EXCAVATIONS AT THE PALANGANA, KAMINALJUYU GUATEMALA, GUATEMALA

by

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I hereby recommend that this dissertation prepared under my direction by Charles Dale Cheek

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*This approval and acceptance is contingent on the candidate's adequate performance and defense of this dissertation at the final oral examination. The inclusion of this sheet bound into the library copy of the dissertation is evidence of satisfactory performance at the final examination.

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ABSTRACT

The Palangana is an architectural complex at the Highland Maya site of Kaminaljuyu, Guatemala. The complex consists of five mounds and two plazas. Excavations at the Palangana were carried out in three years by the Pennsylvania State University Kaminaljuyu Project.

This study describes the architectural history of the Palangana and its changing form and function, and relates the Palangana to the rest of Kaminaljuyu during the Verbena-Arenal, Aurora, Esperanza and Amatle phases, the time during which the complex was built and occupied.

The excavations at the Palangana, together with a reassessment of previous work, provided new evidence for the timing and nature of Teotihuacan influence at Kaminaljuyu during the Middle Classic period. On the basis of this evidence, there seem to be two phases of influence which, it is hypothesized, reflect different kinds of contact situations. The first phase, which shows the acceptance of isolated Teotihuacan-like traits, reflects contact due to trade and acceptance of the traits by the Kaminaljuyu elite for reasons of prestige. The second phase of Teotihuacan influence is characterized by a closer adherence to Teotihuacan architectural cannons. This phase may reflect an actual political takeover of Kaminaljuyu for economic reasons.

CHAPTER 1

INTRODUCTION

One of the more important sites in Mesoamerica and the largest in the Guatemalan Highlands is Kaminaljuyu (Fig. 1), in the Valley of Guatemala. This site is important because it is a Highland Maya center with a long occupational history. In particular, it is significant to Mesoamerican archaeologists because of its great similarity in style and technique of architectural construction and in grave goods, during the Middle Classic, to Teotihuacan, 1100 miles away in the Central Highlands of Mexico.

Kaminaljuyu has been of interest to archaeologists since the 1800's. Two large archaeological projects, run by the Carnegie Institution and by Pennsylvania State University, have been conducted at the site. However, as so often happens, the problems that these projects were designed to solve created even more complex problems; thus, as knowledge of the history of the site increased, that history also became complicated.

Though the Carnegie Institution excavated in areas representative of the whole range of the site's occupation, it did not produce sufficient data for an over-all assessment of the cultural history of the site nor of its external relationships. Most importantly, no overall view of what was happening at the site in the periods immediately

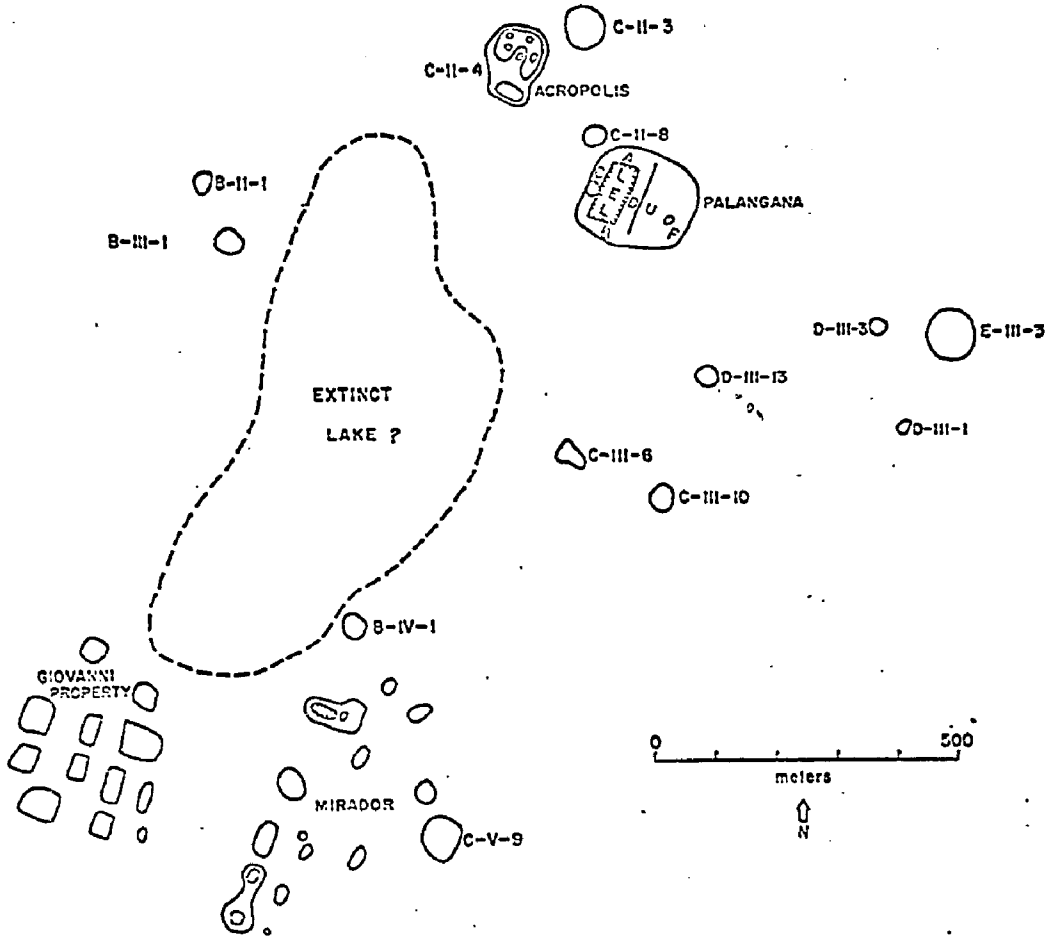


Figure 1. Kaminaljuyu, Guatemala, Guatemala.

MOUND A F-VI-1
MOUND B F-VI-2

preceding and following the period of Teotihuacan influence was possible.

The Pennsylvania State Archaeological Project has now provided some of the missing data, particularly in relation to the Terminal Formative and the Late Classic periods. The crucial Early Classic material, however, remains elusive and our picture of that period is still fuzzy. Detailed results on all the periods are not yet available but general trends are obvious; major changes in the ceramic complex, in the settlement pattern, and in the conception of civic planning appeared with the initiation of Teotihuacan influence and again with the disappearance of that influence.

One part of the Pennsylvania State University Kaminaljuyu Project involved excavations in the Palangana, located in a section of Kaminaljuyu that has been set aside for preservation as a park, El Parque de Kaminaljuyu, henceforth termed the Park. The occupational sequence in the Palangana extends from the Terminal Formative through the Late Classic periods and perhaps into the Early Post-Classic. The Palangana represents an area of the site that was continuously occupied or used throughout almost the entire time that Kaminaljuyu was occupied, and therefore it has the potential of supplying information on the kind of changes that took place with the appearance, increase and subsequent decrease of Teotihuacan influence.

The purpose of this study is threefold. First, a descriptive history of the changing structure and function of the Palangana is presented. Secondly, resemblances between Teotihuacan and Kaminaljuyu

architecture are discussed. Lastly, the hypothesis of the different kinds of "influence" that Teotihuacan had on Kaminaljuyu are reviewed and the results of the recent investigations brought to bear on the question.

Physical Setting

The Valley of Guatemala is located in the Central Highlands of Guatemala. These highlands fall into the category of Tropical Highlands of Middle America as defined by West (1964: 338). The valley is one of a series of intermontain basins or plateaus that stretch from east to west in Guatemala. They are bordered on the south by geologically recent volcanic mountains and on the north by an older volcanic series of mountains and hills. The basins are separated from one another by "large composite volcanoes, cinder cones and weathered lava flows" (West 1964: 373).

The Valley of Guatemala is a rift structure, its long axis running north and south (Michels 1969: 1). As a partial result of this phenomena the continental divide runs east-west through the Valley with the southern drainage system flowing into the Pacific and the northern system flowing into the Caribbean by way of the Motagua Valley (Michels 1969: 1).

The topography of the Valley is generally flat, gradually sloping from 1800 m. above sea level in the north to 1200 m. in the south. The Valley is bordered on the east and west by low hills. The surface of the plateau is dissected by ravines or "barrancas," narrow

deep stream valleys. The barrancas are widely spaced and as a result there are large areas of habitable land on the plateau.

The Valley can also be viewed as a lacustrine basin of the kind that is frequent throughout the Tropical Highlands of Central America (West 1964: 373). At present there is only one lake extant in the Valley, Lake Amatitlan, at the southern end of the Valley, draining into the Pacific. However, another shallower lake may have existed at least until A.D. 100 or even later. The public buildings of Kaminaljuyu were built on the peripheries of the depression left by the extinct lake (Fig. 1).

In general the climate of the Valley is cool but frost free throughout the year. Rainfall is concentrated in the warm months from May to November with little or no rain from December through April. There is also a short dry period from two to five weeks in duration in July or August.

Prior to human occupation, the vegetation of the Valley may have been oak-pine forest, common to the Tropical Highlands of Central America, with open woodland and grasses in valleys and swales (Michels 1969: 2; West 1964: 370). The pollen cores taken by Tsukada and Deevey (1967), though showing that maize was cultivated in the Formative and Classic, do not give much information about vegetation cover before this time. In conjunction with this point, it should be mentioned that a study of the soils by Sanders and Michels has indicated that all the soils of the valley are "satisfactory for swidden agriculture" (Michels 1969: 3).

Previous Work at Kaminaljuyu

Early Explorers and Archaeologists Prior to 1930

The earliest reports of the site of Kaminaljuyu were made, like most of the early reports on Mesoamerica, by explorers and travelers. The first to record his observations was Fuentes y Guzmán, the first Spanish governor of Guatemala, who in the 1700's made a few remarks on the potential significance of the mounds in the "Valle de las Vacas," as the Valley was then called (1883: Vol. 2, 41-55). Other individuals who mentioned the site were Bancroft (1875), Berendt (1877), Stoll (1886). These sources are discussed in more detail by Villacorta and Villacorta (1929) and by Kidder, Jennings and Shook (1946); Stoll is mentioned by Seler (1904).

The first "scientific" appraisal of the site was made by Alfred P. Maudslay. He visited it in the 1800's and made a relatively accurate sketch map of the larger mounds. He also described two of the stone sculptures found at the site (1899-1902; cf. Maudslay and Maudslay 1899: 17-18).

After Maudslay, a number of American archaeologists visited the site: S. G. Morely, H. J. Spinden, S. K. Lothrop, H. Saville and W. H. Holmes (Kidder, Jennings and Shook 1946: 6). The last three visited the site as the result of interest by the Heye Foundation, Museum of the American Indian (Lothrop 1926). Expeditions sponsored by the Heye Foundation in 1916, 1917, 1922, 1924, and 1926 resulted in a publication by Lothrop on the sculptures that he investigated. Lothrop reproduced Maudslay's map and placed the various sculptures

on it. He also drew a good map of the Palangana, where five of the pieces were found. From the kinds of sculpture found he concluded that the site had been occupied from what at that time was called the Middle or Archaic stage (now termed Formative or Preclassic) through the late "Old Empire" of the Maya (now termed Late Classic).

The first controlled excavation at the site was done by Manuel Gamio in 1925 (Gamio 1926-27). In what was probably the southwest portion of the site near the Finca Miraflores, he excavated a number of stratigraphic test pits in which he found ceramics that showed similarities to the "Archaic" cultures of central Mexico.

The next reported excavation was conducted in 1926 by the Villacortas (1929: 253-54) who excavated a mound called Quinta Sombrero in the northwest portion of the site. The mound was apparently a small rectangular platform with a burned clay stairway. No approximation of time period was given by the excavators.

From this excavation until the project started by the Carnegie Institution of Washington in the early 1930's, no other work was done. This early work had shown, however, that there was a Formative (Preclassic) and a Classic occupation at the site.

Carnegie Project

The goals of the Carnegie Institution of Washington's Division of Historical Research in the Valley of Guatemala cannot be understood without some appreciation of the over-all objectives of the Division. Basically, the research of the Division was directed toward understanding the history of the Maya culture. Several interesting aspects of

the development of the Maya culture could possibly shed light on the development of these same culture-historical aspects in other cultures (Kidder 1939: 235).

In the 1930's, after excavations at Uaxactun and a historic and anthropological study of historic and pre-Columbian documents on Maya history, the Institution staff believed that it had discovered the general outlines of Maya history and should shift its emphasis from large scale excavations at single sites "to surveys designed to extend knowledge of the development and distribution of various elements of Maya culture" (Kidder 1939: 238). Another facet of this new orientation was to delimit "the range of the Maya culture" and "to determine its chronology and cultural relations with other Middle American civilizations" (Kidder and Jennings 1937: 10).

The specific reason for choosing the Valley of Guatemala for one of the "reconnaissance digs" (Kidder and Jennings 1937: 10) was related to this last goal, to determine the chronology and relation of Maya civilization to other civilizations. Previous research by Gamio (1926-27) had indicated that there were early cultures in the highlands comparable to the "Archaic" cultures of Mexico. Also, Lothrop's (1926) paper on the sculpture from Kaminaljuyu had indicated on stylistic grounds that the "Old Maya" (Classic) either existed in this area or had contact with it. He even went so far as to suggest that excavations might uncover long count dates on such sculpture (1926: 152-55). Moreover, the site was believed to be potentially worthwhile because it was thought to be on possible highland routes of migration and trade

and therefore "might be expected to yield trade objects valuable for determining cultural and chronological relations between various Middle American civilizations" (Kidder and Jennings 1937: 9-10).

The project was started in 1935 and continued intermittently to 1950. Its results, published mainly in the Carnegie publications, changed many of the conceptions about Middle American prehistory. It contributed to our knowledge of the levels of sociocultural integration which were achieved in the different phases and to our knowledge of the cultural and chronological relations within Mesoamerica.

The major publications resulting from the Carnegie project include the report on mounds A and B (Kidder, Jennings and Shook 1946; see Fig. 1 for the locations of these mounds), the report on a major terminal Formative mound, E-III-3 (Shook and Kidder 1952), and a smaller report by Berlin on the Early Classic mound D-III-13 (1952). Other publications on major discoveries include: identification and excavation of Middle Formative pits (Shook 1948: 214-16), identification of a possible Late Formative mound (Shook 1951a: 240-41), and exploration and identification of the ball courts at Kaminaljuyu (Kidder, Smith and Smith 1941: 298; Shook and Smith 1942: 265-66). Other research reports on current field work may be found in the Carnegie Yearbook for the years 1937-1951.

The following summary of the major contributions of the Carnegie Project at Kaminaljuyu to our understanding of Mesoamerican prehistory has been expanded from Sanders and Michels (1969: 1-2). The first consequence of the project was the establishment of a ceramic

sequence for this area. Unfortunately, the sequence was never published in detail, though the over-all picture can be gleaned from Shook (1951b), Kidder (1948), and Shook and Kidder (1952: 40). It is reproduced here in Figure 2, represented by Borhegyi's interpretation of the Carnegie sequence (1965).

It resulted in a change in the conception of the level of sociocultural integration of the "Archaic" or "Middle Cultures" (Formative). The excavation of mound E-III-3 (Shook and Kidder 1952) demonstrated that monumental architecture and stratified society were in existence even in this early period. Also, the size of the Formative occupation was found to be much larger than originally thought, with perhaps half of the mounds at Kaminaljuyu belonging to this period.

Finally, the Carnegie Project demonstrated the existence of Central Mexican influence in the Highlands of Guatemala, a discovery that had two major effects. One was a reassessment of the sequence of civilization in Mesoamerica. Up to that time, it had been thought that the Maya culture was the "cultura madre" of civilization in Mesoamerica; that is, the Maya developed first and passed the baton of civilization along to the other high cultures, including that of Teotihuacan. The association in tombs of pottery vessels very similar to vessels found in the "Classic" phase of both the Maya cultures, Tzakol, and the Highland Mexican culture, Teotihuacan III brought about a major shift in thinking about the interrelationship of the two high cultures. The result was that Central Mexican civilization and Maya civilization were viewed as contemporaneous and comparable stages that must have had separate developmental histories.

Period	Date	Kaminaljuyu Sequence: Esmeyal	Ceramic Sequence: Parsons	Ceramic Sequence: Cheek
Post-Classic	1500	Chinautla	Chinautla	Chinautla
	1400			
	1300			
	1200			
	1100	Ayampuc	(Ayampuc)	?
	1000			
Late Classic	900	Amatle / Pamplona	Pamplona	Amatle III
	800			?
	700			Amatle II
Middle Classic	600	Amatle / Esperanza	Amatle / Esperanza	
	500			Amatle I / Esperanza
	400			
Early Classic	300	Aurora	Aurora	Aurora
	200	Santa Clara		
Terminal Formative	100	Arenal / Miraflores	(Santa Clara) / Miraflores	Arenal / Verbena
	AD/BC			
	100			
	200			?
Late Formative	300	Providencia / Majadas	(Majadas)	Providencia
	400			
	500			
Middle Formative	600	Las Charcas	Las Charcas / Arevalo	Las Charcas
	700			
	800		?	Arevalo
	900			
	1000			

Figure 2. Chronology at Kaminaljuyu.

The second effect of this discovery was the indication that Teotihuacan had been a strong political power in Mesoamerica during the Middle Classic. This was the first indication of the impact that Teotihuacan had had outside of its nuclear area. The strength and nature of the Central Mexican influence also brought into question the conception of the Classic as an essentially peaceful period that contrasted with the supposedly warlike character of the Post-Classic.

Guatemalan Projects

In the interim between the end of the Carnegie project and the start of the Pennsylvania State project, a number of excavations were conducted by Guatemalan archaeologists. Foremost among these archaeologists was the then Inspector General of Monuments, Gustavo Espinoza, who conducted excavations in two Late Formative burial mounds, B-IV-1 and C-V-9. These are conical mounds at the base of which were found multiple burials with multiple offerings, particularly of ceramics. The pottery was of the Providencia phase (Sanders and Michels 1968: 165; Anonymous 1967). One of the Late Formative burial mounds, B-IV-1 contained six basalt columns similar to those in C-III-6 found by Shook (1951a: 240-41). In addition, he finished an excavation, in D-III-1, started by Sue Miles, a specialist on prehistoric Guatemalan sculpture of three-quarters round human figures which were attached to the vertical surfaces of one of the later of several construction phases within the mound (Miles 1963: 35). This last mound can be dated to the Aurora (Early Classic) phase on the basis of the similarity of

the clay figures to the clay sculptures on the vertical facings of the Aurora mound D-III-13.

Later, major excavations took place in the Acropolis, a large mound group to the west of the Palangana in the Park designated C-II-4a. During the late 1950's and early 1960's, Espinoza directed excavations at the south end of the Acropolis. The Carnegie project under Smith had tested this area and had uncovered a ball court superimposed over a series of structures. Espinoza expanded the test excavations and eventually uncovered a series of superimposed structures that date to the Middle Classic, the time of Teotihuacan influence. These structures all show similarities to Teotihuacan style architecture. Though this material has not been published, I was able to obtain copies of the plans from Espinoza who also took me over the site to explain his excavations. A summary description of this complex will be presented in Chapter 4.

Two other structures that show Teotihuacan influence were excavated during this period. One, located about 20 meters south of the Park, was excavated by Espinoza who exposed the perimeter and roofed the structure to protect it from the elements. The other structure was discovered during the widening of the Roosevelt (Panamerican) Highway to the north of Roosevelt Hospital in the area of mounds A and B. This mound also showed architectural similarities to Teotihuacan style, but it had been largely destroyed by Late Classic construction activity. Data on this excavation were kindly given to me by Vivian Browman Morales who assisted Ismael Tercero, the current director of the Tikal Museum, on the dig.

The results of these interim excavations may be briefly summarized. Further indications that the Late and Terminal Formative societies were stratified were gained from the excavations of burial mounds. The presence of a population at the site during the Early Classic was reaffirmed by the excavation of the Miles-Espinoza mound. From the extensive construction activity in the Acropolis area, it was seen that the Teotihuacan influence at the site was not restricted to a few mounds but was, indeed, substantial.

The Pennsylvania State University Kaminaljuyu Project

The material on which this study is based is drawn from excavations conducted under the auspices of the Pennsylvania State University Kaminaljuyu Project, under the direction of William Sanders and Joseph Michels. The project began in June 1968 and field operations continued until August 1970.

The Kaminaljuyu Project was initiated as a salvage operation. The urban expansion of Guatemala City had taken a high toll of the approximately 200 mounds that were extant when the Carnegie Project mapped the area in the 1930's and 1940's. Over 100 mounds had been completely destroyed and half of those that remained were only partially preserved (Sanders and Michels 1969: 1). Most damage to the mounds is being done by the spread of housing projects and by the use of the mounds as ready building material for adobe bricks. The aboriginal living surface is being disturbed by the spread of the city, and surface surveys for the ascertainment of population distribution and density are becoming impractical.

Goals

The over-all goal of the Pennsylvania State Project has been stated as follows:

> . . . to reconstruct the societal development of Kaminaljuyu; its relationship to, first, the immediate rural sustaining area, and 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 the Formative and Classic Mesoamerican society (Sanders and Michels 1969: 4).

To achieve this, three specific goals were established.

First Goal. The project was designed to clarify, amend and expand the chronological sequence established by the Carnegie Institution expeditions.

This is to be accomplished by using both relative and absolute dating techniques. Relative techniques depend mainly on the charting of stylistic changes over time with special emphasis on ceramics from stratigraphically controlled excavations. It is projected that this part of the project will be finished by the summer of 1971. During the field season ceramic markers were designated for use in the field as rough chronological estimates for each excavation unit. These markers were established by a study of the Carnegie type collections in the Guatemalan National Museum by Ronald Wetherington, the project's ceramic specialist.

Absolute dates are to be based on radiocarbon, obsidian hydration, and archaeomagnetic techniques, but little of this information is available at present.

Second Goal. The technique of settlement pattern analysis were to be applied both to the site of Kaminaljuyu itself and to the surrounding Valley of Guatemala.

Within the site of Kaminaljuyu the goal was to ascertain the density, distribution, and composition of the population during each of the ceramic phases. An extensive test pitting operation was employed to solve this problem. At the end of the field work over 500 pits had been dug, the planned goal of a 20% sample of the project's mapping units (Michels 1969: 7). An extensive and intensive surface survey of the Valley was also implemented. The goal of the survey was similar to that of the Kaminaljuyu survey, but in addition it was to provide comparative data so that the relationship of Kaminaljuyu to the rest of the Valley could be ascertained. The survey was intensive in selected parts of the Valley and covered both civic and residential areas.

Third Goal. All the mounds and parts of mounds that remained were to be sampled to obtain data that would indicate their construction date and function.

This was done by putting test pits in all those mounds which had not been otherwise tested.

Results

It is hard to say to what degree the project has been able to accomplish its goals since most of the artifact and settlement pattern data have not been analyzed. However, a number of over-all patterns have become clear.

Chronology. Some of the major changes that have been made in the Carnegie ceramic sequence (Fig. 2) deal with the reassessment of the nature of some of the phases rather than with their chronological rearrangement. In the Terminal Formative, Arenal pottery perhaps starts slightly later than Verbena and is essentially a functional variant of the Terminal Formative ceramic complex. Similarly, Borhegyi's (1956) judgment that the Amatle ceramic complex was functionally but not chronologically distinct from Esperanza was verified. The Amatle I ceramics are now thought to be the household and non-burial pottery of both the elite and non-elite. The Esperanza complex is probably the tomb furniture of the daily users of the Amatle ceramics.

A few phases such as Majadas, Santa Clara and Ayampuc have been dropped from the roster because of lack of evidence that they actually exist.

The ceramic sequence for Kaminaljuyu that I have tentatively devised based on the data available to me may be seen in Figure 2. The sequence will be discussed in more detail in later chapters.

Settlement Patterns. The following information comes mainly from Davis's Valley Survey (1970, personal communication), from the summary of the first field season by Michels (1969), and from Bebrich's work on the settlement pattern of Kaminaljuyu (1969a; 1970, personal communication). In the Middle Formative (Arevalo and Las Charcas) the first settlements appeared in the Valley in the form of scattered rural hamlets. No civic architecture has yet been found to

be associated with these hamlets though no excavations have been conducted specifically to seek such architecture. At Kaminaljuyu two areas of Middle Formative settlement have been identified, both in the northwestern section of the site. These remains indicate a relatively scattered settlement (Michels 1969: 7).

From the Late Formative (Providencia-Sacatepequez) definite civic-ceremonial architecture occurred in the form of groups of large conical-shaped burial mounds (for example C-V-9 and B-IV-1) and low flat mounds (Sanders and Michels 1969: 165). There is no settlement associated with these mounds. Michels believes that the low flat mounds indicate the existence of ceremonial activities. Therefore, he postulates these areas were true ceremonial centers and not merely burial grounds (Michels 1969: 9). At Kaminaljuyu there appear to be four such mortuary precincts, located mainly in the southwestern portion of the site. One is in the Mirador area south of Roosevelt Highway, another is on the property of the Giovanni sisters to the west of Mirador, and two others are to the east and northeast of Mirador (Fig. 1). Some of the mounds of the last two groups are in and around the Park. Outside of Kaminaljuyu similar centers are widely scattered, but not much is known about them.

The rural component of the settlement pattern during the Late Formative was essentially unchanged from that of the Middle Formative, with no clustering in evidence. The rural Late Formative settlements appear to be architecturally homogeneous although from the evidence of the mortuary precincts there must have been some social stratification.

These rural settlements are again located mainly in the northwestern section of Kaminaljuyu, as in the previous period.

The Terminal Formative (Verbena-Arenal) exhibits a number of major changes in settlement pattern. Rural hamlets in the Valley become clustered for the first time. There appear to be only two sites that maintained their civic-ceremonial significance from the Late Formative -- Lake Amatitlan and Kaminaljuyu. However, a number of new ceremonial centers were constructed. These centers are "compact, structurally amorphous collections of mounds" (Michels 1969: 9), and the population of the Valley tended to agglutinate around them. The centers are broken up into discrete settlement areas which can be called wards or barrios, each of which contains both civic and residential architecture. Each center contains between two and five mounds, one of which is markedly larger than the other(s) in the group. The large mound is a stepped or terraced pyramid (for example E-III-3) that functioned both as a temple and sometimes as a burial mound (Bebrich 1969a; Shook and Kidder 1952). This is the first known appearance of the stepped pyramid in the Guatemala Valley, since Late Formative mounds were not stepped.

Each of these centers had a dense zone of settlement around it, although the density dropped off fairly abruptly away from the center. Bebrich thinks that there are about 13 of these centers in Kaminaljuyu. There is a marked difference in size and quality of workmanship among the groups, and Bebrich has postulated that this resulted from a differential ability of ranked lineages, one of which may have inhabited each center, to command labor and energy (Bebrich 1969a).

On the basis of test pit data, Bebrich has identified a Terminal Formative occupation along the north side of the Park. My excavations at the Palangana uncovered extensive deposits of Verbena-Arenal pottery, supporting Bebrich's contention that this area contained a Terminal Formative center.

The Early Classic (Aurora) is difficult to discuss due to a lack of evidence for this crucial period. It is known, from the survey data, that Kaminaljuyu was the only Early Classic center in the entire Valley and that rural hamlets were evenly distributed throughout the Valley (Michels 1969: 13). There apparently was no tendency for the rural settlements to cluster. Within Kaminaljuyu, the population appears to have been clustered in a wide band around the Park. Unfortunately, the identification of Aurora mounds and ceramics has been difficult. Only three mounds can be associated with this phase: D-III-13, D-III-1, and, in the Palangana, D1. The location of these mounds in the northeast corner of the site may indicate that the center of ceremonial activity had shifted away from the southeast area of the site.

The Middle Classic (Esperanza-Amatle I) is the period that seems to witness Teotihuacan political control over Kaminaljuyu and the Valley of Guatemala. The number of large centers in the Valley increased to six, including one at Kaminaljuyu and one on Lake Amatitlan, Los Mejicanos (Borhegyi 1966). None of the other four have been excavated. Both sites contain a large number of Teotihuacan-influenced artifacts (Borhegyi 1966).

Contrary to the situation at Teotihuacan, where the rural population was clustered in a single great city (Sanders and Price 1968: 141), the rural population in the Valley of Guatemala during the Middle Classic continued to be evenly distributed in hamlets throughout the Valley floor. Michels (1969: 15) suggests that the dispersed rural population in the Valley of Guatemala was due to the slash-and-burn agricultural techniques, which prevented nucleation.

At Kaminaljuyu there is a continuation of the Early Classic settlement pattern with a wide band of intensive settlement around the Park. The distribution of the artifact densities may indicate that a barrio pattern existed in this phase in that there are discrete clusters of residential units. However, the clusters do not appear to be as discrete as in the Terminal Formative.

The Esperanza phase civic architecture at Kaminaljuyu, which is clustered (is clustered in two distinct areas of the site), shows obvious stylistic resemblances to Teotihuacan structures. The first is in and around the Park. The Palangana contains two areas of Teotihuacan style structures. The Acropolis, the mound cluster to the west of the Palangana in the Park, seems to be mainly composed of Teotihuacan style structures. The other Middle Classic structures at Kaminaljuyu are found in an area 1700 m. to the southeast of the Palangana on the southeast edge of the site. This is the area of mounds A and B (Kidder, Jennings and Shook 1946).

Sean Cardenas, the original excavator of the Palangana under the Pennsylvania State Project, has postulated that the isolation of

the second area of Middle Classic architecture resulted from its function as a Teotihuacan merchant colony. My interpretation of the sequence in mounds A and B (presented in Chapters 4 and 5) does not allow this interpretation for the first part of the history of these mounds, though it may be valid for the later part of the Middle Classic.

Late Classic (Amatle II/III) settlement pattern underwent a change that was as distinctive as the change from the Terminal Formative to the Classic. The number of major civic centers increased to nine and the population shift to Lake Amatitlan, which had begun in the Middle Classic, continued. The rural settlement pattern also underwent a major change, with the hamlets now clustering in minor centers around local elite compounds. These compounds were composed of a ball court, several residential platforms, and small temples, all of which were connected by a surrounding wall-like range structure. Each of the major centers was surrounded by a number of minor centers. Kaminaljuyu, which was one of the major centers, had at least six minor centers surrounding it. This clustering of major and minor centers probably reflects a process of decentralization and a return in some respects to the compartmentalized relations of the Terminal Formative (Michels 1969: 16).

At the Palangana, major earthworks were constructed during the Late Classic, completely enclosing a previously open plaza. The Teotihuacan style structures were partly destroyed and covered with structures surfaced with earth. In the Acropolis area a number of similar earthen structures were apparently built over a Teotihuacan-style building (Shook and Smith 1942: 263).

At Kaminaljuyu, some Late Classic occupation continued in essentially the same locations as the Middle Classic occupations. However, sometime before the end of the Late Classic, the Palangana underwent a change in function and was probably no longer used as a center of civic activity. This could indicate that the center of power in the Valley had shifted to one of the other centers.

The Early Post-Classic is poorly known in the Valley. The ceramic specialists have not yet been able to distinguish a ceramic component for this time period. However, on the basis of his obsidian dates, Michels says that the Valley floor was quite heavily occupied during this time.

In the Late Post-Classic (Chinautla), settlements shifted to defensible ridges and spurs overlooking the Valley. This shift to defensible positions was common in Late Post-Classic Highland Guatemala (Borhegyi 1966: 43).

The Palangana during this time period seems to have served as a "country shrine." Old, broken sculpture was set up in the enclosed plaza area and on one of the structures. Perhaps periodic visits were made to this shrine by the inhabitants of the surrounding area, who may also have left small offerings there, as is still done today with prehistoric monuments throughout various parts of Guatemala (Ritzenthaler 1963).

CHAPTER 2

THE PALANGANA

The Palangana excavations were an outgrowth of two facets of the methodology of the Pennsylvania State Project: (1) the mound survey, and (2) the attempt to understand the composition of the population, especially the functioning of the elite segment.

The Palangana itself is located in the Parque de Kaminaljuyu, Zone 11, Guatemala City. This is on the southwest edge of the city and toward the northern part of the site (Fig. 1). The Park includes two major mound groups. The one on the west, which I call the Acropolis (Fig. 3, in pocket) was partly excavated by Gustavo Espinoza. The group on the east is the Palangana. Between these two groups is a free-standing mound of undetermined temporal affiliation, and to the north of the Acropolis group is a large conical mound which probably belongs to the Providencia phase, although it may be later.

The Palangana is composed of two rectangular plazas, a lower, west plaza, and an upper, east plaza. The Lower Plaza is surrounded on four sides by rectangular range-type structures, each of which is assigned a letter designation. The mounds on the north and south of the Lower Plaza are designated A and B respectively and are the lowest mounds of the four. The mound on the west of the plaza, designated C, is composed of three parts. The center is a pyramidal mound that is

higher than the linear mounds on each side of it. The mound on the east of the Lower Plaza is the boundary between the Lower and Upper Plazas and faces on both of them. It is the tallest of the mounds, and is designated D. A series of superimposed structures was uncovered in the middle of the Lower Plaza; this group is designated E.

The Lower and Upper Plazas have designations that reflect their relative height, that is, the Lower Plaza is called L (lower) and the Upper Plaza, U (upper). The last mound in the Palangana, F, is on the east edge of the Upper Plaza.

The Upper Plaza is about 4 m. higher than the Lower Plaza and seems to have been entered by a ramp or staircase on the south end of the Upper Plaza. Another possible point of entry to the Upper Plaza is a small sunken area located in the northeast corner of the plaza that may be a ramp or a landing of a staircase.

The Environs

The test pitting operations of the Project have revealed some information about the prehistoric topography of the area around the site according to Fitting and Grey, whose work is not yet published. The Park area is located just to the north of a depression that was probably the site of a prehistoric lake. Even in historic times this area was swampy and contained seasonal ponds of water. The name "Las Charcas," "The Pools," was applied to the finca in this area (Villacorta and Villacorta 1929).

The Park itself is located on a ridge of talpetate, a decomposed volcanic tuff. The ridge runs generally north-south. The

Acropolis, which is west of the Palangana, is located near the summit of the ridge. The Palangana is therefore on the east slope of the ridge and at a generally lower elevation than the Acropolis. Thus, a large amount of fill and labor was required to raise the plazas at the Palangana to their present levels. This is especially true of the Upper Plaza.

History of Research at the Palangana

The Palangana has been relatively untouched by excavation. One long trench into the center of the east side of mound C was excavated by a treasure hunter at some unknown time in the past. The only archaeologist to report on the site was Lothrop (1926), who described the sculpture he and others found. He also excavated one small area to the south of construction E to remove a sculpture.

The word "Palangana" in Spanish means "basin," a term applied to this group because it has an enclosed plaza with high sides like a basin. Initially, it was thought that this plaza could have been an extremely large ball court, since Smith (1964: 116) had defined a number of "Palangana"-like ball courts around Kaminaljuyu. This interpretation is not correct, however, since my excavations in this plaza uncovered a series of structures in the middle of the plaza.

Another interpretation of the function of the Palangana has been put forth by Parsons (1969). He called it "Yankee Stadium" and suggested that it may have served as a Monument Plaza; that is, as an area in which stone sculpture or monuments were set up for viewing. He bases this interpretation on the fact that a number of stone

monuments (Lothrop 1926) were found in the enclosed plaza area. The data uncovered at the Palangana indicate that this interpretation of the function of the Palangana is also incorrect. Additional sculptures were found in the center of the plaza, but in a stratigraphic context which would definitely place them in the Post-Classic. Most of the sculpture that was found can be attributed to the Terminal Formative and the contexts in which they are found suggests extensive reuse of these pieces during the Post-Classic.

The Excavations at The Palangana

Provenience Control System

Horizontal Control. The system of horizontal provenience control that was used by the Kaminaljuyu Project is described by Sanders and Michels (1969: 11) in the publication of the results of the first season's field work. The Project used a grid system that was applied to the whole Valley of Guatemala. It was meant to orient the Valley settlement pattern survey and modern community studies that were undertaken by the Project, as well as the excavations in the site of Kaminaljuyu. The grid was oriented according to the 1:50,000 series topographic maps published in 1964 by the Dirrección General de Cartografía. These maps were oriented 6°12' east of true north. Magnetic north in the Valley area is 11°12' east of north.

Each grid unit is a nested hierarchy of provenience units. There were originally five basic provenience units: Zone, Area, Sector, Square, and Block. A Block is a one-by-one meter unit; a Square is two-by-two meters. A Sector is 625 Squares (25 on a side). An Area

is one kilometer square and contains 400 Squares (20 on a side), and a Zone is 25 square kilometers (five on a side) and contains 25 Areas. The Zones in the Valley are designated by a two digit number and are numbered west to east and north to south. The Areas within each Zone are also designated by a two digit number and are numbered west to east and north to south. Sectors within each Area are labeled with a three digit number and are numbered in the same sequence as the other two.

The Palangana is designated 46-23-103, that is, Zone 46, which encompasses all of the site of Kaminaljuyu, Area 23, and Sector 103. The east edge of the Palangana is actually in 46-23-104 but the material from this part of the site was recorded under 46-23-103 since it is all part of the same architectural complex.

In the field the Zone-Area-Sector number was used mainly for site and artifact identification. The actual grid pattern used in excavation was not necessarily connected to the Sector orientation. Thus, at the Palangana an independent north-south grid was imposed on the site, which was 16°6' east of magnetic north. The 00 point on the grid was located approximately in the center of the lower plaza of the Palangana (Fig. 3, in pocket). Every one meter mark along both the north-south and east-west axis was given a number and letter designation. The letters represented whether the mark was north (N), south (S), east (E), or west (W) of the 00 point. The numbers went from 0 at the 00 point to 1, to 2, and so on in ascending order along each axis. Thus, each intersection of a north-south and an east-west meter

line was designated by two letter and number combinations, for example, 0E/2N, 33E/4S, 14E/24N. The standard unit of excavation was a one-by-two meter rectangle, identified by the designation of its northwest corner. The north-south axis was chosen to be the two meter side of the excavation unit and the east-west axis the one meter side. Thus the first one-by-two meter unit in the northeast quadrant of the grid was 0E/2N, the next unit to the east was 1E/2N, the next unit to the north of 0E/2N was 0E/4N. The grid was continued up the side of mound D and into the Upper Plaza.

Vertical Control. An arbitrary vertical datum point was chosen on the eastern edge of the top of mound B. This was given the value of 20 meters or 2000 centimeters above a hypothetical zero elevation point. All elevations are given in terms of centimeters "Above Zero Elevation Point" (azep). This arbitrary datum is 396 centimeters below an absolute datum point on the northern end of mound D. This absolute point, placed by the Dirrección General de Cartografía de Guatemala, was discovered just a few days before the end of the last field season and time precluded an attempt to identify the actual elevation of this absolute datum. Secondary datum points were set from the primary datum point as needed.

All artifactual material was collected from those areas designated "Control Trenches." Artifactual material from other proveniences was collected when in the judgment of the excavator the material would aid in deciphering the history of the site. A special notation and recording system was designed to record major artifacts found either

in the control trenches or in other excavated units. Each such item was assigned a field(dot) number. The object was identified as to nature, vertical and horizontal location, and association with features or other artifacts. At the start of the first field season at the Palangana, each unit was excavated in arbitrary 20 cm. levels. The first level was composed of the first 20 cms. below the highest point on the surface of the unit. The second was the next 20 cms. and so on. Part way through the first field season, the director at that time, Sean Cardenas, began excavating and collecting in natural levels but retained part of the arbitrary level system as well. He excavated and collected in 20 cm. levels within natural strata. Each natural stratum was given a stratum number. If a natural stratum less than 20 cm. was encountered, it was collected in one level. If the natural stratum was more than 20 cm., the first 20 cm. received one level number, the next 20 cm. the next, and so on. If a stratum was not a full 20 cm., the first 20 cm. in the next stratum was given the same level number as the preceding "short" level. This resulted in levels referring to more than 20 cm., though no more than 20 cm. was from any one stratum. This system was particularly complicated when sloping strata were encountered. In the interests of consistency, this system was retained for the rest of the time in the field.

Although this technique has the obvious value of grouping all artifactual material that belongs to one archaeological deposition unit, there are some practical difficulties associated with its use. The major one is, of course, the difficulty in deciding what is a

natural deposition layer. This is relatively simple where the strata are distinctive and each stratum is deep. But when the strata are thin, densely packed, and similar to each other, they are difficult to isolate. Soil conditions at the Palangana sometimes added to the problems; for example, a particular series of plaza floors was composed of a material that was very compact and hard. The force needed to excavate these floors within a reasonable amount of time precluded the possibility of identifying the different stratigraphic layers during excavation, though they could be identified in the profiles later. Another problem with this system of labeling strata is that it is rather complicated and difficult to comprehend. In general, however, this approach to vertical control was successful.

Schedule of Operations

The excavation of the Palangana extended over three field seasons. The first, from April to August 1969, was directed in the field by Sean Cardenas, a Pennsylvania State graduate student. I directed the second and third seasons, from September 1969 to January 1970 and from May to August 1970.

The excavations were concentrated in three areas: the Lower Plaza, the Upper Plaza, and mound D, which is between the two plazas (Fig. 3). During the first two field seasons most work was done in the Lower Plaza and at the west base of mound D, which faces the Lower Plaza and runs along its east edge. Initially, a broad trench was placed along the base of D from its south end north to about the mid-point of this mound. Also, two control trenches were started in the

Lower Plaza during the first season; they ran at right angles to one another, crossing at 11E/6N. Trench 1 (T1) ran east-west between 6 and 8N and trench 2 (T2) north-south between 10 and 11E. Part way through the first season T1 uncovered construction Area E, in the center of the Lower Plaza. Most of the remainder of that season and most of season two were spent investigating the structures in E.

In the second field season additional excavation was undertaken in the Lower Plaza. T1 was extended westward to the base of mound C, which lies along the west edge of the Lower Plaza, and the south end of the Plaza was tested by trenches.

During the third field season, only minor excavations were undertaken in the Lower Plaza; T1 and T2 were extended until they cut into mounds C and A, which lie along the west and the north edges of the Lower Plaza, respectively. Minor exploratory work was done in construction E. Most effort during this third season was expanded on construction D. Excavations were concentrated in the north half of the top of D, but its west slope was also tested, with 2 by 2 meter pits. The east side of D was tested by a third control trench, T3, that also ran east-west across the Upper Plaza, extending from 47E/8N to 102E/8N. Another trench, T4, which was not a control trench, was put in to the south of T3 on the east slope of D. Neither mound F on the east side of the Upper Plaza nor mound B on the south side of the Lower Plaza were tested.

Excavation Techniques

Tools. The pick and the shovel were the two basic tools for excavation. The pick was used to break the ground and the shovel to remove it from the excavation unit. Screens were not used by the Project. The walls of the units were straightened by using a tool called a coba. This is a length of steel pipe that has on its end a steel chisel about 5 cm. wide and 20 cm. long. For fine and exploratory work a knife was used. For very fine work, such as cleaning a burial, an awl like tool, a round, thin, rigid piece of metal set into a small wooden handle, was used. Dental tools and fine brushes were also used for fine work.

Strategy. The basic excavation strategy applied at the Palangana included the excavation of north-south and east-west control trenches. The purpose of these trenches was two-fold; they were intended to act as exploratory mechanisms, identifying areas that contained structures, and to serve as controls for the collection of ceramic material from which a site sequence could be obtained.

As already mentioned, the basic unit of excavation in the control trenches and in the excavation of the structures was the one-by-two meter unit. Occasionally, to investigate more thoroughly a particularly complex area, a one-by-one meter unit was used. Another unit, which actually is the same as the Square, was two-by-two meters. This was used mainly in the excavations on the western side of construction D.

In digging the control trenches, the procedure was first to dig every other Square to compare and possibly record the stratigraphy

of the sides of the trench. Then the intervening units would be removed. This was found to be a fairly effective way of combining both the trench approach and the excavation of a vertical face. Important changes in stratigraphy could thus be identified before the entire trench was excavated.

Statistical sampling was not one of the strategies employed during the excavations, despite the fact that the large areas of unexplored plaza with no surface indication of structures presented a good situation in which to apply some sampling technique. There are two reasons why this technique was not applied, First, the original excavator in charge of the excavations did not use this technique. Secondly, the amount of time and labor that would have been necessary to excavate even a 10% sample was not available.

Analysis of the Excavated Units

As discussed at the beginning of this chapter, the Palangana was divided into numbered construction areas. Each area was a locus of prehistoric construction that can be isolated reasonably from other such areas. At the Palangana there are eight of these areas: the Lower Plaza, the structures in the center of the Lower Plaza, the four mounds surrounding the Lower Plaza, the Upper Plaza and the mound on the east edge of the Upper Plaza.

Each construction area was built up and added to in a number of discrete building episodes. The results of these episodes are called Stages, which are defined as one or more structures that were

built within a relatively short period of time, using essentially the same construction techniques and materials.

