenos Aires, as to urgency and possibility of a project at Kaminaljuyu. In November 1967, a meeting was held during the American Anthropological Association annual meeting at Pittsburgh, to discuss further these plans. Those attending this second meeting were: Richard E. W. Adams (University of Minnesota), Stephan Borhegyi (Milwaukee Public Museum), William R. Coe (University of Pennsylvania), Patrick J. Culbert (University of Arizona), Kent Day (Harvard University and representing Gordon R. Willey), Alfred V. Kidder II (University of Pennsylvania), and William T. Sanders (Pennsylvania State University).

At that time, it was decided that Sanders would write a research proposal to the National Science Foundation and would direct and administrate the project from Pennsylvania State University. The others would act as an advisory board, provide students and, in some cases, participate in the field operations.

The proposal was presented to the National Science Foundation for a two-and-a-half year project to begin January 1968. An initial grant of \$25,000 was awarded (augmented by Ford Foundation Fellowships for graduate students awarded by the University of Minnesota and private gifts amounting to \$3500 from C. W. Sage) to conduct a preliminary season as a test of the scientific value of a major research effort at the site. The original proposal included the following stated objectives and activities.

To clarify, amend and expand the chronological sequence established by the Carnegie Project. There has been considerable controversy and confusion as to the absolute and relative position of the various ceramic phases of the Formative Period at Kaminaljuyu. This was inevitable since stratified middens on house floors were not excavated and most of the samples were from mound fill or tombs. There are questions as to the relative time position of Las Charcas and Arevalo; and Verbena and Miraflores on the one hand, and Sacatepequez and Providencia on the other have been variously considered as chronological phases, urban-rural components of the same society, or geographical variants. The earlier phases at Kaminaljuyu have been assigned absolute dates as early as 1500 B.C. and as late as 600 B.C. Carbon 14 dates, supposedly from the same phase, have been 1200 years apart. One of the major activities of the project was to be the excavation of middens and residential structures to clarify the chronology, both absolutely and relatively.

The core operation at Kaminaljuyu would be extensive excavations in residential structures and areas of the site. Hopefully, we should be able to show changes in house types, population size (at least relative, perhaps approximate) and population distribution throughout the site. The variations in housing and associated artifacts should yield data on status differentiation, economic, hierarchial or ethnic within Kaminaljuyu society, phase by phase. A special problem within this context is the possibility of a resident class of Teotihuacan administrators. In the Teotihuacan Valley, the growth of the city involved urban planning of the city itself, and rural populations living in hamlets were clustered into large planned nucleated villages and towns. Did the Teotihuacanos impose their ideas of urban

planning at Kaminaljuyu? Was Kaminaljuyu a city in the sociological sense or a religious, elite-residential center, during the Formative and Early Classic Periods?

During the period of the project, temple mounds and other civic buildings in immediate danger were to be at least trenched and, in some cases, completely excavated. The site of Kaminaljuyu was to be completely surveyed, and an attempt made to classify mounds. Those that suggested specialized functions other than the temple-tomb complex would be tested, irrespective of their possible destruction. Wholly aside from the professional responsibilities of archaeologists to salvage archaeological data from sites in danger of destruction, excavations of civic buildings from the various phases of the history of the site will supply an additional body of data on the social, economic and religious institutions of Kaminaljuyu, thus supplementing the data from residential areas.

Between 1960-1964, the principal investigator conducted a settlement pattern survey of the Teotihuacan Valley in Central Mexico. The overall objective of this project was to define some of the underlying causes that led to the evolution of the city of Teotihuacan. Concurrently with the project, Rene Millon conducted an intensive survey of the city. The two projects in conjunction have been extremely productive, particularly in the area of rural-urban relationships and it proved impossible to understand the rural pattern without respect to the urban, and vice versa. The Teotihuacan Valley witnessed striking changes in settlement patterns from phase to phase. The same principle should apply to the history and growth of Kaminaljuyu. Shook has conducted a survey of the Valley of Guatemala and located approximately 80 sites. Nearly all of them, however, have visible civic architecture, and the survey probably missed numerous small rural settlements. We plan to amplify his survey and achieve a picture of settlement changes, zonal and community, through time, and relate this picture to events at Kaminaljuyu.

These three archaeological operations should produce a great corpus of data that would enable us to reconstruct the societal development of Kaminaljuyu; its relationship to first, the immediate rural sustaining area, then to other contemporary Mesoamerican centers; understand more fully the impact of Teotihuacan contacts with Kaminaljuyu; and on both a local and broader Mesoamerican developmental level analyze the difference between Formative and Classic Mesoamerican society.

The 1968 Field Season

The 1968 field season was conducted from June 1 - September 1. William T. Sanders and Joseph W. Michels supervised the project assisted by Gustavo Espinoza, Inspector General de Monumentos Prehispanicos, and Ronald K. Wetherington of Southern Methodist University who supervised ceramic analyses; three Guatemalan students (Dora Gonzalez, Guillermo Folgar and Rolando Alvaro) and eleven American graduate students (Carl Bebrich, Sean Cardenas, Donald Austin, John Warner, Gerald Schofer and Robert Aiken from Pennsylvania State

University; Gordon Lothson and Dennis Dickinson from the University of Minnesota; Michael Davis from the University of Chicago, and Robert Hirning from the University of Michigan. Special responsibilities were delegated to Davis (the valley survey); Bebrich (the excavation of Mound B-III-1); Lothson (the excavation of Mound B-II-1); Austin and Cardenas (the excavation of Mound B-V-2); Hirning (the settlement pattern trenches); and Dickinson (assisting Wetherington in the ceramic analyses). The balance of the students were shifted from excavation to survey to laboratory. The line illustrations published in the manuscript were drawn by John Warner, Robert Aiken and Robert Tiling.

Upon our arrival in Guatemala City, we were introduced to Ingeniero Ricardo Barrios Pena, director of construction of the Colonia Tikal, a new housing development in the northwestern portion of the site. Several of the unsold lots in the colonia were occupied by Mounds B-II-1 and B-III-1. The Guatemalan government has recently passed an antiquities law that protects preHispanic buildings from destruction and Sr. Pena was anxious for us to excavate the two mounds to free the lots for construction. He offered us labor and tools to conduct the excavation. It really mattered only slightly where we would begin our program, so we decided to take advantage of the offer and concentrate our energies in the Colonia Tikal area. Prior to our arrival, we had decided to excavate Mound B-V-2 in the southwest quadrant of the site. On the basis of this combination of circumstances and the long-range objectives the preliminary field season involved the following activities.

1. We completed a census of all the mounds on the old Carnegie map, including in our observations, estimates of their condition, structural data, and evaluation of probable function. We also collected pottery from within and around the mounds. An intensive survey of the area between mounds was initiated. One purpose of the survey was to locate empty areas available for future excavation. On maps and aerial photographs one gets the impression that large areas of the site are completely covered by modern houses and buildings. In fact, even in the areas that have suffered most from recent urbanization, there are scores of empty lots available for settlement pattern excavations.

2. Mound B-V-2 is located in the Colonia Mirador, just off the Roosevelt Highway. The mound is oval in shape and has a length of slightly less than 30 meters and a width of about 16 meters. It is less than two meters in height as measured from the occupational midden upon which the mound is superimposed. The mound is part of a complex made up of three additional mound structures which border on a common central plaza. It was selected for excavation because surface survey suggested a possible residential function.

At the time of excavation, the mound had not been gutted and showed little evidence of erosion.

3. Mound B-III-1 is situated in an undulating, prehistorically terraced plain about 650 meters southwest of Palangana. The mound lies within four vacant house lots, is surrounded on three sides by modern paved streets, and bounded on the fourth side by two houses and a vacant lot between them. Sections of the mound have been gutted for house construction on the south

(the most extensive area of destruction), the southeast and the northeast. Approximately 5 meters of the mound lies above ground level and another 1.5 meters below the surface. The base of the mound measures approximately 35 meters east-west. The north-south dimension could not be determined, but was probably somewhat less than 35 meters. B-III-1 is quadrilateral in form, though erosion of its summit and slopes and cultivation of its lower perimeter have given the mound a roughly circular appearance. Extensive trenching was conducted on the north and east sides, probing trenches on the west side and deep trenches were excavated at the base of the exposed south profile.

4. Mound B-II-1 is a low, sprawling earth platform situated 100 meters northwest of B-III-1. B-II-1 occupies two contemporary house lots and is surrounded on three sides by paved streets and on a fourth by a house. These constructions resulted in the destruction of perhaps one-third of the mound, primarily on the west and east ends. The mound is 4.75 meters high from the base to the summit of the final building stage. A north-south trench was excavated across the mound to its base level and extensive excavations were conducted on the summit.

5. To resolve the difficulty of obtaining adequate data on settlement patterns from surface survey alone, we shifted to a technique of excavating 1 x 2 meter test pits at closely spaced intervals. Carnegie surveys and excavations suggested that most of the mound groups were of Formative age. The results of surface survey suggested that Formative period living refuse, and hence residential areas, were not evenly distributed or continuous over the 5 km² area of the Carnegie map, but rather tended to occur in small, densely settled areas adjacent to and probably functionally linked to mound groups. We tested this hypothesis by excavating 10 test pits within a radius of the group of mounds composed of Mounds B-III-1 and B-II-1. We also excavated 10 test pits in the vicinity of a group consisting of Mounds B-I-1 and B-II-3. Surface sampling suggested that both groups were built during the Miraflores phase.

The distribution of the mounds indicates a striking change in civic planning between Miraflores and Esperanza times. Most Esperanza constructions were concentrated in a huge, acropolis-like complex referred to in the literature as the Palangana and officially designated as the Parque de Kaminaljuyu. We suspect that this shift was also accompanied by a change in settlement with a drawing in of the scattered Miraflores wards into a single nucleated settlement around the Palangana. Twelve test pits were excavated within a radius of 300 meters of the southwestern edge of the Palangana.

6. Valley Survey--Twenty days were spent by one field team of two students to sample the archaeological resources of the valley during the summer. Michael Davis remained in Guatemala during the fall and winter 1968-69 and continued the survey. Sixty to seventy new sites were located, and the survey confirmed two of our expectations, that Shook's survey tapped only a small fraction of the resources of the valley (we examined perhaps 20 percent of the survey area) and that his survey was unusually biased in favor of larger, more impressive sites. At least 3/4 of the new sites lack surface architecture and are the remains of small villages or hamlets. They span the entire Valley of Guatemala chronological sequence from the various pre-Miraflores phases to late Post-Classic.

It is apparent that an entire socio-economic component in the archaeological record was overlooked in earlier surveys.

In summary, we attempted to fulfill, with a greatly reduced budget, the objectives of the original proposal. The season served as an excellent test of methodology on the feasibility and desirability of an expanded project. We have a series of very promising leads as to the character of Kaminaljuyu society for the Miraflores and Esperanza phases and obtained abundant new data in Kaminaljuyu material culture. A major result was the collection of a huge, stratigraphically controlled sample of sherds, in many cases associated with C14 samples (over 150 samples were collected), and thousands of obsidian blades, all of which will provide a comprehensive body of material for relative and absolute dating. Finally, and most importantly, we have a staff well trained in the specific problems of survey and excavations at Kaminaljuyu, most of whom will be available for the larger planned project.

Upon our return to the United States, we wrote a new proposal to the National Science Foundation for a major research grant to run for a two-year period (February 1, 1969 - December 31, 1970). The grant has been awarded, and the University of Minnesota has agreed to provide Ford Foundation Fellowships for the support of the graduate students working on the project.

In a project of this type, with personnel drawn from several institutions, the question of publication credits becomes a complex one. The project was supervised by Sanders and Michels and they are listed as senior authors of the report. All members of the staff are listed on the page succeeding the title page. Each section of the report was written by one member of the staff, and we have accredited that person with the authorship. In cases where the excavation was directed by a person other than the author, we have listed him as a collaborator.

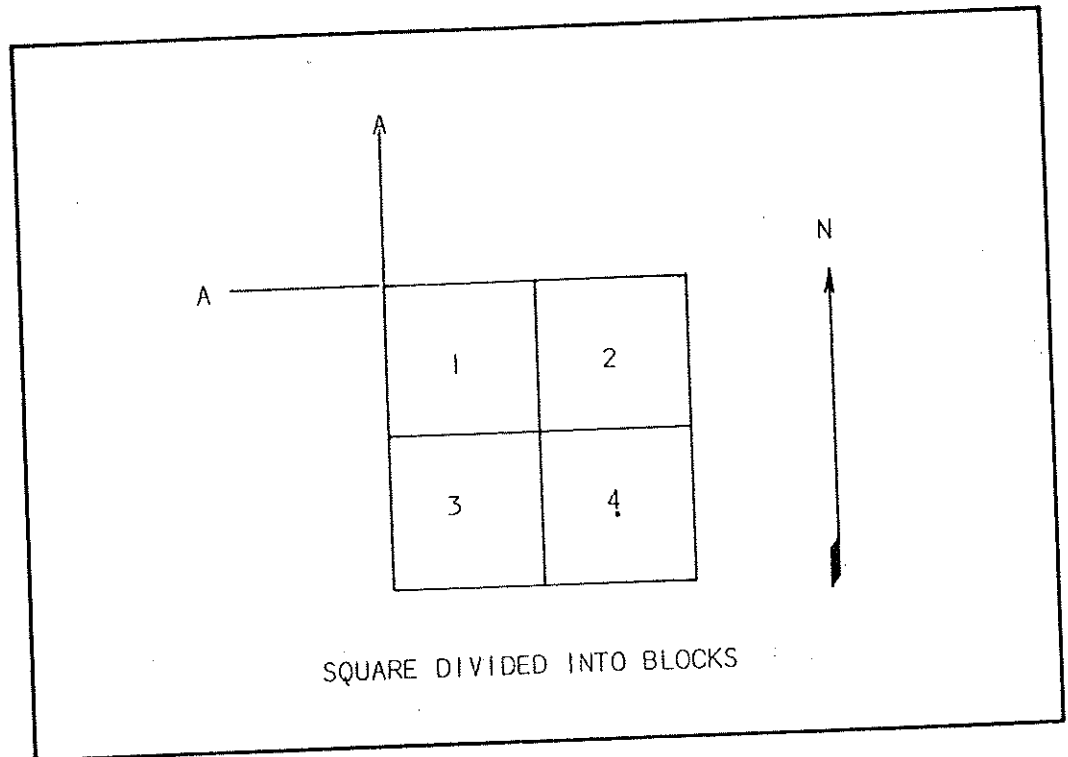
Horizontal Provenience Control System

Prior to entering the field, a decision was made to use a grid system which was flexible and which could integrate archaeological and ethnographic data on any desired geographical scale. The levels of horizontal control described below were conceived to encompass carefully controlled archaeological excavations, valley-wide settlement pattern surveys, and modern community studies within a consistent comprehensive grid plan suitable for the study of the region. Grid units were assigned in conjunction with the 1:50,000 series topographic maps published in 1964 by Dirección General de Cartografía (DG de C). The Kaminaljuyu Project grid plan differs from that of the Carnegie Institution in two respects: scale and orientation. The Carnegie grid was designed to encompass only the site of Kaminaljuyu and was oriented by magnetic north, whereas the Kaminaljuyu Project grid was oriented by Quadrangle north, between which there is a difference of $5^{\circ} 46'$.

The Kaminaljuyu Project grid system uses five integrated levels of horizontal provenience control: Zone, Area, Sector, Square and Block.

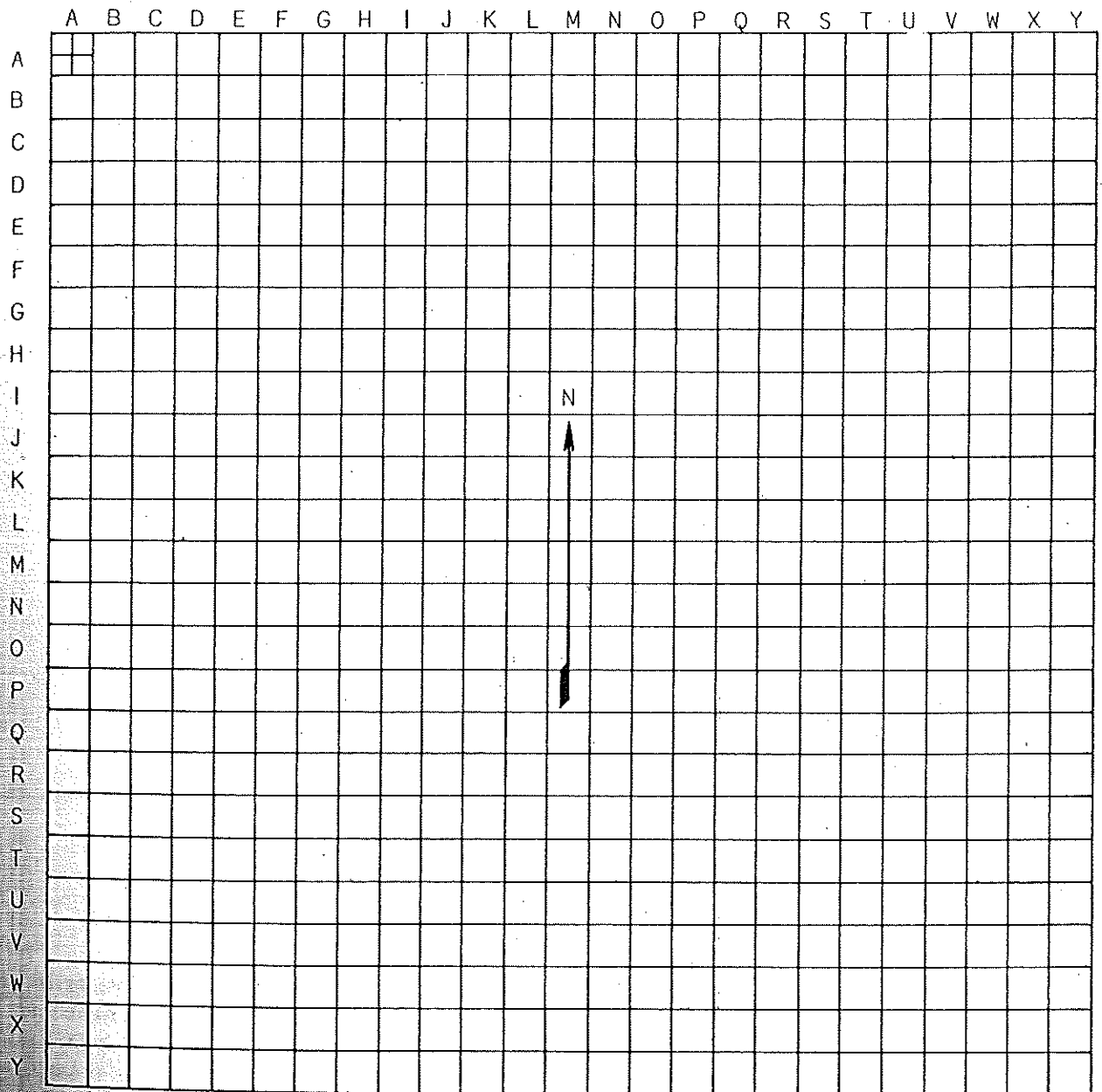
Each level is arbitrarily subdivided into a convenient number of units. The system is compiling, in that the total area enclosed at any one level becomes the basic unit at the next higher level. These are defined below in order of increasing size:

(1) Block - This is the fundamental unit of excavation in the grid system. It measures 1 meter by 1 meter. There are four blocks to a square, the next higher level of horizontal control, and these are numerically designated from west to east and from north to south, as shown below. Blocks may be excavated singly or in pairs, in which case numerical designations are separated by a slash (e.g., 3/4). In mound excavations block designations are always prefaced by the name of the square of which they are a part.



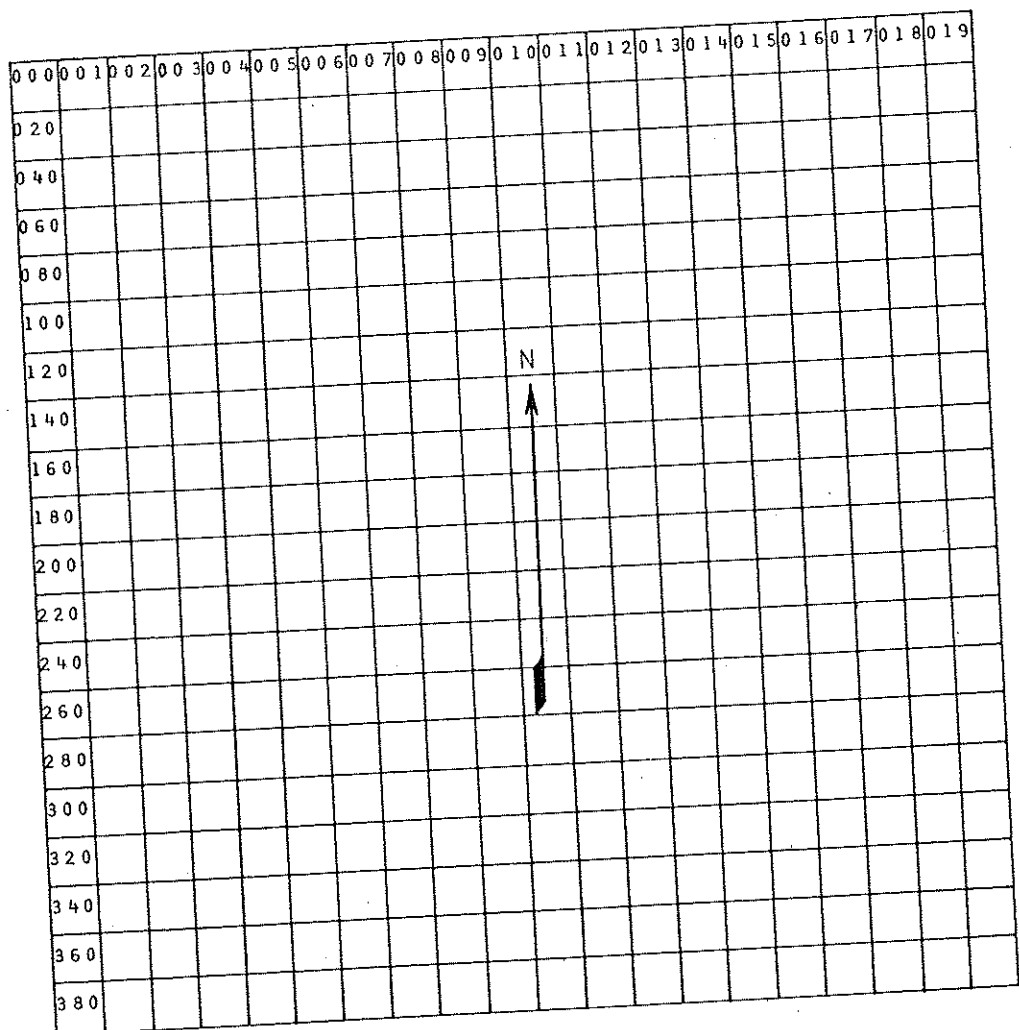
(2) Square - This is a 2 meter by 2 meter unit encompassing four blocks. There are 625 squares (25 to a side) in a sector, the next larger control unit. The sector encloses an area 50 meters by 50 meters. Squares are designated by two letters of the alphabet, one each corresponding to the relative position on each of the two axes of the grid, and are consecutively named from west to east and from

north to south with letters A through Y (see below). The letter Z is not used, since in theory it becomes the A grid line of the adjacent sector. In practice, however, the sector was generally oriented in a manner suitable for excavations, so that in most cases, though appropriate in size, the sector did not form an integrated unit within the overall grid system.



SECTOR DIVIDED INTO SQUARES

(3) Sector - This unit is 50 meters by 50 meters and encompasses an area of 2500 square meters. There are 400 sectors in an area (the next larger grid unit), each designated by a three number digit beginning with 000 and consecutively ordered first west to east then north to south (see below). In practice, the sector did not form an integrated unit of the grid system for reasons stated under (2), above.



AREA DIVIDED INTO SECTORS

(4) Area - This unit is one kilometer square. There are 25 areas in a zone, each designated by the combination of one each of two sets of marginal numbers running from 0 to 4, west to east and north to south (see below).

	0	1	2	3	4
0	00	01	02	03	04
1	10				
2	20				
3	30				
4	40				

N
↑

ZONE DIVIDED INTO AREAS

(5) Zone - This is the largest of the control units and encloses an area 5 kilometers by 5 kilometers. Zones may be joined together and in any manner suited to cover a cultural or geographic region and may be designated in any arbitrary manner. The zonal grid used in and around the Guatemala Valley region is shown below. It will be noted that various numerical designations are missing. These were purposely not included in order to permit easy expansion of the system while still maintaining, for convenience, the west-east, north-south numerical pattern.

	6	7	8	9	10	11	12
	19	20	21	22	23	24	25
	32	33	34	35	36	37	38
	45	46	47	48	49	50	51
	58	59	60	61	62	63	64
	71	72	73	74	75	76	77
	84	85	86	87	88	89	90
	97	98	99	100	101	102	103
	110	111	112	113	114	115	116

N
↑

Guatemala Valley Region
Divided Into Zones (Zone
46 Encloses Site of
Kaminaljuyu)

The system has been adapted to the old Carnegie grid in the sense that the Carnegie mound designations have been retained to avoid confusion with the published literature. Espinoza has recently adapted the Carnegie map to the modern street pattern.

We were not entirely satisfied with the system as applied to excavation and will shift to a numerical north-south grid system in future excavations. In fact, we never did tie the local excavations directly to the site grid except with respect to the larger grid units. In the future each excavation will utilize an independent grid and will be related to the site grid by triangulation with points on the Espinoza map.

MOUND B-V-2 EXCAVATION

by

D. Sean Cardenas

In Collaboration with

Donald M. Austin

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Introduction

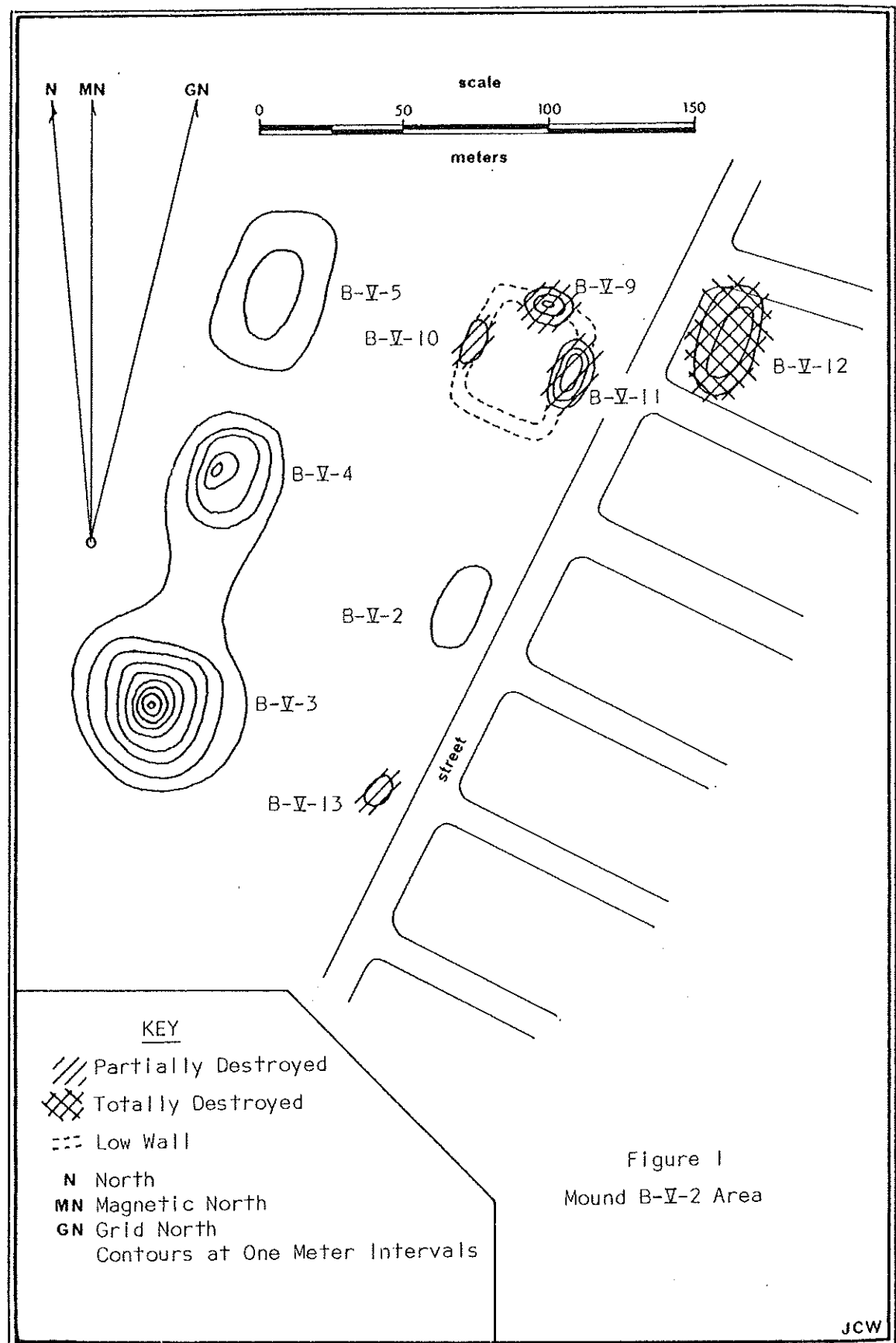
This is a preliminary report of excavation concerning the mound designated B-V-2 on the Carnegie grid map of Kaminaljuyu. Unlike the other mounds excavated during the 1968 summer field season (Mounds B-II-1, B-II-2 and B-III-1), B-V-2 was not in imminent danger of destruction. Its selection for excavation was based upon the possibility that it represented a residential mound. Such a function was indicated by its overall appearance. If the mound had been residential, it would then be of particular interest for two reasons. First, no residential structures had yet been excavated at Kaminaljuyu, and second, Mound B-V-2 lies adjacent to two larger mounds which appear to have been ceremonial in function, the three mounds forming part of a more extensive complex. Hence, concomitant with one of the principal objectives of the project, the retrieval of settlement pattern data, B-V-2 was chosen. The excavation was carried out over a continuous period of slightly less than two months, from 18 June 1968 to 9 August 1968.

Location and Setting

Mound B-V-2 is part of a complex of eight earth mounds which surround a plaza-like area (see Figure 1). This mound complex is located in the southwestern portion of Kaminaljuyu, in what today is the Colonia El Mirador. Excepting Mound B-V-12, the entire complex is located on that part of a finca which has yet to be sold to urban building contractors. The mounds, therefore, appear relatively undisturbed. Mound B-V-12, however, has been completely destroyed. In addition, the central portions of Mounds B-V-9, B-V-10 and B-V-11 have been gutted, apparently through the activity of pot-hunters, constituting the destruction of approximately 60 percent of the total mound in each case. Similar enterprises are probably responsible for a lesser amount of pitting evidenced on the surface of Mound B-V-13. It should be remarked that, as a result of survey work conducted during the 1968 summer field season, this mound, which does not appear on the Carnegie grid map of Kaminaljuyu, was located and is designated as B-V-13 in Figure 1.

Recent usage of the finca land for cultivation is indicated by the presence of maize hillocks covering the plaza area and lower mounds (i.e., B-V-2, B-V-10 and B-V-13). The area shown in Figure 1 is covered with grass, clumps of low bushes occurring primarily at the base and on the sides of Mounds B-V-3, B-V-5, B-V-9, B-V-10 and B-V-11. There is also a cluster of three trees about 17 m. west of B-V-2. Immediately north of Mounds B-V-5 and B-V-9 is a double line of tall trees extending in a west-east direction. Adjacent to and west of Mounds B-V-4 and B-V-5 is a factory. Finally, about 10 m. east of B-V-2 runs 21 Avenida, a north-south street which separates the Colonia El Mirador from the vacant area of the mound complex. Along the west side of this street is a fairly dense growth of brush and low trees. At the time of excavation the finca land was being used for the pasturing of cattle.

As can be seen in Figure 1, the long side of Mound B-V-2 borders on the eastern side of a plaza. Also bordering this side of the plaza is



Mound B-V-13, the apex of which is 63.8 m. southwest of the apex of B-V-2. B-V-13 is both lower and smaller in size than Mound B-V-2, and its function is unknown. The western limits of the plaza area are bounded by the pyramidal Mound B-V-3 (circa 8 m. high), probably a temple structure, and the adjoining Mound B-V-4 (circa 4 m. high), which may well represent an elite residence attached to the temple structure. Both of these mounds are directly across the plaza and west of B-V-2, a distance of approximately 84 m. Bounding the northern side of the plaza are Mounds B-V-5 (circa 2 m. high), B-V-10 (circa 1 m. high), B-V-9 (circa 3 m. high) and B-V-11 (circa 3 m. high). The function of these four smaller mounds is also unknown, but it was noted that B-V-9, B-V-10 and B-V-11 appear to have been connected by a low embankment, thus creating a small courtyard enclosure. B-V-11 is approximately 70 m. northeast of B-V-2. As previously mentioned, Mound B-V-12 no longer exists, having been destroyed during the construction of the Colonia El Mirador.

Condition, Size and Orientation

As noted above, the overall condition of Mound B-V-2 was excellent. The entire mound appeared to be intact and, excepting the numerous maize hillocks scattered over its surface, relatively undisturbed. Both pottery sherds and obsidian artifacts, including blade fragments and flakes, were abundant on the mound surface. B-V-2, furthermore, was entirely covered with grass, as is most of the surrounding area.

The mound itself is a low, oblong earth structure approximately 44 m. long from north to south and 23 m. wide from west to east. The top of the mound is fairly flat and reaches a height of 2.08 m., if measured from the apex to the bottom of construction as determined from excavation. The terrain upon which B-V-2 was built, however, gradually slopes downward from west to east, dropping 1.44 m. over a distance of 16 m. Consequently, the apex of the mound is only about .80 m. above the surface of the plaza area to the west, but 2.21 m. above the ground surface to the east.

The longitudinal axis of B-V-2 is aligned along a north-south axis, as are those of all the mounds in the complex excepting B-V-9. It should be noted, though, that this orientation of B-V-2 is not exact with regard to magnetic North, but rather 20° east of magnetic North. In fact, B-V-9 again excepted, the longitudinal axes of all of the mounds in the complex are oriented to the east of magnetic North, varying from 15° to 20°.

Excavation Methodology

Prior to the actual excavation of Mound B-V-2, a grid system was devised in order to provide a control over the horizontal provenience of excavation and, subsequently, of the archaeological materials retrieved. The grid system was superimposed upon the mound and aligned with its longitudinal axis (i.e., in a north-south direction). The largest units comprising the grid are 2 m. x 2 m. squares, each uniquely identified by two alphabetical letters (e.g., LJ, MJ, LK, MK, etc.). The first letter

designates the westernmost north-south grid line for any specific square and ranges from A through Y moving west to east. Similarly, the second letter denotes the northernmost west-east grid line for that particular square and again ranges from A through Y, only moving from north to south this time. In other words, squares are identified by the alphabetical letter of that north-south grid line followed by the alphabetical letter of that west-east grid line which intersect at the northwest corner of a square. As mentioned above, this grid system ensures that every square is given a unique designation. Let me remark, however, that this is true only because Mound B-V-2 is sufficiently small in dimensions (44 m. x 23 m.) so as to fall entirely within the limits of the grid (maximum dimensions (50 m. x 50 m.)). It is readily apparent that in the case of a larger structure, exceeding either or both of the maximum dimensions (i.e., 50 m.), another type of grid system would be advisable so as to avoid any possible confusion resulting from the repetition of letters.

The squares of the grid system are further subdivided into four equal blocks, each 1 m. x 1 m. Within each square the blocks are identified by the numbers 1 through 4. Numbering of the blocks is as follows: 1 corresponds to the northwest block of a square, 2 to the northeast block, 3 to the southwest block, and 4 to the southeast block. Figure 2 illustrates the above by depicting square MJ and the position of its four blocks.

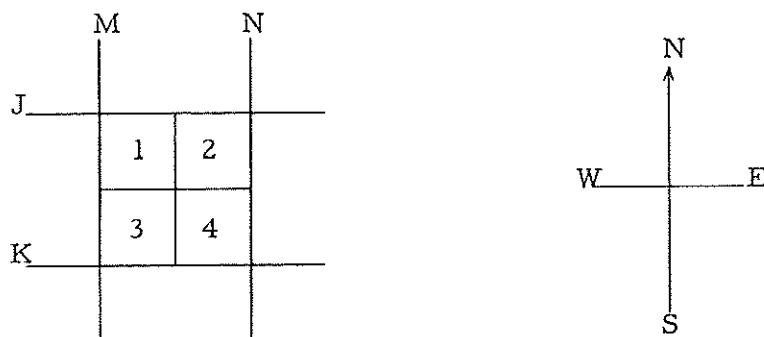


Figure 2
(Square MJ with blocks 1/2/3/4 defined)

Figure 3 illustrates, among other things, the superimposition of the grid system upon B-V-2. One aspect, relating to the actual excavation of the mound, should be conspicuous. It is obvious that only a small portion of the entire grid system was laid out (about 6.50 percent), as indicated by the stakes. This portion, however, includes about 16 percent of the total mound surface. In addition, of the part which was superimposed (i.e., 44 squares or 176 blocks), only slightly more than half was excavated (i.e., 94 blocks or approximately 53.41 percent of the superimposed grid area), as shown by the squares and/or blocks drawn in Figure 3. In other words, about 10 percent of the total surface area of B-V-2 was excavated.

As regards the mechanical process of superimposing or laying out the grid system, a stake was placed at the apex of the mound initially and designated the functional datum point stake. A transit was then set up over this stake and used for sighting a basic north-south grid line (N line) and west-east grid line (N line), further identifying the functional datum point stake as NN. Stakes were placed along both basic grid lines at 2 m. intervals measuring from NN. Northward, the stakes ended at the west-east J line. Eastward, they ended at the north-south X line. Southward, they extended to the west-east Y line, an additional stake being placed 25 m. from NN. Westward, the stakes extended to the north-south H line, with an additional stake again placed 25 m. from NN. The remainder of the grid system was laid out by a combination of sighting with the transit as it was moved along both basic grid lines and of measuring from already established stakes.

Once a control over the horizontal provenience had been established, it was necessary to determine an efficient method for controlling the vertical provenience as well. A nail, therefore, was hammered into a tree (one of the three located 17 m. west of the functional datum point stake) at a point sighted with the transit. This nail head was then designated as the vertical provenience datum point and given an arbitrary height of 10 m. The height of the nail head of the functional datum point stake was then determined in relation to the vertical provenience point, all subsequent vertical proveniences being measured relative to the functional datum point. It should be noted that vertical provenience is always given in "cm. AZEP" (i. e., above the zero elevation plane) rather than in "cm. BD" (below vertical provenience datum point).

The excavation was carried out by arbitrary levels. Level 1 always constitutes a leveling process and, consequently, considerable variation exists within the vertical proveniences recorded for this level. Leveling, in effect, consists of determining the lowest surface point within a horizontal unit of excavation, whether an entire square or only two blocks of a square, and then excavating the entire unit down to that point. The vertical provenience of Level 1 is thus defined as the area from the highest surface point to the lowest within each horizontal unit. After the initial leveling excavation proceeded in 20 cm. levels, beginning with Level 2. In addition, each 20 cm. level was excavated in 5 cm. layers, providing maximal control over the vertical provenience of both artifactual material and structural features. When excavating structural features the 20 cm. levels were discarded. Arbitrary levels were utilized instead, being determined by the size of the feature. This was done in order to first uncover and then follow any structures encountered.

During excavation the archaeological material was recovered with regard to its horizontal and vertical provenience, and the control was three-fold. First was the excavation by square. Second was the excavation by blocks within each square, since blocks 1/2 were dug separately from blocks 3/4. Third was the excavation by level within each horizontal unit. The material retrieved was placed in bags, two bags being used per level if an entire square was excavated. The bags were tagged with the following information: identification of the excavation by zone, area and sector (i. e., 46-32-152); identification of the square and blocks (e. g., NN 1/2); identification of the level, including its vertical definition (e. g., Level 6 /824-804 cm. AZEP/); identification of the individual in charge of the excavation; and

the date of excavation. An effort was made to collect everything encountered during excavation.

Before bagging the material content from each level, a preliminary record of the content was made. Sherd concentrations were described as light (5-20 sherds), moderate (21-40 sherds) or heavy (over 40 sherds). Similarly, obsidian concentrations were described as light (2-8 pieces), moderate (9-15 pieces) or heavy (over 15 pieces). The remainder of the level content was recorded in relative detail (see Table I of the Appendix for a complete listing of excavation by square and level and a preliminary description of level contents). Carbon 14 samples and particularly important artifacts were, in addition, given field numbers (see Table II of the Appendix for a listing of field numbers). All of the above data were included in a Daily Field Record made out at the end of each day. A Radio carbon Record was also filled out for each carbon 14 sample taken. The technique used for extracting radiocarbon samples consisted of removing the sample from the surrounding soil matrix with tweezers and a dental pick. As much carbon as possible was collected and wrapped twice in aluminum foil. Each sample was tagged with its identifying field number, horizontal provenience, and exact vertical provenience.

The original intention, based on the belief that Mound B-V-2 had been residential in function, was to excavate the entire mound. Consequently, work was begun in the following squares: RN, QN, QO (blocks 2/4 only), QP (blocks 2/4 only), RQ and QQ. This was done with the hope of finding any retaining wall which might have surrounded the structure. Such a wall would then have been followed in order to delineate the boundaries of the structure. All that was encountered, however, were several localized irregular, hard, dry, pumice impregnated "cones," descending from the surface. Since each "cone" was suspiciously located under a corn hillock, a test pit was dug in the square VN 1/3 where another hillock occurred beyond the perimeter of the mound. As expected, a similar "cone" was discovered beneath the hillock. It is postulated that these "cones" were created by a process of differential drainage and mineral deposition, rather than representing the remains of a retaining wall. Minerals leaching down from the top of the mound were evidently deposited at the base of the hillocks.

Unable to discover the remnants of a retaining wall, the work was moved toward the mound apex and then northward. The chronological order for the excavation of these squares is as follows: PN, ON, OO, NN, NO, MN, MO, LN, LO, LM, MM, LL, ML, LK, MK, LJ and MJ. This time the intent was to uncover the structural surface of the mound and to thereby locate any postmolds and/or other structural features which might be present. As nothing of significance was discovered, however, the labor force was gradually reduced until only two workers were remaining at the end of the field season.

About midway through the season it was decided to excavate a 1 m. wide trench running (west to east) across the width of the mound from JN 1 to S hereafter referred to as the main trench. A major portion of this trench excavated well into sterile soil and provided data concerning construction phases and techniques (see Figure 4 for a profile of the north wall of the trench). Simultaneously, the squares LJ, MJ and MK (to the northwest of

the main trench) were taken down, but only MJ 3/4 and part of MK 1/2 were continued until sterile soil was reached. Both the construction phases and the techniques determined from the excavation of the main trench were confirmed by the data procured during the excavation of these squares (see Figures 6 and 7 for profiles of the north wall of LJ 1/2 and MJ 1/2 and the east wall of MJ 2/4 and MK 2/4, respectively). Since these three squares are located at the approximate center of the mound, they were excavated in the hope that, should B-V-2 have been a burial mound, the burial would be encountered in this area.

Construction Phases and Techniques

Before turning to the mound's construction, a consideration of soil classification is prerequisite. Eight distinct soil types were defined and given the following designations: humus topsoil; sandy clay; mottled, black-brown sandy clay; yellow sandy clay; brown clay; talpetate; dark brown clay; and arena. In addition to the establishment of a classificatory system for soil types, a 10 cm. x 5 cm. x 10 cm. sample of each type was collected (excepting arena). Of the eight types, three represent different combinations of the others (notably the sandy clay, the mottled, black-brown sandy clay and the yellow sandy clay), as will become apparent.

The humus topsoil is black in color and contains large amounts of organic material. In texture it is soft and loose. The sandy clay varies from yellowish-white to white in color because of the larger proportion of pumiceous volcanic ash to talpetate in the matrix. The size of the pieces of pumice ranges from granular to about 1 cm. in diameter and the matrix is hard. The mottled, black-brown sandy clay constitutes the most complex soil type. The matrix is composed of lumps of brown clay and dark brown clay, side by side. Pumice is distributed both uniformly and as lenses in the clay matrix. The hardness and tenacity of this matrix are also notable. The yellow sandy clay differs from the sandy clay only in the proportionately greater amount of talpetate in the matrix, resulting in its yellow color. This matrix is also hard and tenacious, indeed more so than the mottled, black-brown sandy clay. The brown clay consists of soft, tenacious brown clay with volcanic ash visible throughout the matrix as specks of white. Talpetate refers to a yellow-brown volcanic material which hardens on exposure to air. The dark brown clay differs from the brown clay in the darker color of the clay only. Finally, the arena is white and is composed of pumiceous volcanic ash, the pumice varying in size from granular to about 1 cm. in diameter. Consequently, this matrix crumbles easily.

The delineation of each construction phase is based primarily on data obtained from the excavation of the main trench and the squares LJ, MJ, MK, and VN 1/3. Figures 4, 6 and 7 are particularly relevant to the following material and should be referred to for an overall picture. In order to deal most efficiently with the construction phases, the stratigraphy of the mound has been defined as representing five distinct strata, further subdivisions within the strata also occurring. For the sake of expediency, the main trench and VN 1/3 will be treated separately from LJ, MJ and MK, although a consideration of the two areas together is essential for an understanding of the

construction of the mound. The existing relationships between the strata of the two areas, therefore, will be noted.

Main Trench and VN 1/3

There are five stratigraphic levels present in the main trench and VN 1/3. They are designated as follows from lowermost to uppermost: Stratum 1, comprising Substrata 1a and 1b; Stratum 2; Stratum 3; Stratum 4, comprising Substrata 4a, 4b, 4c and 4d; and Stratum 5.

Stratum 1 consists of two substrata and is entirely devoid of any archaeological remains (i. e., represents sterile soil). Substratum 1a is a continuous layer of dark brown clay which slopes down to the east, first appearing at 797 cm. AZEP at JN 1 and circa 632 cm. AZEP in VN 1/3. This substratum continues to the bottom of the excavation throughout the main trench, its lowest extension being 592 cm. AZEP in VN 1/3. The upper limit of the dark brown clay is fairly regular. Substratum 1b consists of seemingly localized areas of arena and is present in only three squares (JN 1/2, KN 1/2 and ON 1/2). In addition to appearing at varying depths, the arena is partially surrounded by Substratum 1a. Since it was impossible to determine whether the arena represents a continuous layer underlying Substratum 1a or discrete areas within the dark brown clay, it is being considered here as a substratum.

Stratum 2 is a continuous band of brown clay directly overlying Stratum 1 throughout the main trench. Its absence in VN 1/3, however, is conspicuous. The vertical thickness of Stratum 2 is variable, ranging from 8 cm. in NN 1/2 to about 50 cm. in MN 1/2. As a consequence, the upper limit of Stratum 2 is much more irregular than that of Stratum 1. Similar to the underlying stratum, the brown clay also slopes down to the east, first appearing at 825 cm. AZEP at JN 1 and at 704 cm. AZEP around QN 2. Stratum 2 is marked by an abundance of artifactual material. Heavy concentrations of pot sherds and obsidian (including a core fragment) both occur. The brown clay also contained a flat, circular, ceramic object with a hole in the center (Field No. 2); half of a small, red stone bead; 2 small metate fragments; 2 pieces of muscovite mica; and a carbon deposit (Field No. 3).

The solid talpetate extending from 26 cm. west of QN 2 to SN 1 constitutes Stratum 3. In QN 1/2 it appears to intrude into the underlying brown clay somewhat. The thickness of the talpetate is variable and the stratum yielded no cultural material. Since Stratum 3 may well represent a structural unit, it will be treated in detail in the following section on architectural features.

Stratum 4 is divided into four substrata which constitute the construction phases of B-V-2. Substratum 4a is the mottled, black-brown sandy clay layer of PN 1/2, QN 1/2 and RN 1/2 underlying the band of yellow sandy clay and the lens of brown clay immediately above the talpetate extending from RN 1 to 27 cm. west of SN 1. The substratum overlies Strata 2 and 3 in these three squares and the mottled, black-brown sandy clay contains very little sherd material or obsidian. The lens of brown clay, however, is similar to Stratum 2 in yielding an abundance of artifacts. In addition to containing heavy concentrations of both obsidian and sherd material, a carbon deposit also occurred (Field No. 9). The overlying and almost continuous

band of yellow sandy clay is designated Substratum 4b. Unlike 4a, the yellow sandy clay contained no artifacts. Substratum 4c is comprised of a combination of mottled, black-brown sandy clay and irregularly distributed lenses of volcanic ash. It was found overlying Stratum 2 from JN 1 to circa PN 1. In the remainder of the main trench it occurred immediately above Substrata 4a and 4b. The distribution of cultural material in Substratum 4c is extremely interesting. The portion extending from NN 1 to SN 1 yielded very few artifacts, as in the mottled, black-brown sandy clay of Substratum 4a. In MN 1/2, however, this is only true for the area above circa 824 AZEP. Below this point light concentrations of both ceramic sherds and obsidian were encountered. Furthermore, in LN 1/2, KN 1/2 and JN 1/2 both light and moderate concentrations of sherds and obsidian were recovered from Substratum 4c. A carbon deposit (Field No. 1) was also present. The final substratum (4d) of Stratum 4 consists of a band of sandy clay of variable thickness which, for the most part, overlies Substratum 4c. This band is discontinuous, extending from JN 1 to 40 cm. east of MN 1 and subsequently reappearing in localized areas throughout NN 1/2 and ON 1/2. Substratum 4d, like the preceding 4b, yielded no archaeological remains. It should be mentioned that the stratum of sandy clay occurring in VN 1/3 from circa 672-612 cm. AZEP, although the same as Substratum 4d in composition and appearance, was due to the differential drainage caused by a maize hillock rather than representing a possible building phase of B-V-2.

The layer of topsoil which covered the entire mound and the surrounding area is designated as Stratum 5. On the mound itself the topsoil is generally 20 cm. deep, but it becomes thicker on either side, being 30 cm. in depth at JN 1 and 69 cm. in VN 1/3. Abundant cultural remains were recovered throughout Stratum 5, as well as occasional faunal remains such as snail shells and animal bones.

Squares LJ, MJ and MK

The stratigraphy of the squares LJ, MJ and MK (see Figures 6 and 7) is much the same as that already described for the main trench and VN 1/3. Hence, to avoid needless repetition, a greater emphasis will be given to existing differences rather than to similarities. The stratigraphic layers of these squares, as previously defined in the main trench, consisted of the following: Stratum 1, Substratum 1a only being present; Stratum 2; Stratum 4, Substrata 4c and 4d only being present; and Stratum 5.

As just mentioned, Stratum 1 consisted of Substratum 1a only. This continuous layer of dark brown clay is the same both in composition and appearance as that encountered in the main trench and VN 1/3. Although the dark brown clay was reached in only MJ 3/4 and part of MK 1/2, it appeared to underlie all other strata just as before. Substratum 1a also occurred at approximately the same depth in both areas (e.g., 722 cm. AZEP at NK 1 and 730 cm. AZEP at NN 1); its upper extension was again fairly regular. Furthermore, this layer again proved to represent sterile soil.

Stratum 2, the continuous band of brown clay overlying Stratum 1, differs from that of the main trench in several respects. First, it was both uniformly thicker (approximately 78 cm. in depth), with one notable exception, and more regular than in the main trench. The exception occurred 20 cm. south of NK 1 where the brown clay band was abruptly narrowed to about

30 cm. and remained that way for the remainder of NK (see Figure 7), thus corresponding very closely to the 20 cm. thickness of the same stratum in the main trench at NN 1. Second, because of its greater thickness, Stratum 2 first appeared at a lesser depth in squares LJ, MJ and MK than in the main trench (e.g., 847 cm. AZEP at LJ 1, but 779 cm. AZEP at LN 806 cm. AZEP at MJ 1, but 789 cm. AZEP at MN 1; and 796 cm. AZEP at NJ 1, but 750 cm. AZEP at NN 1). Third, the brown clay of the three squares unlike that of the main trench, contained lenses of arena and talpetate (see Figures 4 and 6). Fourth, numerous large pieces of burnt earth were found in the matrix of the three squares, but they were absent from the same stratum of the main trench. Despite these differences, however, the essential similarities of Stratum 2 in both areas are apparent. Not only does this matrix appear to underlie the mound structure throughout, but it also slopes down to the east in each of the areas. Heavy concentrations of both sherds of material and obsidian are again typical, including an animal figurine head, and four carbon deposits were likewise present (Fields Nos. 8, 10, 11, 12).

Stratum 3, as defined in the main trench, was absent in the squares LJ, MJ and MK.