The term substage is used to designate major structural increments within a stage. Usually the substage designation refers to individual structures (minor modifications are considered within substages). Sometimes, however, it refers to a part of a Stage whose temporal relationship with other parts of the Stage are not clear. Thus, though there is usually a temporal component of the term substage, in some cases the nature of the temporal aspect is obscure.

After the sequence for each construction area was outlined in terms of Stages and substages it was related to the sequences of the other areas, using the evidence of stratigraphy, ceramics and construction techniques. The resulting correlation of the individual sequences is shown in Figure 4.

The section that follows is a short summary of the history of the Palangana. It is designed to serve both as an introductory overview to the detailed description of the excavations in each construction area, and as a summary of the architectural change that took place at the Palangana from the Terminal Formative to historic times.

History of the Palangana

This section deals with the sequence of major construction Stages at the Palangana. These major Stages are related to the ceramic phases developed for Kaminaljuyu and will be presented using the framework of those phases. This is to be considered a preliminary correlation between the ceramic phases and the construction Stages because

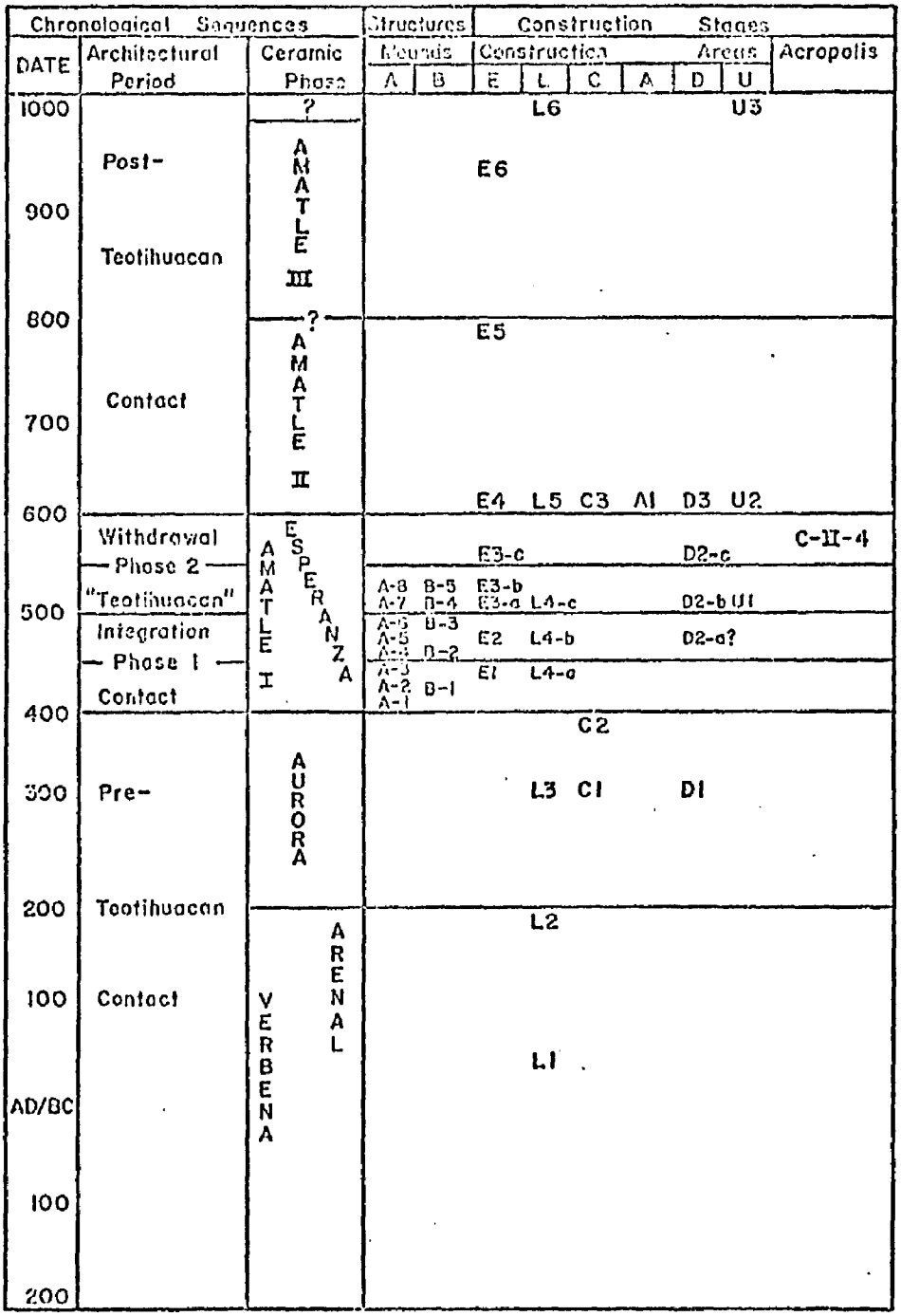


Figure 4. Interrelationship of the construction stages at the Palangana.

the ceramic analysis of the material collected by the Kaminaljuyu Project is not yet complete. I determined the phase of some of the ceramic lots in the field and therefore these assignments should also be considered preliminary. However, the use of the "ceramic marker" approach to the phasing of lots in the field, requiring knowledge of a relatively small number of types, made it possible to easily identify most lots. The sequence used is the one presented in Figure 2.

No information from absolute dating techniques is at present available though both radiocarbon and obsidian samples have been submitted for analysis. Fourteen archaeomagnetic samples were taken, mainly from Early and Middle Classic proveniences, by Dan Wolfman of the Archaeomagnetism Laboratory of the University of Oklahoma at Norman. They have been processed but since the curve for Mesoamerica is not yet complete, no absolute dates can be assigned to the samples. Their positions relative to one another are consistent with the sequence of construction presented here.

Pre-Verbena-Arenal

There was some activity at the south end of the Palangana before the start of the Verbena-Arenal phase. The one test pit in this area shows that a talpetate substratum was being mined. Fitting tells me that he believes that the whole southern edge of the Park area was used as a barrow pit to obtain construction materials throughout the life of the site. A few lots which could be dated to the Providencia phase, which preceeded Verbena-Arenal, have been found, but these lots do not occur consistently at the bottom of the stratigraphy, and there

does not seem to have been a major Providencia occupation at the Palangana.

Verbena-Arenal (Terminal Formative)

The earliest ceramics that occur in quantity at the Palangana have been identified as Verbena-Arenal types. On top of the talpetate substratum was found an extensive Verbena-Arenal midden deposit (L1-a). The midden was undifferentiated except for a number of pits, and contained charcoal, ceramics, bone, obsidian and ground stone artifacts. The potsherds occurred in high frequencies and were generally large. The sherds produced a number of reconstructable vessels. A few small whole vessels were also found. An area of burned clay was found in the center of the Lower Plaza near the top of the midden deposit. This may be the remains of a burned wattle and daub wall.

In the north and north center of the Lower Plaza is a series of sand floors built on a foundation of talpetate. These floors were possibly constructed after the midden began to accumulate, since they are stratigraphically higher than the top of the midden.

The west side of the Lower Plaza appears to be even higher, since it is nearer the crest of the buried talpetate ridge. Overlying the talpetate is a layer of fine sterile brown clay underlain by sterile pumice sand mixed with clay. This layer extended under construction C, on the west side of the Lower Plaza. A pit (L2-b) used for a multiple burial was cut into this clay. The grave goods associated with the burials included a number of vessels identified as Verbena-Arenal types. The burials were found in a variety of positions.

The ones which extended under the front edge of mound C were either flexed or seated; one may have been a secondary burial. Another, in front of mound C, was extended. Some sculpture and stone monuments attributable on stylistic grounds to Terminal Formative were also found, but in redeposited contexts.

The central part of mound C is located over part of the burial pit. The chronological placement of the mound is problematical. The ceramics that came from the backdirt of trenches dug into the mound by treasure hunters seem to be Verbena-Arenal, as are those from the burials. However, the layout of the mound and of the burials is reminiscent of the Providencia burial mound complex defined by Wynn and Bebrich (1971; Sanders and Michels 1969: 168). It is possible that this layout continued in use into the Terminal Formative.

The relationship of mound C to the rest of the Plaza is impossible to ascertain at present. The Plaza floors which articulate with the base of the mound were truncated by later floors which were constructed in front of and below the earlier ones.

There are no data available from either the Upper Plaza or from construction D in this time period. None of the tests penetrated into either sterile or Verbena-Arenal material.

In summary, the Palangana during the Terminal Formative was possibly similar to the typical settlement pattern defined by Bebrich (1969a) for the rest of Kaminaljuyu. This pattern was comprised of a structurally amorphous group of elite structures, from three to five in number, including a temple, an elite residence, and possibly one

other small residential platform. Test pits throughout Kaminaljuyu demonstrated that this grouping was the center of a dense barrio or ward-like settlement. Living debris was very dense near the group and dropped off rapidly outside the group. The Palangana shows some to be similar to this typical Terminal Formative settlement pattern. The mound over the burials (C1) would be parallel to the temple mound and the midden deposits to the barrio area. The temples of the Terminal Formative were stepped, vertical sided structures, however, and it is uncertain whether mound C was of this form. Possibly the floors underlain by talpetate were a platform surface. One problem with this reconstruction is the failure to encounter the other elite structure. There does not seem to be any likely candidates at the Palangana.

Aurora (Early Classic)

There are no ceramics associated with the architectural features that are attributed to this phase. There is one cache that was deposited in the floors of this phase that contains a whole bowl of the kind found in the mound that was used to define Aurora (Berlin 1952). However, the features that are included here occur stratigraphically between the Terminal Formative and the Middle Classic architecture and therefore can reasonably be assigned to the Early Classic. Additionally, as mentioned above, some archaeomagnetic samples were taken from the structures assigned to this phase and will eventually be used to place them more securely in the sequence.

In this phase the midden area in the center of the Lower Plaza and in T2, though not the portion of the midden at the southern end

of the Plaza, was leveled by filling and a series of clay and sand floors was laid down. New floors were also laid in the northern portion of the Lower Plaza. Some of these floors may date to the end of the Terminal Formative but most are probably Aurora. Some Aurora ceramics were found below these new floors in the midden area, but their presence is probably the result of mixture due to the excavation of a number of pits through the floors in later times. No material later than Aurora was found below the floors.

Halfway through the depositional sequence of the floors there was a change in the technique of floor construction, at least in the central area of the Lower Plaza. There is other evidence, such as a large block of talpetate with postholes on one side, that may indicate differential treatment of the central area. This last evidence may indicate that there were structures of some kind located in this part of the Plaza. However, the central area was lowered during the Middle Classic and all definite trace of previous structures were obscured.

In mound D two areas were found which contained possible Aurora architecture. At the base of mound D, facing the Lower Plaza, was found a set of partially burned, clay steps. About 200 cm. below the top of the mound there was a series of burned clay floors. Archaeomagnetism samples from the two areas appeared to plot earlier than the samples from the Middle Classic structures according to Wolfman.

No caches, burials, or sculpture were found belonging to this phase, and no data are available from the Upper Plaza.

By the end of the Aurora phase, the Palangana had mounds on both the east and west of a prepared floor in the Lower Plaza. The

north edge of this Plaza does not seem to follow the sequence of floor construction found in the central area. It may be that there was a platform at this end or that it was stepped above the rest of the Plaza floor like a terrace. It seems clear that the Palangana was no longer a ward, a residential area, including both elite and peasant architecture and debris. Probably it had become a public area and the mound on the east, D1-a and b, was probably a ritual location. The differential treatment of different areas within the Lower Plaza indicates that ritual activities may have been occurring there as well.

Esperanza-Amatle I (Middle Classic)

The period covered by this ceramic phase saw the introduction of Teotihuacan architectural elements, such as piedrine, a construction material resembling concrete, and the talud-tablero.

A talud is a battered wall. A tablero is a recessed vertical panel above the talud. It is surrounded, usually on all four sides, by a projecting cornice which extends out beyond the top edge of the talud. The bottom cornice rests on a row of thin stones, called lajas.

Two distinct Stages can be defined within this phase. Both are characterized by the use of piedrine and Teotihuacan stylistic elements, but the later one adheres more closely to a strict reproduction of Teotihuacan style. Toward the end of the second construction Stage piedrine tended to be replaced by pumidrine (in which pumice granules were used instead of the hard rock granules of piedrine). There are few examples of pumidrine at the Palangana; however, at the Acropolis, most of the structures had a pumidrine surfacing. These

Acropolis structures are of the "strict" Teotihuacan style and therefore probably were built during the second construction Stage.

It is not clear how construction C was related to the rest of the Palangana during this phase. A new kind of plaza floor, brown sandy clay impregnated with pumice flecks, was used throughout the phase. No floor of the material articulated with the base of mound C. The relationship of construction A to the plaza floors of this phase is also obscure. Construction activity is still evident in area A but all that can be said of its nature is that some floors were laid. It is clear, though, that the present height of mound A was not achieved until the Late Classic.

During Amatle I construction activity was concentrated in areas D and E, the latter being the structures in the center of the Lower Plaza. The first construction (E1) in the Lower Plaza was located slightly to the northeast of the center. This structure was a small platform with a room completely occupying the top of the platform. The base was in the form of a talud and the outside walls of the room formed a tablero. E1 was built on top of the first of the new brown sandy clay and pumice floors and faced south. It was placed over a tomb located under its south end. The tomb may have been expanded to the south during the end of the first Middle Classic construction phase and was later robbed, during the Late Classic.

The next structural increment in the center of the Lower Plaza created a structure that seems to be unique in Mesoamerica (E2-a). In back of E1, a rectangular pit was dug through the Plaza surface down

into the Early Classic floors. Wide walls of pumice and brown sandy clay were built along the sides of the pit to a height of 75 cm. above the plaza floor. The south wall of this structure is not continuous but articulates with the sides of E1. The walls and floor of this feature were then surfaced with piedrine. This created what I call an enclosure, surrounded by a wide wall called a deck. Later increments (E2-b and c) did not change the basic nature of this structure although a set of steps were added to the southeast corner of the outside enclosure wall and then two aprons were added to the south face of the structure.

The function of the enclosure is enigmatic. There is no evidence that it was roofed, so it is unlikely that it was used for storage or shelter. The fact that individuals could look over the side into the bottom if they were standing on the plaza floor outside indicates the possibility that the enclosure was the center of ritual or other public activities. No drain was found during the excavation, so one is left wondering how the water that would have accumulated during the rainy season was removed. Perhaps it would not be facetious to suggest that the enclosure was a swimming pool.

There is no evidence to suggest that the Aurora structure (D1) in mound D was remodeled in the first stage of the Middle Classic, although a room of piedrine construction may have been built on top of D1. This last inference is made only on the basis of the presence of a unique kind of piedrine in both E2-c and D2-b.

The second Esperanza-Amatle I construction Stage saw the construction of a somewhat different piedrine structure over the previous ones in the center of the Lower Plaza. The second structure, E3-a, also faced south. It was composed of three parts: on the north was a large platform that supported a perishable superstructure that was entered by a set of balustraded stairs on its south side. The stairs rested on the second part, a small raised platform called an atrium. The atrium connected the platform to the third component, a low walled enclosure. This enclosure was not sunken into the Plaza as the previous one had been. The walls of the enclosure were vertical and on the east and west sides formed a niche. The large platform had a bench around the back half and a talud and tablero around the front half.

Construction D was probably remodeled at this time. Piedrine staircases (D2-b) were constructed on both the east and the west sides of D, providing access to both the Upper and Lower Plaza. The top of construction D was also covered with piedrine. A talud and tablero similar to those of the mounds in the Acropolis probably was added to construction D, although there was not time to look for it. The stairs on the west face probably continued up to the top of the structure; however, today there is no evidence of them at the top and they seem to have been destroyed by Late Classic construction.

The second Esperanza-Amatle I construction Stage contains the first definite evidence of activity in the Upper Plaza. It is unknown whether this area was used before this time, but there is no doubt that major construction effort was expended during the Middle Classic

to raise the floor of the plaza above either sterile or previous occupation levels. At least 125 cm. of fill with very low artifact frequency were found beneath the lowest floors. The Upper Plaza was refinished frequently, at least six times during the Middle Classic alone. The Upper Plaza also seems to have been a center of ritual activity, since a number of pits were found which contained painted and plain incensarios that had been smashed after having had incense burned in them, sometimes in the pit itself.

In the Lower Plaza the second Esperanza-Amatle I construction Stage, E3-b, showed an increase in the use of Teotihuacan features. The talud-tablero was built over the bench on the back of the large platform and on the outside walls of the enclosure as well. No major modifications of D2 were found that could be correlated with this substage.

Toward the end of the second Middle Classic Stage, a shift was made to the use of pumidrine instead of piedrine; the form of the architecture did not change, however. This change was noted in construction D (D2-c) and construction E (E3-c). Also in D2-c the staircase facing the Upper Plaza was remodeled using stones instead of pumice to support the treads of the steps. Stone was seldom used in a structural fashion at the Palangana prior to the Late Classic.

Two burials were found that can be assigned to the Middle Classic. Both were found inside the north end of the large platform of E3-a. The graves are similar to those found in mounds A and B (Kidder, Jennings and Shook 1946), though they are not nearly so rich

as the latter. The seated position of the bodies in the Middle Classic graves in the Palangana is also similar to the position of burials in mounds A and B.

In summary, the Middle Classic saw major changes in architectural form and in construction techniques that resulted in features similar to Teotihuacan styles, as will be discussed in Chapters 4 and 5. There was also a sharp increase in the amount of construction activity that took place at the Palangana, especially in the Upper Plaza. The kind of activities that occurred in the Palangana apparently continued to include ritual behavior. Construction E, Stage E3, may represent an elite residential and an administrative building or both. If so, this would increase the range of activities occurring at the Palangana, since there were no indications of these last types of activities during previous periods. However, if the identification of the Terminal Formative remains at the Palangana as one of the wards typical of other parts of the site is correct, there would have been administrative activity at the Palangana in the earlier period, also. Unfortunately, excavation in the Upper Plaza was not sufficient to clarify the exact nature and purpose of the extensive construction activity that took place there in the Middle Classic.

Amatle II (Middle Classic and Late Classic)

The Amatle II phase also contains two construction Stages, as did Amatle I. In the first of these Stages there was another major change in the kinds of construction techniques and structural forms used, though there was apparently no major change in the uses made of

the Palangana. In the first Stage, adobe took the place of piedrine and pumidrine, and stone took the place of pumice. Building activity did not decrease, but was concentrated in remodeling construction D and in enclosing the Lower Plaza. It is in this Stage that the narrow linear mounds at the north and south ends of the Lower Plaza, constructions A and B, were built up to their present height. It is also likely that the two linear mounds flanking the central pyramidal mound, mound C, on the west side of the Lower Plaza, were built at this time. However, these linear mounds have not been tested. They join with mounds A and B to close off the north, west, and south sides of the Lower Plaza, while on the east mounds A and B join with construction D to close the rectangle. It is not known whether construction D had reached its present north-south length before or during the Late Classic, but the latter is more likely.

In any event, construction D underwent a major remodeling. The piedrine steps facing the Upper Plaza were partially destroyed and completely covered with a sloping earthen wall. No steps were found in the limited area excavated. The top of D was raised 50 cm. and a small earthen pyramid or platform was placed on top of the mound. The western slope of D also seems to have been without stairs. Strangely, the bottom part of the earlier piedrine stairs was left uncovered by this remodeling.

In the Lower Plaza there was a little construction activity on construction E (E_4). The atrium area and the walls of the enclosure were covered with an adobe and stone structure, the form of

which was impossible to ascertain. A stone lined drain was cut into the southwest corner of the enclosure. On the large platform the superimposed talud from substage E3-c was removed, exposing the earlier bench. On the back of the platform, cutting into the bench was a burned clay wall. This wall articulated with a new kind of plaza floor (L4), composed of layers of fine sand.

There is some evidence to indicate that this period may be the time in which the early Middle Classic tomb under E1 was robbed.

The pattern of construction activity outlined here indicates to me that the Palangana was still being utilized for ritual activity. However, the enclosing of the Plaza created a ritual precinct that could not be called public in the same fashion that the Palangana in the preceding periods could be called public. This would perhaps suggest that ritual was becoming more "elite," in more than one sense. Except for the continued use of the construction E area, there is no particular evidence to suggest the continued use of the Palangana as an administrative center.

The second construction Stage of Amatle II seems to indicate a change in the use of the Palangana. The evidence for this change is a series of ceramic dumps (E4-b). Four of these are located at the base of construction D in the Lower Plaza where they were deposited just to the south of the piedrine stairs in an area that was partially destroyed, apparently by the depositors of the dumps. Another dump is on the east edge of E4, in the former atrium area. These dumps contain pottery that has been identified by Lischka as Amatle II.

The remnants of a wall base composed of rocks and pumice with pieces of burned adobe with wood impressions was found adjacent to the dump on E4. The wall seems to have been built essentially contemporaneously with the deposition of the dump. It is possible that the construction of wattle and daub structures and the deposition of the ceramic dumps indicate that the Palangana was being used as a residential area before the end of Amatle II. However, some specialized features of the dumps indicate to Joe Lischka, who is analyzing the ceramics, and to me that they were not domestic refuse. This will be discussed in Chapter 3.

No major construction activity after the end of the first Stage of Amatle II can be identified. This fact, plus the change in behavior patterns at the Palangana, may indicate that the center of construction activity shifted away from the Palangana sometime within Amatle II.

Amatle III (Late Classic)

One of the major criteria for the identification of Amatle III structures is the presence of San Juan Plumbate pottery. There are also noticeable changes in the local ceramics. At the Palangana there are only a few sherds of Plumbate and so far none of the local Amatle III wares have been identified. This would indicate that not much use was made of the Palangana during this period and indeed there are no features that can be assigned to this time.

One occurrence of Plumbate is on the floor of the E3-b enclosure. It was under a stratum (st. 2) composed of the eroded

construction material from the last two construction Stages, E3 and E4. The only information that can be gleaned about this period is that the erosion of the structures had not proceeded very far at the start of Amatle III. Shook (1965) places the use of San Juan Plumbate within the Late Classic on the South Coast of Guatemala, and if this is the case at Kaminaljuyu then Amatle III would begin before the end of the Late Classic, as is indicated in the phase chart, Figure 2.

Post-Amatle III (Post-Classic to Present)

Sometime after the erosion of the E3 and E4 structures had become extensive, probably near or after the end of Amatle III, the Palangana again became the center of ritual activity. The form of the activity indicates that the Palangana may have been a "country shrine," similar to the shrines still in use today among the Indians of Guatemala (Ritzenthaler 1963).

At several points during the post-Amatle III history, pieces of stone sculpture, most of which were already broken, were brought to the Palangana and were set on the atrium and on and in the enclosure. Several pieces were set on top of st. 2, at the point where it contacts st. 1, the dark humus zone that overlies almost the entire site of Kaminaljuyu. Several others were set up after the beginning of deposition of st. 1. There are several sculptures found by Lothrop (1926) which seem to date to this same period. Another sculpture was found at the interface between st. 1 and st. 14. The origin of st. 14 is unknown. It was deposited on top of st. 1 only in the area of construction E, and was almost certainly laid down by man. North of the

large platform in the Lower Plaza an east-west row of large rocks was found in st. 14, as well as a possible posthole. This is apparently a fairly recent phenomenon since only a small humus layer has built up on top of it. It may have been deposited during the historic period, possibly to level the surface of the Lower Plaza.

A few sherds of Chinautla Polychrome, dating to the late Post-Classic or the Proto-Historic, were also found in a humus layer, st. 1, in the Lower Plaza.

CHAPTER 3

THE EXCAVATIONS

In this chapter, I shall present the detailed description of the excavations at the Palangana. The construction areas are described in the following order: L, E, A, C, D and U. Construction areas B and F were not tested by excavation and will not be described.

Construction Area L, The Lower Plaza

The following discussion is concerned with the deposition sequence in the Lower Plaza, which is designated construction L. Construction area E is located in the northeast center of L. Although structures found in this area could logically be considered within the discussion of the Lower Plaza, they will be considered separately, because the construction E sequence is very complex. Thus, this discussion will deal almost exclusively with the sequence of plaza floors and with the natural deposition that occurred when occupation of the Lower Plaza ceased.

The stages in construction area L are defined largely by the different techniques that were used to build the plaza floors. Although the materials used to construct the floors did not change much over time, the way that they were combined changed and is the criterion used to define Stage changes.

As discussed in the section on the ancient morphology of the Park area, the Palangana seems to be located on the east side of one of the talpetate ridges that runs roughly north-south through this part of the Valley. Talpetate is exposed in the area to the west of construction area C, which seems to rest on the sterile brown clay that in turn overlies the slopes of the talpetate ridges. In the center of the Plaza, sterile talpetate or pumice sand was found in two areas, in 11E/14N, at the bottom of Tomb I, and in 2E/22S. The stepped nature of the talpetate in 2E/22S (Fig. 5) suggests that talpetate for construction purposes was mined in this area. There is no layer of sterile brown clay over these deposits which indicates that the clay layer must have been removed or mined.

There are six major Stages in the construction sequence of the Lower Plaza. Most of the information on which this discussion is based comes from the 11E control trench T2. Thus, unless otherwise specified, the location of all excavation units referred to will be given by the north coordinate only, with the east coordinate, 11E, being understood.

The first two Stages, L1 and L2, are assigend to Verbena-Arenal (Terminal Formative). They consist of a series of floors found in the northern half of the Plaza and a midden area in the southern portion. The only indication of a possible construction in the southern area is the remnants of what may have been a wattle and daub house lacking a foundation. This possible structure may belong in Stage L2.

The third Stage, L3, is assigned to Aurora (Early Classic). In this Stage the central area of the Plaza, including the midden in

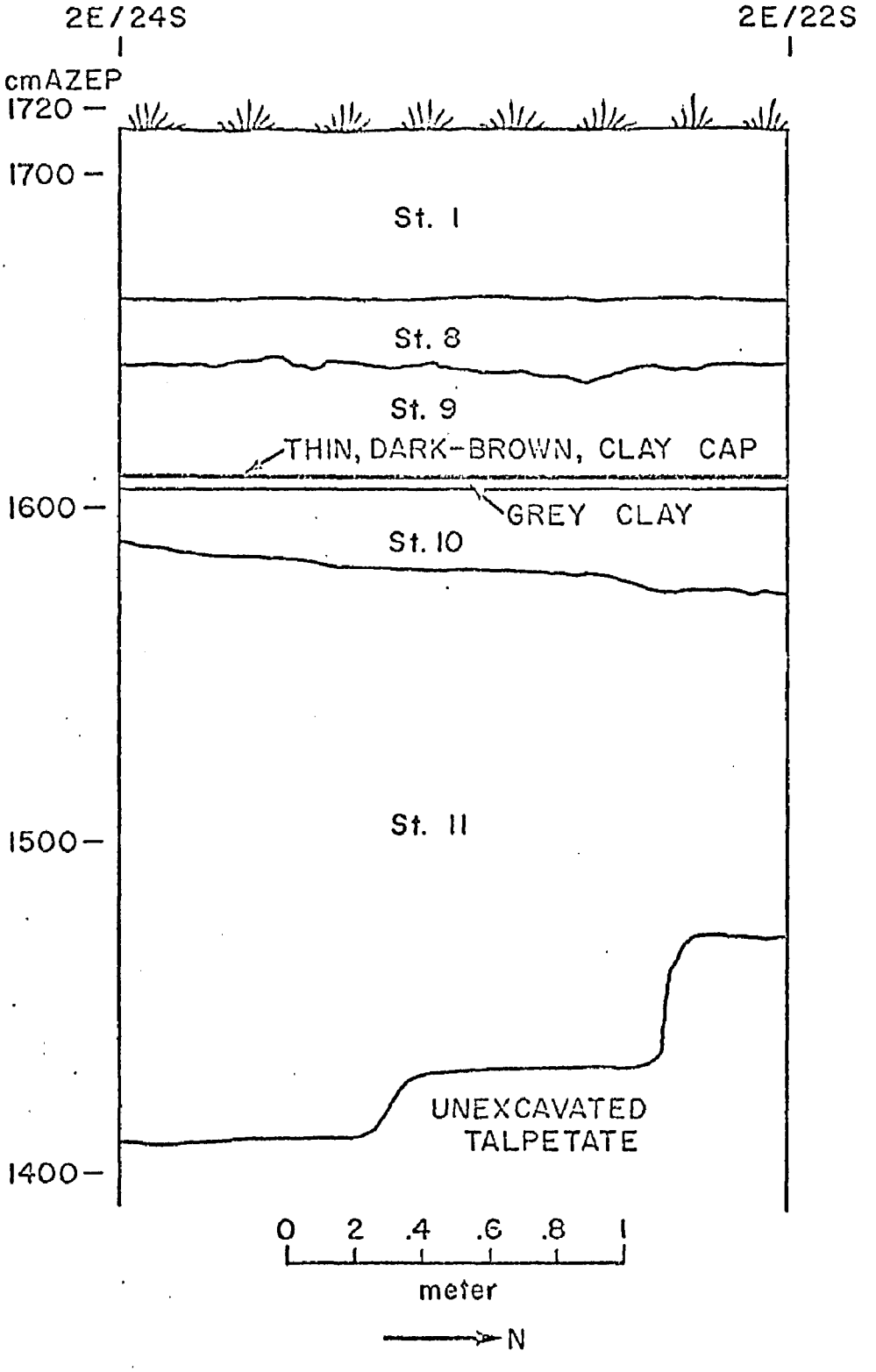


Figure 5. Profile, west wall, 2E/22-24S.

the south central area, was covered by a series of sand and clay floors. There is evidence of a structure in the south central area later in this Stage.

The fourth Stage, L4, contains the floors associated with Esperanza-Amatle I (Middle Classic) structures in construction area E. The floors seem to cover the entire surface of the Lower Plaza.

The fifth Stage, L5, is assigned to Amatle II (Late Classic). The floors are associated with the construction of mound A and E4, and seem to be limited to the northern half of the Plaza.

After L5, no major construction took place in the Lower Plaza. However, there are a number of deposition events that are considered under Stage L6. These include the formation of the black humus topsoil, st. 1, that is found throughout the site of Kaminaljuyu, and the deposition of st. 14 after the formation of st. 1. St. 14 is limited to the northeastern portion of the Plaza.

Stage L1

Stage L1 has no substages and is assignable to Verbena-Arenal. Two areas of the Lower Plaza show evidence of occupation in this Stage. The first is the central and southern portion of the Lower Plaza which contain an extensive midden over sterile soil. The midden, st. 44 (Fig. 6) is characterized by a high density of artifacts, particularly ceramic materials, but also ground stone, obsidian blades, a few obsidian cores, and bone fragments. A number of pits were also identified in the T2 control trench.

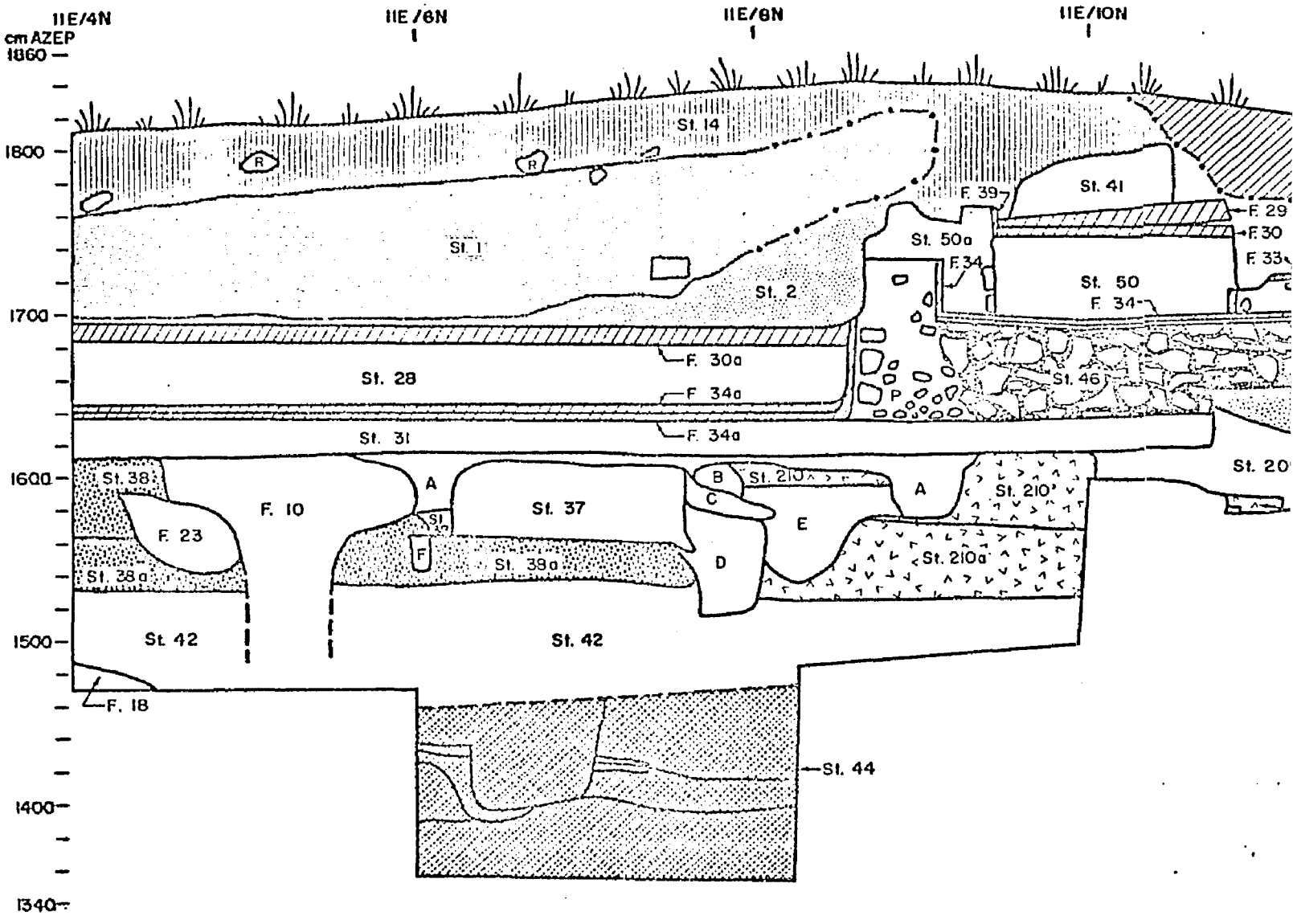
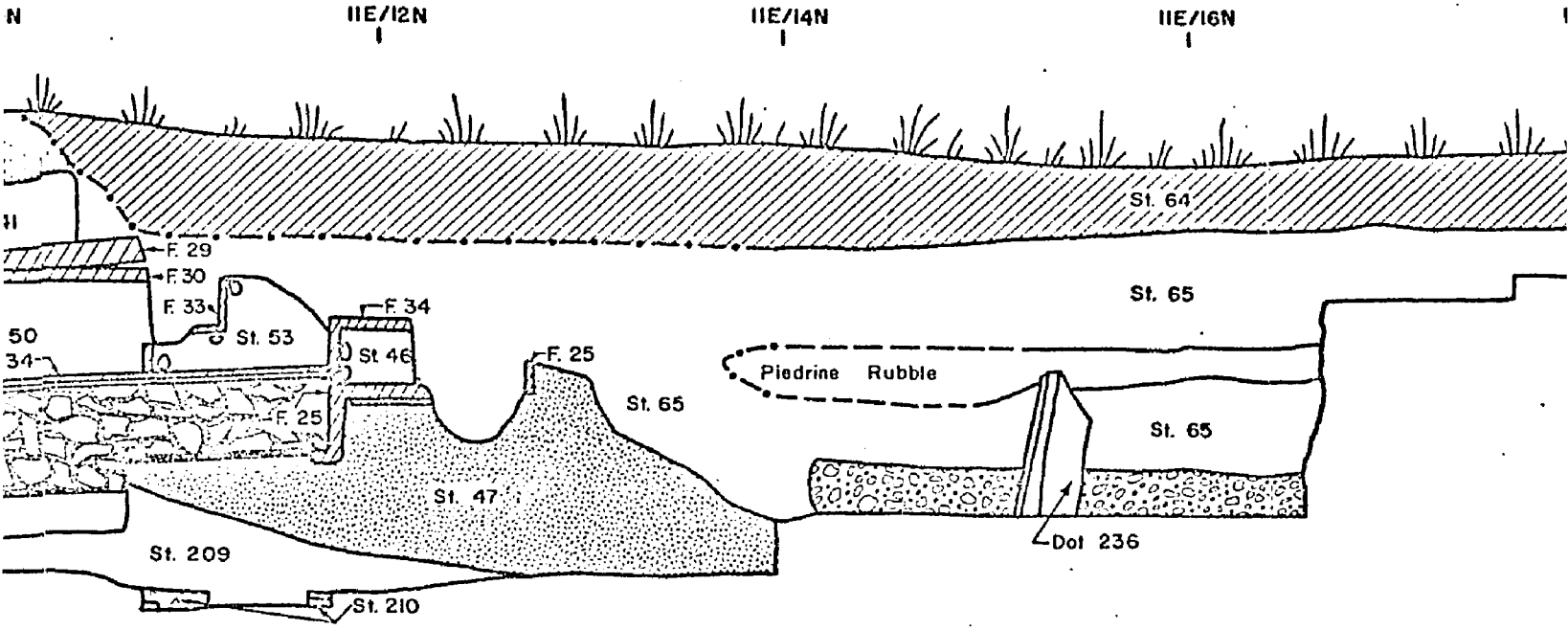


Figure 6. Profile, west wall of T2, 12E/4-2hN. -- A-E, pits intrusive into strata 38, 38a, 210 and 210a belonging to Stage L3; G-H, pits intrusive into Stage L1; I, compact brown sand topped by a possible floor.

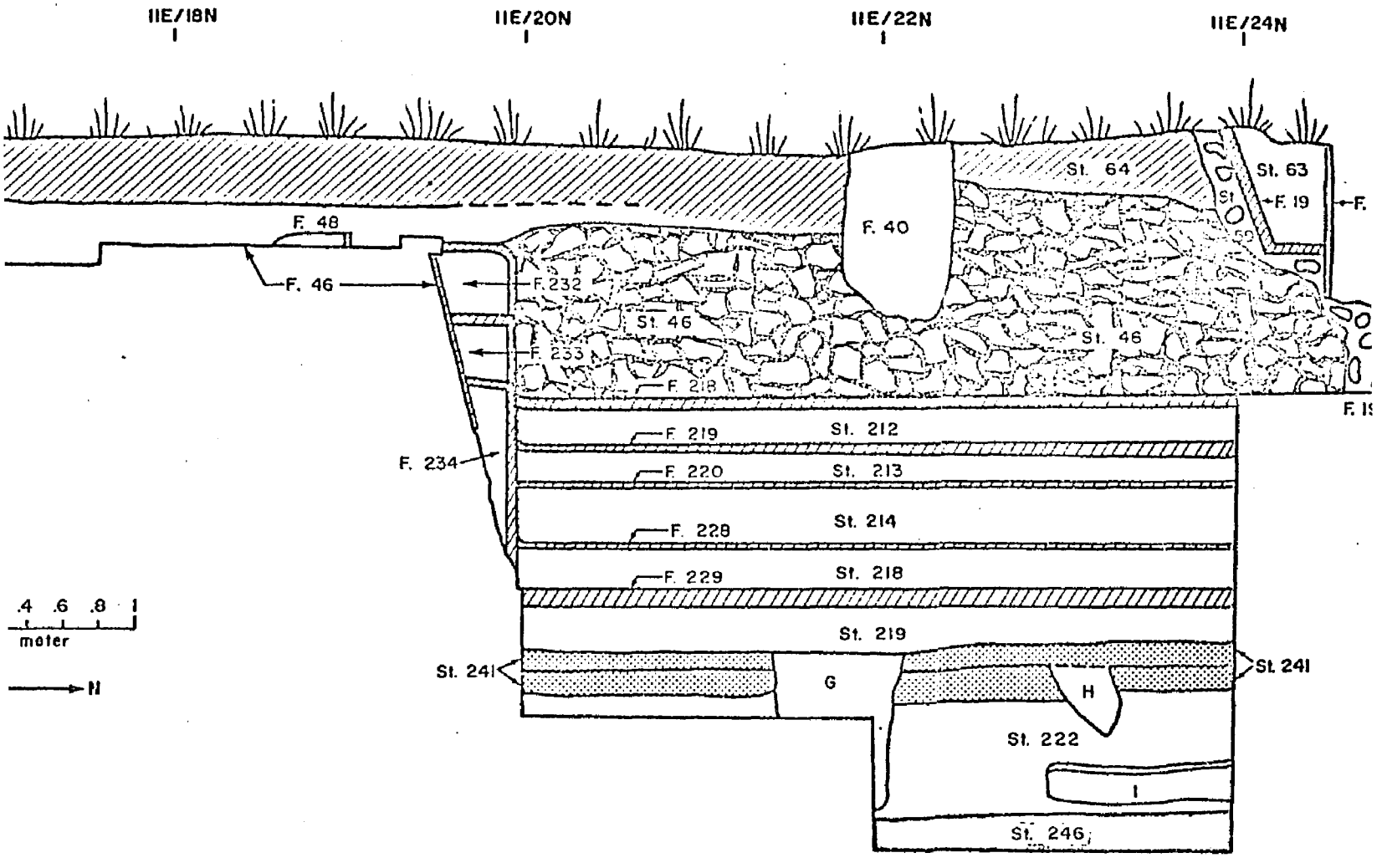


KEY

R	Rock
P	Pumice
BC	Burned Clay
	Talpetate
	Compacted Pumice
	Piedrine
	Pumidrine
-•-•-	Hypothesized Division

0 .2 .4 .6 .8 1
meter

N


11E/18N
11E/20N
11E/22N
11E/24N
F. 48
F. 46
F. 232
F. 233
F. 218
St. 46
F. 40
St. 64
St. 63
F. 19
St. 46
F. 234
F. 219
St. 212
F. 220
St. 213
F. 228
St. 214
F. 229
St. 218
St. 219
St. 241
G
H
St. 241
St. 222
I
St. 246
.4 .6 .8 1
meter
N

St. 44 is a very heterogeneous mixture of loose brown sandy clay, gray clay, pumice sand and lenses of charcoal. In the central part of the Plaza, the lower portions of the midden lack the loose brown sandy clay component. The top elevation of the midden is 1470 azep and the top of the underlying sterile subsoil is 1343 azep.

The second area that shows occupational evidence in L1 is the north (Fig. 7) and the north center (Fig. 6) of the Lower Plaza. The earliest prepared floors in the Palangana are found in this area, in 50N and 24N. The floors in both units are made of compacted sand. The one in 24N is thin, and rests on a heterogeneous fill very similar to st. 44. This fill consists of bands of gray clay, charcoal and pumice sand. The kind of fill under the 50N floor is unknown.

The floor in 50N is at 1435 azep, slightly higher than the one in 24N, which is at 1425 azep. The cause of this difference in height is uncertain, since there is no connecting stratigraphy. It is possible that the floors in the two units are distinct, rather than connected. If so, then the Lower Plaza in this stage would not be a plaza, but rather a horizontal series of discrete prepared floors that may have been house platforms. It is possible that the southern end of the Plaza was a trash dump for the hypothesized habitations on the prepared floors, but not enough evidence exists to be certain.