Stratum 4, immediately overlying Stratum 2, again constituted the actual construction phases of the mound. Of the four substrata identified in the main trench, only two appear in the squares LJ, MJ and MK, namely 4c and 4d. Here Substratum 4c differs from that of the main trench in one obvious respect, the composition of the matrix. In addition to the predominant mottled, black-brown sandy clay and lenses of arena, there were well-defined areas of brown clay, talpetate and yellow sandy clay present. The sudden 50 cm. downward extension of 4c between the points NK 1 and 20 cm south of NK 1 should also be noted as there was no equivalent occurrence in the main trench. Although the artifactual content is similar to that of the main trench between the north-south grid lines L and N in yielding light to moderate concentrations of both ceramic material and obsidian, the recovery of an entire Majadas phase ceramic vase (Fields Nos. 4 and 5) was exceptional. As in Stratum 2, the brown clay areas continued to yield heavy and moderate obsidian concentrations. The Majadas vase mentioned above however, did not come from such a brown clay area; it was encountered in the mottled, black-brown sandy clay. Sandy clay comprised Substratum 4d again, as in the main trench, but it only occurred in isolated areas and not as an extensive band overlying Substratum 4c.

Topsoil again constituted Stratum 5, and it differed in no way from the topsoil previously described for the main trench.

The description of stratigraphy and concomitant delineation of the four building phases of B-V-2 (i.e., Substrata 4a, 4b, 4c and 4d) provide the data necessary for making inferences about the methods of construction utilized by the ancient builders. Kidder, Jennings and Shook (1946) present a useful description of the natural stratigraphy occurring in the Guatemala Valley:

In the vicinity of Mounds A and B, and apparently over most of Kaminaljuyu, the surface soil is a loamy humus 50 cm. to 1 m. thick. This is underlain by about 1 m. of tough, dark clay. Under the clay is a stratum of clean white volcanic pumiceous ash, locally called arena, which varies in thickness from

25 cm. to 1.50 m. Beneath the arena, with no intervening humus or clay, comes an approximately 2 m. layer of a fine-grained, compact, yellowish substance, also of volcanic origin, known as talpetate. From this stratum downward, . . . there is an alternation of layers of arena and talpetate. (p. 10)

The lack of any readily available source of stone was a significant factor in determining the building techniques employed at Kaminaljuyu and explains in part the absence of stone masonry. The only sources of building material available to the builders of B-V-2 were the upper layers of the natural stratigraphy, particularly the more accessible black surface soil and dark brown clay. It must be emphasized that the various artifacts, primarily broken pottery, found in the mound fill are incidental rather than deliberate inclusions. All the cultural remains so far discovered in the Guatemala Valley are contained in the ancient or modern topsoil layers, or else they are intrusive into the underlying strata. Consequently, their presence in the mound fill results from the use of the topsoil and the contents of older rubbish-filled pits which must frequently have been encountered in removing the clay and arena strata.

Once the required materials were obtained, they were prepared for usage in one of two ways. The most common practice was to puddle the several soils (i. e., the black surface soil, dark brown clay, arena and/or talpetate) to form an adobe, which was applied wet and firmly tamped in place. This produced when dry an exceedingly tough and compact matrix. The final composition and appearance of the adobe was dependent upon both the varying amounts of the four soils used and their presence or absence in the mixture, it being possible to distinguish four different earth mixes in the construction of B-V-2. The first two are mixtures of dark brown clay and arena, differing in the amount of black surface soil included as indicated by the quantity of cultural material present. The second two comprise mixtures of arena and crushed talpetate, differing this time in the amount of talpetate present.

Also occurring, but with less frequency, was the practice of using unmixed the black surface soil, arena or talpetate for dry fill. The lens of brown clay in Substratum 4a of the main trench and the numerous lenses of arena encountered in 4c are both examples of this method. Sometimes, however, the builders used a dry mixture of two or more of these materials, e. g., the layer of arena and topsoil in Substratum 4c of squares LJ, MJ and MK. A different and more interesting construction technique is exemplified by the talpetate of Stratum 3. In this instance the talpetate appears to have been quarried in large chunks which were subsequently shaped and used for construction purposes in much the same manner as stone.

The adobe fill was prepared beforehand by thoroughly puddling dark brown clay, as the predominant ingredient, with variable amounts of rubbish or black surface soil and arena. Lumps of pumice were sometimes included. The adobe was then laid down in successive layers so as to build up the mound. On drying, this mixture hardened to such a degree that the sharp point of a modern steel pick penetrates only a few centimeters, even with a heavy stroke. Incidental inclusions in the adobe, derived principally from rubbish pits and/or topsoil, were the following, in order of frequency:

pottery fragments; fragments of obsidian flake-blades and chips; burned adobe fragments from wattle-and-daub walls; and mica sheets (muscovite). The adobe cappings were prepared in a like manner except that volcanic ash and variable amounts of crushed talpetate were the only building materials used, volcanic ash being the predominant ingredient. This mixture, on drying, hardened to a greater degree than the adobe fill previously described. As already mentioned, the lenses of rubbish and/or arena encountered in the fill matrix were either left in their natural state (i. e., unprepared) or were dry mixed prior to their utilization. A certain amount of preparation, however, is indicated for the quarried chunks of talpetate (almost rock-like in their hardness). They appear to have been shaped to some extent and then joined with some form of cement, thin brown bands of approximately .02 cm. in thickness being readily visible between the blocks.

Architectural Features

Structure 1 (Figure 5)

The status of Structure 1 is at best tenuous due to our extremely limited knowledge concerning any of its attributes. It was encountered in only four blocks of the main trench (i. e., QN 1/2 and RN 1/2) and all that is known about it in QN 1/2 is derived from what is visible in profile (see Figure 4), as no attempt was made to stop excavating when it first appeared. Although successful in exposing its surface in RN 1/2, time did not allow for continuation of the work. Consequently, all the dimensions of the structure are unknown, though its extension into the adjacent blocks to the north, east and south is certain.

Structure 1 was constructed directly upon the ancient topsoil (i. e., Stratum 2), no attempt being made apparently to level the terrain beforehand. The structure was seemingly constructed with solid chunks of talpetate which, at least in QN 1/2, were shaped to some degree either prior to their placement or afterwards, and they were held together with some type of cement. The conspicuous evenness of the upper surface of Structure 1 in QN 1/2, which continues into the adjacent QM 3/4, suggests a possible platform measuring about 1 m. from west to east, perhaps supporting a small shrine at one time. The surface of Structure 1 in RN 1/2 is covered with numerous irregular lumps of talpetate. Postulating a flat surface for this area also, it is suggested that these lumps represent the remnants of walls which once enclosed a small area (perhaps a room) about 20 cm. below and adjoining the raised platform. These walls may either have been destroyed long before the later construction of Substructure 2a or at the time it was begun.

Structure 2 (Figure 5)

In considering Structure 2 we can proceed with a great deal more certainty. Although there are four distinct construction phases represented, the entire unit is actually composed of two structural levels, the initial Substructure 2a and the completed Structure 2.

There was no apparent attempt on the part of the builders to level the ancient topsoil prior to the construction of Structure 2. Since the structure was built upon sloping terrain, the first concern of its builders was to prevent the possibility of slippage to the east. Hence, a low, wide mound lacking any architectural features, Substructure 2a, was constructed along what was to be the eastern side of Structure 2. The actual dimensions of Substructure 2a are unknown (i. e. , neither its length nor width) because it is known only from the main trench profile (Figure 4). Substructure 2a was built over Structure 1, apparently utilizing the earlier structure both as a solid anchoring device and partial fill material. The surface of Structure 1 seems to have first been cleared of any debris and the remaining walls destroyed. The first construction phase of Substructure 2a consisted of building up successive layers of fill material. The fill was primarily puddled adobe of the dark brown clay-arena variety with very little black surface soil included. A 25 cm. deep lens of unmixed topsoil was also used in part of RN 1/2, possibly to smooth out the extremely irregular surface of Structure 1. Once the fill of Substructure 2a had reached the desired height it was capped with a 15 cm. thick adobe mixture of arena and talpetate which, when dry, presented a durable surface. The completed Substructure 2a reached a height (circa 780 cm. AZEP) approximating that of the ground level on the western side of Structure 2 (circa 800 cm. AZEP), thus providing an effective barrier to any possible slippage of the final Structure 2.

The rest of Structure 2 was constructed in the same manner as Substructure 2a. The fill matrix was first built up with successive layers of puddled clay-arena adobe. The amount of rubbish and/or topsoil included in the puddled adobe varied from one area to another, much less being used east of NN 1 than west of it. In addition, both unmixed arena and a topsoil-arena mixture were used as dry fill. The top of the fill was modeled slightly in preparation for the subsequent terracing. The finished fill matrix was capped with a puddled arena-talpetate adobe of variable thickness, ranging from 20 cm. to 50 cm. The capping was modeled to create a terraced structure, a terrace occurring every 3 m. and rising 30 cm. above the last one. The terraces ended in a 5 m. wide (west to east) platform which may have supported either a shrine or residential structure. Since the level of the plaza to the west of Structure 2 was substantially higher than the ground to the east, only two terraces were constructed on the western side. On the eastern side, however, at least four terraces were necessary to reach ground level, perhaps even one or two more being present. Unfortunately, it was impossible to locate any structural remains, either post molds or wall stubs, due to the badly eroded condition of the surface capping of Structure 2.

Material Culture

The preliminary status of this report prevents anything more than a cursory presentation of the material culture.

Ceramics

At this time there is only a preliminary analysis available of a small portion of the ceramic material. It is limited to sherd material from the two uppermost levels and is tentative at best. The description of the ceramics

ranges from Pre-Classic through Post-Classic and, consequently, is of little value at present. The one notable exception to the above is recovery of a complete Las Majadas vase (Fields Nos. 4 and 5) which was found deep within the adobe fill of Structure 2 (MK 2, Levels 9 and 10). The importance of this find is twofold. Not only is the vessel easily identifiable, but it is also the only entire vessel encountered from the excavation, the rest of the sherd material belonging, at most, to a small portion of any one bowl.

A number of figurine fragments were also found but, due to the fact that they are only fragments, it is impossible to determine whether they are parts of figurines or adornos. In the modern topsoil were found a ceramic head (MO 4, Level 1), nose (MO 4, Level 2), hand and arm (MO 1, Level 2), the last three being similar in appearance. A figurine body fragment was retrieved from the adobe fill in which the Majadas vase occurred (MK 1/2/3/4, Level 9) and an animal figurine head was discovered in the ancient topsoil of LJ 1/2/3/4, Level 7. The only other ceramic artifact found was a flat, clay object with a hole in the center (Field No. 2), again from the ancient topsoil layer (MN 1/2, Level 10). This may have been a broken pottery sherd which was modified and used as part of a game.

Stone

Although an abundance of obsidian artifacts was recovered, principally from the modern topsoil layer and the underlying ancient topsoil, these artifacts, again, have not yet been analyzed. Excepting the one core fragment found in ON 1/2 (Level 10), the rest can only be described as including flake-blades and chips.

Pieces of mica were next in the frequency of occurrence. The pieces varied in size and were all of the type classified as muscovite. One large piece was recovered from the adobe fill of Substructure 2a (RN 1/2, Level 3) while the rest were all found in the ancient topsoil layer of the main trench. Two pieces came from ON 1/2 (Level 8), another from LN 1/2 (Level 7), and a large piece from ON 1/2 (Level 10).

Excepting the stone beads (see following subsection on ornaments), metate fragments are the only other form of worked stone found. In the humus topsoil layer there were several probable metate fragments recovered from OO 1/2/3/4 (Level 1). The remainder came from the ancient topsoil layer, two small fragments occurring in QN 1/2 (Levels 8 and 9, respectively).

Ornaments

There are two stone artifacts which can be considered as ornaments. The first, a polished jade bead, was found in the humus topsoil of NN 1/2/3/4 (Level 1) and the second, half a red stone bead, came from the ancient topsoil of KN 1/2/, Level 7.

Bone

All of the bone recovered during excavation occurred in the humus topsoil layer and they are nonhuman. Several animal bones were found in both squares PN 1/2/3/4 and LJ 1/2/3/4 in Level 1. In MK 1/2/3/4/ (Level 1),

however, two types of bone were encountered. The first was from a large animal, perhaps a cow, whereas the second was from either a bird or small mammal.

Discussion

In view of the preliminary nature of this report, there is little that can be said definitively about the builders of B-V-2 beyond the purely architectural realm. Until the completion of the ceramic analysis and the dating of both the carbon samples and obsidian artifacts, we are almost completely in the dark as regards both the relative and absolute dating of B-V-2 and its relationship to the rest of Kaminaljuyu. Since this paper deals with only the partial investigation of but a single mound, emphasis on the word "partial," the determination of both the function of B-V-2 and its consequent relation to the surrounding mound complex of which it appears to be a part is severely hampered.

It is apparent from the evidence obtained during the excavation of the brown clay stratum which underlies the earliest structures of B-V-2, and consequently represents the ancient topsoil layer, that this area of Kaminaljuyu was occupied before the construction of Structure 1. Judging by the thickness of the stratum, it is also obvious that this early occupation continued over a substantial period of time. Although the extension of the occupational layer to both the west and south is unknown, its continuation for at least 9 m. to the north is certain and its absence in VN 1/3 has already been noted. Exactly when this occupation occurred, and for how long, is uncertain, but it probably was during the Early Pre-Classic or very early Middle Formative, for reasons which will soon become apparent. The occurrence of metate fragments in the ancient topsoil layer indicates that these earliest inhabitants cultivated maize and probably other plant foods. Consequently, these early people were probably settled agriculturists. Their dwellings were presumably perishable affairs made of wattle-and-daub, as the numerous pieces of fire-hardened clay that were found seem to be the remnants of the walls of burned houses. It is also significant that the occupational level represents an open and undefended site. Although the archaeological data now available from B-V-2 does not provide any additional inferences concerning this population, it is suggested that once the ceramic analysis is completed, the sherds from the lower levels of the brown clay will be identified either as Arevalo or as Early Las Charcas. This suggestion is based on the presence of the Majadas vessel within the body of the mound. This occupation is probably the remains of a small settlement of the type envisioned by Borhegyi in his 1965 (Borhegyi 1965b) paper.

The choice of location of Preclassic sites seems to have been dictated primarily by agricultural needs. Land was needed in the immediate vicinity of the settlement to raise the recently domesticated food plants, maize, squash, and avocado. The sites, on level land in the valleys and on the plateaus, were small, open, and undefended.

From the scanty archaeological material at hand, it appears that the basic settlement pattern of this Formative Period was the unplanned year-round farming-village consisting of small

clusters of mud-walled houses scattered over the landscape. Each cluster may have represented an autonomous, self-sufficient, agricultural, social, religious, and political entity. Although no habitation mounds have yet been excavated, we know from the many burned adobe fragments . . . that dwellings were made of pole and thatch with walls partially daubed with adobe. . . . Apparently these huts were arranged at random throughout the village area, probably on low earthen foundations. There are no signs of plazas, or other indications of village planning. . . .

Apparently no temple or burial mounds were constructed during this period. It is possible, however, that some of the low, rectangular, earthen structures at Kaminaljuyu . . . were built during the end of this period. They may have served for minor public or family ceremonial functions, thus heralding the beginning of the monumental temple and burial architecture of the following period. (pp. 61-62)

Structure 1 appears to have been built towards the end of the occupation horizon represented by the ancient topsoil. The possibility that Structure 1 was actually a part of Structure 2, functioning as an edge construction for the prevention of fill slippage, is considered to be unlikely. The strikingly even surfaces of Structure 1, particularly in QN 1/2, argue for its treatment as a structural unit both distinct from and earlier in time than Substructure 2a. Furthermore, it is suggested that Structure 1 was built prior to the time that the ancient topsoil had attained its present upper limit, indeed when it was actually 8 cm. lower. The 8 cm. of brown clay overlying the small portion of Structure 1 would, therefore, have been due to the natural accumulation of occupational debris, rather than its being necessary to postulate that Structure 1 was constructed into the ancient topsoil layer. The time required for both the deposition of 8 cm. of cultural debris and the amount of erosion visible on the surface of Structure 1, assuming that it was kept in a state of repair while it was functioning, indicates that a fairly long time span was involved between the construction of Structure 1 and the later Substructure 2a.

As already mentioned, Structure 1 represents an architectural unit with a small platform on its western side which was raised about 20 cm. above the floor level to the east, the platform probably supporting a shrine. The portion east of the platform appears to have comprised a walled enclosure of some sort and the entire structure was made of quarried chunks of talpetate. Should the ceramic material from the upper levels of the brown clay layer date to the Late Las Charcas phase, as suspected, Structure 1 could then be tentatively placed within this same time period.

The construction of Structure 2 marks the culmination of the apparent trend towards greater societal complexity in this part of Kaminaljuyu. This conclusion is based on the size and structural complexity of Structure 2 and its presumed contemporaneity with the rest of the mound assemblage, on the assumption that the entire plaza-mound complex was built and occupied by the same population. Unfortunately this is all that it is really based on. The information provided by Structure 2 is almost wholly architectural and the rest of the complex has not been investigated at all.

It has already been pointed out that the construction of Substructure 2a predates the rest of Structure 2, whether by only a few days, weeks, months or whatever. The utilization of the older Structure 1 in the construction of Substructure 2a was deliberate; in fact the time was apparently taken to remove any existing debris from the surface of this structure before the remaining walls were destroyed. The intention, presumably, was to use Structure 1 as an anchoring device and partial fill material. Substructure 2a, therefore, was built over the older structure.

Although it has been argued that the function of Substructure 2a was to prevent slippage of the subsequent fill of Structure 2, the condition of the substructure's adobe capping poses an interesting question. There are two possible explanations for the discontinuity of the adobe capping. The first is that there may never have been a continuous 15 cm. thick adobe capping to Substructure 2a. In other words, only enough capping was laid down to provide the necessary barrier to fill slippage. The second alternative is that Substructure 2a may have actually existed as an independent structure for a period of time before the construction of the rest of Structure 2, thus allowing natural erosion of the adobe capping to take place. The first explanation admittedly appears more plausible, but it is impossible to make a choice.

In any case, there is no doubt that the builders of Structure 2 did use Substructure 2a as a structural device to prevent fill slippage. A detailed description of the construction of Structure 2 has already been presented. The problem that concerns us here is a determination of the function of Structure 2. In this regard there are two indications that it may have been a burial mound. The first is the sudden drop of the adobe fill in MK 2, which was mentioned earlier in the report. It is possible that this drop was caused by the deterioration of the roof logs of an underlying tomb and then the subsequent slumping of the adobe fill. It must be noted, however, that if this is indeed the case, the slumping fill does not look at all like that found by Kidder, Jennings and Shook (1946) in Mounds A and B or Shook and Kidder (1952) in Mound E-III-3. The second indication is the Majadas vase which occurred in MK 2, in the same area as the slumping fill. Since the vase was apparently placed in the fill matrix in one piece, it may have been intended as a burial offering or a marker for an underlying tomb. Needless to say, the suggestion that Structure 2 may have been a burial mound is very tentative.

It is also possible that the platform surface of Structure 2 supported some type of perishable structure, either religious or residential. Unfortunately it was impossible to locate any structure on the platform surface, for the simple reason that almost all of the adobe capping east of NN 1 had been eroded away. Apparently erosion carried practically all of the material down the eastern side of the structure, which accounts for the exceptionally thick (circa 70 cm.) topsoil layer encountered in VN 1/3.

Despite the fact that the function of Structure 2 is indeterminate, its construction, and consequently that of the entire complex, can be assigned to the Middle Pre-Classic Period. This is based on the presence of the Majadas vase which belongs to the transitional Majadas-Providencia phase. The organized planning of the plaza and surrounding mounds shows the definite concept of a ceremonial precinct, a sacred burial enclosure,

dependent upon a cluster of satellite villages for the labor force necessary for its construction and maintenance.

The humus topsoil layer covering Structure 2 appears to represent a later occupation of the area. The preliminary ceramic analysis suggests that it was late Classic in time, probably Amatlé. By this period, however, Structure 2 was in poor condition most likely and the later people do not seem to have built any new structure. It is very possible that this later occupation was similar to the earlier farming village that underlies the mound.

APPENDICES

TABLE I
Complete Listing of Excavation by Levels for All Squares

Square	Block	Level	Vertical Provenience	Material Content	
RQ	1/2/3/4	1	827-797 cm. AZEP	Over 40 sherds and 2-8 pieces of obsidian. Rim sherds (cat. No. 233) are indeterminate.	
QQ	1/2/3/4	1	869-824 cm. AZEP	Over 40 sherds and 2-8 pieces of obsidian. Less than 5 sherds, about 20 pieces of red brick-like material near bottom of level in blocks 1/3, and 1 corral sherd from blocks 2/4. Rim sherds (cat. No. 234) tentatively analyzed as Pre-Classic (only 1 rim in sample: censor lid).	
		2	824-804 cm. AZEP		
QP	2/4	1	866-829 cm. AZEP	Over 40 sherds and 2-8 pieces of obsidian. Rim sherds (cat. No. 230) tentatively analyzed as Amatl.	
		2	829-809 cm. AZEP	Less than 5 sherds.	
QO	1/2/3/4	1	865-834 cm. AZEP	Over 40 sherds and 2-8 pieces of obsidian. Rim sherds (cat. No. 229) tentatively analyzed as Amatl.	
		2	834-814 cm. AZEP	Less than 5 sherds. Rim sherds (cat. No. 235) are indeterminate.	
OO	1/2/3/4	1	924-896 cm. AZEP	Over 40 sherds, 2-8 pieces of obsidian, several probable metate fragments, and several brick-like chunks of pottery.	
		2	896-884 cm. AZEP	Less than 5 sherds. Rim sherds (cat. No. 260) tentatively analyzed as Miraflores.	
		3	884-864 cm. AZEP	Less than 5 sherds. Rim sherds (cat. No. 268) are indeterminate.	
NO	1/2/3/4	1	935-910 cm. AZEP	Over 40 sherds, 2-8 pieces of obsidian, and 1 possible figurine fragment. Rim sherds (Cat. No. 257) tentatively analyzed as both Pre-Classic and Classic.	

TABLE I, Continued

Square	Block	Level	Vertical Provenience	Material Content
MO	1/2/3/4	1	937-922 cm. AZEP	Over 40 sherds, 2-8 pieces of obsidian, ceramic head (either figurine or adorno) from block 4 at ca. 934 cm. AZEP, and a coin (ca. A.D. 1920 or 1930) from blocks 1/2.
		2	922-902 cm. AZEP	Ceramic figurine nose from block 4 at ca. 912 cm. AZEP and ceramic hand and arm (2 pieces) from block 1, similar in appearance to figurine nose. Less than 5 sherds.
		3	902-884 cm. AZEP	
LO	1/2/3/4	1	931-909 cm. AZEP	Over 40 sherds and 2-8 pieces of obsidian.
		2	909-884 cm. AZEP	21-40 sherds and 2-8 pieces of obsidian.
VN	1/3	1	741-712 cm. AZEP	Over 40 sherds and 2-8 pieces of obsidian.
		2	712-692 cm. AZEP	Rim sherds (cat. No. 232) are indeterminate.
		3	692-672 cm. AZEP	Over 40 sherds and 2-8 pieces of obsidian.
		4	672-652 cm. AZEP	Rim sherds (cat. No. 240) are indeterminate.
		5	652-632 cm. AZEP	Over 40 sherds and 2-8 pieces of obsidian.
		6	632-612 cm. AZEP	Less than 5 sherds.
		7	612-592 cm. AZEP	Less than 5 sherds. 2 small sherds. Nothing.
RN	1/2/3/4 1/2	1	836-797 cm. AZEP	Over 40 sherds and 2-8 pieces of obsidian.
		2	797-777 cm. AZEP	Less than 5 sherds and 3 pieces of obsidian.
		3	777-757 cm. AZEP	1 piece of obsidian and 1 large piece muscovite.
		4	757-737 cm. AZEP	Less than 5 sherds and 1 piece of obsidian.
		5	737-717 cm. AZEP	Over 40 sherds, 8-15 pieces of obsidian, and carbon 14 sample (field No. 9) from block 1 at 724 cm. AZEP.
QN	1/2/3/4 1/2	6	717-692 cm. AZEP	Over 40 sherds and over 15 pieces of obsidian.
		1	866-824 cm. AZEP	Over 40 sherds and 2-8 pieces of obsidian.
		2	824-804 cm. AZEP	Less than 5 sherds.
		3	804-784 cm. AZEP	Less than 5 sherds.

TABLE I, Continued

Square	Block	Level	Vertical Provenience	Material Content
QN	1/2	4	784-764 cm. AZEP	Less than 5 sherds.
		5	764-744 cm. AZEP	Less than 5 sherds.
		6	744-724 cm. AZEP	Less than 5 sherds.
		7	724-704 cm. AZEP	Less than 5 sherds.
		8	704-684 cm. AZEP	Over 40 sherds, 9-15 pieces of obsidian, and 1 small metate fragment.
		9	684-664 cm. AZEP	Over 40 sherds, 2-8 pieces of obsidian, and 1 small fragment.
		10	664-644 cm. AZEP	Nothing.
		1	908-854 cm. AZEP	Over 40 sherds, 2-8 pieces of obsidian, 2 snail shells (jutes), several chunks of irregular brick-like ceramic pieces, several animal bones, and pieces of broken bottle glass. Rim sherds (cat. No. 231) tentatively analyzed as Amatlé.
		2	854-830 cm. AZEP	Less than 5 sherds. Rim sherds (cat. No. 238) tentatively analyzed as Pre-Classic.
		3	830-804 cm. AZEP	6 sherds.
PN	1/2	4	804-784 cm. AZEP	Less than 5 sherds. Rim sherds (cat. No. 269) indeterminate.
		5	784-764 cm. AZEP	Less than 5 sherds. Rim sherds (cat. No. 228) tentatively analyzed as Pre-Classic (only 1 rim in sample: censor lid).
		6	764-744 cm. AZEP	Less than 5 sherds.
		7	744-724 cm. AZEP	Less than 5 sherds.
		1	922-897 cm. AZEP	Over 40 sherds, 2-8 pieces of obsidian, and many sherds of apparently 1 jar at ca. 917 cm. AZEP. Rim sherds (cat. No. 250) indeterminate.
		2	897-884 cm. AZEP	Less than 5 sherds. Rim sherds (cat. No. 241) indeterminate.
		3	884-864 cm. AZEP	Less than 5 sherds.
		4	864-844 cm. AZEP	Less than 5 sherds.
		1/2		
ON	1/2/3/4	1	922-897 cm. AZEP	Over 40 sherds, 2-8 pieces of obsidian, and many sherds of apparently 1 jar at ca. 917 cm. AZEP. Rim sherds (cat. No. 250) indeterminate.
		2	897-884 cm. AZEP	Less than 5 sherds. Rim sherds (cat. No. 241) indeterminate.
		3	884-864 cm. AZEP	Less than 5 sherds.
		4	864-844 cm. AZEP	Less than 5 sherds.
		1/2		

TABLE I, Continued

Square	Block	Level	Vertical Provenience	Material Content
ON	1/2	5	844-824 cm. AZEP	1 sherd.
		6	824-804 cm. AZEP	Less than 5 sherds.
		7	804-784 cm. AZEP	Less than 5 sherds.
		8	784-764 cm. AZEP	Less than 5 sherds; 2 pieces of muscovite.
		9	764-744 cm. AZEP	Less than 5 sherds.
		10	744-724 cm. AZEP	Over 40 sherds, obsidian core fragment; large, slender U-shaped piece of muscovite.
		11	724-704 cm. AZEP	Over 40 sherds and 2-8 pieces of obsidian.
		12	704-684 cm. AZEP	Nothing.
		13	684-664 cm. AZEP	Nothing.
	1/2/3/4	1	933-904 cm. AZEP	Over 40 sherds, 2-8 pieces of obsidian, polished jade bead; 4 pieces o shell.
		2	904-884 cm. AZEP	Nothing.
		3	884-864 cm. AZEP	Less than 5 sherds.
		4	864-844 cm. AZEP	Less than 5 sherds.
		5	844-824 cm. AZEP	Less than 5 sherds.
NN	1/2	6	824-804 cm. AZEP	Less than 5 sherds.
		7	804-784 cm. AZEP	Less than 5 sherds.
		8	784-764 cm. AZEP	Less than 5 sherds.
		9	764-744 cm. AZEP	5-20 sherds; 4 pieces of obsidian.
		10	744-720 cm. AZEP	21-40 sherds; 12 pieces of obsidian.
	1/2/3/4	1	936-924 cm. AZEP	Over 40 sherds; 2-8 pieces of obsidian.
		2	924-904 cm. AZEP	Less than 5 sherds.
		3	904-884 cm. AZEP	Less than 5 sherds.
	1/2	4	884-864 cm. AZEP	Less than 5 sherds.
		5	864-844 cm. AZEP	Less than 5 sherds.
		6	844-824 cm. AZEP	Less than 5 sherds.
		7	824-800 cm. AZEP	5-20 sherds; 3 pieces obsidian; several pieces pumice.
		8	800-780 cm. AZEP	5-20 sherds; 2 pieces of obsidian.
		9	780-758 cm. AZEP	21-40 sherds; 9-15 pieces of obsidian.
		10	758-738 cm. AZEP	More than 40 sherds, over 15 pieces of obsidian; a flat, circular ceramic object with hole in center (field No. 2) from block 1, 10 cm.

TABLE I, Continued

Square	Block	Level	Vertical Provenience	Material Content
MN	1/2	10		south of west-east N line and 30 cm. east of north-south M line, at 747 cm. AZEP.
		11	738-722 cm. AZEP	5-20 sherds and 1 piece of obsidian.
LN	1/2/3/4	1	932-909 cm. AZEP	Over 40 sherds; 2-8 pieces of obsidian.
		2	909-884 cm. AZEP	21-40 sherds; 2-8 pieces of obsidian.
	1/2	3	884-858 cm. AZEP	21-40 sherds; 2-8 pieces of obsidian; carbon 14 sample (field No. 1) 858 cm. AZEP.
		4	858-834 cm. AZEP	21-40 sherds; 2-8 pieces of obsidian.
		5	834-810 cm. AZEP	21-40 sherds; 9-15 pieces of obsidian.
		6	810-767 cm. AZEP	5-20 sherds; 1 piece of obsidian.
		7	790-767 cm. AZEP	Over 40 sherds, 2-8 pieces of obsidian, 1 piece of muscovite, and carbon 14 sample (field No. 3) at 777 cm. AZEP.
		8	767-747 cm. AZEP	Over 40 sherds; over 15 pieces of obsidian.
		9	747-720 cm. AZEP	Less than 5 sherds; 1 piece of obsidian.
KN	1/2	1	915-895 cm. AZEP	Over 40 sherds; 2-8 pieces of obsidian; several pieces of broken bottle glass.
		2	895-873 cm. AZEP	5-20 sherds; several pieces broken bottle glass.
		3	873-853 cm. AZEP	Less than 5 sherds.
		4	853-833 cm. AZEP	5-20 sherds.
		5	833-813 cm. AZEP	21-40 sherds; 2-8 pieces of obsidian.
		6	813-793 cm. AZEP	Over 40 sherds; 2-8 pieces of obsidian.
		7	793-773 cm. AZEP	21-40 sherds; half a small, red stone bead.
		8	773-753 cm. AZEP	Over 40 sherds; 2-8 pieces of obsidian.
		9	753-733 cm. AZEP	Nothing.
		10	733-720 cm. AZEP	Nothing.
JN	1/2	1	904-886 cm. AZEP	Over 40 sherds, 2-8 pieces of obsidian, and some pieces of broken bottle glass.
		2	886-866 cm. AZEP	21-40 sherds; 2-8 pieces of obsidian.
		3	866-846 cm. AZEP	Less than 5 sherds.
		4	846-826 cm. AZEP	5-20 sherds; 1 piece of obsidian.
		5	826-806 cm. AZEP	21-40 sherds; 9-15 pieces of obsidian.

TABLE I, Continued

Square	Block	Level	Vertical Provenience	Material Content
JN	1/2	6	806-786 cm. AZEP	Over 40 sherds; over 15 pieces of obsidian.
		7	786-766 cm. AZEP	5-20 sherds.
		8	766-746 cm. AZEP	Less than 5 sherds.
		9	746-720 cm. AZEP	Nothing.
MM	1/2/3/4	1	936-920 cm. AZEP	Over 40 sherds; 2-8 pieces of obsidian.
		2	920-900 cm. AZEP	21-40 sherds; 2-8 pieces of obsidian.
LM	1/2/3/4	1	928-910 cm. AZEP	Over 40 sherds; 2-8 pieces of obsidian; 1 unidentifiable coin.
		2	910-890 cm. AZEP	21-40 sherds; 2-8 pieces of obsidian.
	1/2	3	890-870 cm. AZEP	Less than 5 sherds; small carbon deposit (not sampled).
ML	1/2/3/4	1	938-921 cm. AZEP	Over 40 sherds; 2-8 pieces of obsidian.
		2	921-901 cm. AZEP	21-40 sherds; 2-8 pieces of obsidian.
LL	1/2/3/4	1	930-913 cm. AZEP	Over 40 sherds; 2-8 pieces of obsidian.
		2	913-893 cm. AZEP	5-20 sherds; 2-8 pieces of obsidian.
MK	1/2/3/4	1	933-923 cm. AZEP	Over 40 sherds; 2-8 pieces of obsidian; 2 types of bone at ca. 930 cm. AZEP (a large animal and a bird or small mammal). 21-40 sherds; 2-8 pieces of obsidian. Less than 5 sherds.
		2	923-903 cm. AZEP	Less than 5 sherds; 1 piece broken bottle glass.
		3	903-884 cm. AZEP	5-20 sherds; 2-8 pieces of obsidian.
		4	884-881 cm. AZEP	5-20 sherds; 2-8 pieces of obsidian.
		5	881-861 cm. AZEP	5-20 sherds; 1 piece of obsidian.
		6	861-842 cm. AZEP	5-20 sherds.
		7	842-822 cm. AZEP	5-20 sherds.
		8	822-802 cm. AZEP	5-20 sherds.
		9	802-782 cm. AZEP	Over 40 sherds; 2-8 pieces obsidian; part of figurine body; part of Las Charcas-Majadas ceramic vase (field No. 4) from block 2, 27-41 cm. south of west-east K line and 7-18 cm. west of north-south N line, at 795-783 cm. AZEP.

TABLE I, Continued

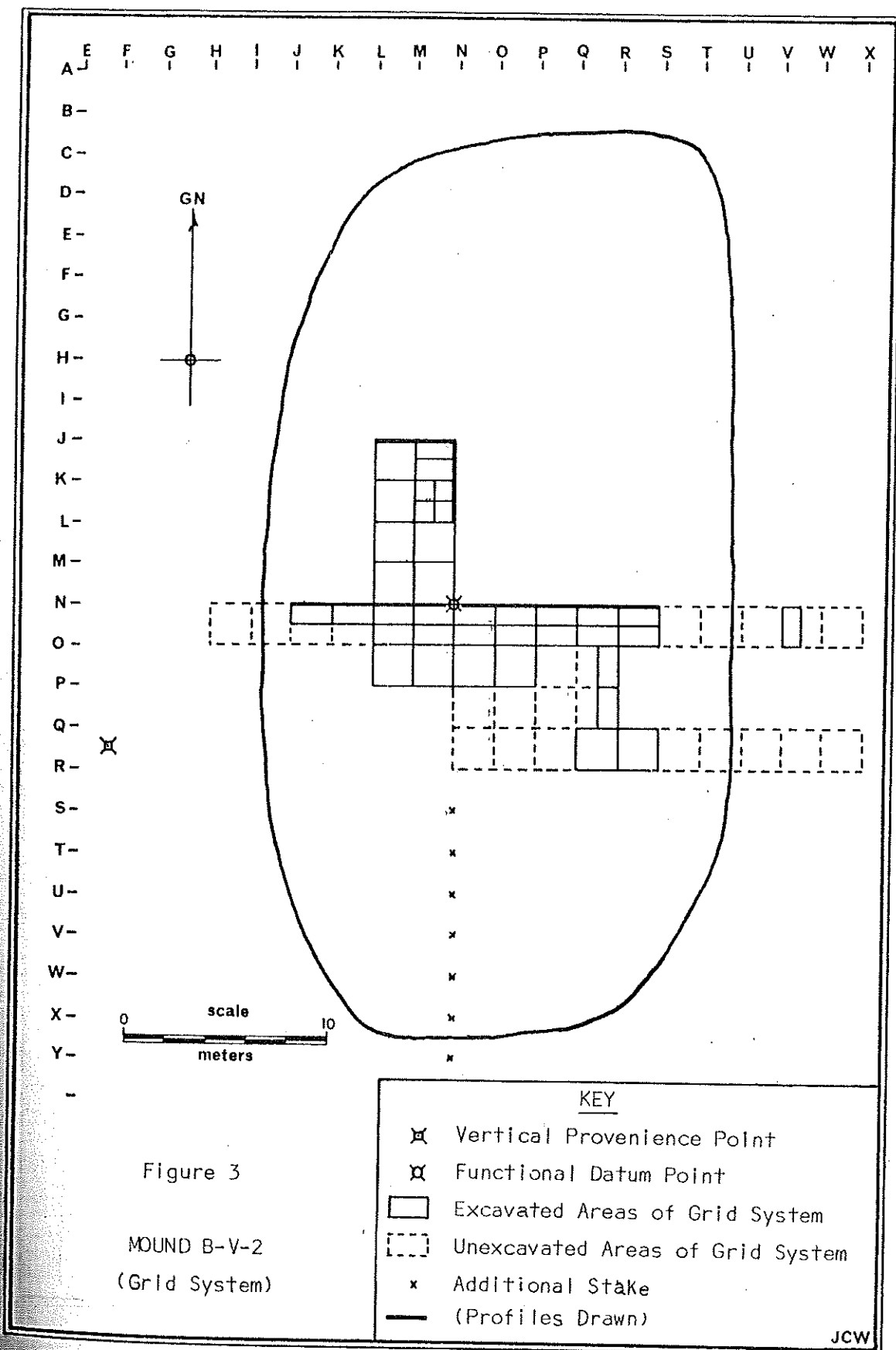
Square	Block	Level	Vertical Provenience	Material Content
MK	1/2/3/4	10	782-764 cm. AZEP	Over 40 sherds; 2-8 pieces of obsidian; remainder of Las Charcas-Majadas vase (field No. 5) from block 2, 18-31 cm. south of west-east K line and 30-47 cm. west of north-south N line, at 779-771 cm. AZEP. Also, several white sherds (field No. 6) from block 2, 5-17 cm. south of west-east K line and 40-47 cm. west of north-south N line, at 779-771 cm. AZEP; large black sherd (field No. 7) from block 2; 23-26 cm. south of west-east K line and 21-24 cm. west of north-south N line, at 782-777 cm. AZEP. 21-40 sherds; 2-8 pieces of obsidian; carbon 14 sample (field No. 8) from block 1 at 762 cm. AZEP.
		11	764-754 cm. AZEP	
LK	1/2/3/4	1	926-913 cm. AZEP	Over 4 sherds; 2-8 pieces of obsidian.
		2	913-884 cm. AZEP	5-20 sherds.
MJ	1/2/3/4	1	933-923 cm. AZEP	21-40 sherds; 1 piece of obsidian; several pieces of broken bottle glass.
		2	923-903 cm. AZEP	5-20 sherds.
		3	903-881 cm. AZEP	Less than 5 sherds; 1 piece of obsidian.
		4	881-858 cm. AZEP	21-40 sherds; 2-8 pieces of obsidian.
		5	858-837 cm. AZEP	21-40 sherds; 9-15 pieces of obsidian.
		6	837-817 cm. AZEP	21-40 sherds; 2-8 pieces of obsidian.
		7	817-797 cm. AZEP	Over 40 sherds; 9-15 pieces of obsidian; large number of pieces of burnt earth; carbon 14 sample (field No. 10) from block 3 at 797 cm. AZEP.
		8	797-777 cm. AZEP	Over 40 sherds; over 15 pieces of obsidian; tremendous quantity of burnt earth in upper part of level (not hearth area).
		9	777-762 cm. AZEP	Over 40 sherds; over 15 pieces of obsidian; more large pieces of burnt earth (not as much as previously).

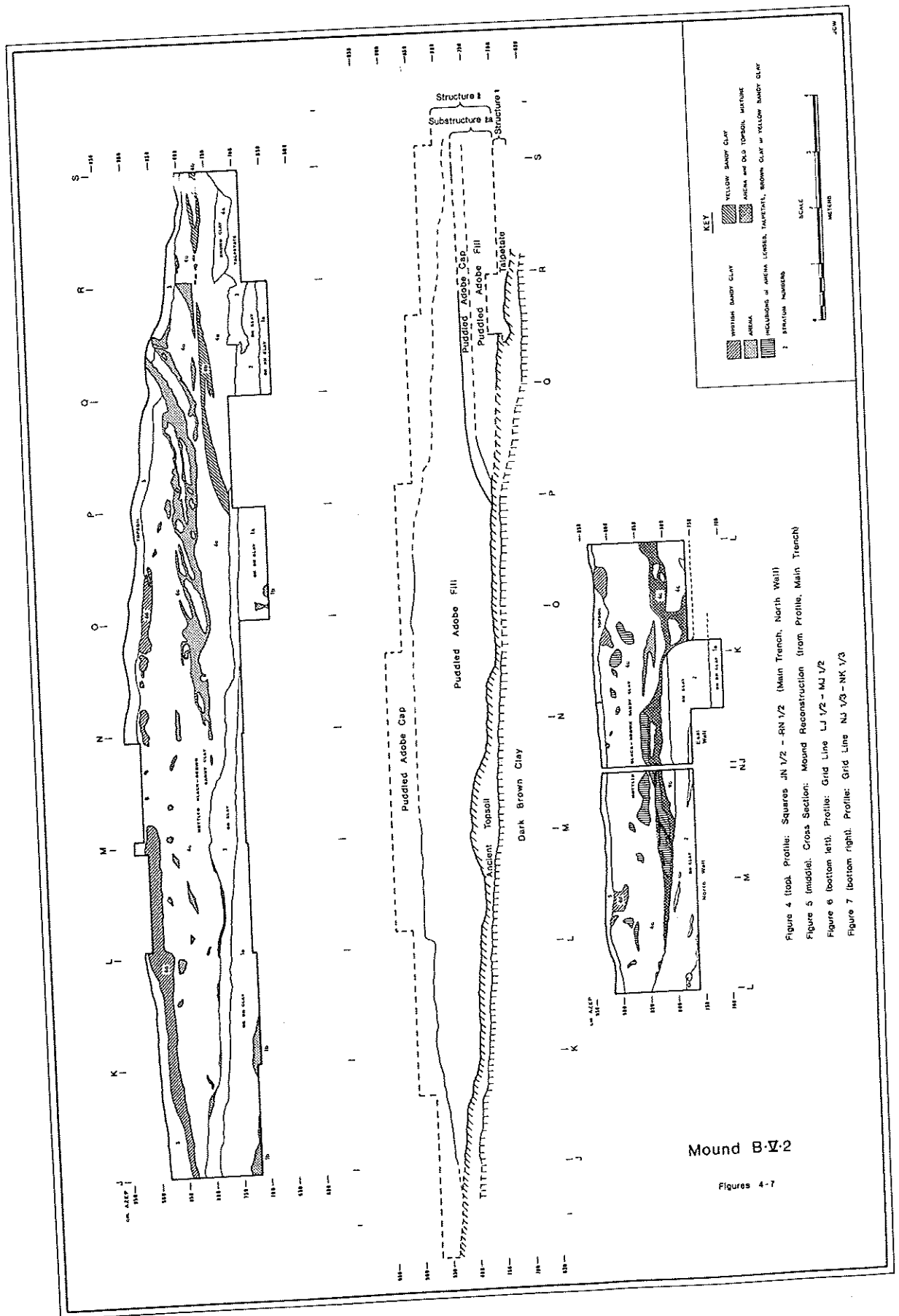
TABLE I, Continued

Square	Block	Level	Vertical Provenience	Material Content
MJ	3/4 and part of MK 1/2	10	762-742 cm. AZEP	Over 40 sherds; 9-15 pieces of obsidian; much less burnt earth.
		11	742-722 cm. AZEP	Over 40 sherds; over 15 pieces of obsidian.
		12	722-702 cm. AZEP	5-20 sherds in upper part of level; nothing below.
LJ	1/2/3/4	1	933-910 cm. AZEP	21-40 chards; 3 pieces of obsidian; 2 snail shells; a few bones; several pieces of broken bottle glass.
		2	910-890 cm. AZEP	Less than 5 sherds; 1 bone.
		3	890-882 cm. AZEP	Less than 5 sherds; 1 piece of obsidian.
		4	882-862 cm. AZEP	21-40 sherds; 2-8 pieces of obsidian.
		5	862-842 cm. AZEP	5-20 sherds.
		6	842-822 cm. AZEP	Less than 5 sherds.
		7	822-802 cm. AZEP	Over 40 sherds; over 15 pieces of obsidian; animal figurine head; large chunks of burnt earth; two carbon 14 samples (fields Nos. 11 and 12) from block 1 at 811 cm. AZEP and from block 3 at 802 cm. AZEP, respectively.

TABLE II
List of Field Numbers

Field Number	Square	Block	Level	Vertical Provenience	Description
1	LN	1/2	3	858 cm. AZEP	Carbon 14 sample of charcoal
2	MN	1	8	747 cm. AZEP	Flat, circular ceramic object with hole in center
3	LN	1/2	7	777 cm. AZEP	Carbon 14 sample of charcoal
4	MK	2	9	795-783 cm. AZEP	Part of Las Charcas-Majadas ceramic vase
5	MK	2	10	779-771 cm. AZEP	Remainder of Las Charcas-Majadas ceramic vase
6	MK	2	10	779-771 cm. AZEP	Several white ceramic sherds
7	MK	2	10	782-777 cm. AZEP	Large black ceramic sherd
8	MK	1	11	762 cm. AZEP	Carbon 14 sample of charcoal
9	RN	1	5	724 cm. AZEP	Carbon 14 sample of charcoal
10	MJ	3	7	797 cm. AZEP	Carbon 14 sample of charcoal
11	LJ	1	7	811 cm. AZEP	Carbon 14 sample of charcoal
12	LJ	3	7	802 cm. AZEP	Carbon 14 sample of carbon-ized seed





MOUND B-III-1 EXCAVATION

by
Carl A. Bebrich

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INTRODUCTION

B-III-1 is situated in a prehistorically terraced, undulating alluvial plain in the Colonia Jardines de Tikal I about 650 meters southwest from the center of the Palangana. The mound stretches across parts of four vacant, modern house lots, is surrounded on three sides by modern paved streets (6 Calle, to the north; 30 Avenida D, to the east; and 5 Calle A to the south), and is bounded on the fourth side by two houses and the vacant area between them. Both the gentle slopes of the mound and the surrounding plain were used in recent, and presumably late historic times, for maize cultivation, and rows of maize hillocks are to be found wherever house construction has not obliterated them.

The selection of B-III-1 for excavation was based on five considerations:

(1) The mound was scheduled for immediate destruction in conjunction with housing developments in the Colonia Jardines de Tikal.

(2) In spite of heavy erosion of its surface and partial destruction as a result of surrounding housing development activities, the size and condition of the mound were sufficient to guarantee the recovery of desirable functional, structural and chronological data.

(3) Earlier partial destruction of the mound revealed the existence of internal structures, the excavation of which would permit the definition of stratigraphic deposits and provide a basis for revision of the current ceramic chronology.

(4) Following intensive surface collecting of archaeological remains, a preliminary ceramic analysis indicated the presence of a dominant Miraflores phase component which suggested the possibility of recovering valuable architectural data pertaining to this period.

(5) The overall size of the mound was small enough to insure the recovery of the desired functional, structural and chronological data within the limits of available time and resources.

Farming activities, together with natural erosional factors, have reduced the originally terraced, quadrilateral exterior of the mound to a bell-shaped pyramid with slightly undulating slopes which have all but lost their quadrilateral form. Sections of the mound on the south, southeast and northeast have been gutted with pick, shovel and bulldozer in preparation for house construction, with the south and southeast sections suffering the greatest amount of damage. In addition, a large pit was gouged out of the mound's western face.

Homeowners, who had observed the demolition, and the chief engineer of the Colonia Jardines de Tikal were interviewed to determine the nature of the destroyed archaeological remains. No unusual artifacts or features, such as sculptures, burials, trash pits and the like, were reported, though the presence of "steps" (later identified as terraces) in the gutted northeast section of the mound was mentioned.

In size, nearly 5 meters of the mound lay above the present surrounding ground level and another meter and a half below the ground. The last of the superimposed structures to be built on the site (Structure 3) measured about 6.85 meters above the original prepared land surface and perhaps 30-35 meters east-west along its base. The north-south basal dimension is more uncertain but was probably less than 35 meters. If the mound is treated as a truncated pyramid, calculations yield an estimated volume in excess of 2500 cubic meters for the final building phase.

Though now almost circular in appearance, the structurally indicative remnants of the once quadrilateral form suggest an orientation of 10-20° east of north.

METHODOLOGY

The basic tasks of surface collecting, provenience control, excavation procedure and data recording are discussed below.

Prior to excavation all obsidian and all formally or otherwise diagnostic ceramic artifacts were collected from the surface on and around the mound within a 50 by 50 meter perimeter. All artifacts were given a single provenience designation (B-III-1 Surface Collection).

For horizontal and vertical provenience control a primary datum point was established 5.70 meters south of the 6 Calle curb and 19.00 meters east of the curb bounding 30 Avenida D at a cement house lot marker bearing the following markings :

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From this point a baseline 6.5° east of magnetic north was laid down 27 meters south to the summit of the mound. Using this line as the primary axis, a 50 x 50 meter grid (KJ Sector 131; Zone 46, Area 22) was established according to the system described in the introductory chapter of this report. With the exception of the gutted south section of the mound and some last-minute exploratory work in the eastern and northeastern sections of the mound, this grid system was faithfully followed. Previous destruction of the mound's south side had left exposed two large vertical sections at right angles to each other, both of which were over 8 meters in length and of variable height (see Figure 8). In order to effectively exploit these pre-existing profiles the base of the north-south section was used as the axis for a second grid system differing from the first in only two respects: orientation and square designation (mono-alphabetic names beginning with the letter A were given to the units excavated).

In order to facilitate direct comparison of vertical provenience determinations, a zero elevation plane was arbitrarily established 5 meters below the primary datum point, well below any anticipated cultural deposits. All vertical measurements are given in centimeters "Above the Zero Elevation Plane" (AZEP). Secondary datum points were fixed at several points on the mound for convenience.

In general, excavation units consisted of 2 blocks taken down in arbitrary 20 or 30 cm. levels. The blocks of each excavation unit were alternately excavated in order to maximize control in revealing and following structural or feature remains. The first level excavated in a unit constituted the earth removed between the surface and the horizontal plane of the lowest corner of the 1 x 2 meter unit regardless of the steepness of the slope.

Departures from these procedures were necessitated towards the end of the field season in response to the need for more data and the pending deadline.

All artifacts from each level were deposited in basketry trays as they were taken from the ground. When excavation of the level was completed, the artifacts were transferred to a cloth sack. Attached to each sack was an identification tag on which was written the site designation (46-22-131), excavation unit, level number, AZEP range, the date, and the name of the supervisor in charge.

Strict adherence to the data recording forms established at the beginning of the project was maintained throughout the excavation. Two additional records were also kept on a daily basis: (1) a summary of levels excavated and their AZEP ranges, and (2) a list of field numbers assigned to artifacts of special interest.* This latter record includes detailed provenience data on such objects as figurines, mano and metate fragments and other lithic and ceramic artifacts of diagnostic value. The reader should be warned, however, that not all such artifacts were recorded in this manner for as excavation of the various units proceeded, confidence was gained in proportion to knowledge of the deposit, and there seemed little point in recording precise data where it would serve no obviously useful purpose. Thus, a substantial number of the total actually excavated went unrecorded in this manner because they were found in well-mixed fill contexts without significant associations. Likewise, those objects that were recorded in detail may not necessarily show any special relationships.

A total of 6 trenches were cut into the mound, one each on the east, west and south sides, and 3 interconnecting in the form of a U on the south side. Because of its relatively undisturbed condition, the north side was excavated first in hope of securing well-preserved architectural features such as the extensive sloping "cap" of pumice-tempered talpetate observed in the east-west profile of the gutted south side of the mound. Ironically, in this aspect it was the least productive trench excavated. It did produce, however, a substantial number of radiocarbon samples and a small lens of fired clay (Feature 3) from which a sample was extracted for archaeomagnetic dating.

As work on the North Trench progressed, lateral extensions of the trench were excavated across the summit of the mound in order to confirm and locate floors and other features as they were encountered. These extensions produced such a confusing array of seemingly unrelated structural features that the several profiles that excavation on the summit was eventually confined to a small number of squares which periodically functioned to provide cross-sectional units for stratigraphic control, as well as to follow functional and structural features as they were discovered.

Approximately five weeks were spent on these operations before it became obvious that little in the way of architectural data were to be gained from the North Trench. Principal excavations were then shifted to the east and, a few days later, to the south sides of the mound. Excavations on the east eventually produced most of the architectural data for Structure 2, including well-preserved terraces and stairways, and important data pertaining to construction techniques employed in Structure 3.

The South Trenches uncovered a small portion of Structure 1 and produced a child burial and associated funerary offerings, numerous radiocarbon samples, carbonized botanical remains, and data concerning construction techniques used in the building of Structure 2.

*These records, as well as several other summary records prepared at the close of the field season, are appended to a copy of this chapter on file in the Department of Anthropology of The Pennsylvania State University.

Near the end of the field season, a trench was cut into the western face of the mound in order to define its relationship to the east side and to determine if the talpetate cap mentioned above also extended westward. The trench produced a moderate amount of architectural data pertaining to Structure 2, but failed to reveal any trace of the cap. A few remains of colored pigments (red, green, and black) were also found, suggesting that buildings here, like elsewhere in Mesoamerica, may have been elaborately painted.

A total of about 178 cubic meters of earth (7.1% of the estimated total volume of the mound) was excavated from B-III-1 by a work crew ranging from 5 to 12 men and averaging 8. The mean work load per man amounted to approximately 0.42 cubic meters excavated per man-day of work (based on a 7-hour work day). Work output for the field season is summarized in Table 3.

TABLE 3
Summary of Work Output

Average Work Crew: 8 men (Range: 5 - 12)
Average Number of Hours of Work per Day: 7
Number of Work Days: 53

Total Man-Hours of Work: 2,968
Total Man-Days of Work: 424 (based on 7-hour work day)

Volume of Earth Excavated:

<u>Location</u>	<u>Cubic Meters</u>
Mound Summit	22.5
North Trench	37.0
West Trench	30.8
South Trenches	42.5
East Trenches and Clearing of Lower Stairway	45.5
Total:	178.3

Work Load per Man:

0.06 cubic meters/man-hour
0.42 cubic meters/man-day

DESCRIPTION OF THE ARCHITECTURAL REMAINS

The excavation of B-III-1 exposed parts of three major superimposed building phases: a low, possibly residential platform (Structure 1) resting on a sterile deposit, a multi-terraced temple mound (Structure 2) with a two-flight stairway on its eastern side, and a second temple mound represented today by the eroded and gutted surface described in the Introduction. No architectural data were obtained from this structure, although details of its construction were recorded.

Structure 1 (Figures 9a and 9b)

Only the southeast corner of Structure 1, the oldest of the architectural units in B-III-1, was exposed and cut into by excavations in Squares B, C and D on the south side of the mound. Most of the structure lies to the north and west of these squares under the unexcavated mass of later building phases and its size could not be determined. The exposed section suggests a low-lying platform about 1.3 meters high with sloping rather than vertical sides. Structure 1 was modeled from a brown, sandy clay matrix coated with a 2-4 cm. thick layer of tenacious brown clay. No pigments of any kind were found associated in or above the structure, nor were any trash pits or refuse concentrations observed. In the absence of positive data, little can be said about the function of Structure 1. Its vertical height, sloping sides and location relative to the overlying Structure 2 indicate either a residential platform or a civic structure on an order of architectural and engineering simplicity comparable to Structure 1 in E-III-3 (Shook and Kidder 1952:47).

Structure 2 (Figures 10 and 11)

Structure 2 represents the first monumental endeavor at the site. Its builders utilized Structure 1 as part of the central core, over and around which a large mass of refuse and puddled fill was deposited and modeled into a terraced temple mound with a two-flight stairway on the east side and a smaller accessory stairway on the west. The completed structure measured about 6.5 meters high and 27 meters across the base, and was oriented 17° - 18° east of magnetic north.

Structure 2 was by far the best preserved of the three structures and the only one for which abundant architectural data were obtained. Its summit was first encountered during a lateral extension of the North Trench into Squares JQ 1/3, JR 2 and IQ 1/3, in which a "floor" was encountered at 928 cm. AZEP. At the time, however, this feature was thought to represent the earliest prepared surface of the summit of Structure 3. A small part of the uppermost step of the upper flight of the eastern stairway was exposed in JR 1/2 but its significance also went unrecognized. Both of these features lay within 10 cm. of the surface of the mound and were very poorly preserved; root growth of grasses, weeds and bushes had almost completely decomposed the once hard, plastered exteriors.

Excavation of the East Trench eventually produced much of the data upon which the reconstruction of Structure 2 is based. Work here began in NR 1 and quickly produced a well-preserved plastered floor (the surface of Terrace 2) which was first followed west and then east. Farther up the mound to the west, excavation of KR 2 cut through two steps of the upper stairway before they were recognized in profile. Subsequent excavation revealed that these

were eventually joined with other steps in a descending sequence to Terrace 2. The stairway's ascent was then followed westward to the summit of the mound where it was joined with the floor and step mentioned above. Continuing the excavation to the east of NR 1, a second lower stairway was located which descended from Terrace 2 via eleven steps to the main plaza level surrounding the mound. Abutting the steps on either side of the lower stairway was the lowest terrace (Terrace 1).

Adherence to the grid system was suspended from the R 1/3 north-south grid line eastward and from the Q 1/2 east-west grid line northward, in other words, in the gutted northeast section of the mound and the area that overlies the lower eastern stairway and portions of Terraces 1 and 2. The fill of Structure 3 overlying the stairway was massive and relatively uncomplicated and was removed as a unit from which only rim sherds and other diagnostic artifacts were retained. Stratigraphic control of this fill had already been accomplished with the excavation of KR 2, LR 1/2 and MR 1/2 (Figure 12) and there seemed little point in continuing the procedure, especially since the field season was now drawing to a close. A small one-meter-wide trench was cut in the same manner along the east-west profile of the gutted northeast section of the mound down to the level of Terrace 2, and in the process three more terraces of Structure 2 were encountered (Terraces 3-5). In order to determine their relationship to the upper stairway, which they flanked, without engaging in massive removal of the overlying fill, a small tunnel was cut south along the vertical face of the lowest of these terraces (Terrace 3) through the fill to the stairway in the East Trench.

Simultaneous with these operations, the West Trench was opened in order to define the relationship between the west and, now controlled, east sides of the mound and to determine if the talpetate cap observed in the east-west profile of the gutted south section of the mound also extended west. A band of talpetate in the east-west profile of the pit gouged out of the western face of the mound suggested that it did, but as excavation of the West Trench adjacent to the pit proceeded, this possibility became more and more unlikely, and the idea was eventually abandoned when all of the architectural data were assembled and correlated.

At the base of the mound in the West Trench, 0.5-1.0 meter below the present land surface, portions of a stairway with steps of variable dimensions were found in BP 3/4 and BQ 1/3, which began at an undetermined point in the west (presumably on the plaza level of Structure 2) and ascended to a broad terrace later identified as coterminus with Terrace 2 on the east side. Farther up the west trench (to the east) two more terraces were found in EP 3 and GP 4, respectively. These were located at approximately the same elevations as Terraces 3 and 5 on the east side, respectively, and are presumed to be coterminus with them.

Resting on and above the steps on the mound's west side were chunks of fill material bearing colored pigments (red, green and black). Whether the pigments were the remnants of adornments on or appendages to the structure could not be determined.* There was some suggestion that the western

* After the field season archaeologists of the Instituto Nacional de Antropología e Historia continued excavating the mound. They found detached portions of adobe sculptures in this area and pigmented fragments may derive from them.

stairway may have been flanked with small shrines or altars, the vertical faces of which were painted in black, for two such surfaces intersecting each other at right angles, at a height corresponding to Terrace 1, were found in BQ 1. These were so poorly preserved, however, that no structural details or relationships could be determined.

Both the North and South Trenches produced a minimal amount of architectural data, but what they lacked in this regard was made up for in the data they yielded pertaining to techniques of construction used in Structure 2. The horizontal cross-section of the tread of Terrace 5 showed clearly in the east profile of Squares IO 1 - IN 3 (North Trench) at 835 cm. AZEP (Figure 13); no trace of this feature was located in the west profile of the trench, however. Part of what would appear to be the tread of Terrace 2 was found in Square IN 2/4 of the North Trench at 550-560 cm. AZEP (see Feature 2). On cleaning the pre-existing north-south profile of the gutted south section of the mound, another tread, corresponding to Terrace 4, was located in Square C at 725 cm. AZEP (Figure 14).

All of the architectural features discussed above taken together constitute all of the data upon which the reconstruction of Structure 2 is based (Figures 10 and 11). Its construction involved the following operations:

(1) According to the data from the trench excavated along the base of the east-west profile of the gutted south section of the mound, a level area with a compacted surface was located at 358 cm. AZEP adjacent to the east side of Structure 1, probably a courtyard or plaza, depending on the structure's function. If it were a courtyard, it must have functioned at the time Structure 1 was in use. When Structure 2 was built the older surface was used for Operation (2).

(2) The construction of Structure 2 was initiated with a funerary dedication, including at least one child and associated offerings (Feature 7: Burial 1).^{*} The child may have died a natural death or have been sacrificed, and was subsequently placed directly on the old plaza or courtyard surface.

(3) A large mass of refuse fill (in excess of 1500 cubic meters), consisting primarily of soft, dark brown, sandy clay containing a considerable quantity of large potsherds and other artifacts, frequently localized in heavy concentrations, was then deposited over the burial. Other materials incidentally included in the fill were a tree trunk, which, because of its intact branches, was at first thought to be the pilings of a tomb, a large rectangular block of pumice (in Square A) and a quantity of metate fragments (IK 2/4: Feature 2). It would thus appear that the child was covered by a huge pile of midden representing the discarded and redeposited refuse of the local community. The concentrations of artifactual material found in the dark fill indicate that this matrix was not puddled to any great extent before deposition. The absence of fill stratification suggests that the dark humus soil

* Post season excavations carried out by Guatemalan archaeologists involved the connection of the east and west trenches down to the level of the prepared plaza or courtyard surface noted above. Five more burials with two to three pottery vessels each as offerings were found on the same surface as Burial 1. Some if not all of the individuals were adults. Unfortunately, the field notes recorded by the Guatemalans were not received in time for this publication and will be reported on at a later date.

was fairly uniform in composition, probably moist and maleable when applied, and tamped down as it was deposited. The uniformity of soil composition would also suggest that the matrix was gathered from one area, probably the local community surrounding the mound.

Figure 14 presents a cross-section of this fill. Of special interest are the numerous large ash and charcoal lenses scattered throughout the profile. They suggest two possibilities regarding the manner of fill deposition and use of the mound during construction: (1) they represent the localized deposition of burned or decayed organic matter collected in the vicinity of the mound at the time of its construction, or (2) they are the remains of kitchen activities conducted on the mound by its construction crews. Both factors may, of course, be simultaneously operative, and each has different implications concerning the chronometric provenience of the activities responsible for the materials' presence.

In the first case the carbon may derive from one or both of two contexts: (a) hearths (either household or ceremonial), and (b) midden refuse or trash dumps (representing secondary or redeposited hearth or trash refuse, or both). Context (a) would clearly date to the time of the building's construction. Context (b), however, could date from any number of temporal loci which were contemporaneous with or predated the mound's construction.

In the second case the charcoal remains obviously date to the period of fill deposition.

Since these contexts represent both different activities (1b vs. 1a and 2) and similar activities conducted at non-homologous locations (1a vs. 2), their artifact associations would be expected to vary accordingly. The presence of carbonized botanical remains (Field Numbers 65-70, 72) in the ash and charcoal lenses does not really help to resolve their contextual and therefore chronometric origin, since they normally might be included in any of the alternative contexts discussed above. A decision as to the origin of the lenses must therefore be made on the basis of their formal structural and compositional properties. Table 4 presents a gross categorization of the arbitrary 20 cm. levels of Squares A and B along two dimensions: (1) whether or not they include a substantial carbonaceous deposit (designated C and Non C, respectively) and (2) their artifact inventories partitioned into functional groups (Ceramics, including rim and body sherds and unclassified ceramic artifacts; Building Materials, including fired clay lumps and rock and pumice fill; Chipped Stone, including obsidian blades, flakes and cores and chipped artifacts of other materials; and Ground Stone, including mano and metate fragments, abrading, polishing and utilized pebbles, rubbing platforms, and soapstone).

TABLE 4

Mean Frequency of Functional Artifact Groups per Level Plotted
Against Level Type

Matrix	Functional Groups				Location & Level
	Building Material	Ceramics	Chipped Stone	Ground Stone	
C	8	109	18	1.2	Square A, L 1, 2, 3, 4, 7 L 2, 5, 6, 8, 9
Non C	16	175	18	4.5	
C	24	167	14	1.5	Square B, L 1, 3, 4, 7, 8, 10 L 2, 5, 6, 9
Non C	17	149	12	1.2	
C	16	138	16	1.3	Squares A & B Combined
Non C	16	162	15	2.8	

If the lenses were the result of kitchen activities on or off the mound contemporaneous with its construction (Contexts 1a and 2) we would not expect the observed frequencies of each of the functional groups listed above to be of the same magnitude as the surrounding fill, which is undifferentiated refuse and earth without the carbonaceous concentrations. Table 4 demonstrates clearly that, with the possible exception of the Ground Stone group, there are no significant differences between the carbonaceous and non-carbonaceous levels. In other words, the two sets of levels are largely isomorphic with respect to artifact composition, thus suggesting that they derive from similar contexts.

Both the soil composition (dark brown, sandy clay containing a large amount of humus topsoil) and the range of functional variability manifested by the artifacts included in the two sets of levels indicate that all of the fill is a redeposited midden matrix, perhaps, but not necessarily, including trash pit contents; in short, Context 1b. The fact that no burned areas or areas of hardness such as would result from a hearth were encountered at any point in the excavation of the lenses further suggests that they constitute redeposited rather than *in situ* materials. Moreover, within the lenses the charcoal never occurred in concentrations, although some of the pieces removed were as big as a thumb up to the first joint.

What then do the radiocarbon samples taken from the lenses date? The humus composition of the fill matrix indicates that topsoil rather than sub-topsoil zones were systematically exploited for the fill material. Even though the topsoil is more likely to contain contemporaneous household trash than the zones below it, there still remains, no *a priori* way of fixing with certainty the temporal locus of the carbon in the lenses in relation to the mound's construction. If these deposits are to be dated, therefore, it is suggested that two or more of the radiocarbon samples be processed, since concordance of results would lend support to the hypothesis that they actually date the period when the mound was built.

Feature 3 on the north side of Structure 2 probably represents a situation analogous to Context 2, since the charcoal was plentiful, concentrated and distributed in a manner interpreted to be a hearth.

Thus, during Operation 3 both in situ and redeposited remains of kitchen activities became incorporated in the fill of Structure 2.

(4) The next operation was to cap the soft fill with a tough layer of pumice-impregnated talpetate (Figure 15). However, this was definitely done only on the eastern side of the fill deposited in Operation 3. No trace of the structural unit was found in the mound's north, west or south sides. Excavations in the North Trench demonstrated that the cap terminated at the surface in IP 2/4 near the mound's summit (Figure 16). On the south side, the cap extended no farther than Square H to the south. The cap, in fact, tapered in thickness in both directions (north and south) from the east-west profile of the gutted south section of the mound, where its maximum thickness (30 cm.) was found. It also seemed to be thicker towards the summit than at the base (30 vs. 20 centimeters). The cap is therefore inferred to have functioned as a structural support unit, something like a fill retaining wall, for the overlying eastern stairway and to be both functionally and structurally unrelated to the terrace system of Structure 2. No artifacts were found in the structural unit.

(5) Following completion of Operation 4, three distinct layers of differently constituted fill were deposited between the cap and the stairway (Figure 17). The first of these contained a considerable amount of talpetate mixed with light brown sandy clay. The next layer reversed the ratio of the constituents, while the third layer contained only scattered small lumps of talpetate. Thus the engineers of Structure 2 appear to have been applying the principle that like materials bond together better than do unlike ones. In order to minimize slippage and slumpage over the soft fill comprising the bulk of the mound and to have as the final fill matrix a tough, erosion resistant material capable of rigidly supporting the overlying steps, a series of intermediate adobe-like materials of sequentially changing composition was effected. Both the cap and the overlying fill strata were thoroughly puddled and were applied wet. Artifact density was considerably lower in all three layers than in the soft fill below the cap. It was during this operation that the terraces and steps were formed as a unit rather than as separate components.

(6) The last major operation involved surfacing of the terraces and steps. A thin layer of very tenacious, chocolate brown clay 1-2 centimeters thick was applied over the horizontal surfaces of the structure, following which a thin coat of crushed pumice and talpetate was then stuccoed to the probably still wet clay. Finally, a very fine rusty brown sandy clay was applied over the coarse pumice surface (Figure 18). The clay probably functioned in three capacities: (1) as a bonding agent between the softer fill below and the stucco above, (2) as a rigidifying element over the softer fill, and (3) as a waterproofing agent.

In the case of vertical surfaces, only the final two steps were applied. Such surfaces may then have been painted entirely in one color or with designs involving the use of red, blue, green and black pigments, as fragments of earth bearing these colors were found on both sides of the mound in the fill of Structure 3. However, none of the surfaces exposed by

excavation appear to have been treated in this manner, so that the pigments probably derive from some other context (e.g., ceremonies involving the use of anthropomorphic painted clay figures).

Architecturally, Structure 2 was little more than a set of six square or rectangular raised platforms stacked one on another in order of decreasing size, attended by unbalustraded stairways on the east and west. The surfaces of the terraces and steps both sloped gently to rounded edges, giving the whole building a certain softness of contour. All surfaces were carefully prepared, and silt deposits at the bases of terraces suggest that what erosion dissolved was periodically refurbished. A two-flight stairway, partially recessed and partially projecting from the terrace walls, ascended the east face to the summit. When viewed from the front, each flight appeared to be continuous, although each was broken into subflights, the lengths of which were determined by terrace size and by whether they were to project from or to be set into the terraces with which they were joined (Figure 21). These relationships are summarized in Table 5.

TABLE 5
Eastern Terrace-Step Relationships (Structure 2)

Flight Number	Sub-Flight	Number of Steps	Location	Step-Articulation with Terraces
1 (Lower Stairway)	A	6	Plaza - Terrace 1	Projecting
	B	5	Terrace 1 - Terrace 2	Recessed
		<u>11</u>		
2 (Upper Stairway)	A	3	Terrace 2 - Terrace 3	Projecting
	B	3	Terrace 3 - Terrace 4	Projecting
	C	4	Terrace 4 - Terrace 5	Recessed
	D	3	Terrace 5 - Terrace 6	Recessed
		<u>13</u>		

The lower flight of 11 stairs is broken into two segments: subflight A, which has six projecting steps rising from the plaza level to Terrace 1, and subflight B, which rises in five partially inset and projecting steps from Terrace 1 to Terrace 2. The upper flight is broken into four segments. Subflights A and B both ascend in projecting fashion via three steps to Terraces 3 and 4, respectively. Subflight C is four steps and subflight D, three steps in length, rising to Terraces 5 and 6, respectively, and both were probably recessed.

Table 6 summarizes the dimensional data obtained from both eastern stairways.

TABLE 6
Dimensional Data for Eastern Stairways (Structure 2)

Stairway 1				Stairway 2			
Flight Number	Step Number	Rise (cm.)	Tread (cm.)	Flight Number	Step Number	Rise (cm.)	Tread (cm.)
1A	1	26	37	2A	1	32	40
	2	20	36		2	29	38
	3	21	37		3	30	33
	4	23	40		4	28	32
	5	22	37		5	28	31
	6	23	34		6	23	36
1B	7	25	38	2C	7	25	37
	8	21	34		8	28	31
	9	24	34		9	28	35
	10	23	31		10	27	39
	11	20	Terrace 2	2D	11	27	34
					12	25	34
					13	28	Summit
Average		23	36	Average		27.5	35
Flight Width - 3.80 meters				Flight Width - 4.10 meters			
Flight Length - 3.70 meters				Flight Length - 4.30 meters			

Both stairways tended to be as long as they were wide. The average step rise and tread were 25 cm. and 35 cm., respectively. Risers were on the average significantly smaller on the lower than on the upper stairway (23 cm. vs. 27 cm.); treads averaged about the same (36 cm. vs. 35 cm.). The lower stairway was also slightly narrower and shorter than the upper one (width: 3.8 meters vs. 4.1 meters; length: 3.7 meters vs. 4.3 meters).

Perhaps through slumpage, both stairways tended to be somewhat irregular in contour (Figure 19). Moreover, the upper stairway appeared to be oriented 2-3° more east of magnetic north than the lower flight. The architects of Structure 2 may have had in mind a symmetrical and uniform building but its engineers and masons often fell short of their objective.

Because relatively little construction material was added to the western face of Structure 2 in the succeeding building period, the architecture of this side was not as well preserved as that to the east. Parts of a stairway were found in BP 4, BQ 1/3 and CP 3, which presumably descended from Terrace 2 to the west plaza level. Steps of the stairway deviated from those on the east side of the structure principally in dimensions, which were substantially more erratic (Figure 20). Dimensional data are summarized in Table 7.

TABLE 7
Dimensional Data for Western Stairway (Structure 2)

Step Number	Rise (cm.)	Tread (cm.)	Stairway Width (m.)	Stairway Length
1	24	46	4.0	Indeterminate
2	27	73		
3	25	35		
4	11	Terrace 2		

Lumps of fill material bearing colored pigments (black, green, red) were found overlying the steps, and there was some evidence (discussed above) that small painted shrines or altars may have flanked the stairway.

Table 8 summarizes the dimensional data obtained from the terraces of Structure 2.

TABLE 8
Dimensional Data for Terraces (Structure 2)

Ter. No.	Rise (m.)	Tread (m.)	Basal Dimensions (m)		Area (m ²)	Area Ratio 1*		Area Ratio 2**		Volume (m ³)
			E-W	N-S		Ter.		Ter.		
1	1.08	1.03	27.0	27.7	748	1/1	1.00			808
2	1.10	4.70	25.9	24.6	637	2/1	0.85	2/1	0.85	701
3	0.72	0.89	14.9	15.9	237	3/1	0.32	3/2	0.37	171
4	0.76	0.76	11.5	13.9	160	4/1	0.21	4/3	0.68	122
5	1.15	1.11	8.9	12.4	110	5/1	0.15	5/4	0.69	127
6	0.75	Summit	6.5	7.3	47	6/1	0.06	6/5	0.43	36
			max.	max.	max.					max.
										1963

* Area Ratio 1 is the decimal fraction of the area of each terrace in relation to Terrace 1. The terraces compared are given in the column headed by Ter. For example, Ter. 2/1 (the ratio of the area of Terrace 2 to Terrace 1) = 0.85.

** Area Ratio 2 is similar to Area Ratio 1 but measures the area of each terrace in comparison to the one directly below it.

The terraces fall into two distinct height categories: (1) 1.08-1.15 meters and (2) 0.72-0.75 meters. Both of the terraces associated with the lower stairway (Terraces 1 and 2) are of the higher type. Those flanking the upper stairway (Terraces 3-6) are generally lower; Terrace 5 is the only exception as a result of the additional step in subflight 2-C.

Basal dimensions of Structure 2 are conjectural and are based on an educated guess at minimum measurements. The three types of lines drawn in Figure 10 represent three levels of certainty regarding the form and location of terraces and steps:

- (1) Solid lines indicate what was actually observed.
- (2) Dashed lines represent inferred extensions of the observed features.
- (3) Dotted lines are conservative estimates of location and dimensions and represent the lowest level of certainty.

In all probability, the basal platform was slightly larger than shown. The summit platform, on the other hand, may in fact have been smaller, since the dimensions shown are the maximum possible, given the present size of the mound. The only parts of the summit platform observed during excavation belong to its horizontal surface in and around JQ 1/3, IR 1/2, and IQ 1/3. No terrace walls were ever recorded and the inference that the upper flight of the eastern stairway was recessed into the summit platform is based on modern concepts of symmetry more than anything else.

If a building decked the top of Structure 2, no trace of it was found in the excavation. Parts of the summit in the vicinity of IQ 3/4 and IR 2 had been burned, suggesting the use of fire either for the hardening of its surface, or in conjunction with some ceremonial function. But no postholes or wall stubs which would indicate the presence of a hut were found, a fact which cannot be taken as proof of its absence, however, since the roots of bushes and grasses that covered the mound subsequent to its abandonment all but destroyed the summit of Structure 2, leaving a minimum of definitive structural remains.

Structure 2 may be viewed as comprising three spatial levels of architectural organization. The first is the plaza surrounding the mound; the second is a broad basal support comprising Terraces 1 and 2; and the third organizational level is the set of 4 smaller terraces culminating in the mound's summit.

If, as Shook and Kidder suggest (1952: 49), the numbers and combinations of terraces and steps has mystical significance in terms of the Mayan mathematical and calendrical systems, additional support is given to the separation of the mound's terraces into two spatial levels of organization. The two flights of steps cumulatively yield a total of 24 steps, a number of no singular importance. Moreover, when subflights are likewise considered, yielding cumulative step numbers of 5, 11, 14, 17, 21, and 24 from base to summit, no patterning at all emerges.

However, when the two flights are reckoned separately, yielding sub-flight step numbers of 5 and 6 and 3, 3, 4, and 3, respectively, and cumulative numbers of 5 and 11 and 3, 6, 10, and 13, respectively, the suggestion

of possible calendrical significance cannot be avoided. Even the terrace count hints of it, with two on the lower and four on the upper level, giving a total of six terraces. Thus, assuming that the organization of architectural space in some ways reflects Mayan concepts of universal order, the terraces of Structure 2 may be conceived as representing two levels of integration. In the event that these inferred relationships are fortuitous, the levels of integration then become nothing more than a convenient descriptive device.

Structure 3 (Figure 21)

Structure 3 was the last major addition to B-III-1. Centuries of tropical rains and plant growth have reduced what was probably once a multi-terraced architectural unit much like Structure 2 to a smooth-sided bell-shaped pyramid. No functional architecture remained, but excavations on the mound's east side produced a fair amount of data relating to its construction. One of the principal fill materials used in the construction of Structure 3 differs substantially in composition from the fill types of previous building periods, making it easily identifiable wherever it was found. Its distribution suggested that relatively little construction was done on the west and south sides of Structure 2. Most of the construction material used to build Structure 3, conservatively estimated at 600 cubic meters, was added to the summit of Structure 2, raising it about half a meter, and to the north and east faces of the mound, completely covering the stairway and terrace complex to a depth of from one to three meters. This brought the final volume of B-III-1 to over 2500 cubic meters.

As in the construction of Structure 2, several sequential operations were involved in the building of Structure 3.

(1) A puddled layer of talpetate of variable thickness was deposited over the central-eastern surface of Terrace 2 and at the base of the lower flight of the eastern stairway (Figure 21). The fill was heaped up in such a way as to slope upward in a direction away from the mound, presumably functioning as embankment-like supports for the overlying burden.

(2) The talpetate supports graded into a large homogeneous mass of a distinctive tough, dark brown clay mixed with a small amount of crushed pumice and lumps of talpetate which decreased upward in size and frequency. This material was heaped up in a fashion similar to the talpetate fill below and was apparently used only on the summit and eastern side of the mound.

(3) An intermediate support structure composed of crushed pumice and light brown soil 10-40 cm. thick was then deposited on the dark brown clay fill overlying the upper flight of the eastern stairway, again sloping up and away from the mound. Judging from its vertical positions in the north (east-west) profile of the East Trench and the south (east-west) profile of the Northeast Trench (Figures 12 and 22), the fill below it was heaped up into a dome which had its apex in the vicinity of NR 1.

(4) The final fill operation involved deposition of a thick layer of brown sandy clay (occasionally interspersed with small bands of dark brown clay and talpetate) over the support structure laid down during Operation 3. This material (without the bands of brown clay and talpetate) also covered the north terraces of Structure 2.

Presumably, the completed structure was also a stepped pyramid with a one or two flight stairway on the east side. Once abandoned, the surface features of Structure 3 were eroded into the amorphous mass encountered at the beginning of the field season. Structure 3 does not appear to have represented an engineering effort of the same magnitude as Structure 2, for only one-half again as much earth maximally, and perhaps as little as one-fourth, was added during its construction. Moreover, no event similar to the funerary dedication of Structure 2 appears to have been involved in the building of Structure 3. This building phase, therefore, looks more like a substantial addition to Structure 2 than a major new architectural effort.

Subsequent to its abandonment, B-III-1 may have been used sporadically for purposes unrelated to its original religious function, as remains of a brick-lined oven, probably of recent origin, were found on the east slope. Likewise, the summit of the mound may have been used by peasant farmers for short periods of time. But no attempt was made in relation to these activities to refurbish the mound.

NON-ARCHITECTURAL FEATURES

Three types of non-architectural features representing funerary, kitchen and refuse disposal activities were encountered. These included one burial, buried organic and other hearth-related materials, and unusual concentrations of residential refuse. All of these features were associated with the fill of Structure 2. No trash pits or other features suggesting residential activities were found. A detailed description of the features encountered follows below:

Feature 1: Metate Fragment Concentration (Figure 23)

Five metate fragments (Field Numbers 25-29) were found in IK 2/4 (North Trench) at an elevation of 471-509 cm. AZEP together with a lump of pumice (Field Number 30) and a large flattened rock (Field Number 24). None of the fragments appear to belong to the same metate, nor were any significant associations noted. The materials are therefore regarded as redeposited refuse. The dark brown, sandy clay matrix surrounding the artifacts probably belongs to Structure 2.

Feature 2: Burned Earth Area (Figure 24)

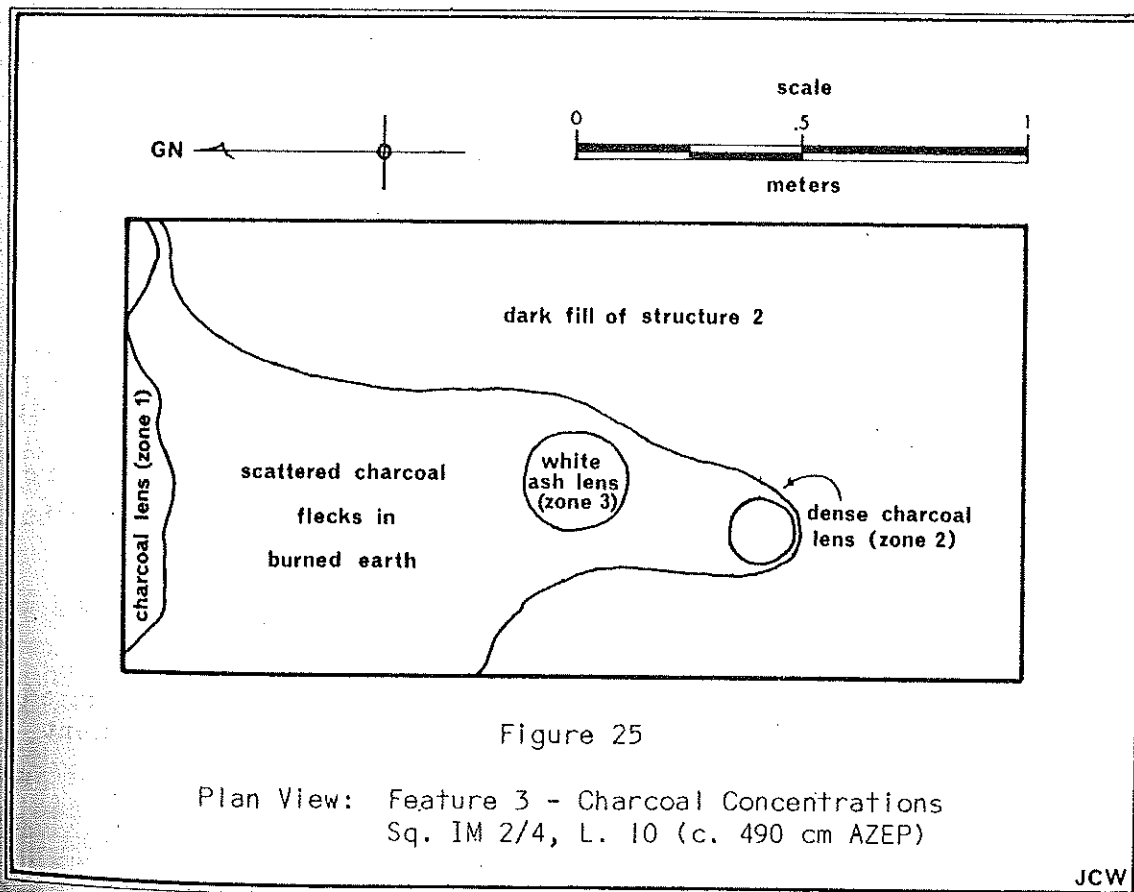
A sub-rectangular area of orangish-red burned talpetate was found in IN 2/4 (midway along the North Trench) at an elevation of 550-560 cm. AZEP. The feature measured approximately 100 x 65 cm., projecting from about the center of the east side wall toward the west. The burned talpetate was lumpish in composition and appeared to be weathered. Pedestaling (from 560-456 cm. AZEP) revealed no discernible stratigraphy within Feature 2, but at nearly the same elevation in the southeast corner of the square a dark fill much like that below the talpetate cap in Structure 2 began to emerge, suggesting that the feature may simply be a burned (or fire-hardened?) portion of the tread of Terrace 2, with which it is nearly coeval in elevation. This interpretation is also consistent with the estimated horizontal extent of Terrace 2 on the north side of Structure 2. Since no other part of the terrace was found in the adjacent squares (IM 2/4 and IO 2/4) its preservation here is attributed to the firing which made it adobe-like and more resistant to erosion. Firing does not appear to have been a normal practice, however, since no part of the eastern stairway and associated terraces seems to have been so treated. Just why this part of the terrace was burned is uncertain, and the artifactual materials recovered from the surrounding fill were less than definitive. It is conceivable, however, that Feature 2 may have functioned as a small altar, perhaps attending a central secondary stairway like that on the west side of the mound (but it should be noted that no trace of a stairway was actually observed).

An alternative hypothesis regarding the nature of Feature 2 is that early in the deposition of the fill of Structure 3 a small amount of burned earth derived from some other location was redeposited over the possibly eroded Terrace 2 of Structure 2. A third alternative is that the feature resulted from some activity conducted on the terrace during the building of Structure 3. The question of redeposition is important because the burned material provides an opportunity for archaeomagnetic dating. If the burned material remained in situ (alternatives 1 and 3) the sample taken from it should prove useful. Alternative 1 is favored because of the feature's horizontal and

vertical context and because of its association with the distinctive soft, dark brown, sandy clay fill of Structure 2. Alternative 2 seems unlikely because of the linearity of distribution of the material. Alternative 3, however, cannot be ruled out on any a priori grounds. The archaeomagnetic sample therefore dates to sometime between the completion of Structure 2 and the beginning of Structure 3.

Feature 3: Localized Concentration of Carbonized Organic Matter (Fig. 25)

Feature 3, constituting a localized concentration of carbonized organic matter, was found in IM 2/4 (North Trench) at an elevation of 485-490 cm. AZEP. Within the localized area there were 3 distinct zones of charcoal and ash concentration, designated in Fig. 25 as Zones 1, 2, and 3, respectively. Zone 1 formed a strip about 15 cm. wide along the IM 2-JM 1 grid line; Zone 2 was located in the west-central part of IM 4 and was compact like Zone 1 but smaller in size and circular in form (15 cm. diameter); Zone 3, located between Zones 1 and 2 midway between IM 4 and JM 2, differed from both Zones 1 and 2 in that the organic material had been completely burned, leaving only a thin circular layer of white ash measuring about 1 cm. in thickness and 25 cm. in diameter. A lens of charcoal flecks of lower density (shown in Fig. 25) surrounded the zonal concentrations over a 2/3 square meter area. Whether the feature represents an *in situ* kitchen activity or redeposited refuse is open to question; the zonal concentrations, however, favor an *in situ* activity interpretation. No significant associations, artifactual or otherwise were observed. The feature lies within the fill of Structure 2 and may represent a kitchen activity during the mound's construction.



The following three feature designations are not features in the sense discussed above but are cataloging devices expediently used in place of grid coordinates in conjunction with the exposure of the eastern face of Structure 2. Only diagnostic artifacts were retained from the excavated overburden of Structure 3.

Feature 4: fill material above Terrace 2 and the lower eastern stairway of Structure 2 east of the R 2/4 N-S grid line laid down during building Operations 1 and 2 of Structure 3. All of the recovered artifacts derive from the fill of Operation 2, as the talpetate fill deposited in Operation 1 was sterile.

Feature 5: a 1-meter wide trench along the east-west profile of the gutted northeast section of the mound (designated Northeast Trench in Fig. 8). Most of the artifactual material derives from the fill of Structure 3 (Operation 2) overlying Terraces 2, 3 and 4 of Structure 2. A small number of artifacts may belong to the fill of Terrace 4, as it was cut through down to the level of Terrace 3 before it was detected.

Feature 6: a tunnel through the fill of Structure 3 along the rise of Terrace 3 connecting the Northeast Trench with the upper eastern stairway of Structure 2 (Figures 12 and 22). Most of the recovered artifacts derive from the fill of Operation 2 and the remainder from Operation 3 of Structure 3.

Feature 7 (Burial 1)

The skeletal remains of a child were found in Square F (Level 14) at the base of Structure 2 directly below its summit resting on a prepared surface (358-364 AZEP) compacted of a brown sandy-clay matrix. Associated with the remains a few centimeters to the northeast of the cranium were a freshly prepared obsidian blade (Field Number 81) and an interior-incised composite silhouette bowl, both presumably burial offerings (Figure 26). The burial was deposited on its back fully extended with the head tilted slightly to the right and the mandible possibly resting on the chest at the time of inhumation. On the basis of size, bone development and dentition, the child's age at death is estimated at 5 years or less. Because of poor preservation, sex could not be determined.

Bones of the hands and feet were absent, leg and arm bones very poorly preserved, and ribs difficult to differentiate; only thick parts of the pelvis remained; vertebrae of the thoracic and lumbar region could be differentiated but were also in poor condition; cervical vertebrae were virtually indistinguishable. The cranium was in very poor condition, having collapsed and undergone partial decomposition (frontal to occipital diameter measured no more than 16 cm.). The mandible was in only slightly better condition and, as would be expected, the teeth were the best preserved remains.

Funerary offerings were both meager and undistinguished, indicating that the status of the individuals was not great. Moreover, no unusual architectural elaboration (such as a tomb) was constructed to house them. The deposition of the individuals is, therefore, inferred to have constituted a dedicatory offering to the building rather than a reward for achievement in Miraflores society.

Burial Data Summary

Age: Child (< 5 years)

Sex: Indeterminate

Pathology: Indeterminate

Condition: Articulated

Preservation: Poor (all bones except teeth)

Type: Primary inhumation

Orientation: N-S (head to south)

Position of Body: Extended

Position of Head: On right side

Artifact Associations: Obsidian blade (Field Number 81); composite
silhouette bowl

Soil Matrix: Soft dark sandy-clay matrix with low artifact density

Structural Associations: Burial rests on prepared platform at base of
Structure 2 (358 AZEP)

Provenience: Horizontal - Square F; 10-35 cm. E of west sidewall
45-115 cm. N of south sidewall

Vertical - 358-364 AZEP

Temporal - Miraflores Phase (probably post-Early Verbena
and pre-Early Arenal)

MATERIAL CULTURE

A great variety of artifacts amounting to 54,067 cataloged items was obtained from the fill of B-III-1. Table 9 summarizes the observed frequencies for the major categories of artifacts. In order of abundance these are: Ceramics (including any artifact made of baked clay); Obsidian (blades, flakes and cores); Other Stone Artifacts, both modified and unmodified (including mano and metate fragments, pumice, pyrite and other incidental fill inclusions); Bone (nonhuman); and Carbon (radiocarbon samples taken for C¹⁴ dating).

TABLE 9
Statistical Summary of Artifact Categories

Category	Count	Percent of Total
Ceramics	48,659	90.00
Obsidian	3,197	5.91
Stone	2,049	3.79
Bone	115	0.21
Carbon	37	0.07
Miscellaneous	10	0.02
Total	54,067	

Table 10 presents a more specific breakdown by Artifact Class based on material type and basic cultural products or parts thereof. The 12 most abundant classes (from largest to smallest) are as follows: Body Sherds, Rim Sherds, Fired Clay Lumps, Obsidian Blades, Building Material, Obsidian Flakes, Pumice Lumps, Unclassified Ceramic Artifacts, Abrasive Pebbles, Unmodified Animal Bones, and Jade Matrix Material. These classes account for 99.38 % of the total artifact inventory, with the remaining Miscellaneous classes individually contributing less than 0.07 %.

The Fired Clay Lumps and Building Material classes both unexpectedly made sizable contributions to the total inventory, for throughout the course of excavation their representation went unrecognized. To what extent the former class reflects remodeling of the Structures in B-III-1 or residential and civic refuse is unknown. While the material appeared in the fill of both Structures 2 and 3, a larger proportion of it was recovered from the dark brown, sandy clay fill of Structure 2.

TABLE 10
Statistical Summary of Artifact Classes

Class	Count	Percent of Total
Body Sherds	39,154	72.42
Rim Sherds	6,698	12.39
Fired Clay Lumps	2,434	4.50
Obsidian Blades	2,295	4.24
Building Material	931	1.72
Obsidian Flakes	875	1.62
Pumice Lumps	500	0.92
Unclassified Ceramic Artifacts	340	0.63
Unclassified Ground Stone Artifacts	201	0.37
Abrading Pebbles	107	0.20
Unmodified Animal Bones	104	0.19
Jade Matrix Material	98	0.18
	subtotal-	99.38
Radiocarbon Samples	37	0.07
Obsidian Cores	26	0.05
Mica	25	0.05
Figurines	16	0.03
Unclassified Chipped Stone Artifacts	14	0.03
Rubbing Platform	15	0.03
Artifact Quality Jade	11	0.02
Mineral Pigment	13	0.02
Pyrite	13	0.02
Metate Fragments	10	0.02
Adornos	7	0.01
Beads	5	0.01
Soapstone	6	0.01
Tabular Manos	7	0.01
Pebble Manos	5	0.01
Miscellaneous	120	0.22
	54,067	

Using selected excavation units from the mound's summit and the North, South and East Trenches, total artifact densities were determined for each of the major fill components of Structures 2 and 3. These statistics are summarized in Table 11. The results presented are based on a sample volume of 63.25 cubic meters (about 36% of the total excavated) distributed as follows:

Structure 2	Above Talpetate Cap	5.98 cubic meters
	Below Talpetate Cap	41.25 cubic meters
Structure 3	Above Support Structure	6.50 cubic meters
	Support Structure*	0.98 cubic meters
	Below Support Structure	8.54 cubic meters
		<u>63.25 cubic meters</u>

* See Figure 12.

TABLE 11

Artifact Densities for the Major Fill Components (Structures 2 and 3)

Structure	Fill Location	Artifact Density (m ³)	Sherd/Obsidian Ratio	Artifact Size (Sherds and Obsidian)
2	Above Talpetate Cap (Operation 5)	253	19	Small
	Below Talpetate Cap (Operation 3)	538	18	Large
3	Above Support Structure (Operation 4)	477	19	Small
	Support Structure (Operation 3)	271	19	Small
	Below Support Structure (Operation 2)	85	8	Small
	Below Support Structure (Operation 1)	0	0	-

A considerable variation in total artifact density is exhibited by the various fill components, ranging from 85 artifacts per cubic meter for the chocolate brown matrix (fill of Operation 2) of Structure 3 to 538 artifacts per cubic meter for the dark brown, sandy clay matrix (fill of Operation 3) of Structure 2. However, in all cases except the chocolate brown fill the potsherd-to-obsidian ratio remained nearly constant (18-19 potsherds per obsidian artifact), suggesting that the deposits exploited for fill which contained refuse were very similar in their artifactual composition. The differences in observed artifact density probably result from the degree of puddling and the differential admixture of two general kinds of deposits: those bearing cultural refuse and those lacking in it. Since the local community was more likely to have been exploited for fill material than outlying areas, the inclusion of cultural refuse was unavoidable. The humus

topsoil would be expected to contain the greatest amount of discarded rubbish. The brown clay below the topsoil with its trash pits would be expected to have a somewhat lower overall artifact density, while the talpetate and arena substrata should be sterile except possibly in those areas where they have become exposed. Thus the differential admixture of these ingredients will greatly affect the resultant artifact density. Since the density is also influenced by the extent of artifact breakage, any activity such as puddling which results in additional breakage after the artifacts have been discarded will tend to increase artifact density.

These two aspects of artifact density are beautifully illustrated by the several fill types used in the construction of Structures 2 and 3. The fill below the talpetate cap of Structure 2 (Operation 3) is humus topsoil and appears to have undergone little if any puddling, since the potsherds and obsidian are relatively large in comparison to other fill types. The fill component above the cap (Operation 5) is a very well-puddled series of soil types involving the use of differential quantities of talpetate and brown clay. Sherds and obsidian artifacts are small in size, and the matrices have an intermediate overall density.

In Structure 3 the pure talpetate fill deposited in Operation 1 is sterile as expected. Operation 2 involved the deposition of a well-puddled, chocolate brown clay having a low artifact density; even so, artifact size was small. The Support Structure built in Operation 3 was also thoroughly puddled and contained relatively small sherds and obsidian artifacts in moderate density. Operation 4 again involved the use of a puddled fill matrix containing small sherds and obsidian blades and flakes. The fill of this operation differed from that of Operation 3 principally in the amount of brown clay it contained. The unusually high density of artifacts for this fill type cannot be accounted for solely by breakage, however, and it is believed that the preponderance of the brown clay in Operation 4 involved the exploitation of areas of the site possessing numerous trash pits dug into the clay.

The talpetate fill laid down in Operation 1 of Structure 3 is the only matrix tested which was thoroughly devoid of artifactual contents. Though not specifically tested for this property, the few small cuts into the talpetate cap of Structure 2 also proved to be sterile.

The estimated total volume for each fill type containing artifactual refuse used in the construction of Structures 2 and 3 is provided in Table 12.

TABLE 12

Estimated Total Volume for Fill Types (Structures 2 and 3)

Structure 2	Below Talpetate Cap	1500 cubic meters
	Above Talpetate Cap	400 cubic meters
Structure 3	Below Support Structure	200 cubic meters
	Support Structure	50 cubic meters
	Above Support Structure	350 cubic meters
Total		2500 cubic meters

Multiplying the volume of each fill type by its respective artifact density would yield a total artifact content for B-III-1 which was probably in excess of 1,106,000 items, of which 937,634 are body and rim sherds. Using the liberal allotment of 30 sherds per vessel, upon which Shook and Kidder based their estimate of the number of pots incorporated in E-III-3 (Ibid: 46), a minimum of 31,254 vessels is obtained for B-III-1.

The artifact densities reported here, with the exception of Operation 3 of Structure 2, are similar to that reported by Shook and Kidder for E-III-3 (Ibid: 46). Because fill of the type used in Operation 3 comprised the bulk of B-III-1 and only a small portion of E-III-3, it disproportionately affected the total estimated number of pots included in the mound's fill, yielding a quantity which is about twice what would be expected on the basis of the findings from E-III-3. This discrepancy is accounted for by the fact that the artifact density of Operation 3 was well over twice the average reported for E-III-3 (537 vs. 200 artifacts per cubic meter).

No stone whatsoever was systematically used for functional or structural construction purposes. Virtually all of the stone that was found constituted incidental fill inclusions of mano, metate and pumice fragments. Both the bulk of the mound and its finished exteriors in all phases of construction were formed from various combinations of naturally occurring and man-made soils and deposits, including variable amounts of artifactual materials, as discussed above. Intimate knowledge of their durability characteristics is suggested by the skilled manner in which they often were mixed and deployed.

DATING

Since the ceramic analysis is at this time incomplete and dated obsidian and radiocarbon samples are not yet available, little has been said about the mound's chronometric provenience. As was stated earlier, preliminary ceramic studies indicated that major engineering efforts were expended during the Miraflores phase. Formal architectural data are also highly suggestive and hint of more specific origins.

The relatively uncomplicated stylistic and functional features of Structure 2, for example, and, in particular, the techniques and materials used in the preparation of its surfaces, correlate closely with those of Structure 3 in Mound E-III-3 excavated by Shook and Kidder (1952: 47-49) and suggest contemporaneity in construction. The only significant deviation from the latter lies in the manner of ascent to the summit, Structure 2 of B-III-1 having a two-flight, as opposed to a single flight, direct access stairway. Structure 3 of E-III-3, and presumably Structure 2 of B-III-1, was erected sometime after the early Verbena and before the early Arenal sub-phases at Kaminaljuyu (Ibid: 47-56). Structure 3 of B-III-1 is believed to have been built during the Arenal sub-phase, as the distinctive construction fill deposited in Operation 2 is identical to that of Structure 7 of E-III-3, which was built at this time (Ibid: 56).

DISCUSSION

In the Introduction to this chapter several considerations were present which influenced the decision to excavate B-III-1. These considerations served both to justify the operation and to define its objective, which was the salvaging of as much useful functional, structural and chronological data as possible before they would be lost forever through the destructive expansion of Guatemala City. The results reported here are summarized below

- (1) The definition of 3 building phases, two of which (Structures 2 and 3) involved engineering efforts of major proportions
- (2) The recovery of significant new data bearing on the techniques used in the construction of functional and structural units
- (3) The architectural reconstruction of a Miraflores phase temple mound (Structure 2)
- (4) The definition of stratigraphic deposits and the collection of a large amount of datable carbon and obsidian which will permit multidimensional control of the site chronology
- (5) The acquisition of additional new knowledge concerning Miraflores mortuary practices
- (6) The recovery of carbonized botanical remains which may contribute to a fuller understanding of prehistoric subsistence patterns at Kaminaljuyu.

B-III-1 is the largest of a small group of mounds probably comprising a spatially partitioned social unit dating from the Verbena to the Arenal subphases at Kaminaljuyu. The group is peripheral to the main body of the site from which it is separated by a small barranca. The first architectural unit of B-III-1 may have been a low-lying residential platform or a simple religious structure similar to Structure 1 in E-III-3. Structure of B-III-1 was bordered on the east and south by a courtyard or plaza (depending on its function) and is presumed to have fronted to the east, as did the subsequent building increments (Structures 2 and 3). These latter structures were considerably higher, were terraced on several levels, and were attended by a main stairway running the full length of one side from plaza to summit and by accessory stairways variously situated for convenient access to the summit of the mound.

The basic building materials all consisted of the natural and man-made soils and deposits readily available in virtually all parts of the site. These were used singly or in combinations, and when combined they were always puddled before application. No stone was ever used in any functional or structural capacity. Cultural refuse was included in the fill only when it could not be avoided, for its preponderance varied in direct relation to the density of human refuse included in each of the raw materials and the extent to which the materials were differentially mixed together for mound construction.

This relationship is clearly evident in the differential artifact densities of the fill types used in B-III-1. The humus fill of Structure 2 has the highest artifact density, while the puddled fill types overlying it (in both Structures 2 and 3) have variable but intermediate densities. The talpetate fill types have very low or zero artifact densities. In puddled fill matrices absolute artifact density is higher than would be expected because puddling tends to break the pots, shells and obsidian artifacts into smaller pieces. Thus sherd size may be used as a relative measure of the degree to which the raw materials were puddled prior to deposition. As in E-III-3, grass was often used as a tempering or binding material in B-III-1, but only in the combined fill types.

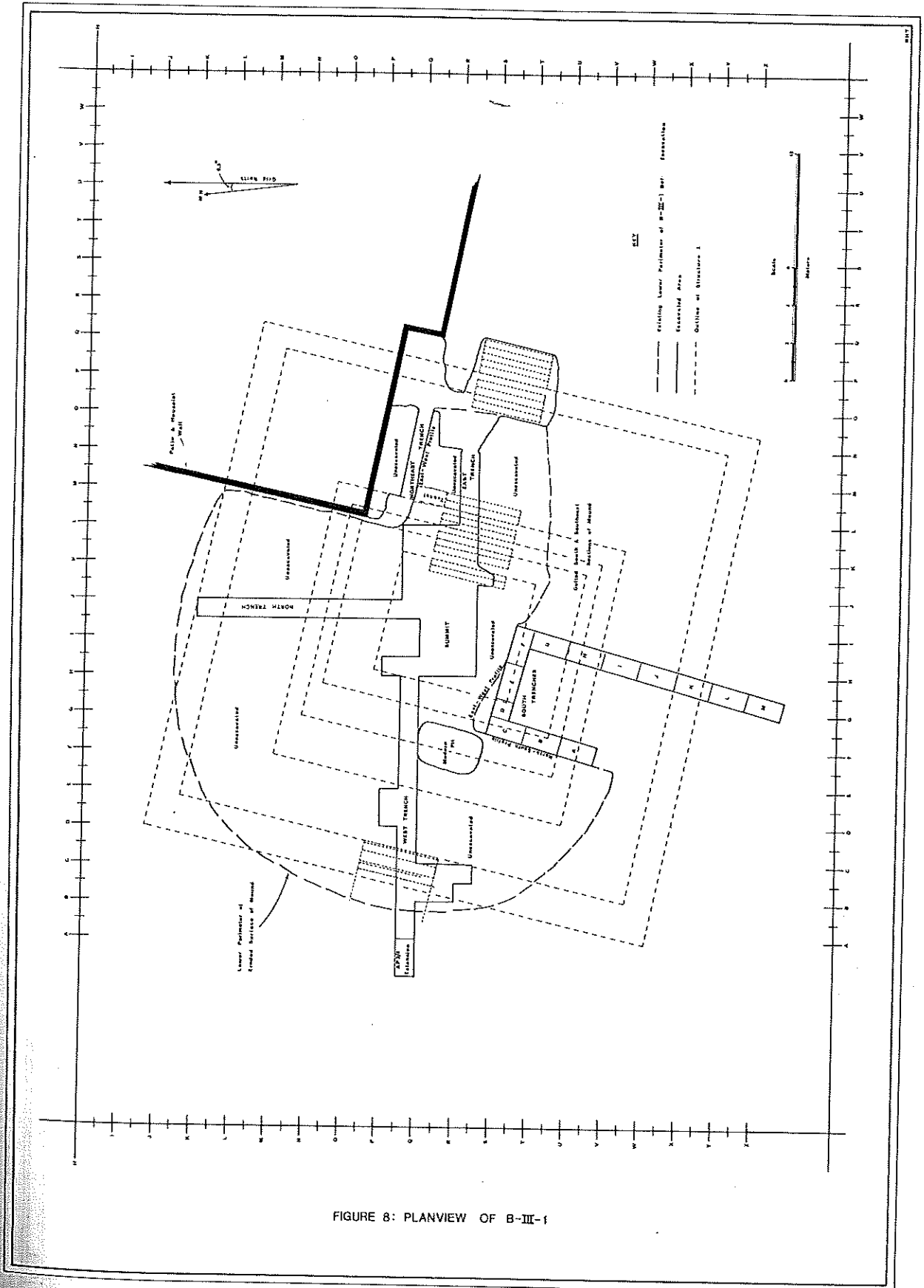
The construction of Structure 1 involved rough modeling from the base upward, and at least on its horizontal surfaces, the application of a thin coat of tenacious brown clay. All surfaces were then wet troweled to smooth contours. In subsequent building periods the clay was again applied to the horizontal surfaces which then received a grouting of crushed pumice-impregnated talpetate. All surfaces were then finished off with a thin coat of fine-grained chocolate brown adobe.