Stage L2

There are no substages in Stage L2. The south end of the Plaza remained a trash area, while the north and north-central areas were raised 35 cm. by a series of floors. In this Stage the recurring

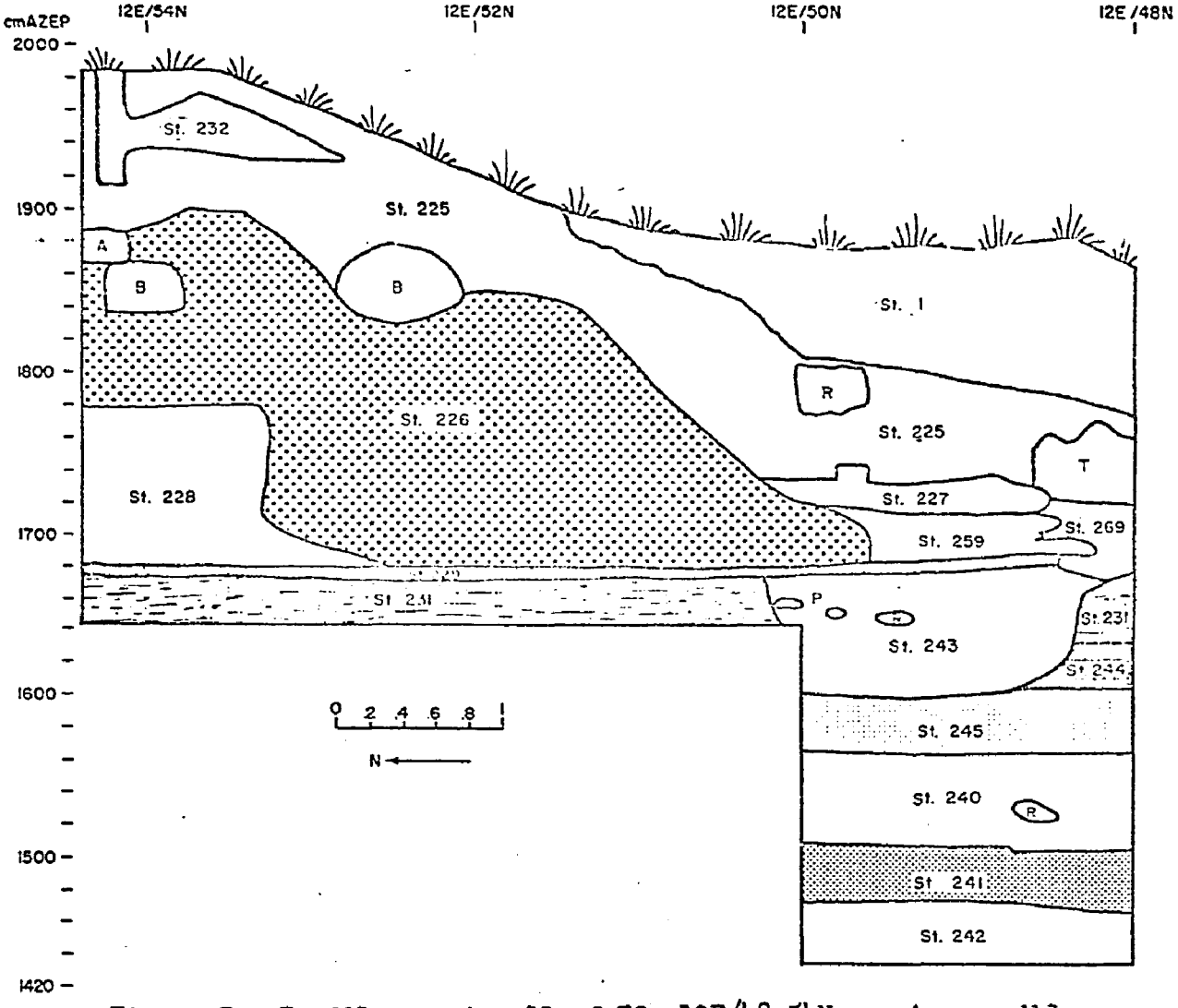


Figure 7. Profile, east wall of T2, 12E/48-54N. -- A, possible adobe brick; B, soft dark earth; T, large talpetate lump. See Figure 6 for key to symbols.

problem first arises of whether the central or the northern area was built up first and was therefore higher. This problem, which is caused by not having connecting stratigraphy between the deep profiles in 50N and in 24N, becomes more acute in the following stages.

Stage L2 is characterized by a change in construction materials from the previous Stage, as well as by a series of floors at higher levels than preceding ones. This is the only Stage during which talpetate was used for floor construction. It was used both as a separate band and mixed with pumice gravel. These materials, at least in 50N, are the base for a number of layers of interbedded sand and pumice sand. The top of each of these floors, which occur in 50N, 24N, 22N, and 16N and 14N (not illustrated) are at 1517 azep, plus or minus 3 cm. The bottoms are more variable, as is the fill under them. In the central area, 24-14N, the floors are underlain by st. 44, described above. The fill under the floors in 50N is light brown clayey-sand. The only element that connects the fill of this area with that of the central area is the 5 cm. base of these floors, consisting of gray clay laden with charcoal and sherds, similar to st. 44.

It is difficult to tell if the bottom of this set of floors in 16-14N occurs at the same level, 1483 azep, as in the other areas, or if it continues down to 1420. Rectangular chunks of talpetate exist in the sides of the excavation units, but they form very discrete clusters. Furthermore, it is difficult to tell if the clear separation of the clusters is due to the fact that they were a continuous strip of floor matrix that was cut by the numerous pits in these lower levels

or because they are fill that was thrown in at random. Tomb I, which is in this area and is the source of these profiles, also contributed to the disturbance. In any case, if these were original floors it would indicate only that the central area was built up before the northern area, contrary to the reconstruction proposed above.

It is possible that feature 18 (Fig. 6), which is probably the burned clay rubble of a wattle and daub house, belongs to this Stage. It appears to be sitting not on a prepared surface but on top of the L1 midden in 9-11E/6N, at 1470 azep. For this reason it is placed in L2 rather than in L1. Thus, if this cluster of burned clay is the remains of a house, houses may have been built on prepared or unprepared surfaces.

Stage L3

Stage L3 is defined by a change in the materials used to construct plaza floors, from sand with a talpetate base to interbedded layers of sand and clay. The center of the Lower Plaza seems to become the locus of construction activity in this Stage. The south-central area was filled and leveled and the new type of floor was placed on the fill. These new floors are found in the central and north-central areas also. The northern area probably was lower than the central area throughout the life of the Stage. The southern area remained without a floor until late in the Stage.

There are two substages in this Stage; both can be assigned to Aurora (Early Classic). They are distinguished on the basis of a minor change in the kinds of floors constructed in the south-central

area. In the second substage, L3-b, the stratigraphy of the south-central area suggests the presence of a structure.

L3-a. In the first substage, the south-central area of the Plaza from 4 to 10N (Fig. 6), which formerly was without floors, was leveled by the deposition of st. 42, a layer of homogeneous brown sandy clay. This stratum was also placed on top of the L2 floors in 14 to 18N. St. 42 raised the south-center of the Plaza to about 1525 azep, which is approximately the same elevation as that of the L2 floors. Over st. 42 was placed a 5-10 cm. thick layer of dark brown clay with pumice flecks. This layer does not appear north of 18N nor south of 4N, possibly because this layer represents a localized construction activity.

The floors in this substage extend from 1525 to 1570 azep. They are constructed differently from those in preceding and following substages. There are two sizes of floor layers, one 1-2 cm. thick and the other 4-5 cm. thick. Both sizes can be either of clay or of sand. There is no discernible pattern in the layers except that sand seems to be used for both the top and the bottom of any particular floor. Since I was not able to ascertain the least number of layers in a single floor, any estimate of the number of times the Plaza was resurfaced would be hypothetical (see Fig. 8 for detail of the floor construction).

In L3-a the central area of the Lower Plaza was 50 cm. higher than the northern area. Since there is no indication that the floors slope down to the north, it is possible that the height differential

Figure 8. Profile, south wall, 11-12E/4N.

St. 28. A, crushed talpetate
B, coarse crushed talpetate
St. 31. Talpetate blocks
St. 32. crushed talpetate
St. 38. A, compact dark brown sand
B, brown sandy clay
C, pumiceous sand
D, brown sandy clay
E, light brown clayey sand
F, brown clay
G, black sand
H, pumiceous brown sandy clay
I, pumice granules
J, brown sandy clay
K, brown clay
L, pumice sand
M, brown clayey sand
St. 38a. A, light brown sand
B, brown sandy clay
C, dark brown sand
D, brown sand
E, brown clay
F, light brown sand
G, brown clayey sand
H, dark brown clayey sand
I, brown sand

See Figure 6 for key to symbols.

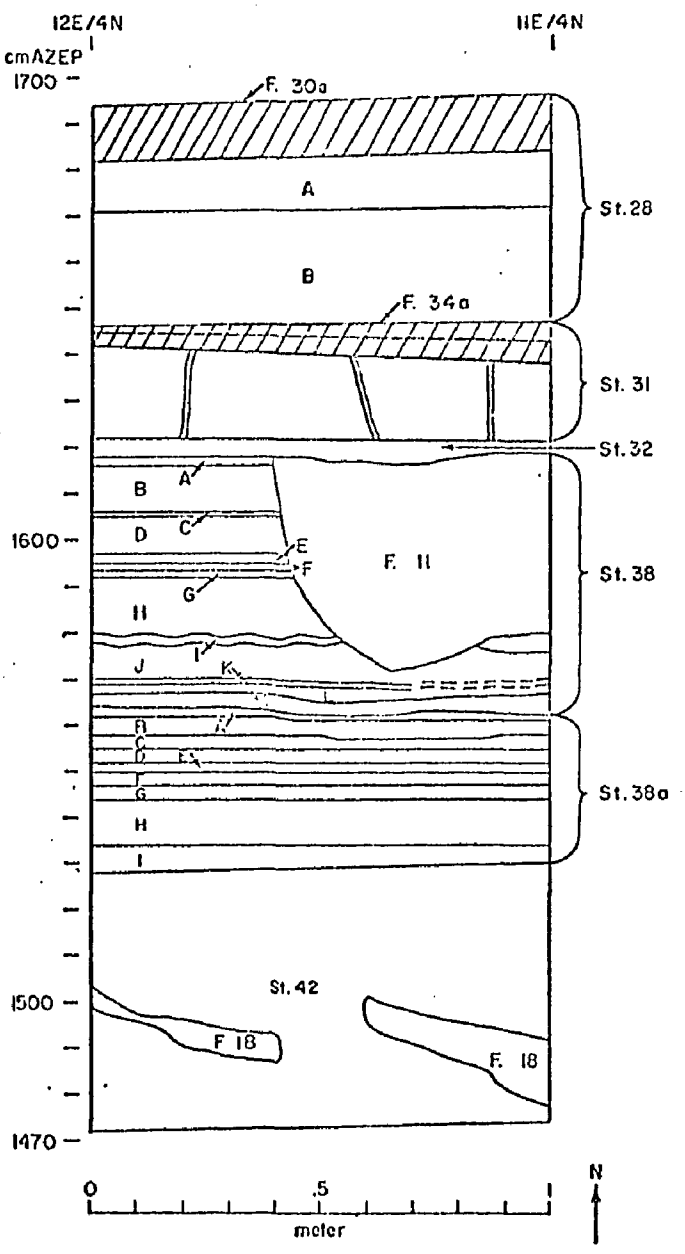


Figure 8. Profile, south wall, 11-12E/4N.

was intentional. Thus, the central area may have been terraced above the northern area. There is no evidence to indicate that any construction activity was taking place at the southern end of the Plaza during this substage.

L3-b. The techniques used to construct floors changed in this substage. Instead of almost exclusively fine brown sand interbedded with clay, brown sandy clay sometimes mixed with pumice sand was used. The pumice sand was occasionally used alone. Pumiceous brown sandy clay, up to 10 cm. thick, was often used as the base for a set of floors. The floors of this substage end at about 1620 azep in the entire central area of the Plaza.

I distinguished between the floors of substage "a" and those of substage "b" because of observations in the south-central area, 4-10 N (Fig. 6, st. 38, 38a, and 210 and 210a). Though this division was less visible in 16N and even less visible in 32N (Fig. 9, st. 210), I am assuming that the division is a real one throughout the entire central area of the Plaza. There are two reasons why this division would be hard or impossible to see: first, as mentioned above, it is hard to consistently identify which of the multiple layers is an actual floor surface. Second, it is possible that different materials were used in different areas of the Plaza, perhaps being related to different use areas. This last reason also suggests that the division might not really exist.

A number of other features of the central area should be mentioned. L3-b stratigraphy in the south central area, 4-10N, seems to

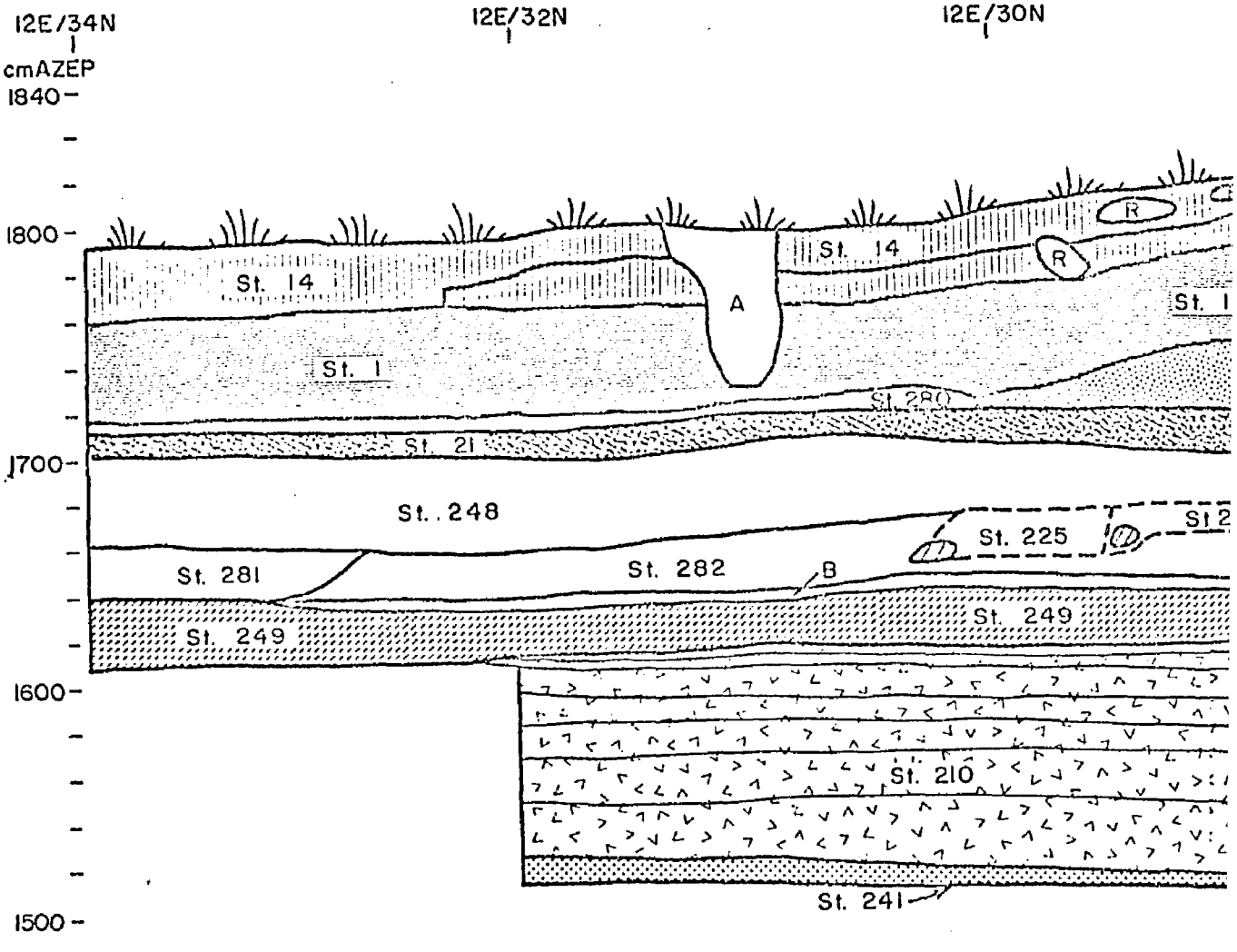
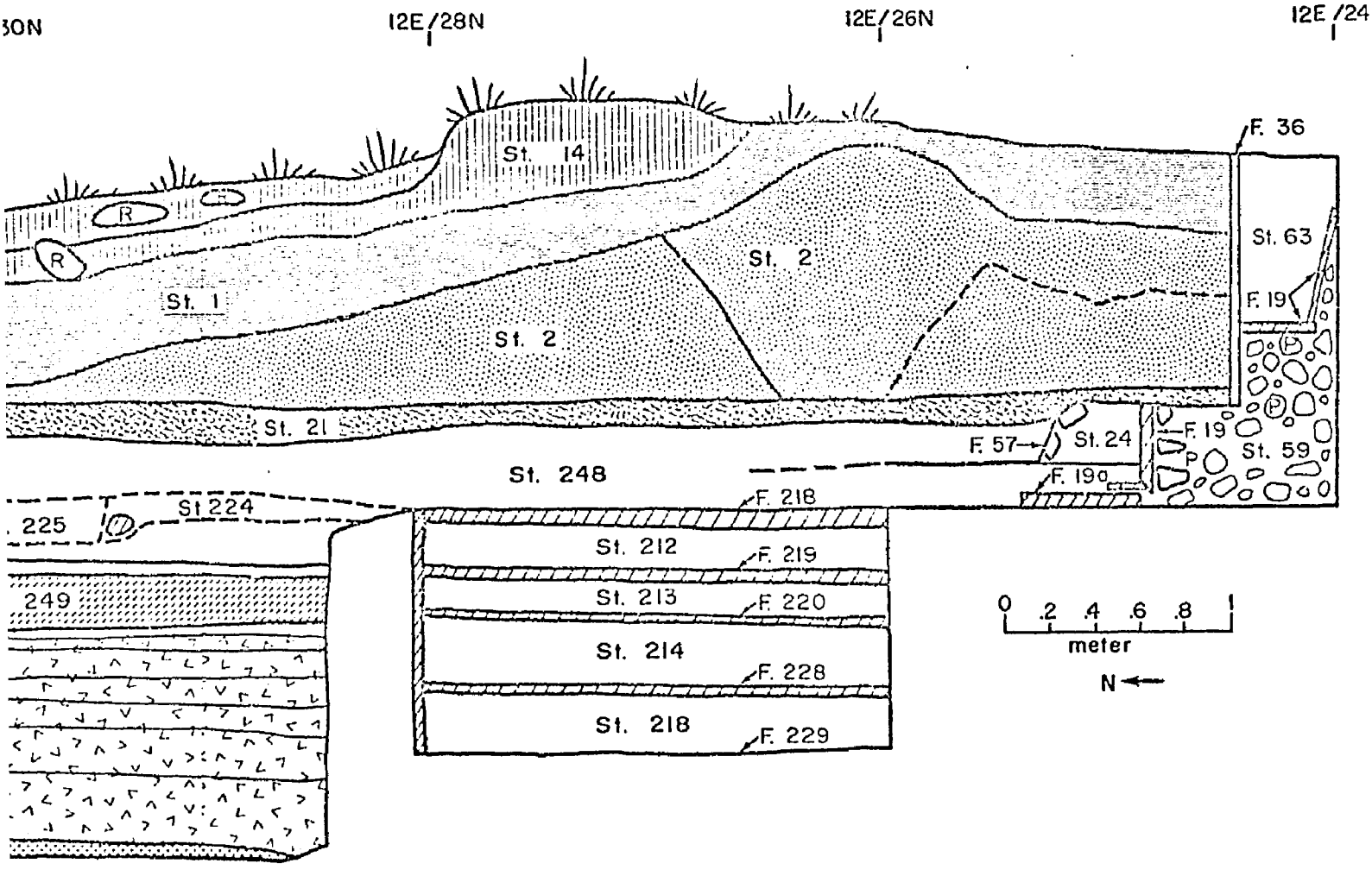


Figure 9. Profile, east wall of T2, 12E/24-34N. -- A, possible post hole in Stage E6; B, hard brown pumiceous sand floor. See Figure 6 for key to symbols.


30N
12E/28N
12E/26N
12E/24N
St. 14
F. 36
St. 63
F. 19
St. 2
St. 1
St. 2
St. 21
F. 57
St. 24
F. 19
St. 59
St. 248
F. 19a
St. 224
225
F. 218
St. 212
F. 219
249
St. 213
F. 220
St. 214
F. 228
St. 218
F. 229
0 .2 .4 .6 .8
meter
N

ible
and

be more complex than in other areas. There is a marked change in the nature of the profile on the east wall of the 11E trench. This change occurs at about 5N, just before a very complex area in the 11E east wall profile. Since control trench 1 runs through this area (5N), its north and south walls are different from each other. The east and west walls of T2, the 11E trench, are also different from each other. The change in the east wall of T2 may represent the contact zone between a plaza floor and the base of a stair or terrace. The difference between the east and west walls of T2 can be attributed to the presence of a bench of talpetate, st. 37, which protruded 72 cm. from the west wall. Associated with the back of the bench is a possible posthole (B, C and D in Fig. 6). The profile of the west wall could then be the result of this bench as well as of the flooring activity associated with it. The profile of the east wall could represent the flooring activity connected with the surfacing of other parts of the Plaza.

The talpetate bench, the post hole to the north of it, and the differential treatment of the L3-b floors in T1 and T2 all indicate to me that the south-central area of the Lower Plaza was the site of a structure, perhaps a shrine, during the occupancy of the L3-b substage.

As previously discussed, in the preceding substage the northern area, 5ON (Fig. 7), was lower than the central area. Sometime shortly after the start of construction of L3-b, the northern area was filled in to 1570 azep, which is approximately the level that resulted from the change from L3-a to L3-b in the south-central area. The floors

placed on top of this fill rise to 1607 azep. The lower ones seem to be constructed in the manner of those of L3-a, while the upper ones are more similar to those of L3-b. The break between the two kinds of floors occurs at 1587 azep rather than at 1570, however. In this analysis I am assuming that these floors were all deposited in L3-b, even though there is a seven centimeter difference between their elevation in the south-center and in the north area of the Plaza. If the lower floors had been laid in L3-a, then the hypothesized terracing would have been reversed and the central area of the Plaza would have been lower than the northern area for most of the life of that substage.

The first floors found in the single test pit excavated in the southern end of the plaza, at 2E/22S (Fig. 5), occur in this substage. Since the floors at this end of the Plaza are the least understood, they seem to diverge most from the other floors in terms of materials and elevations. This first set of floors in the southern area was placed on top of a foundation of loose, brown pumiceous sandy clay, st. 10, which leveled the uneven surface of the underlying dark brown pumiceous clay, st. 11. St. 11 was in turn underlain by the midden deposit of L1-a and L2-a. The L3-b floors are 30 cm. thick, from 1610-1640 azep. The bottom of these floors is within the elevation range of the L3-b floors of the south-center of the Plaza. The top of the floors is 20 cm. above the top of the floors of the south-central area. The top of the floors in 2E/22S may represent the original height of the Plaza at the end of substage L3-b. This was the only L3-b area excavated that was not disturbed by later construction activity.

In the south-central area during the foundation preparations for E3-a (st. 31 and F34a in Fig. 6), about 50 cm. was removed from the Plaza surface. Approximately 20 cm. of that amount was from L3-b floors, if 1640 azep was their original height.

Stage L4

All the floors of this Stage are constructed of a floor material not used in the previous Stage, a compacted brown, sandy clay impregnated with many pumice granules. There was apparently no surfacing material distinct from the floor matrix itself, and therefore it is always a problem to define the top of one of these floors. The only identifying feature of a floor surface is a heavier concentration of pumice granules than occurs in the floor matrix. This concentration of pumice may be a surfacing material or it may result from rain dissolving the top few centimeters of clay but leaving the pumice.

The Stage, assignable to Esperanza-Amatle I (Middle Classic), is divided into substages not on the basis of differences in materials but on the basis of association with the stages of construction area E. Thus, substage "a" is associated with E1, "b" with E2, and "c" with E3 (Fig. 4).

The southern area of the Lower Plaza contains floors that probably belong to the first and second substages. The northern area was probably higher than the central area, in contradistinction to their relative position in the preceding Stage.

L4-a. In the first substage, the level of the Plaza was raised 15 cm. to 1655 azep and E1, a small truncated pyramid with a room on

top, was constructed on this surface. The new floor rests on the level at which the L3-b floors ended, 1640 azep. It is best observed in the profile of 32N (Fig. 9). In 2E/22S there is a floor level from 1640 to 1660 azep which may belong to this substage.

L4-b. This substage consists of the series of floors, from 1640 to 1690 azep, which are designated st. 248 (Fig. 9), and are associated with the various substages of E2. At the beginning of this substage, a sunken enclosure, E2-a, was excavated into the preceding floors in the north center of the Plaza. The floor level associated with this structure is 1670 azep, while that for the next two constructions, E2-b and c, is at 1690 azep.

Stratum 248 was observed in all units of T2 north of construction area E except 54-48N in construction area A. There is a series of identifiable floors in st. 248 in 48N, 42N, and 38N (Fig. 10); each floor level may be the same as the floor levels articulating with the exterior of the structures in construction area E. Theoretically, the floor levels should be discernible in 34 to 32N (Fig. 9), but they are not, probably because they are difficult to distinguish from the rest of the matrix.

In the south the top of the L4-B floor is at 1670 azep. This floor, which is the last floor built in the south area of the Plaza, may correspond to the level articulating with E2-a or b.

In the far northern area of the Lower Plaza (Fig. 7) there is a series of floors between 1677 and 1685 azep. They extend from 54 to 48.20N. The floors are supported by a matrix of sand, rather than brown sandy clay, which is more characteristic of this Stage.

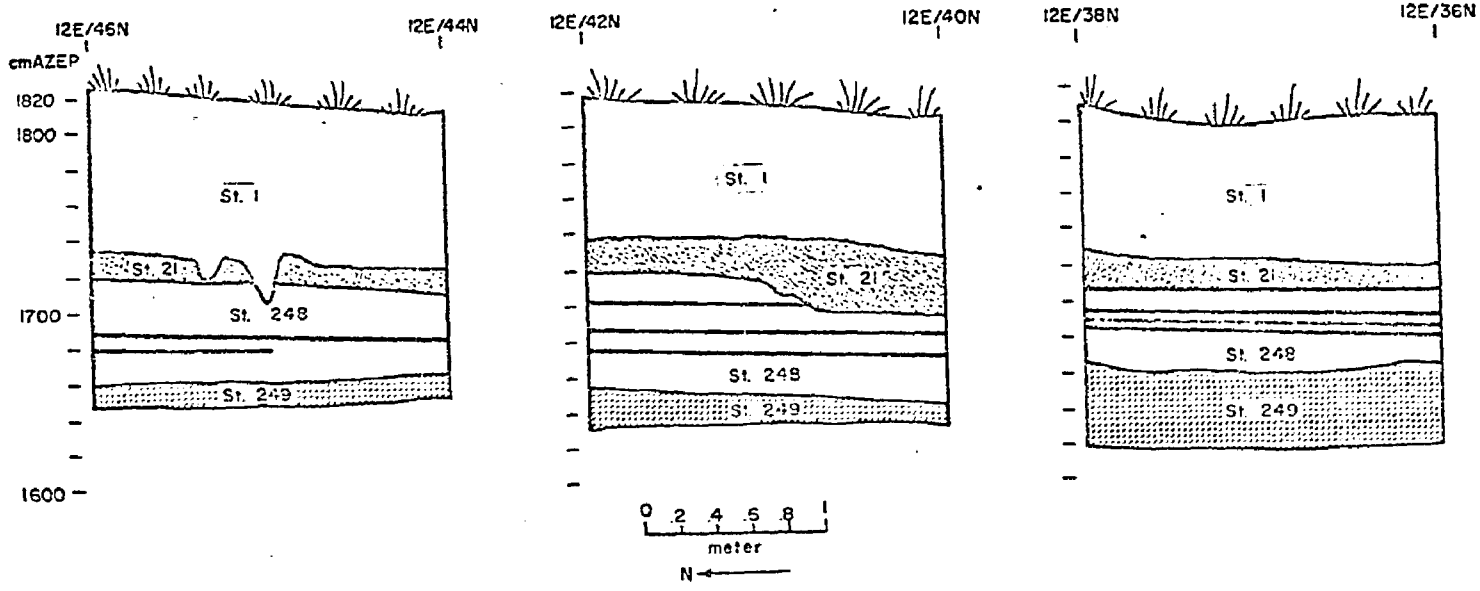


Figure 10. Profile, east wall of T2, 12E/36-38N, 40-42N, 44-46N.

Again there is the question of how these floors relate to the central area. Were they built first, before the central floors? If so, they were higher than the central area and the latter was gradually raised to approximately the height of the north end, 1690 azep. Or, was the center raised first and then the north end built to this height? I favor the first hypothesis, though without a continuous profile connecting the two areas any conclusion is uncertain.

L4-c. The floors, from 1690 to 1708 azep which are associated with the E3 constructions, belong to the last substage. These floors are hard to distinguish from the earlier floors except in the area immediately adjacent to E3 (Fig. 9). North of 26N these floors are indistinguishable from the L4-b floors in st. 248.

Stage L5

This Stage, assigned to the Amatle II period, has no definable substages. The Stage is a series of floors associated with E4 in construction area E and with A1 in construction area A, which is the mound at the north end of the Lower Plaza. A1 was built at this time, and thus it is certain that the northern area was higher than the central area.

The Stage is again distinguished from the preceding one by a change in the composition of the floor materials. The new type of floor, st. 21 (Figs. 9 and 10) is composed of very compact, fine sand bound with small quantities of clay. Again, I was not able to distinguish how many layers composed one floor construction. The L5 floors

occur to the west, east and north of the major platform of construction E3, and articulate with E4 (Fea. 34, Fig. 9). In the area around this structure, the floors, about 20 cm. thick, extend from 1725 to 1705 azep. They thin to 10 cm. thick between 30 and 31N and continue north to 48N.

Stratum 227 in 50N (Fig. 7) may be identical to st. 21. It is at least comparable in time, since it was deposited over st. 225 which was lain in the Amatle II period. However, due to the disturbance of this area by pits and the lack of a continuous profile, the stratigraphy remains obscure.

Stage L6

There are no specific periods to which the events discussed in this Stage can be assigned. There are two substages in L6. The first includes the formation of the topsoil that is common throughout the entire site of Kaminaljuyu. There have been no estimates made as to when the soil was formed nor how long its formation took. Obviously, it formed after the end of the Late Classic. The second substage includes a stratum that was possibly deposited by man, st. 14. Stratum 14 overlies st. 1 in the northeast section of the Lower Plaza in the area surrounding construction area E. Since this stratum was laid after the formation of st. 1, it was probably laid during the historic period.

L6-a. The content of this substage is limited to st. 1, which seems to be found over almost the entire surface of Kaminaljuyu (Kidder, Jennings and Shook 1946: 9; Shook and Kidder 1952: 42-3;

Fitting, personal communication 1970). In general, the top of st. 1, which except for the northeast section of the Plaza is the present ground surface, slopes gradually from north to south and from the sides of the enclosed Plaza to the center of the Plaza. The highest point of st. 1 in the Lower Plaza, 1880 azep, occurs on the east side of construction area E. The low point, 17 azep, is in the southwest corner of the Plaza.

The stratum is a natural soil formation. In some areas where it overlies st. 2 (see E5-a and Fig. 11), which is eroded building material, the humus layer of st. 1 gradually merges with the underlying soil. This would indicate that while some of st. 1 was created through soil formation after the deposition of st. 2, other parts of st. 1, those immediately on top of st. 2, were created through the transformation of st. 2 into st. 1, through natural soil formation processes. This hypothesis would help explain why there are chunks of building material in the lower levels of st. 1 in the vicinity of construction area E; the soil in which this debris occurs was originally eroded construction material, but was later transformed into st. 1 through natural soil formation processes.

Stratum 54, seen only in Figure 32 (see page 142), is a soil layer that is very similar if not identical to st. 1 but is slightly lighter in color. This stratum was also observed in 40, 42, and 44N in T2 (not illustrated). The origin of this color change is unknown. At present I believe that it is due to farming of the Plaza during the historic period. There are still corn hillocks on the floor of the

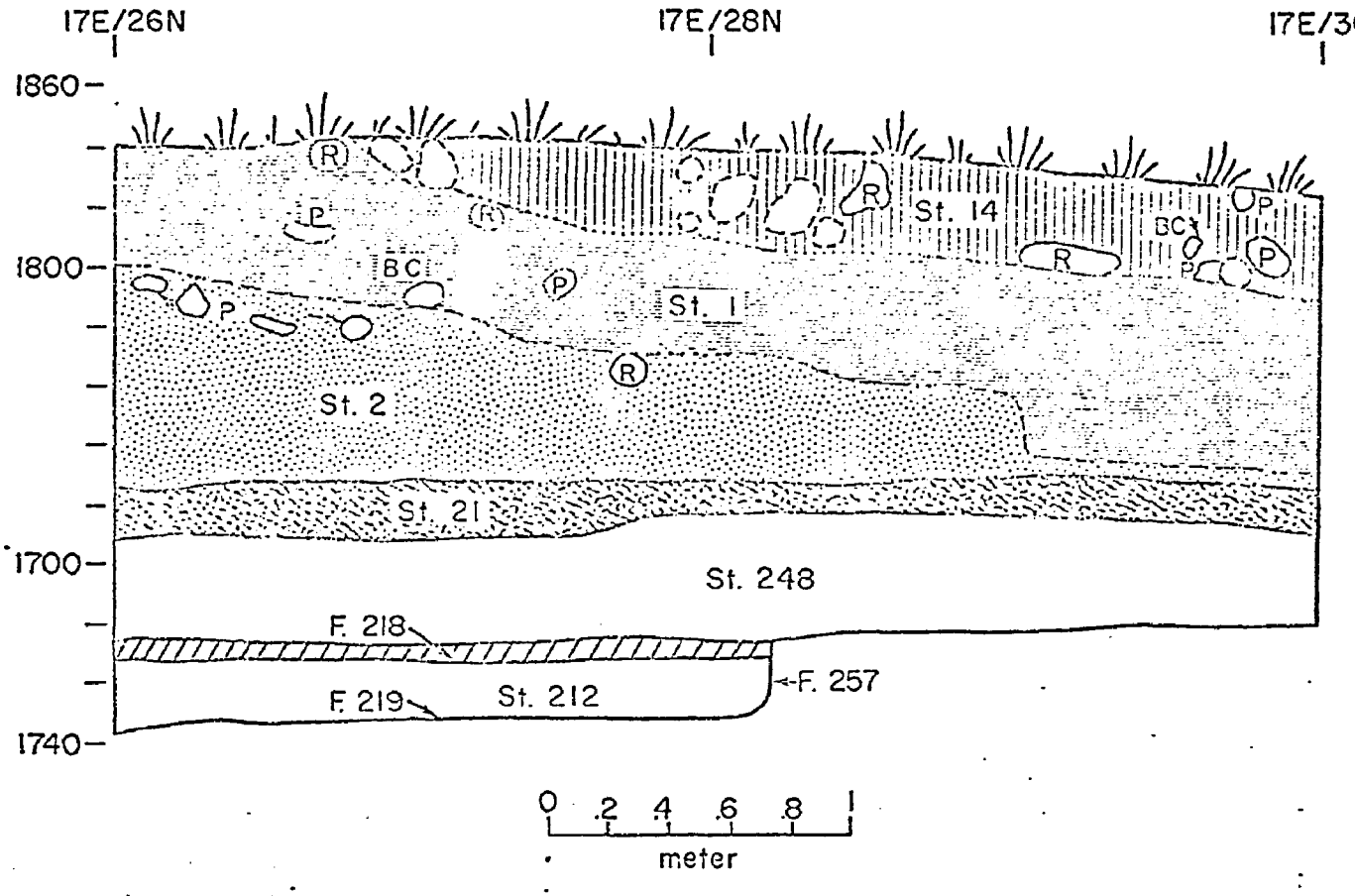


Figure 11. Profile, west wall, 17E/26-30N. -- See Figure 6 for key to symbols.

Plaza; they are about 50-60 cm. in diameter and about 20-30 cm. high. It is possible that the farming activity caused the top of st. 1 to become lighter.

L6-b. This substage is composed of st. 14. St. 14 does not extend beyond four meters from the edge of construction area E on the north, west and south. On the east side of E it extends about 10 meters, abutting the side of mound D. It also extends west from the side of mound D for at least four meters and extends along the base of D at least from 12N to 10S.

The main area of this stratum is over construction area E. The stratum is a yellowish brown, sandy clay that has inclusions of large chunks of talpetate, rock, and pumice within it. The origin of this stratum can be explained in two ways. First, it is possible that after a long period of stable soil formation an erosional period began. St. 14 could be the result of the erosion of the sides of the mounds surrounding the Plaza. The large chunks of stone and talpetate could be structural material from the slopes of the last stage in construction area D, since these two materials were used in that construction. However, this hypothesis does not consider that this stratum was not found next to the east base of construction area C nor to the south of construction area A.

Alternatively, st. 14 may have been deposited by man to smooth out the rises and depressions caused by the irregular erosion of the structures in construction areas E and D. A series of profiles taken along the east side of E3 indicates that before the deposition of st. 14,

ground level varied from 1880 to 1750 azep. After the deposition of the new stratum the ground surface in this part of the Plaza was between 1880 and 1870 azep.

One other aspect of this stratum suggests to me that it was laid by man. In 11 and 17E/28N a number of large 32 x 17 cm. rocks that appeared to be in line with one another were observed in the walls of the units (Fig. 9 and Fig. 11, see page 75). Additionally, there is a small pit, probably a post hole, that can be seen in the profile in Figure 9, 32N. When st. 14 was deposited is unknown, although it may have been quite recently.

Construction Area E

Construction area E is located just to the northeast of the center of the present Lower Plaza. Boundaries of the original Plaza that articulated with the various structures in E are unknown since they have been covered by later mound construction.

The architectural sequence discussed in this section is logically a continuation of the sequence in the Lower Plaza. It is placed separately, however, since it is relatively complicated in its own right. The Lower Plaza sequence is referred to in appropriate places so that the two sequences can be articulated; also see Figure 4.

The structures in construction area E belong to Esperanza-Amatle I (Middle Classic) and Amatle II (Late Classic). In the early Middle Classic are E1, E2-a, b, c, and E3-a, b. Late Middle Classic is represented by E3-c, and Late Classic by E4-a, b. Figure 12 shows the superposition of the different stages.

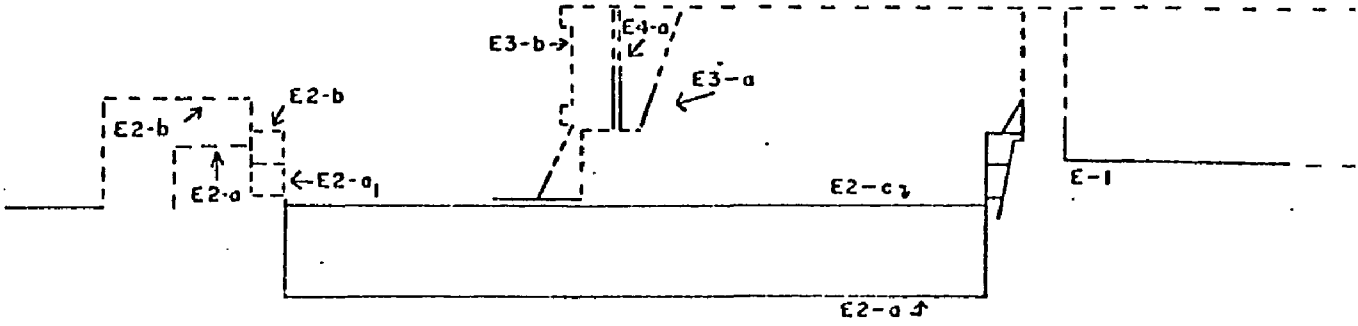
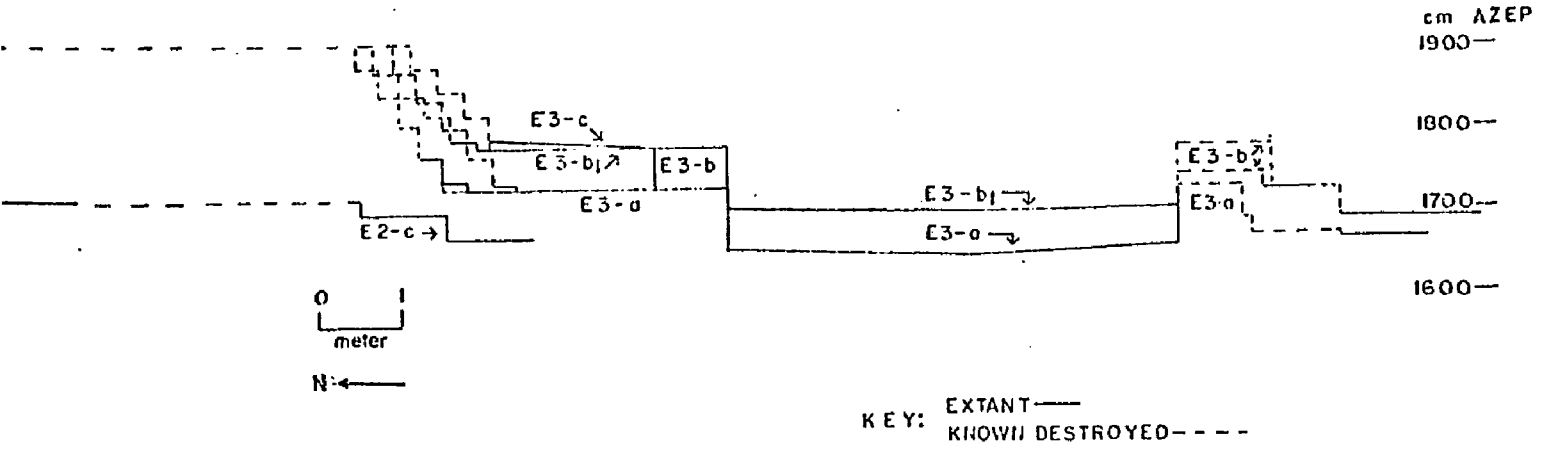


Figure 12. Reconstructed profile of structures in construction area E.



KEY: EXTANT——
KNOWN DESTROYED- - - -

Stage E1

Stage E1 has no substages (Fig. 13). The E1 structure is the earliest known structure in the Palangana to be covered with piedrine and also has the first talud and tablero. Since both of these features are characteristic of Teotihuacan, E1 supplies the earliest evidence of Teotihuacan-style architecture in the Palangana.

The single structure of Stage E1 faces south, as do all the succeeding Stages at least through E4. The structure is basically a piedrine surfaced, small, truncated pyramid with a masonry wall room, feature 46 (Fig. 6) that occupies the entire top of the platform. The walls of the pyramidal base are battered and form a talud, while the walls of the room on top of the base form a tablero. The south end of this structure is mostly destroyed, but it is likely that there were steps and balustrades on this side, which was the front of the structure.

The structure was built on top of the Plaza floor, 1653 azep. The floor was of the L3 kind -- pumiceous, brown, sandy clay. The walls of the platform base slope slightly to the Plaza floor. The The base was built by constructing a retaining wall of pumice on at least three sides of this structure and then filling in the central area with interlayered bands of powdered talpetate and brown, sandy clay. The talud was placed on top of the retaining wall by preparing a fill matrix of brown sandy clay and pumice and facing it with dressed pumice blocks which in turn were surfaced with piedrine.

The walls were constructed essentially the same way. The retaining wall was continued upward and became the fill of the room

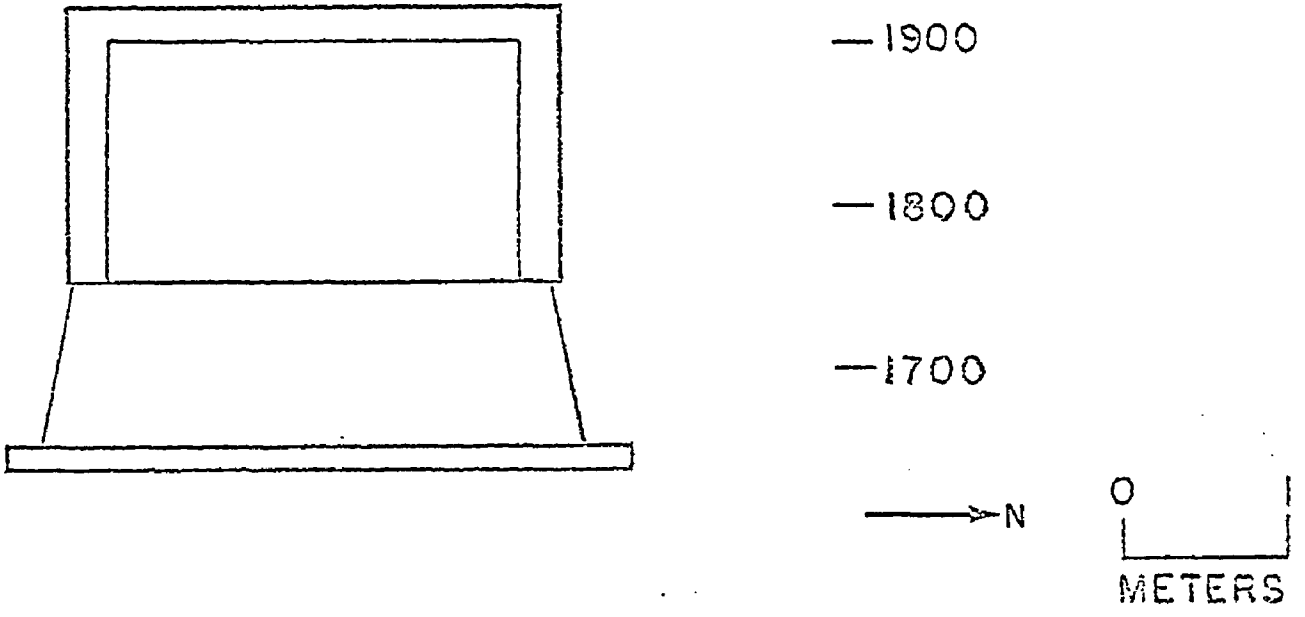


Figure 13. Reconstruction of Stage El.

walls which were also surfaced with dressed pumice blocks and piedrine. The base of the talud is surrounded by a low, 10 cm. basal molding at 1663 azep. This is found on the west side of E1 and probably encircled the base, although a profile taken through the later stages of the back lower wall (Fig. 6) did not show this molding. This could be because the back portion of the base was altered by subsequent construction. The construction techniques used in the molding were the same as those used for the rest of the building, fill of pumice and sandy brown clay, dressed pumice blocks at the corners, and piedrine surfacing.

The talud, which was covered with white paint, rises to 1775 azep, about 100 cm. above the Plaza floor. The top of the talud articulates with the 10 cm. wide horizontal ledge which articulates at its inner edge with the exterior wall of the room, feature 46. The walls of the room have been partially destroyed. The east wall is 70 cm. higher, at 1794 azep, than the west wall, at 1724 azep. Both the east and the west walls are 40 cm. thick while the north wall is slightly thicker, 50 cm.

Three of the four lower corners of the room have remained relatively undisturbed. These are the northeast, the northwest, and the southeast. On each of these corners is a small, 10 x 20 x 30 cm. brick-like element that rests on a single piece of thin stone and overhangs the top of the talud. It could be either a brick-like design element or, since the present top surface is unfinished, it could represent the base of a broken column. On the best preserved exterior

corner of the room there is support for this argument. In this corner the exterior piedrine surfacing of the north and east walls of the room does not meet at the corner but rather turns outward and terminates about five centimeters back from the corner. This indicates that perhaps the surfacing was once attached to an upward extension of the brick-like element. Thus, I feel that the elements were originally vertical columns on the four outside corners of the room.

A talud-tablero is a recessed vertical face surrounded on four sides by moldings or cornices (the tablero) that project out over the upper edge of a battered wall (the talud). I feel that the base of structure E1 and the walls of its room can be identified as a talud and tablero configuration. The base of the structure is a battered wall. The wall of the room is a vertical panel which is recessed by virtue of the columns on the corners and the ledge which sets the wall 10 cm. back from the top edge of the talud. The vertical columns overhang the talud, resting on a thin piece of rock identical to the tablero supports (lajas) of later structures. Since the top of the wall has been destroyed, I have to hypothesize the existence of a cornice which ran along the top of the exterior wall. This is shown in the reconstruction (Figure 13). However, even if there had not been a top cornice, the structure would still have resembled some structures at Teotihuacan (Sejourne 1966: Fig. 86). Similarly, the presence of a ledge instead of a bottom cornice does not affect the case because a number of structures at Teotihuacan also have this feature. Some structures have both features.

The reconstruction of this earliest structure (Fig. 13) is the only illustration in which this interpretation has been shown, because with the development of succeeding structures the architectural integrity of the structure was lost. This may indicate that the columns were removed. The condition of the northeast corner of the room supports this interpretation. Here the column is present but does not extend to the top of what is left of the wall even though this area was relatively undisturbed, having been protected by later additions.

The floor of the room is mostly destroyed, only 30 cm. on the east and west sides remaining. None of the floor along the north wall remains. The interior of the room is about 200 cm. wide; the floor averages 1725 azep and is higher in the north. This is about 70 cm. above the plaza floor and therefore indicates the existence of a set of steps on the front of the structure. Assuming that the height of the riser is the same as the average of other risers found at the site we can reconstruct two steps.

The only part of the front of the structure that remains is the southeast corner. This consists of the vertical column overhanging the battered south facing wall, a talud. Using the point at which the front talud articulates with the base of the column as the south limit of the south front wall, the measurement of the north-south axis of the room is 233 cm. This, plus the 50 cm. width of the back wall gives 283 cm. for the total length of the room. The width measured from the exterior of the east and west walls is 280 cm., thus making the outside dimensions of the room virtually square.

An architectural feature south of and articulating with the talud on the west side of E1 presents some problems in interpretation. This feature is part of the base but has a vertical-sided rectangular wall with a flat top rather than a sloping talud. The feature is 96 cm. long from its north end to the point on the south at which it has been terminated by destruction. Most of the last 54 cm. is destroyed and only a portion 20 cm. high remains. The base is in line with the base of the talud. The basal molding was applied over this rentangular unit as well as over the sloping talud.

This wall extends 70 cm. beyond the projected south wall of the building, thus giving rise to a problem in interpretation. The function that it most probably served was that of a balustrade. As such it would take the form of the balustrade in E2-b, a long rectangular unit with the front end vertical instead of sloping as in later balustrades. If this were so, one might expect to find a similar wall on the east side of E1 as well. However, no data are available for this side because the crucial areas were not exposed, since they are under the next construction Stage. The area in front of this later construction is partially exposed and it does not appear as if there were any such features present, though they may have been destroyed during later remodelings.

E1 was placed over a tomb (Tomb 1). This is a pit whose northern most point is 130 cm. to the south of the interior north wall of E1. The west edge of the pit goes halfway under the west wall of the room. Thus, E1 was built over this tomb, as a dedicatory shrine.

The pit may have been enlarged to the south at some time after the construction of E1, definitely before the construction of E2-c.

E1 does not seem to have been remodeled in any way until the start of the next Stage. At this time it was converted from the structure described above to one with an enclosure on the back. This will be discussed under Stage E2.

Stage E2

This Stage consists of three substages. The first, E2-a, includes a major architectural change in construction E while the succeeding substages are nothing more than modifications of the basic E2-a design. Fundamental to the new design of Stage E2 is the incorporation of E1 into the south wall of an enclosure, E2-a, the major part of which extends to the north (Fig. 14). The enclosure is a roofless, rectangular structure that was sunk into the plaza floor. The exterior walls are vertical but are broken by a terrace one third of the distance from the top to the bottom. In the middle of the south wall, as mentioned above, is Feature 46, E1. Since the front (south) of the room faced away from the enclosure, it is not clear how the enclosure was entered. Later in this substage, however, minor modifications provided steps down into the enclosure by altering the interior terraces and raising the floor level.

The second substage, E2-b, consisted of widening and raising the enclosure walls (Fig. 15). A second major modification at this time was the installation of a staircase of the southeast corner of the enclosure on both the interior and the exterior.

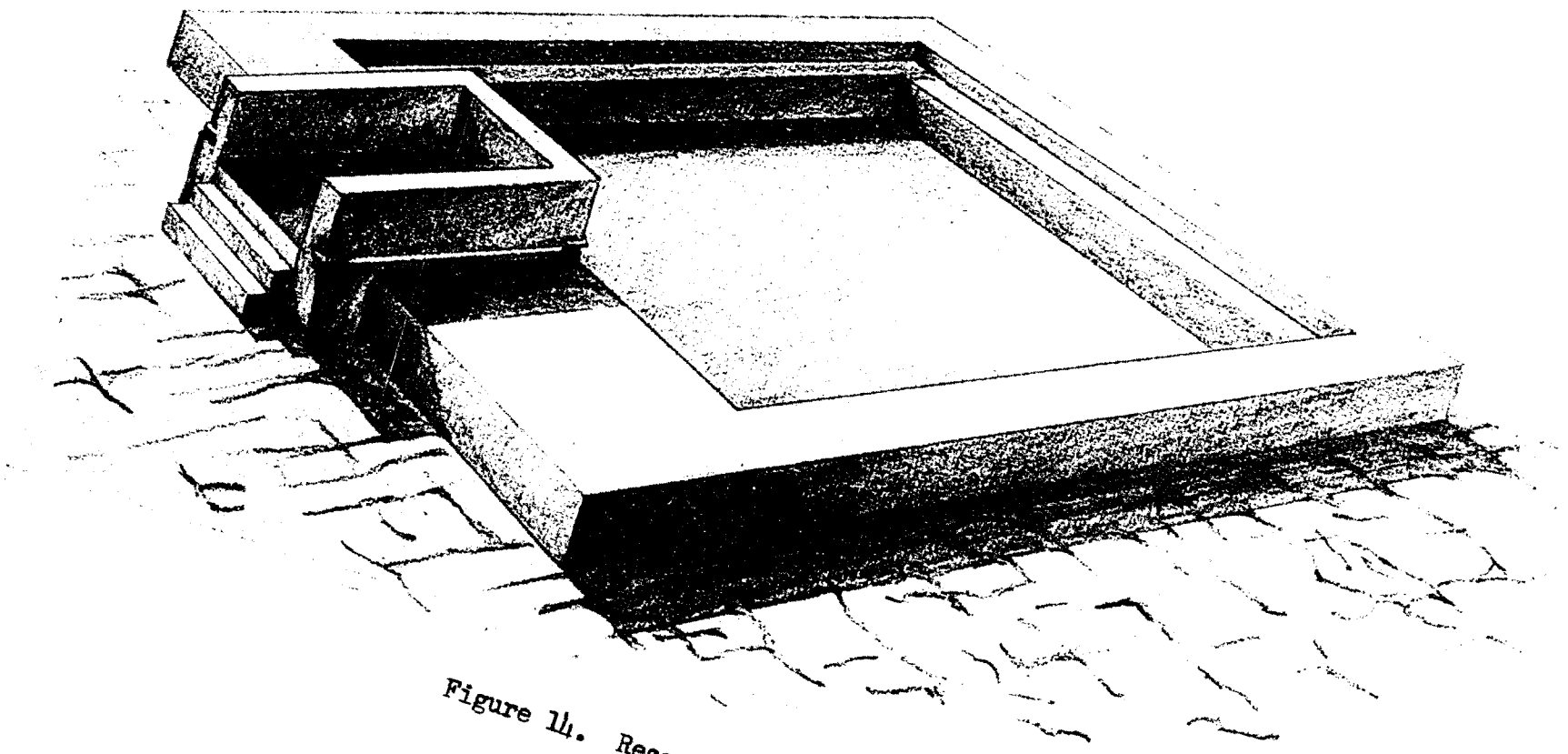


Figure 14. Reconstruction of substage E2-a.

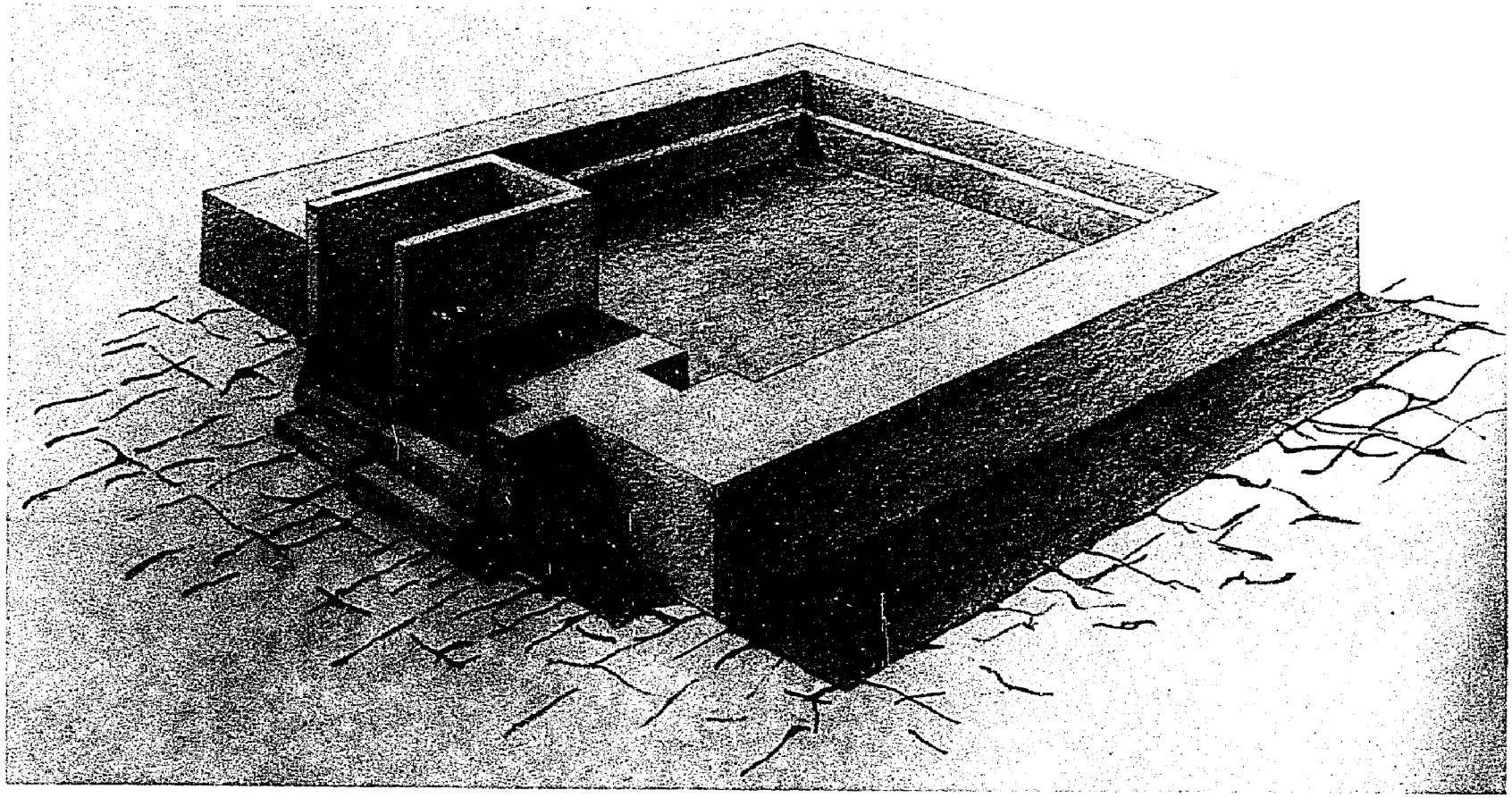


Figure 15. Reconstruction of substage E2-b.

The third substage, E2-c (Fig. 16), included the modification of the interior walls of the enclosure and the expansion of the southeast exterior staircase. The major change in this substage was the addition of two frontal aprons on the south of E2-b. The aprons articulated with the front of Feature 46 as well.

E2-a. Substage E2-a is an addition to E1 (Planview Fig. 17). Basically, it is a sunken enclosed courtyard or patio with terraced interior walls. It extends to the north of E1 and its south wall articulates with the sides of Feature 46, incorporating this Feature into the south wall while covering the white painted sloping walls of the talud of E1.

Possibly, E1 and E2-a were constructed simultaneously. However, the only piece of evidence which would indicate this is from a cut that was made into the interior face of the south wall of the enclosure (Fig. 6, 20N). This cut exposed the north talud of E1 which sloped down and ended at 1655 azep without articulating with any basal step or floor. The wall of E2-a covered the bottom of the talud. The pumice backing of the wall of the talud seems to be continuous with the pumice backing of the interior wall of the enclosure, E2-a. The backing extends down to 1554 azep, 100 cm. below the bottom of the talud. It does not seem likely that this pumice went with the original structure, E1, since the base of E1 on the south front extends only to 1555 azep. Furthermore, there is no evidence of an earlier enclosure. The only explanation that I can think of is that the builders of E2-a dug under E1 in an attempt to tennon the fill of E2-a into

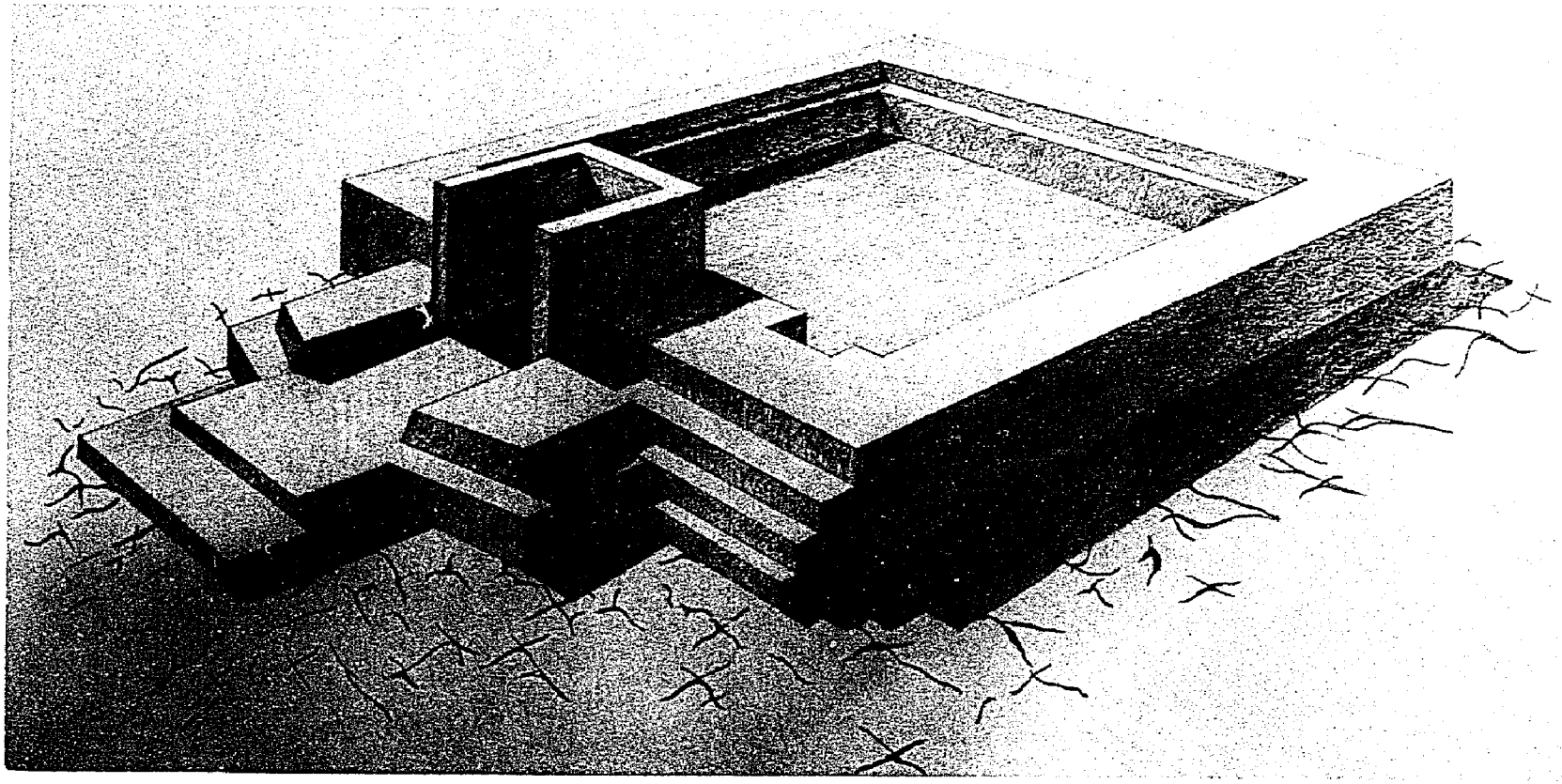


Figure 16. Reconstruction of substage E2-c.

the fill of E1. This conclusion takes on more merit when one considers that the talud of E1 was painted white -- they would probably not have painted a surface that was to be covered immediately. The front wall of the E2-a enclosure covered the painted talud and broke the original lines of the first structure, thereby destroying its architectural integrity. Thus it seems most likely that E2-a was built later than E1.

The entire E2-a enclosure was covered with piedrine. The floor level is 1556 azep (Fig. 6). The terrace, Feature 234, at 1676 azep, is 120 cm. above the floor. It is 44 cm. wide and rises 46 cm. to a 90 cm. wide terrace or deck which then drops 67 cm. to the exterior Plaza at 1655 azep.

The deck extends around all four sides of the enclosure. The northern third of the enclosure wall has been destroyed by later construction, but the remnants of E2-a, st. 229 and E2-b, st. 225, can be seen in Figures 9 and 11 in unit 11E/30N.

There is a possible step along the inside of the east half of the south deck. It is lower (1626 azep) than the terrace, and is 70 cm. high and 40 cm. wide. Its length is unknown; it starts in the southeast corner of the enclosure and runs at least halfway and probably all the way to the northeast corner of E1. The second terrace does not seem to extend beyond this point for it does not appear in control trench T2, which was cut into the south interior wall of the enclosure in 11E/20N. This step seems to be the only way down into the enclosure. No steps were found going from the plaza floor up

onto the deck. However, the excavations around the perimeters of the structure were not complete, and later construction may have destroyed any steps that existed originally.

The top of the enclosure wall, termed the deck, is 60 cm. wide and is at 1722 azep. It extends around all four sides of the enclosure.

The deck on the south wall of the enclosure is not the same width as it is on the other three sides (Fig. 17). In fact, the east and west halves of the south deck are of unequal widths. The portion of the south deck west of E1 is 150 cm. wide, while east of E1 it is 230 cm. wide. The deck is only 90 cm. wide on the other three sides.

The west half of the south deck was found to be filled with talpetate chunks, but composition of the fill of the east half of the south deck is unknown. The wall of the deck was faced with dressed pumice blocks and then covered with piedrine.

The reason for the different widths of the south deck on either side of E1 is unknown. An architectural feature, a rectangular column, which occurs on the southwest corner of E1, may have been the cause.

The west half of the south deck may have been made narrower to leave this portion of E1 exposed. In the succeeding stages the west half was not widened while the east one was, thus adding more evidence to support this hypothesis.

Both halves of the south deck were placed about 15 cm. below the ledge which functioned as a cornice on E1. The deck did not extend around the back of E1, but stopped at the rear corners. The terrace of the enclosure, however, did extend across the back of the E1 talud at a point 75 cm. below the ledge.

The east and west sides of the interior of the south wall of the enclosure were also treated differentially (Fig. 17, in pocket). On the east, the north edge of the terrace extends in a straight line from the southeast interior corner west to 40 cm. past the northwest corner of E1. At this point it turns south 40 cm. and then turns west continuing again in a straight line to the Southwest corner. A recess was thus created in the west half of the south interior wall of the enclosure which was used during substage E2-b as well.

During the time that E2-a was in use, two additional floors were laid on top of the original enclosure floor. Each added about 30 cm. to the floor level. Thus, the 1626 azep step was just above floor level after the second floor was added. The first addition, Feature 228, was a thin layer of piedrine placed over a very hard packed brown pumiceous sandy clay matrix at 1584 azep. The second floor, Feature 220, extended to 1620 and was placed over a matrix of brown sandy clay. The piedrine of Feature 228 was only about a centimeter thick and was composed of coarse granules. The floor of Feature 222 was thicker and the granules were finer (Figs. 5 and 9).

A section through the north and the east walls of E2-a (only the north side profile is shown here in Fig. 9, 11E/30N) shows that the enclosure was cut down into earlier plaza floors. Both the upper and lower portions of the wall are filled with pumice in a brown sandy clay matrix. Dressed pumice blocks seem to be much more frequent and regular in the upper level than in the lower level. The upper level was seen only in the east profile since the entire upper section of

the north wall of the enclosure was completely destroyed by the builders of Stage E3 (Figs. 5 and 11). The piedrine which covers this wall is 5-6 cm. thick except on the top of the terrace where it is only 4 cm. thick, and on the top of the deck where it is about 6 to 8 cm. thick.

E2-a1. The next building activity was very minor. It consisted of the addition of a floor and an increase in the height of the inside terrace. These additions are thought to have been constructed at the same time because the fill of both is composed of talpetate; crushed talpetate under the floor and chunk talpetate in the terrace.

The 1676 terrace was raised by placing another terrace, Feature 233 on top of the original one (Fig. 6). This raised the height of the terrace to about 1715 azep or 30 to 35 cm. above the original height. The new terrace was slightly narrower than the original one because the wall was slanted in at the top and rounded; this was apparently to make the addition stable by keeping the wall from overhanging the original wall. The floor, Feature 219, brought the height of the bottom of the enclosure to 1682 azep (Figs. 6 and 9), thus covering the step at 1626 azep. No terrace was constructed in the southeast inside corner of the enclosure. This left an 80 cm. wide (east-west) step which used the north facing wall of the inside deck as a riser and the top of the 1678 terrace as a tread. This created a staircase which was used as the basis for a later staircase in the next substage.

E2-b. This substage resulted in major changes in the preceding structure (Fig. 15, and Fig. 18 in pocket). The height of the deck

was raised about 80 cm. to 1803 azep and its width was increased another 80 cm. on all sides except on the front side to the south. The floor of the enclosure was raised to 1666 azep, making it level with the outside plaza floor. Four steps articulating with this floor were built over the previous interior stairs. In addition, a four-step stairway with a stoop or balustrade on the east side was built on the east half of the front deck abutting the wall of the original structure, E1.

The increased height of the deck could be measured at only one point, the exterior southeast corner. At this point a small piece of horizontal piedrine at 1803 azep was attached to the east-facing wall of the deck. This wall was 80 cm. east of the previous east wall. In this area the addition that raised the height of the front deck was set on the top of the old deck surface and thus, as mentioned above, did not increase the width of the front deck.

Though there was a good deal of later disturbance in this southeast section, enough of the original fill remains to say that it consisted of talpetate chunks and that the walls were faced with dressed pumice blocks. With the increase in the width of the deck, the east-west dimension of the structure increased by 160 cm. while the north-south dimension was increased only 80 cm. since the south deck was not widened.

Steps, Feature 50, articulating with E1, were built on the east half of the front deck. Of the postulated four original steps, three remain. The now destroyed deck formed the tread of the top step.

The next two treads and their risers remain intact. Part of the riser of the bottom step, as well as all of its tread, was destroyed prehistorically. The bottom step was reconstructed by applying the measurements of the two extant steps to the bottom one. Thus the bottom step's tread is postulated to be 40 cm. wide and the riser to be 34-36 cm. high. If this reconstruction is correct, the steps extended 152 cm. from the front of the original deck, though only 120 cm. remained. The base of the bottom step is reconstructed at 1665 azep, the plaza level of the next substage and probably of this one as well.

The relationship of the E2-b front steps to those hypothesized on the south of E1 is very conjectural. The reconstruction (Fig. 15) shows the E2-b steps ending at the outside wall of E1. However, they could have continued across to the inside of the west wall of E1, covering the earlier stairs and making them obsolete. In this badly destroyed area, however, it is impossible to propose a secure reconstruction.

Another feature of the E2-b steps is a stoop which possibly functioned as a balustrade. The stoop, which is the eastern boundary of the stairs, is a rectangular projection that extends 100 cm. south of the south face of the E2-a deck and is 50 cm. wide. It was probably as high as the deck although later it was altered and became part of the E2-c steps.

There are also four steps leading down from the east front deck into the southeast interior of the enclosure. This set of steps articulates with the last of the enclosure floors, Feature 218, at

1666 azep, essentially the level of the surrounding Plaza. How the steps articulate with the east and north interior walls of the enclosure is unknown. As can be seen from the illustrations (Fig. 15), the west edge of the interior stairs overlaps the east edge of the exterior stairs.

A problem in the interpretation of the construction sequence relates to the placement of another terrace, Feature 232. This terrace may have been constructed in this substage or in the succeeding one. If the terrace was constructed in E2-c, however, it would have left a 46 cm. gap between the east edge of the interior stairs and the west edge of the east interior wall of the enclosure. Since such a gap seems unlikely, the terrace was probably constructed during substage E2-b. Additional evidence in support of this hypothesis is that both the stairs that belong to substage E2-b and the terrace in question are covered with a peculiar kind of piedrine. This piedrine is composed of very fine granules of stone set in a very light, almost white, mixture that contrasts with the large stones and dark matrix of the other types of piedrine.

E2-c. In this substage (Figs. 16 and 19 in pocket), minor changes were made in the interior of the enclosure, and major changes on its exterior. A minor change was made on the interior stairs.

A further change was made on the south inside walls of the enclosure which resulted in the recess, discussed in E2-a, being filled making the north edge of the south deck straight from the southeast to the southwest corner (Fig. 19, in pocket). A talud was placed on top

of this that runs from the southwest corner to the stairway in the southeast. The top of the talud was probably flush with the top of the deck, at 1803 azep. Two aprons were attached to the front that partially covered the previous exterior staircase, and what remained of the staircase was extended to the east edge of the outside wall of the enclosure.

Minor alterations were made to the inside stairs. The back half of the third step from the bottom was filled so that the tread of the third step lost 50% of its area and the fourth step increased in area by the same amount.

The wall which filled the recess, Feature 213, was built in two phases. The first phase was the construction of a wall sloping slightly outward at the bottom that was filled with talpetate chunks and faded with pumice, over which was placed a relatively thin layer of piedrine. In the second phase, the fill and facing of the original wall were left undisturbed, but all except a stub of the piedrine of the first phase was removed and replaced with a very thick layer of piedrine, 20 cm. at the base, thinning to 6 cm. at the top. Apparently a similar wall was put over the east half of the south wall since the base of the wall in this area also slopes out, but this is not certain, since this wall area was not trenched.

The talud, which was best preserved on the east, was placed on top of this surface. It was filled with pumice and brown sandy clay. The bottom was 12 cm. from the edge of the top bench. How high up the wall it reached is uncertain, since it had been extensively

destroyed. The highest point remaining is at 1793 azep, but a consideration of the slope of the surface of the talud indicates that it would have had to continue up to 1803 azep on the back of the E1 room wall. Since the room wall projected further north than did the edge of the deck during E2-a and b, it is necessary to hypothesize that the deck surface was now extended to the north to meet the top of the talud at 1803 azep, which is the same height as the deck surface.

Little is left of the front exterior stairs (Feature 50). However, part of the east outside wall which connected the stair extension to the former southeast corner remains, as does the bottom tread of the stairs (1698 azep). All of the steps in the eastern portion of the stair area except this bottom one were destroyed aboriginally. The rear of the bottom step articulates with the plaza floor at 1670 azep.

On the front of the structure are two rectangular additions or aprons. Each apron is flat, with a remnant of other construction on top. On top of the larger one which articulates with the building itself, is a sloping wall, a talud. On the north the talud rests on the second tread and riser from the top of Feature 50. Only the east side and southeast corner of this talud remains. It reaches a height of 1728 azep.

No remains of the west side of the large apron were found, since this area was destroyed by later construction activity. Without more excavation to the west, I cannot say whether this larger apron existed in the original structure. In the reconstruction (Fig. 16),

the presence of a west side of the apron has been included on the basis of the principle of symmetry and the fact that the front platform had to articulate with something.

The smaller apron, Feature 25,(Fig. 6) is south of the larger apron and articulates with it. It is set into the center of the front of the larger apron, giving the front of the larger one a stepped appearance. The remnant on top of this small apron is the base of what was probably a rectangular platform that was almost completely destroyed by subsequent construction. A stub of the front wall, the southeast and southwest corners, and part of the east and west walls remain. This small apron is at 1700 azep, plus or minus four centimeters, over its entire surface, and the highest remaining point of the superstructure is 1720 azep.

The reconstruction of the front half of E2-c is therefore the most dubious of all the reconstructions of construction E, since it is based on the least data. I have reconstructed the front apron of their superimposed platforms on the assumption that the architects would have provided some means to keep the room of E1 from filling with water during the rainy season. Since there is no evidence that the 1725 azep floor of the room was ever raised it is not likely that the top surface of the talud (1750 azep) extended all the way across in front of the room. If it did, a water trap would have been created. Secondly, it also seems likely that the rectangular platform on top of the smaller apron, Feature 25, would be approximately the same height as the larger apron (1725 azep) since the larger apron in turn is approximately the same height as the room floor.

Stage E3

This Stage of construction witnesses a major change in the form of construction E. The new structure consists of three basic components that remain in the same interrelationship throughout the Stage (Figs. 20, 21 and 22). The first component is a large platform that supported a perishable super-structure. The second component is a small platform, here called an atrium, attached to the center of the south wall of the larger platform and projecting southward from it. The atrium supports the steps leading to the top of the larger platform, and connects the major platform to the third component, a low walled, rectangular enclosure to the south. Later modifications within Stage E3 were placed directly over corresponding earlier E3 componants.

The building techniques and materials used in E3 were the same as those used in E2; that is, all of the surfaces are covered with piedrine and the walls are formed by dressed pumice blocks set into a sandy clay matrix. The large platform of E3 was built over the structures of the previous Stage (E2, Fig. 12). All of E1 and E2, except the northern third of E2, all of the room, and all of the front aprons were covered by this structure. The north third of the E2 enclosure wall, being outside of the limits of the E3 platform to its north, was leveled to the new plaza surface, 1674 azep (Figs. 9 and 11).

E3 has three substages. In E3-a (Fig. 20) the walls of the enclosure are vertical and the enclosure is sunk slightly into the

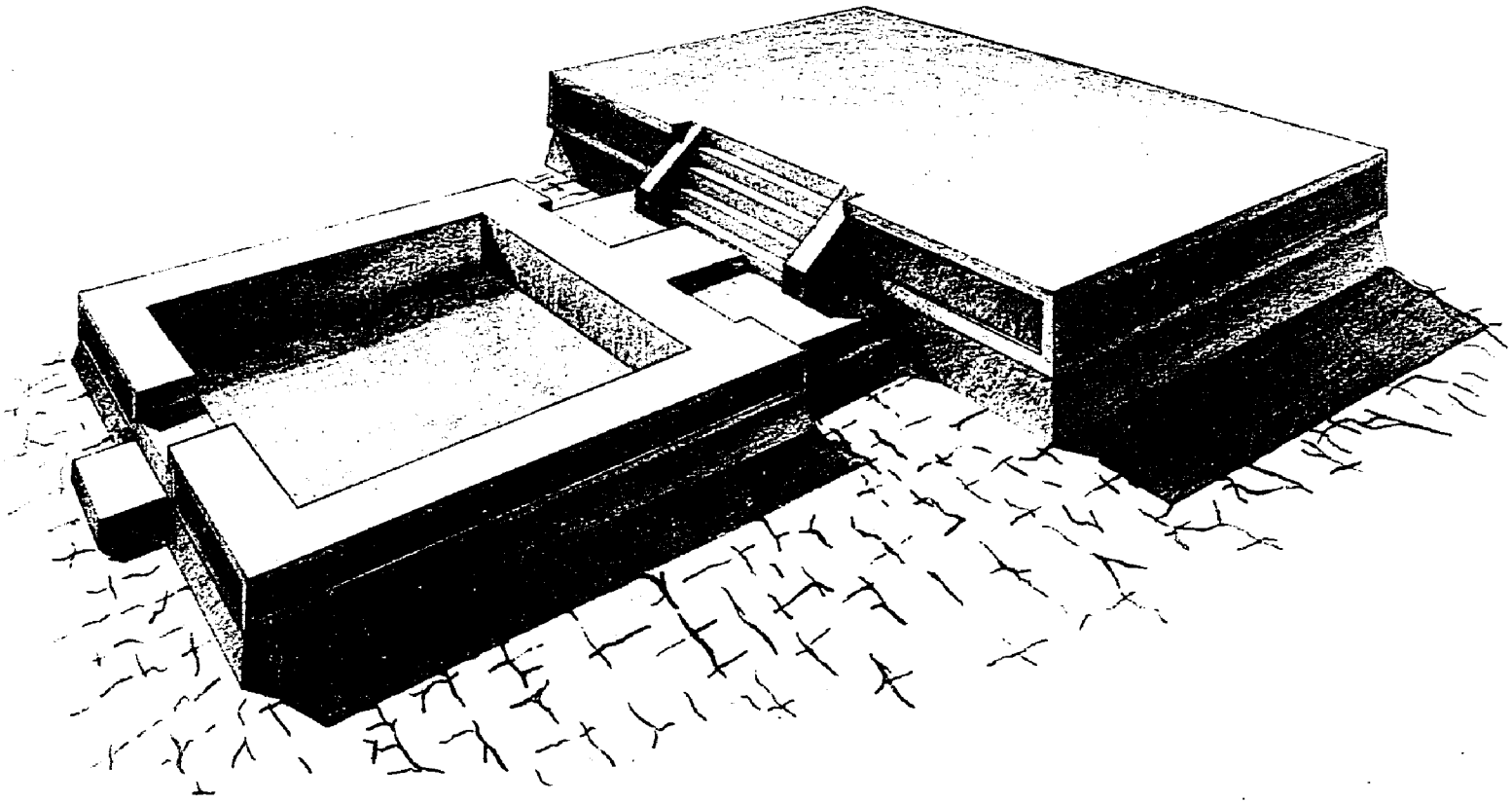


Figure 21. Reconstruction of substage E3-b1.

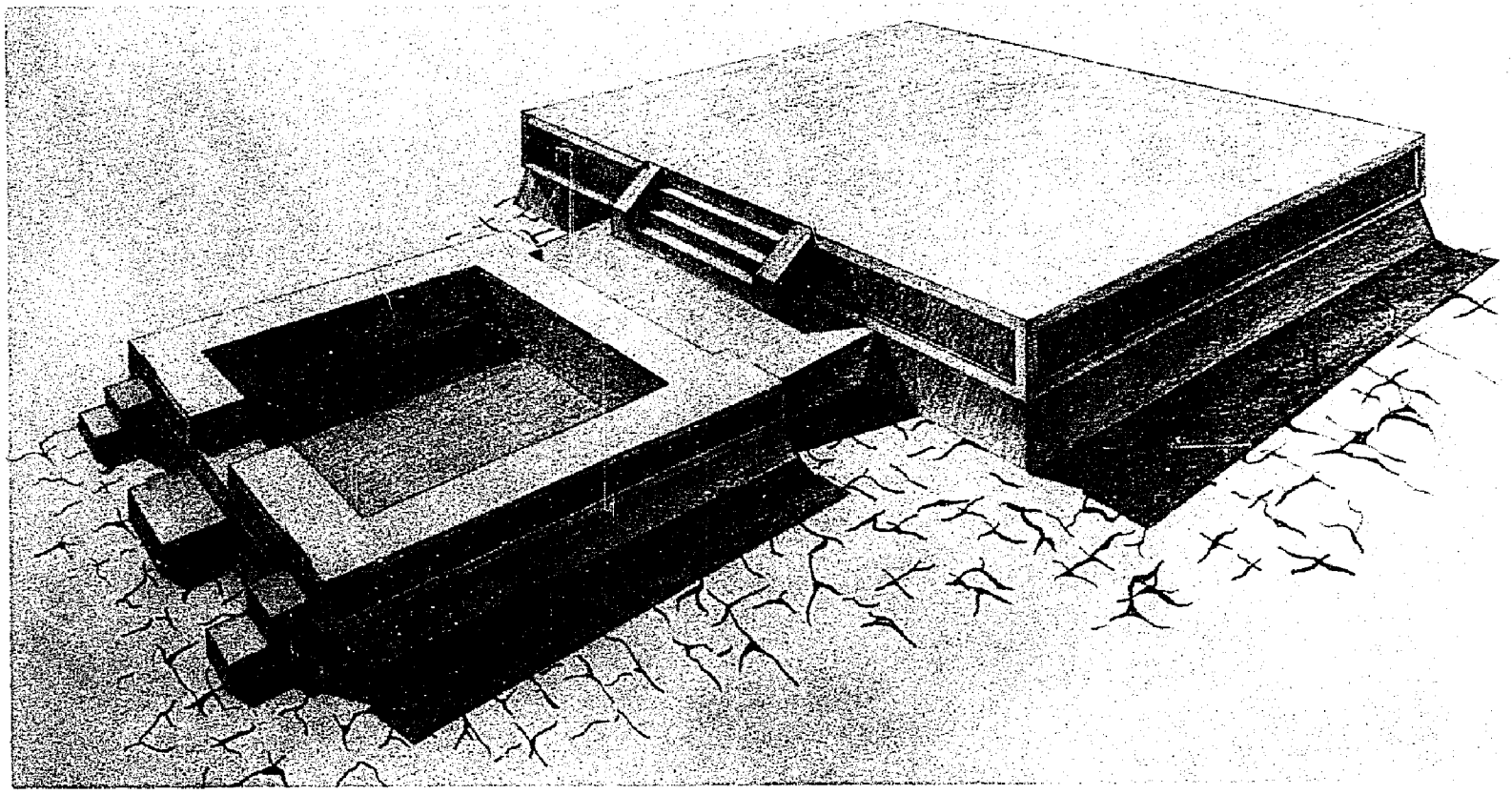


Figure 22. Reconstruction of substage E3-c.

Plaza floor. The atrium is one step up from the plaza floor, and the platform has a talud and tablero on the front half and a bench-like feature on the back half. In substage E3-b (Fig. 21) the enclosure wall is covered by a talud and tablero, the atrium is two steps up off the Plaza, and the large platform is covered with the talud and tablero.

Pumidrine was used for the first time in E3-c (Fig. 22). The platform remained the same but the E3-b atrium steps were covered by the new atrium. The only way that the platform could be reached was by ascending new stairs built on the front wall of the enclosure and then walking along the top of the enclosure to the atrium. The stairs were located in the southeast and southwest corners of the enclosure both on the interior and exterior of the enclosure wall.

E3-a. In general the preservation of the platform of this substage is good, although its top surface is completely destroyed (Fig. 23). The tops of the side walls are also destroyed, with the highest remaining point at 1850 azep. By using the proportions of the talud and tablero from the buildings excavated by Don Gustavo Espinoza in the Acropolis, I estimated the top of the platform to be at about 1915 azep (Fig. 12). The plaza surface surrounding the platform is 1676 azep.

The dimensions of the perishable super-structure on the platform can be obtained from post holes found at the platform's four corners. Only the post hole in the northeast, Feature 200, was excavated to its base, partially in cross-section. It is about two

meters deep and 80 cm. in diameter. The diameters of the other two post holes uncovered are the same. The post hole in the southwest was assumed to be present when river cobbles like those which lined the other holes were found sticking out of the wall of the unit to the west of where the hole should be. The post holes in the northwest and northeast corners were dug into the east and west walls of the earlier E2-b enclosure and lined with river cobbles. The ones in the southeast and southwest corners were set into the talpetate fill of the E2 platform (st. 46) and also lined with river cobbles. All the post holes seem to have been constructed at the same time as the platform fill was laid. Two other probable post holes were also found. One, Feature 40 (Fig. 6), is on the same east-west line as the northwest and northeast post holes and halfway between them. The second, Feature 61, is 120 cm. from the southeast post hole on the same east-west line as the southeast and southwest post hole. The diameter of the first one is the same as the four major posts but the diameter of the second one, 60 cm., is less. The second post hole is set into the steps of substage E2-b. Thus there appear to have been three major back posts and two major front posts with perhaps two minor front posts which would have supported the roof on either side of the entrance to the super-structure.

The platform has two kinds of walls forming its base (Figs. 20 and 23). On the north half of the platform wall is a bench-like feature, on the south a talud-tablero. The bench, Feature 19, extends across the north side of the platform (Figs. 6 and 9) and half way

along both the east and west sides where it meets the talud which forms the wall of the rest of the platform except in the central stair area. There was a low molding, 5 cm. high and 20 cm. wide at the base of the bench, articulating with the Plaza surface. (This feature is not shown on the reconstruction.) The back of the bench slopes back from its juncture with the seat and probably articulates with the top edge of the platform at 1917 azep. Adding 72 cm. for the width of the seat of the bench, the total length of the bench from its back northeast and northwest corners to where it joins with the talud is 5.72 m.

The south half of the platform, starting at the end of the bench, is surfaced with a talud (Feature 59, Fig. 24) and tablero. The bottom of the talud extends about 35 cm. further to the east than does the base of the bench. (The juncture of the bench with the bottom cornice is in line with the front of the bench.) There was a vertical, north-facing wall joining the corner of the talud to the edge of the bench. The bottom cornice, and a probable top cornice, continued around the corner onto this wall. All of the tablero is destroyed and only in some areas does the pumice backing of the tablero remain (Fig. 24).

The base of the talud is characterized by a basal molding 10 cm. high with rounded edges (Fea. 58, Fig. 24). It extends around the whole base of the talud as far as the atrium platform; it is rounded where it turns a corner. The talud is about 100 cm. high and is 38 cm. wide measured from the base to a perpendicular dropped from the top of the sloping talud at its juncture with the cornice. The lower cornice is 25 cm. high by 15 cm. wide.