The engineers of Structures 2 and 3 devised several measures to prevent slumpage and collapse of their structures. Each major fill type was deposited in such a way as to function as an embankment-like support for the next operation. In addition, rigid "retaining walls" were used as fill supports and as supports for such architectural elements as stairways. However, the retaining walls do not appear to have been functionally or structurally integrated with the mounds' terraces.

As in E-III-1, the stairways of Structure 2 and presumably Structure 3 of B-III-1 were plain. They may, however, have been flanked (as at the intermediate Terrace 2 level of Structure 2) by small shrines or altars which involved the use of fire. Terraces apparently were also plain, though they may have been painted in red, blue, green and black. It is more likely, however, that the fragments of earth bearing these pigments are the remains of clay anthropomorphic figures and other sculptures which took part in ceremonial events conducted on the temples. Steps and terraces both sloped gently to rounded edges, giving the whole structure a certain softness of contour. Stairways were both partially set into and partially projecting from the terraces abutting them. In contrast to E-III-3, the terraces of B-III-1 showed a strong tendency to standardization in height; this was not true of their width, however. While the treads of terraces sloped gently to facilitate drainage, their risers were perfectly vertical.

The architectural sequence of B-III-1 was not complicated by multiple additions or remodelings. At each increment an entirely new surface was prepared which completely enclosed the previous building. By the Verbena subphase the Miraflores had reached a level of social organization in which monumental engineering projects were commonplace. However, the lack of tombs, presumed to be characteristic of the larger Miraflores mounds at Kaminaljuyu, in any of the building phases of B-III-1 suggests that religious practitioners and/or political functionaries of the small social unit had not yet achieved a status entitling them to the more elaborate mortuary practice, which at the time may have been reserved solely for the most prestigious

members of the society. The model of ranked lineages would therefore seem most appropriate to account for the apparent differences in rank as manifested in the scale of engineering projects, the spatial partitioning of social units and the treatment of the dead.



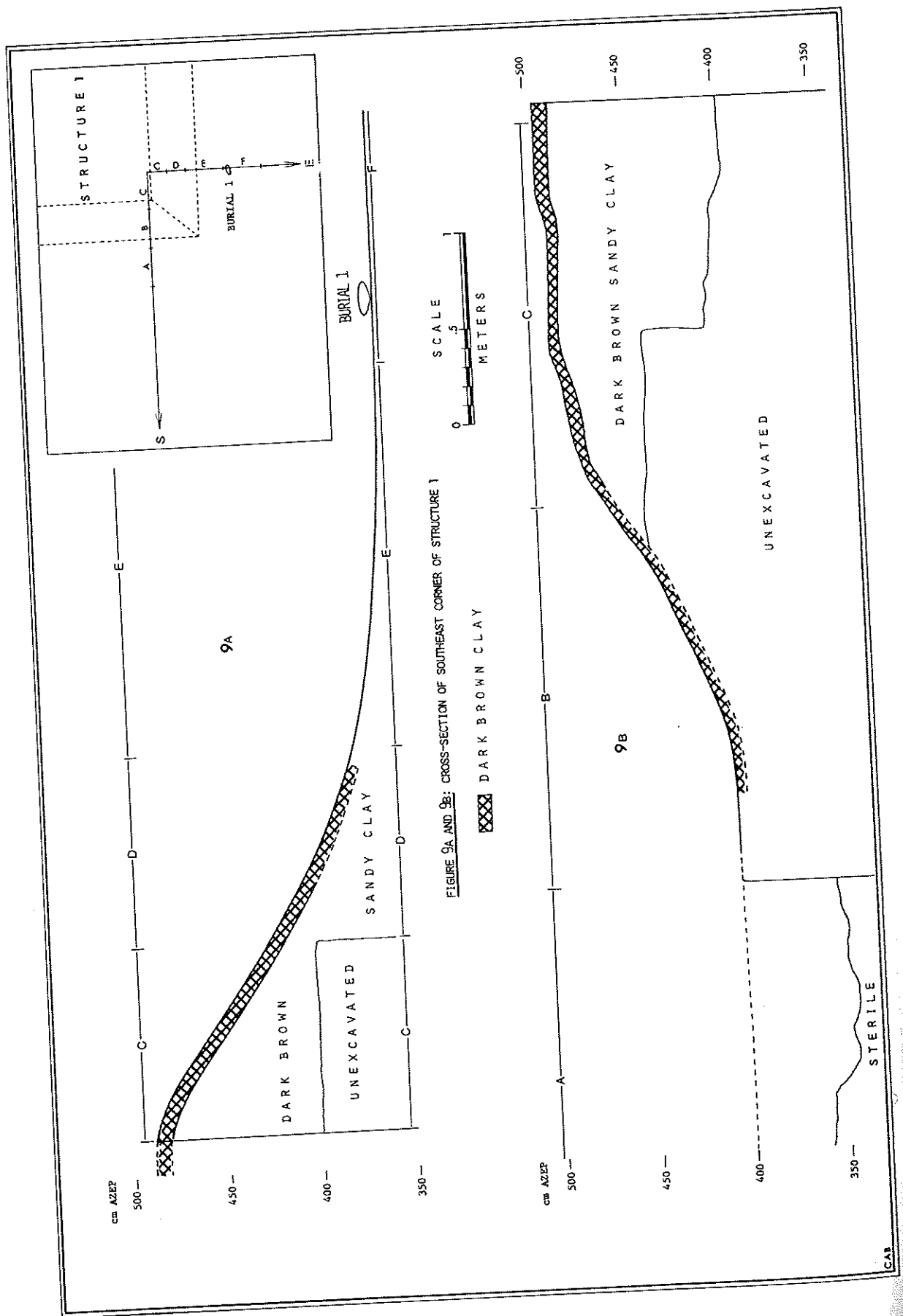
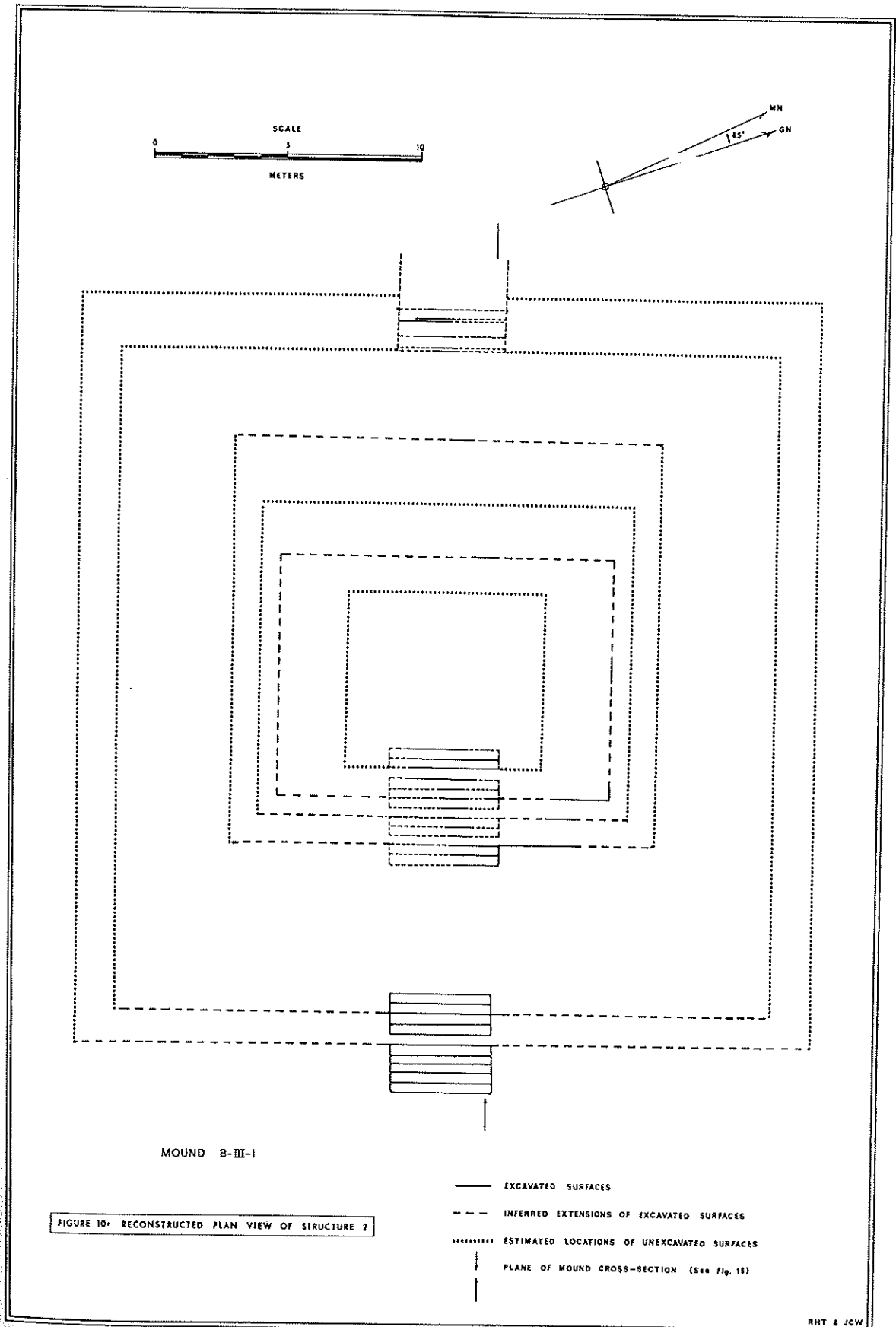


FIGURE 9A AND 9B: CROSS-SECTION OF SOUTHEAST CORNER OF STRUCTURE 1



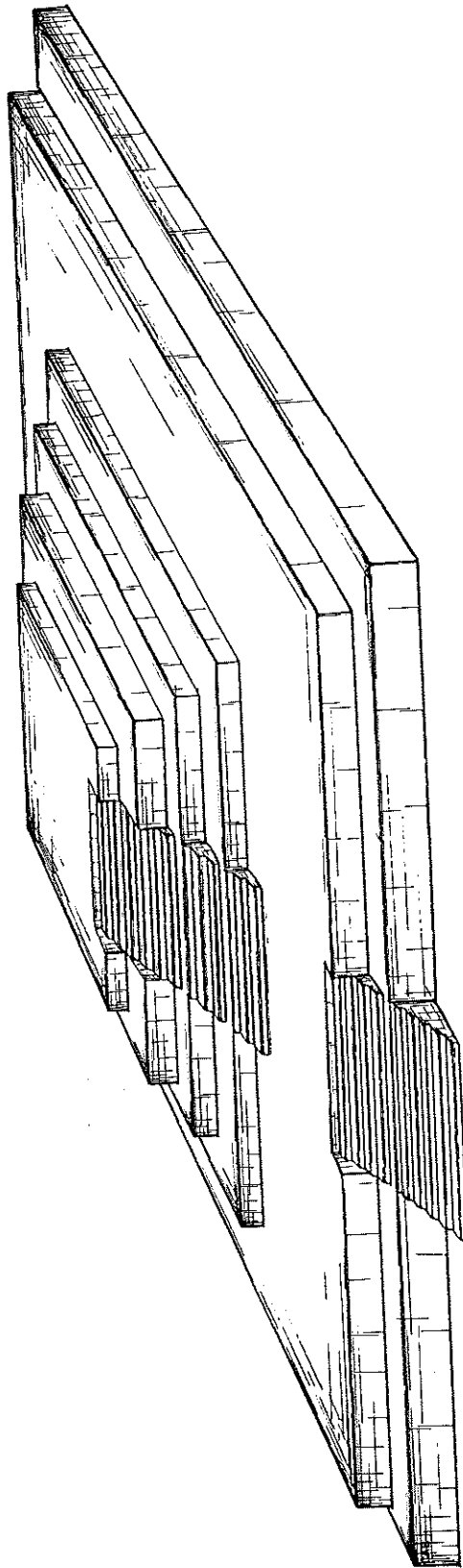


FIGURE 11: ARCHITECTURAL RECONSTRUCTION OF STRUCTURE 2

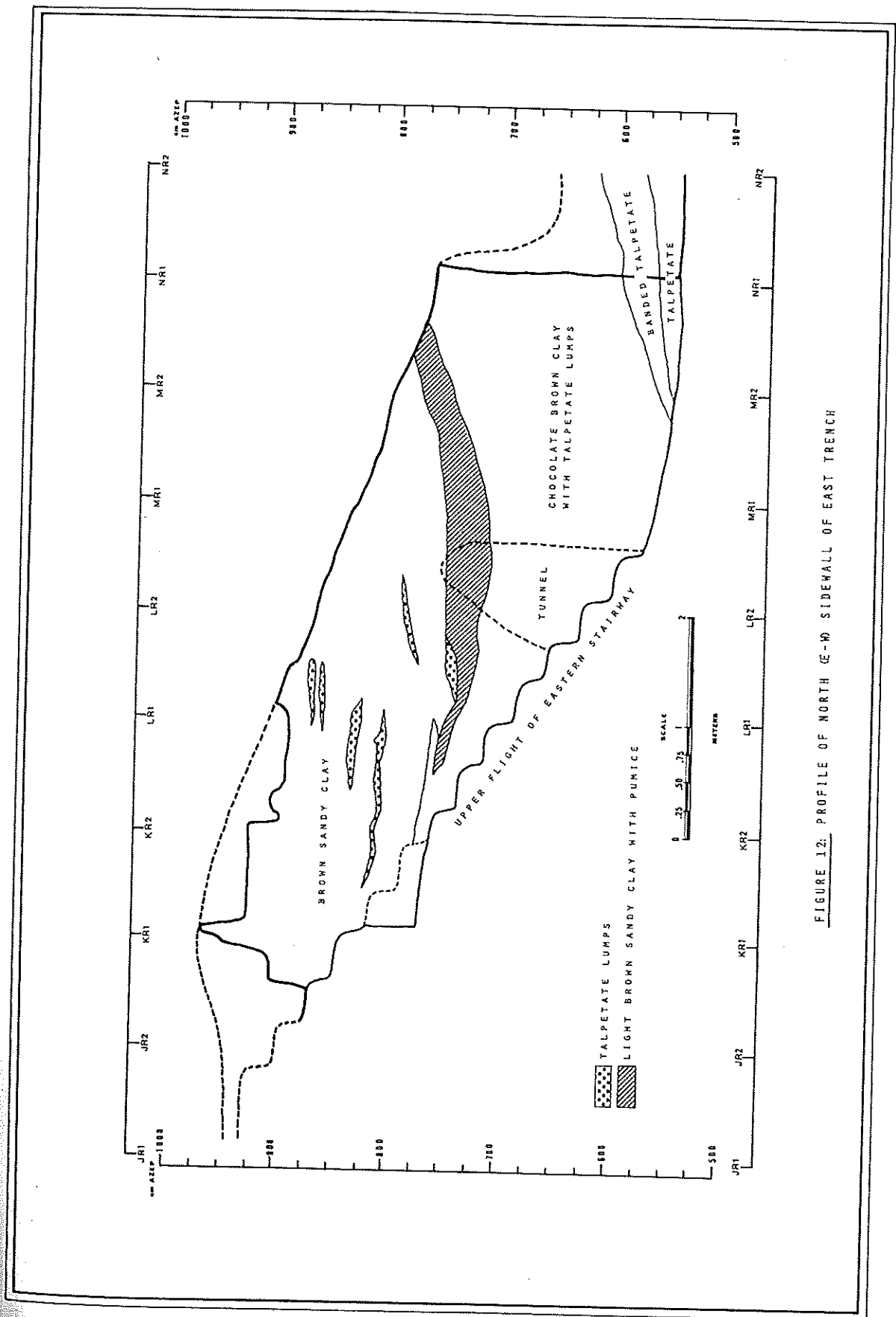
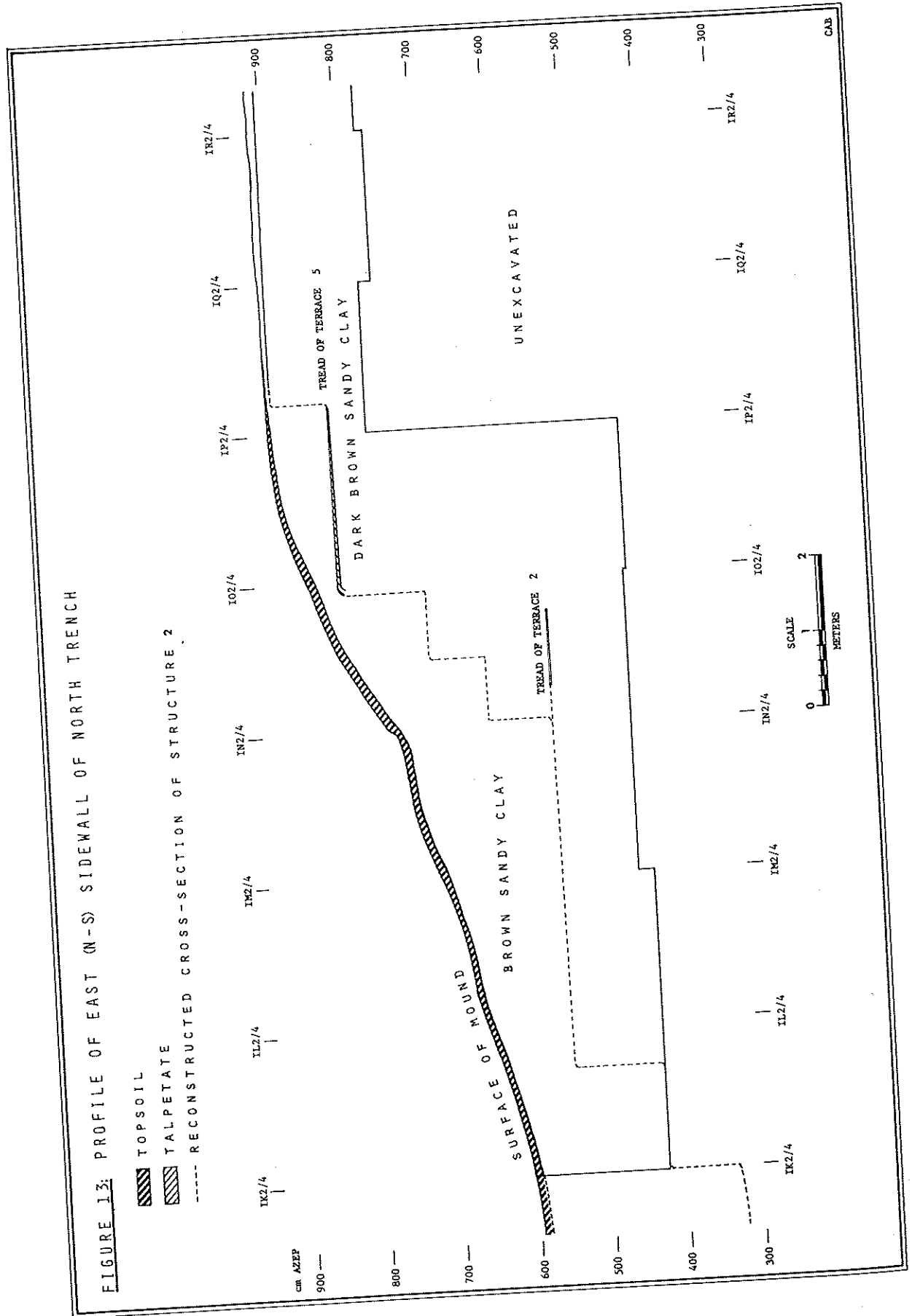
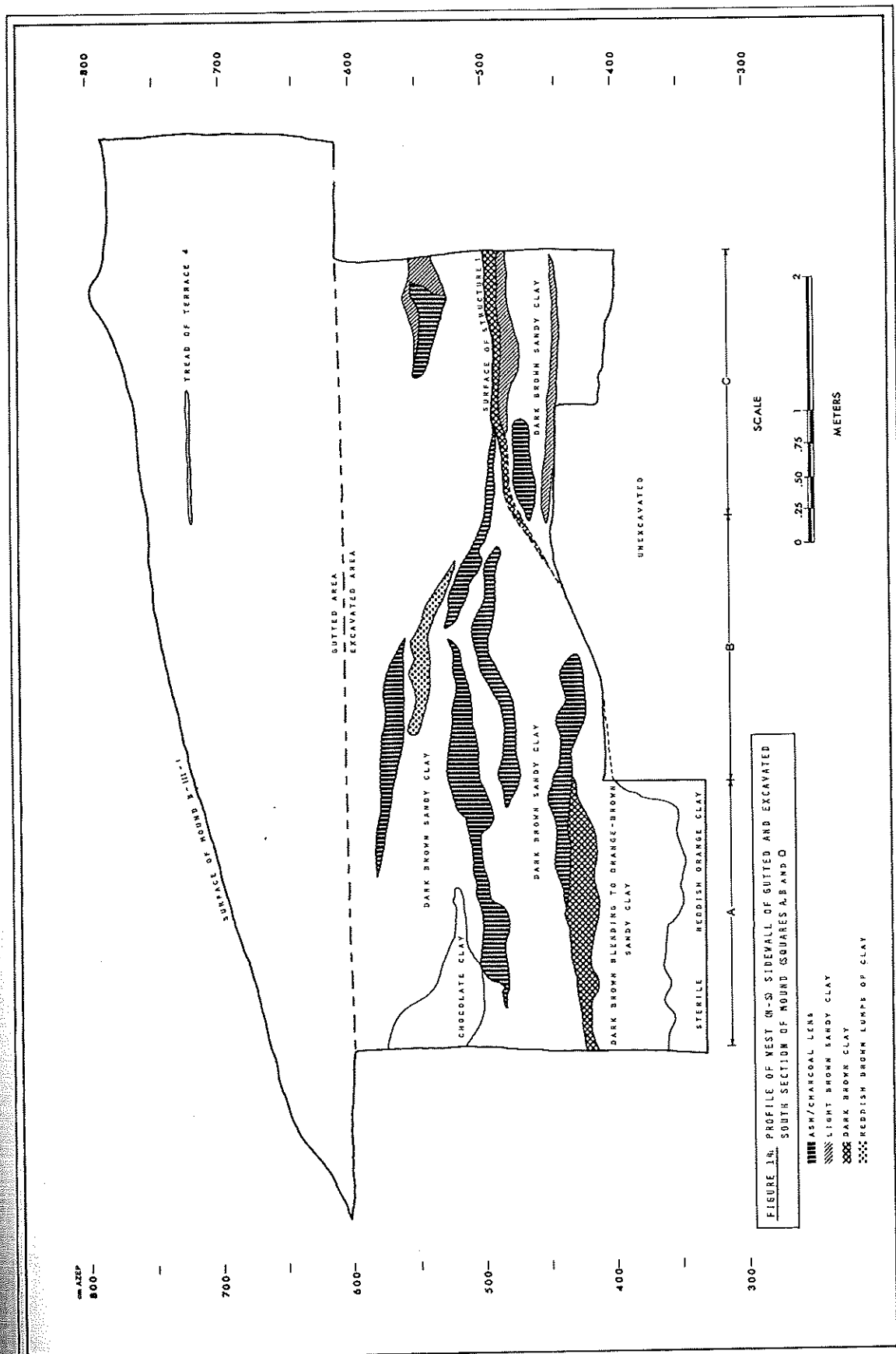


FIGURE 12: PROFILE OF NORTH (E-W) SIDEWALL OF EAST TRENCH

FIGURE 13: PROFILE OF EAST (N-S) SIDEWALL OF NORTH TRENCH





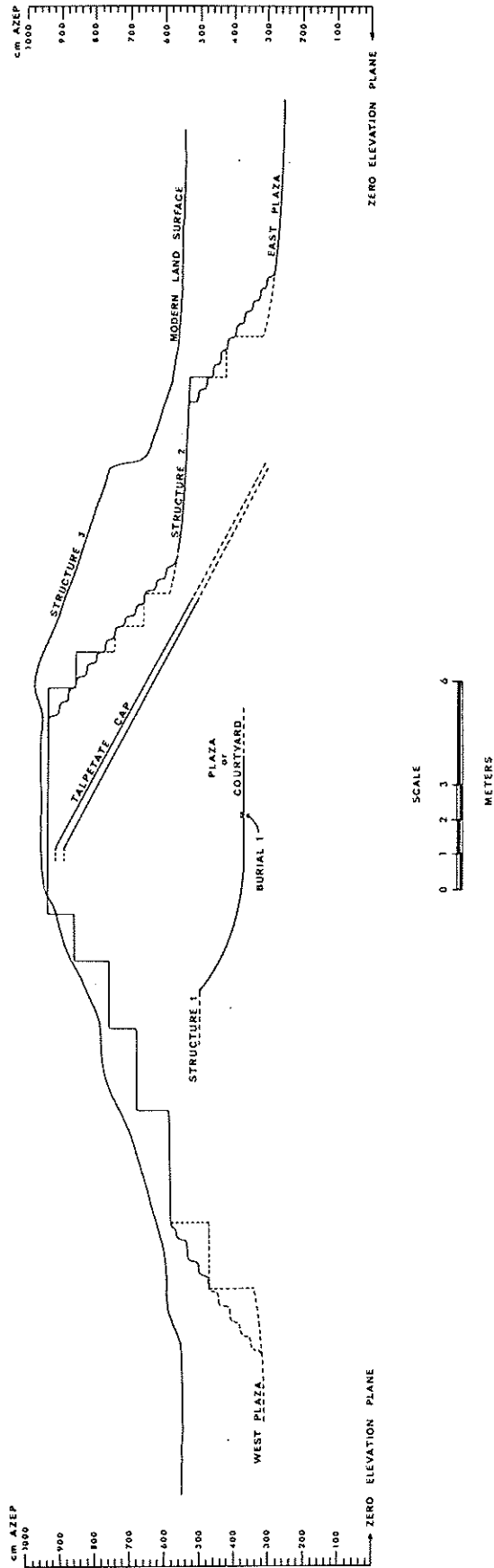
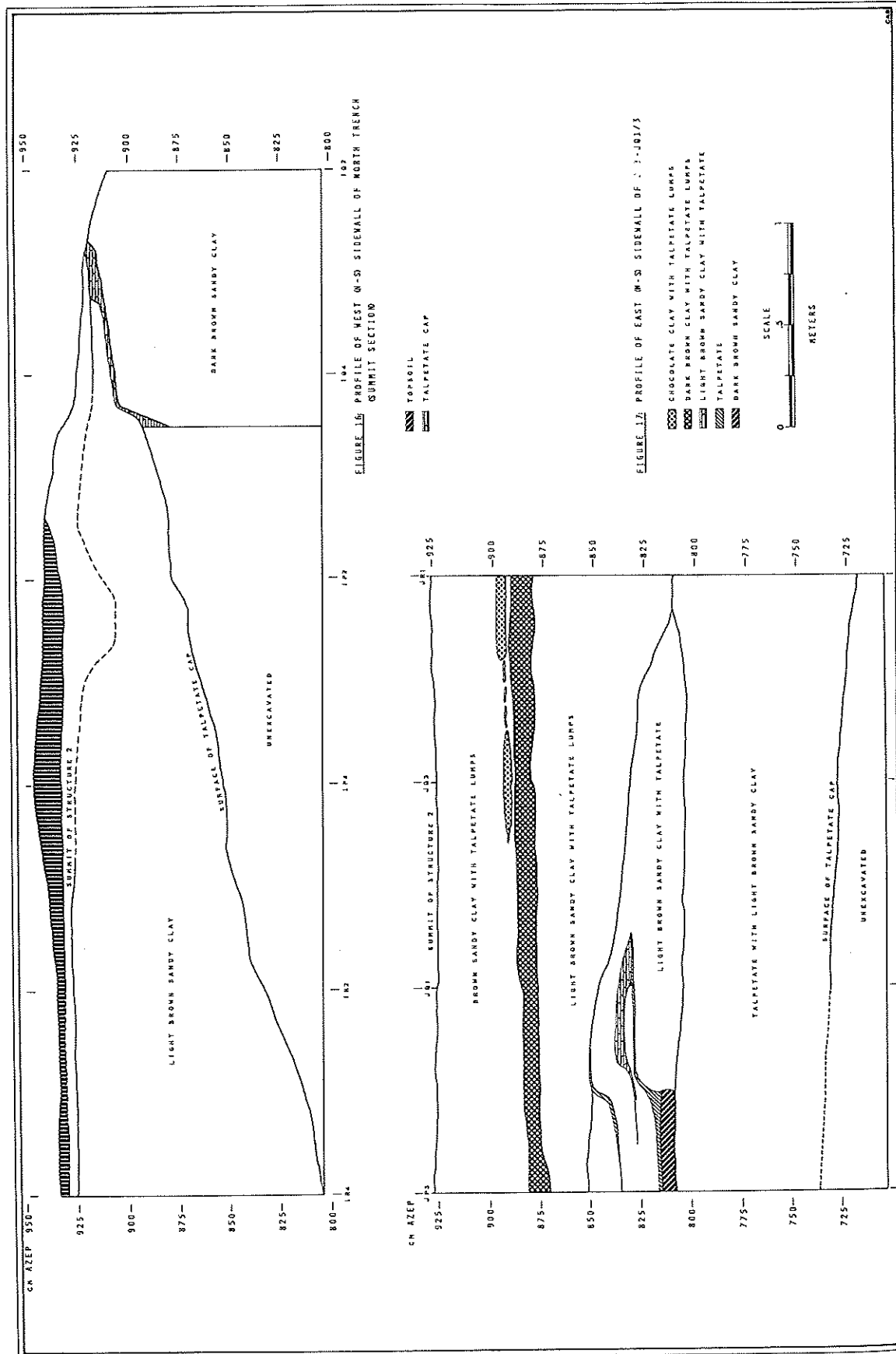


FIGURE 15: RECONSTRUCTED CROSS-SECTION OF MOUND 8-III-1

RHT



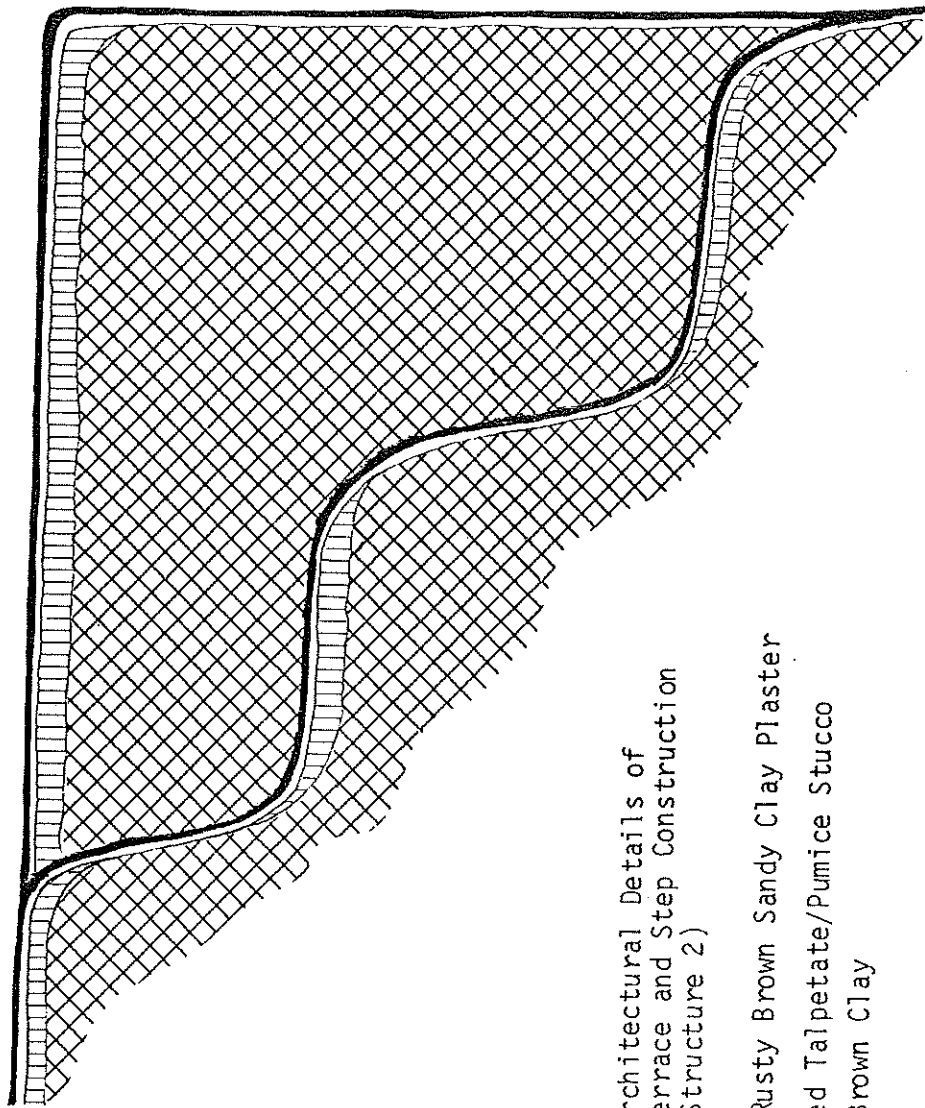
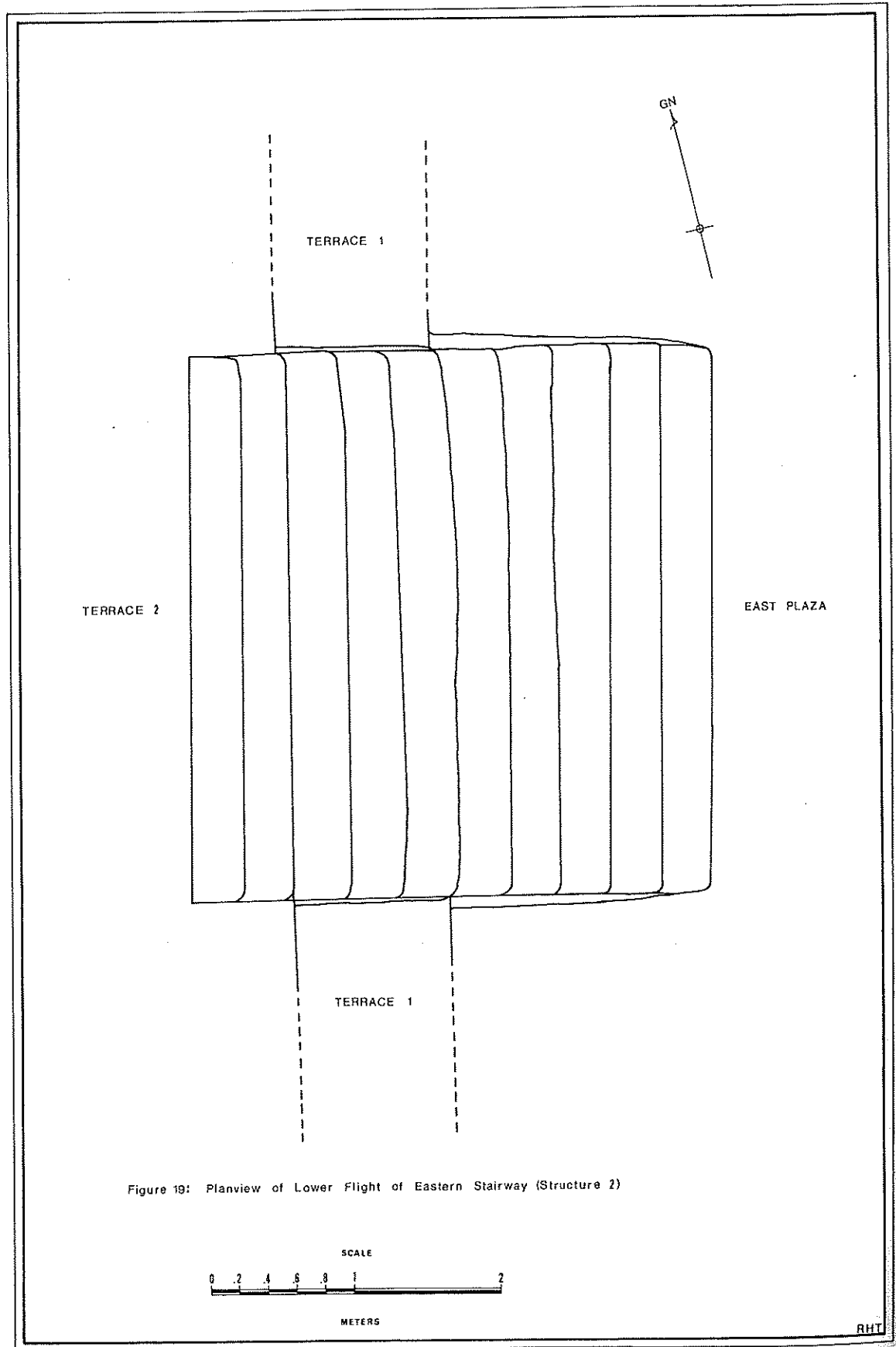
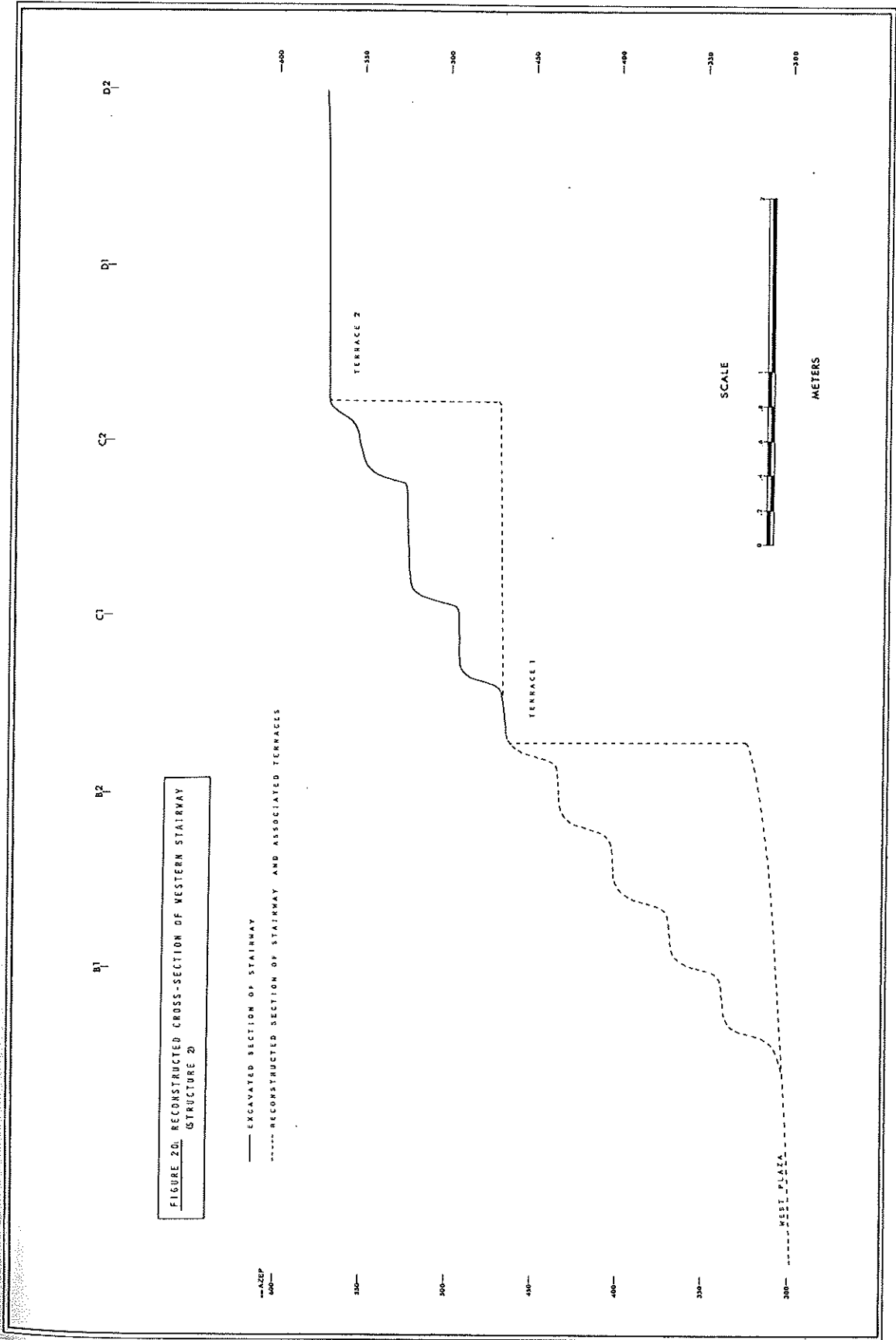
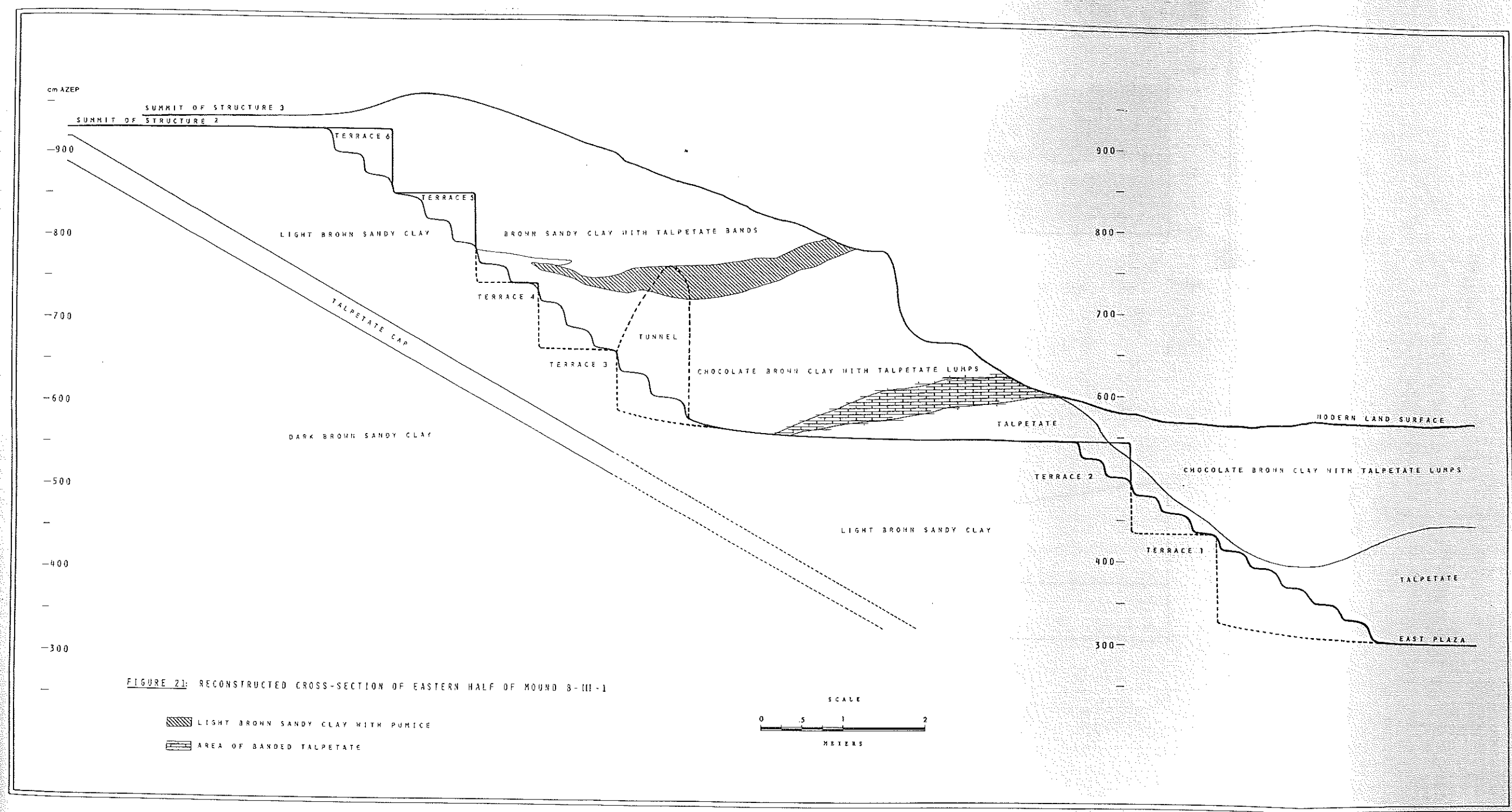


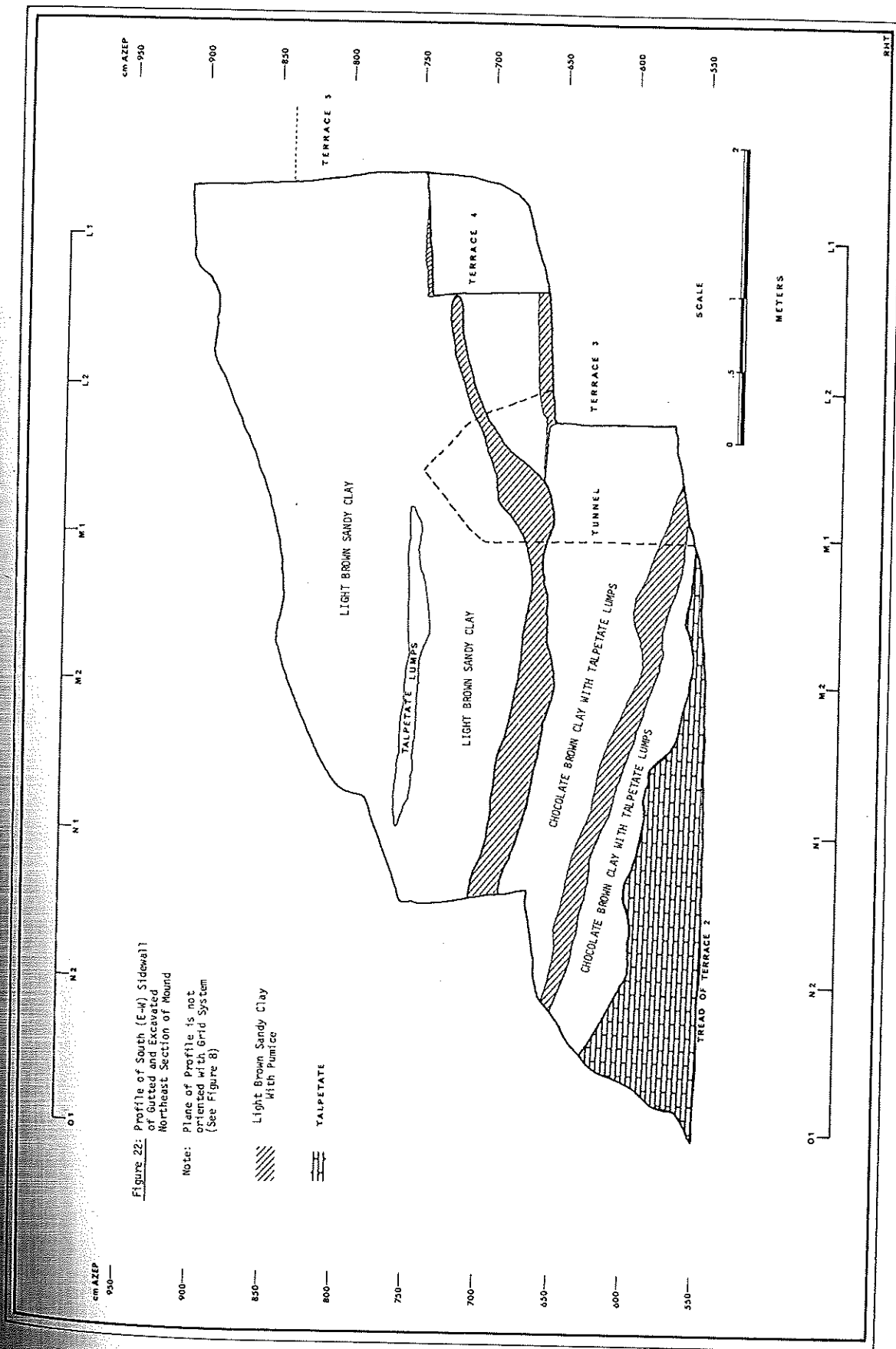
Figure 18: Architectural Details of
Terrace and Step Construction
(Structure 2)

- Fine Rusty Brown Sandy Clay Plaster
- Crushed Talpetate/Pumice Stucco
- ||||| Dark Brown Clay
- XXXX Fill









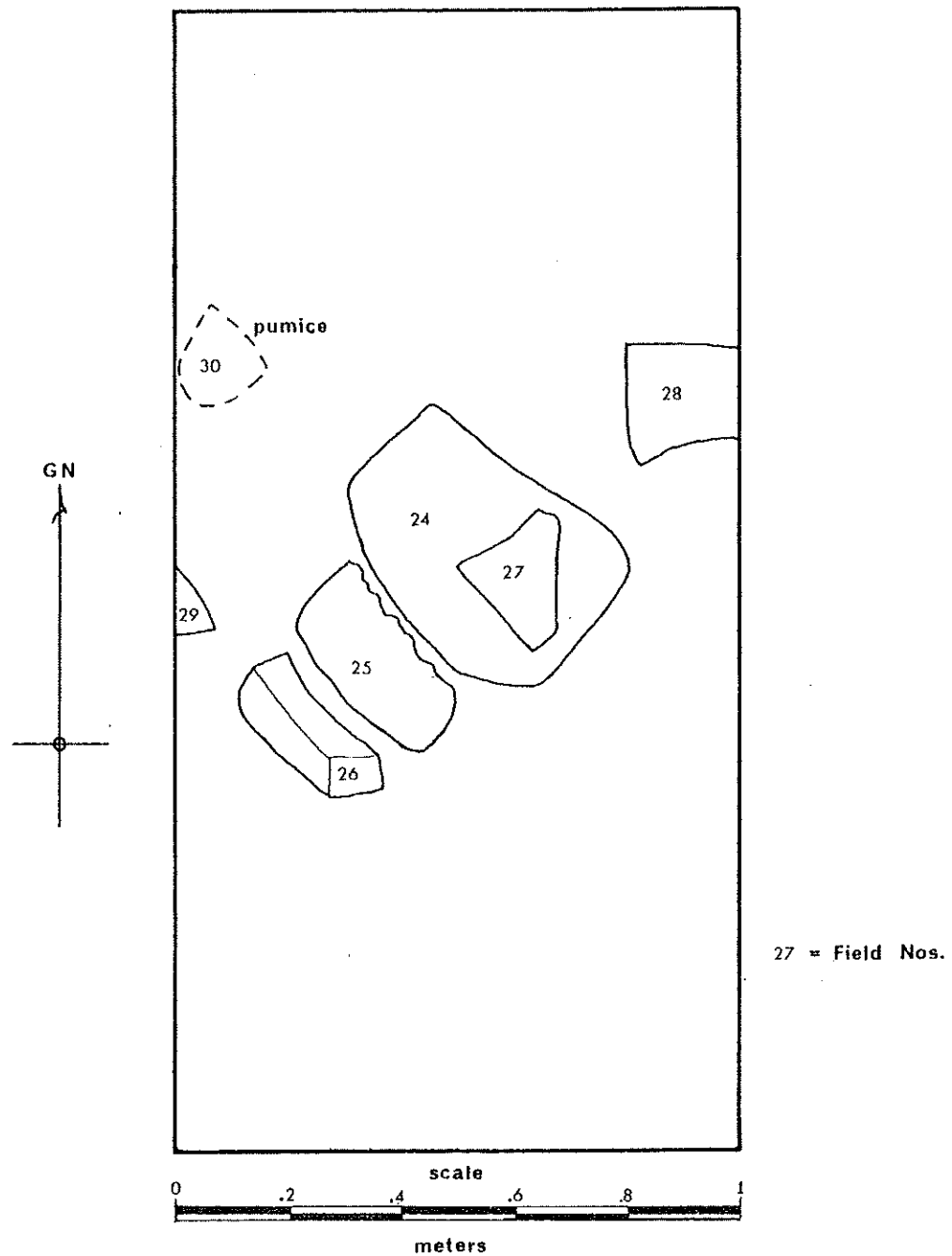


Figure 23

Plan View: Feature #1 - Metate Fragment Concentration
 Sq. IK 2/4, L.5 (c. 500 cm AZEP)