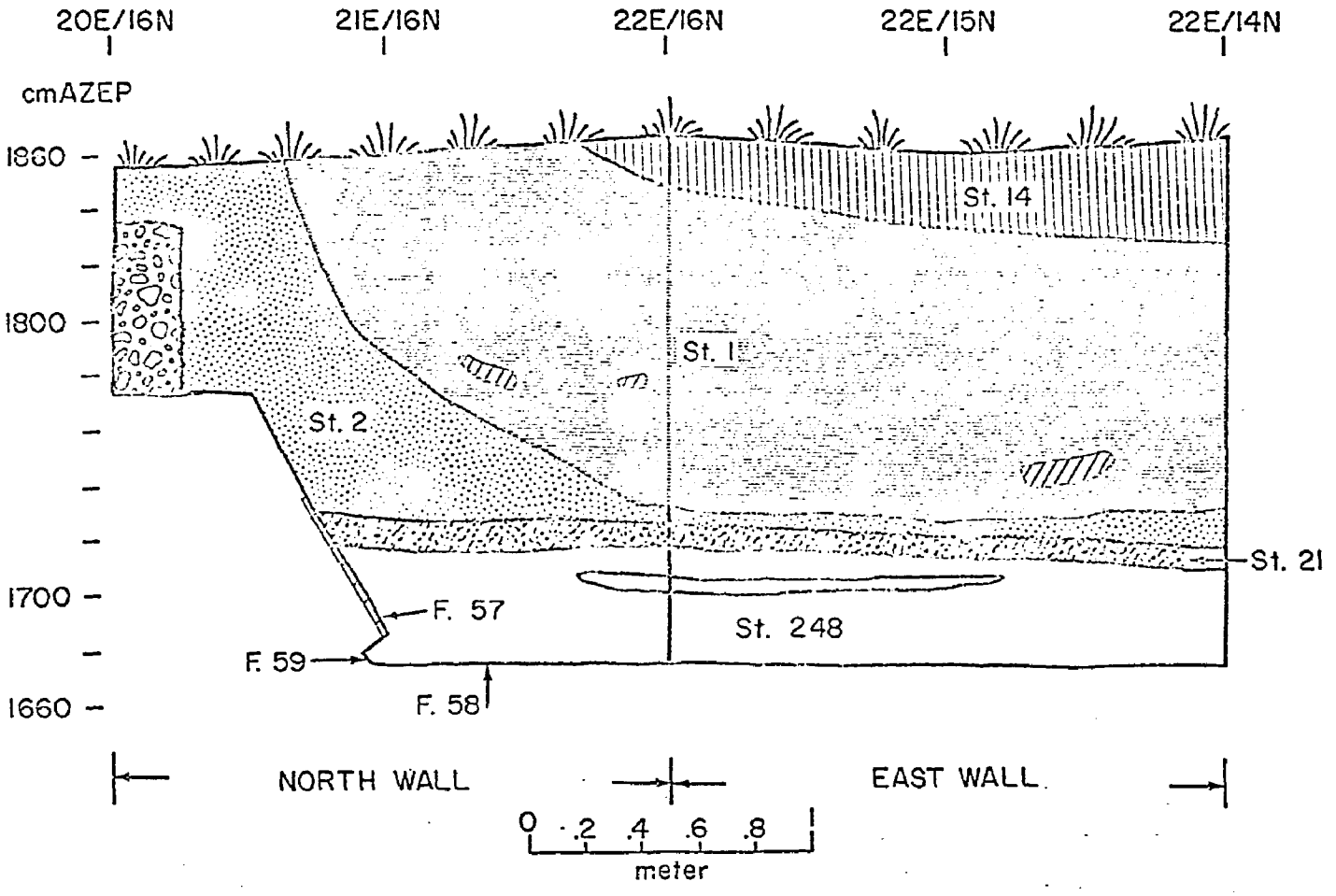


Figure 24. Profile, north and east wall, 20-22N/16E and 22E/14-16N. -- See Figure 6 for key to symbols.

Inset into the front (south) of the platform is a set of steps, Feature 34 (Fig. 6), flanked by balustrades. This staircase rests on the top atrium surface. Most of the stairs of the staircase have been destroyed by later activity and only the bottom step at 1732 azep and the next higher step at 1775 azep remain. The stairway is 4.4 m. wide between the insides of the balustrades. The balustrades are 75 cm. wide, so the entire stairway is 5.9 m. wide.

Both the cornice and the talud articulate with the balustrades but only the talud surface is continuous with the balustrade's surface. The atrium, Feature 34 (Fig. 6), is joined to both the talud and the stair balustrade complex. Apparently, in one operation, the structural fill of the talud, the atrium, and the balustrade was prepared and finished with pumice blocks and the piedrine was then laid on top of this structural matrix. The construction of the cornice and tablero was a second operation.

The atrium platform is at 1705 azep and is 8.5 m. long, east-west, and 3 m. wide, north-south. It has a raised area 2.05 m. wide that runs down the north-south center line of the structure. The raised area articulates with the depression in the bottom step. The raised portion is 20 cm. high, at 1735 azep.

The atrium platform articulates with the Plaza floor at 1680 azep. The front of the atrium is formed by the north wall of the enclosure, Feature 34b. This wall, 75 cm. thick and surfaced with piedrine, had a flat top of piedrine at the same height as the raised area of the platform.

The outside wall of the enclosure has a curb running around its base at 1690 azep. The base of the outside wall also has a short piece of piedrine floor extending out from the wall for a distance of about 100 cm. The floor extended around the entire enclosure at 1673 azep. Thus, except for the base of the east and west sides of the atrium, all the bases of the three components of this structure have a piedrine "footing" of some sort articulating with them.

The walls of the enclosure are vertical and relatively low, extending only 50 cm. above the Plaza floor, and about 80 cm. above the enclosure floor. The interior of the enclosure has no features except two niches. These are 120 cm. wide by 70 cm. deep and are located opposite each other in the middle of the east and west walls. The floor of the enclosure was only 20 cm. lower than the surrounding Plaza floor. The elevation of the enclosure interior floor is 1646 azep in the center and about 1654 at the edges (Fig. 6). This could contribute to a water drainage problem since piedrine is not porous. However, not enough area was excavated to say whether there was a drain, nor whether the enclosure was covered. It is not likely that it was covered since the later enclosure floor which was totally excavated did not have holes for posts which could have been used as support for a roof.

Though the back platform was apparently built on a plaza level that was resurfaced but not much altered from the previous plaza, the area under the enclosure floor was subject to massive renewal. At least the top 90 cm. of the previous plaza floors were removed in

preparation for the structural matrix of the E3 enclosure. This structural matrix consisted of a base of cut talpetate blocks, st. 31, laid down on top of a thin brown sandy clay surface; over this a layer of crushed talpetate, st. 32, was added that was followed by a layer of piedrine (Fig. 8).

A number of features that may have been dedicatory also belong to substage E3-a; these include two burials, tombs 2 and 3, and an obsidian and stone cache, dot 181. Tomb 2 was located on the center line in 12-13E/22-24N. It was intruded into the earlier, E2-b, enclosure through the latest floor, Feature 218, and rests on the floor of Feature 219, E2-a1. Tomb 3 is quite different in location and form though not in grave goods. Tomb 3 was in the northeast corner of the E3-a platform, intruded to just above the bottom piedrine floor, Feature 228, of the E2-a enclosure. The sides of the tomb pit were stone lined and stones were piled on top of the burial. Both tombs contained seated individuals accompanied by offerings of cylindrical tripods and ring stand bowls. However, the contents were not as rich as those of the tombs found in mounds A and B (Kidder, Jennings and Shook 1946: 35-50).

A skull cairn, Feature 10, (Fig. 6), was found under the piedrine enclosure floor of E3-a, in 11E/6N. This feature may belong to the pre-piedrine period, since it was associated with a tetrapod, basal flange bowl of the kind found in D-III-13 and assigned to the preceding Aurora phase. Dot 118 seems to be dedicatory to E3 since it was intruded into the talpetate footing of the enclosure floor

under the west niche. The cache consists of two blades of obsidian and a number of small burned rocks.

E3-b. Major architectural changes took place in this substage (see planview of E3-b1, Fig. 25 in pocket). The enclosure was probably entered by a platform and step that were built into the front center of its south exterior wall. The enclosure floor was raised to a height of 1700 azep. The niches were filled in by doubling the width of the enclosure wall and raising it to 1780 azep. All exterior walls of the enclosure, except part of the north wall, were covered with a talud and tablero. The talud and tablero probably had a cornice across the top though no evidence of this remains, although there is a cornice around the bottom. The platform stairway was remodeled and the front of the balustrades and the stairs were moved to the south, covering part of the atrium. The bench on the north half of the platform was covered by continuing the talud around the entire base of the platform.

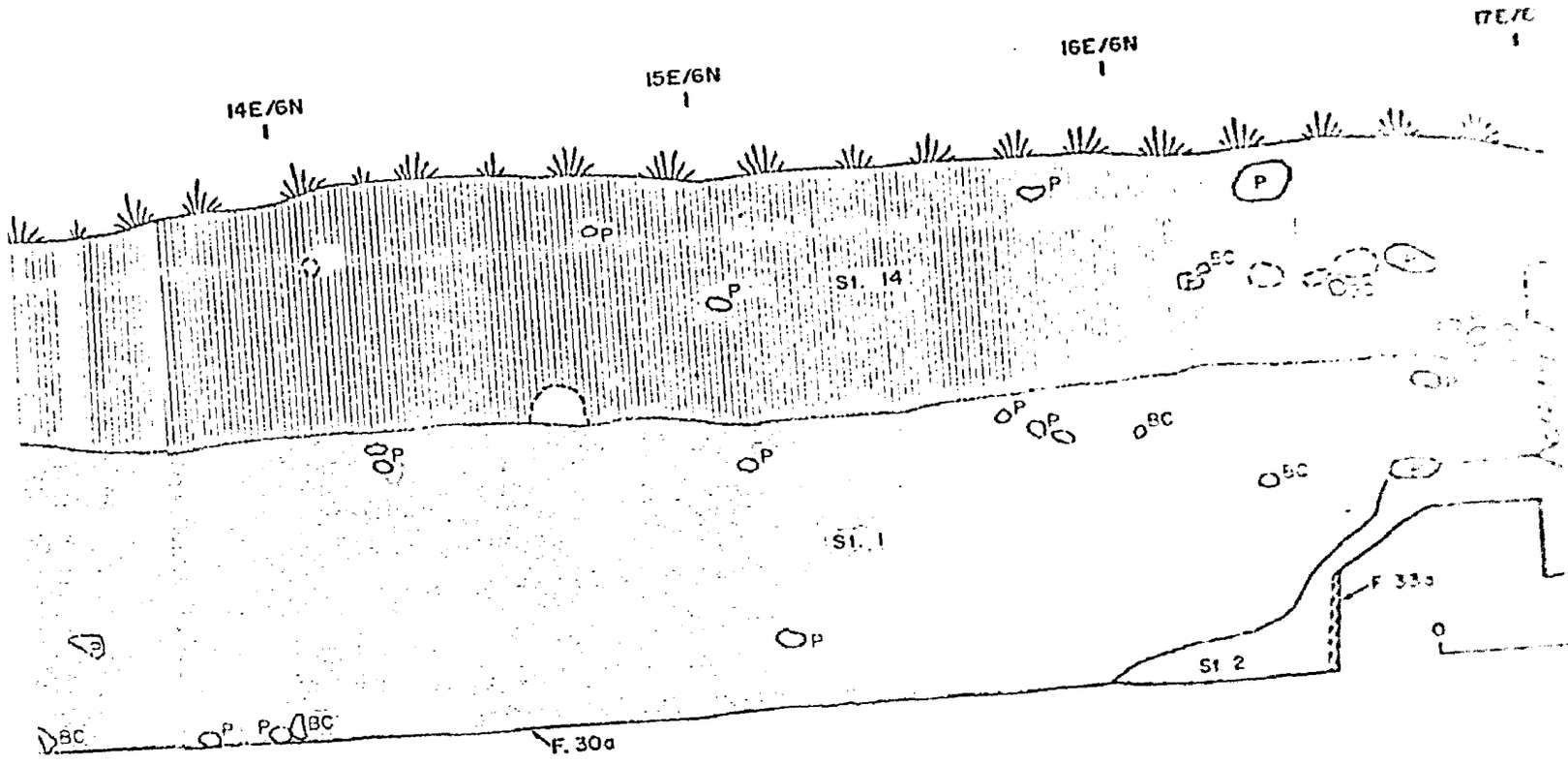
The enclosure was apparently entered from the south by way of a piedrine platform. The entry platform is mostly destroyed but was definitely 290 cm. wide east to west and at least 40 cm. north to south. The platform is at 1722 azep. The northern edge of this entry platform articulates with the base of the 30 cm. high vertical wall of piedrine which is flush with the tablero of the enclosure. The bottom cornices on the south wall of the enclosure were faced off where they abutted the entry platform.

I postulate that the entry platform has a broad step about 30 cm. above the plaza surface. Its relation to the enclosure wall is

problematical. However, I think that the 30 cm. high vertical wall articulating with the north edge of the entry platform was the riser of a step. The tread attached to this riser was probably as wide as the enclosure wall that it traverses. Thus, there was a front entry into the enclosure in the south exterior wall. The height of this opening is about 1750 azep, 30 cm. below the top of the enclosure wall, and 50 cm. above the floor of the enclosure.

The floor of the enclosure was raised to a height of approximately 1700 azep. The exact height is unknown because construction of a later floor, E3-b1, Feature 30a (Fig. 6), destroyed almost all of the E3-b floor except for a remnant encountered in a trench through the west wall of the enclosure. The subfloor fill is pumiceous yellowish-brown sandy clay, st. 28.

The enclosure wall averages 130 cm. in width (Figs. 26 and 27). The east side is 150 cm. wide on the average and the west 105 cm. The east wall is somewhat variable because the inside wall of the enclosure runs from the northwest to the southeast while the outside wall runs in a straight north to south line. This variation may have been the result of a later remodeling but no evidence definitely suggests this. The talud around the outside of the enclosure wall is 50 cm. high measured from the Plaza floor at 1670 azep to the bottom of the lajas. The talud is 40 cm. wide measured from a perpendicular drawn from the lajas down to the Plaza floor on which the talud rests. The top of the lower cornice, the only cornice that remains, is at 1735 azep. The cornice is 10 cm. high and 10 cm. wide and is



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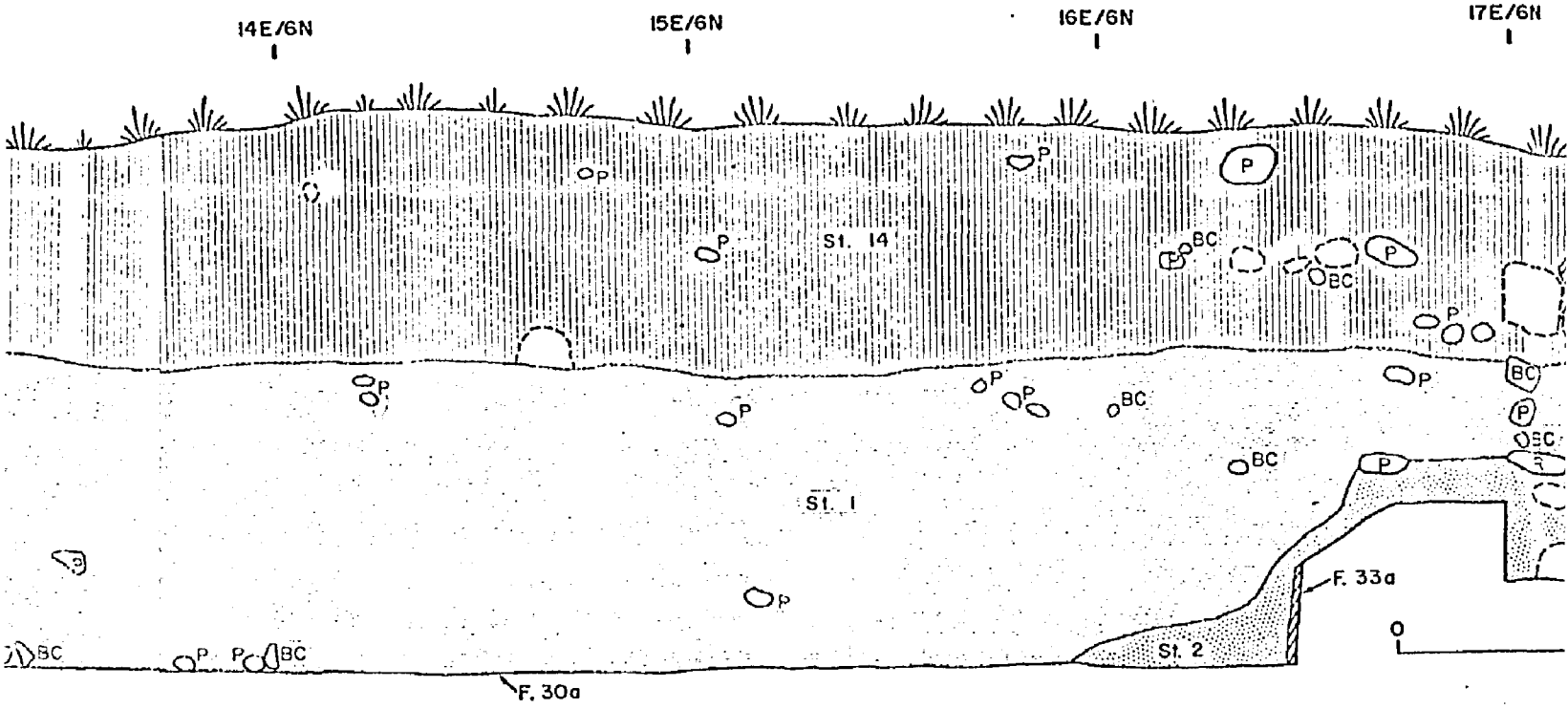

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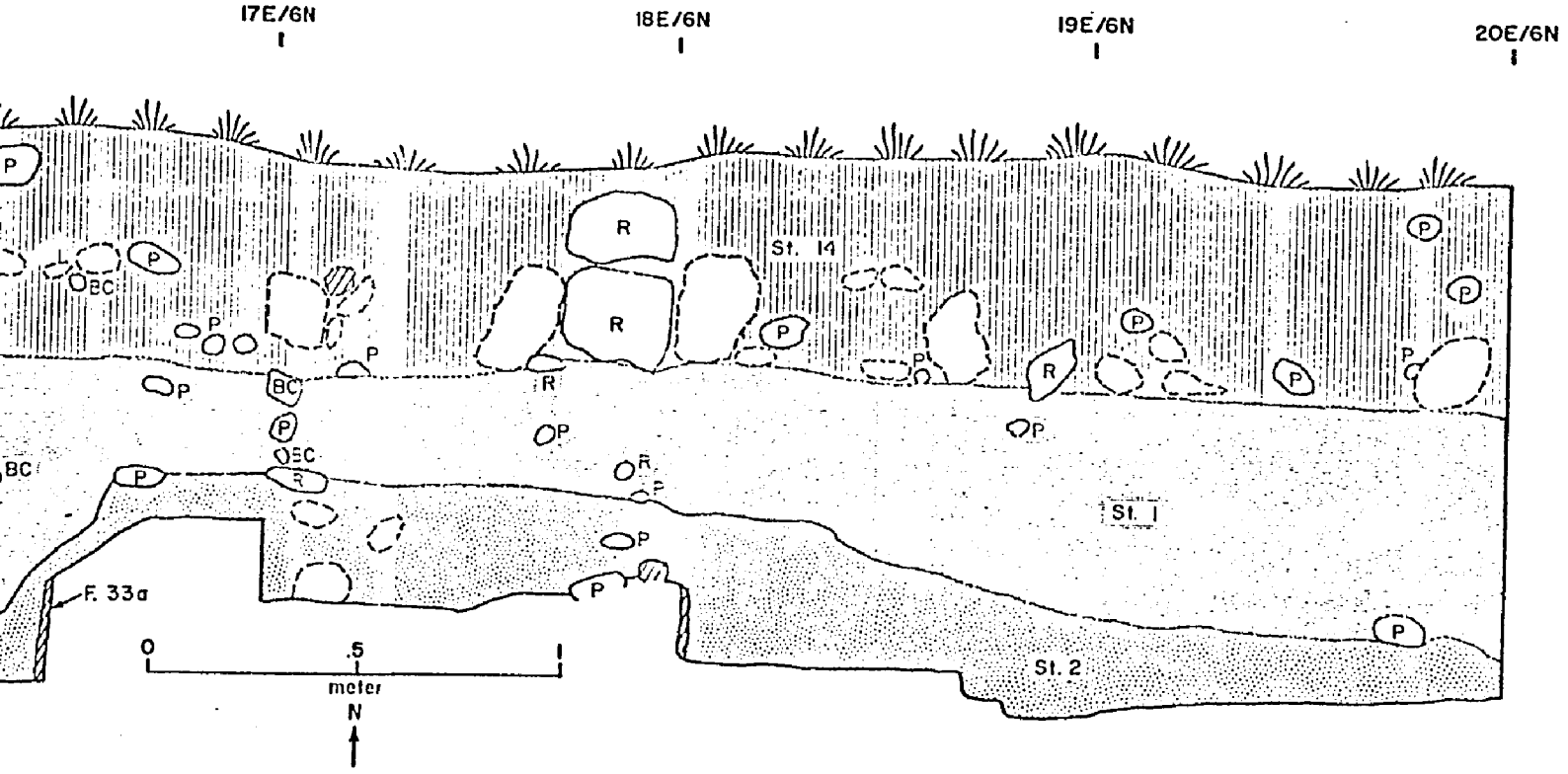
17E/6N
18E/6N
19E/6N
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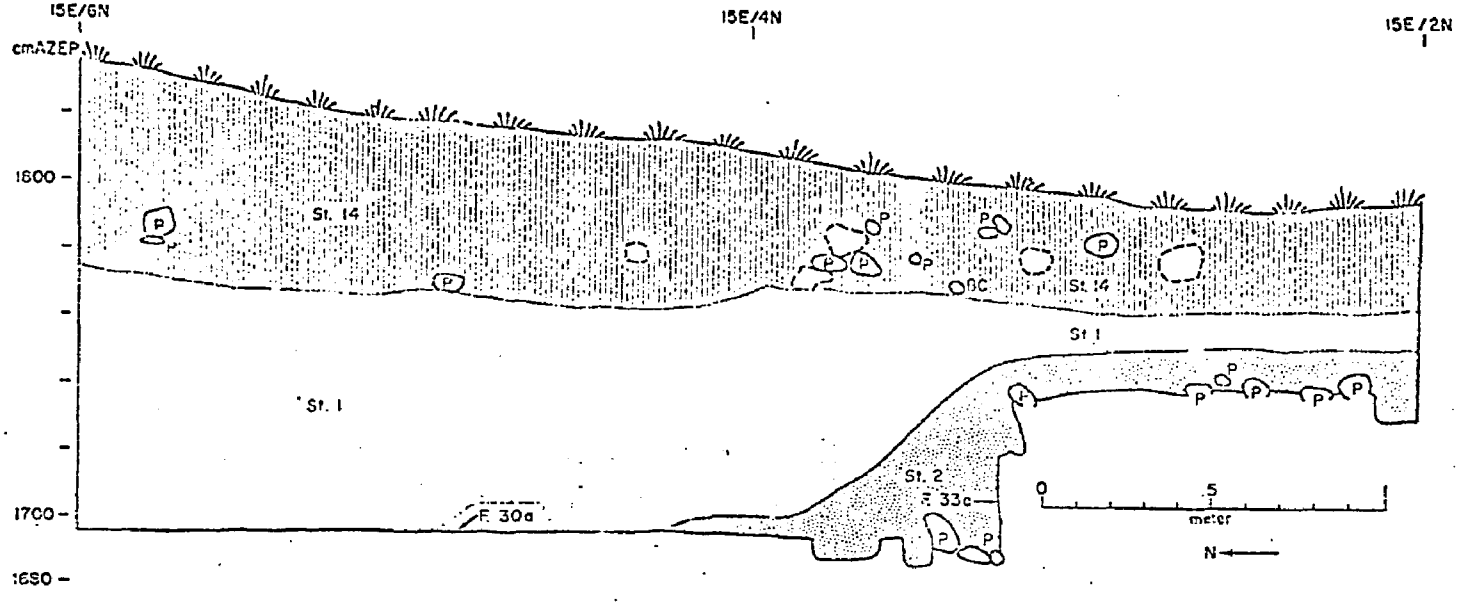


Figure 27. Profile, east wall, 15E/2-6N. -- See Figure 6 for key to symbols.

constructed in the same manner as the other cornices mentioned above and rests on a row of lajas.

Except on the north where it abuts the atrium, the enclosure wall was partially destroyed by later construction. On the west side the portion of the wall that remains reaches 1735 azep; on the east it reaches slightly higher, 1745 azep; the top of the undestroyed north wall is 1780. The enclosure wall in this substage lacks the long apron that is attached to the base of the exterior enclosure wall in E3-a. A talud and tablero formed the surface of the exterior enclosure wall. The earlier E3-a wall served as a retaining wall over which was put a pumice and brown sandy clay fill. The piedrine-surfaced talud and tablero was placed over this fill.

This talud and tablero does not encircle the exterior wall completely. On the north wall it extends only 1.7 m. from each exterior corner (the northeast and northwest) and does not join in the center of the north exterior wall. The best preserved area of the exterior wall of the enclosure is in the northeast corner of the north wall. The wall reaches an elevation of 1769 in this area, which appears to be its original height. This piece of wall would have been the base on which the lajas were laid to support the upper cornice, and in fact, one laja was found resting on top of this piece of wall. If the upper cornice was 10 x 10 cm. as the lower one is, we can estimate the top of the back wall of the enclosure as being at 1779 azep, which is only 1 cm. lower than the undestroyed top of the north enclosure wall. Thus, there was probably an upper cornice in this location.

The lower cornice of the tablero found on the east wall of the enclosure, however, does not continue around the north side of the exterior wall. (The west half of the north exterior wall was not excavated and therefore I do not know what was in this area.) There was probably a vertical cornice, now destroyed, on the northeast corner. This is indicated by the laja which still rests on the top corner of the talud. In place of the lower cornice, the north exterior wall has a ledge 10 cm. wide. This ledge extends 108 cm. west to articulate with another vertical cornice which forms the west edge of this extension of the talud's last tablero on the north wall. Though this area was not excavated, it is likely that the talud was placed over the east edge of the E3-a atrium. The ledge of the tablero is 20 cm. higher than the atrium floor, which is at 1705 azep. Since the wall of the enclosure, including the north wall, was doubled in width, the width of the atrium was reduced by 50 to 60 cm.

The atrium, except for the reduction in its width, remained unchanged. The staircase that rested on the atrium and led to the platform was remodeled. The earlier stairs were completely covered by another set, Feature 33 (Fig. 6). The front of the new stairs and the balustrades were moved 83 cm. to the front, that is south, covering part of the earlier atrium surface. The bottom step in the new staircase did not extend across the raised central area of the atrium.

As already mentioned, the platform itself apparently was not changed except for the extension of the talud and tablero around the total perimeter. The extension of the talud and tablero is designated

Feature 59 (Fig. 9). It also partly overlapped the preceding talud, Feature 58 (Fig. 24). From the profile of the north and east talud it seems that the Plaza level articulating with the base of the talud is higher than before, at 1709 azep instead of at 1675 azep (Fig. 9).

E3-b1. The next construction activity was limited to a remodeling of the atrium area (Figs. 21 and 25). It is designated Feature 30 (Fig. 6). The stairs of the previous substage were completely covered and the surface of the atrium was raised to about 1755. A step was added to the east and west sides to make the newly raised atrium accessible from the Plaza floor. Each step is at 1715 azep, about 35 cm. above the Plaza surface and the atrium is at 1750 azep, 35 cm. above each step. The bottom tread of each step is 40 cm. wide. The front of the bottom of the riser of the east step is 30 cm. east of the E3-a atrium. In the center of the new atrium, Feature 30, the fill was almost pure powdered talpetate; under the steps in the east was a band of powdered talpetate on brown pumiceous sandy clay with talpetate chunks. The steps were faced with dressed pumice blocks and covered with piedrine. Excavations in the west side of the atrium indicate that the west steps may not have contained powdered talpetate.

The center of the atrium was again occupied by a raised platform about 2 m. wide and, at 1720 azep, 10 cm. above the adjacent atrium surface. The atrium surface sloped gently up from its east edge at 1750 azep to a height of 1758 azep at the base of the raised central area.

Little is left of the staircase to the large north platform. However, the first riser and tread of these stairs are present in

remnant form on the east side of the atrium. The tread is at 1789 azep and the base of the riser is at 1759 azep. The edge of the riser is 30 cm. south of the front of E3-a and 32 cm. to the north of the E3-b stairs. Since the front of the balustrade is in general parallel or slightly in front of the first riser, the balustrades and steps of this substage were probably set back closer to the building platform than in E3-b.

E3-c. Generally minor alterations in the atrium and the enclosure were made during this substage (Figs 22 and 28 in pocket). These alterations are put into a separate substage than E3-b1 because they showed, unlike E3-b1, some departure from the previous architectural patterns. In this substage pumidrene was introduced for repair work and for resurfacing material of some of the additions.

During E3-c the atrium was rebuilt so that, at least initially, one could not enter from the east and west because the steps were covered by a vertical wall of piedrine. The exterior of the south wall of the enclosure was modified by the addition of two staircases close to the southeast and southwest corners and by expansion of the entry platform. The floor of the enclosure was resurfaced and there were perhaps two staircases placed in the inside southwest and southeast corners of the enclosure.

The enclosure floor is lower in the middle than in the corners. The corners average 1703.5 azep and the center is at 1698 azep. On the southeast and southwest corners of the enclosure floor there are two areas which may show the scars of removed stairways. The one in

the southwest is 160 cm. long and 50 cm. wide. In reconstructing the stairs here, I assumed that one step with the tread halfway between the top of the wall and the floor at about 1740 azep would be sufficient to provide access from the top of the wall into the enclosure. It is possible that two steps were constructed; they would have been at about 1730 and 1760 azep.

The edges of the undestroyed piedrine next to the hypothesized stair area in the southwest corner were too worn to tell whether they may have originally turned up to form the base of a step riser. It is fairly certain that this area did not go with the enclosure floor of E3-b because Cardenas notes that probing at the north front edge of the scar area failed to find a wall which continued down below the E3-b surface, Feature 30a.

The southeast area is better preserved but more confusing. This area contains dot 119 composed of a stone mortar set on top of a bed of pumice chunks which in turn rests on a rectangular construction, the north face of which is partially surfaced with piedrine. The top of the mortar is at 1742 azep and the bottom of the pumice is at 1716 azep. The piedrine on the supporting construction below 1716 azep is continuous with that on the east wall of the inside of the E3-c enclosure, Feature 33a, forming a corner with the east interior wall. The corner is 50 cm. east of the previous, E3-b south and east walls of the enclosure. This distance is identical to the width of the scarred area in the southwest corner, supporting the hypothesis of stairs on the interior of the southeast and southwest corners of the

enclosure. The piedrine on the supporting construction seems to go below Feature 33a. This is in contradiction to what Cardenas found in the southwest corner. However, this problem cannot be resolved except by more excavation. I think it is more likely that the hypothesized steps go with E3-c rather than with E3-b since the outside stairs also seem to have been added at this time. It is likely that dot 119 is associated with one of the later Stages rather than with E3-c. It was possibly installed at the same time the inside stairs were destroyed, probably in E4.

No alterations of the enclosure seem to have been made during E3-c, but additions to the exterior wall were constructed. Two staircases were built over the talud and tablero of the E3-b enclosure in its southeast and southwest corners. The east side of the southwest stairs and the west side of the southeast stairs overlap slightly on the west and east sides, respectively, of the hypothesized interior stairways.

These stairs are 15 and 30 cm. to the east and west, respectively, of the corners of the enclosure. The one in the southwest is better preserved than the other, although both had been damaged by later construction activity. Each set of stairs is bounded on the east and west sides by a thin wall of solid piedrine which rises as high as the top step. These walls were not placed in the reconstruction. The east wall of the southwest stairs extends 60 cm. beyond where the stairs were thought to end, as does the west wall of the southeast stairs. This might indicate a broad low bottom step as well

as a broad top step; however, very little of either of these hypothesized steps remains. The stair treads are considerably broader than the treads found in other construction phases, being about 50 cm. wide. The risers are only 25 cm. high; each stairway is 130 cm. wide. The top tread articulates with the tablero wall which still stands at its highest point here in the southeast to a height of 24 cm. above the top of the cornice. The reconstruction of the front stair area was difficult. The thin side walls of the stairs are not represented in the reconstruction (Fig. 22) because so little of them remained that it was impossible to make sense of their position. Another problem involved the hypothesized upper cornice on the tablero where it crossed the area over these hypothesized stair areas. It is reconstructed as discontinuous because it seems as if it would have been in the way of someone ascending the stairs. However, there is no evidence at all about its actual form.

Also during E3-c the front center platform was enlarged and extended to both the east and west beyond the edges of the cornice. How far it extended is unknown because it is covered with unexcavated construction material from a later phase. Both the exterior staircases of the enclosure, including their side walls, and the platform extensions are made out of pumidrene.

The atrium, Feature 29 (Fig. 6) of this substage differs from those of the first two substages in three ways. The first is that the piedrine of the top surface is very unevenly laid, being laid almost directly on top of the previous surface and varying from 6 to 20 cm.

in thickness. The top surface is also uneven. It slopes from north to south and from the center down to the east and west. At the base of the first riser of the stairs leading up to the platform, the floor is at 1789 azep. It drops to 1767 on the south where it articulates with the wall of the enclosure. On the east and west edges it occurs at 1758 azep.

Secondly, there seems not to have been a raised platform in the center area of the atrium. Most of this area had been destroyed by the placement of dot 120, a stone sculpture. However, enough is left to be sure that if there were a raised area, it was considerably narrower than the previous ones. Thirdly, the steps on the east and west sides of the atrium are covered leaving only a vertical wall. This wall articulates with the Plaza floor at 1680 azep. At some later time two floors of thin layers of piedrine were superimposed over the Plaza floor. The lower one is at 1698 azep, the higher one at 1707 azep. The latter was more extensively destroyed than the former by later construction activity. The second of these two surfaces relates to the Plaza floor profiles on the north and east sides of the large platform, that is, there seems to be a plaza level at 1707 azep. Around the south of the enclosure the Plaza is at 1703 azep, though this is probably the same surface.

The E3-c atrium suffered extensive damage from later construction activity. The only indication that there was a staircase on the atrium of this substage was a stub of a riser on the east center of the atrium surface. This riser, probably the riser of the first step

of the staircase, is about 25 cm. south of the first riser of substage E3-b, and 55 cm. south of the first riser of structure E3-a. The balustrade that went with the staircase was probably constructed in the same location as the three preceding ones.

No information on the structure on top of the E3-c platform is available, nor does the base of the platform seem to change in this phase. The only construction activity around the platform can be seen in the resurfacing of the Plaza floors, whose elevations differ somewhat on different sides of the platform. There seems to be a fairly distinct floor level running around the north and east of the platform and one around the east and south of the enclosure. On the north of the platform the surface is at 1708 azep (Fig. 9), on the east of the platform it averages about 1716 azep (Fig. 24 and Fig. 29). On the east and south side of the enclosure it is between 1707 and 1709 azep. There is not as much data about the surface west of the platform but the one profile available also shows a multi-layered floor level at 1706 to 1708 azep. There do not seem to be any plaza surfaces above 1688 azep west of the enclosure; this level would go with substage E3-b rather than with E3-c.

E3-c1. This is the last identifiable construction activity in construction area E that used the same construction techniques as were used in E1, E2, and E3. Only one construction feature, a sloping wall of pumidrine placed on the front wall of the enclosure, is assigned to this phase. Several factors limit my ability to describe this wall in any detail. Later aboriginal construction covered and

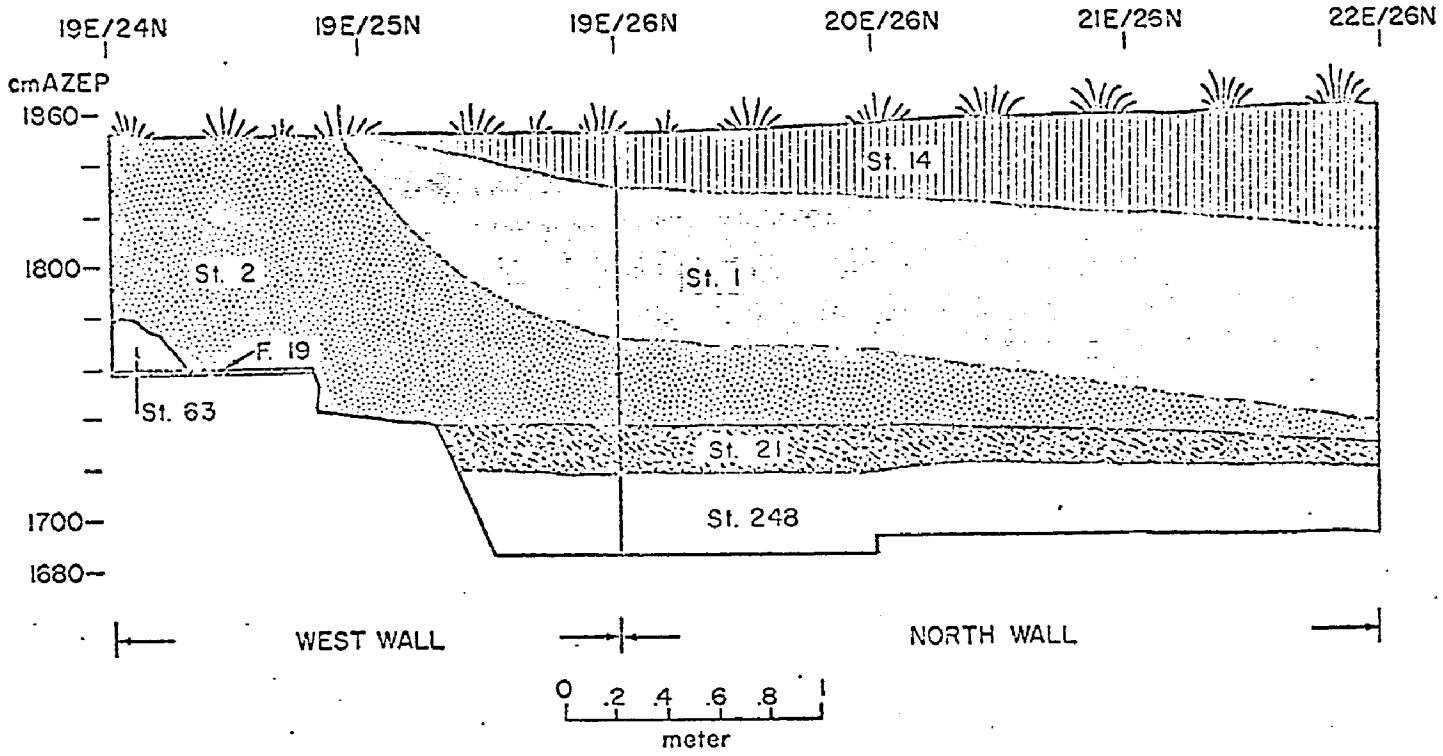


Figure 29. Profile, west and north wall, 19E/24-26N and 19-22E/26N. -- See Figure 6 for key to symbols.

partly destroyed the wall, and this later construction was not totally removed during excavation. Also, Lothrop removed a sculpture, stela A, from the area in front of the center of the enclosure wall, destroying some of the architecture. The base of the wall is 145 cm. south of the vertical tablero surface of E3-b. The height and slope of the wall are unknown. It probably did not extend all the way across the front, perhaps being interrupted by the presence of the central platform, and by the E3-c stairs on the south and east. However, the fact that the sides of the stairs on the southeast and southwest are approximately the same distance from the E3-b tablero surface as is a base of this E3-c1 wall gives the impression that the wall may have covered the side stairs. Thus, the central platform would have been the sole means of access to the enclosure and therefore to the platform.

Stage E4

This Stage is separated from the preceding one by an abrupt change in construction techniques and style (Fig. 30, in pocket). Instead of piedrine walls with pumice, talpetate and brown sandy clay fill, the Stage E4 builders utilized adobe and stone for their construction materials. It is likely that the majority of the destruction of E1, E2, and E3 was done in this Stage, including the robbing of the tomb under E1. The construction activity of the Stage resulted in the destruction of the Teotihuacan style architectural features.

E4 is divided into three substages. The first is an isolated wall and floor on the northeast and west of the platform of E3-c. The second substage includes a number of adobe and stone architectural

features that were probably part of one structure. The third substage consists of a series of pottery dumps and a section of a wall base. These substages may have been contemporaneous, but there is no evidence that they were and some indications that they were not.

E4-a. The first of the substages is a burned clay wall and a floor level that articulates with it. The burned clay wall, Feature 36 (Figs. 6 and 9), is composed of several layers of clay which run across the base of the north wall of the platform of E3. Its fill, st. 63, is composed of talpetate chunks in brown sandy clay. A floor or plaza level articulates with the bottom of the wall at 1723 azep. This feature was constructed by first removing the talud and tablero from the north wall of the E3-b structure down to 1715 to 1720 azep. Next, the builders cut off about 50 cm. of the earlier E3-a bench and finally put the clay wall vertically in front of this cut, resting on the edge of the remaining portion of the bench. Possibly at this time, the E3-b talud on the west wall of the platform was also removed to this floor level, 1723 azep. On the east side of the platform, only the tablero was destroyed. There is some evidence that the wall existed on this side of the platform but none of the burned clay remains (st. 63, Fig. 29). This activity indicates a shift in focus to the north and west portions of the Lower Plaza, rather than the south and east which had been emphasized during the previous stages. Cardenas left no notes on whether the clay wall exists on the west side of the platform as well. If it did exist on the west side, it is almost certain that it would have been noticed during excavation.

E4-b. Another set of construction features are grouped on the basis of similar construction materials, mainly adobe, placed over previous piedrine surfacing. There are three areas that show this kind of construction: one is on the west of the enclosure, the second is on and in front of the south wall of the enclosure, and the third is on the atrium. The first of these features is a ridge with a hard matrix, probably adobe, that extends along the west side of the enclosure wall. Cardenas links the ridge with the installation of a drain in the southwest corner of the enclosure. The drain, 40 x 20 x 100 cm. cuts through the west wall of the enclosure 50 cm. north of the exterior vertical cornice and about 45 cm. north of the inside corner. The drain terminates at the edge of the talud on the west wall of the enclosure and extends about 20 cm. into the enclosure. The north side of the drain is lined and roofed with lajas. Cardenas points out that the wall of the enclosure, which is broken off quite regularly at the level of the bottom cornice, is a most likely place from which the lajas used to line the drain could have been taken. He also feels that the drain and the hard ridge are related because there is a gap in the ridge opposite the exterior end of the drain.

The second of the adobe structures that may belong to this substage is a stone, earth, and pumice platform attached to the front of the exterior south wall of the enclosure (Fig. 28). Most of it was destroyed by Lothrop's excavations in 1926, during which he removed stela A. The platform was approximately 5 x 4 m. and probably articulated with whatever remained of the south wall. This adobe platform

is assigned to Stage E4-b because of the river cobbles used in its construction. River cobbles are typically post-piedrine construction material. The original height of the platform is unknown, though apparently it attained an elevation of at least 1725 to 1730 azep.

The last of the adobe constructions to be discussed is Feature 31 (Fig. 28). It is hard to describe since, in its present state, it is an essentially formless structure. In general, it is restricted to the top of the last piedrine atrium, E3-c, though it extends further to the east and the west than the atrium did, covering part of the west wall of the E3-c enclosure. The construction was first noted as an irregular hard matrix varying in height from 1800 to 1820 azep, which is relatively close to the present ground surface. (Stratum 41 on Figure 6 is part of Feature 31.) Cardenal felt that this adobe and stone construction originally covered the entire enclosure wall but left no notes as to why he thought this.

Two lines of stone were found in the central part of the atrium area, one in the west and one in the east. The stones on the east side provide the best indication that Feature 31 was actually a structure. This line is composed mostly of flat stones and one talpetate slab. The line, about two stones (60 cm.) deep, starts at 13.73 E and goes to 14.85E in 12N. The tops of the two larger stones are at 1800 azep. The stone furthest to the east, dot 199, was a pecked stone trough turned upside down.

To the east of the line of stones, in 15 and 16E/12N, was discovered dot 161, a large stone 11 x 70 x 30 cm. It was found to be

the top portion of a broken stela of Miraflores (Terminal Formative) style. The bottom of this stela, dot 161a, was found where the front apron of E2-c would have been. Dot 161 was resting directly on the E3-c floor, Feature 29. Both dot 161 and 161a are considered to be part of Feature 31.

The east end of Feature 31 is composed of a set of loosely laid talpetate chunks in 16E/2N. These blocks slope down to the east from 1790 to 1747 azep. They rest on a thin yellow layer of powdered talpetate at 1750 azep that is probably identical to st. 17 reported by Cardenas in 11E, underlying st. 41.

The talpetate chunks rest against a line of rocks running north to south. It is problematical whether these rocks belong to this substage or to the following one. I feel they go with the later one for reasons explained below.