JCW

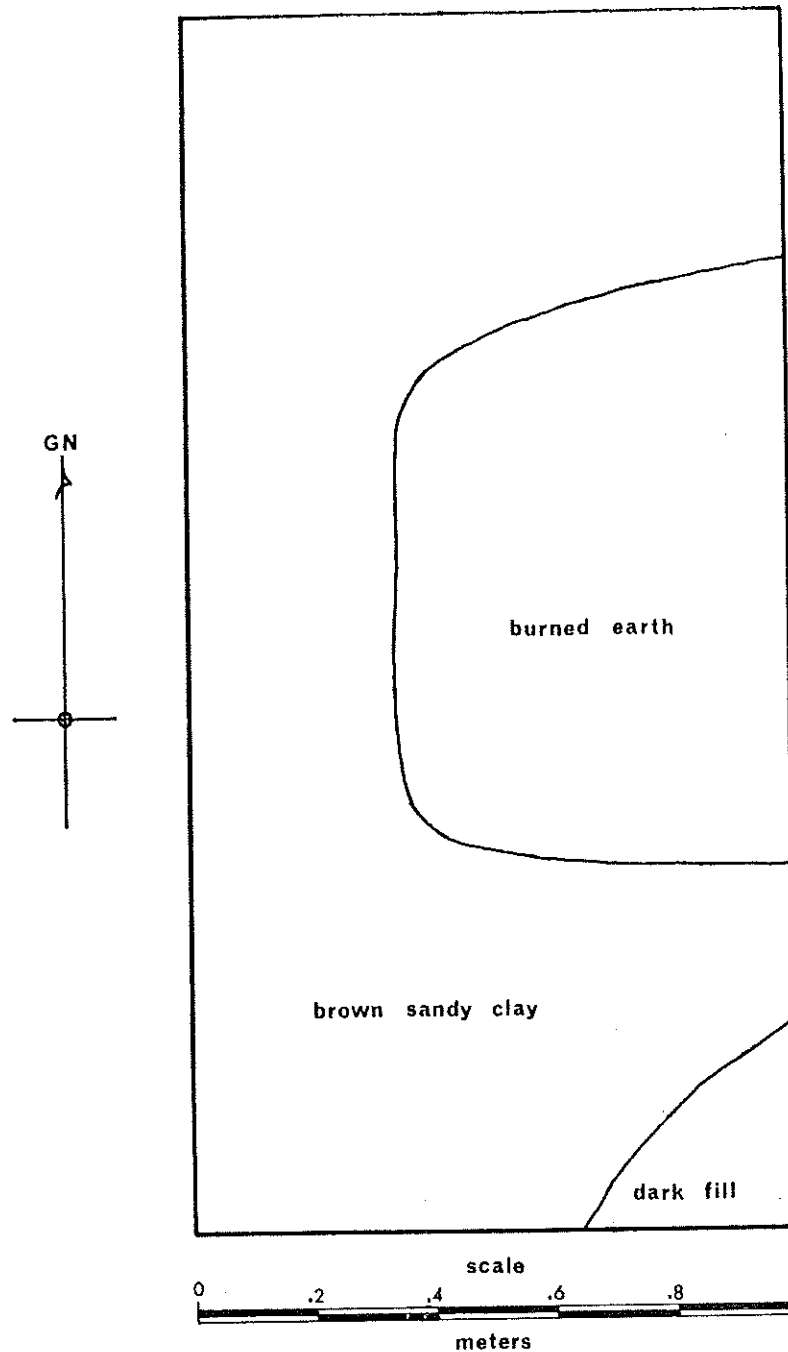
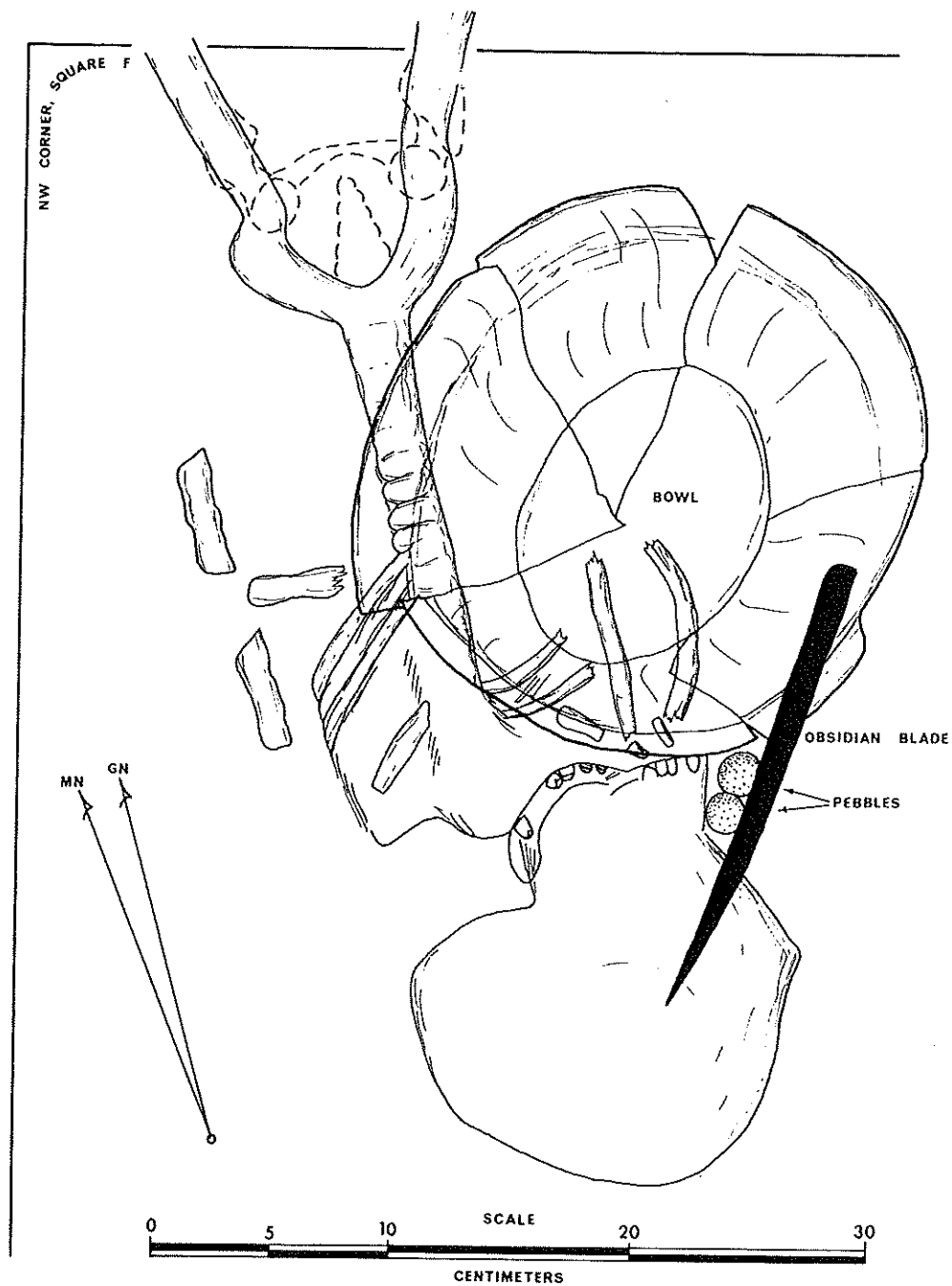


Figure 24

Plan View: Feature #2 - Burned Earth Area
Sq. IN 2/4, L. 9 (550 cm AZEP)



MOUND B-III-1
Fig. 26
Plan View of Feature 7: Burial

MOUND B-II-1 EXCAVATION

by

Donald M. Austin

In Collaboration with

Gordon Lothson

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INTRODUCTION

In addition to presenting a large body of descriptive data concerning the location, excavation and morphology of Mound B-II-1, this paper will attempt to tentatively interpret the data. This can be done only in a very limited fashion since, at this time, the analysis of the artifactual materials recovered has scarcely begun. Therefore, the author must depend heavily upon building stratigraphy alone to support hypothesized chronological sequences within the mound. The nature of the construction material, soil, makes stratigraphic definition an often complex problem. This is so, particularly because of the processes of erosion and soil compaction which have taken place within the mound. It can only be reiterated that the interpretations based on building stratigraphy are tentative pending artifactual analysis.

LOCATION AND SETTING

Mound B-II-1 is located in the Colonia Jardines de Tikal, a suburb on the northeast side of Diagonal 16 (also known as the San Juan Sacatepequez Highway) and bounded on the northwest side of 31 Avenida. The mound lies some 600 meters west-southwest of the Palangana, or the Parque de Kaminaljuyu and between 6 and 7 Calle at their intersections with 31 Avenida. In reference to the Carnegie grid it is located in the northwest corner. Mound B-III-1, the other major structure excavated during the field season, lies 100 meters southeast of this mound.

The suburb in which the mound is found is typical of many suburbs which lie on the outskirts of the city. It has been built with apparent disregard for the several mounds located within it. Subsequently, these mounds have been gutted to varying degrees.

The upper layers of soil in the Kaminaljuyu area have been described by Shook and Kidder (1952) as being composed of four types of material. Generally, black topsoil overlies alluvially deposited brown clay. Beneath these two layers are layers of pumiceous, or volcanic, ash and talpetate. The latter is a tough, yellow-brown earth which hardens upon exposure to air.

Stone was not available in the immediate area of Kaminaljuyu. It was, however, procured from the bottoms of surrounding barrancas.

CONDITION, SIZE AND ORIENTATION

At the time of excavation, B-II-1 was in a poorly preserved state. Thirty-one Avenida had been constructed at the expense of approximately the western one-third to one-half of the mound. A small portion of the eastern side of the mound was disturbed by the construction of a house on an adjacent building lot (see Figure 27). Unlike some other areas in the colonia the three building lots on which the mound lay were relatively free of the small maize hillocks characteristic of agriculture in this area. It did not appear that erosion was responsible for a significant amount of deterioration of the structure. This was probably due to the relatively low height of the mound.

Certainly in its later stages, probably the earlier ones as well, the structure represented by the mound was a terraced, earthen platform, slightly rectangular in shape, with the long axis oriented roughly east-west. Due to the destruction of the western section of the mound, the present horizontal dimensions are not indicative of its original proportions. Through the north-south axis the mound measured 24 meters, whereas through the remaining east-west axis it measured 18 meters.

At the time of excavation, the apex of the mound rose approximately one and one-half meters above the immediate surface area. The highest point occurred near the west-central portion of the mound, and from this point the surface sloped downward and to the east as Figure 28 indicates.

In general, the north-south or latitudinal axis of B-II-1 was oriented approximately 25° to 30° east of magnetic north. This is consistent with the orientation of other Miraflores building complexes at Kaminaljuyu as well as with other Middle and Late Formative sites in the Guatemalan Highlands (Borhegyi, 1965). Later excavation raised the possibility that the structure faced north.

EXCAVATION METHODOLOGY

A marker placed slightly south and east of the mound, designated M_2 in Figure 27, was used as the primary horizontal datum point. From this point an alphabetically coded grid was established in such a manner that the mound fell roughly in its center. The grid was arbitrarily aligned with the street system in the Colonia. The north-south coordinates were found to be oriented $19^\circ 40'$ east of magnetic north. The grid coordinates were alphabetically designated beginning in the northwest corner and continuing east and south. The coordinates were spaced at two-meter intervals forming two by two meter squares. Squares falling upon areas to be excavated were demarcated by placing wooden stakes in each corner of the square. Each square was identified by the column and row letters, in that sequence, of the coordinates intersecting at the northwest corner stake of that particular square. The primary horizontal datum point occurred at the intersection of coordinates Q and U.

In order that horizontal control be more accurate, each square is divided into four equal quadrants. These are numbered from one to four in the manner illustrated in the key to Figure 27, i.e., the northwest quadrant being number one, the northeast quadrant number two, the southwest quadrant number three, and the southeast quadrant number four. Reference was made to these quadrants by prefixing the square designation to the quadrant designation, e.g., PL2. When multiple quadrants were referred to they were separated by a slash symbol to prevent confusion, e.g., PL 2/4.

Specific horizontal proveniences were to be reported as distances from the north and west walls of the square, or squares, involved.

The excavation supervisor, Gordon Lothson, decided to utilize a numerical horizontal control system in conjunction with the alphabetical system. He felt that, where architectural features were involved, a numerical system would be less cumbersome than the alphabetical system. The latter system was retained for the purpose of providing continuity between the three major excavations in terms of the horizontal control and data processing of recovered materials. Consequently, horizontal proveniences are designated in either, or both, numerical and alphabetical terms. The numerical system utilizes the alphabetical grid in part. The primary horizontal datum point is retained and designated 0 meters north and 0 meters west, or 0N/0W, as this point would be notated. Any point within the excavation area is referred to in terms of the distance in meters north or south, and west or east of this datum point. The entire excavation, in the case of Mound B-II-1, fell north and west of the primary horizontal datum point. Subsequently, all numerical designations are prefixed by north and west. Figure 27 contains both grid systems.

A cement surveyor's marker located in the southwestern section of the vacant area occupied by the mound, and bearing the markings $R = 10^\circ$, was utilized as the primary vertical datum point. The elevation of the surface of this marker was arbitrarily called 100.00 meters. Vertical proveniences were designated in relation to this point and are presented here as a number suffixed by the letters mvp (meters vertical provenience). It is hoped that

this will aid in the clarity of the presentation of the large body of descriptive data. This same vertical datum was also used in designating the elevations of the settlement pattern test trenches described on the succeeding paper by Sanders and Hirning.

From the primary vertical datum point the tops of the northwest corner stakes of all demarcated squares were vertically designated and used as secondary datum points. During the first two weeks vertical proveniences within squares were determined by the use of a cord and line level, the former being attached at the top of the northwest corner stake of the square. However, the accuracy of this method was questioned since mud continually fouled the line guides of the level as well as the string itself. It was then decided by Lothson that vertical proveniences would henceforth be established by using a transit and stadia rod in conjunction with either the primary datum point or any secondary point.

Excavation was by designated grid unit and in arbitrary levels of 20 centimeters. The twenty centimeter stipulation was to be flexible, however, and was to be disregarded if artificial or natural units seemed more practical in specific situations. If a square were located on a sloping surface, as generally occurred in the case of this excavation, the first vertical unit to be excavated, level 1, contained only the earth which was removed in order to level the square, i. e., in order to bring the total surface of the square to the same level.

As artifactual materials from given horizontal and vertical units were removed during excavation they were placed on tagged, basketry trays. The trays included such information as the date, site designation, and horizontal and vertical unit designations. Upon the completion of a given vertical unit, or level, the materials were transferred to cloth bags to which the accompanying tag was securely fastened with wire. At the end of each day's work all bags were carried back to the laboratory where they were stored pending washing and cataloguing.

In addition to these horizontal and vertical controls, a system was utilized in which the exact horizontal and vertical positions of unusual or potentially significant artifacts could be systematically recorded. This was accomplished by assigning a unique number to each such artifact. These numbers were referred to as field numbers and were affixed to artifacts by using a self-adhesive, white paper dot.

On June 12th, excavation was begun by initiating an exploratory, north-south trench east of the center of the mound, between the P and Q coordinates (see shaded area number one in Figure 27). The trench was one meter wide and located in the 2/4 quadrants of the P-column squares. Although the main purpose of this trench was to supply stratigraphic data, it was also hoped that the trench would expose retaining walls or other architectural features. An off-center approach was chosen, working on the assumption that the mound had functioned as a residential platform, and it was felt that the central portion of the mound should be excavated as a unit. This would aid in searching for and relating posthole molds, benches and other evidences of structures which may have been erected, at various times, on the tops of the platforms. The excavation of the trench was begun in several units simultaneously and was extended until it stretched continuously from the row coordinates U to F.

The excavation of the central portion of the summit of the mound was begun on June 14th. Eight centrally located squares and four additional quadrants were begun within one week of each other (see shaded area number two in Figure 27). Because time was an important factor in determining the methodology of excavation, (at this point the excavation of B-II-1 was not expected to continue through the entire season) these squares were not excavated in an alternating pattern with each square wall acting as a control profile. Instead, the four walls of the central area as a whole were to provide the only such stratigraphic control.

Six 1 x 2 meter test pits were excavated (see shaded areas designated number three in Figure 27) on the north and south peripheries of the mound. The two southern test pits were excavated in order to substantiate the presence of a prepared floor (Feature 14) which had been exposed in the north south trench and to obtain a series of stratigraphic profiles of this area.

Four test pits were excavated on the northern edge of the mound. Two of these were merely westward extensions of the northernmost section of the test trench. In addition to providing stratigraphic data for the area, they also served to verify the presence of, and determine the alignment of, a talud-like structure (Feature 13).

Two more areas were excavated. Both were begun on July 30th, one located on the northern slope of the mound, the other on the southern slope (see the shaded areas numbered four in Figure 27). The northern trench was excavated in the hopes of revealing a stairway or approachway of some type, while the southern excavation served to follow a stone drain (Feature 31) which was initially found in the central, summit excavation area.

Soil types were differentiated by the use of the Munsell Soil Color chart. Color was based on the major constituent of the soil, i.e., not on intrusive elements, such as the gravelly pumice, which was often present. In the determination of color, samples were selected from uniformly dry areas, and then crumbled to a coarse powder. Munsell color designations will be presented in the keys accompanying soil profile figures in this report.

Sixty-four potential radiocarbon samples, generally charred materials, were taken in various areas throughout excavation. These were collected using tweezers and then carefully wrapped in aluminum foil. Each sample was assigned a field number and its exact provenience was recorded.

Four sets of soil samples were collected. These came from squares MT 1/3, LF 2/4, NF 1/3, and PJ 2/4. Each series of samples was collected from various strata within a specific stratigraphic profile and recorded accordingly. Each sample was given a color and textural designation as well as a numerical designation relating it to the specific stratum from which it came. The samples were bagged and stored pending analysis.

CONSTRUCTION PHASES AND TECHNIQUES

The composition of the upper layers of the soil in the Kaminaljuyu area was discussed briefly in the section dealing with location and setting. As stated previously, four soil types are characteristic. These are topsoil, clay, pumiceous ash, and talpetate. Shook and Kidder (*op. cit.*) characterized construction techniques, in relation to these soil types, in the following manner. They recognized the use of two major types of mound fill. First, dry fill, composed of these four soil types either singly or in combination, was often employed within the interior of mound structures. Second, puddled adobe was more often employed. Clays served as the main ingredient for this adobe with pumice, chunks of talpetate, or topsoil and organic material as a binder. The organic material utilized was generally chopped grass.

Very often large quantities of potsherds were also included in the adobe and the dry fill since the topsoil added usually included a high frequency of these materials due to occupation in and around the construction site.

Stone was used sparingly as a construction material at Kaminaljuyu. Most of this material was in the form of river cobbles, flat slabs, and discarded artifacts such as manos and metates.

The techniques used to construct B-II-1 seem to be generally the same as those discussed above. In the first place, it seems quite likely that dry fill was utilized in the interior of the mound. Although the mound fill was of a very tough consistency, a large amount of slumpage within it was evident. This dry fill was of the composition described above.

Secondly, there is good evidence that puddled adobe (i.e., not in brick form) was utilized in the construction of the outer, retaining parts of the various structures within the mound. The composition of the adobe seemed similar to that described above, with grass leaving telltale impressions in the material.

Small cobbles and other types of stone were not infrequently encountered. Generally, they seemed to have been placed where they would function in buttressing, particularly at bases and corners of platforms. In addition, stone served in the construction of a drain associated with one of the later mound structures as well as in a hearth related to an earlier structure within the mound.

The soil profiles of the excavation indicate that a large number of soil types are distinguishable and composed various strata within the mound. The differentiations have been made on the basis of soil color and texture. These two variables, color and texture, were the result of differing quantities of the topsoil, clay, pumice, or talpetate composing the mixtures used in construction. For example, variability of the reddish-brown color appearing in some areas was probably due not only to the amount of red pigment in the soil but also due to the quantity of that particular soil which was used in the mixture composing the mound fill. Similarly, where pumice had been added to the fill material in moderate amounts, the fill appeared lighter in color than in other areas. Texture differences were the result not only of varying quantities of different soils but also were the result of the size

the pieces of pumice added, if any. Pumice was utilized in both granular and gravelly forms.

Four major chronological phases are identifiable within the mound at this stage of analysis. Each of the last three phases correspond to groups of structures. The earliest is, rather, an occupational phase containing an extensive midden and two large refuse pits. The phases which have been identified must be substantiated by artifact analysis and consequently should be regarded as tentative. At this time only a small part of the ceramic materials recovered have been examined in order to determine their chronological provenience.

Most of the structures identified were first seen in the north-south, or stratigraphic, trench and wherever possible their presence and morphology was affirmed by the data collected in the other excavated areas.

One basic assumption underlies the reconstruction of the structural phases. That is, that each structural unit was more or less symmetrical in regard to the placement of the terraces of which it was composed. Reconstruction was also based, in part, from the knowledge gained from other excavations in this area.

In the descriptions below, functional buildings will be designated as structures, distinctive layers of soil areas within each structure will be designated as strata. Figure 43 locates these structures in relation to the soil profile of the stratigraphic trench.

Phase One

This is the occupational phase mentioned previously. It was represented, first, by a layer of accumulated occupational debris of undetermined depth (probably less than 30 cm.) overlying the dark, reddish-brown, alluvially deposited subsoil. This subsoil is continuous throughout the excavation area, apparently, and Lothson believes it to be part of an alluvial fan, descending from the north. Secondly, this phase was represented by two refuse pits which intruded into the subsoil (see Figure 42; also Features 32 and 37). The fill matrix, Stratum 1b, of these pits was clearly differentiated from the subsoil below, Stratum 1a, and the occupational area overlying it, Stratum 2a.

Phase Two

We have grouped three superimposed functional platforms seen in the profile together for analysis. They represent only minor modifications, essentially slight enlargements, of a basic structure. They are probably closely spaced in time as well. Together they will be designated as Chronological Phase Two and the individual platforms designated as Structures 2a, 2b and 2c.

Structure 2a, within this phase, was represented by a low flat earthen terrace upon which was built another low, central terrace. This basic form continued through the subsequent subphases. Although the structure was known only from the stratigraphic trench, a tentative reconstruction is offered in Figure 62. It appeared that the mound was built over a slight rise

of the natural surface (i. e., the clay subsoil) with the upper terrace lying over the highest area. Thus, the rise was probably used to greatest advantage. Because the north side of the structure was not completely revealed, the width of the structure can only be estimated. It seems that a width of approximately 15 meters was likely though, and its height was about 40 cm. The length of the structure (its east-west axis) could not be determined but if it was similar in proportion to the Phase Three and Phase Four structures it may have been as much as 20 meters. The basal portion of the mound was composed of three types of material. These are represented by Strata 2a, 2b, and 2c, in Figure 42. (Note that soil descriptions accompany the figures and are not dealt with extensively in the text.)

The upper terrace of the structure measured approximately 3 meters wide and was 30 cm. high. It probably ran nearly the total length of the mound.

Stratum 2c represented the remains of a prepared floor which may have covered the entire structure at one time. In the profile, however, it extended over the southern slope of the basal portion of the mound only. Although it may have continued to the south as did the successive, prepared floors above it (Strata 2e and 2h), there is no evidence of this. Imbedded in the floor and associated with it, and the surface of Structure 2a, were large quantities of sherds and other debris which were probably due to occupational utilization of the structure and not merely the result of the presence of sherd material mixed with the earth fill comprising the bulk of the overlying Structure 2b. The same situation was generally found in regard to most of the other prepared floors and surfaces within the mound.

Structure 2b was not unlike 2a in form (see Figure 62 for a reconstructed drawing). The low basal terrace was probably similar in size and shape and lay 10 to 30 cm. above the corresponding structure in 2a. The upper terrace was larger, being about 5 meters wide and 35 cm. high. Its center was, in addition, shifted slightly southward. That is, the increase in width came about because more construction took place on the south side. This trend was continued in Phases Three and Four. The entire structure was composed of one material (Stratum 2d, Figure 42) except for the prepared floor (Stratum 2e). This floor ran south from the southern base of the upper terrace (97.80 mvp) to a point 4 meters from the base of the lower terrace (97.55 mvp). Artifactual material is associated with this floor in the same manner as in the previous one.

The portion of the prepared floor seen in Figure 42 between 9N/1W and 11N/1W appeared to have been disturbed in some manner since there is no apparent explanation for the tilting in terms of structural function. Between 7N/1W and 8N/1W there appeared another peculiarity in this floor. This took the form of an overlapping of floor layers. Such unexplainable anomalies however, probably occur often in mounds constructed of earthen materials and where, particularly, dry fill is utilized.

Again, there was no soil color change indicating the extent or vertical dimensions of the living floor associated with Structure 2b. A dotted line represents the hypothesized living floor in Figure 42.

Structure 2c, the last in Phase Two, was first identified in the stratigraphic trench and later became apparent in the soil profiles of the center

excavation area. A reconstructed drawing appears in Figure 62. It is on the basis of this structure that the orientation of Structures 2a and 2b were hypothesized. The points at which the terraces of the structure appeared in the stratigraphic profiles were plotted and 2c reconstructed from this data. The structure was composed, as in 2a and 2b, of a lower and an upper terrace and an associated prepared floor (see Strata 2f and 2h in Figure 42). The large basal terrace lay at 98.00 mvp and was defined by an extensive prepared floor which ran from the southern end of the stratigraphic trench (0N/1W) to the base of the basal terrace. The floor also covered the surface of the basal terrace and was evident on the northern half of the surface of the upper terrace. The floor was not, however, detected on the north side of the mound.

The basal terrace was approximately 9.5 meters in width, probably about 20 meters long (again assuming a correlation in proportion with later phases of building) and 30 cm. in height. The upper terrace was 4 meters wide and it, also, was 30 cm. high. It was probably slightly shorter in length than the basal terrace.

The top of the upper terrace, as seen in the stratigraphic trench, occurred at 98.70 mvp. The surface of the basal terrace appeared to be slightly uneven (as did the surface of the upper terrace) and tilted downward to the north. The surface of the terrace at the southern side was located at 98.50 mvp, while the surface at the northern side was located at 98.20 mvp. This discrepancy was probably caused by compacting of the soil.

Both terraces were identified in the center excavation area and can be seen in Figures 39, 40, and 41 (Strata 1a, 1b, 1c, and 1d). The step up from the lower terrace to the upper one could be seen in the east and west walls of this area (Figure 41). Longitudinal sections of the upper and lower terrace were apparent in the north and south wall profiles, respectively. The vertical proveniences of the structure in this area were consistent with those in the stratigraphic trench.

The extensive floor associated with Structure 2c was designated Feature 14. Heavy concentrations of sherds and obsidian were imbedded in and lay immediately above the feature. A refuse pit, Feature 38, was found immediately below the floor at 5N/1W, 98.00 mvp (see Figure 42, Stratum 2g). It either predates the construction of the floor or was inserted into the floor and the floor rebuilt over it.

Phase Three

We have grouped two structures into this phase (see Figure 63 for a hypothetical reconstruction). Both were identified in the soil profile of the stratigraphic trench and were only fragmentarily represented in the soil profiles of the center excavation area. Figure 43 locates these structures in relation to the stratigraphic trench.

Structure 3a, the earliest of the two, was a three-terraced platform which appeared to rest on the extensive prepared floor mentioned in connection with Structure 2c. As Figure 42 indicates, the bulk of the structure was built primarily of one type of material (Stratum 3a). Lenses of several other types of soil were also present (Strata 3b, 3c, and 3f). It is probable that this was simply the result of different types of materials used in the mound fill, i.e., the different types have no differentiated structural or architectural function.

The northern end of the basal terrace could not be identified in the soil profile because the stratigraphic trench ended prior to the termination of this structure. Square PG 1/3 revealed no evidence of this portion of the structure either. It may have been that this area was destroyed in a later building phase. However, on the basis of the length of the southern half of the terrace, it was probably between 18 and 20 meters in length. As Figure 42 illustrates, it began at 10N/1W and continued through 26N/1W after which it could not be traced. The length of the terrace probably approximated that of the mound in general, 20 to 25 meters. The intermediate terrace was 12.5 meters wide, as seen in the stratigraphic trench, extending from 13.5N/1W to 26N/1W. It is assumed that it was shorter in length than the basal terrace. The upper terrace was very poorly preserved in the stratigraphic trench and though its southern edge occurred at about 17.5N/1W its northern edge could not be determined. This deterioration may have been caused by erosion of the structure during the construction or by slumpage due to soil compaction since the upper and intermediate terraces seemed to merge gradually on the north side. A width of 3 meters could be estimated for the upper terrace. As measured from the southern side, the heights of the basal, intermediate, and upper terraces were approximately 70 cm., 60 cm., and 35 cm., respectively.

An alternative reconstruction was a possibility in the case of the basal terrace. Figure 42 indicates that two steps were present in the southern section of the basal terrace between 10N/1W and 13.5N/1W. It is possible that what was defined here as the basal terrace actually was composed of three smaller terraces.

Continuing the examination of the structure as seen in the stratigraphic trench profile, there was a lens of clay (Stratum 3g) present in the southern end of the basal terrace between 11N/1W and 13N/1W at 98.70 mvp. It is likely that this represented a secondary application of construction material as a repair of this area due to slumpage or erosion.

Present in the northern end of the intermediate terrace at 25N/1W and between 98.60 and 99.00 mvp (Figure 42, Stratum 3b) were two horizontal lenses of a clay mixture. It is believed that this was an intentional construction technique which, due to the laminating effect, served to strengthen the vertical faces of platforms. This technique was found elsewhere within the mound.

Structure 3a was also identified in the soil profiles of the center excavation area (Figures 39, 40, and 41; Strata 2a, 2b, 2c and 2d). In the east and west wall profiles the transition from the intermediate to the top terrace was obvious even though a "step effect" was not clearly defined. The surface of the top terrace was evident in the north wall and ran the length of it at between 99.50 and 99.60 mvp. This correlated reasonably with its vertical provenience in the stratigraphic trench which was 99.65 mvp. The intermediate terrace was identified in the south wall where it continued the length of the wall at 99.10 mvp. This vertical provenience was identical to that of this terrace as seen in the stratigraphic trench at the same horizontal point.

A refuse pit (Figure 42, Stratum 3d) intruded into the intermediate terrace at 15N/1W. It was capped by a layer quite different from the surrounding fill (Stratum 3e).

It is interesting to note that no extensive prepared surfaces similar to those found on the structures in Phase Two were present on the terraces of Structure 3a.

Structure 3b, the next to be identified, was constructed on top of 3a in such a manner that the basal and intermediate terraces of the latter continued to be utilized. More of the construction took place on the southern half of the structure, and resulted in a five-terraced structure (see Figure 43).

The upper three terraces were difficult to identify in the stratigraphic trench and only the uppermost could be identified in the profiles within the center excavation areas. However, the step-like areas which appeared in the profile of the stratigraphic trench correlated very closely, both horizontally and vertically, with the requirements of a symmetrical, five-terraced structure (see Figure 42, Strata 3h, 3i, 3j, 3k, and 3l; Figures 39, 40, and 41, Strata 2e, 2f, 2g, 2h, 2i, and 2j). The table below lists the dimensions of these five terraces.

TABLE 13
Terrace Dimensions of Structure 3b

Terrace	Width	Height	Length
1 (base)	19 m. (?)	60 cm.	20-25 m. (?)
2	15 m.	50 cm.	Each was probably just slightly shorter than that below it.
3	10 m.	40 cm.	
4	7 m.	25 cm.	
5	4.5 m.	25 cm.	

As stated before, the northern edge of the basal terrace could not be identified so that its dimensions are estimated.

Since both structures utilized the same basal terrace they were oriented in the same manner, approximately 10° east of grid north.

Phase Four

Superimposed over 3b were a series of structures, probably two, which have been assigned to Phase Four. Because this phase was the last major construction phase it had been subjected to deterioration by erosion as well as soil compaction. Consequently, only the earliest structure could be fully identified although it was apparent that a later structure (or structures) did exist. These structures were designated 4a and 4b, respectively.

Structure 4a was the most complex structure identified. Compounding this complexity was its proximity to the surface where deterioration could readily take place.

The structure was identified in the stratigraphic trench, the center excavation area, and in other areas, as will be mentioned later. Basically composed of three terraces, 4a had a very large basal terrace. There was good evidence that this terrace was at least 20.5 meters in width and approached 1.5 meters in height (see Figures 43 and 47). Surmounting this were two much smaller terraces. The basal terrace apparently rested on, or slightly above, the prepared floor (Stratum 2b) at 98.00 mvp judging from the position of its northern edge, identified in three excavation areas (see Figures 46, 47 and 48). Contrary to the previous structures, it was the southern edge of the basal terrace which posed a problem in identification. The northern edge was readily recognizable by the use of horizontal bands of yellowish clay and talpetate as binder in the talud. The function of this laminating effect has been mentioned previously. Also, several large stones were found at the base of the terrace in Square PF (Figure 46). It is Lothson's opinion that these stones were utilized as a foundation for the terrace. However, they may have been associated with an intrusive pit found in this area and which, in fact, destroyed a portion of the edge of the terrace. The northern terrace edge was rather irregular, as can be seen in the soil profiles of Squares LF 2/4, NF 1/3, and PF 1/3 (Figures 46, 47, and 48). However, the bases of these sections of the terrace edge seemed to occur more or less at 98.00 mvp. The basal terrace, as seen in the stratigraphic trench, ran from 29N/2W to a point between 7N/1W and 9N/1W. The former value seems reasonable if the distances from the base of the intermediate terrace to the north and south edges of the basal terrace were equal. However, there was no trace of a wall at this point. If, on the other hand, the southern edge coincided with the termination of the drain associated with the south side of 4a, then, the latter value is likely to be correct. At this point, 9N/1W when mound orientation is corrected for, there did occur a stratum of soil which may have functioned as the edge of the terrace (Figure 42, Stratum 4e). However, it was not banded or sloping as was the northern terrace edge. The surface of the basal terrace sloped rather steeply downward from the base of the intermediate terrace to its edges. It is possible that there was an intervening terrace to account for this steepness, but there was no evidence of this.

The intermediate terrace was 10.3 meters wide as seen in the stratigraphic trench (Figure 43). Its height appeared to have been between 30 and 40 cm. This dimension was difficult to ascertain because of the proximity of the summit to the surface. The length of the terrace was, again, probably slightly shorter than that of the basal terrace.

The top terrace was probably about 5 meters in width. The absence of a clearly defined southern edge makes this figure an estimate based on the slope of Strata 4b and 4c in this area, i. e., 16N/1W (see Figure 42). The length of the terrace was, most likely, only slightly shorter than the intermediate terrace.

The center excavation area revealed several complex features located on or focused about, the top terrace. The first of these to be discussed is a pair of sunken floors (see Figure 40, Stratum 3d) which were emptied by a stone drain set on or just above the top terrace (Stratum 2e) of Structure 3b (see Figure 40). The stratified floors were bounded on three sides by adjoining retaining walls constructed of brown clay having a very hard, block-like texture. This material seemed to be a puddled clay. The fourth wall, to the

north, must have extended outside of the excavation area (see Figures 30-33). although the north-south walls were not identified in the north wall (Figure 30). The three retaining walls were well defined at 100.50 mvp and continued down to the same level as the drain (100.30 mvp). Their width was uniform, slightly less than one-half meter. Imbedded in the interior face of the southern retaining wall were eight large river cobbles and other smaller stones which served to reinforce this area since the drain passed under it. They were arranged linearly and extended about 3 meters along the wall (Figures 30-33). The drain itself was constructed of large slabs overlaying river cobbles. It measured 8 meters in length, extending from 18N/7W to 9.7N/7/3W, and was oriented grid north-south so that it was skewed slightly in relation to the structure (see Figures 34 and 35).

Generally, the fill in the part of the center excavation area that pertained to this structure contained many stones, stone fragments (primarily fragments of ground stone artifacts), and chunks of extremely hard clay and talpetate. The concentration of these materials was especially dense in the fill covering the floor just mentioned.

East of the patio and its eastern retaining wall was a small raised bench constructed of a yellow-brown clay mixture. It seems to have been built on the upper terrace of Structure 3b and probably at the same time as the retaining walls or perhaps just after them. The material of which the bench was constructed overlapped the retaining wall to some extent (see Figure 40).

The excavation immediately north of the center area (see Figure 27) uncovered three groups of large cobbles and slabs (Feature 29). As the excavation began it appeared, from color and texture changes in the soil, that a series of steps may have been present in NJ 1/2 but confirmation was not possible. The aforementioned groups appeared during further excavation. Two of these groups were L-shaped, while the other was vaguely rectangular in form (see Figure 51). The L-shaped groups may have represented the reinforced corners of low terraces or aprons fronting the top terrace. The rectangular group may have been a stone-reinforced balustrade. These features are further discussed in the next section.

There was evidence that a structure was built over Structure 4a. For example, the sunken floor was filled in and soil was deposited over the terraces of 4a. However, any such structure (or structures) was nearly totally destroyed either intentionally or by erosion.

In general, then, each structure essentially was composed of a set of terraces progressively decreasing in size from bottom to top in characteristic Mesoamerican fashion. It was observed that there was a strong tendency for the surfaces of the terraces to slope slightly. This probably insured adequate drainage.

The only evidence of the use of colored clay plasters came from Structure 4a. The lower of the two floors was coated in one area with a thin red clay layer (see Figure 40, Lower Strata 3d).

ARCHITECTURAL FEATURES

Fifteen architectural features were identified within the mound. Six of these features are grouped together because they were excavated as a unit. The remaining nine are discussed separately. Table 14, below, presents the excavation dates, locations (by square), and approximate proveniences of all these features. Descriptions of the features follow the table.

TABLE 14
Architectural Features

Feature	Figure	Date Excavated	Location (Square)	Horizontal Provenience	Vertical Provenience (mvp)
1	52	June 14	PL 2/4, PM 2/4	14-18N/0-1W	100.91-100.
2	42	June 20	PJ 2/4	20-21N/0-1W	100.69
4	31	June 20	Entire center excavation area	16-20M/1-10W	101.24-101.
9	30-33	July 10	LK, LL, MK, NK, NL	17.5-20N/4.2-8.4W	101.40-101.
12	54	July 10	PI 2/4	22-24N/0-1W	98.33- 98.
14	44	July 19	PP, PO, PN, PM	8-16N/0-1W	98.39- 98.
18-23	32	July 27	Entire center excavation area	16.9-20N/3.5-9.1W	100.69-100.
27	46, 47, 48	August 2	PF, LF 2/4, NF 1/3	28-30N/2-9W	98.00- 99.
29	51, 65	August 6	MI, NI, OJ, MJ	21-24N/3.7-8W	100.97-100.
31		August 6	ML, MM, MN, MO, MP	9.4-17.9N/6.8-7.6W	100.70- 99.

Feature 1. Three postmolds composed this feature. They were located approximately one meter apart and oriented linearly slightly east of grid north (see Figure 52). This alignment is in keeping with all of the structures within the mound and thus it is likely that these postmolds represent a building of some type which was an integral part of the final construction phase of the mound. This building was probably associated with Phase 4b, based on the vertical provenience of the postmolds.

Feature 2. An abrupt soil change, in which the two types met and formed a line which ran roughly east-west, in plan view, suggested a step-like structure (see Figure 31). This was substantiated in the soil profile of the stratigraphic trench. Here the top terrace of Structure 4a stepped down to the intermediate terrace (see Figure 42, at 20.5N/1W, 100.60 mvp).

Feature 4. This feature designation was given to the center excavation area at the completion of Level 1, due to the presence of two large circular blocks of talpetate and the striking pattern of soil color differentiation in the

ground plan (see Figure 31). The circular chunks of talpetate may have functioned as basal supports to posts supporting a roofed structure. In the eastern portion of the area the raised bench, mentioned previously in connection with Structure 4a, was clearly visible. In addition, an area composed of the same soil type was present west of the patio in the central excavation area. This feature disappeared, however, in the next level whereas the east bench continued downward to the level of the intermediate terrace of Structure 4a, as we have noted.

The talpetate chunks, if functional in any respect, were probably associated with a structure later than 4a, since they occurred only in Levels 1 and 2.

Feature 9. The interior fill of the walled patio found in the center excavation area was designated Feature 9 (see Figures 30-33). The soil differentiation and the concentration of artifacts and stone materials raised the possibility at first that this area was a stepped tomb. For this reason it was decided to excavate the area as a feature, keeping separate its contents from those found in adjacent areas. This procedure proved valuable even though the feature was not a tomb. Instead, it was found to be an open patio which had been filled in during later construction. A drain, Feature 31, was found to originate in this area, hence testifying to its patio function. Where it passed from the patio and ran south under the retaining wall, reinforcement was placed in the form of a stone foundation. The linearly aligned stones made up the major characteristic of Feature 9. These stones and others found in the feature were made up of river cobbles, flat pieces of slate and fragments of manos, metates and other grinding stones.

The presence of the walled patio was noticed clearly at 100.70 mvp and continued to a depth of 100.31 mvp. During the excavation of the next vertical unit, Level 6, the differentiation of soil types within the area became progressively less well defined until at the end of that level the soil of the entire area was relatively homogeneous. The height of the stone-faced retaining wall seems to have been, then, one-half meter or slightly less.

Two floors seemed to have been present within the patio (see Figure 40, Stratum 3d). Only the lowest could have been emptied by the drain. The upper floor must have represented a later construction phase in which the floor was brought to the same level as the top of the upper platform and no drain was therefore needed.

Feature 12. This feature was a prepared floor and was, actually, only a segment of Feature 14. The continuity of this feature with 14 was not apparent until the stratigraphic trench had been nearly completed. The segment referred to here lay on the basal platform of Structure 2c (see Figure 42, Stratum 2h).

Located on the prepared surface was a burned area approximately 20 cm. in diameter in which was found a small quantity of sherds, charcoal, and ash (see Figure 54).

Feature 14. Although this feature, a prepared floor, was identified in a localized area, it ran virtually the entire length of the stratigraphic trench. Imbedded in it and lying just over it were large quantities of obsidian and

ceramic materials. These were probably the product of habitation at this stratigraphic level. It seems probable that the portion of the floor that fell outside of Structures 3 and 4 also functioned during those phases (perhaps as a courtyard floor). Figure 44 illustrates the segment of the floor from 8N/0-1W to 22N/0-1W in plan view. Soil color changes and artifactual material are plotted in this figure. As can be seen in Figure 42, the floor varied between 2 and 5 cm. in thickness.

Features 18-23. These features included all of the areas within the center excavation area which were immediately adjacent to Feature 9 (see Figure 32). It was decided to excavate this area as unique units so that the ceramic materials in the specific areas could be compared. This was advisable since it seemed that several construction phases might have been present. The feature composed Levels 4, 5 and 6 (100.70 to 100.10 mvp) of the squares involved.

Feature 27. As previously mentioned, the north talud of the basal terrace of Structure 4a was constructed in a laminated fashion. This area of the terrace was given a feature designation (see Figures 46, 47 and 48). The talud was strengthened by the alternation of layers of clay and talpetate. In addition, its sloping surface was probably covered with a yellow talpetate mixture if this characteristic, as seen in Figure 9, is indicative of the rest of the structure.

Feature 29. This feature is the primary evidence for the concept of an approachway to the summit of the mound on the north side. It was composed of three groups of stones (Figure 51). Two of these appear to be the remains of reinforced corners of low terraces which occupied a central position in front of whatever structures occupied the top of the mound. The group located in MJ 1/2 seemed to belong to a structure built later than 4a, since the height of the stones is slightly higher than that of the top platform of 4a as seen in the stratigraphic trench. They may be associated with Structure 4b. The second group, in NI 4 and OL 1, was located slightly above the hypothesized level of the intermediate terrace of Structure 4a. This terrace, then, was probably associated with Structure 4a (see Figure 51).

The third group, located in MI 2/4 and rectangular in shape, may have represented a balustrade associated with a set of steps which could not be identified in the profile or plan views of the excavation.

A large quantity of sherds was present in this area. Also present were figurine and mano and metate fragments.

Feature 31. Figures 33, 34 and 35 illustrate the most unique piece of architecture found in B-II-1. This was a drain constructed of cobbles and stone slabs which served to keep the open patio associated with Structure 4a free of water. The drain was set down into the floor of the patio and consisted of a double row of more or less round cobbles, about 10 to 15 cm. apart, and covered with stone slabs. The floor of the drain was made only of compacted clay. The soil surrounding the drain contained large quantities of sherds, obsidian materials, and fragments of ground stone artifacts and figurines. Scattered pieces of charcoal were also present in relatively high frequency. It is not known whether these materials were the result of the habitation of the mound or whether they were incidentally included in the fill.

OTHER FEATURES

Twenty-five features were identified which were not classified as architectural in nature. Later examination of these features indicated that seven of them should not be referred to as features because they did not represent significant artifacts of human occupation. All seven of these "features" were thought at first to have been refuse pits, but they were later identified as soil color and texture changes caused by the heterogeneous nature of the mound fill. Consequently, they are not described in this paper. The table below lists the excavation date, location by square designation, provenience, and figures to be referred to for the 18 features identified.

TABLE 15
Other Features

Feature	Figure	Date Excavated	Location (Square)	Horizontal Provenience	Vertical Provenience (mvp)
7	42, 53	June 24	PM 2/4	16.7-17 5N/.6-1.0W	99 07-98.65
13	46	July 19	PF 1/3	28.5-29.3N/2W	99.33-98 53
15	44	July 19	PM 2/4, PL 2/4	14-18N/0-1W	98 38-98.16
16	55	July 19	PL 2/4	15.1-15.7N/.6-1 0W	98.61-98.49
17	56	July 19	PH 2/4	25-26N/0-1W	98.33-98.29
24	33	July 27	OK 1/2	19.50N/2.65W	100.30-100.08
25	57	July 27	PT 2/4	0-2N/0-1W	98.47-98.44
26	58	August 1	PJ 2/4	20-21N-0-1W	98.83-98.64
28	44	August 2	PJ 2/4	21-22N/0-1W	98.24-98.15
30	59	August 6	PR 2/4	6N/.9W	99.32-99 26
32	42, 60	August 20	PQ 2/4	6 1-8.3N/0-1W	97.24-96.79
33	61	August 21	ML 1/2	17-18N/6.9-8.0W	99.34-99.25
35	37	August 21	ML 1/2	17 2-18N/7-8W	98.52-98.50
36	36, 37, 38	August 23	NL 1/2	17-18N/4-6W	98.85-98 65
37	42	August 23	PL 2/4, PM 2/4, PN 2/4	11-18N/0-1W	97.08-96.23
38	42	August 28	PR 2/4	5-6N/0-1W	98.04-97 17
39	42	August 29	PR 2/4	3.8-4.6N/0-1W	99.10-97.90
40	42	August 29	PR 2/4	5-6N/0-1W	99.10-97.98

The following descriptions of these features are brief but will be sufficient to accurately characterize cultural activities associated with or relating to the mound.

Feature 7. This feature, a refuse pit, was located in Structure 3a (see Figure 42, Stratum 3d). It was found to contain quantities of sherds and small stones and a fragment of a metate. As Figure 53 illustrates, it was rather irregular in shape. The profile indicated that the pit was excavated into the structure and then capped with a different type of material. This practice seems similar to a housewife sweeping dirt under a rug, although it is presumed that the pit was located outside of any habitation structure present on the upper terrace.

Feature 13. The refuse pit representing this feature can be easily identified in the west wall of PF 1/3 (Figure 46). This pit probably represents one of the latest habitations of the mound since it had destroyed a portion of the edge of the basal terrace of Structure 4a. In this context, the numerous ceramic materials and obsidian blades found within it will be important in determining the nature of the occupations occurring later than Structure 4a.

Feature 15. This feature consisted of a large burned area lying on the extensive prepared floor associated with Structure 2c. The area included quantities of both black and white ash (the latter appearing like burned cloth) sherds and obsidian. The underlying clay had a fired appearance. Probably these items demonstrate a household cooking function for the feature but ritual behavior should not be ruled out (cf. Feature 36).

Feature 16. Located on the southern side of the basal terrace of Structure 2c, this feature was a roughly circular fire pit approximately 50 cm. in diameter. Very few sherds were present in the feature which contained a large quantity of charcoal. However, a ceramic figurine was recovered. Perhaps the difference in the nature of this feature in relation to Feature 15 is directly related to their functions. For example, Feature 15 may have been a cooking area while Feature 16 represented a specialized religious function connected with the presence of the figurine.

Feature 17. This feature consisted of three medium-sized stones and a heavy concentration of sherds and obsidian which were found lying on the prepared surface of the northern side of the basal terrace of Structure 2c. One of the stones appeared to be of the mano type. The presence of these artifacts serves to emphasize the amount of occupational activity associated with this phase.

Feature 24. Seven flat, grinding stones composed this feature. They were arranged in an overlapping fashion and lay approximately 10 cm. above the upper terrace of Structure 3b. They may have served as a base for a post associated with a later phase. Lothson suggests that they functioned as a kitchen grinding station but the overlapping alignment seems to obviate this possibility.

Feature 25. A crushed section of a ceramic vessel embedded in a possible prepared floor defined this feature. The "floor" was a small, discontinuous lens of soil very similar, if not identical, to that composing Feature 14 (see Figure 42, Stratum 4j). Also found here was a stone slab. The manner in which the sherds were situated in the "floor" suggests that it did function as a living surface but it is not clear in what way it related to the structures identified within the mound.

Feature 26. Six flat slabs, in close proximity, located on the upper terrace of Structure 2c were termed a feature because of their close relationship to this prepared surface. The function of the stones has not been hypothesized. The few sherds found in the area probably do not relate to the presence of the slabs.

Feature 28. This feature was another fired area associated with Structure 2c. It was located on the upper terrace of this structure. Contained in the feature were pieces of stone, large quantities of charcoal and ash, and a heavy concentration of broken sections of ceramic vessels. Only a few pieces of obsidian were recovered from this area.

Feature 30. A fired area, containing a large quantity of charcoal, pieces of a ceramic bowl and other miscellaneous sherds, comprised this feature. Only a portion of the area was exposed but it seems that it represented a hearth. Its provenience indicated that it was later in date than Structure 4a, since it occurred 3 meters south of the basal terrace of this structure but at, roughly, the same elevation as the top of the basal terrace. It appeared to lie on a very fine, naturally deposited clay. Chronologically, then, it would be placed much later than Phase Four, since alluvial action seemed to have been present to a high degree following this construction phase and the feature appeared in the upper layers of soil.

Feature 32. This refuse pit was one of the two earliest evidences of habitation (see Figure 42). Its contents included quantities of charcoal and a very large number of sherds. Many of the latter were from polished blackware, flat-bottomed vessels typical of the Las Charcas Phase. The pit itself seemed to be circular in shape with a diameter of 2 meters (see Figure 60).

Feature 33. The fired area given this feature designation contained a few sherds, small stones, and a large amount of charcoal. It could not be ascertained as to whether it was located on a prepared surface but it seemed, by vertical provenience to be associated with Structure 3a. The top of the intermediate terrace of this structure was close to 99.25 mvp (the position of the feature) as identified in the stratigraphic trench. In plan view the hearth was rather square-shaped (see Figure 61).

Feature 35. This designation was given to finger-like projection of blackened soil which intruded into the center excavation area near its lowest level (see Figure 37). This burned area contained some charcoal fragments, obsidian blades and several large ceramic fragments. The feature was definitely located on the prepared surface in the southern side of the basal terrace of Structure 2c (Figure 42, Stratum 2h).

Figure 36. Also lying on the prepared surface of the southern side of the basal terrace of Structure 2c was one of the most important features excavated. This was a large hearth containing many scattered stones of varying sizes and a large quantity of charcoal and ash. Randomly distributed through the area were many obsidian blades and sherds. Most important, however, was the human cranial vault found among the refuse. It appeared to have been prepared to function as a bowl or vessel of some type and was resting on its apex, i. e., upside down (see Figure 38).

Feature 37. Together with Feature 32, this feature is the earliest evidence of habitation found within the mound. It was found to contain many sherds, charcoal and ash, a metate, bone fragments and two ceramic figurines. The bone fragments could not be identified as either human or nonhuman.

Feature 38. This refuse pit lay immediately under the extensive prepared floor associated with Structure 2c. It is likely, then, that the materials contained within it were chronologically associated with this or later construction phases. These materials included small stones, quantities of sherds, and some charcoal fragments. One particular ceramic fragment was from a strap handled, constricted neck jar common to the Miraflores Phase.

Features 39 and 40. Both of these features appeared to be refuse pits but contained very little cultural debris. It is possible that they may have served another function. Their vertical provenience placed them very late in relation to the other mound structures, probably Esperanza or Amatlé (see Figure 42). The soil overlying Feature 40 was overburden which was probably the result of recent construction.

DISCUSSION

Mound B-II-1 was excavated primarily because it was suspected to have functioned as an elite residential platform. Its shape, formerly rectangular, and its low height seemed to be indicative of its function. Excavation of the mound has provided us with a large body of data to support this view.

Four major chronological phases have been defined in this paper. The first was represented by a layer of occupational debris overlying naturally deposited soils. The next three phases were characterized by a series of low platforms, of progressive elaborateness, associated with occupational debris, hearths, and refuse pits. Phases Two and Three were represented by more than one building phase or structure (see Figure 43), but it is possible that one or more of the lower structures in these phases served only as a construction base (i.e., they did not function as finished buildings) for the structure above it. However, the presence of prepared floors and/or refuse pits associated with some of these lower structures seems to argue against this possibility.

Tentative reconstructions have been offered for the six structures which have been identified. These reconstructions are approximate since dimensional data concerning the structures were not uniform, due to the limits of the excavation and the effects of soil erosion and compaction (see Figures 62, 63 and 64).

Phase One consisted of a layer of occupational debris and two shallow, circular refuse pits (Features 32 and 37). This occupation may be of pre-Miraflres age.

Subphases 2a and 2b were represented by two terraced structures in which the lower terrace was slightly higher and much broader than the upper one. Prepared floors were associated with both structures. The extensive prepared floor associated with the structure representing Subphase 2c has been commented on previously. It should be noted that this floor may be contiguous with those in the test pits 46-22-110 at 97.63 mvp and 46-22-091 at 97.48 mvp. These test pit floors are within .5 meter, vertically, of this floor. On this floor was constructed a two-terraced structure similar to those in the two previous phases but slightly smaller in width. While a refuse pit was associated with the prepared floor (Feature 38), a large hearth containing a quantity of ceramics and a human skull cap was located on the southern surface of the lower terrace.

The two structures representing Subphases 3a and 3b were composed of three and five terraces, respectively. During these construction phases the width of the platforms was similar to that during Subphases 2a and 2b, but the structures were higher and more elaborate. The position of the upper terrace seemed to have shifted to the south during this period as well as during the later stages of Phase Two. This may support the hypothesis that the structures within the mound faced north. If this were true it is possible that more construction took place on the south because the builders did not wish to encroach upon the plaza and specialized approach structure to the north.

The structure for which the most data was available in Phase Four was quite complex. Its main features included a drain constructed of large cobbles which served to empty a sunken patio, a talud-type retaining wall constructed of banded soils, and an approachway located on the northern side of the structure.

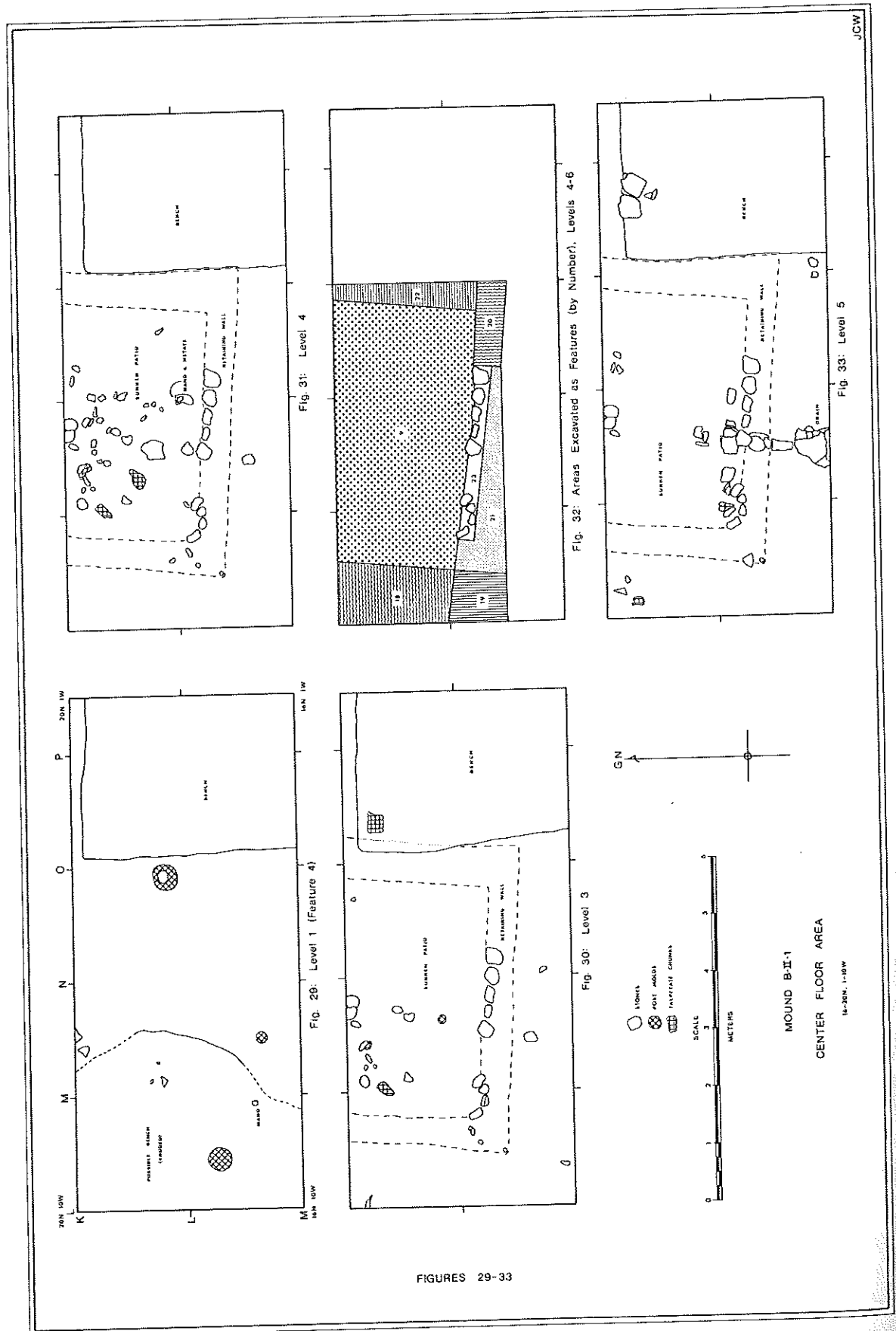
It is quite probable that all of these structures were topped by wooden, thatch-roofed structures and the reconstructions have been made on this assumption. It is difficult to determine to what extent the mound was residential versus sacred in function. Ceremonial and religious implications will be mentioned but there seems to be enough evidence to support the interpretation that its function was residential. The presence of numerous postmolds indicates that shelters were, indeed, built on the summits of the structures (at least on the later ones). But to what extent the structures functioned in housing a family and whether activities such as food preparation, etc., were conducted on the platforms has not been quantitatively determined. The presence of mano or metate fragments is not an indicator of these activities because such fragments were often utilized in building. The density of ceramic and obsidian materials is a much better indicator of residential function and while living floors were noted during excavation the analysis of artifact densities will provide more quantitative data in this regard.

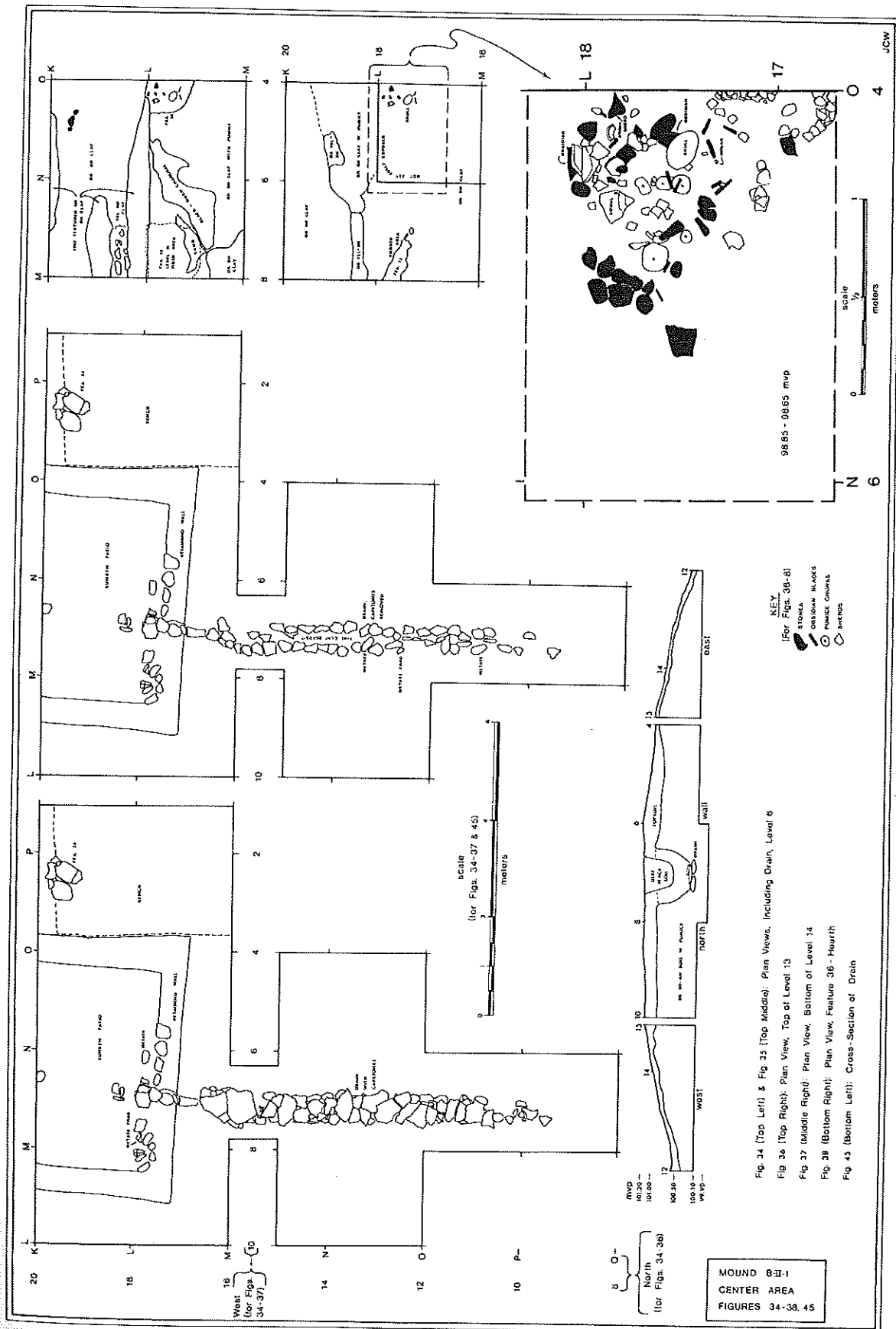
Because of the nature of the structures within the mound and their associated features, a unique body of information has been gathered by means of this investigation. The well-defined, though complex, stratigraphy combined with the large quantities of ceramics, obsidian and radiocarbon samples recovered should provide a basis for more accurate absolute dating and ceramic sequence correlation. Just as important are the cultural implications of the building sequence, the human skull cap found associated with a hearth, and the stone drain.

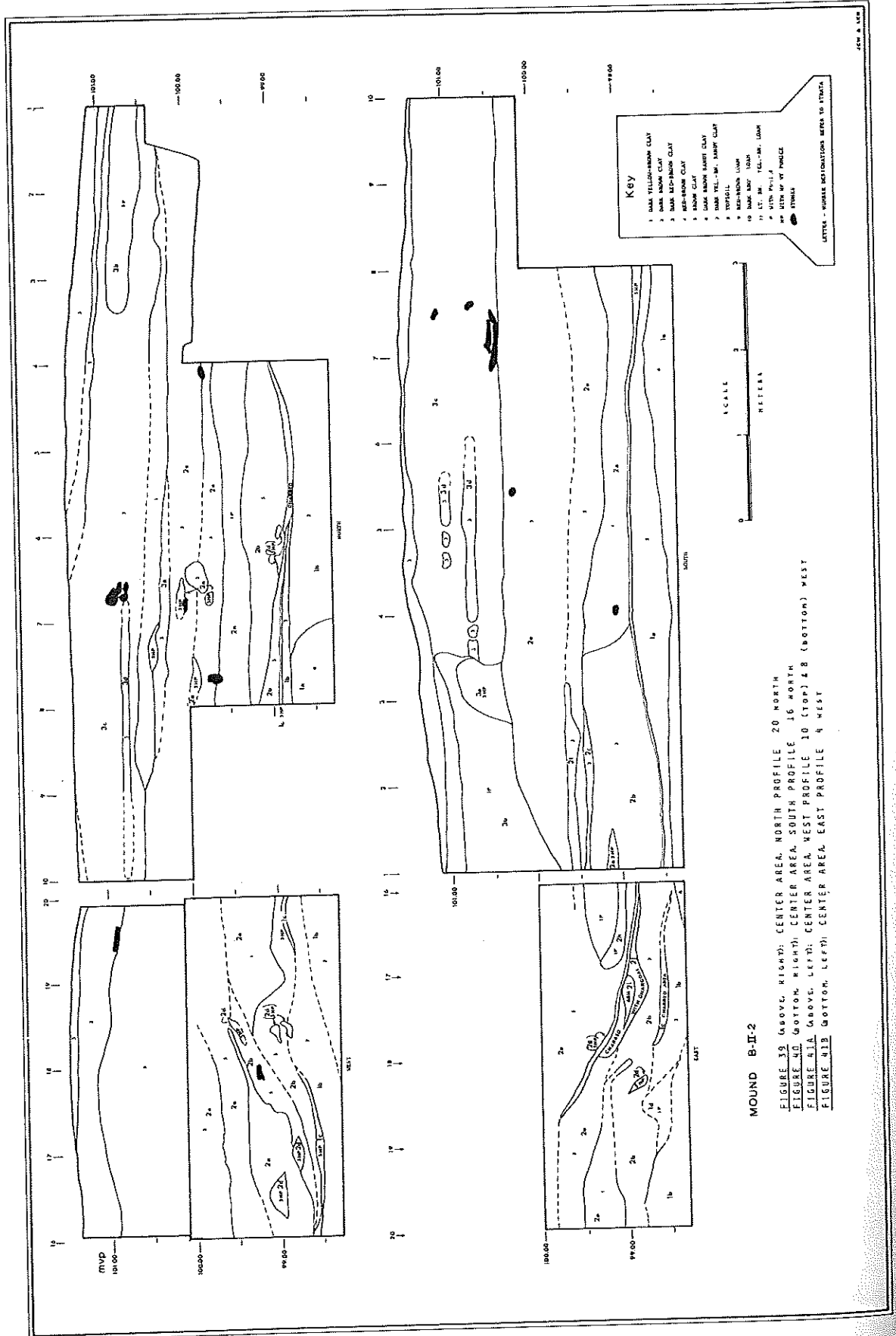
The successive increase in the size of the structures implies a progressing ability to mobilize labor for civil or nonsubsistence activities. The skull cap probably indicates that these platforms functioned ceremonially as well as residentially for an elite class. It does not necessarily indicate cannibalistic practices, but rather it may have functioned as a ceremonial vessel utilized by an elite group. The drain, again, evidences the planning and availability of labor which were controlled by the elite group whether secular or sacred.

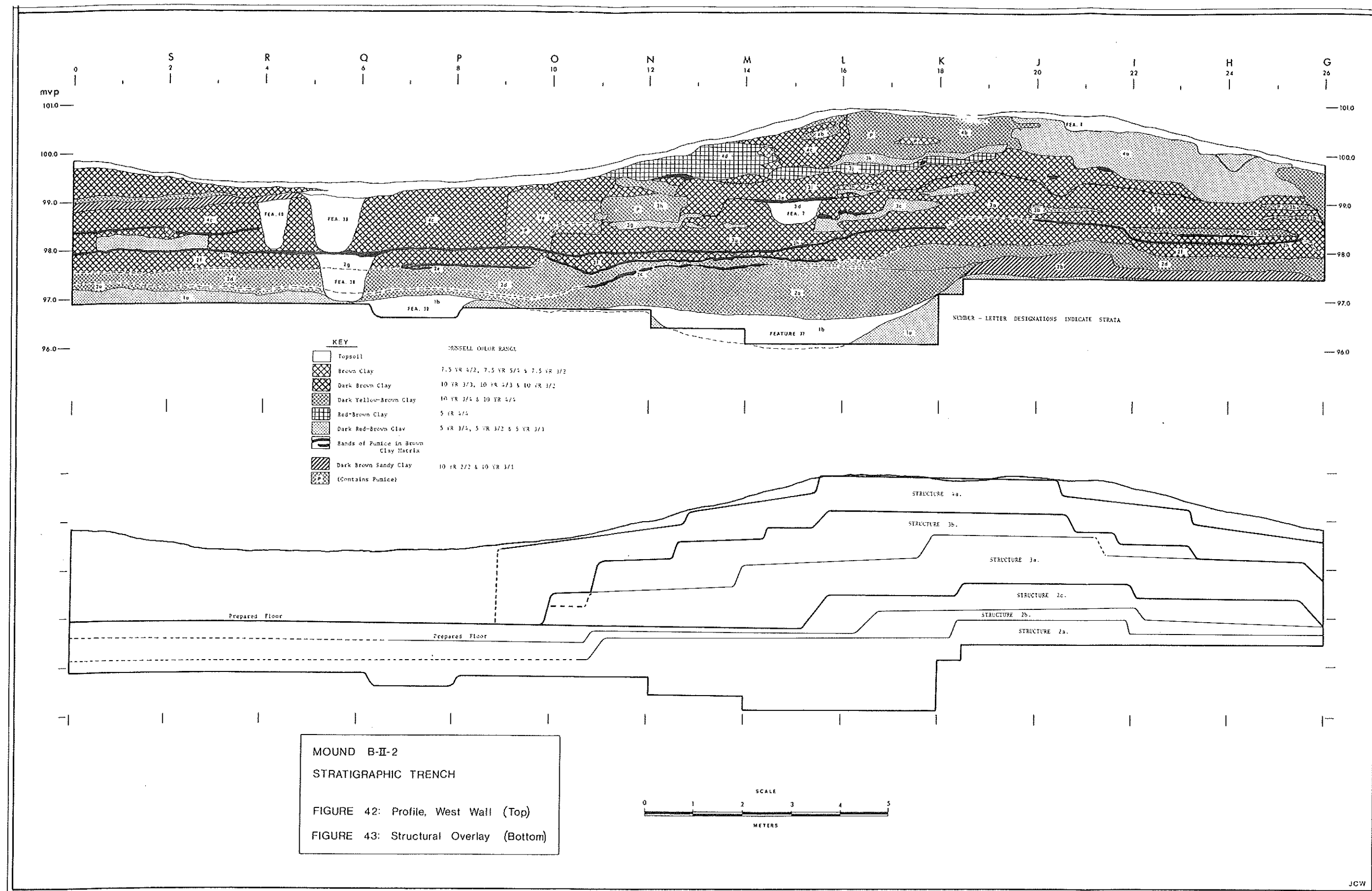
As of this time at least two basic questions remain to be answered in relation to B-II-1 before any detailed cultural reconstructions can be made. First, what exact chronological proveniences are we dealing with in the mound and what time span is represented? Second, what are the chronological relationships, in terms of structures, between B-II-1 and B-III-1? Preliminary analysis of the pottery strongly points to a Miraflores date for the structures erected during Phases Two, Three and Four. Only after more intensive analysis of the artifactual data from these mounds has been completed can a more complete analysis of the cultural implications be made.

JCW



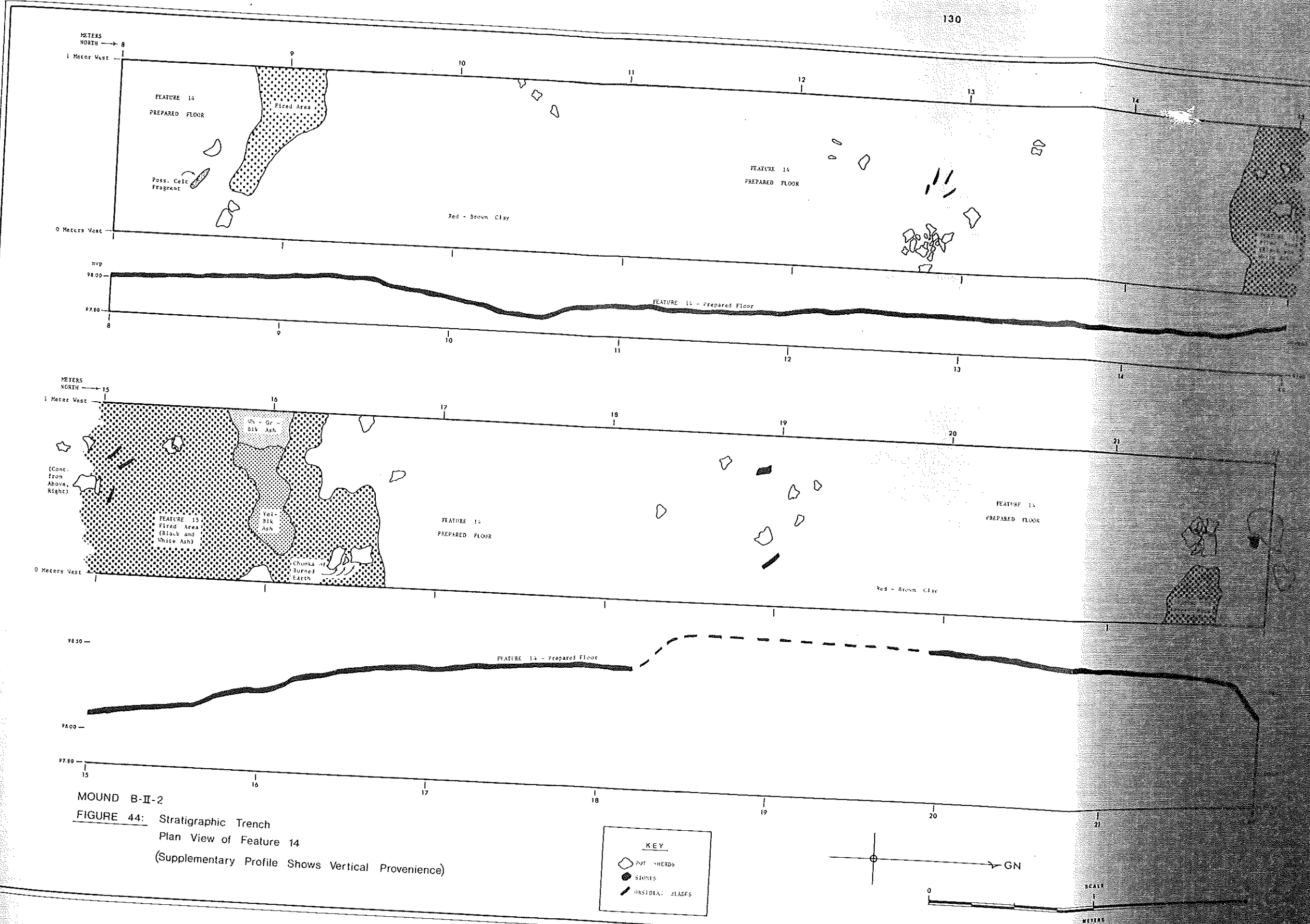






A horizontal scale bar with a black background. It has white markings at 0, 1, 2, and 3. The word 'SCALE' is written vertically above the bar, and 'METERS' is written vertically below the bar.

FIGURE 30 ABOVE, RIGHT; CENTER AREA, NORTH PROFILE 20 NORTH
FIGURE 40 GOTTOW, RIGHT; CENTER AREA, SOUTH PROFILE 15 NORTH
FIGURE 41A ABOVE, LEFT; CENTER AREA, WEST PROFILE 10 (TOP) & 8 (BOTTOM) WEST
FIGURE 41B GOTTOW, LEFT; CENTER AREA, EAST PROFILE 9 WEST



MOUND B-II-1

FIGURES 46 - 50: TEST PITS
WEST WALLS

Key

- 1 DARK YELLOW-BROWN CLAY
- 2 DARK BROWN CLAY
- 3 DARK RED-BROWN CLAY
- 4 MID-BROWN CLAY
- 5 BROWN CLAY
- 6 DARK BROWN SANDY CLAY
- 7 DARK YELL.-BN. SANDY CLAY
- 8 TOPSOIL
- 9 RED-BROWN LOAM
- 10 DARK BROWN LOAM
- 11 LT. BN. - YEL.-BN. LOAM
- P WITH FURROWS
- HP WITH HEAVY PUDGES
- STONES

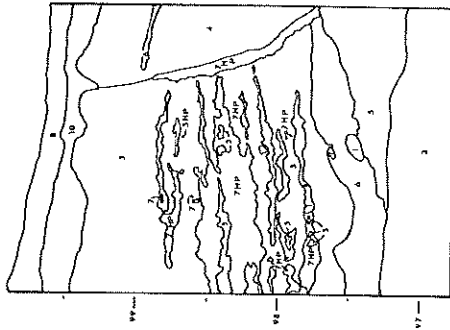


FIG. 47: HP 2/4

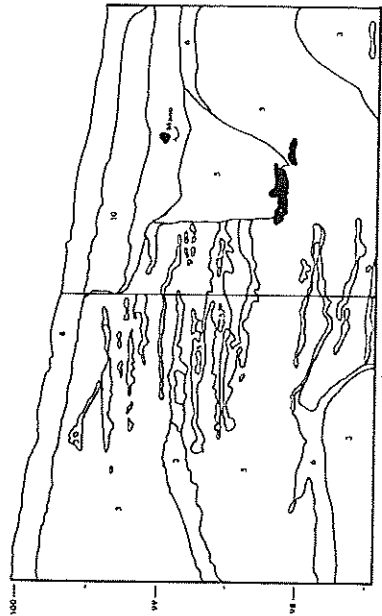


FIG. 48: PG 1/3 & HP 1/3

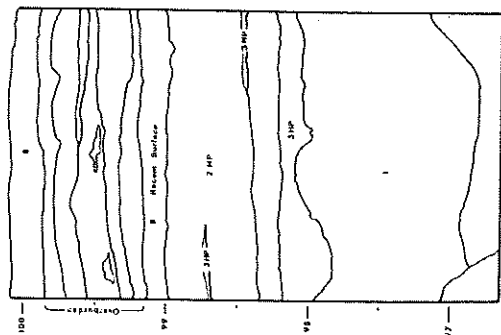


FIG. 49: HP 1/3

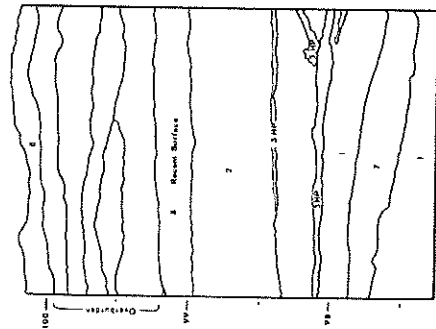


FIG. 50: HP 1/3

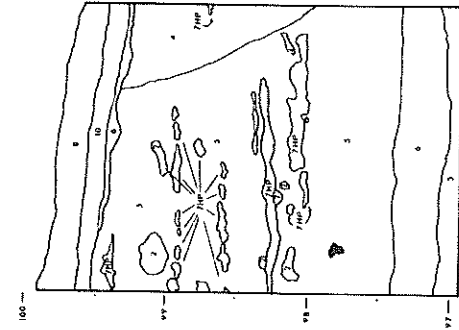
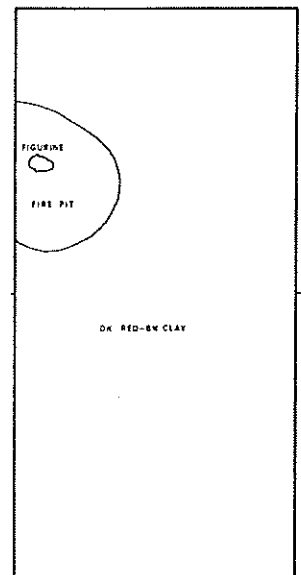
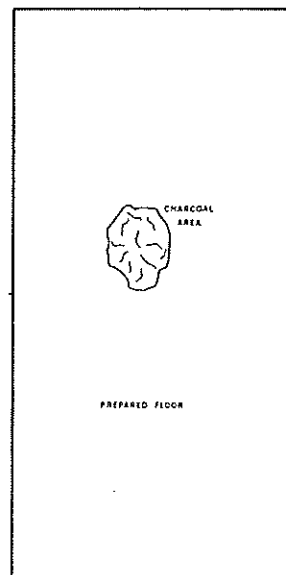
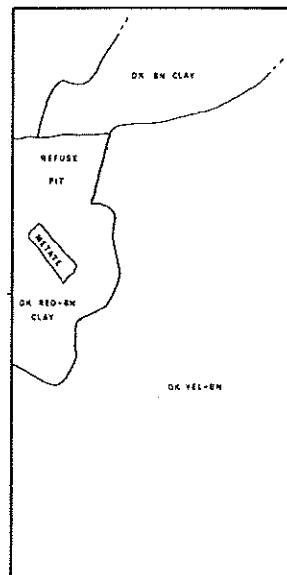
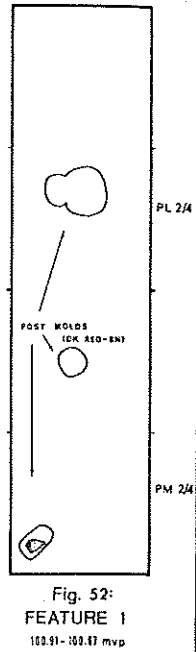
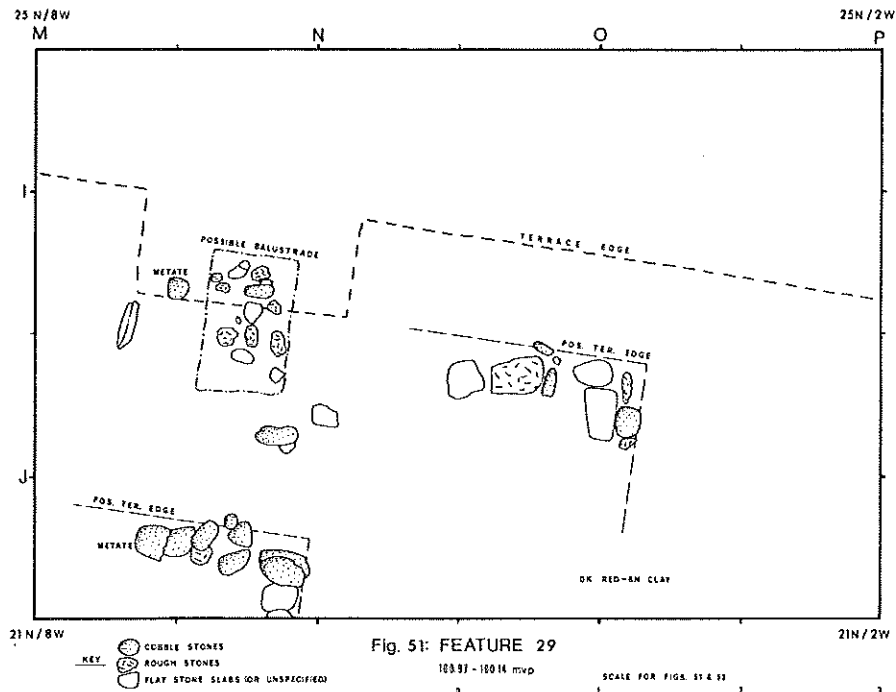


FIG. 52: HP 1/3



MOUND B-II-1

Figures 51-55

PLAN VIEWS

JCW

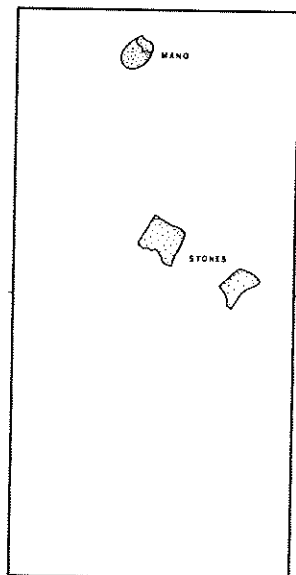


Fig. 56: FEATURE 17
PH 2/4
5831-5823 mvp

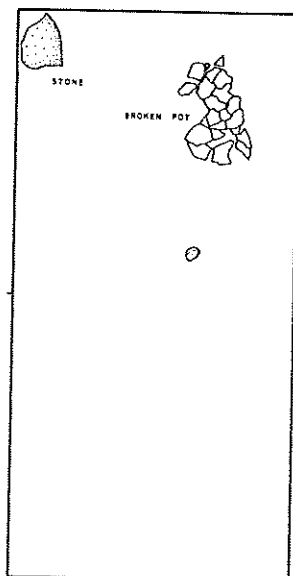


Fig. 57: FEATURE 25
PT 2/4
5847-5844 mvp

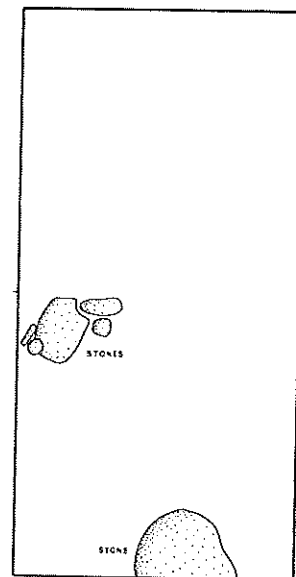


Fig. 58: FEATURE 26
PJ 2/4
5883-5884 mvp

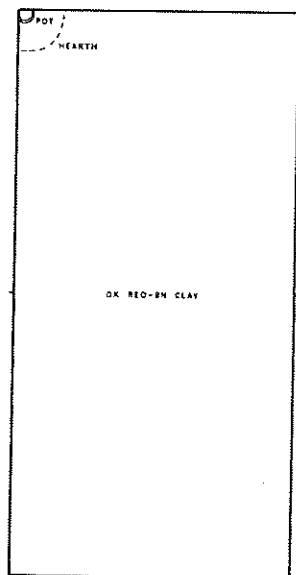


Fig. 59: FEATURE 30
PR 2/4
5932-5926 mvp

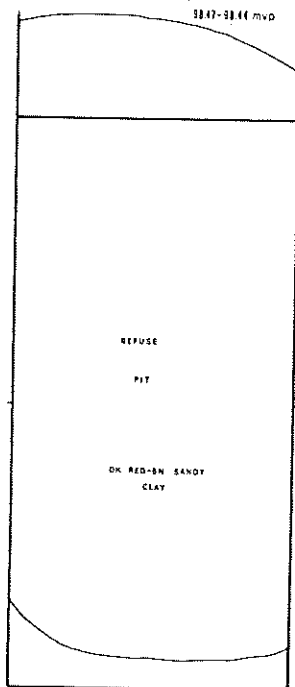


Fig. 60: FEATURE 32
PQ 2/4
5924-5925 mvp

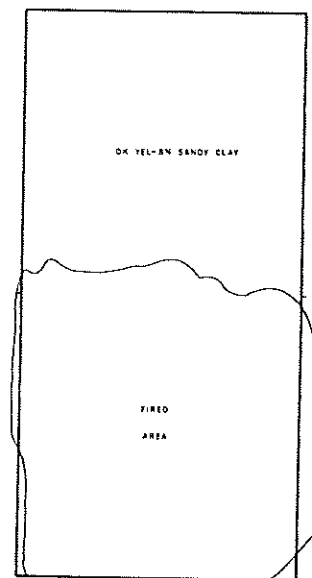
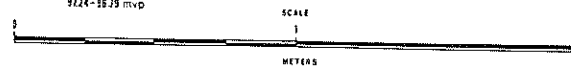


Fig. 61: FEATURE 33
(ALSO SEE FIG. 34)
ML 1/2
5934-5925 mvp

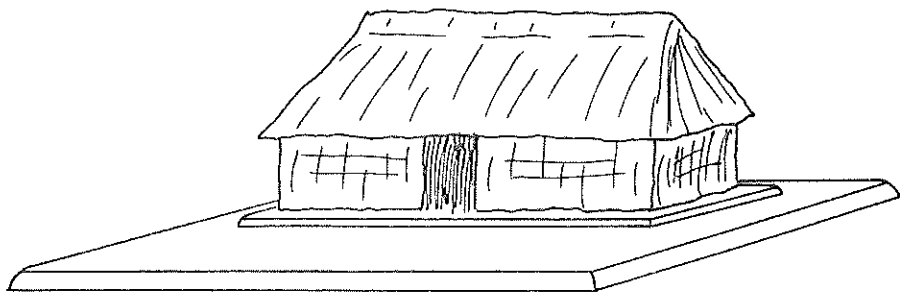


MOUND B-II-1

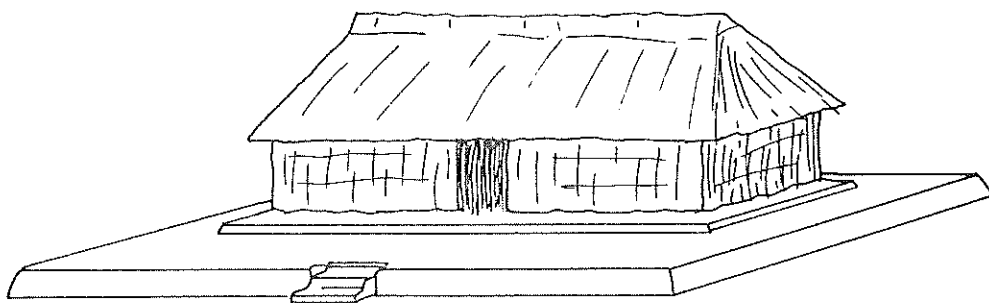
Figures 56-61

PLAN VIEWS

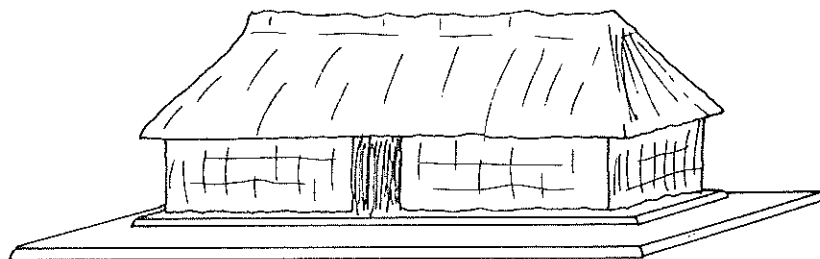
2a



2b



2c



MOUND B-II-2

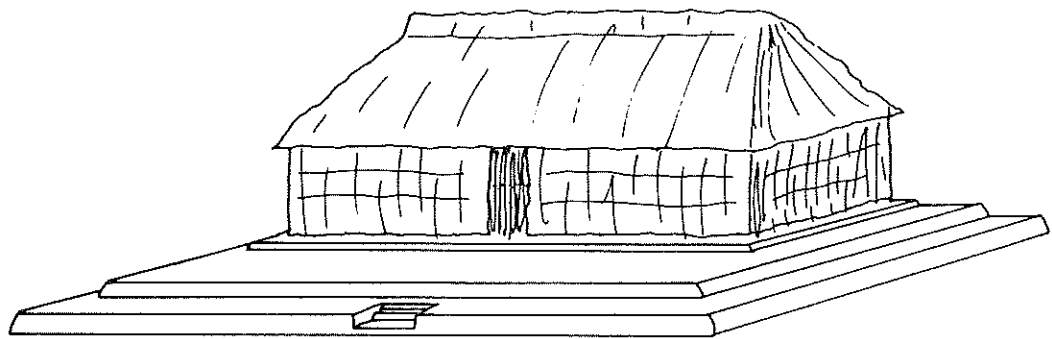
FIGURE 62:

RECONSTRUCTIONS OF STRUCTURES 2a, 2b, & 2c

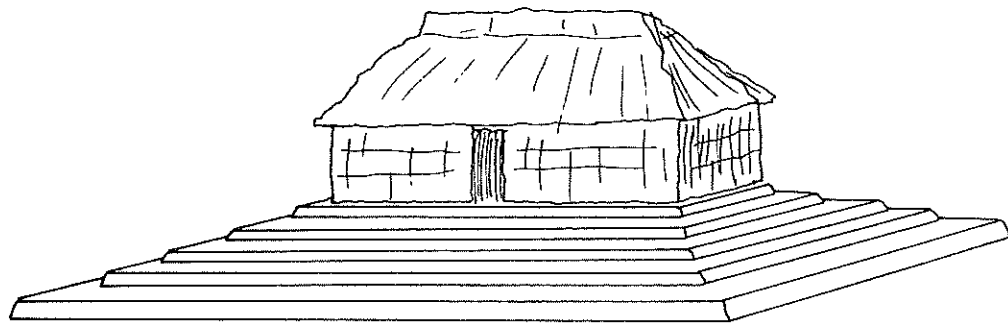
(North Side)

JCW

3a



3b



MOUND B-II-2

FIGURE 63:

RECONSTRUCTIONS OF STRUCTURES 3a & 3b

(North Side)

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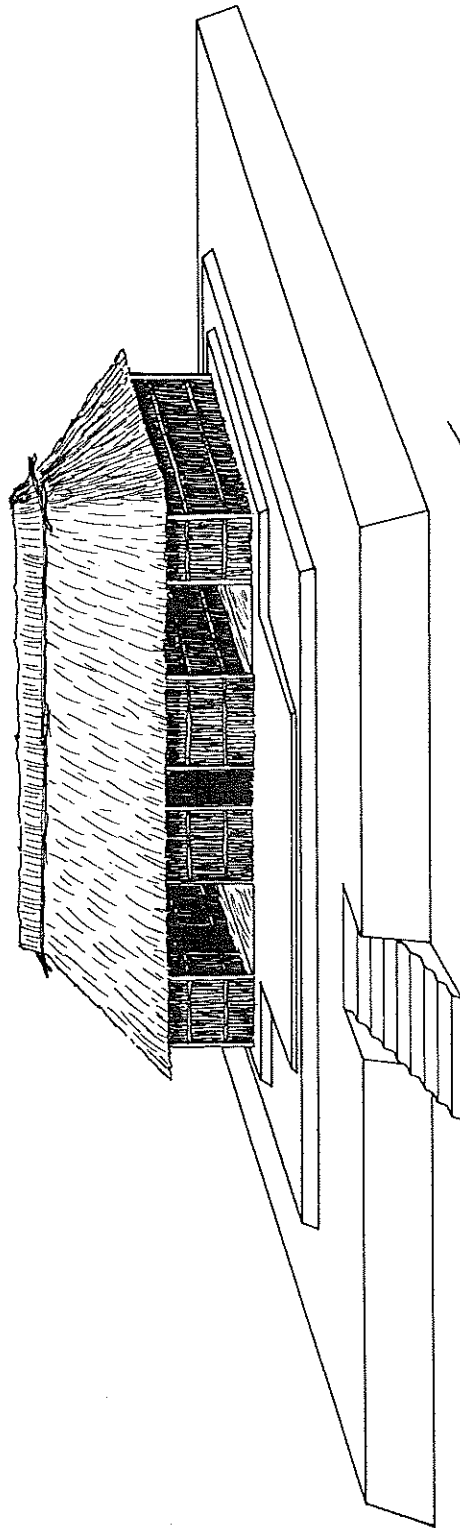


FIGURE 64 (above): RECONSTRUCTION OF STRUCTURE 4a

(Sunken Patio to West Added
Assuming Structural Symmetry)

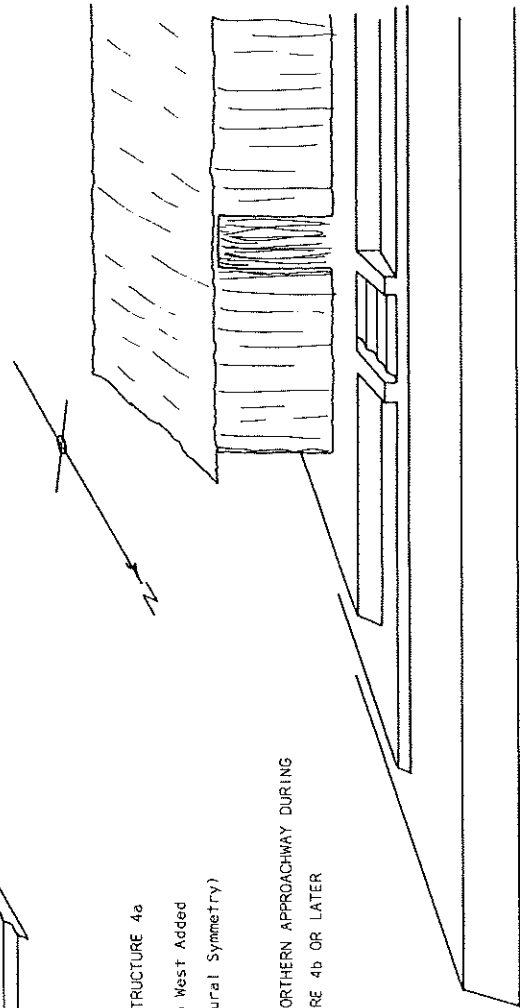


FIGURE 65 (right): RECONSTRUCTION OF NORTHERN APPROACHWAY DURING
PHASE FOUR, STRUCTURE 4b OR LATER

THE SETTLEMENT PATTERN
TEST TRENCHES

by

William T. Sanders
In Collaboration with
Robert Hirning

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INTRODUCTION

The initial two weeks of the field season were spent in a rapid survey of the site. The purpose of the survey was to evaluate the general condition of the 200 mounds located on the Carnegie grid and to define definable residential areas of the site. Most of the residences in ancient Kaminaljuyu were apparently constructed at ground level and of perishable materials. The area has also been under intensive plow agriculture since the Conquest. As a result, surface indications of residential architecture are limited to elite residences, where homes were placed on substantial earth platforms. We have to rely, therefore, on surface concentrations of midden, particularly pot sherds, as an indication of underlying residential areas. This method works well in areas where erosion is severe, deposition minimal, and soil growth slow. These conditions are particularly characteristic of arid mountain environments in Mexico; they are much less characteristic of the Kaminaljuyu site. Complicating the picture at Kaminaljuyu is the fact that the site has been moving for construction during the past 30 years. We therefore decided to excavate a great number of test trenches (approximately 500 are planned within the 5 km² area of the site) in order to locate and define residential areas. All trenches are 1 x 2 meters in surface area and will be excavated to a combination of arbitrary levels, natural and artificial stratigraphic levels, to the base of the cultural deposit.

In cases where well-preserved structures are exposed the plan is to expand the excavation to uncover them. During the final year of the project large-scale excavation of residential areas is planned.

The test trenches will provide a key as to the location, size and distribution of residential areas by chronological phase, data on house construction, and provide abundant samples of stone, fired clay, bone and shell artifacts for chronological and functional analysis. Combined with excavations of elite houses and temples clues as to the social, economic, religious and political structures of ancient Kaminaljuyu and the internal evolution of these structures should be obtained.

A total of 34 test trenches were excavated. These occurred in three definite groups. Ten were excavated within a radius of 200 meters of a group that includes Mounds B-II-1, B-II-2, and B-III-1. We will refer to them as the B-III-1 Group. Ten others were excavated within a radius of 200 meters of Mound B-I-1, and 12 were excavated within a distance of 250 meters of the southwest periphery of the Palagana.

In the northwest quadrant of the site an extensive new housing project was initiated during the field season. A series of deep sewer trenches were excavated that provided an excellent guide to the ancient settlement distribution in the area. We surface sampled from the excavated debris, drew trench profiles and also excavated two test trenches as control.

Trenches are numbered according to the grid system described in the Introduction. A test trench numbered 22-110, for example, means that the trench was located within Area 22, Sector 110. We also recorded the location of each trench within the building contractor survey lot system. In the following sections we have organized the trenches in the groupings discussed above. The trenches are located in Figure 66.

MOUND B-III-1 GROUP

46-22-110 (Fig. 68)

Elevation 93.53 m.

Location - In a grass-covered, relatively level, vacant lot (#48 on the surveyor's grid), approximately 30 m. northwest of Mound B-III-1. The initial test pit measured 1 m. east-west by 2 m. north-south. It was extended to the east in two 1 x 1 m. blocks to reach an ultimate extension of 2 x 2 m. This test trench turned out to be one of the most productive and complex of the test trenches excavated during the season. The small area included for the test trenching technique is inadequate to fully work out the details of features and their interrelationships when they occur in the density and complex relationships found in this particular trench. Ideally, this excavation should have been extended laterally over an area of at least 10 x 10 m. and the floor mapped at 10 cm. intervals. The excavation revealed a complex succession of trashpits, refuse lenses and floors but in no case were these features completely within the excavation. The excavation was carried out in 20 cm. arbitrary levels but the contents of features, wherever possible, were excavated separately (but taken out by arbitrary levels, not as single units) and floor plans were drawn at each level.

Very generally, the profile and plan drawings and the record of the excavations suggest division of the deposit into four culturally significant layers. Layer 1 varied from 20 to 30 cm. in depth, consisted of black topsoil, and had very light concentrations of sherds. Below the humus was a layer of hard, compact, clay textured soil impregnated with pumice. This varied in thickness from 100-120 cm. A light concentration of sherds occurred in the upper half of the deposit. At arbitrary level 4 (60 to the 80 cm. level), the first heavy, localized concentration of refuse midden was encountered and from this point until 140 cm. below the surface, the deposit consisted of extremely heavy but localized lenses of sherds and other artifacts, frequently combined with charcoal and broken stone and small areas of hard-packed soil that were probably house floors.

At approximately 140 cm. below the surface, this matrix shifted to a sterile, reddish-brown clay. Occupation at this level was limited entirely to a single extensive, deep trash pit, sloping to the northwest of the excavation and filled with sherds, charcoal, ground stone and obsidian artifacts, along with figurines and censer fragments.

Feature 1-2. This major feature occupied much of the culture-bearing deposit between 140-200 cm. It consisted apparently of a single large pit excavated into the hard, reddish-brown, sterile clay matrix that underlies the major culture-bearing deposit in the area. At least two well-defined layers of soil were observable in the north and west profiles that indicated two phases of filling in of the pit. The uppermost layer started at 140 cm. and sloped down to a depth of 180 cm. at its lowest point. The lowest level began at this point and sloped down to approximately 180 cm. below the surface. The upper deposit was full of sherds, broken fragments of stone and charcoal and the basal portion showed signs of extensive firing, as the soil at the 160 cm. level was burned to a reddish-yellow color. This burned earth mass extended all the way down to the base of the pit. It was impossible to sort out the two layers using a horizontal technique of excavation and

the pit was excavated as a unit, in arbitrary 20 cm. levels, separately from its matrix. Within the pit were a great number of large sherds which will make possible the reconstruction of a variety of vessel profiles. One of these was a large censer with a feline effigy head. Other specific types of artifacts included local concentrations of large, uniform obsidian blades, manos and metates, fragments of red pigment, flakes of mica, and figurine heads and bodies.

Floors - Patches of what appeared to have been hard-packed earth floors were reported in the process of horizontal excavation or noted in the trench profiles at various points; one at the 90 to 100 cm. level occupied the northern third of the floor of the main test trench, another was noted in the east profiles of Extensions 1 and 2 and possibly in the north profile of Extension 1, at a depth of 120 cm., and a third floor was seen in the south profile of Extension 1 at a depth of 133 cm.

C₁₄ Samples

	<u>Location and Depth</u>	<u>Association</u>
1.	Main trench (100-120 cm. level)	Midden deposit
2.	Main trench (120-140 cm. level)	Midden refuse
3.	Main trench (140 cm.)	Midden deposit
4.	Main trench (160 cm.)	Probably Feature # 1
5.	Main trench (160-680 cm.)	Feature #1
6.	Main trench (194 cm.)	Feature #1
7.	Extension 1 (120-130 cm.)	
8.	Extension 1 (170 cm.)	Probably Feature #1

46-22-133 (Fig. 69)

Elevation 95.45 m.

Location - In an empty, grass-covered, corner lot (#05 on surveyor's grid) 60 m. east of Mound B-II-2 on the upper portion of the slope to the barranca. This test trench measured 1 x 2 m. in surface area and was excavated in 30 cm. arbitrary levels to a total depth of 190 cm.

Occupation was limited to light to moderate concentrations of sherds in the upper three levels. The basic soil profile consisted of four layers, topsoil, dark brown clay soil, similar to the culture-bearing deposit found in all of the trenches, succeeded by a layer of sandy textured clay and, finally by a layer of gray and brown sand. The occupation was limited to the upper two layers.

46-22-111 (Figure 70)

Elevation 98.03 m.