The stone line in the west portion of Feature 31 was found in 10E/10N and runs east to west. Also in this area in 8-9E/12N was found a burned clay area. The west side of Feature 31 (Fig. 31) is composed of a mixture of adobe blocks and river cobbles about 30 x 20 cm. The adobe blocks are composed of granular, pumiceous brown clay and are separated from one another by thin layers of gray sandy clay which may have been used as a binder. The blocks are best observed in the north wall of the trench. The south wall of the trench has no observable blocks but a good number of rocks in a pumiceous, brown, sandy clay matrix. Both parts of the structure seem to rest on the 1723 azep floor level discussed under E4-a. The earth and rock matrix continues

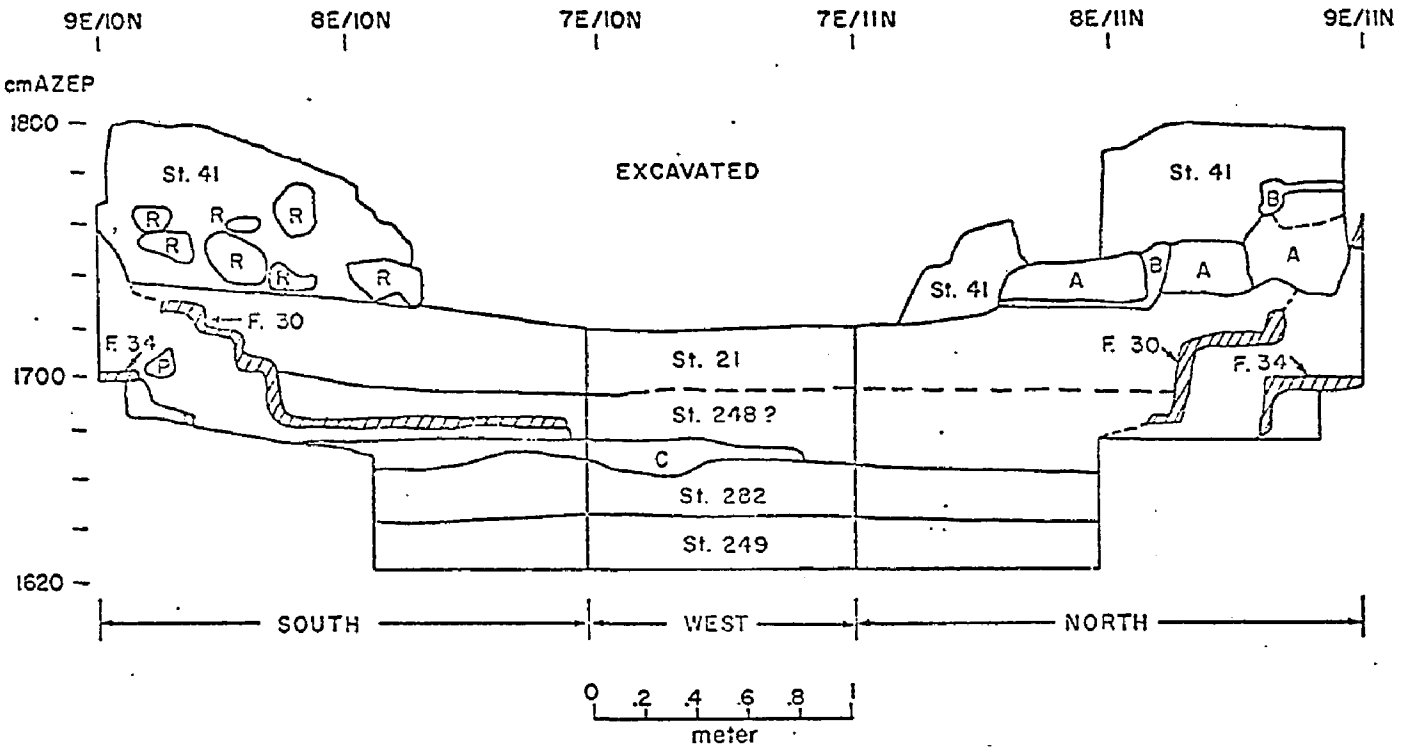


Figure 31. Profile, south, west, and north walls, 7-9E/10N, 7E/10-11N, and 7-9E/11N. -- A, adobe blocks; B, pumiceous gray clay nortar; C, lens of talpetate. See Figure 6 for key to symbols.

south into 7E/10N and possibly into 8N as well, covering the talud and tablero of E3-c. The surface of this extension is generally irregular and slopes to the west.

Also in the atrium area is a reused sculpture, dot 120, possibly dating originally to the Terminal Formative. This sculpture is on the north-south center line of the last atrium, Feature 29. Cardenas notes that dot 120 is embedded in the structural matrix of Feature 31, the adobe and stone construction on top of the same atrium. If this is so, then the practice of reusing sculptures seems to have started in E4 rather than in E5, as will be discussed later.

In summary, there is an adobe structure which covered the atrium and part of the west wall of the last enclosure, E3-c. The west side of the enclosure is paralleled by a low adobe ridge with an opening cut into it opposite a stone lined drain that was cut into the southwest corner of the enclosure. The south wall of the enclosure has a stone, earth, and pumice platform attached to it and extending to the south. Although these features do not provide a unified picture of a structure, they do give us an idea of the changes and the techniques and materials that were characteristic of this substage.

E4-b1. In the southwest center of the enclosure floor there was a series of holes and depressions probably built during this substage. Some of these are possibly post holes because they are relatively narrow and deep; however, they do not present any definite pattern. Others are shallow and wide and can only be called depressions. Many of the holes are filled with Amatle II ceramics. The

hypothesized stairs of substage E3-c in the southeast and southwest corners of the enclosure were probably destroyed at this time.

Another architectural element of the enclosure that probably belonged to this substage is dot 119, a stone mortar resting on a pumice pedestal (Fig. 30). As discussed in the section on E3-c, the mortar may be resting on the remnants of the stairs which were in the southeast corner. I feel that the mortar goes with this substage rather than with any of the preceding ones, because it seems to be a domestic artifact and, as such, fits with the domestic ceramics found on the floor of the enclosure.

E4-c. Two features are assigned to this substage. The first is the base of a wall, Feature 17; the second is a ceramic dump, Feature 15. Both are located in 16-18E/10-12N (Fig. 30).

The burned wall in 18E is 2.5 m. long and is at most 40 cm. wide. There are two parts to the wall; the north end is composed of a trench 60 cm. wide and 40 cm. deep that was cut into hard yellow brown sandy clay which is probably the multi-layered floors, st. 21. The trench was filled with a line of rocks, the topmost of which were at 1739 azep. Another layer of stones was then added, a little to the west of the first layer, reaching to 1764 azep. About 10N the composition of the wall changes into a line of small undressed pumice chunks. These extend across 18E/10N. Just south of the 10N line is a large concentration of burned adobe chunks, some with stock impressions. There is another area of smaller burned adobe chunks to the east of the pumice wall, separated from it by an open space about 40 cm. wide.

The pumice rests on a base at 1767 azep, and reaches its greatest height at 1797 azep. The adobe chunks are about 10 cm. lower. This concentration of adobe and pumice, plus the presence of stick impressions in the adobe, indicates that this was a wallfoundation for a wattle and daub structure.

Stratum 1 covers the south end of the wall base. Since usually st. 1 articulates with st. 2 (E5-a), it is possible that the wall was built on top of st. 2. However, the wall seems to be built on a layer of fill that differs from st. 2 and which was intended to be the surface on which Feature 17 was built. The fill for this wall is seen only in this location, and therefore it is not certain that this reconstruction of events is accurate. It is on the basis of this reconstruction that I have placed this Feature, and therefore Feature 15, in this substage. Furthermore, st. 2 articulates with the north end of the wall.

The ceramic dump, Feature 15, is located to the west of Feature 17, and is thus on the east edge of Feature 31. Feature 15 abuts the wall and appears to have been deposited after the wall was completed. The dump contains Amatle II sherd material (Lischka 1970, personal communication) and is similar to three other dumps at the west base of mound D, Features 6, 8 and 9. These dumps also contained Amatle II ceramics and, as in Feature 15, little else. Because the dumps contained little more than ceramics, it does not seem likely that they were formed from household refuse and they may have been the result of some type of ceremonial activity.

Stage E5

This Stage is divided into two substages. The first includes the formation of st. 2, eroded material from the last two stages, E3 and E4. This stratum is localized in the immediate vicinity of construction areas E and D. The dates of the beginning and the end of the substage are unknown. A few pieces of San Juan Plumbate, dot 121, were found in 13E/10N on the floor of the last enclosure, under st. 2. This indicates that the formation of the stratum was started sometime after the introduction of Plumbate Ware to the highlands, which probably occurred at the end of the Early Classic.

A second substage includes the reuse of a number of pieces of broken stone sculptures and monuments that were placed on the top of st. 2. One of the pieces of stone was placed during the formation of st. 1, 118, but will be considered here.

E5-a. Stratum 2 appeared to be an erosional deposit composed of materials from the last two stages of the walls of the enclosure; the atrium and the platform. The profiles of the enclosure (Figs. 26 and 27) and of the north (Figs. 9, 11 and 29) and east (Fig. 24) platform show that st. 2 is highest on the enclosure walls and next to the top edge of the platform. It then slopes down away from the structure and into the interior of the enclosure. It covers all but the southeast center of the enclosure floor (Fig. 30). In general, st. 2 does not seem to extend more than two or three meters out from the perimeter of the later structures.

E5-b. Five sculptures, including Lothrop's stela A (1926), were placed in construction area E after its last utilization as a structure (Fig. 30). The time of deposition of stela A is unknown. Lothrop does not give any provenience information in his report, but there is a pit in front of the south wall of the enclosure which is thought to be "Lothrop's pit." It was excavated into the stone and pumice platform of substage E4-b. Since the bottom of the pit is considerably below the top of the platform and since Lothrop indicates that the stela was standing on its end, it is not likely that the stela was meant to rest on the platform. However, it is possible that the people who deposited the stela built the platform over it. Though this is possible, I think it more likely that the platform was built prior to the deposition of the stela.

The next two sculptures to be discussed were sitting on the surface of st. 2. Dot 110 is in 12E/8N, almost the center of the enclosure, resting on the slope of st. 2 at the edge of the section of the enclosure floor that was not covered by st. 2. Dot 109 sits on the slope of st. 2 in the northwest corner of the enclosure. The location of these sculptures indicates that they were placed after the end of the st. 2 erosional period and before the start of the formation of st. 1, probably at the end of the Late Classic, as indicated by the plumbate sherds, dot 121, found in 13N/10E under st. 2.

Apparently not all of the sculpture was positioned at the same time. Dot 118 is a portion of a frog altar located on the northeast corner of the enclosure wall; it is underlain by 5 to 10 cm. of st. 1.

Dot 116, a broken piece of a slab engraved with a "diving god," is beyond the limits of st. 2 in 15E/2S and rests on the 1690 Plaza floor, L4-a.

The last piece of sculpture, dot 119, is located in the southeast corner of the enclosure. It rests on the juncture between st. 1 and st. 14, and was thus probably the last monument deposited.

Construction Area A

Construction A is the most northern mound in the Palangana complex. Its long axis is oriented east-west and the mound articulates on the west with construction C and on the east with construction D. The portions of A and C that articulate are about the same height while the north edge of the flat top of D is about 3 m. above the east edge of A, and slopes down to meet it. The highest point on A is at 2100 azep; the mound is 54 m. long and about 16 m. wide. The south face articulates with the Lower Plaza while the north face drops steeply down to a flat area at about 1650 azep that presently serves as a soccor field. This area is probably near the bottom of the talpetate ridge that runs north-south through the site.

Very little excavation was conducted in construction area A and as a result the original shape of the structure is not at all clear. A section of the north-south control trench, T2, was excavated into the side of the construction but did not reach as far as the center of the mound. The units excavated were 11E/50-54N, an area 6 m. long which in 11E/50N reached 1437 azep (Fig. 7). In the other units 1647 azep was reached. Neither of these attained a sterile level.

Construction A appears to have been built in a single construction stage and not modified thereafter. Since sherd samples from fill, st. 228, level 1½ in 11E/5½N, contain Amatle II sherds, the mound was probably among the last constructions built in the Palangana. I think that A and the construction opposite it at the other end of the Plaza, construction area B, were built at the same time to enclose the Plaza area and shut it off from outside view. These constructions may also have functioned as supports for perishable superstructures. There are enough burned clay lumps on the tops of the mounds to suggest this although these burned areas were not excavated. It also seems likely to me that the two long side mounds of construction area C, which flank its central pyramid area, were added onto C at this time to complete the enclosure of the Plaza. Most of the above is speculation and needs to be tested by more excavations.

Stage A1

There is only one Stage in this construction area and it is not divided into substages. The construction, dated to the Amatle II ceramic phase, was built on a series of floors belonging to L½-b which were probably laid down during Amatle I.

There seem to be three basic components to this structure (Fig. 7). The first is st. 228, a hard, compact, dark brown pumiceous clay which served as the core of the structure. The second component, st. 226, was placed over st. 228. This material is composed of a brown sandy clay with chunks of talpetate scattered throughout. The third

component, st. 225, is a loose brown sandy clay that has no internal features and no obvious surfacing, although it must have been the outside of the structure. Stratum 232 is a hard patch of light gray pumiceous clay which may be a step or another architectural feature.

At the base of A1-a are sts. 227 and 259 which were laid on top of st. 226. The talpetate block at the south end of 11E/5ON may have served as structural support for st. 225.

Construction Area C

Construction area C is the mound that forms the west side of the Palangana. It has two parts, the first of which is a central pyramidal mound. The second part is composed of two rectangular mounds, one on each side of the central mound. These two long low mounds articulate with constructions A and B on the north and south sides of the Palangana, respectively, and as discussed under construction area A, I think that they were built relatively late in the sequence. The central mound is about 11 m. high; the two side mounds 4.5 m. high.

The temporal placement of the central mound is less certain. It could be assigned to any phase from the Terminal Formative to the Late Classic except the Middle Classic -- it is not constructed in the Middle Classic manner. It was most likely built in the late Terminal Formative. The ceramic material in st. 56, which is the fill of the mound, seems to be exclusively Verbena-Arenal; no sherds from any later phase were noted in the field. Also, the ceramics associated with the burials under the east front of the mound are Verbena-Arenal, including a number of vessels that are Arenal "types."

The mound could also, on the basis of this same evidence, be assigned to the Aurora phase (Early Classic) by hypothesizing that since my fill sample was so limited, the lack of Aurora sherds is not conclusive. If so, the placement of the mound in respect to the burials would have been fortuitous. The burned clay facing on the front of the mound is similar to the burned clay on the Aurora mound D-III-1 and a possible Aurora construction, D1-a, at the Palangana. However, the burning is very uneven in both the latter cases and does not seem to have been done for structural reasons in either instance. Moreover, D-III-13, another Aurora mound, does not have a burned clay surface. There is no evidence at present that any Verbena-Arenal structures had burned clay surfaces. However, surfaces with uneven burning have been noted on some Amatle II structures. Thus, the fact that the surface of the mound is burned does not assist in placing it temporally. At present, the ceramic evidence seems to carry more weight than does the structural, so I am considering the first construction Stage in construction C to be in Verbena-Arenal (Terminal Formative).

As was mentioned in the first chapter, it is thought that the central mound of area C was placed on the east slope of a large natural talpetate ridge that runs north-south through this section of Kaminaljuyu. Some of the original native clay seems to have been preserved under the central mound.

The first evidence of human activity in this part of the Palangana was the excavation of a burial pit into this original clay. The

pit was located in 19-20W/6N, and contained at least four burials. Another burial was found in 14W/6N in the same clay subsoil matrix. The pottery associated with the burial pit is assigned to the late Verbena-Arenal phase.

Construction C is composed of three stages. Since little of the mound was excavated, each stage is represented by only a small amount of known construction. The first Stage, C1, consists of a number of construction layers that are probably surfacing material of the mound. The second Stage, C2, is another surfacing layer which is less distinct than the preceding one but which has the remnants of some floors articulating with it. The last Stage, C3, is represented by a surfacing layer and additionally by a retaining wall.

The mounds on either side of the central mound are not discussed because they were not excavated and there is nothing on their surfaces which give a clue as to their form or function. If my interpretation of the construction sequence is correct the side mounds would have been built in Stage C3.

Stage C1

The earliest architectural remains found are temporarily put in Stage C1 although more excavation may uncover earlier structures within the body of the mound. This Stage has two substages that were probably close together in time and perhaps merely different operations of the same construction activity.

C1-a. The first architectural activity known to have taken place along the west edge of the Palangana was apparently the erection

of the central mound of construction C. There is a hard clay surface, under the burned clay surface mentioned above, that may be the first layer of this structure. There are two constructional layers in back of this hard surface: the first, st. 351, is a dark brown clayer sand and the one beneath that, st. 358, is of pumiceous brown sandy clay.

C1-b. This substage includes the hard burned clay surface already mentioned, Feature 273. The surface has a slope of about 45°. The bottom of Feature 273 is at 1772 azep and turns up slightly. On the north wall of the trench this surface is 46 cm. high. The burned clay surface does not extend completely across the west end of the trench, but slopes down to the south side and disappears at 5.4ON, presumably having been destroyed by some later construction activity.

The surface of Feature 273 may have originally articulated with a series of clay and sand floors, Feature 294, that appears in the trench wall in 20W/6N at 1772 to 1760 azep. The floors do not extend very far north and were probably cut by the succeeding construction Stage. The fact that the floors are higher than Feature 295, the floors that articulate with the surface of the next Stage, indicates that the first floors had been removed prior to the construction of the succeeding floors.

Stage C2

This Stage has no substages and therefore will be discussed under this heading. The surface of the central mound in this Stage is rather indistinct but seems to be a thin layer of clay; the angle

of the slope was somewhat less than that of the preceding surfaces and the base of the slope, at 1750 azep, is lower than the bases of the preceding surfaces, 1734 azep. The floors articulating with the base of this slope at 1750 azep, Feature 295, are of the same sand and clay type as those of the preceding substage. These floors do not exist west of 17W. In 17W the matrix at these levels is st. 1 which indicates, again, that the previous floors had probably been removed; that is, the Plaza level lowered before the construction of the Middle Classic structures in construction area E were built. The Plaza levels associated with these structures may be seen in the illustration of the east end of the trench at elevations of 1680-90 (Fig. 32). I would thus assume that this substage belonged to the Early Classic and, unless the sides of the Plaza were terraced, the Plaza level in the Early Classic was about 60 cm. higher than during the Middle Classic. Evidence from the Lower Plaza would support the hypothesis that earlier plaza floors were at times excavated below their initial height. However, the same evidence would indicate that the floor of the Lower Plaza was not any higher than 1640 during the Early Classic. Thus, it may be that, as with construction area A to the north, the west side of the Plaza was raised over the central area.

Stage C3

Like the preceding Stage, C3 has no subdivisions. The surface of the structure belonging to this Stage is very irregular, perhaps due to erosion. Its matrix, st. 355, is a compact, hard, yellow-brown

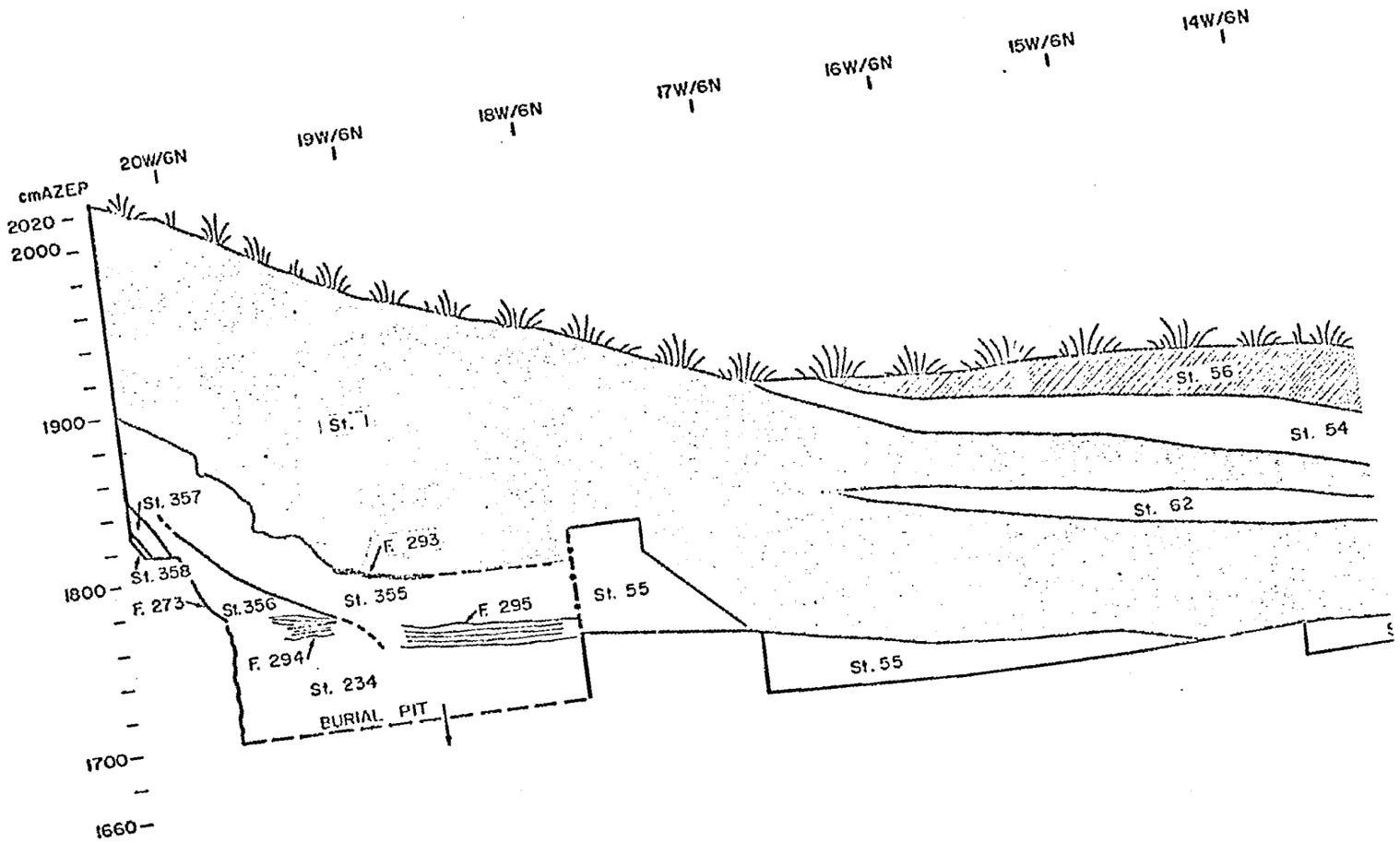
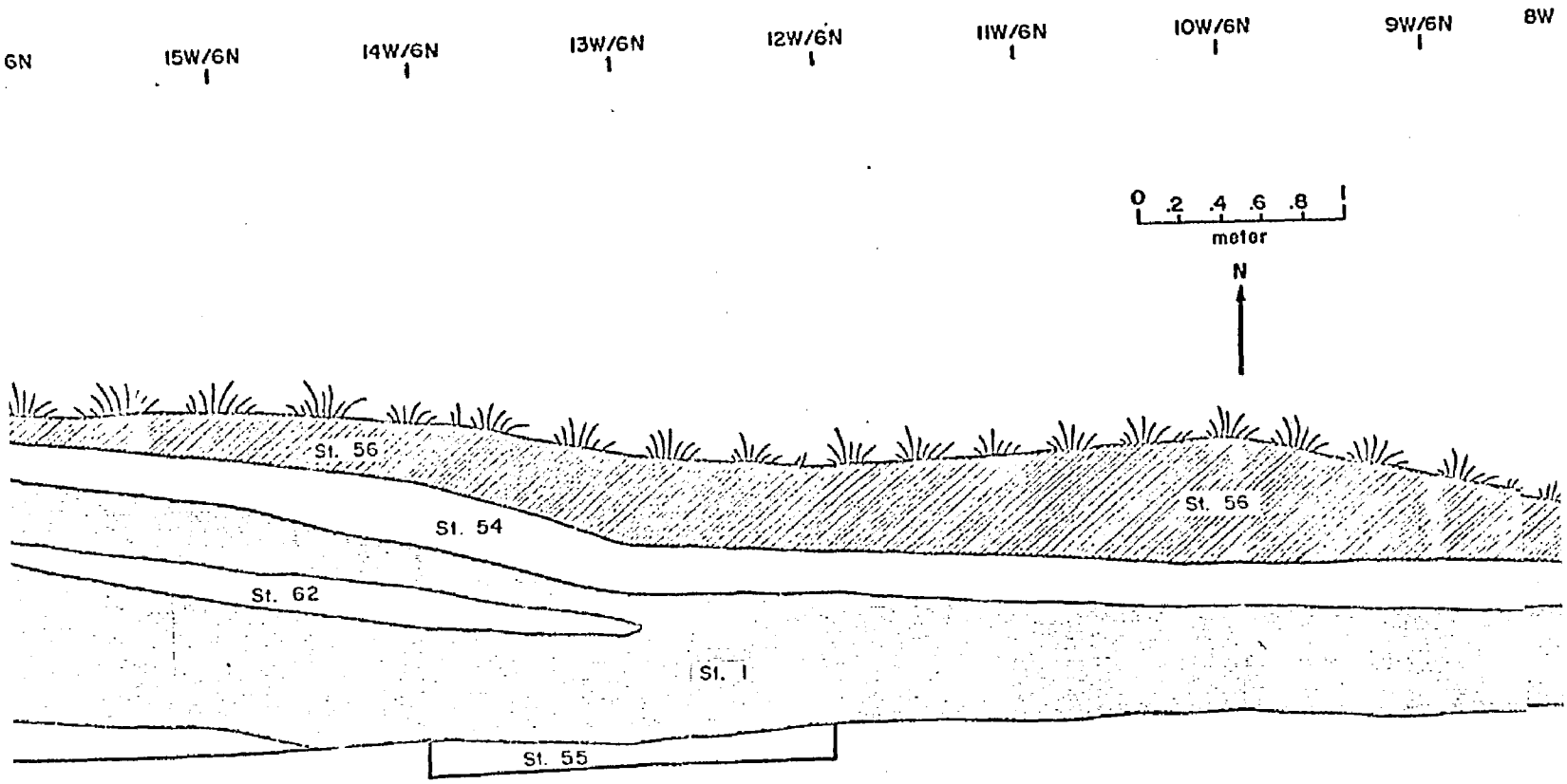
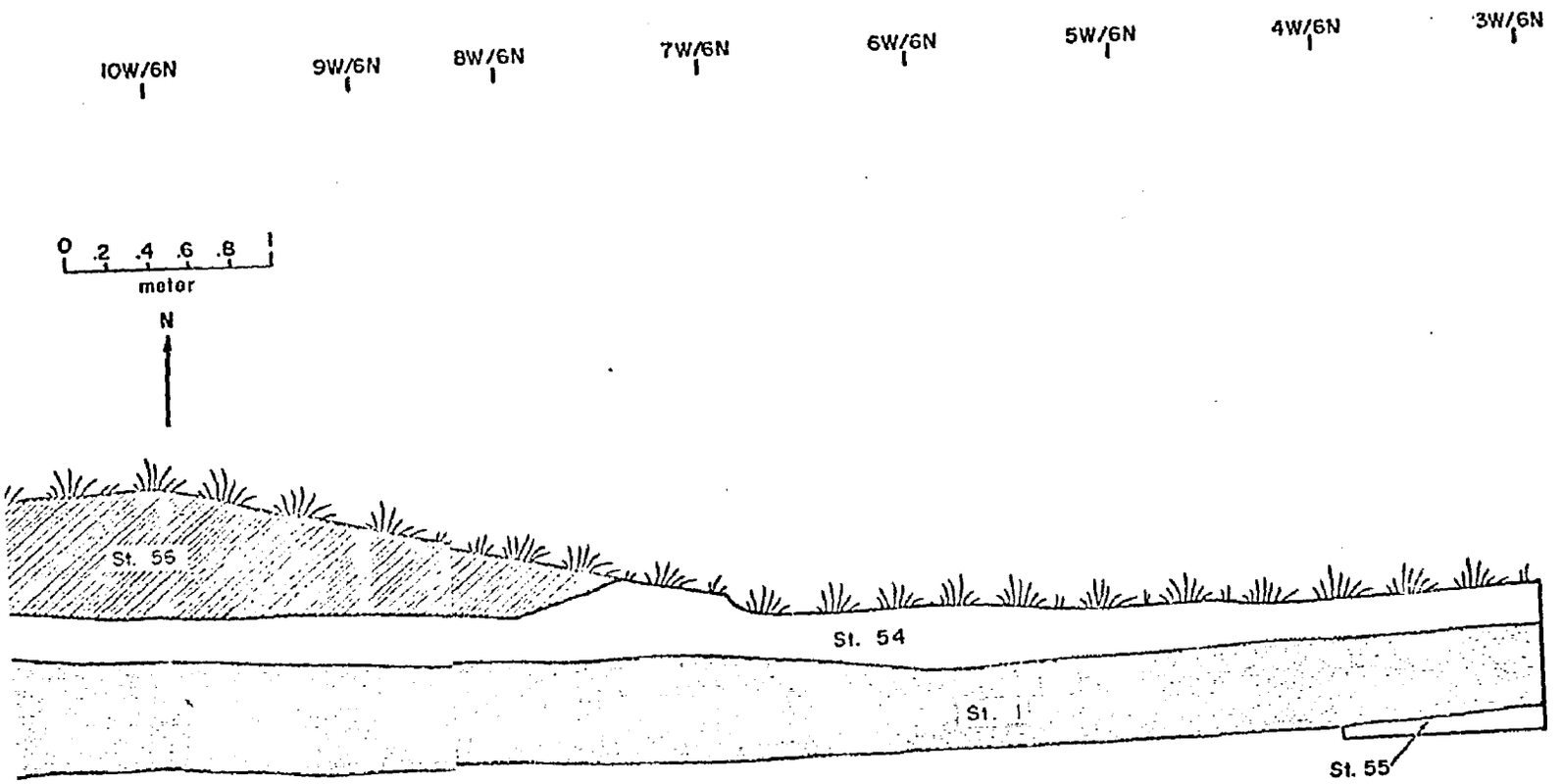


Figure 32. Profile, north wall, 3-20W/6N.


6N
15W/6N
14W/6N
13W/6N
12W/6N
11W/6N
10W/6N
9W/6N
8W
0 .2 .4 .6 .8 1
meter
N
St. 56
St. 54
St. 62
St. 56
St. 1
St. 55


10W/6N
9W/6N
8W/6N
7W/6N
6W/6N
5W/6N
4W/6N
3W/6N
0 .2 .4 .6 .8 1
meter
N
St. 56
St. 54
St. 1
St. 55

pumiceous sandy clay that contains many small pieces of trash as well as talpetate flecks. There is a faint line on the profile which indicates that this surface extended into 19W/6N. The elevation of the surface, 1780 azep, is almost exactly the same as the surface on which rest the recks and pumice of Feature 54, 18W. Feature 54 is an irregular line of rocks and pumice that runs in a north-south direction across almost the entire width of the 6N trench from 4 to 5.5N. It is about 40 cm. wide. A number of other pieces of pumice were scattered here and there in the same general area. The matrix surrounding Feature 54 is st. 55, which dominates the profile of 18W/6N from 1740 to 1810 azep. Strata 55 and 355 are essentially identical except that st. 55 is softer and less compact. The presence of Feature 54 in this unit suggests that the feature was a retaining wall. However, it does not seem to me that it would have been an efficient retaining wall, therefore this tentative suggestion must await verification from further investigation.

The relationship of C3 to the Plaza floor poses a problem. The relatively level surface at 1780 to 1790 azep and steep slope down to the Plaza floor at 1680 suggest a platform or a basal apron along the base of this structure. If there was a plaza floor associated with the base of C3, all trace of it is gone. A second problem is the phase assignment of C3. The structure seems to articulate with the latest plaza floor. Even if this is so, it does not give much indication of phase affiliation since the top floors in this part of the Lower Plaza were no higher than those associated with Stage E2 and

therefore could be Middle Classic. However, since there is no connecting stratigraphy and this floor was not raised in later construction stages, it is not certain what phase C3 would be associated with. I favor a date for this Stage since it likely that the central mound was remodeled at the same time as the two side mounds were added, which, it was hypothesized above, was in Amatle II.

Construction Area D

Construction area D is a long earthen mound with its long axis oriented north-south. The elevation of the top of the mound is 27 azep. This is 9.5 m. above the center of the Lower Plaza west of the mound and 5 m. above the Upper Plaza to the east. Constructions A and B are attached to the south and north ends of construction area D respectively. The top of D is 6 m. above A and 5.5 m. above B. Construction D has at least three prehistoric building Stages within it. There is only scanty evidence for the first -- a set of burned clay steps on the west side. The second Stage is represented by a piedrine structure. Access to this structure was provided by two staircases, one on each side of the structure (east and west). The third Stage of construction D is an earthen structure that had a flat top with a small mound in the center (Fig. 33).

Stage D1

In this stage are lumped those features which are stratigraphically earlier than other construction in the mound. They are considered a single stage because the construction materials used are similar.

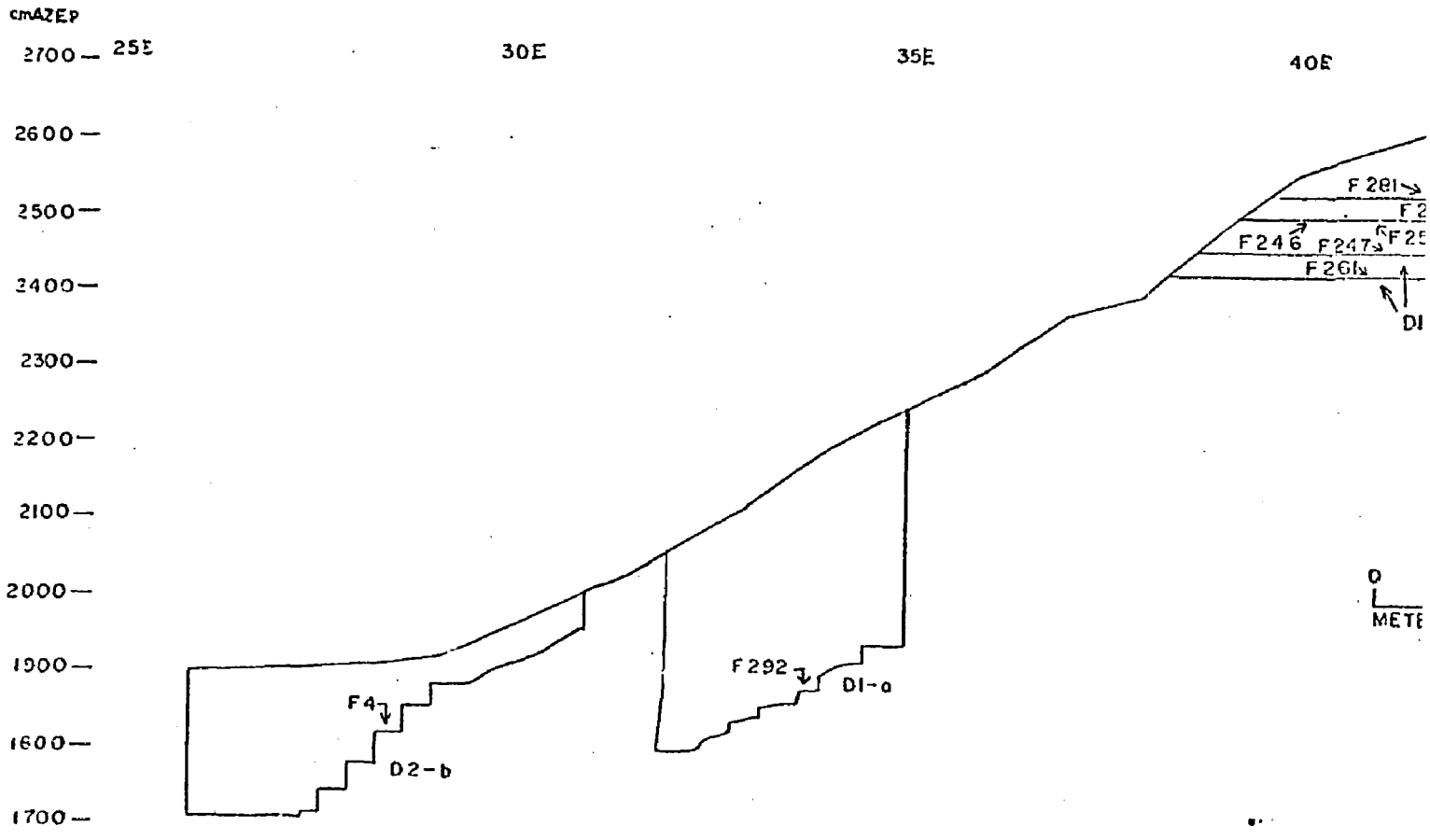
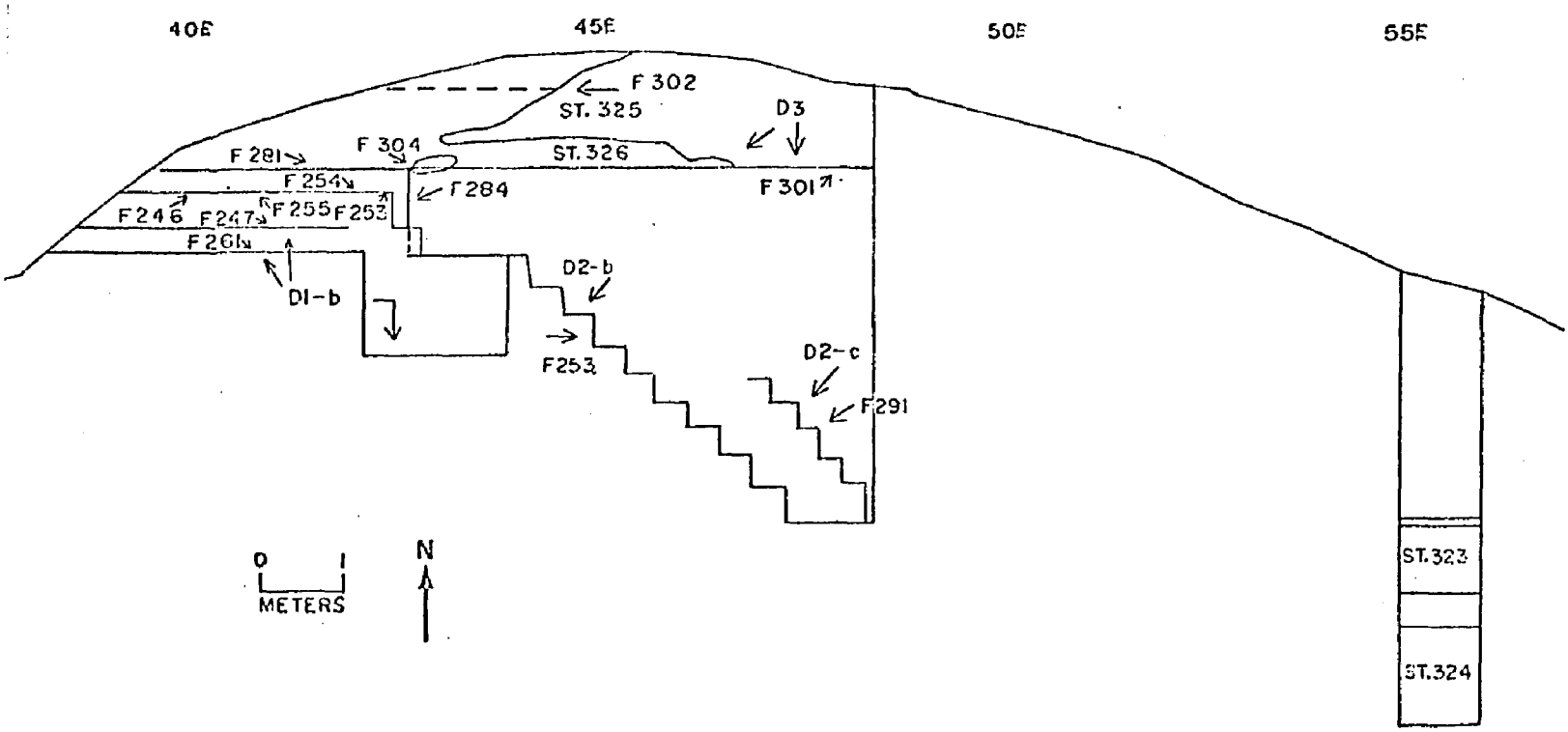


Figure 33. Reconstructed profile of structures in construction area D.


40E
45E
50E
55E
F 302
ST. 325
D3
F 304
ST. 326
F 281
F 254
F 284
F 301
F 246
F 247
F 255
F 253
F 261
D1-b
D2-b
F253
D2-c
F291
0
1
METERS
N
ST.323
ST.324

Two separate areas which are not connected stratigraphically are included. They may or may not actually belong to the same building stage; only more excavation will provide the answer.

For ease of description, the Stage is divided into substages on the basis of geographical separation. D1-a is a number of fired clay steps located in 31-33E/12N on the west side of construction D, partially below the west piedrine stairs of Stage D2. D1-b is located on the top center of the mound in a trench running along 8N from 44E to 38E. It consists of a series of superimposed floors. The phase affiliation of this Stage D1, on the basis of the scant information available, may be Aurora.

D1-a. Construction D1-a is a set of at least six steps made of dark black-brown clay, Feature 292 (Fig. 34). The clay was very heavily burned in some places, but was only sun dried in others. The tread surfaces were uneven; the treads sloped down and the risers sloped out. The risers averaged about 20 cm. in height. The treads ranged from 28 to 50 cm. in width but were generally in the 35-40 cm. range. The top step was at 1939 azep, and the lowest step uncovered during excavation was at 1809 azep. The stairs dropped 1.3 m. over a horizontal distance of 255 cm., but the bottom of the staircase was not uncovered. The 60 cm. to the west of the lowest step uncovered was not excavated because it was continually under water, softening the dried clay surface so that it might have been destroyed by excavation.

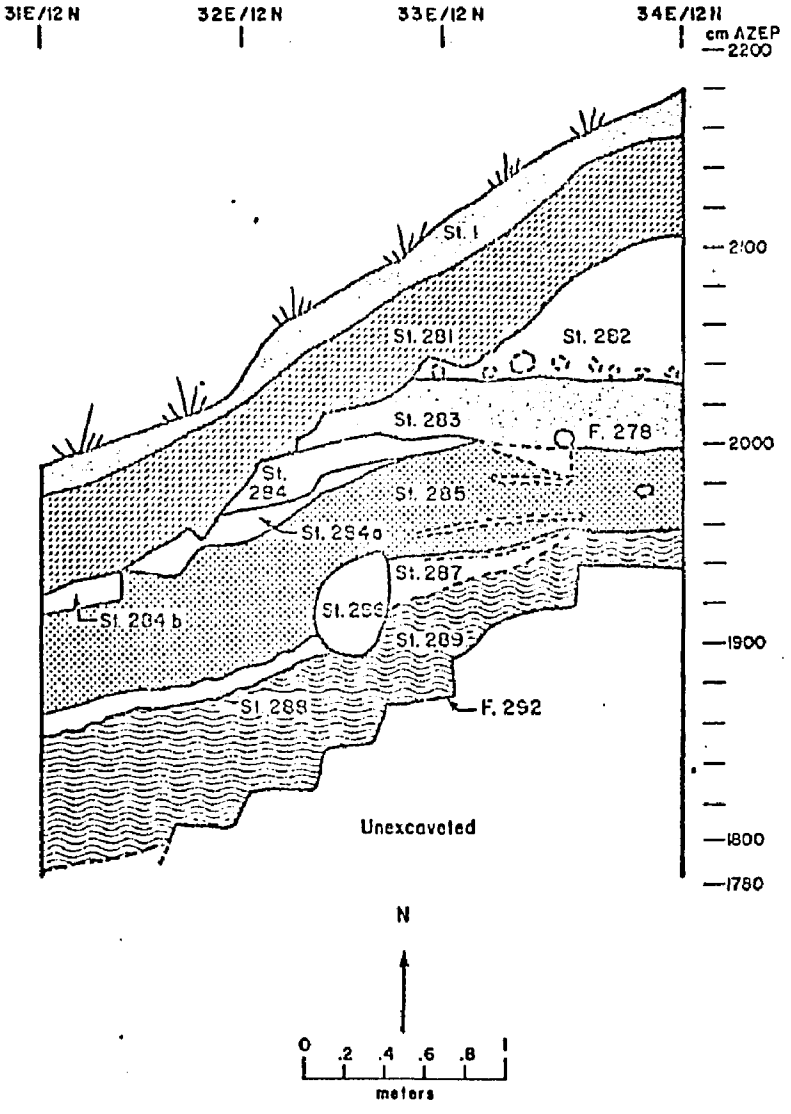


Figure 34. Profile, north wall, 31-34E/12N. -- See Figure 6 for key to symbols.

There are four major divisions in the profile of the fill over Feature 292, D1-a (Fig. 34). (1) Strata 1 and 281 are the results of erosional activity. (2) Strata 282 and 283 probably are structural fill of Stage D2. (3) Feature 278, the burned lens in the profile at 1994 azep is part of a clay layer that was hardened by burning and that stretched across the excavated area from 12 to 10N. The surface either was not burned or was destroyed west of 33.60 east. The latter seems more probable since there was discontinuity in the profile at this point. The function of this burned surface is uncertain, although it may have served as a structural level for the support of strata 282 and 283. I think it more likely that it was an architectural surface in its own right. (4) The rest of the layers (284 through 289) are structural fill, probably for Feature 278, the burned clay surface. However, the dark clay, stratum 284, may have been associated with strata 282 and 283.