Location - In an empty, level, grass-covered lot (#64 on the surveyor's grid) approximately 40 m. east of Mound B-II-1 and the same distance north of B-III-1. The test trench measured 1 x 2 m. in surface area and was excavated to a total depth of 180 cm. below the surface in 30 cm. arbitrary levels.

The soil stratigraphy included three basic layers, a layer of black topsoil 30 cm. thick, succeeded by dark brown pumice impregnated clay 100 cm. thick, shifting to more granular textured dark brown clay in the lower 40 cm. Pottery tended to be light in the topsoil, was virtually absent in the granular clay layers, and varied from light to moderate in quantities throughout the dark brown clay with no localized concentrations.

Feature 1 - A possible floor was noted at the depth of 130 cm. below the surface within soil layer 2. The slight amount of pottery on and immediately below it, however, argue against this interpretation, and it lacked the well-prepared characteristics of floors in the other test trenches. At a depth of 150 cm. (at approximately the break between soil layers 2 and 3) we encountered a small (65 cm. in diameter), shallow (5 cm. deep) saucer-shaped basin that was excavated into the matrix and was filled with loose, coarse grained, yellow-brown sand. No artifacts were found within it. It seemed artificial, but its function was not clear. A few small fragments of charcoal were found at 140 cm. below the surface and 10 cm. above it, and another large fragment was found near the north edge of the basin and well below its shoulder at a depth of 155 cm. below the surface. The basin could have been a hearth but the total amount of charcoal was very small and sherds extremely light in concentration.

46-22-091 (Figs. 71, 72, 73)

Elevation 98.3 m.

Location - 34 m. northeast of Mound B-II-2 in an empty, grass-covered lot (#82 on the surveyor's grid).

The initial test trench measured 1 x 2 m. in surface area and was excavated by arbitrary levels of 20 cm. to a total depth of 200 cm. The lot and adjacent lots had very level surfaces with little indication of recent disturbance.

The original excavation revealed two definite artificial floors at depths of 90 cm. and 120 cm. below datum. After completion of the test trench, it was decided to extend the excavation laterally down to the level of the upper floor. A total area of 44 square meters was uncovered. This extended area was removed in a series of grid units varying in size from 1 x 1, 1 x 2, and 2 x 2 meters. In each case, soil was removed in 20 cm. arbitrary levels as in the case of the test trench. Soil profiles were drawn of all of the walls of the original test trench and of most of the extensions.

Basically, the natural stratigraphy in this trench consisted of an upper 30 cm. of topsoil, followed by at least 200 cm. of pumice impregnated, clay textured soils varying in color from yellowish brown to reddish brown, brown and dark brown. With respect to cultural features, we have noted the presence of the two floors. Pottery and obsidian fragments occurred in light to moderate concentrations throughout the 200 cm. of the original test trench, with the exception of the topsoil. Moderate concentrations were noted in the upper 10 cm. of the brown clay and occupational debris was particularly abundant in the deposit immediately below the upper floor (at a depth of 100-140 cm. below the surface). Many of the sherds came from the soil between, above and below the stone slabs of the subflooring. Concentrations were also moderately heavy in the next level (140-160 cm.) and immediately below the lower floor. No primary deposit of artifacts was found

in situ on the upper floor itself, either in the test trench, or in the extensions. Masses of harder soil (usually lighter in color than the matrix) were noted in excavation and were visible in soil profiles during the course of the excavation. Several of them appeared like low platforms in the profile, others had the shape of an inverted cone. They appeared to rest on the upper floor. Attempts to follow most of them were unsuccessful. They frequently disappeared from the soil profile upon exposure to air for several days and their origin is a puzzle. The truncated cones were similar in appearance to those excavated in Mound B-V-1, but were not here obviously associated with maize hills. They did not extend to the surface so if they were the product of maize hilling, they must equate with prehistoric agricultural activities. Preliminary examinations of the sherds from the excavation indicated that the uppermost two levels were primarily Amatlé; the rest of the deposit was of Miraflores age.

Features - The most striking cultural feature in this excavation was the upper floor. It was first defined in the original test trench. Extension of the excavation had as its primary purpose the uncovering of this feature. The floor was uniform in color and structure over the western two-thirds of the excavation.

It was very well prepared, consisting of a series of four definite layers. The surface layer consisted of a 4 cm. level of pumice, mixed with coarse sand and had a distinct granular appearance. Below it was a layer of equal thickness of tough yellow clay mixed with pumice, below this a layer 8 to 10 cm. thick of brown clay textured soil. Finally, the subflooring consisted of a layer of well-spaced (see Figure 72) stone pebbles, slabs and metate fragments. The distance to which the floor extended to the west and south is not known. To the north it appeared to disappear about a meter from the north edge of the excavation but this may have been the product of later pitting and destruction. It sloped gradually eastward (there was a drop in elevation of 11 cm. from west to east). The well-prepared floor did not extend to the eastern part of the excavation. In the eastern portion of the excavation, the floor consisted of a simple hard packed earth surface that seemed to disappear approximately 1 meter from the east edge of the excavation. Finally the eastern portion of the well-prepared floor rose to a porch-like area elevated from 2 to 5 cm. above the general floor before it shifted to the hard-packed earth floor. This porch-like area was approximately 1 m. wide.

The function of the floor is not clear, but we believe that it was part of a large multi-roomed house with a central courtyard. The well-prepared granular surface of the floor in the western area of the excavation, and the fact that it sloped suggests an exposed courtyard with drainage to the east. The eastern part of the excavation with its simple, hard-packed earth surface was probably part of a roofed-over room abutting on the courtyard. This is also suggested by the porch-like elevation between it and the prepared floor since the prepared floor drained in that direction. Also indicating domestic use was the presence of a series of fire-blackened areas on both types of floors. Examination of the sherd distributions in the extensions shows a definite tendency for pottery to be heaviest immediately above and within the fill of the floor, again suggesting a domestic function. For example, of the 115 lots collected from the 25 extensions only 25 included over 100 sherds. Of these 14 occurred in the level immediately above and

below the floor, and 7 occurred in level 2--the zone of Amatlé occupation.

On the other hand, no primary midden deposits of artifacts were found associated with the floor, such as cooking vessels and other remains of domestic activities; the floor was relatively clear of debris, and no evidence was found of adobe or stone walls or post molds of a pole and thatch structure. Irregular masses of hard, adobe-like earth were found on the earth floor, but they did not appear as walls.

C_{14} Samples

	<u>Location and Depth</u>	<u>Association</u>
1.	Main trench level 7 - 120-140 cm.	Fill of the stone slab subflooring
2.	level 8 - 140-160 cm.	Sample from below the lower floor
3.	level 9 - 160-180 cm.	Southeast corner of trench - no association
4.	level 10 - 180-200 cm.	No association

46-22-190

Elevation 95.62 m.

Location - 140 m. south of Mound B-III-1. The test trench was 1 x 2 m. in surface area and was located in a large open area in the center of the block planned as a park area. On the Carnegie map, an extensive, low, mound-like swell is indicated extending across the present park area from east to west. Today it appears as an artificial mound but the Carnegie map indicates that it was natural. A test trench was excavated immediately south of it. The park area today is a relatively level area, sloping gradually southward where it formerly abutted on a barranca. The trench was excavated to a total depth of 170 cm. in 30 cm. levels.

The natural stratigraphy included a layer 60 cm. thick of dark brown to black soil with scanty to light amounts of sherds. Below this, the profile consisted primarily of pumice impregnated, brown, clay textured soil with scanty concentrations of sherds. The final level from 150 to 170 cm. was sterile. No artificial features were noted in excavation or in the soil profile. The total sherd count was 444 distributed by arbitrary levels as follows: Level 1 - 145, Level 2 - 67, Level 3 - 33, Level 4 - 79, Level 5 - 120.

46-22-151 (Figure 74)

Elevation 97.45 m.

Location - 40 m. south of Mound B-III-1 in the park area noted in 46-22-190. The trench measured 1 x 2 m. in surface area and was excavated to a total depth of 250 cm. below the surface. Because of inattention, the levels were variable and ran as follows: Level 1, 0-78 cm.; Level 2, 78-100 cm.; Level 3, 100-130 cm.; Level 4, 130-160 cm.; Level 5, 160-190 cm.; Level 6, 190-205 cm.; Level 7, 205-250 cm.

The soil profile consisted of four basic layers. In succession, they were: topsoil - 35-55 cm. thick; dark brown, fine textured loam - 75-85 cm.; a layer 70-80 cm. thick consisting of nine well-defined, almost horizontal bands of soil that included four floors of compacted white sand and one of crushed yellow talpetate each separated by dark brown soil; below this another layer of dark

brown soil - 20-40 cm. thick and finally, sterile sand.

Occupation was moderate throughout the first three layers with no unusual concentration; the sand layer was sterile.

Features - the only features consisted of the noted floors. These varied in thickness from 5-10 cm. and were only approximately horizontal. The white sand floors occurred at depths of 130, 150-160, 170-180 and 190-200 cm.; the talpetate floor at 140 cm.

46-22-093 (Figure 75)

Elevation not taken

Location - 80 m. northeast of Mound B-II-2, in the southeast corner of a large empty area in the center of the block that has been set aside as a future park. This trench measured 1 x 2 m. in surface area. According to the Carnegie map, the immediate ground in which the trench was located was gradually sloping terrain on the edge of a barranca.

The soil stratigraphy can be summarized in terms of five basic layers: a black topsoil averaging in depth approximately 40 cm.; succeeded by a layer of relatively soft, dark, reddish-brown, clay textured soil 70 to 80 cm. deep; a complex layer, varying from 20 to 80 cm. deep, consisting of a series of sloping strata, with alternating clay textured and sandy textured soils, generally yellow-brown or brown in color; a layer of dark brown, hard-packed, clay textured soil, varying in thickness from 20 to 60 cm. (dependent on the slope of the overlying deposit), and finally, a relatively horizontal basic layer of pumice impregnated, sandy textured soil.

Sherd concentrations were light in the topsoil, extremely heavy in the second layer, varying from moderate to heavy in the third layer, dropping off to moderate in the fourth layer and finally disappearing completely in the basal layer.

The second soil layer clearly represents a portion of an extensive midden that was laid down in more or less horizontal fashion, the third layer seems to have consisted primarily of a deep trash pit that was successively filled in and had been inserted into an older horizontally formed midden. The pottery sample included a great quantity of large sherds and was clearly a primary deposit. Floors were not detected, either in the profile or during the excavation of horizontal levels. Along with sherds, stone tools, particularly obsidian, were abundant.

46-22-051 (Figure 76)

Elevation 97.77 m.

Location - 80 m. northeast of Mound B-II-1 in a vacant, grass-covered lot (#45 on the surveyor's grid). The test trench measured 1 x 2 m. in surface area. We planned to excavate in 30 cm. arbitrary levels but through lack of attention, the levels actually were variable in thickness.

The natural stratigraphy consisted of four primary layers, an upper black topsoil layer 20-30 cm. deep; a layer of dark brown, soft subsoil slightly impregnated with pumice and approximately 80 cm. thick; a series

of stratified layers of hardened dark clay that varied from light to heavy concentrations of pumice and approximately 80 cm. thick; and finally, a basal layer of sandy textured soil. Sherds were virtually absent in the topsoil and occurred in moderate concentrations in the upper portion of the soft, brown subsoil. The uppermost of the banded layers of clay was heavily impregnated with pumice and had light concentrations of pot sherds. It was approximately 20-40 cm. thick and probably represents a primary in situ occupation layer. If it were not for its great irregularity, it might be considered a floor or series of stratified floors; more probably it was a compact midden. Very little cultural material was found in the lower bands of the hard clay layer and nothing appeared in the basal, sandy textured soil layer.

46-22-073

Elevation not taken

Location - 120 m. north of Mound B-II-2 in the northwest corner of the large park-like area noted in the 46-22-093 description. The trench was excavated in 30 cm. levels to a total depth of 120 cm. The soil profile was similar to that of the first two levels of 093, an upper humus layer, and a lower one of reddish brown clay. The uppermost level consisted of humus and had a moderate concentration of small sherds (839), comparable to the situation in 093. In sharp contrast to the cultural stratigraphy in 093, however, the sherd count dropped off sharply in the 30 to 60 cm. level (180 sherds), was reduced to sparse yields in the 60 to 90 cm. level (27 sherds), and became completely sterile between 90 and 110 cm. below the surface.

46-22-033

Elevation 98.28 m.

Location - 200 m. northeast of Mound B-II-2 in an empty grass-covered lot (#67 on the surveyor's grid). It was near the edge of the barranca that delimits the plateau-like area north of the mound. This trench measured 1 x 2 m. in surface area and was excavated to a total depth of 90 cm. in three 30 cm. levels.

Level 3 was virtually sterile with respect to cultural materials. The soil profile included two layers, a black topsoil layer, succeeded by hard, brown clay. Light concentrations of sherds were found in the topsoil and the uppermost portions of the brown clay (251 in arbitrary level 1, 220 in level 2; level 3 was sterile).

THE PALANGANA GROUP

46-23-120 (Figure 77)

Elevation 90.45 m.

Location - 80 m. southwest of the Palangana in a level, grass-covered vacant lot (#32 on the surveyor's grid). This trench measured 1 x 2 m. in surface area and was excavated in arbitrary 20 cm. levels to a depth of 160 cm.

This trench was also located near what used to be a large borrow pit drawn on the Carnegie map (see 46-23-121). It had apparently been filled in by the construction engineers. In all probability, the soil came from the adjacent areas and the soil profile indicates that a sizeable amount of soil has been scraped off in the area adjacent to the pit. The profile showed three basic layers, 20 to 30 cm. of recent overburden, succeeded by 40 cm. of loose, grey sand, and at a depth of 90 cm., by hard, yellow talpetate. The two latter layers normally occur below a topsoil-brown loam profile. These were the two culture bearing layers generally on the site. Both have apparently been bulldozed away. The layers below the overburden that remained are both normally sterile and it is not surprising, therefore, that this trench yielded virtually no artifacts. The only substantial number of sherds occurred in level 1, in the overburden layer.

46-22-038 (Figure 79)

Elevation 95.37 m.

Location - 20 m. southwest of the Palangana in a level, grass-covered house lot (#29 on the surveyor's grid). This trench measured 1 x 2 m. in surface area and was excavated in 30 and 20 cm. arbitrary levels to a total depth of 190 cm.

The soil profile consisted of two basic layers, an upper layer of 40 cm. of hard, brown loam succeeded by 130 cm. of yellow talpetate. The latter level became increasingly harder and more compacted downward and occupational remains were virtually absent.

46-22-158 (Figure 80)

Elevation 90.18 m.

Location - 180 m. southwest of the Palangana and 25 m. west of Mound C-III-1 (in surveyor's lot #11). Lots 10 and 11 are situated back to back and together cross from 8th to 7th Street. Lot 11 appears as relatively level but the terrain drops down abruptly from it to Lot 10. There is a possibility that Lot 11, therefore, is the summit of a low mound, although none are located on the Carnegie map. This suggests that, if it is a mound, it was a small one. The excavation measured 1 x 2 m. in surface area and was carried to a total depth of 170 cm. by arbitrary but variable levels.

The soil profile can be summarized in terms of four layers from top to bottom. First, there was approximately 50 cm. of overburden above the old topsoil layer. This was followed by 20 to 30 cm. of topsoil and then by a deposit of soft, light brown loam, impregnated with pumice that extended from a depth of 80 cm. to a depth that varied from 100 to 130 cm. Below this was a narrow (10 to 15 cm.) layer of dark brown clay, succeeded by a layer 10 to 15 cm. thick.

20 cm. thick of hard, grey, compacted sand. The lower two layers seemed to slope from south to north.

No cultural features were detected in the plans or profiles but the concentration of sherd material was light to moderate in levels 1 and 2 (0-30, 30-50 cm.). This material was overburden so that it undoubtedly represents materials removed from nearby areas. Sherds dropped off in level 3, then became extremely abundant in levels 4 (65-80 cm.) and 5 (80-95 cm.), in the light brown loam layer. This heavy concentration continued through stratigraphic levels 5 (80-95 cm.), 6 (95-115 cm.), 7 (115-130 cm.) and 8 (130-150 cm.). The amount sharply diminished in level 9 (150-170 cm.).

46-22-137 (Figure 78)

Elevation 88-90 m.

Location - 220 m. southwest of the Palangana in an empty, relatively level lot (#92 on the surveyor's grid). The trench measured 1 x 2 m. in surface area and was excavated in arbitrary 20 cm. levels to a total depth of 300 cm.

The upper five levels of the soil in this trench represent overburden, material moved recently and deposited on the old land surface. The old topsoil layer extended from approximately 110 cm. below the surface to a depth of between 150-160 cm. below the surface. This changed to a light brown, loam textured soil that gradually shifted to a sandy soil downward. The profile below the overburden was rather uninteresting with no significant cultural features. Sherds occurred in light to scanty concentrations down to a depth of 280 cm.

46-23-121 (Figure 81)

Elevation 89.64 m.

Location - 50 m. southwest of the Palangana in a relatively level, grass-covered, vacant lot (#18 on the surveyor's grid). The trench measured 1 x 2 m. in surface area and was excavated by arbitrary 20 cm. levels to a total depth of 180 cm.

The soil profile was a peculiar one. It can be summarized in terms of three levels: the upper consisted of 50 cm. of overburden; below was a black topsoil layer, varying from 25 to 30 cm. in thickness, followed by 80-90 cm. of hard yellow talpetate. The profile was peculiar in that the topsoil shifted abruptly and directly to the talpetate.

Normally, at Kaminaljuyu there is a deep layer of brown clay or loam textured soil between the topsoil and the talpetate that is the main culture-bearing deposit. In this excavation, the overburden and the topsoil had moderately heavy concentrations of sherds and the yellow sandy base was sterile.

Upon rechecking the Carnegie map, it became evident that we had placed our test trench in the bottom of an old, artificial excavation which is indicated on the map as a sinuous elongated trough 220 m. long and varying from 25 to 50 m. wide. Its depth in the 1940's was approximately 1 m. The two profiles of Trenches 46-23-120 and 46-23-121 are easily explainable.

Apparently the trough is an old borrow pit that had been abandoned and topsoil formed over its surface. Then, in the past few years, the construction engineers have scraped off the culture-bearing deposit from its edge and dumped it into the trough as fill. As a result, the house lots now situated along the edge of the old borrow pit have been scraped clear of archaeological refuse which was then used as fill for the pit.

46-22-079 (Figures 82, 83)

Elevation 91.43 m.

Location - 50 m. southwest of the Palangana in a level, grass-covered lot (#31 on the surveyor's grid). The original trench was 1 x 2 m. in surface area and was excavated by variable arbitrary levels. The trench was extended another 1 x 2 m. to the south (the new area is referred to as Extension #1) and another 1 x 2 m. to the north (Extension #2) so that the total area excavated measured 3 x 2 m. Extension 2 and the original trench were excavated to a total depth of 110 cm.; Extension 1, to a depth of 60 cm.

This was the most productive of the Palangana trenches. It is evident from the profile, however, that in this case too, much of the original occupation had been scraped off with bulldozers and that what remained were a series of pit-shaped deposits of organic soil and occupational refuse within the talpetate. The topsoil was maximally only 5 cm. deep (and probably of recent origin) and ended immediately below the grass roots. Most of the fill of the excavation consisted of the hard, compact, yellow talpetate layer and, in some cases (in Extension 1, for example), this deposit lay immediately below the grass with virtually no topsoil. Pot sherds were abundant immediately below the roots and continued to occur in heavy concentrations, including numerous restorable vessel profiles to virtually the base of the excavation.

At a depth of 26 cm. below the surface, the floor of the trench was mapped and the occupational refuse was found to be concentrated within an hour-glass shaped concentration of hard dark soil. The southern part of this area is referred to in the field notes as Feature #1, the northern part as Feature #1a.

The trench floor was then lowered to a depth of 40 cm. At this point, it became clear that the deposit represented two separate pits that had joined at their upper edges. The name Feature #1 was retained for the southern extension. The soil shifted abruptly to a soft, black, organic fill in the northern extension at this depth so that area was renamed Feature #2. Feature 1a then refers to the single deposit of lighter colored harder textured soil that overlaid Feature #2.

The trench was extended to the south one meter (Extension 1) to uncover the balance of Feature 1 and was excavated to a depth of 40 cm. and a plan drawing of the floor made. The excavation was then lowered to 60 cm. In the excavation of Extension 1, the sherds from Feature 1 were separated from those in the matrix. Feature 1 ended at approximately 45 cm. below the surface. This feature was heavily impregnated with sherds, including restorable vessel profiles, charcoal, rock fragments, fragments of pigment, part of a mano and a figurine. Included in the sherd sample was a complete pottery vessel with mammiform supports.

The main trench was then excavated to a total depth of 113 cm. by arbitrary levels. Throughout, the contents of Feature 2 were kept separate from those objects found in the talpetate matrix. The cultural deposit finally ended at that depth. The contents of Feature 2 were similar to that of Feature 1 with two interesting exceptions. At the 60-90 cm. level, several charred cacao beans were found, fresco-painted pottery and one proximal end of a human femur which had been neatly sawed off at the point of connection with the shaft.

An extension of the main trench (Extension 2) was opened up to the north to uncover the balance of Feature 2. Feature 1a with its typical hard, dark soil extended into this area as well and the contents were kept separate from the matrix (it is referred to in the catalogue as Feature 1a-Extension 2). Immediately below it, we picked up the remains of Feature 2 with its distinctive soft fill. The pit and the matrix were excavated separately by arbitrary levels to a total depth of 113 cm. At the bottom of the trench, several more examples of sawed off ends of human femora were found. Night visitors partially churned up the levels of Feature 2, looking for artifacts.

At a depth of 60-70 cm. below the surface near the west wall of the Main Trench and Extension 2 was a mass of burned earth that lay outside of the features and below a layer of talpetate matrix.

Features - see above.

C₁₄ Samples

<u>Location and Depth</u>	<u>Association</u>
1. Main trench - Level 1	Associated with Feature 1
2. Extension 2 - Level 3	The edge of Feature 3
3. Extension 2, Level 5	Feature 2 next to the human femora

46-22-135 (Figure 86)

Elevation 88.66 m.

Location - In a grass-covered, level, vacant lot (#37 on the surveyor's grid) 280 m. southwest of the Palangana. This trench was 1 x 2 m. in surface area and was excavated to a depth of 140 cm. in 20 cm. levels. Scanty to light occupation was found but no cultural features were noted.

The soil profile consisted of four basic layers. From top to bottom these were: overburden - 10 cm., topsoil - 40 cm., 70-80 cm. of brown pumice impregnated loam, and 20 cm. of dark brown, pumice impregnated, clay textured soil.

46-22-096 (Figure 85)

Elevation 89.37 m.

Location - 220 m. southwest of the Palangana. The trench measured 1 x 2 m. in surface area and was located in a level, grass-covered, empty lot (#69 on the surveyor's grid). It was excavated by arbitrary 20 cm. levels to a total depth of 150 cm.

The soil profile consisted of two basic layers, a topsoil layer 40 cm. thick, succeeded by 110 cm. of brown pumice impregnated loam, increasing to darker color and in hardness downward. The soil profile looked undisturbed. Occupational remains were lightly distributed throughout the 0 to 140 cm. depth, fading out in level 8.

46-22-058 (Figure 89)

Elevation 95.13 m.

Location - 60 m. southwest of the Palangana in a level, grass-covered empty lot (#39 on the surveyor's grid). The trench measured 1 x 2 m. in surface area and was excavated in 20 cm. arbitrary levels.

The soil profile showed considerable disturbance. Basically, there were five layers, a layer 40 cm. thick of overburden, followed by a layer 20 cm. thick of light brown loam, a layer consisting of lenses of brown loam and yellow, sandy textured soil, succeeded by a deep layer of compact, yellow talpetate impregnated with pumice and finally, a layer of compacted grey sand.

Occupational remains were light to moderate and found entirely in the overburden layer.

46-22-098 (Figure 84)

Elevation 91.86 m.

Location - 110 m. southwest of the Palangana. The trench was located in a grass-covered, level lot (#44 on the surveyor's grid), measured 1 x 2 m. in surface area and was excavated by arbitrary levels to a depth of 140 cm. below the surface. Because of the difficulty of checking several trenches simultaneously, the levels were not consistently maintained at 20 cm. The levels ultimately worked out as follows: level 1, 0-20 cm.; level 2, 20-50 cm.; level 3, 50-76 cm.; level 4, 76-110 cm.; level 5, 110-140 cm.; level 6, 140-150 cm.

With respect to the soil profile, there were three basic layers, an upper layer, 30 cm. thick, of black topsoil, succeeded by a layer that varied from 20-40 cm. deep of light brown loam, and succeeded by hard, compact talpetate. Occupation in the form of sherds was moderately heavy in the black topsoil and light brown layers and virtually absent in the talpetate. This seems to be one of the very few undisturbed soil deposits in the Palangana area.

46-22-059 (Figure 88)

Elevation 93.08 m.

Location - 40 m. southwest of the Palangana in an empty, grass-covered, relatively level lot (#65 on the surveyor's grid). This trench was 1 x 2 m. in surface area and was excavated in 20 cm. levels to a depth of 110 cm.

The soil profile consisted of 50 cm. of overburden, succeeded by a layer 15 to 30 cm. deep of hard, yellow-brown loam; below this, the balance of the deposit consisted of hard, compacted, yellow talpetate. Light concentrations of pottery were found in the overburden and the talpetate layer was sterile.

46-22-116 (Figure 87)

Elevation 88.75 m.

Location - 220 m. southwest of the Palangana in a level, grass-covered, empty lot (#76 on the surveyor's grid). This trench measured 1 x 2 m. in surface area and was excavated in arbitrary 20 cm. levels to a depth of 115 cm.

The soil profile consisted of three layers: approximately 30 cm. of overburden, followed by 50 cm. of the old topsoil and below this, 40 cm. of hard, brown, pumice impregnated loam. Substantial quantities of sherds were found in level 4 (60-80 cm. below the surface), in the lowest portion of the topsoil. Otherwise, occupation was light to scanty.

MOUND B-I-1 GROUP

46-22-015 (Figures 90, 91)

Elevation 96.17 m.

Location - in a grass-covered, empty lot (#32 on the surveyor's grid) located 100 m. southwest of Mound B-I-1. The surface of the ground was relatively level. This trench measured 1 x 2 m. in surface area and was excavated in 20 cm. levels to a total depth of 300 cm.

The basic soil profile consisted of a layer of overburden 40 cm. deep above a topsoil deposit that dipped down from south to north from a thickness of only 10 cm. to nearly 50 cm. Very few sherds were collected from the overburden but the topsoil level, particularly the deeper extension of it, had a moderate concentration. Below the topsoil was a yellow-brown colored soil which varied only slightly in color but shifted in texture from clay to loam to sand from top to bottom. Within the upper portion of the soil layer (arbitrary levels 4 - 7), moderate to heavy concentrations of sherds, obsidian tools, localized concentrations of broken stone and charcoal, along with other minor artifacts, were encountered. In level 8 - 14, occupation was concentrated in a small pit-like area. A series of plan drawings of the excavation were made at depths of 110 cm., 117 cm., 140 cm., 160 cm., 200 cm., 240 cm., and 268 cm. On the basis of these plan drawings and the profiles, the cultural debris occurred as a series of dark, soft soil deposits containing abundant kitchen refuse and, in all probability, associated with superimposed hearths. These deposits varied in horizontal dimensions, sometimes occurred as almost continuous bands on the floor of the trench, more commonly occurred as separate irregular areas and varied in location on the trench floor from level to level. The concentration varied considerably in depth, as well, sometimes disappearing in a level or two, in other cases extending through three to four levels. In profile, many of them appeared as pits. Charcoal and cultural debris tended to be concentrated within them but sherds and obsidian also occurred in the matrix. These deposits were removed separately from the surrounding matrix. Although they appeared as pits, which were filled with trash, the fact that it was virtually impossible to follow them easily, even in the yellow brown matrix, and the fact that the areas of separate pits tended to merge at different levels rather suggested that they were a series of kitchen refuse deposits associated with hearths, which in some cases were placed directly over older hearths and trash deposits; in other cases, new areas were selected. In the terminal profile, soil layer three gives the impression of a continuous, dark midden concentration over the entire trench; in fact, as the plans drawn at 110 cm. below the surface indicate, there were two, possibly more, hearth areas with merging edges and again, the midden concentrations were highly localized. The layer of charcoal visible in the terminal profile in the deep extension of the midden strongly suggests the explanation offered here. The overall appearance is that of a deep trash pit but the charcoal layers probably represent a succession of shallow pits that were gradually filled in and even raised up into a low mound-like surface. The base of the deposit was a layer of hard, mottled, sterile clay.

Features #1 and #3 - Features 1 and 3 were areas of soft, dark brown soil heavily impregnated with midden. Feature 1 appeared in the floor of the trench at a depth of 110 cm. below the surface and it occurred over the southern portion of the floor. Feature 3 appeared as an area of dark soil

at a depth of 140 cm. below the surface in the northeast quarter of the trench. When the floor of the trench was lowered to a depth of 160 cm. the two areas had merged into a single large deposit that occupied the north-central portions of the floor. As excavation proceeded downward, the double Feature 1-3 gradually reduced in size and finally disappeared at a depth of 220 cm. below the surface. The feature had extremely heavy concentrations of cultural material in the lower levels. These concentrations appeared as a series of alternate bands of soil separated by layers of charcoal.

Feature #2 - Feature 2 was a local concentration of charcoal, sherds and rock on the 117 cm. level near the center of the north wall of the trench. The concentration of rock was the reason for the decision to designate it as a separate feature. By the 140 cm. level, it was no longer distinguishable as a separate feature.

Feature #4 - It will be remembered that Features 1 and 3 seemed to fade out at a depth of 220 cm. below the surface. At a depth of 240 cm., another localized area of heavy refuse appeared, extending to a total depth of 270 cm. Also found in this refuse was a human mandible.

C₁₄ Samples

	Depth	Association
1.	117 cm.	Associated with F 2
2.	120 cm.	Associated with F 2
3.	120 cm.	Matrix near F 2
4.	140 cm.	F 3
5.	168 cm.	Wood fragment in matrix near F 1-3
6.	168 cm.	Charcoal associated with #5 in the matrix near F 1-3
7.	168 cm.	From the matrix near F 1-3
8.	200 cm.	F 1-3
9.	230 cm.	F 4
10.	240 cm.	F 4
11.	265 cm.	F 4 near the human mandible

46-12-357 (Figure 92)

Elevation 98.29 m.

Location - 30 m. north of Mound B-I-1 on the north edge of a park area near the mound. The trench measured 1 x 2 m. in surface area and was excavated to a depth of 230 cm. by 20 cm. levels.

The soil profile consisted of a series of almost perfectly horizontal layers of soil in the following sequence from top to bottom: topsoil 0-30 cm.; soft, light-brown loam 30-100 cm.; moderately hard, brown clay 100-140 cm.; hard brown clay 140-190 cm. (the lower portion of which was pumice-impregnated); yellow grey pumice-impregnated sand 190-220 cm.; and finally, at a depth of 220-230 cm., a yellow talpetate layer.

Occupational remains varied from scanty to absent throughout the levels. A possible cultural feature was encountered between 165-170 cm. below the surface, which consisted of a hard, brown clay band. It may have functioned as a plaza floor in connection with Mound B-I-1.

46-12-336 (Figure 93)

Elevation 99.2 m.

Location - In a level, grass-covered, empty lot (#90 on surveyor's grid), 80 m. northwest of Mound B-I-1. The trench measured 1 x 2 m. in surface area and was excavated by arbitrary 20 cm. levels to a depth of 200 cm.

The soil profile consisted of two major layers with two internal divisions in each. The upper 45-70 cm. consisted of hard, brown loamy soil with a shift to a darker brown approximately at the juncture of arbitrary levels 1 and 2. Below this the balance of the soil profile consisted of talpetate, the upper part of which was heavily impregnated with pumice. The profile was featureless with respect to cultural characteristics. Occupation was scanty in level 1, increasing to light in levels 2, 3 and 4, and was scanty in the talpetate.

46-12-315 (Figure 94)

Elevation 100.19 m.

Location - in a relatively level, vacant, grass-covered lot (#96 on the surveyor's grid), 140 m. northwest of Mound B-I-1. The trench measured 1 x 2 m. in surface area and was excavated to a depth of 195 cm. by arbitrary 20 cm. levels.

The soil profile consisted of a series of seven, almost horizontal, layers of soil with virtually no modification by cultural activities. These layers in succession, from top to bottom, were: overburden 20 cm.; topsoil 20-40 cm; hard, compact, dark clay 40-85 cm.; hard, light brown clay 85-125 cm.; hard, greyish brown clay 125-140 cm.; dark, reddish brown clay 140-160 cm.; dark, reddish brown clay heavily impregnated with pumice 160-195 cm.; and finally, a clay textured yellow talpetate. Occupation was light in levels 2 and 3, scanty throughout the rest of the profile.

46-12-314 (Figure 95)

Elevation 100.7 m.

Location - In an empty lot 220 m. northwest of Mound B-I-1, and east of a four-lane road. The area has suffered considerable earth movement and displacement by the construction company. The area excavated was relatively level and appeared undisturbed, but this assumption is by no means certain. The trench measured 1 x 2 m. and was excavated to a depth of 190 cm.

The soil profile can be summarized in terms of three layers: the first 70 cm. was displaced overburden; below this was a 20 cm. layer of original topsoil and the balance of the deposit (from 90-190 cm. below the surface) was a hard, brown clay, lightly impregnated with pumice. Excavation was conducted by 20 cm. arbitrary levels. Occupation was scanty to light through levels 3 - 9.

46-22-016 (Figure 96)

Elevation 96.47 m.

Location - 70 m. southwest of Mound B-I-1 in a grass-covered, relatively level, vacant lot (#79 on the surveyor's grid). It measured 1 x 2 m. in surface area and was excavated in arbitrary 20 cm. levels to a depth of 245 cm.

The soil stratigraphy can be summarized in terms of four primary layers: a black topsoil from 0-30 cm. below the surface, shifting to brown, clay textured soil between 30-150 cm. Occupational remains were light and unlocalized through these two layers. At a depth of 150 cm. sherd densities increased suddenly to moderately heavy with numerous large sherds, including restorable vessels, and scattered fragments of charcoal. The latter were too diffuse and mixed with soil to collect a sample. The soil from 150 cm. to a depth of 230 cm. was similar to that in the second level with the exception of this concentration of cultural material and the tendency for it to be softer in texture. At a depth of 230 cm., this occupation disappeared and the soil shifted abruptly to a hard, yellow-brown, sandy textured soil, heavily impregnated with pumice.

Possible remains of flooring were encountered at a depth of 150 cm. They were poorly preserved and appeared in the profile and on the floor plan of the trench. The feature was too thick to be a simple dirt floor, and if it were flooring, it must represent superimposed layers. Another possible floor appears in the profile at a depth of 210 cm.

46-22-035 (Figure 97)

Elevation 96.87 m.

Location - 120 m. south of Mound B-I-1 in a level, grass-covered lot (#19 on the surveyor's grid). This trench measured 1 x 2 m. in surface area and was excavated in arbitrary 20 cm. levels to a depth of 210 cm.

The soil profile consisted of three basic layers. The top layer was approximately 20 cm. deep and consisted of humus. Below this was a layer 100 cm. thick of dark brown, clay textured soil, lightly impregnated with pumice. This shifted to a yellow-brown layer of sandy textured soil and talpetate that gradually darkened downward to the maximum depth of 210 cm. This general profile was interrupted by the presence of two refuse pits. One (Feature 1) appeared at a depth of 120 cm. and, at this level, it occurred in the western half of the trench floor. It gradually decreased in size and ended at a depth of 170 cm. It appeared to have been excavated into the lowest of the three soil layers. Feature 2 was similar but was found only in a small section of the excavation. Both were composed of dark brown soil heavily impregnated with cultural materials.

Light concentrations of occupational debris occurred in the first four arbitrary levels. At a depth of 100 cm., sherd counts increased strikingly and excavation was shifted to a system of 10 cm. levels. At a depth of 120 cm., it became clear that the heavy concentration of sherds was restricted to the western half of the excavation and were found primarily in a pit (Feature 1). The fill was then excavated separately from the adjoining matrix and was removed in 10 cm. levels until the pit bottomed out at 170 cm. below the surface. An additional two 20-cm. levels were excavated (both were sterile) to reach a final depth of 210 cm.

Feature 1 - As noted, this was an extensive trash pit that extended from 120-170 cm. below the surface. The heaviest density of cultural debris from the trench came from this pit. The fill contained very heavy concentrations of pot sherds (up to four sacks in one 10 cm. level), rock, fragments of burnt earth, lumps of pumice, flakes of mica, great quantities of obsidian blades plus several cores, scattered fragments of human bone, manos and metates and a substantial quantity of charcoal. Also found was a perforated, doughnut-shaped, ground stone artifact.

Feature 2 - This was a similar trash pit but the excavation only caught a shoulder of it. It was first picked up at the 115-cm. level in the northeast corner of the trench and shouldered out of the test trench at a depth of 145 cm.

C₁₄ Samples

	<u>Depth</u>	<u>Association</u>
1.	Level 6 - 110 cm.	At the beginning of the heavy refuse deposit
2.	Level 10 - 150 cm.	From F 1
3.	Level 11 - 160 cm.	From F 1

46-12-374 (Figure 98)

Elevation 97.63 m

Location - in a relatively level, grass-covered empty lot (#13 on the surveyor's grid), 120 m. west of Mound B-I-1. The trench measured 1 x 2 m. in surface area, was excavated to a depth of 125 cm. in arbitrary 20-cm. levels.

The soil profile consisted of four layers: an upper 30 cm. of topsoil followed by 100 cm. of dark brown clay, approximately 50 cm. of very hard mottled yellow and brown clay heavily impregnated with pumice, and, at the base, a layer of 40 cm. of hard, dark brown clay. There was no indication of cultural disturbance in the profile and occupation in levels 1 - 3 and 6 was scanty. Light concentrations of sherds occurred in levels 4 and 5.

46-12-396 (Figure 101)

Elevation 96.99 m

Location - This test trench measured 1 x 2 m. in surface area and was located in surveyor's lot 22, 30 m. southwest of Mound B-I-1. Lot 22 is part of a relatively level, grass-covered area that included an entire city block and has been set aside by the Colonia Tikal as a park area. Within it is a large pyramidal mound (B-I-1) and a low sprawling platform mound (B-II-3). The test pit was located in an open plaza-like space adjacent to two mounds. It was excavated in 20 cm. arbitrary levels to a total depth of 260 cm.

The soil stratigraphy consisted of eight basic layers. Layer 1 was a deposit of scraped-up overburden that coincided with arbitrary level 1 very closely. Below this was a layer of black humus that corresponded with arbitrary level 2. Soil layer three ran from 40 cm. below the surface to a total depth varying from 130-160 cm. It consisted of hard yellowish brown

clay, lightly impregnated with pumice. Upon completion of arbitrary level 6, a structural feature was encountered in the south-west quadrant of the test trench at a depth of 130 cm. below the surface. It appeared as a layer of very hard, lime impregnated, sandy textured, grey soil. Upon uncovering it, excavation techniques were shifted to follow its surface and it sloped down sharply to the northeast. It looked like a low platform mound surface and the lime encrustations on the surface suggested an Esperanza phase structure. The hard, cemented, grey layer was approximately 20 to 30 cm. thick and overlaid a fill of hard, brown, sandy textured clay that served apparently as a nucleus of the platform. This underlying fill varied from 2 to 30 cm. in thickness and its base was 160 cm. below the surface.

From the surface to 180 cm. below the surface, sherds were scanty. Much more common were tiny fragments of obsidian. At a depth of 160-180 cm. the soil shifted to a dark brown clay (in other words, the layer underlying the possible platform). This deposit was excavated to a depth of 210 cm. and contained light to moderate concentrations of pot sherds and other artifacts, along with small quantities of charcoal. The cultural deposit was particularly heavy between 200 and 220 cm. and ended abruptly at the 220 cm. level. At this point the soil shifted to a mottled yellow-brown sterile clay. Also found at the 220 cm. level was a possible house floor.

Feature 1 - Feature 1 consisted of a postulated platform. It occupied all of the floor of the trench with a definite slope of its surface from southwest to northeast. The west profile of the trench revealed a possible terrace-like step which occurred apparently on the north side of the platform. The other side, to judge from the plan views and soil profiles, consisted of a simple, sloping talud. No occupational debris was found on or near its base. Its total height probably did not exceed 50 cm.

Feature 2 - Feature 2 occurred at a depth of 198 cm. below the surface in the sub-platform midden deposit and consisted of an obsidian blade and a concentration of charcoal. It was defined as a feature because of the possible in situ association of charcoal and obsidian, both useful for absolute dating.

NORTHWEST QUADRANT GROUP

During the surface reconnaissance of Kaminaljuyu a newly-opened housing project, the Colonia Jardines de Tikal II, was reconnoitered for evidence of prehistoric occupation. A series of one meter wide trenches up to 180 meters in length and 3 to 10 meters in depth had been dug for the laying of sewer conduits. A quick survey of the trenches revealed concentrations of cultural debris mixed with the backdirt from the augered trenches. On the basis of these findings a more careful examination of the trenches was conducted.

The area surveyed lies to the north of 12 Calle, south of 13 Calle "A," and east of 31 Avenida "A" in Zone 7 of Guatemala City and Area 12, Zone 46, of the Kaminaljuyu Grid Plan. Two pairs of trenches were surveyed within this area. These were designated Trenches I, II and III, IV. Trenches I and II began about 170 meters east of 31 Avenida "A" and extended eastward along 12 Calle "A" for another 180 meters. Trenches III and IV like I and II were separated from each other by five meters and similarly extended along 12 Calle. Each set of conduits was cross cut and interconnected by two types of lateral trenches:

(1) Transverse trenches intersecting the main conduits at 90° and regularly spaced at 20 meter intervals. Transverse trenches were 10 meters in length and projected from the northern member of the pair through the southern member.

(2) Oblique trenches intersecting the main conduits at 45° at 20 meter intervals. Oblique trenches are staggered five meters apart along the southern member of the conduit pair (Figure 105).

A sampling grid plan was constructed in such a way as to take advantage of both types of lateral trenches and their regular spacing. Both sides of the main trenches were divided into five meter intervals beginning from the east and with each interval designated by the combination of a letter (for the north and south sidewalls) and a number (for the interval). Thus N-9 means the ninth interval (45-50 meters from the starting point) along the north side of the trench; N/S-9 means the ninth interval along both the north and south sides of the trench. The lateral trenches were also given abbreviations. Transverse trenches were designated by the letter "T" followed by a number for its rank order from the starting point. Thus T-3 means the third transverse trench from the starting point. Since the oblique trenches were staggered along the south member of each conduit pair, they were designated in a manner similar to the transverse trenches along both sides of each south trench. Thus South O-3 refers to the third oblique trench from the starting point along the south side of the south trench of each pair; North O-6 refers to the sixth oblique trench from the starting point along the north side of the south trench of each pair.

Surface sampling involved the recovery of all artifacts within 5 x 5 meter area units to either side of the main trenches in accordance with the grid plan discussed above. Observed artifact frequencies were categorized as follows: Traces = 1-3 items; Low = 4-10 items; Medium = 11-50 items; (Very) Heavy = 51+ items. Since the area between the members of conduit pairs could be regarded as belonging to either, it was arbitrarily decided to assign it to the southern member.

Trench I

Table 17 summarizes observed artifact frequencies and soil types interval designations for Trench I.

An extremely heavy concentration of potsherds and obsidian was found in the vicinity of the N/S-9 interval (Figure 102). The sherds were large and well preserved and the obsidian, consisting mostly of large unbroken blades, was particularly dense (from the N-9 interval alone over 200 blades were collected). Wear patterns on the blades suggested a variety of cutting and scraping uses. All of the obsidian blades appear to have come from a single cache (Feature A) in the profile of the N-9 interval about 1.35 meters below the surface (Figure 102). This feature extended through the adjacent North O-3 trench (Figure 103) into its east profile where the blades rested together with sizable sherds on a bed of large rocks (see Feature of Settlement Pattern Test Trenches 46-12-229).

Sherds showed a variable but patterned vertical density in the N-8 to N-11 intervals, being light in the range 0-30 cm. b.s., light to medium between 30 and 125 cm. below the surface, and medium from 125 to 180 cm. below the surface. Occasional charcoal concentrations, sometimes associated with cultural debris were also observed. To the east of N/S-11 evidence of occupation thinned out rapidly to traces only, and beyond N/S-11 the backdirt, which consisted of talpetate and sand, was sterile.

Trench II

Trench II showed a similar but less pronounced pattern. Again, the area of densest cultural debris was between N-8 and N-11, but potsherds and obsidian both were present only in low to moderate concentrations, and most of the obsidian blades were fragmentary.

Trenches III and IV

Potsherds and obsidian were distributed in moderate to very heavy concentrations from N/S-5 to N/S-15. Outstanding densities of obsidian blades were encountered along Trench III between the N/S-2 and N/S-4 intervals and along Trench IV from the N/S-4 to N/S-6. The excavation of Settlement Pattern Test Trench 46-12-248 uncovered one of the sources of this material. Beyond N/S-15 artifact density along both conduits dropped rapidly to negligible amounts. In order to obtain better chronological control and data pertaining to the obsidian concentrations two test trenches were excavated.

46-12-229 (Figures 99, 100)

Elevation not taken

Location - 200 m. southeast of the Northwest Mound Group. The trench measured 1 x 2 m. and was situated 50 cm. north of sewer Trench No. 1 and 50 cm. west of a transverse sewer trench (T-1). It was excavated to a total depth of 200 cm. by 20 cm. levels.

The basic soil stratification consisted of a layer 20 cm. thick of overburden, a topsoil layer that varied from 35 to 70 cm. in depth, succeeded by a deep deposit of brown clay that extended all the way to the base of the

excavation. Pottery was scanty in levels 1 and 2, increasing to light concentrations in level 3. The increase equated roughly with the topsoil-brown clay junction. Sherds occurred in light concentrations in levels 4 and 5 but obsidian was abundant. In the levels between 100 and 160 cm. below the surface, the concentration of obsidian was extremely heavy and disappeared abruptly at the 160 cm. level. Sherds in this deposit were moderate in density.

Feature 1 - This feature consisted of an extremely heavy concentration of obsidian blades located in the northwest quadrant of the trench. It was first noted at a depth of about 135 cm. below the surface and the deposit extended to approximately 160 cm. No detritus of obsidian manufacturing was present and the deposit suggested strongly that some specialized activity took place in which obsidian blades were the primary tool used.

Feature 2 - This feature consisted of a shallow, basin-shaped depression, with areas of burned earth. It was picked up in level 8 in the south-east quadrant of the trench and it apparently runs out of the profile. It occurred at the same level as the lower portion of Feature 1.

Between Features 1 and 2, at the 140 cm. level, were found two large slabs of stone that may have been part of a wall base. If so, Feature 1 can be considered as a work area near a house and Feature 2, a hearth located within the house. No definable floor, however, was found associated with either feature.

46-12-248

Elevation not taken

Location - 200 m. southeast of the Northwest Mound Group at the junction of an oblique trench (north O-3) with one of the long sewer trenches (Trench I). Because of the obliqueness of the angle in which the trench met the main trench, excavation was in the form of a trapezoid rather than a rectangle. Its maximal length was 4.2 m. and maximal width 2.0 m. The trench was excavated in arbitrary 20 cm. levels to a total depth of 260 cm.

Unfortunately, due to an oversight, profiles were not drawn, but the basic soil profile can be reconstructed from field notes of the profiles of the nearby sewer trench. There was a deposit of 55 cm. of black topsoil, succeeded by a layer of light brown loam 40 cm. deep and below this, a layer of medium brown loam which extended to a maximum depth of 240 cm. Below this layer was a blocky, clay textured soil.

Light to moderate concentrations of pottery appeared in the topsoil or arbitrary levels 1-3, and in level 4 (60-60 cm.) (319, 349, 409, 559 sherds, respectively). In level 5 there was a sudden increase to heavy concentrations of potsherds (1098 sherds) along with obsidian and localized concentrations of slab-like rocks. Levels 6, 7, 8, and 9 had heavy concentrations of sherds with many reconstructible vessel profiles, (648, 1154, 1420, 828 sherds, respectively). At a depth of 180 cm. below the surface at the base of level 10, a heavy mass of obsidian blades was encountered (Feature 1) with virtually no soil between them (approximately 403 blades were collected). This mass occurred as a roughly oval-shaped area 70 to 80 cm. in diameter and was at least 20 to 30 cm. deep.

Feature 1 was encountered at the end of the day's excavation and because of difficulties with night vandals, it was necessary to remove the deposit rather hastily. As a result, no drawings or photographs of the feature are available. The feature was also associated with a heavy concentration of potsherds (level 10 produced 612 sherds, level 11-511 and level 12-281), and a number of stone slabs. At a depth of 240 cm. the cultural debris finally ended, at the beginning of the layer of blocky clay.

CONCLUSIONS

Only very tentative conclusions can be suggested at this stage of research in the Kaminaljuyu Project. An artifact catalogue has been designed in which all objects are counted, first with respect to material (i.e., ceramics, obsidian, other stone, bone, shell, C₁₄ samples, plant remains and soil samples) and secondarily by major categories; for example, the ceramic sample was sorted into rim sherds, body sherds, figurines, whistles, stamps, discs, censers, balls, beads and fired clay lumps; obsidian into cores, blades, bifacially chipped artifacts and irregular flakes. We have a fairly clear idea of artifact distribution as a whole with respect to our excavations. The total sample of items in the catalogue was approximately 250,000, of which 72% consisted of body sherds, 11% of rims, 3% other ceramic artifacts, 10% obsidian artifacts, 3% stone tools other than obsidian and 1% miscellaneous artifacts and soil samples.

None of this material has been analyzed with respect to chronology or function so that much of the data for a final statement of the field season and its results is still unavailable. Conclusions offered here, therefore, are highly tentative and subject to substantial, even major, modifications.

Even with respect to standard archaeological objectives the preliminary season has produced several important results. Not the least is the training of a core staff of field and laboratory personnel (including workers as well as supervisory personnel) in the specific problems and methods of field work at Kaminaljuyu. Other results include the collection of a huge sample of portable artifacts under conditions of carefully controlled excavation that will enable us to reconstruct with considerable detail the technology of ancient Kaminaljuyu and to provide a great corpus of data for relative chronology; new data on domestic and religious architecture and a large sample of obsidian tools and C₁₄ samples for absolute dating.

On another conceptual level we have a number of very promising leads as to the non-material culture of Kaminaljuyu, particularly during the Miraflores phase.

The excavation of the B-III-1 group of settlement pattern trenches and the two mounds B-II-1 and B-III-1 strikingly confirmed our hypothesis as to the nature of Miraflores settlement at Kaminaljuyu. Mound B-III-1 was undoubtedly a temple platform, Mound B-II-1 the basal platform of an elite residence and together with a smaller mound of unknown function (B-II-2) they form a compact, discrete group of public buildings. The settlement pattern trenches excavated near the group demonstrate that this was the civic center of a small, densely settled, ward-like division of the ancient center. The test trenches near mounds revealed deep, stratified deposits that included middens, refuse pits, hearths and earth floors. Along the structural remains, sherds, obsidian and ground stone tools were abundant. The density drops off very rapidly in the trenches excavated beyond 100 meters of the mound group.

Excavations within B-II-1 and B-III-1 revealed a stratification of structures which, on the basis of pottery seriation, can be tied in closely to the cultural stratification of the settlement area. The history of B-II-1

particularly was complex and the residential sub-structure went through at least four, possibly more, stages of enlargement. In the case of B-III-1 there was a small, earlier platform that may or may not have been a temple sub-structure, so that we have definite evidence of but two stages of temple building or use.

B-I-1 is quite obviously a high-terraced temple platform (much larger in size than B-III-1) and with B-II-3 (a low sprawling platform that possibly functioned as a residential sub-structure) form another comparable mound group. The test trenches in their vicinity yielded predominately Miraflores material suggesting that the mounds are of Miraflores age as well and formed another ward-like unit similar to the B-III-1 community. In this case, however, the residential area was distributed entirely to the south and southwest of the temple mound and very little occupation was found to the north and northwest.

The huge Miraflores phase mound E-III-3, excavated by Shook and Kidder, is also part of a small, compact group of mounds. In this case, however, the central mound is much larger in size and the group includes at least nine other mounds arranged around a squarish plaza.

Moving up another conceptual level, the settlement pattern and civic architecture of Miraflores Kaminaljuyu could be easily adapted to Service's (1965) chiefdom level of socio-political integration and particularly to the larger Polynesian chiefdoms described by Sahlins (1958). The small size of the wards and their close linkage with temple and elite residences could represent the occupational remains of a single chiefly lineage with the smaller platform serving as the sub-structure for the chief's house. The difference in size of temples between B-III-1 and E-III-3 and lack of elaborate tombs in the former structure could be easily adapted to the chiefdom socio-political system with its ranking of lineages. The internal history of B-III-1 also suggests that the local group occupied a very low position on the prestige ladder at the beginning of its history and in fact may have differed only slightly from the farming lineages that occupied the small rural hamlets discovered in the settlement pattern survey of the valley. The lowest level of Miraflores society would be represented by these hamlets.