D1-b. The following features in the top center of the mound can best be described as a series of superimposed prepared surfaces. None of the floors are made of, or are surfaced by, piedrine. Also, it is impossible at this point to tell which one, if any, goes with Feature 292, the stairs discussed as Stage D1-a. There is no connecting stratigraphy between the two areas and none of the possible structural surfaces in this series is close in elevation to the floors of D1-a.

As a result of the slope of the exterior surface of the mound, a number of construction surfaces of early stages are truncated in

the squares 39-40E/8N. The surfaces have also been partially destroyed by erosion and by subsequent construction. Because of this destruction, the edges of the surfaces do not articulate with any other structural elements. Information about the earlier surfaces comes from 38E/8N and from a pit dug in 43-41E/7N (Fig. 35). The later floors were exposed over the entire length of the 8N trench.

The lowest surface found in a stratified context on the top of the range structure is a packed sandy clay floor in 42-43E/8N at 2305 azep (Fig. 35). The surface is at approximately the same level as two sand-surfaced levels in 46-47E/18N. However, I do not think that these three surfaces were contemporaneous or served the same structural function. There are several reasons for this contention. First, the surface in 43-42E/8N is harder and more compact than those in 46-47E/18N which have only a very light layer of fine sand on top of them. Secondly, if these surfaces were contemporaneous there would be a number of unsolvable problems. The surface in 8N is entirely under the eastern stairs of the piedrine structure (Stage D2). The surfaces in 18N are outside of the piedrine structure and are 10 m. to the north of the stairs, projecting to the east beyond them. Also, the structural relations of three surfaces seem to indicate that they are not contemporaneous. The surface in 8N was constructed either prior to or simultaneously with the piedrine stairs (D2-a) which are over it. The surfaces in 18N would therefore be contemporaneous with the one in 8N if and only if they were contemporaneous with or earlier than the piedrine steps (D2-a). There is some evidence that they are

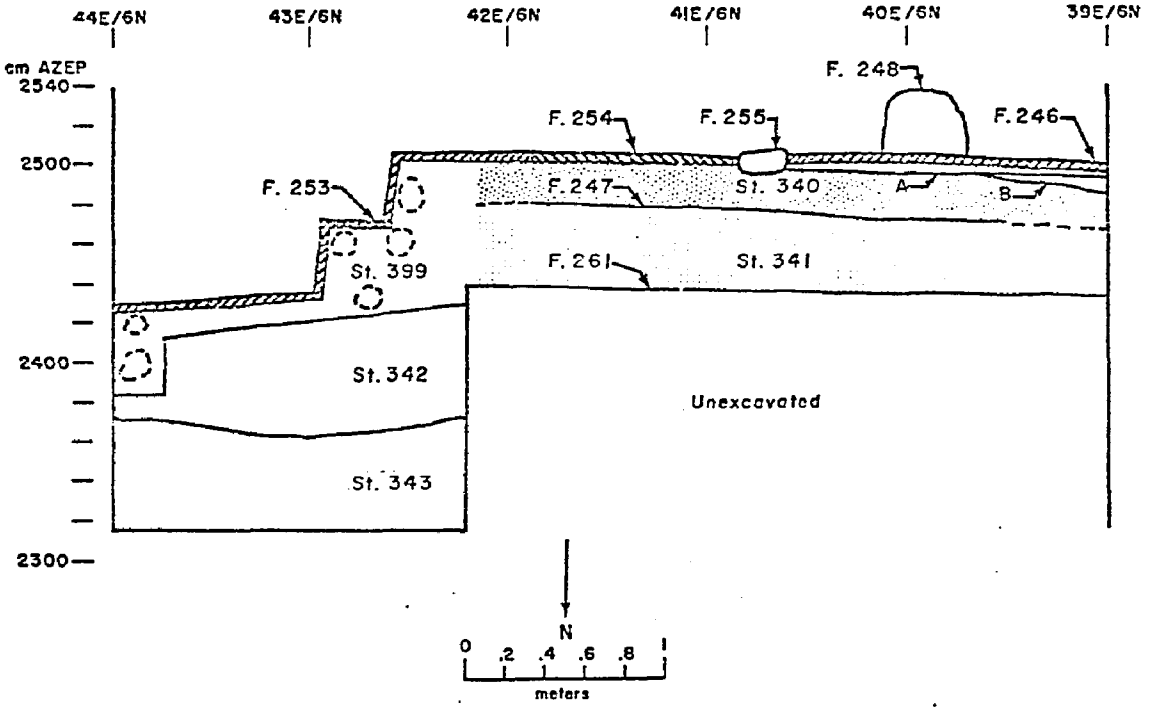


Figure 35. Profile, south wall, 39-44E/6N. -- A, layer of burned clay; B, layer of burned talpetate. See Figure 6 for key to symbols.

not contemporaneous with these steps. The bottom of the steps is below the surfaces in 18N. Thus, the surfaces were probably built after the stairs. Also, if the stairs and the sand surfaces were built at the same time it is likely that the latter would have been covered with piedrine, which they are not. Since the surface in 8N cannot be later than the stairs (D2-a) and the ones in 18N are most likely later than D2-a, all three surfaces were probably built at different times.

Not much more can be said about the relationship of the surface in 8N to any other surface because this is the only area in which this surface has been found. The fill between this surface and the next later one is divided into two strata. The first is a pumiceous sandy clay with flecks of burned clay, st. 343. The second is a dark yellow brown clayey sand, st. 342. The transition point between the two is not horizontal and varies from 2370-2362 azep.

The next three floors on the top of D are all of extensively burned clay (Fig. 35). The lowest of these floors, Feature 251, is a distinct surface with height of 2438 azep on its east end and 2432 azep on its west end. On the west, it was truncated by erosion and on the east by later construction. The burned portion of Feature 261 extends only from 6N to 7.2N but an unburned section of the same floor seems to extend to 8N. There was a cluster of small rocks and small talpetate chunks and sherds resting on the surface of Feature 261 in the southeast corner of the area exposed. The sherds included a large foot support for a vessel and a possible piece of Esperanza flesh color suggesting a date at the Aurora-Esperanza boundary.

Feature 260, about 10 cm. above Feature 261 at 2442 azep, is a section of burned clay floor that appears to be localized in 38E/8N. It does not extend very far into 39E/8N. There is a hard dirt surface above Feature 260 that also is not traceable in 39E/8N. Neither Feature 260 nor the dirt surface occur in the profile of 6N (Fig. 35). The fill, st. 341, between these floors and the next higher surface, Feature 247, is a pumiceous brown sandy clay.

Feature 247 is the third clay surface in this series. The burning on Feature 247 is extensive, though some areas seem to have been subjected to a hotter fire than others. This surface is found in 39E/10N and in 38-42E/8N. The western edge extends 10 cm. into 38E/8N and terminates there, due again to erosion. The east end was disturbed and terminated around 41E by later construction activity. The elevation of the east end of Feature 247 is 2471 azep and the west end is at 2466 azep. The fill, st. 340, above Feature 247 and below the features of D2 is a pumiceous brown sandy clay.

Stage D2

The use of piedrine and its substitute, pumidrene, is the defining feature of this Stage. By analogy with the structures in the Acropolis, D2 can be hypothesized to have been composed of a base of talud and tablero terraces topped by a flat surface. However, only the balustrade stairs, which usually go with this kind of structure, were found due to the lack of time to search for the hypothesized terraces. If the analogy is correct, there may have been more than one or two terraces on the west side of the range structure, but there

was probably only one on the east side. This is suggested because, as can be seen from the idealized cross-section (Fig. 33), the height of the structure above the flanking Plazas is greater on the west than on the east.

D2 has two stairway areas. The one at the bottom of the west side of the mound has a terrace on either side of it, although these terraces do not have a talud and tablero. This staircase, Feature 4, is discussed only minimally because of the lack of detailed excavation notes. The second set of stairs, on the east side, articulates with a platform on the top center of the mound. The two stairways, though probably belonging to the same substage, are not connected stratigraphically. All of the supposed intervening piedrine architecture between the top of the west staircase and the top of the mound is gone -- probably removed by subsequent construction. Only the northern portion of D2 was excavated, from the probable center line north. However, neither the northern end of D2, nor of the next Stage, D3, was found.

D2 has three substages. The first of these substages, D2-a, consists of the remnant of a room with piedrine-surfaced walls at the northern end of the top of the platform. D2-b, the second substage, is composed of the two piedrine stairways and the top platform which articulates with the eastern stairs.

D2-c is essentially the same building as D2-b, but is constructed partially of different materials. This substage has the first use of pumidrine in D, as well as of clay walls painted red and of river

cobbles as stair fill. Construction activity included the installation of new stairs and balustrades on the east side of the mound, the replacement of the top piedrine platform with one of pumidrine and the construction of a clay trench on both sides of the new platform.

D2-a. Feature 286 is the only feature assigned to this substage. It consists of an articulating piedrine floor and wall in 41-43E/12-14N (Figs. 36 and 37), and located on top of D at the south end.

The wall faces north and runs E/W from 43.48E to at least 41E. It seems to continue west beyond this point. The maximum height of the wall is 2447 azep. The western portion of the wall is more intact than the eastern part, but even in the west none of the original top remains. On the east, the remaining part of the wall slopes down to 2387 azep at 43.48E, beyond which it has been completely destroyed. The floor extends from the wall down to the northeast from 2395 azep to 2385 azep. None of the original boundaries of the floor remain except the one which articulates with the wall. The remaining portion of the floor is semicircular. The plan view of the floor (Fig. 37) shows what may be the south limits of the wall. These limits could be determined for two reasons: (1) there are a number of pieces of pumice which seem to be wall fill, and they are limited in their distribution to the area shown; (2) the boundaries of the wall area are the points at which the south end of the surface of Feature 288 ends.

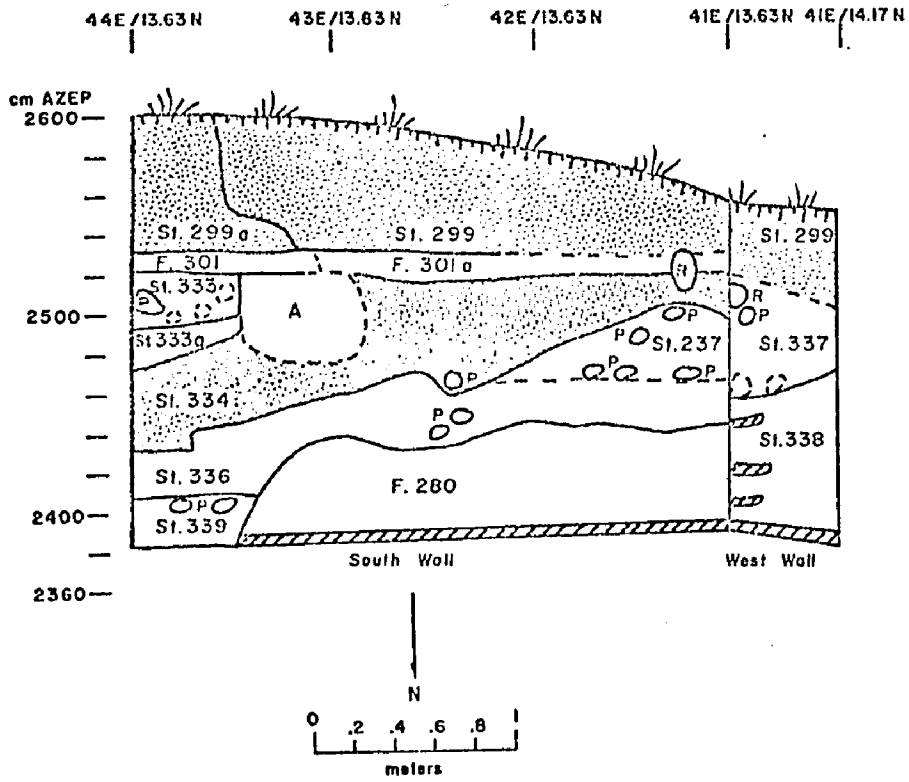


Figure 36. Profile, south and east walls, 41-44E/13.63N and 41E/13.63-14.17N. -- See Figure 6 for key to symbols.

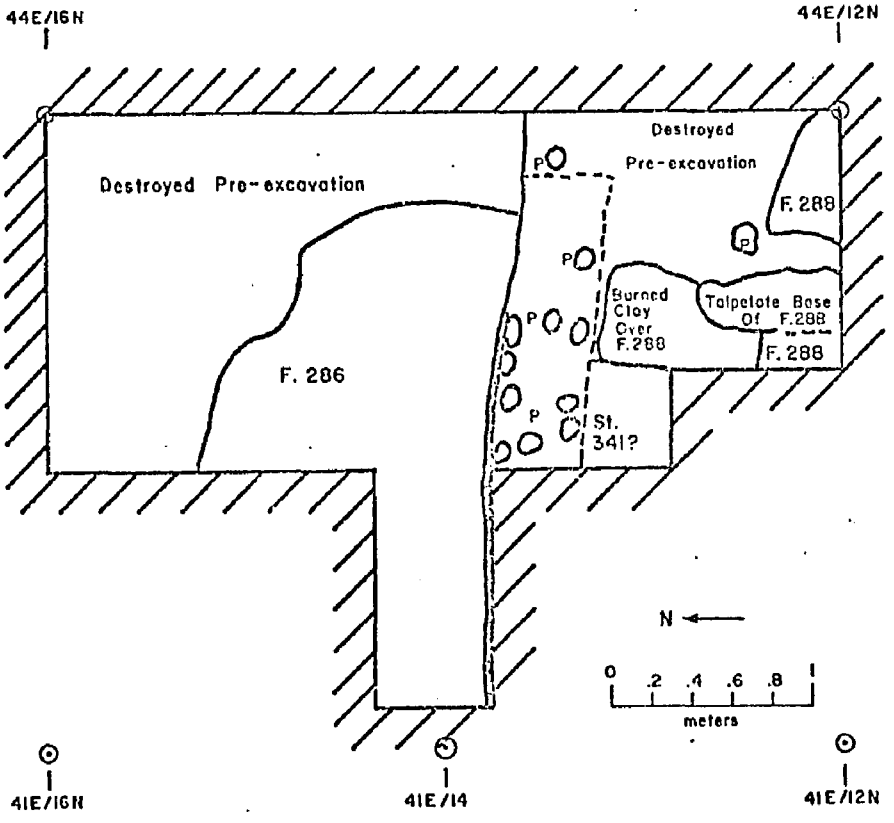


Figure 37. Planview of 41-44E/12-16N.

Whether Feature 286 is contemporaneous with, earlier than, or later than substage D2-b is unclear. The structural evidence seems to indicate that Feature 286 is earlier than Feature 281, a clay-surfaced platform of substage D2-c, but since D2-c is also later than D2-b, this superposition does not answer the question of the relative placement of D2-a and D2-b. Feature 288 (Fig. 37), a piedrine floor abutting Feature 286, was probably connected to Feature 253, the east stairs of D2-b. This would seem to connect Feature 286 with Feature 253 and therefore place the piedrine wall in substage D2-b. However, other evidence may indicate that Feature 286 preceded Feature 253. This evidence is the fact that the piedrine in the wall and floor, Feature 286, is made of smaller than usual stones set in a whitish clay-lime mixture. This type of piedrine differs from that in Feature 253 which has medium sized stones in a brownish matrix. The only other substage in which a comparable whitish piedrine appears is E2-b in construction area E. Assuming that these two examples of whitish piedrine are relatively contemporaneous, the placement of Feature 286 with respect to Feature 253 depends on whether Feature 253 is thought to be contemporaneous with E2 or with E3. If Feature 253 is contemporaneous with E3, then Feature 286 predates Feature 253 and a lot of previous constructions would have had to have been destroyed to build Feature 253. Parsimony would seem to favor equating Feature 253 with E2. At this point, I must simply note that there is not enough evidence at the moment to choose either of these two alternatives or to exclude other possibilities.

D2-b. It seems likely that this structure is similar to those excavated by Don Gustavo Espinoza in the Acropolis area. He found substructures of piedrine with flat tops, talud and tablero on four sides and a stairway and balustrade as the means of access to the top of the mound. In construction D2-b, the stairs, the balustrade, and the top platform have been found, although no trace of the postulated talud and tablero remained.

The first act of construction in D2-b seems to have been to cut off the east edge of the clay floors of D1-b at 42.20E (Fig. 35). Over this was built the first set of stairs and their balustrades, and the top of the platform, Feature 253 (Figs. 35 and 38). The stairs are in two parts. The first part, Feature 253, is 11 steps high, extending from 2029 to 2462 azep. Next, there is a short landing 132 cm. broad. The second part above the landing is only two steps high, extending from 2434 to 2502 azep. The treads of both parts average 36 cm. wide and the risers 34 to 36 cm. high. The risers seem to be shorter at the bottom of the stairway, averaging about 30 cm. and taller at the top, averaging about 40 cm. This stairway is almost exactly three meters wide at the landing. The balustrade for the first stage was 56 cm. wide (Fig. 39). The nature of the articulation of the balustrade with the top platform is uncertain since the balustrade was cut off at about 44.54E by the balustrade of the following substage, D2-c. The top of the platform itself has four different sections (Fig. 35), only one of which, the piedrine stairs, Feature 253, is assigned to this substage.

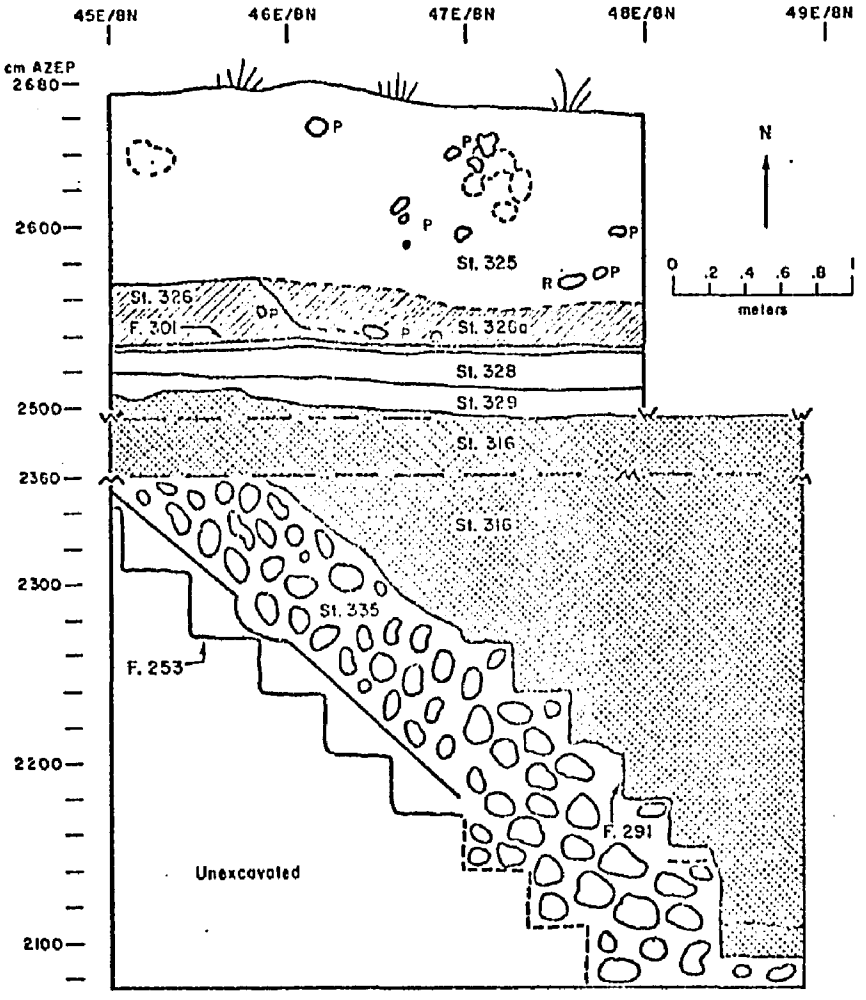


Figure 38. Profile, north wall, 45-49E/8N. -- Empty circles of st. 335 represent a dense mixture of talpetate and pumice. See Figure 6 for key to symbols.

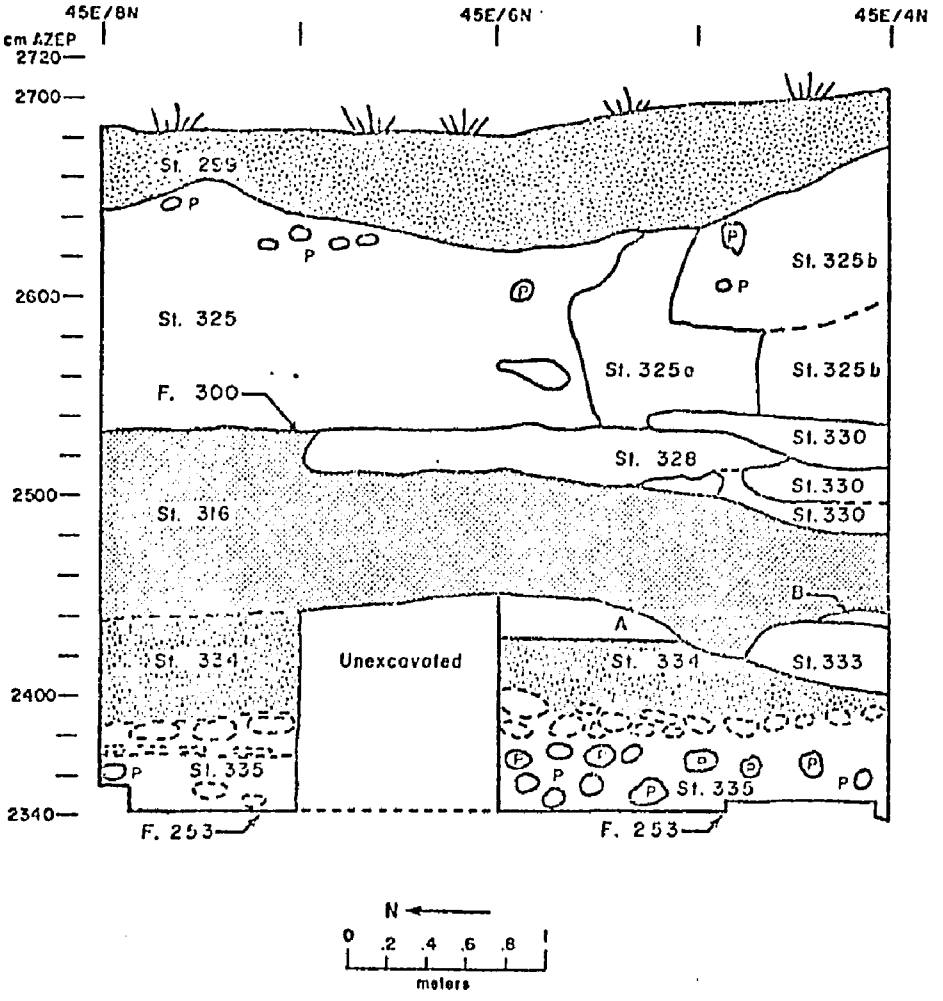


Figure 39. Profile, east wall, 45E/4-8N. -- A, loose brown sandy clay that may be the same as st. 332; B, gray clay. See Figure 6 for key to symbols.

One other feature on top of the mound is associated with D2-b. This is Feature 288 (Figs. 40 and 41), a strip of piedrine that runs north-south from 42.80E to 44E, the edge of the excavated area, and from 10.20N to 12.40N. It is approximately the same height as the landing at 2435 azep and may have articulated with the destroyed northern balustrade of Feature 253. It probably functioned as the top of the tablero of D2-b, evidence for which has not actually been found. Similar surfaces are seen in the Acropolis. It probably extended originally from the west edge of what is now Feature 284 in D2-c to the front (east) edge of the postulated tablero.

D2-c. As mentioned above, the platform at the top of the stairs was composed of four components: Features 253, 254, 255, and 246. The first was assigned to D2-b. The other three are assigned to D2-c. Feature 254 is a pumidrene floor which articulates with Feature 253 on the east and with Feature 255, a burned clay sill on the west. Feature 246 is a burned floor of mixed piedrine and pumidrene; it is west of, and articulates with Feature 255. Feature 246, the last floor extends west to 38.24E where it is terminated by the slope of the mound.

Four other features are also assigned to this substage. Features 258 and 281 are clay surfaced platforms located on top of the top platform on either side of Features 254, 255 and 246. A red painted adobe wall, Feature 284, is the east side of Feature 281. A new staircase, Feature 291, was built over the earlier one, Feature 353.

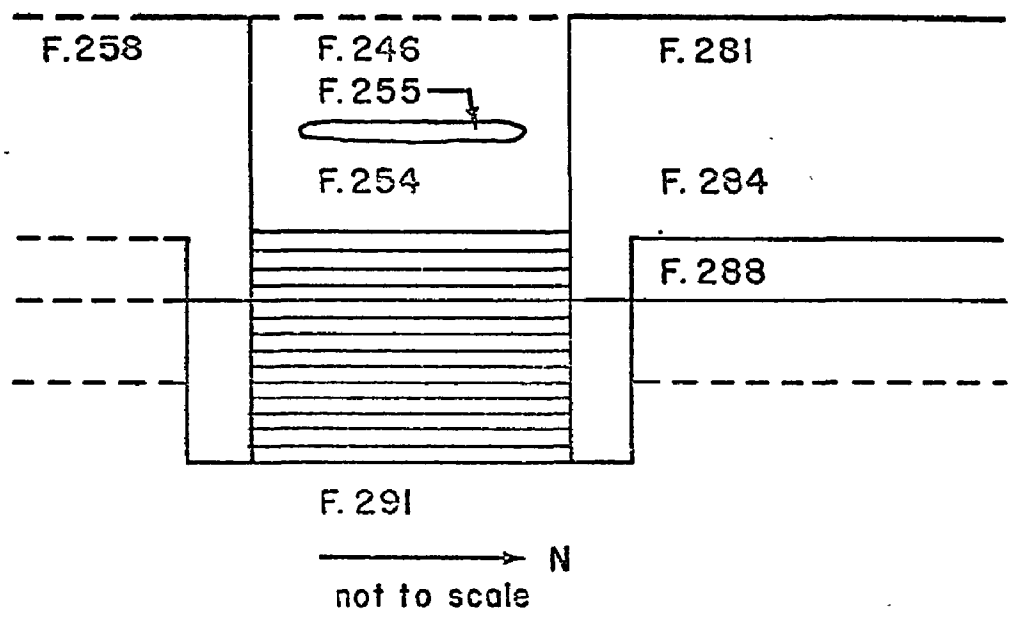


Figure 40. Reconstructed planview of Stage D2.

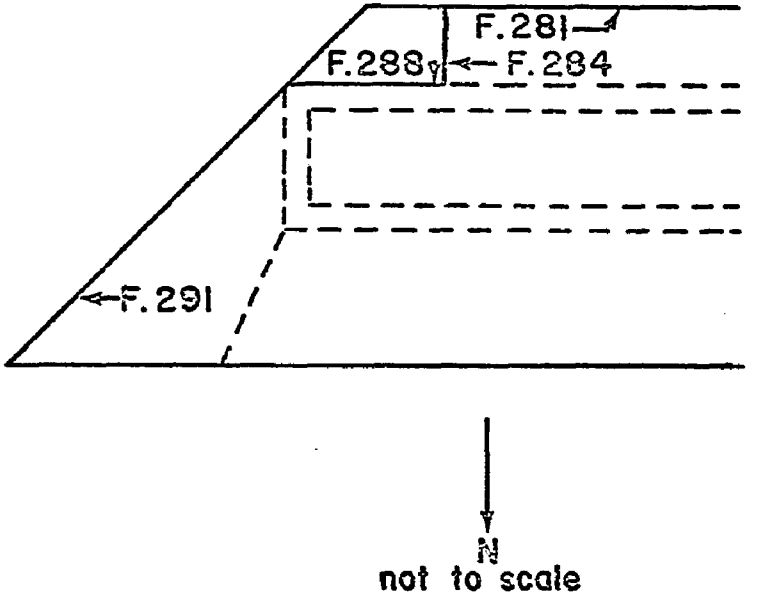


Figure 41 Reconstructed profile of Stage D2.

All these features are classed together for formal as well as for stratigraphic reasons. The formal factors relate to construction materials. They all share the use of pumidrine and burned clay for wall surfaces, a characteristic of late time periods. Another characteristic of late periods is the use of river cobbles which were used as part of the support of the treads and the risers in the construction of the stairway, Feature 291.

The stairs (Feature 291) of this substage were mostly destroyed by the following construction activity leaving only the bottom five steps (Fig. 38). The piedrine of which they are constructed has very coarse granules in it and is heavily burned. The steps extend completely across the trench from 8 to 6N and overlie the north edge of the balustrade of D2-b. Thus, they are wider than the earlier steps. Exactly how wide they were is problematical because of the later destructive activity. The south profile of 44E/6N shows a relatively vertical wall of stone, pumice and talpetate located at 4.30N (Fig. 42). This is almost in line with the clay platform, Feature 258 (Fig. 42). It is likely that this wall is the hearting of the balustrade of this substage. (The fact that it overlies Feature 258 may indicate that it is later and should be made a substage of its own. However, due to the similarity in construction techniques, it is also reasonable to consider it as part of this substage.) If we can assume that the distance between the balustrades was the same as the distance between the clay surfaced benches, Features 258 and 281 (Fig. 42) and that the balustrades were in line with the benches, the balustrades would have

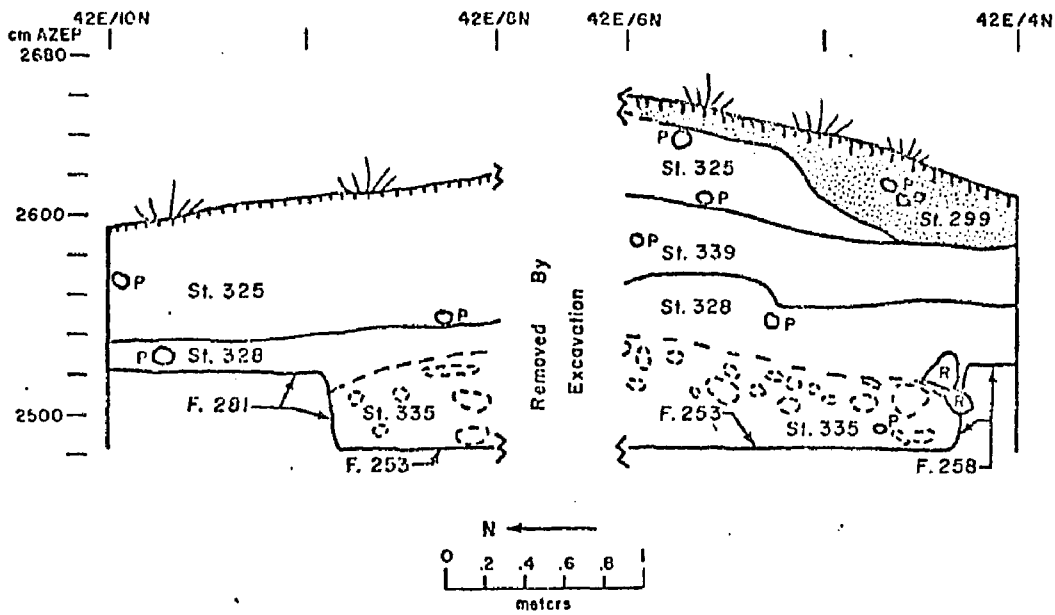


Figure 42. Profile, east wall, 42E/4-10N. -- See Figure 6 for key to symbols.

been 460 cm. apart. Correcting for the 10 cm. difference between each balustrade hearting and the clay wall, the distance would be 440 cm., 140 cm. larger than the preceding balustrade. It is likely that the width of each individual balustrade was greater than that of each preceding balustrade, but no data exist to confirm this.

The clay benches referred to above, Features 258 and 281, are at 2538 azep, about 35 cm. above the platform (Feature 254) surface (Fig. 42). The northern one, Feature 281, was most exposed by excavation while only about 20 cm. of the apparently similar southern platform, Feature 258, was excavated. Both benches are surfaced with burned clay and Feature 281 had, perhaps, burned clay with pumice granules in it as part of the facing. Feature 281 is filled with talpetate chunk fill, st. 237 (Fig. 43).

The south face of Feature 281 runs from 42.80E to 40.50E, at which point it is cut away through intentional destruction or erosion. At the easternmost point of this Feature, the wall turns a corner and becomes Feature 284 (Fig. 43). Since Feature 284 is the east face of 281, the two will be discussed together. Feature 284 is a red-painted adobe wall which is badly eroded. The bottom of the wall articulates with Feature 288, the piedrine floor. These two features, 281-284 and 288 were probably used concurrently.

The top of Feature 281-284 runs at least to 12.90N and perhaps beyond (Fig. 41). However, the existence of an extension cannot be verified because of the presence of Feature 286. There is a hard surface extending to the north at this level (2538 azep) which was

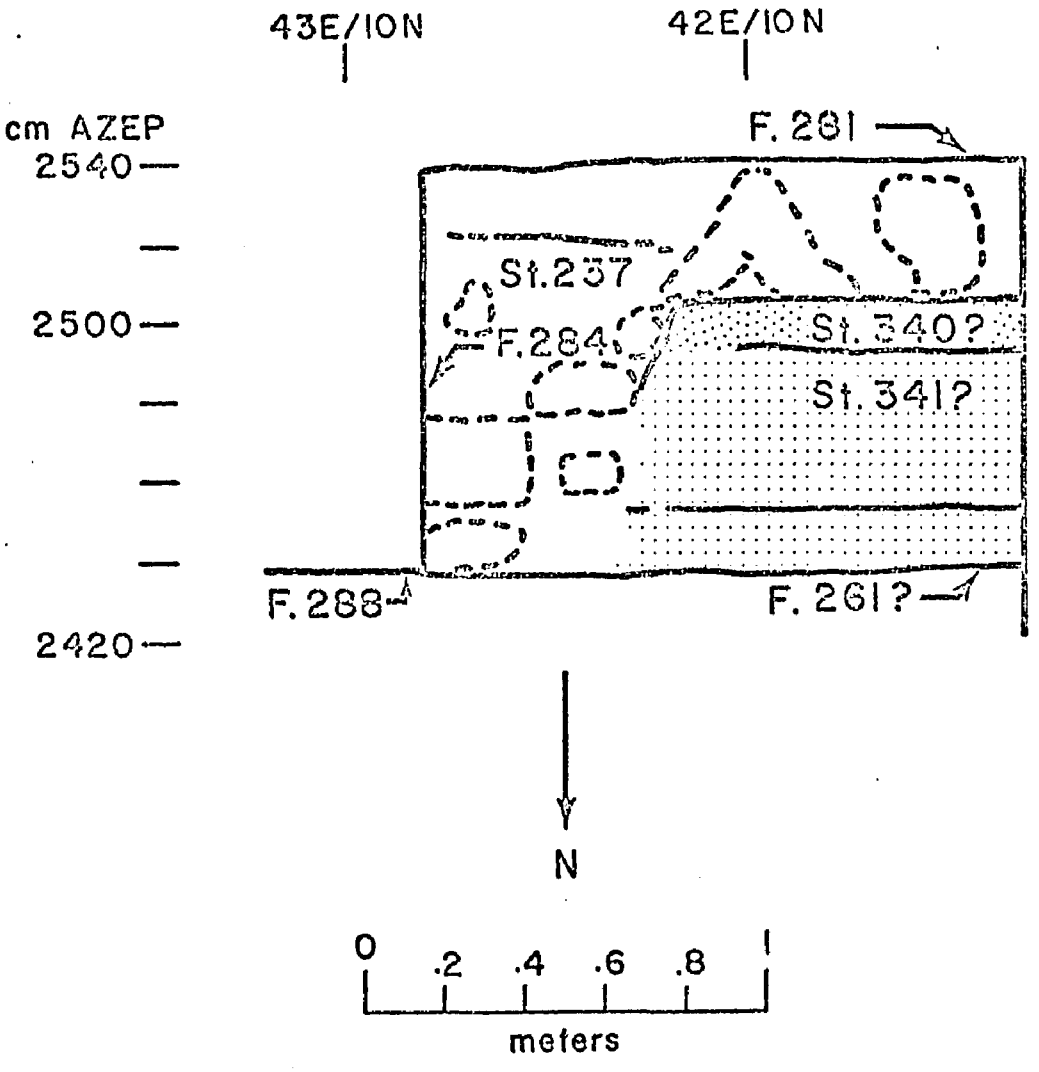


Figure 43. Profile, south wall of cross-section of Features 281 and 284. -- See Figure 6 for key to symbols.

also extended eastward in D3. The exact point on this surface at which Feature 281 terminated and Feature 301 of D3 began is unknown. More excavation north of 6N would be desirable.

Another problem is whether the clay wall of Feature 284 is a new structural feature in this substage or whether it merely replaced a piedrine wall that existed in the preceding substage. An east-west cross-section through Feature 281-284 at 10N seems to support the latter hypothesis (Fig. 43). The profile shows three distinct strata which partially correspond to the strata in Figure 37, 9-44E/6N. The bottom one rests on a burned adobe floor at 2438 azep, the same elevation as Feature 261 of D1-a (Fig. 37). Above this is a compacted surface at 2452 azep; there is no corresponding level in the 8-6N area. The third stratum is the fill of Feature 281-284, talpetate chunks. This third stratum is over and in front of, that is to the east of, the strata just discussed and rests on top of the last one on a compact surface at 2506 azep. This elevation is a little higher than the base of Feature 253 of D1, but it is probably the same surface stripped of its piedrine.

The surface on which the central piedrine platform rests is probably an original building surface, Feature 246b, that was used as the base of the D2 construction activity. Thus, the construction sequence could be interpreted in the following way: (1) Feature 246b, (2) Feature 253 and a lost piedrine wall where Feature 284 is now, and (3) the construction of Feature 284 by replacing the piedrine wall. Another interpretation would have Feature 253 extending to the north

in a horizontal position and at 42.80E turning down to become a vertical piedrine wall and then articulating with Feature 288. The latter is perhaps the more reasonable sequence since this substage (D2-c) would then be characterized by an architectural change in the platform instead of being merely a resurfacing of the vertical surface of Feature 284 (Fig. 41).

Another feature of the platform which changed in this substage was the platform floor itself. West of 41.90E the whole piedrine floor was replaced in one construction effort by three separate components: the first, Feature 254, is a pumidrine floor which stretches from 41.90E to 40.84E. It abuts Feature 255, the second component, which is a long rectangular band of very fine, well burned clay, 24 cm. wide by 12 cm. deep, that protrudes about 2 cm. above the floor level. The function of this element is somewhat problematical. However, it is possible that it served as a threshold or sill, or perhaps as a foundation for a wall of poles. It was probably the first of the three components of the floor to be constructed during the remodeling process. Feature 246, the third component, is to the north of this sill. It runs from 40.60E to 38.24E at which point it ends, due to erosion of intentional destruction. In Feature 246 there are particles of both pumice and piedrine in a clay and lime matrix. It rests on a two to four cm. thick layer of talpetate. Both materials, the pumidrine-piedrine and the talpetate, have been well fired. Additionally, there was a section of burned clay under the western portion of the talpetate from 39.60E to 38.92. Both Feature 246 and Feature 254

extend from clay platform (Feature 281) to clay platform (Feature 258). The clay sill between them, however, fades into the floor matrix at about 5.4ON and does not reach Feature 258. On the north, it goes to 9N, almost reaching Feature 281.

The final effect of this remodeling may be reconstructed as follows: assuming that the top of the balustrades were the same height as the top of the clay platforms, an enclosed passage was created (4.6 m. wide) because the piedrine-pumidrine top platform was 40 cm. lower than the clay platforms and the top of the balustrades. The 30-40 cm. difference is about right for a step so one could step up to the side areas without effort. However, it may have been that this passage was covered with a roof of perishable material, at least west of the sill. If the sill was indeed the front edge of a room, there would be about 190 cm. between the edge of the first step and the sill and about 2 m. to the back of the room, if we take the current west edge of the mound as an approximate placement of the edge of the mound at the time of construction. There may have been a stairway down the west side. The distance between the clay platforms was 460 cm., therefore the dimensions of the room would have been 2 x 4.6 m.

Stage D3

Stage D3, a single construction unit without subdivisions was a flat platform that served as a base for a series of probable rooms with rock wall foundations and two possible hearth areas. A low mound was located on the top center of the platform.

D3 represents a major change in architectural technique and form from previous stages since it shows no piedrine or pumidrine architecture and no evidence of the talud and tablero. The side contour of the range structure changed radically from one broken by architectural features to one characterized by an unbroken slope from base to summit. Though the excavations did not extend far enough to identify the north and south limits of Stage D3, it is likely that the architecture of D3 extended the mound to its present north-south limits, to join with constructions A and B, discussed above which seem to have been built at about the same time. Amatle II pottery occurs in the fill of both constructions A and D, while B seems to be identical to A in general form and was probably contemporaneous. The Amatle ceramics would indicate a Late Classic construction date. The excavation area was again mainly restricted to the north half of the range structure but exploratory trenches were also excavated on the east slope slightly south of center and on the west slope. The excavations revealed features on the top of the mound and some information about the sides, but failed to reveal stairways or other access areas. However, the areas tested were very limited, especially on the east, and thus the failure to find stairs or ramps can perhaps be laid to sampling error as well as to the fact that unburned clay surfaces would be very hard to find even if they had not eroded away.

The first step of the remodeling procedure that produced D3 was the partial destruction of D2-c. The last staircase of that structure was destroyed from the top of the structure down to the

fifth step from the bottom (Fig. 38). The second set of balustrades was also removed. On the north side most of Feature 286 of D2-b was destroyed. All piedrine construction is gone from the west side of the mound, except for Feature 4, the stairs at the base of the range structure. From the profiles and notes available, it does not appear as if Feature 4 of D2 was destroyed or covered by later construction surfaces. In other words, Feature 4 was left exposed in the side of the D3 range structure, and may have continued in use during that Stage. However, as will be discussed below, the south terrace of Feature 4 was destroyed by the people who put sherd dumps in this area. If this occurred during the construction of D3, a point that is not clear, then Feature 4 was partially destroyed by the Stage D3 construction.

The sequence of construction in the center of the range structure was different from the sequence at the north end. Some of the features in these two areas were built concurrently and some of them were built successively. All are, however, considered part of the same building activity, that is the construction of D3.

After the D2 construction was partially removed, the builders covered the central stairs and the top platform to the height of the balustrade with stratum 335, a dark brown sandy clay with a high percentage of talpetate lumps (Fig. 44). This stratum seems to be restricted to the area between the balustrades of Feature 291. Either immediately following or during the deposition of st. 335 a construction surface was built at the base of D2 that may have extended from 45E to 55E.