A strikingly different type of civic center at Kaminaljuyu is represented by the majority of the mounds occurring in the southwestern quadrant of the site. Here the groups consist of mounds aligned along both sides of a street-like, elongated, rectangular plaza. Some groups may contain several high, steep-sided mounds placed in rows combined with smaller and lower mounds. Espinoza's unpublished excavations in two of them (Mound B-IV-1 and C-V-9) have revealed that they are not terraced temple platforms but probably conical burial mounds composed of almost midden-free, sandy soil. The profiles indicate that the soil was deposited in diagonal beds and formal capping or surfacing was absent. At the base of each mound were found multiple burials with moderate offerings, consisting primarily of pottery vessels. The ceramics were of the Majadas-Providencia phase. Our excavation at B-V-1, a low rectangular mound associated with one of the elongated plazas, indicate that it was also constructed during this same period. That this particular mound was a burial mound, as suggested by Cardenas, however, seems dubious and the evidence is admittedly weak. There is a strong possibility, therefore, that the pre-Miraflores civic centers all consisted of

mounds, many of them conical structures, arranged along a street-like plaza and that they functioned as a ritual center for the funeral of an elite element in the population. The high, terraced temple sub-structure may not have been used at Kaminaljuyu prior to the Miraflores phase. The lack of midden in the fill of the few excavated burial mounds suggests, and we emphasize the word "suggest," that the densely settled ward-civic center pattern of the Miraflores phase was not characteristic of these earlier funerary civic centers. The site may have been a virtually empty ceremonial center devoted entirely to the burial ritual of chiefs. The internal evolution of Formative Kaminaljuyu, if we are correct, looks extremely close to that of the Eastern Woodland area with the succession from the funerary ceremonial center to the temple mound - village or town. In the 1969 season we will excavate extensively several mounds and the intervening areas adjacent to the elongated plaza groups to test this hypothesis.

A striking change in civic planning occurs in the Early Classic or Esperanza phase. In the north-central area of the site is a massive, acropolis-like complex of buildings referred to in the literature as the Palangana. The word "Palangana" means "ball court," and its application to the complex is based on the assumption that the high mass of buildings arranged around an interior court and found in the southern edge of the complex functioned in fact as an ancient ball court. The acropolis occupies an area 450 x 200 meters in area and deep soundings in the northwest sector show that it is composed of superimposed platforms, all Esperanza phase in date, and that all of the buildings in that area were constructed in pure Teotihuacan style. Previous writers have claimed that much of the surface architecture at Kaminaljuyu, as illustrated by a simple count of mounds, is of Formative age and several have suggested that the most extensive building activity took place during the Miraflores phase. In fact, if our reconstruction is correct, many of the mounds are of the Majadas-Providencia phase. Furthermore, the huge size of the acropolis and the fact that it was probably built over a maximum period of 200 years (the Teotihuacan 3 or Xolalpan phase) indicates that no Formative building activity was comparable in scale with the architectural activities of this phase.

Although some outlying civic centers were present in Kaminaljuyu during the Esperanza phase (two were found definitely in the southeast corner of the site, the locations of Mounds A and B) these outlying precincts are architecturally insignificant compared to the great mass of buildings of the acropolis. The pattern suggests a much higher level of political centralization and civic organization for the Esperanza phase and this brings us to the general problem of the nature of Teotihuacan interaction with Kaminaljuyu. Evidence is rapidly accumulating to demonstrate that Classic Mesoamerican societies in general and Teotihuacan in particular were considerably more militaristically oriented than was thought. The wide-spread diffusion of the Teotihuacan style in the form of pottery and architecture and its association with the elite levels of local societies strongly suggests political intervention and control. This is particularly true of Kaminaljuyu. It is difficult to believe that the local chiefs would have constructed the Palangana acropolis in Teotihuacan style purely as the product of peaceful trade and admiration for Teotihuacan. We believe that Kaminaljuyu was conquered by Teotihuacan, that the native population was reorganized and governed by a colony of administrators from Central Mexico, and that the changes in civic planning strongly indicate this sequence of events.

The results of the Teotihuacan project, directed by the senior author (1965); the Teotihuacan Mapping Project, directed by Rene Millon (1967); and the Texcoco Project, directed by Jeffery Parsons (ms. 1969) demonstrate that the leaders of Teotihuacan directly resettled, reorganized and resettled local populations to fit their own concepts of urban living and the administrative needs of their state. Populations living in hamlets were controlled into planned villages and towns. Others were moved into the city. On the basis of the data from Central Mexico there is a strong possibility that the Teotihuacan conquest of Kaminaljuyu was combined with a process of planned nucleation of settlement around the Palangana, that is, the civic center was not only reorganized but the native supporting population and perhaps a class of Teotihuacan administrators were settled around this center.

To test this hypothesis, 12 test pits were excavated southwest of the Palangana within a radius of 250 meters of its periphery. The results were inconclusive. Complicating the problem is the considerable disturbance that has occurred in this area through construction activities. In some lots the entire cultural deposit has been scraped off and redeposited in other lots. Occupation was substantial, however, and did include Esperanza phase material. During the spring of 1969 extensive test trenching is being carried out in the area to the northeast of the Palangana. Preliminary reports indicate heavy occupation in the area, but the date is not yet known.

In summary, the methodology being used is producing definite results and we have a number of very promising leads as to the identification of social processes involved in the growth of Kaminaljuyu as a center.

TABLE 16

Summary of Observed Artifact Frequencies and Soil Types for Trench I

Interval	Sherd Abundance	Obsidian Abundance	Other Artifacts	Soil Type
N-1	Low	Low	None	Dark brown sandy clay
S-1	Low	None	None	Dark brown sandy clay
N-2	Low	Low	None	Dark brown sandy clay
S-2	Low	Low	None	Dark brown sandy clay
N-3	Low	Low	None	Dark brown sandy clay
S-3	Low	Low	None	Dark brown sandy clay
N-4	Low	Low	Broken grooved stone	Dark brown sandy clay
S-4	Low	Low	None	Dark brown sandy clay
N-5	Low-Medium	Low	None	Dark brown sandy clay
S-5	Low-Medium	Low	None	Dark brown sandy clay
N-6	Low	Low	None	Dark brown sandy clay
S-6	Low	Low	None	Dark brown sandy clay
N-7	Low	Low	None	Dark brown sandy clay
S-7	Low	Low	None	Dark brown sandy clay
N-8	Low	Low	None	Dark brown sandy clay
S-8	Low	Low	None	Dark brown sandy clay
N-9	Very Heavy	Very Heavy	5 Stones	Dark brown sandy clay
S-9	Very Heavy	Very Heavy	None	Dark brown sandy clay
N-10	Medium	Medium	7 Stones(1 Mano)	Dark brown sandy clay
S-10	Medium	Medium	None	Dark brown sandy clay
N-11	Low-Medium	Low-Medium	None	Dark brown sandy clay
S-11	Low	Low	5 Stones(1 Metate fragment)	Dark brown sandy clay
N-12	Low	Low	None	Dark brown sandy clay
S-12	Low	Low	None	Dark brown sandy clay
N-13	Low	Low	None	Dark brown sandy clay
S-13	Low	Low	Metate fragment	Dark brown sandy clay
N-14	Traces	Traces	Mano fragment	Dark brown sandy clay, pumice and talpetate
S-14	Traces	Traces	None	Dark brown sandy clay, pumice and talpetate
N-15	Traces	Traces	None	Dark brown sandy clay, pumice and talpetate
S-15	Traces	Traces	None	Pumice and talpetate
N-16 to 23	None	None	None	Pumice and talpetate
S-16 to 23	None	None	None	Pumice and talpetate



KEY TO SOIL TYPES IN SETTLEMENT PATTERN TRENCHES





























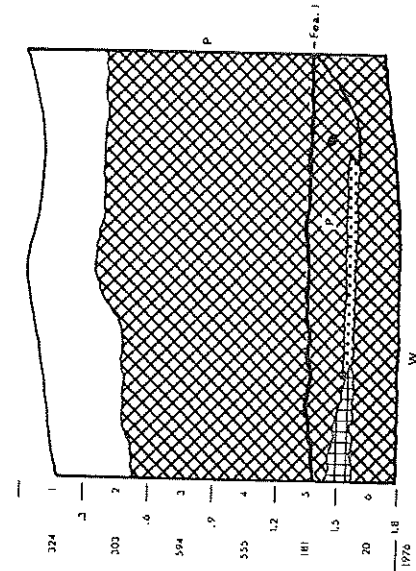
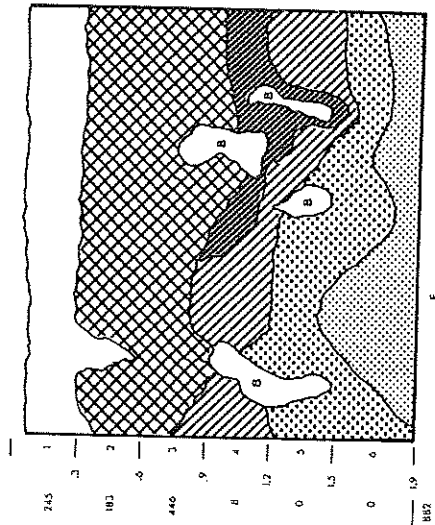
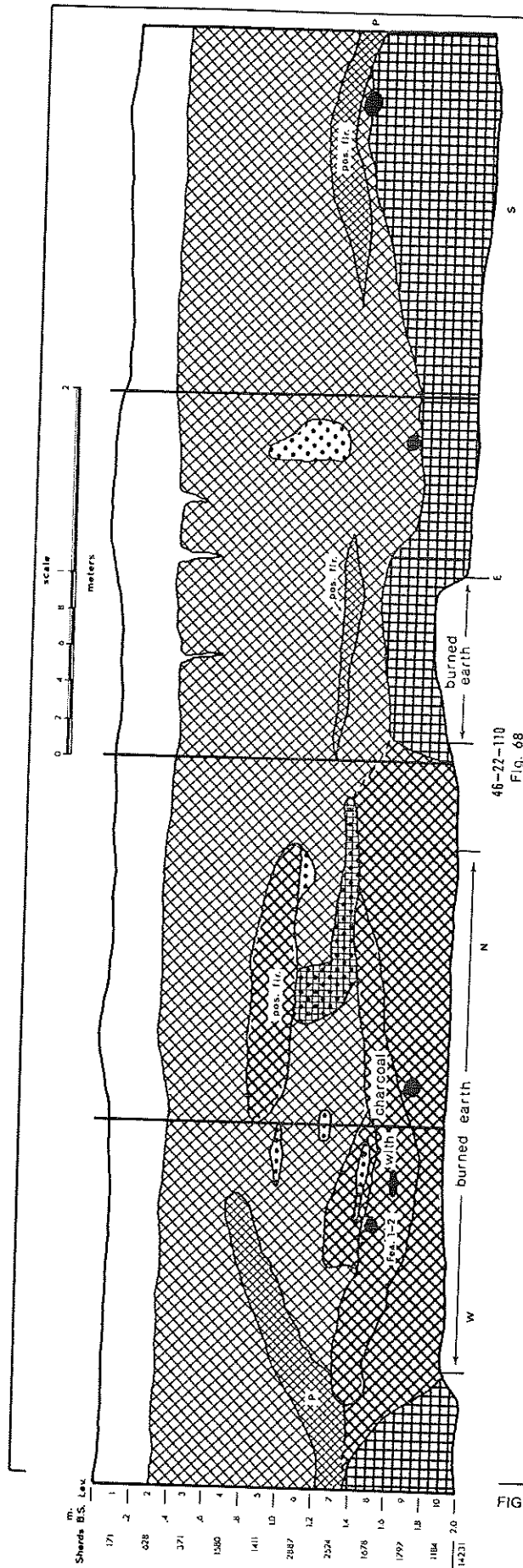
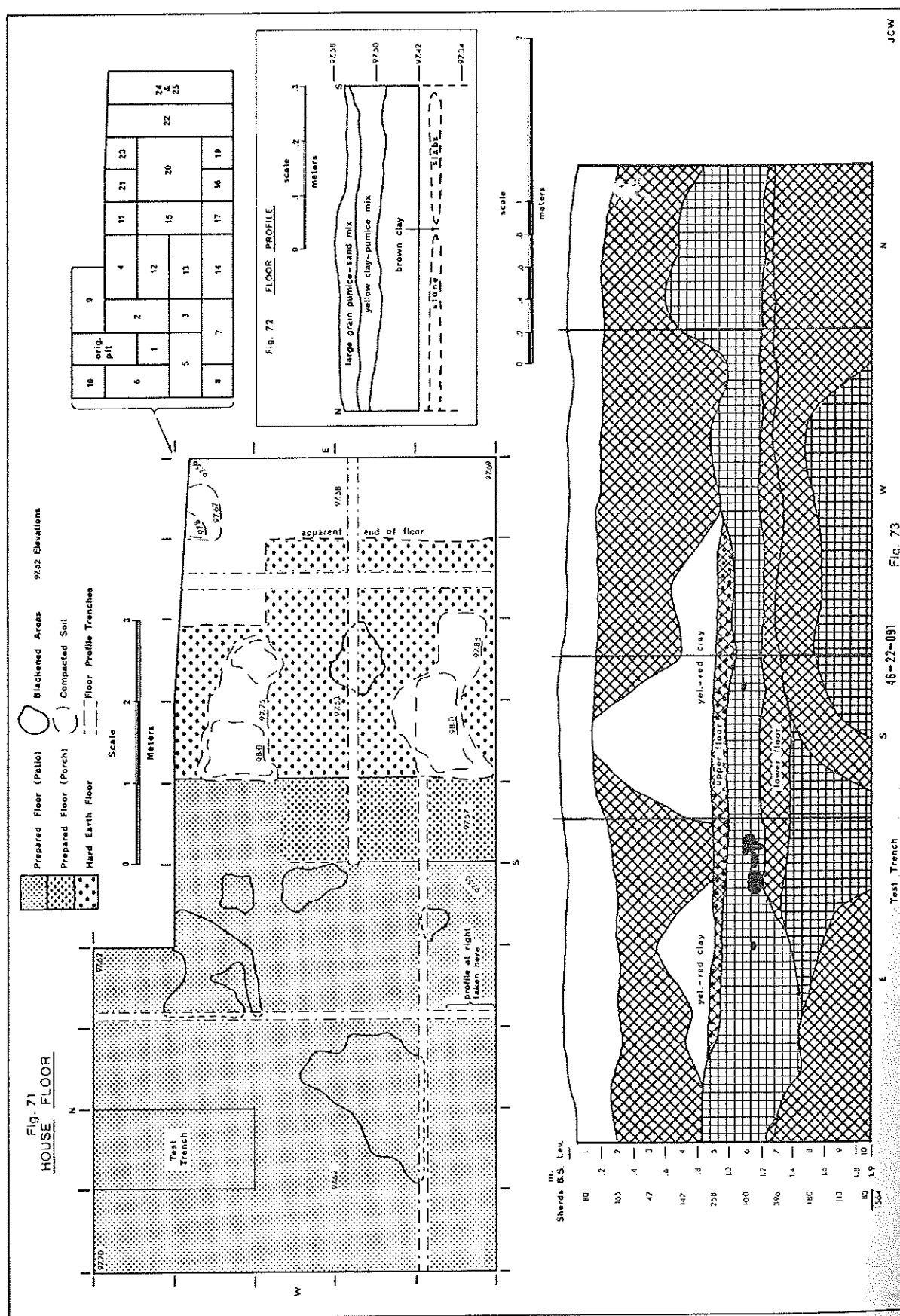
CLAY	SANDY CLAY	OTHER SOILS
<p>LIGHT BROWN</p>  <p>YELLOW-BROWN</p>  <p>DARK YELLOW-BROWN</p>  <p>BROWN</p>  <p>DARK BROWN</p>  <p>RED-BROWN</p> 	<p>LIGHT BROWN</p>  <p>YELLOW-BROWN</p>  <p>DARK YEL.-BN.</p>  <p>BROWN</p>  <p>DARK BROWN</p>  <p>LOAM</p> <p>LIGHT & YEL.-BN.</p>  <p>BROWN</p>  <p>DARK BROWN</p> 	<p>TOPSOIL</p>  <p>TALPETATE</p>  <p>MIDDEN</p>  <p>OVERBURDEN</p>  <p>PUMICE (LIGHT OR HEAVY)</p>  <p>NON-SOIL SYMBOLS</p> <p>CHARCOAL FLAKES</p>  <p>STONES</p>  <p>OBSIDIAN BLADES</p>  <p>SHERDS</p>  <p>BURROWS</p> 
<p>SAND (REFERS TO TEXTURE, NOT NECESSARILY ORIGIN)</p> <p>GREY, WHITE, YEL.</p>  <p>LIGHT BROWN</p>  <p>BROWN</p>  <p>DARK (BN. OR BLK.)</p> 		

FIGURE 67



FIGURES 68-70



FIGURES 71-73

m.
Sherda B.S. Lev.

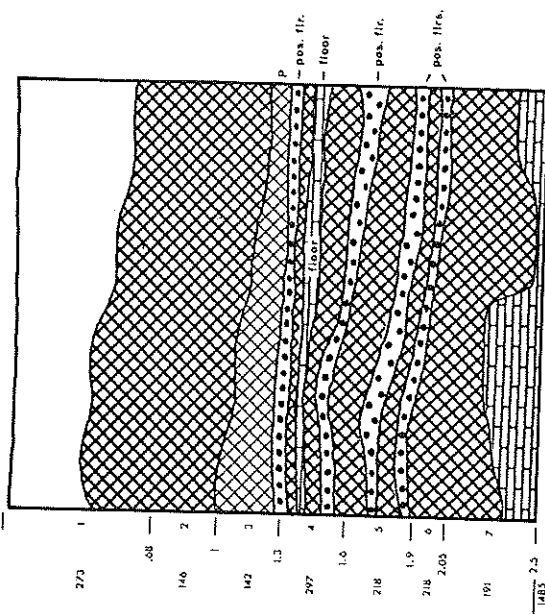


Fig. 74

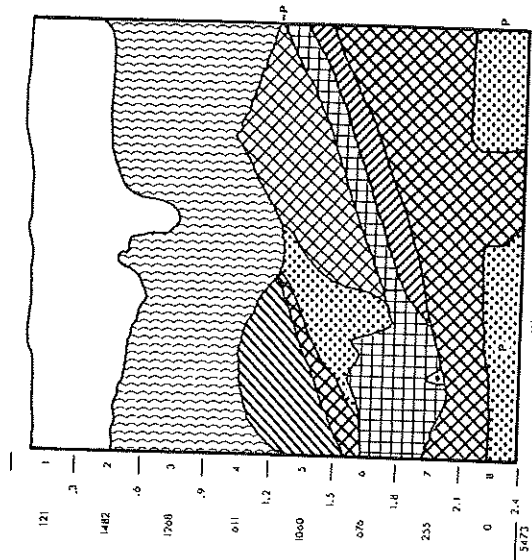


Fig. 75

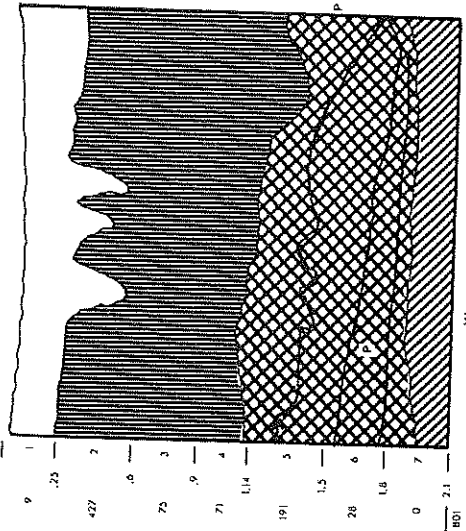
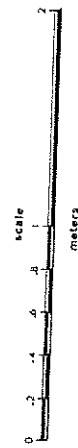
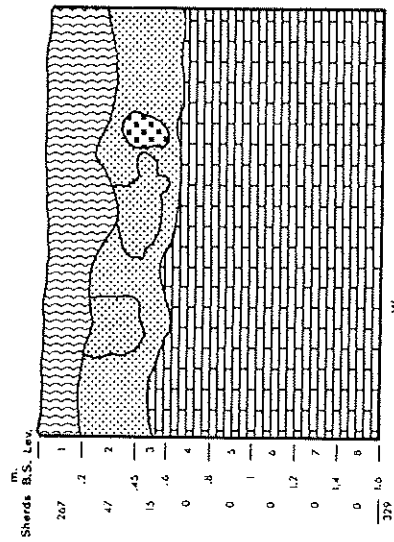
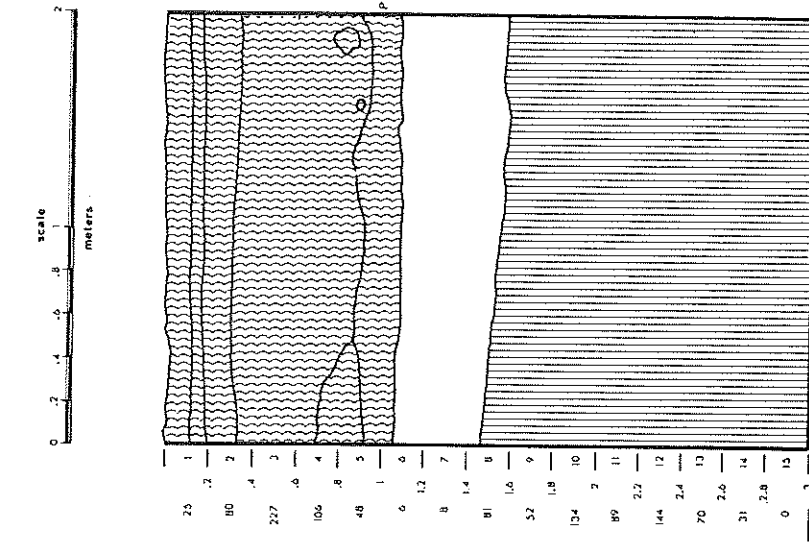
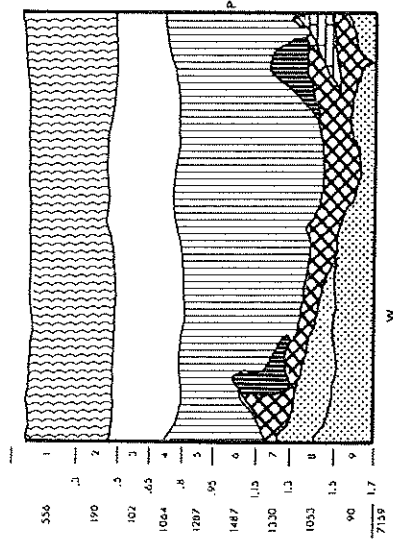
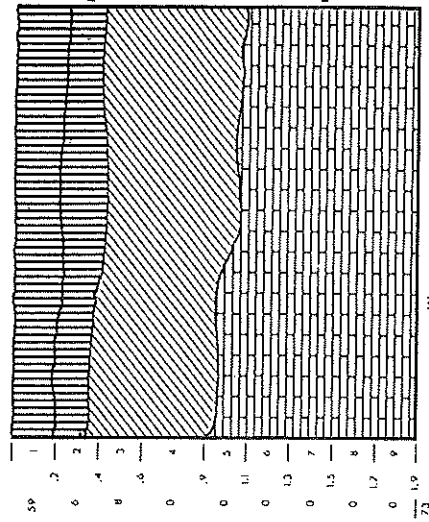
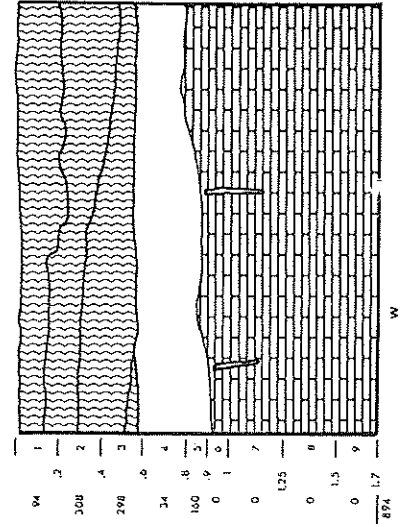


Fig. 76



m.
Sherds B.S. Lev.46-23-120
Fig. 7746-22-137
Fig. 7846-22-158
Fig. 8046-22-038
Fig. 7946-23-121
Fig. 81

Sharda 85, Lev.

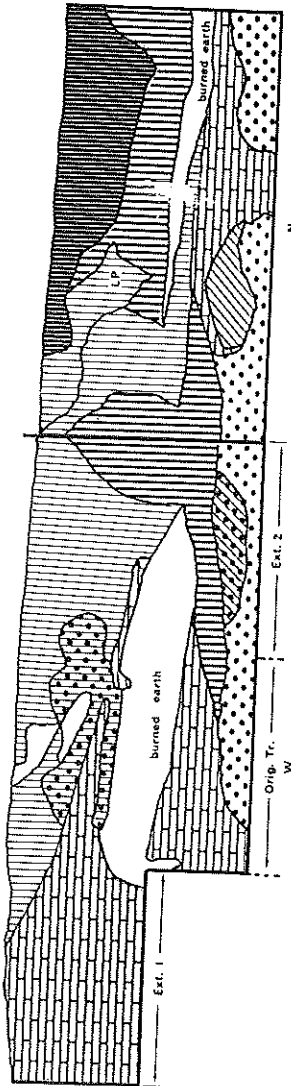
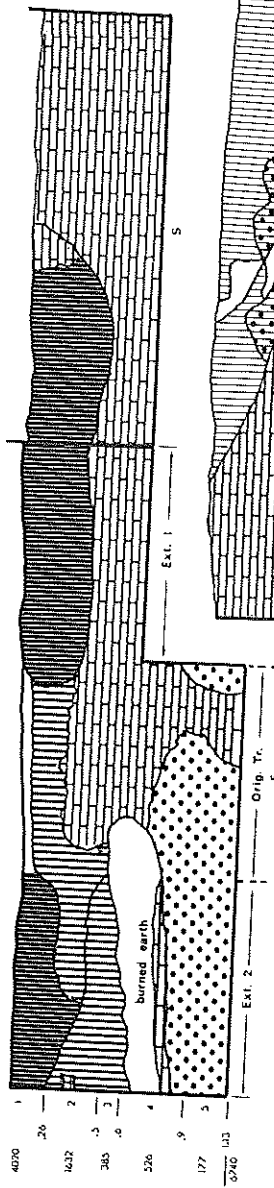


Fig. 82 46-22-079

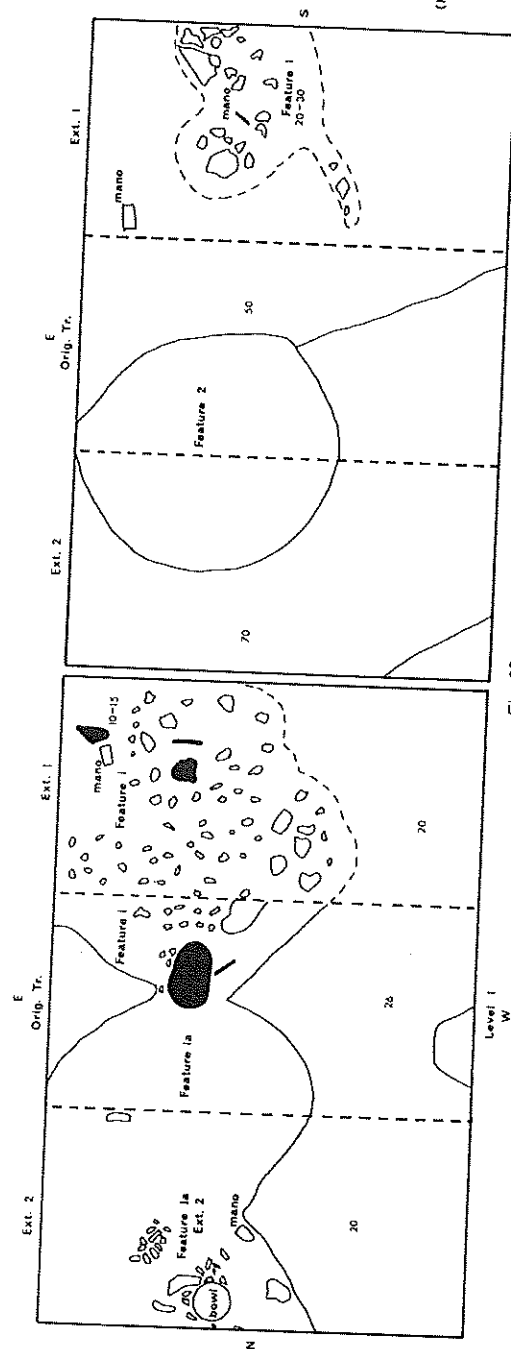
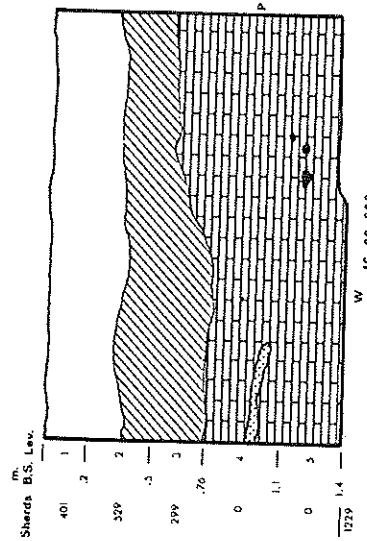


Fig. 83

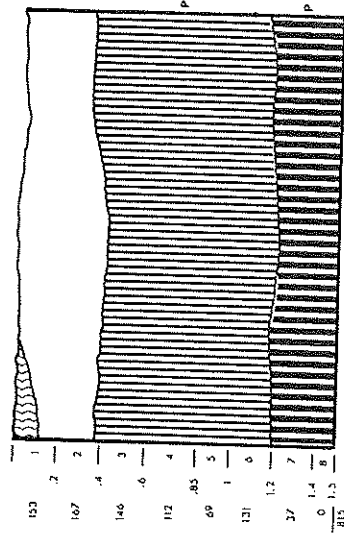
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JCW

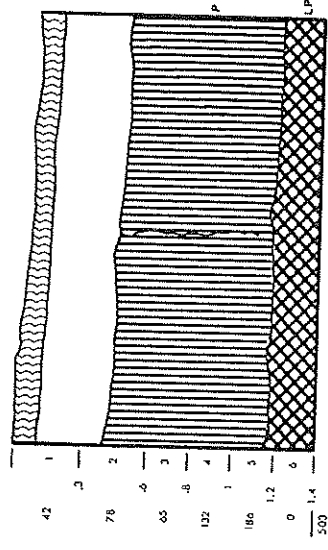
m.
Shards B.S. Lev.



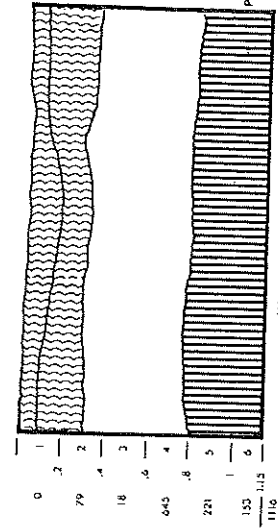
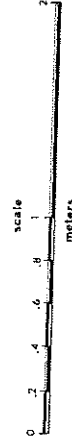
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Fig. 84



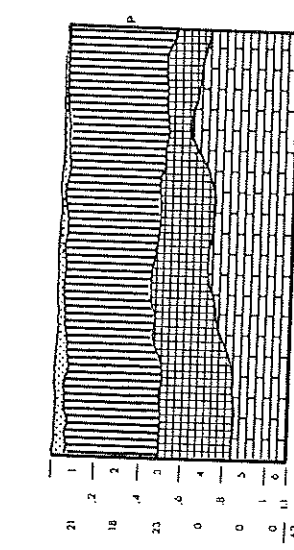
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Fig. 85



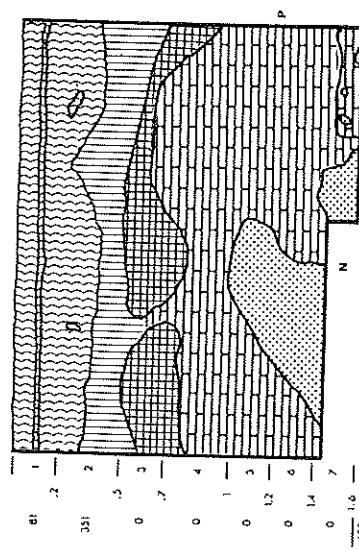
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Fig. 86



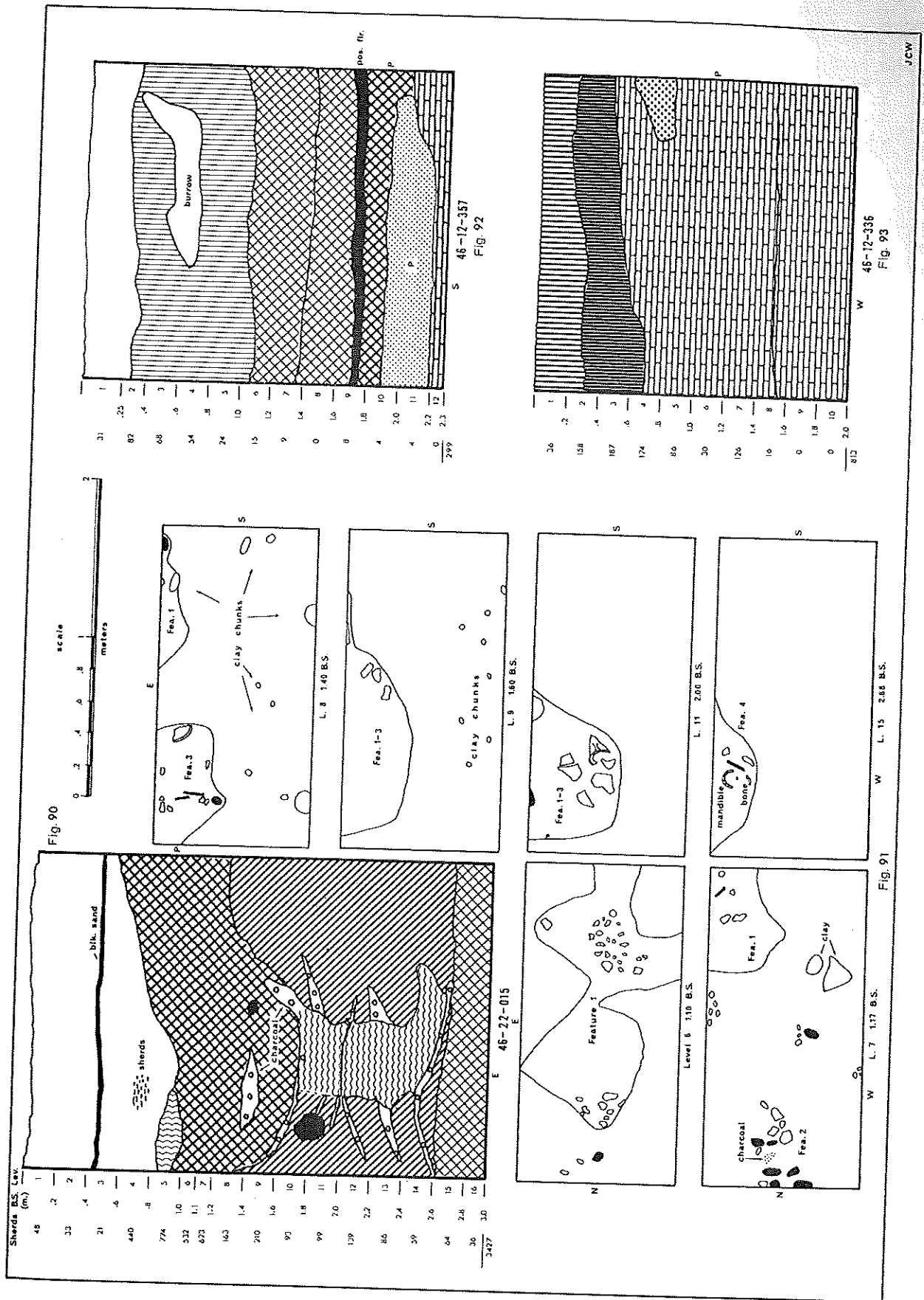
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Fig. 87

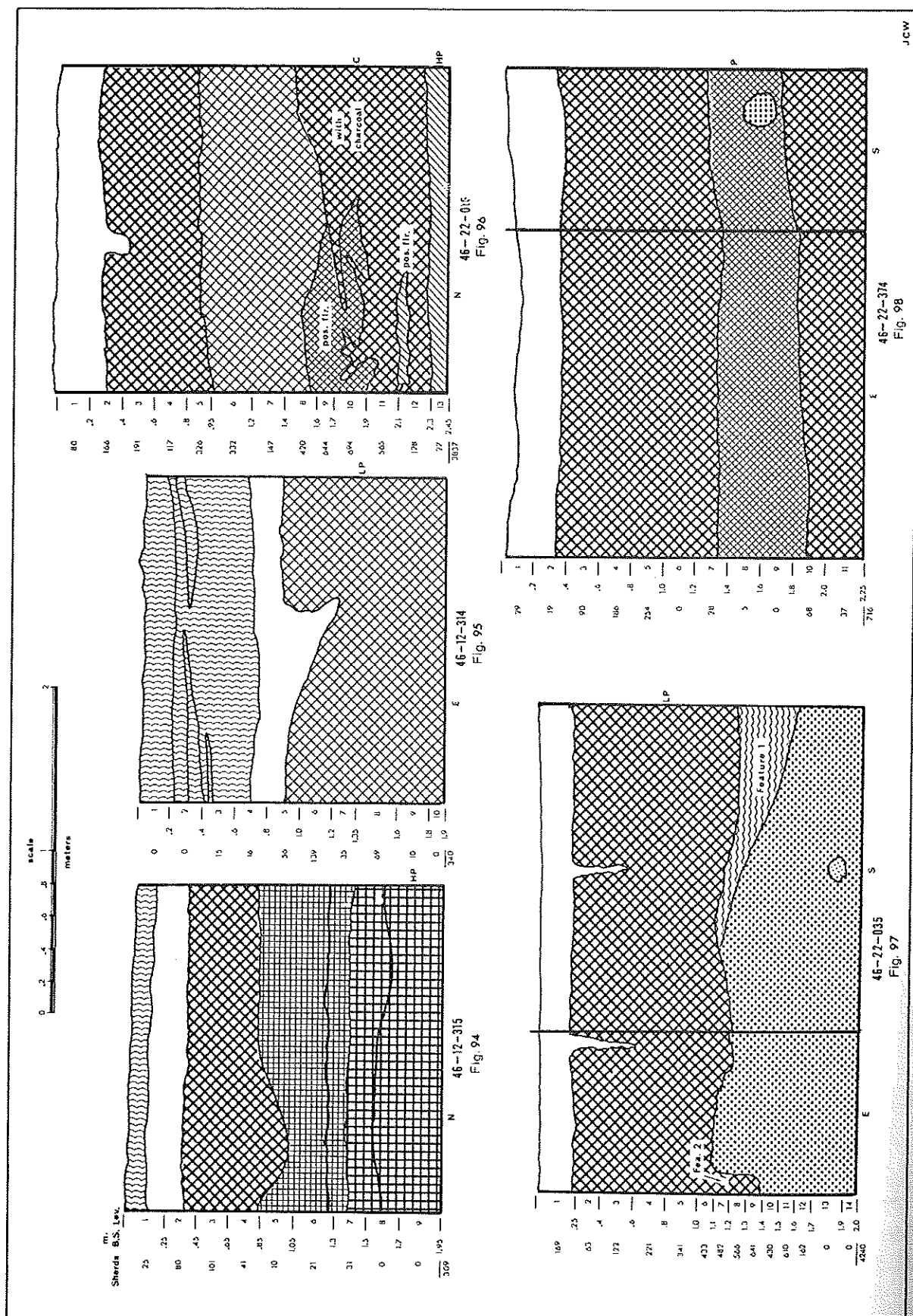


46-22-059
Fig. 88

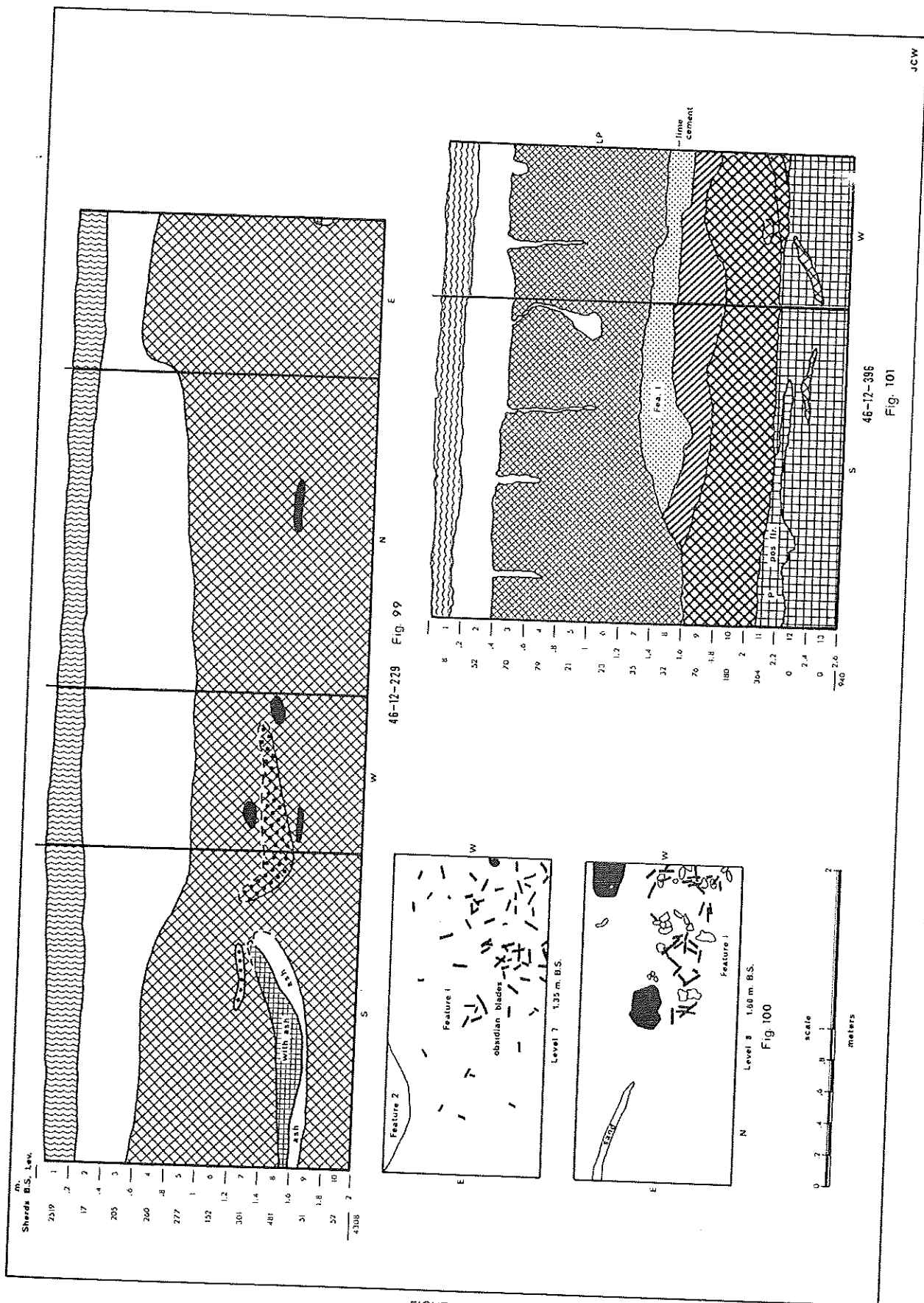


46-22-058
Fig. 89





FIGURES 94-98



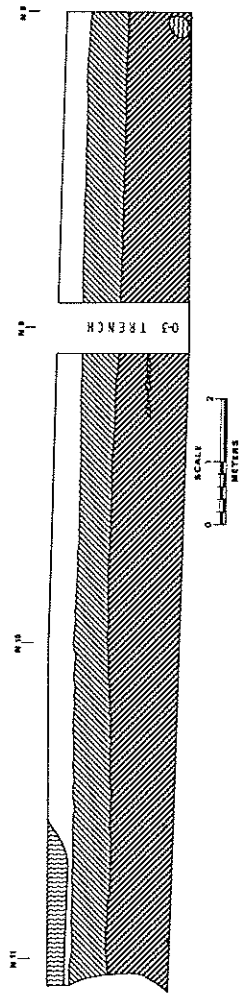


FIGURE 102: PROFILE OF TRENCH 1, N8-10 INTERVALS

- YELLOW-BROWN SANDY CLAY
- BROWN SANDY CLAY
- FEATURE A: OBSIDIAN BLADES PILED ON LARGE ROCKS AND SHERDS
- SHERD AND CHARCOAL CONCENTRATION
- GUTTED AREA
- BLACK TOP SOIL

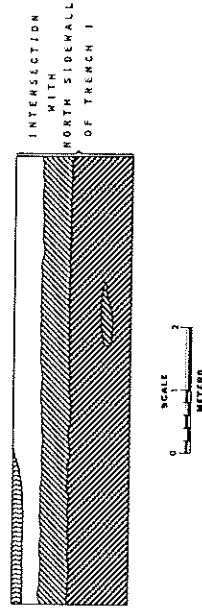
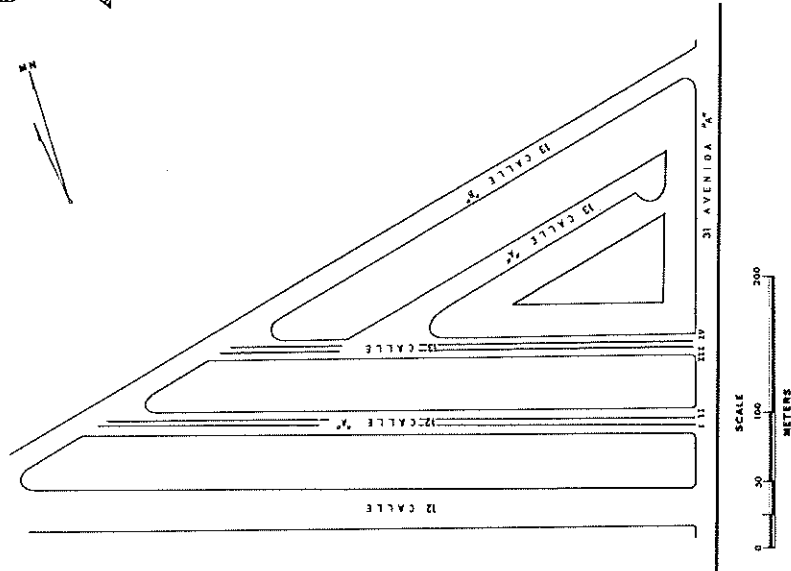


FIGURE 103: PROFILE OF NORTH 0-3 TRENCH, EAST PROFILE

FIGURE 104: COLONIA JARDINES DE TIXTAL II
(STREET AND SEWER TRENCH LOCATIONS)

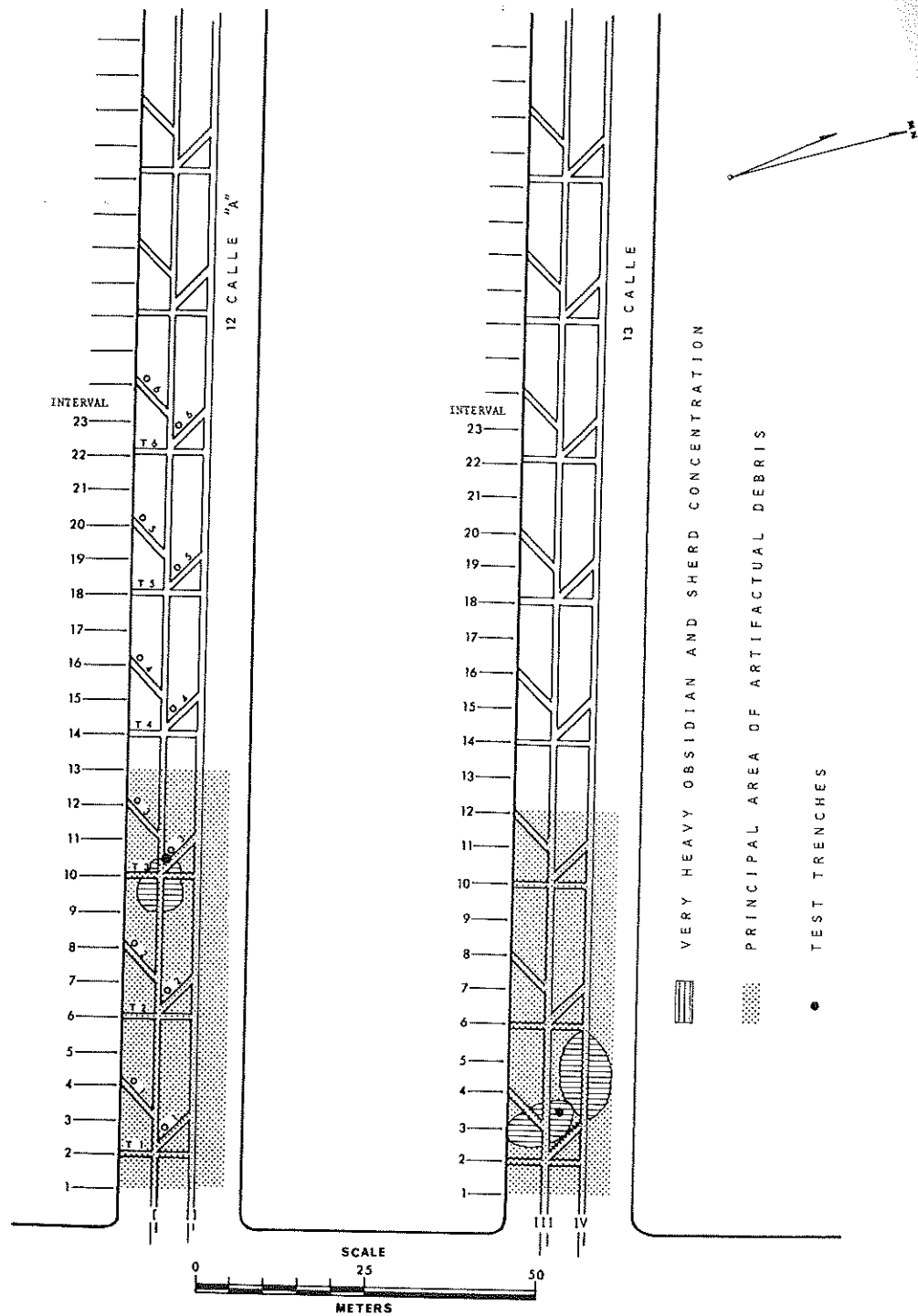
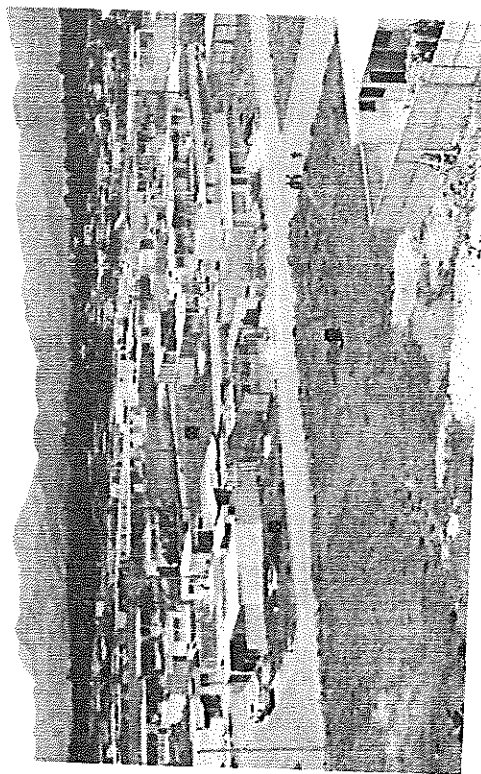
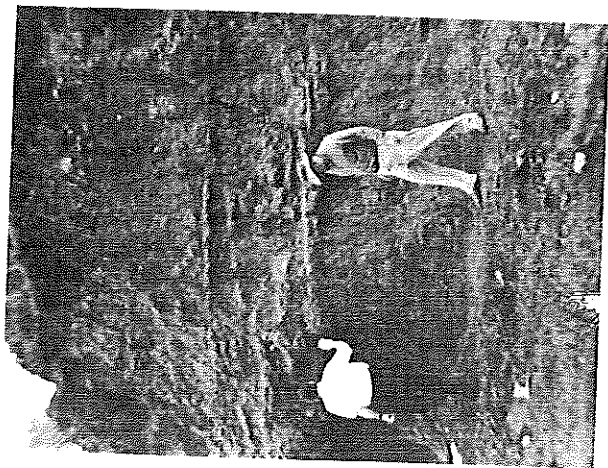


FIGURE 105: PLAN VIEW OF SEWER TRENCHES I, II, III, AND IV



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LIST OF PLATES

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