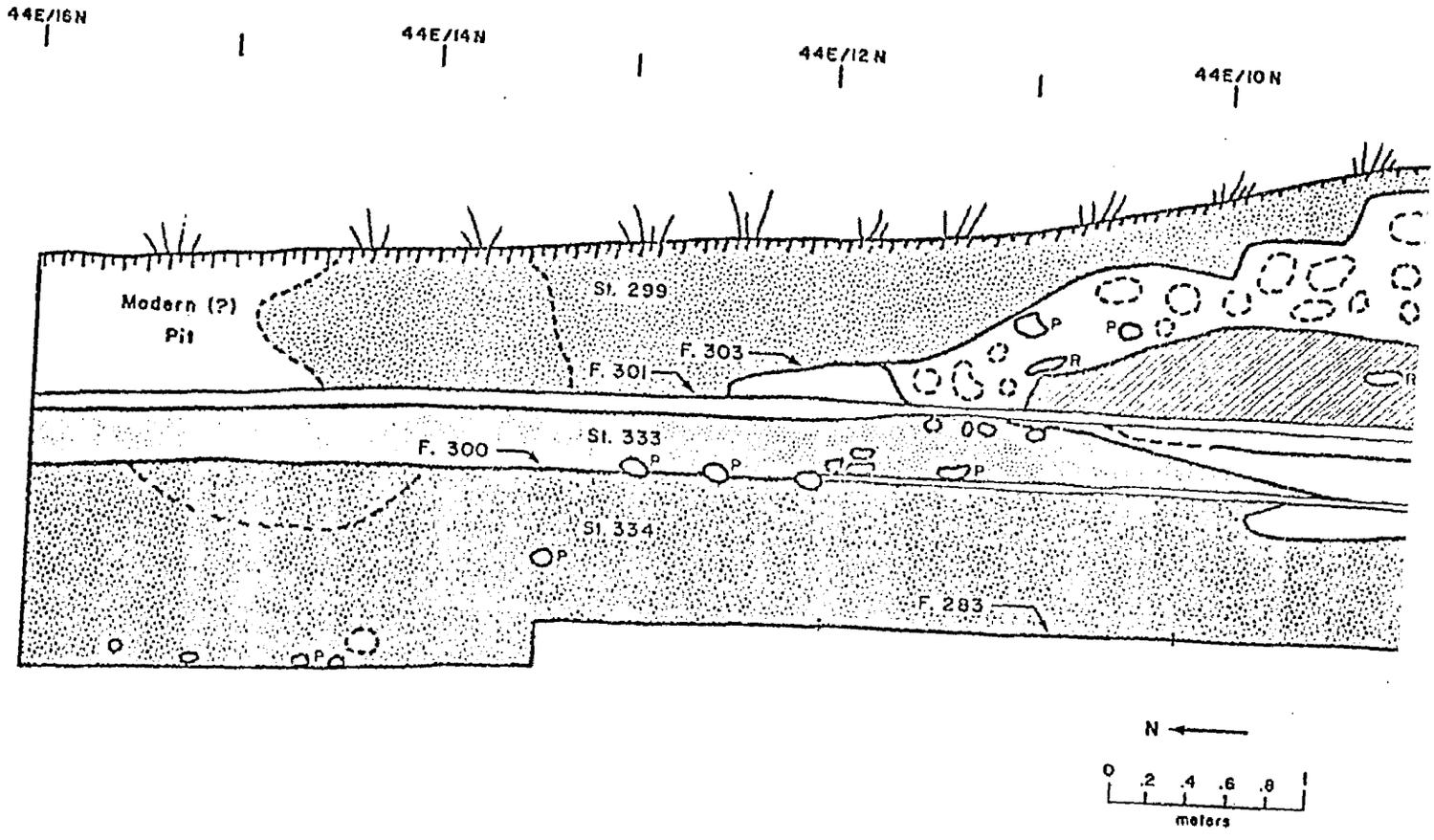
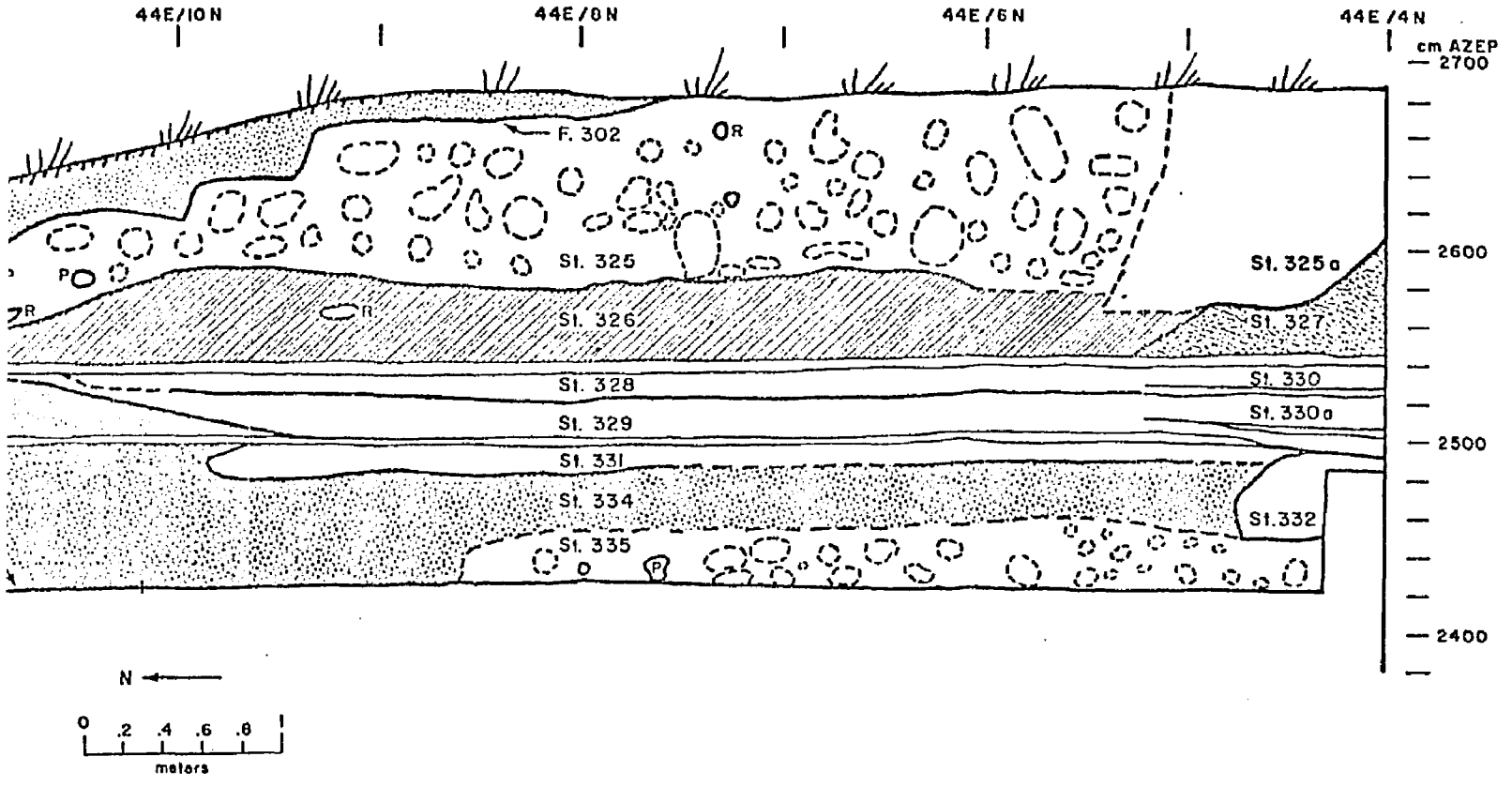


Figure 44. Profile, east wall, 44E/4-16N. -- See Figure 6 for key to symbols.


44E/10N
44E/8N
44E/6N
44E/4N
cm AZEP
2700
2600
2500
2400
F. 302
OR
P
R
St. 325
St. 325a
St. 326
St. 327
St. 328
St. 330
St. 329
St. 330a
St. 331
St. 334
St. 332
St. 335
P
N
0 .2 .4 .6 .8
meters

for key

The next step seems to have been to place a layer of loose, homogeneous, brown clayey sand, strata 334 and 332, on top of the talpetate fill, st. 335, over the stairs (Fig. 44). Stratum 332 is very similar to st. 334 and probably mixes with it in 44E/6N (Fig. 45). The two strata will be considered as one for purposes of this discussion. This stratum 334-332 is well defined in 44E/6N and has some kind of sandy surface on it. It is not, however, as well defined north of 8N and seems to blend into st. 316, the major structural fill for D3. Above stratum 334-332 is stratum 331, which is a series of three or more loosely packed brown clayey sand layers restricted to a 64 cm. wide area from 43.86E to 44.50N and from 9.86N to 4.70N. The bottom of this layer is at 2490 azep and the top, which is the bottom of the next layer, is at 2505 azep. Stratum 316 was very probably being laid down at the same time as st. 334. This stratum (316) is deep, extending the top of the lower of the construction surface positioned above at 2240 azep to 2495 azep. Again, this is essentially undifferentiated fill of loose brown, sandy clay with a fair amount of cultural debris such as sherds, bits of charcoal, and burnt clay. The three strata, 316, 331, and 334 were all leveled off at about 2505 azep.

In the central area, stratum 331 horizontally separates st. 334 from 316 (Fig. 45), which is to the east of 331. However, to the north of 331, 336 seems to integrate directly into st. 334, and though no profile running east-west through the 43N profile past the termination of 331 was obtained, it may be that 331 continues to the north

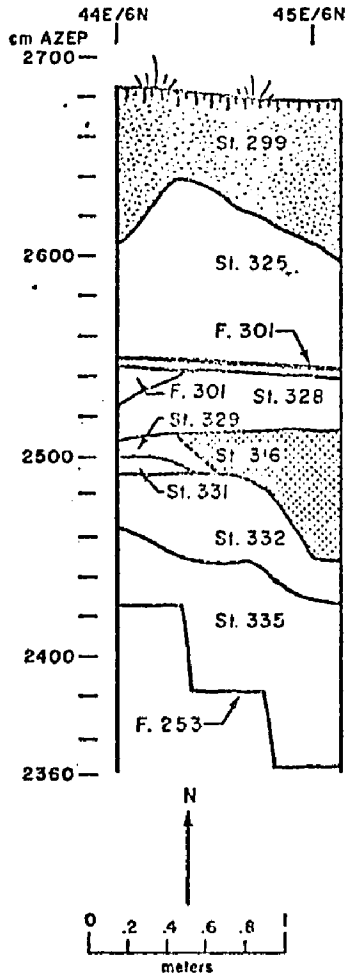


Figure 45. Profile, north wall, 44-45E/6N.

on the other side of 43E. This is a possibility because the orientation of the structures runs more east of north than does the grid system.

While the above constructional activity was occurring, the architects were building terraces or dikes along the east and west sides of the range structure to prevent the fill from slipping. The bottom courses on the lower west side of the mound are composed of rows of talpetate and stone. Though no full units were excavated in this area down to the base of the mound, Cardenas opened some narrow exploratory trenches into the mound. These showed that rows of talpetate blocks were laid on top of courses of stone set about 40 cm. apart. The stone courses are made of large river cobbles -- a Late Classic constructional trait. Further up on the west face only rows of talpetate were used; stones were not used at all in this middle area of the mound.

On the east side of the mound, the slippage problem was not as severe because the distance between the mound top and the Plaza floor was considerably less and the angle of the slope is less (Fig. 33). Thus, the rows of talpetate are not as frequent as on the west side. The only location where such dikes were found was in 59E/8N, st. 319. In this location a mixture of talpetate, rocks, and burnt clay lumps were used as a base. Above this, there seemed to be a vertical, tall, thin, dike of harder sandy clay which may have acted as a retaining(?) wall. However, this was noticeable only in profile; its actual function, if any, is problematical.

The next construction step was to surface the top of the mound with a thin, two to four cm. layer of sandy clay. This layer, Feature 300, is relatively level at 2505 azep between 4.60N and about 14N, at which point it starts dropping so that by 16N it is down to 2494 azep. Few of the units excavated to the north of 16N attain this depth and of those that do only in 42E/22N was a floor (Feature 290) at a similar elevation found. Feature 290 was a fired area, with some rocks to the southwest corner of the unit. It could be either a continuation of the clay floor, Feature 246, or of Feature 300.

In 44E/16-6N (Fig. 44) the level characterized by st. 333 on the north and by st. 328 and 329 on the south, apparently fill material, abuts and lies on Feature 300. This level extends 82 cm. to the west of the 44E profile. At 44E/10.18N it turns up for about 20 cm. and stops against the bottom of Feature 301.

On top of Feature 300, and abutting its northern side (Fig. 46) the builders placed a layer of pumiceous, brown, sandy clay, st. 333. This stratum contained a considerable amount of trash, such as large and small pumice and talpetate chunks, rocks, and bits and pieces of piedrine. Stratum 333 seems to be restricted to the north side of the mound since it does not appear in the profiles of the central top area of the mound. At 11N, the top of st. 333 slopes south down to the top of Feature 300 at 9.40N. Next, apparently, the central area of the top of the mound was filled in with two layers of sandy material. The bottom one, st. 329, is a dark brown, sandy clay with some talpetate flecks. Above this is st. 328, a yellow-brown loosely

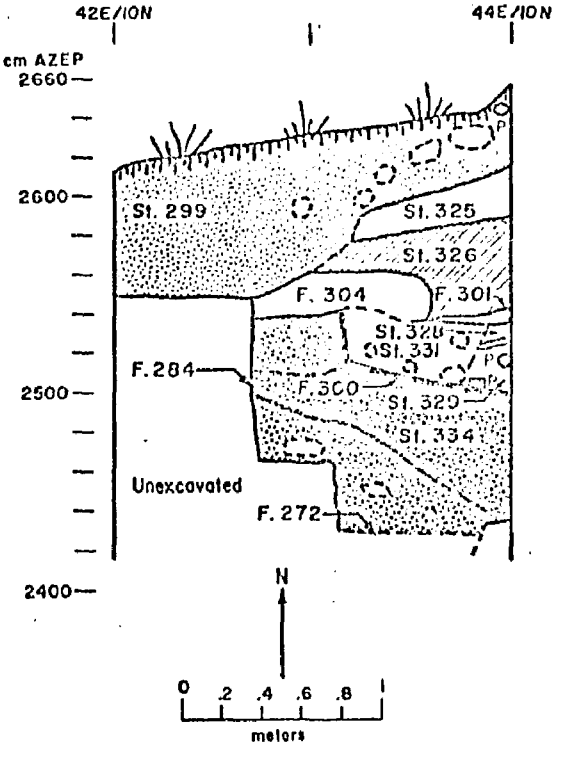


Figure 46. Profile, north wall, 42-44E/10N. -- See Figure 6 for key to symbols.

compacted, fine sand. Over these three strata, 333, 328 and 329 was placed an extensive surface, Feature 301. This surface varies from six to 12 cm. thick and is composed of at least two sand layers; it is thicker in the north and slopes down like Feature 300 to the north. This surface runs north to at least 16N; it is burned in some places and there may have been several post holes on top; at least one, Feature 277, was found. Also, at 44E/17N, a cluster of rocks that looks as if they might have formed a corner is located on top of Feature 301.

Feature 301 served as the base for the construction of a small mound, Feature 302 (Fig. 44) in the center of the top of the range structure, and as a foundation for a series of rock walls to the north which may have been the bases of room walls.

Before describing what is known about the construction details of Feature 302, I should point out that the areas most extensively excavated on the range structure were located in the northern half, from about the center to 8-10 m. north of center. Thus, only the north half of Feature 302 was exposed. Also, only the back or west portion of the northern half was thoroughly explored, and thus almost all the data on Feature 302's construction comes from its northwest side. I am assuming that the 4N line is approximately the center of both the range structure as a whole and of Feature 302, and that therefore the profile to the south of this point would be essentially a mirror image of that to the north. Two profiles show the basic data (Figs. 44 and 46).

The depositional sequence of the assumed center of Feature 302 is complicated. Basically, there seems to be a core of very hard compact talpetate, st. 325a (Fig. 47). On Figure 44 we see that st. 325a rests on st. 327, a very hard, compact, pumiceous, brown sandy clay.

To the north of the central core are seen two strata, which are composed of the same materials as those of the core but are much softer and less compact. The analog of st. 327 is st. 326 and that of st. 328a is st. 325. Strata 326 and 327 seem to serve as a construction base for the superimposed strata 325 and 325a. Whether the apparent steps which occur in 43E/10N (Fig. 44) are remnants of actual steps or artifacts of erosion is unknown. Note that st. 325 extends north beyond st. 326 in 44E/12N (Fig. 44). The north end of st. 325 rests on or abuts against a small area of prepared sand, Feature 303. The fill on top of st. 325, st. 299, did not show any internal division on the profile. However, in the 45E trench, a number of hard surfaces on which rocks were placed were found above the level of Feature 301.

The western extent of Feature 302 is seen in Figure 46. Here strata 325 and 326 end at 43E. In 43E/10N, st. 326 extends beyond st. 325, in contradistinction to the case in 44E/12N. However, this may be due to erosional removal of st. 325. Both strata (Fig. 46) abut Feature 304, which may have a similar function as Feature 303, that is, they may act as support against the outward force of the structural fill.

In the area of 8-6N/43-38E, I found a series of balks that were placed on a north-south axis in the area of the top platform and clay

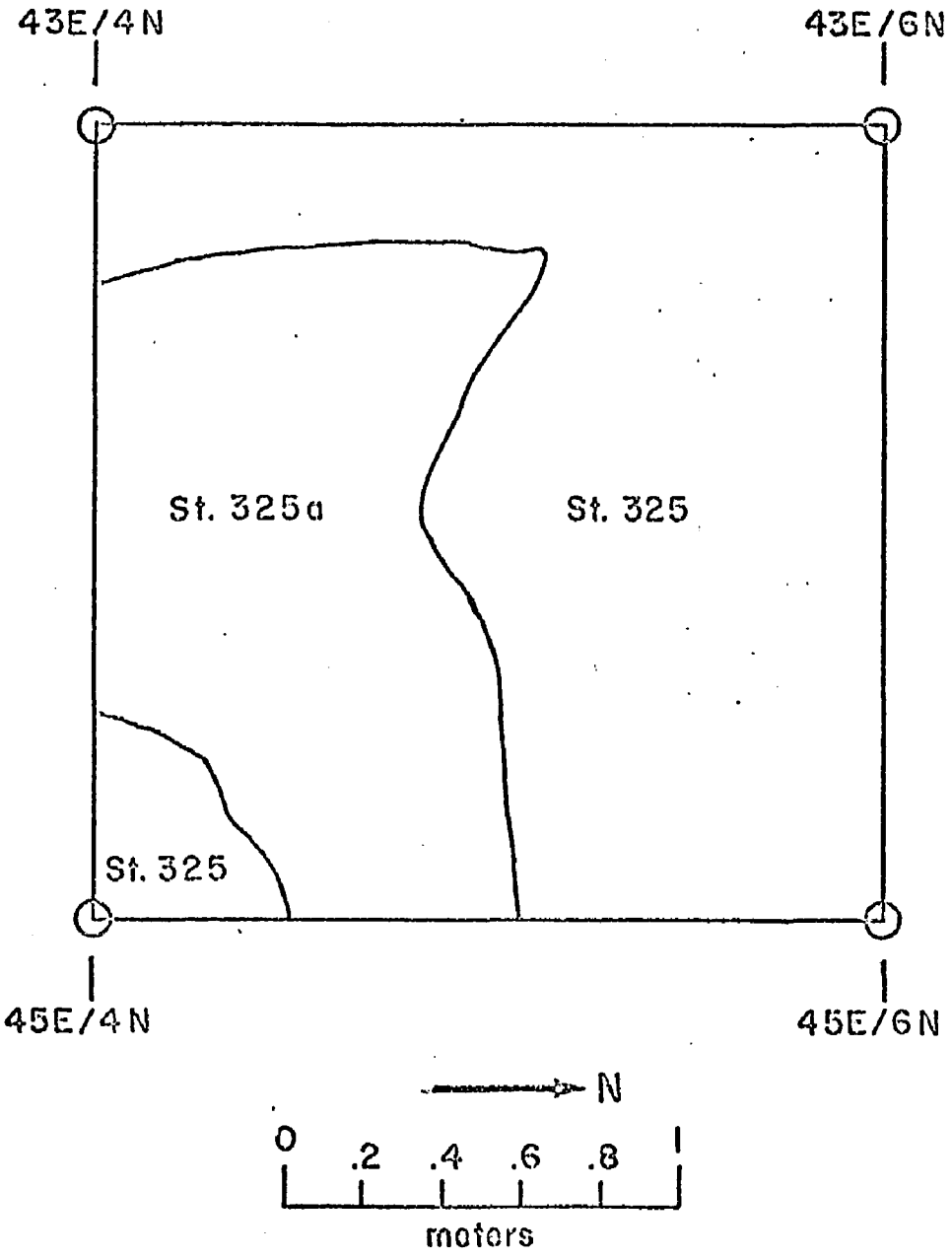


Figure 47. Planview of 43-45E/4-6N.

platforms (Features 281, 254, 247, 255, 253). Feature 248 (Fig. 35) is a line of medium size rocks about 40 x 40 cm. resting on the piedrine floor of Feature 246 or on top of a 20 to 30 cm. thick layer of dirt on top of the floor. The tops of the rocks are at about 2530 to 2540 azep. The north end of Feature 246 is composed of pumice and rocks. The second dike, Feature 250 (not illustrated) is higher and does not extend all the way across the area of the top platform and clay platforms. It starts at 8N and goes to 6.50N, and is composed of one layer of pumice and rocks. It rests on several unnumbered strata, one of which is crushed talpetate.

What little evidence there is from the profiles from the east-west axis confirms the picture presented above. Profiles of three walls of 45E/12N (Fig. 48) cover the same area as 44E/10-12N in Figure 44. Feature 302 displays here also the north sloping talpetate fill of st. 325 and of st. 299. Stratum 326 is not as well defined though we did not excavate very deeply in this unit. This lack of definition perhaps indicates that st. 326 was not as uniform in the center of the mound as it was in the peripheries. The relationship between strata 325 and 326 in the piedrine stairway area is unclear. Figure 38 shows st. 326 under st. 325 up to 45.80E at which point st. 326 seems to disappear. There is a distinction between strata 325 and 326a to the east of 45.80E. Other profiles in this area, that is south of 8N, indicate the tenuousness of the distinction between these two strata, but there is at least a lack of talpetate and pumice in the lower sections of the profile indicating that st. 325 does not extend that deep.

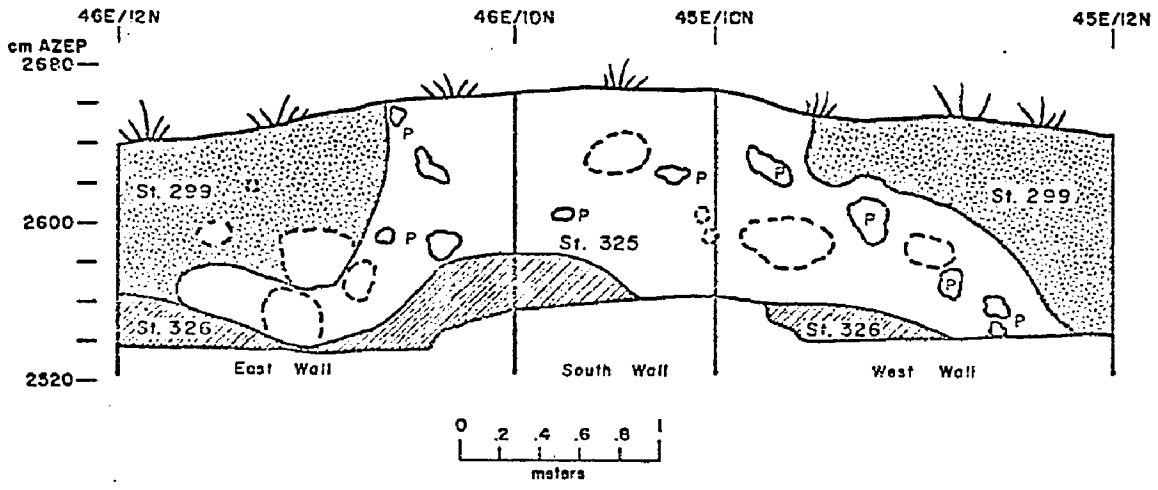


Figure 48. Profile, east, south and west wall, 46E/10-12N, 45-46E/10N, 45E/10-12N. -- See Figure 6 for key to symbols.

The east-west trenches put into the east face of the range structure to find evidence of stairs proved essentially futile. One surface, Feature 263, was defined. This seemed to run from 0-8N in 50/52E. In 8N it occurred at 2540-42 azep. In 2N a surface at a similar elevation was found, and is considered as part of the same feature. Feature 263 was partially burned in 8N. Excavations terminated at this surface in 8N. Excavations below this level in 2N showed that Feature 263 was composed of fine clayey sand about 10-12 cm. thick. Below this was another surface at 2490 azep. The bottom of the second surface, Feature 266, extended from 49E to 54E. This may be an extension of Feature 301; however, this is very uncertain. The only other surface found in these trenches was one at 2444 azep in 8N.

Several lines of stones and pumice were found at the north end of the top of the mound, which could have been the base for walls of perishable structures. Although no complete room outlines were uncovered, at least one right angle was found that may be a corner. The rock lines were found in two different levels, 2537 and 2510 azep, in essentially the same horizontal locations. In 42E/24N two superimposed burned areas were found which may have been hearths. One burned area was on each of the levels mentioned above.

These facts indicate that the top of D3 may have been utilized as a living area in addition to whatever ceremonial uses it may have had. As mentioned earlier, the Amatle II structures excavated by the Pennsylvania State Project showed evidence that both domestic and

ceremonial activities took place in elite structures in Late Classic times.

Construction Area U, The Upper Plaza

This construction area is located to the east of construction area D. It has a relatively flat surface with a small mound on the east edge. The east and north sides of the Plaza drop rather steeply to the surrounding ground level, except at the northeast corner, where there is a rectangular area about 3 m. lower than the Upper Plaza. This area is open on the north and east sides and gradually slopes down to the surrounding ground level. The south side of the Plaza does not slope as steeply as the other three sides. Both the south side and the northeast corner may have served as entrances to the Upper Plaza but neither was investigated.

In general the Upper Plaza area was the least investigated of the construction areas of the Palangana. Only one trench, control trench 3, was excavated in this area. The trench ran west to east between 6 and 8N and from 55E to 102E. Since all the excavation units discussed in this section are from this trench, they will be referred to by only their east coordinates, the north coordinate, 8N, being constant. East of 77E only every other unit was excavated. These units east of 77E will not be illustrated since the stratigraphy they revealed duplicated that found in the western units. The units within the trench were excavated to different depths, but none of them reached sterile layers. In two units, 55E (Fig. 49) and 76E (Fig. 50), comparable depths were reached. These units will be referred to as

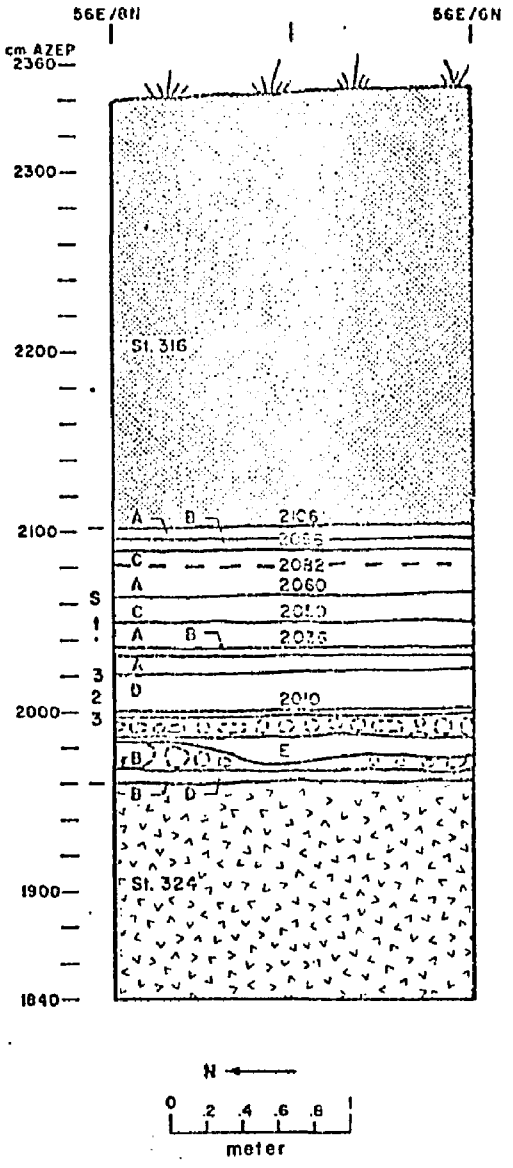


Figure 49. Profile, east wall, 55E/8-6N.— A, compact sand; B, pumiceous sand; C, soft sand; D, sandy clay; E, pumiceous sandy clay. See Figure 6 for key to symbols.

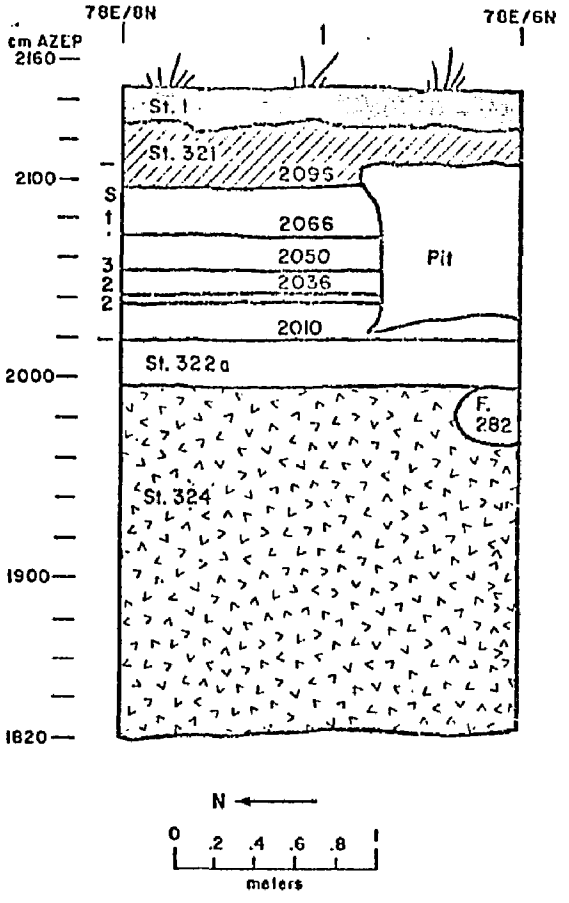


Figure 50. Profile, east wall, 78E/6-8N.

areas I and II, respectively. In a third area, 59-60E, a depth was reached that was higher than that in areas I and II but lower than the levels reached in the rest of the units. This area will be referred to as area III. In the rest of the units in the western part of the trench, excavation was terminated at considerably higher elevations because of features encountered (Fig. 51).

The major function of the Upper Plaza seems to have been as a Plaza for only one minor architectural feature was found in the trench and this feature belonged to a fairly late addition. Some ceremonial activities seem to have been carried out in the Plaza. Numerous ceramic-filled pits (14) were found in the trench. Though the ceramics have not yet been analyzed, the majority of the material seems to have been either broken incensarios, sometimes slipped white and painted in various colors, or poorly fired pottery of simple forms that often contained burned material.

There were only three stages discernible in the Upper Plaza. The first, U1, included the raising of the Plaza to near its present height by the deposition of a great deal of fill over which was laid a series of floors. During the second Stage, U2, only one or two floors were laid, but activity continued including the deposition of pits filled with incensario and other ceramic fragments. In the third Stage, the Upper Plaza was abandoned except for one minor occupation, and natural strata were deposited.

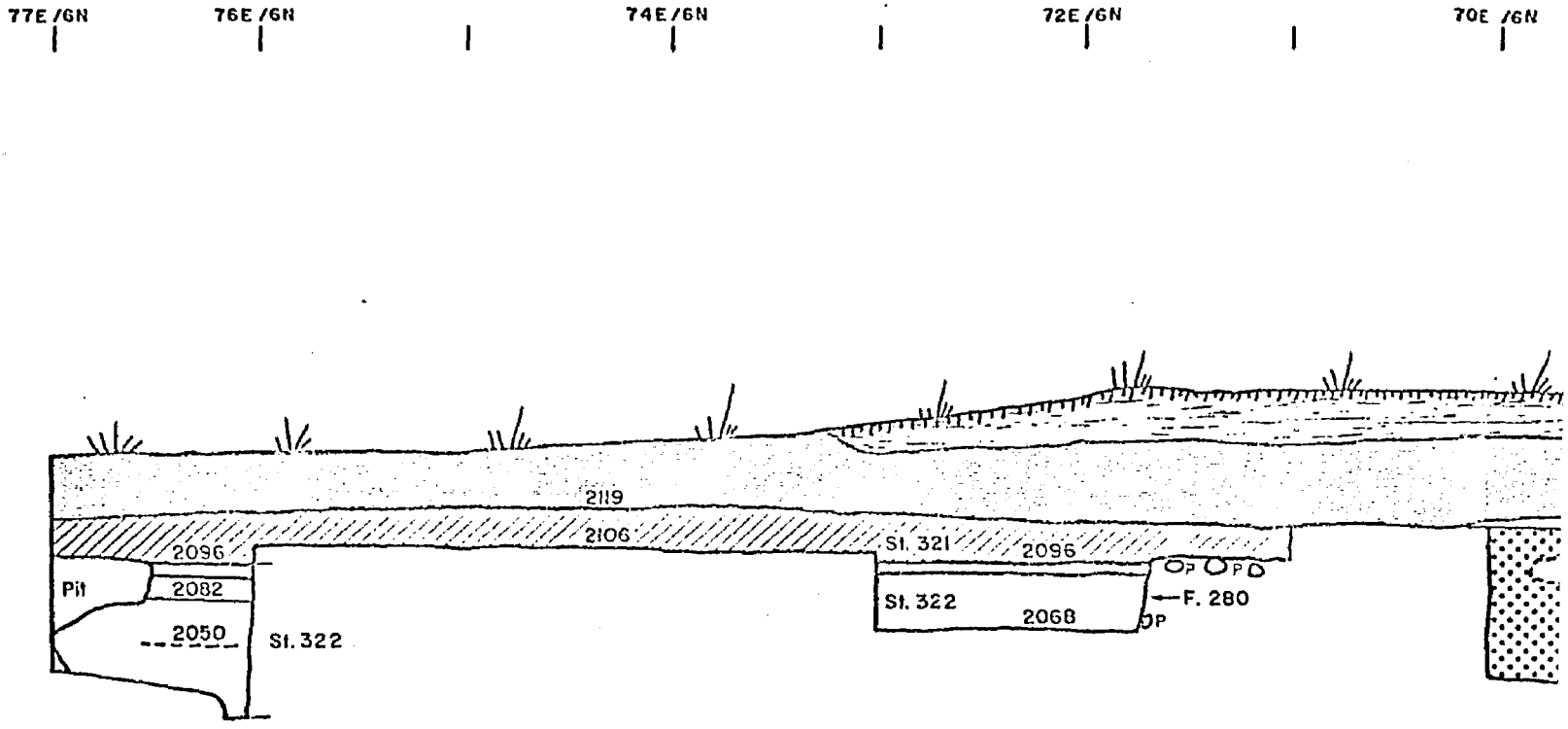
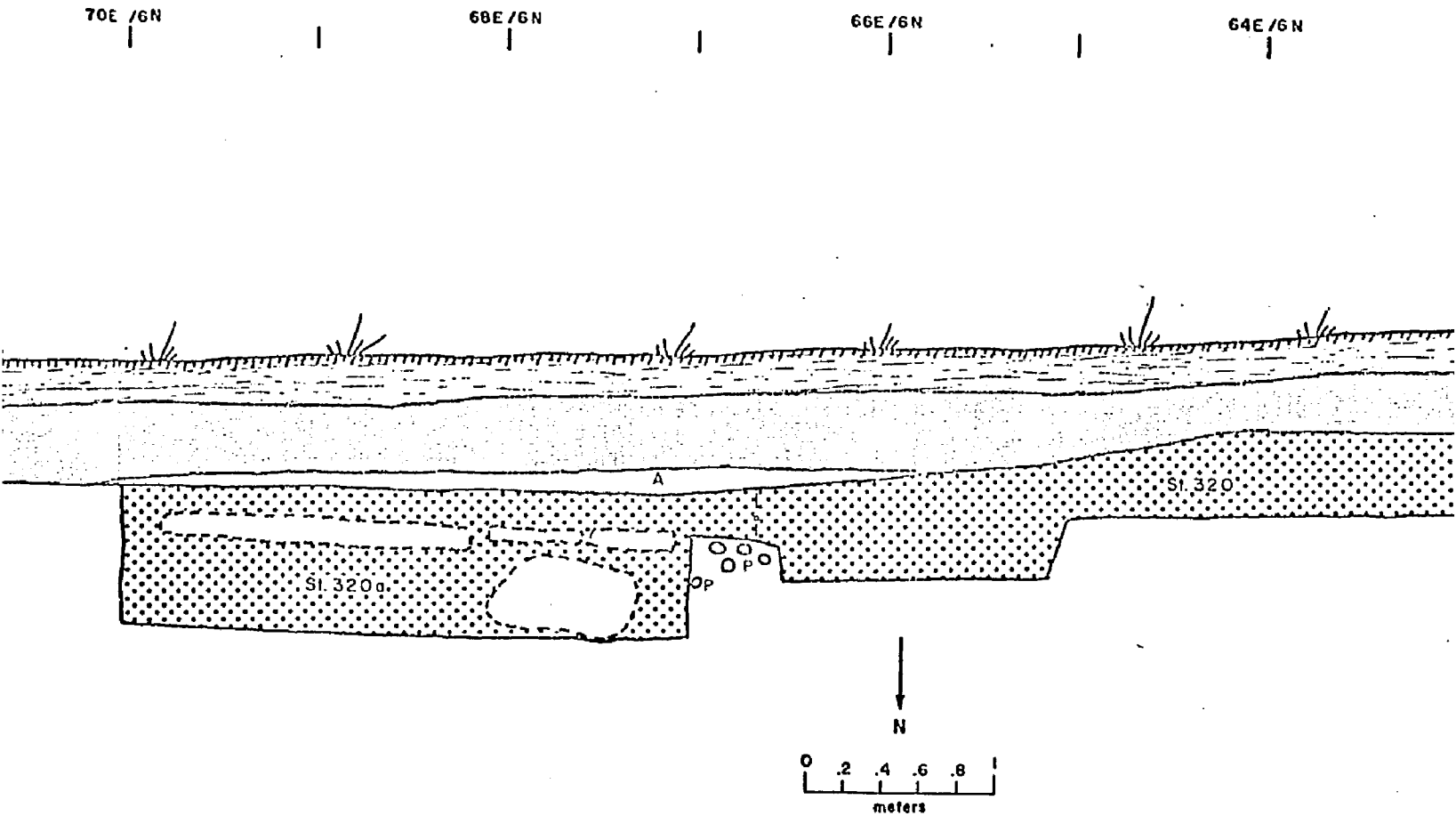
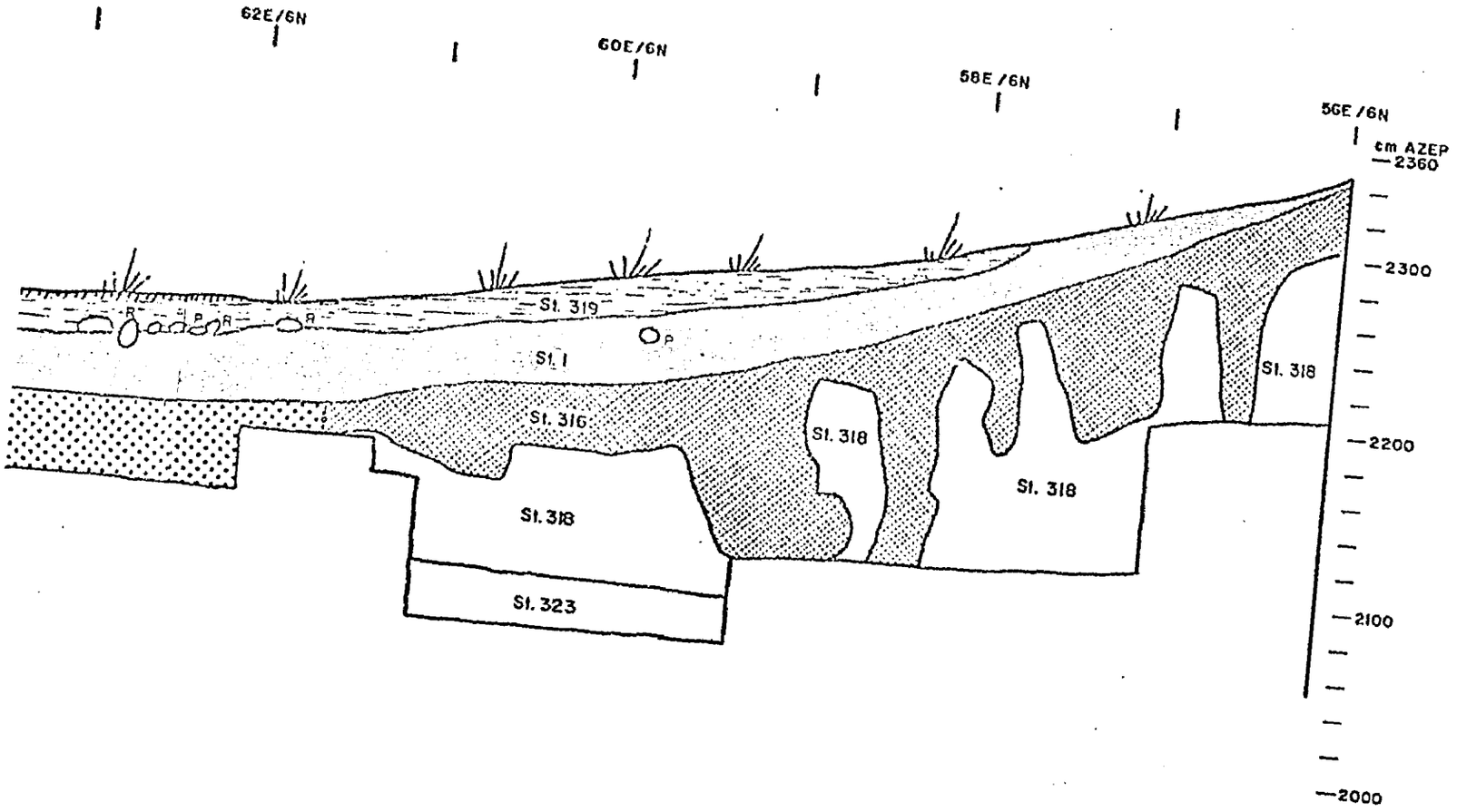


Figure 51. Profile, south wall of T3, 56-76E/6N. -- See Figure 6 for key to symbols.


70E /6N
68E /6N
66E /6N
64E /6N
A
Sl. 320
Sl. 320a
P
N
0 .2 .4 .6 .8
meters


62E/6N
60E/6N
58E/6N
56E/6N
cm AZEP
2360
2300
2200
2100
2000
St. 319
St. 1
St. 316
St. 318
St. 318
St. 318
St. 318
St. 323

Stage U1

No substages were identified in this Stage. The phase affiliation of U1 is not known with certainty. Although it is most likely Amatle I-Esperanza (Middle Classic), there is a possibility that it is Aurora (Early Classic). There are several reasons for proposing that U1 should be assigned to the Amatle I-Esperanza phase. The first is an archaeomagnetism reading on Feature 280 (Fig. 51), the only architectural feature found on the Upper Plaza surface. This reading fell in a cluster with the readings taken on the samples from E3 in the Lower Plaza which have been tentatively assigned to the Esperanza-Amatle I phase. The second reason is the ceramic evidence from two caches, from U1 in area 3, which occurred below the level of and closer to mound D than Feature 280. These caches contained a number of cylindrical tripod vessels which are generally assigned to the Esperanza ceramic complex. The caches are within 60 cm. above the top of the fill matrix, and were probably deposited after only three or four floors had been laid. However, since it is not known with what these lowest floors articulate, I cannot say for certain that the floors did not articulate with part of D1 and therefore cannot be sure that part of the Upper Plaza, these floors, was not built in the Aurora phase. Similarly, there is no connecting stratigraphy between the piedrine stairs of D2 and the floors of U1. The bottom of the last piedrine stairway in D2-c is at essentially the same level as the highest floor in area 1 in the Upper Plaza but since I did not find the bottom of the stairs of D2-b, I cannot say with what level they

articulate. Thus, none of the U1 floors can be definitely associated with any of the structures in construction D.

The fill matrix that supports the Upper Plaza, st. 324 (Figs. 49 and 50) is composed of a mixture of gray clay, brown clay, pumiceous sand, and talpetate. These materials usually occur as discrete wide bands or lumps and are mixed together only at their articulating surfaces.

There seem to be at least eight floor levels above the top of the fill. Since most of the units were at least partially disturbed by the pitting activity mentioned above, not all the floors appeared in all the units. Also, because the floors, like those in L4, were not surfaced with a distinctive material, they could not be identified in every unit in which they probably occurred. To obviate this problem I decided that if a particular level had been identified as a floor in at least three units, it would be considered a floor level and would be given a designation reflecting its elevation, for example, the "2066" floor. I have assigned six of these levels to this Stage because they are below the floors that can be definitely assigned to Stage U2.

An anomolous aspect of the floor levels is that they appear in both area 1 and 3 though these areas have floors composed of different materials. One might expect that the use of different materials would correlate with a different building schedule and that therefore there would not be comparable levels in both the east and west ends of the trench.

In area 1 the material of all floors is very similar to that found in substage L3-b in the Lower Plaza -- interbedded layers of sand, clay, and pumice sand. In area 3 and to the east, all of the floors except those in the bottom 30 cm. are of the L4 type -- pumiceous brown sandy clay. The reason for this phenomenon is uncertain. One possible explanation is that the area close to the base of structures in construction area D was treated differently than the area further out in the Upper Plaza. There is a parallel in the Lower Plaza in substages E3 and L3-b in which floors close to structure E3 are of different material from the Plaza floors of substage L3-b.

The floors of U1 are given strata numbers. In 77E, st. 322 refers to the floors above the "2010" level, and st. 322a refers to the floors below this level. In 55E, st. 323 refers to all floors. In general, in both areas 1 and 3, the earliest floors were lain over a layer of small talpetate chunks in a matrix of pumiceous brown clay. The talpetate layer had different thicknesses in the different areas, being thickest in the west. On top of this talpetate layer was laid a series of floors at the following elevations: 2010, 2036, 2050, 2066, 2082, and 2096 azep. These elevations represent the average elevation of each floor; actual levels on the profiles deviate by a few centimeters.

As can be seen from the profile, Figure 51, area 2 is somewhat more complex than areas 1 and 3 and presents other problems of interpretation, some of which result from the destruction that occurred with the construction of D3. The major feature of this

area is what is probably a small platform, about five meters long, extending from 71.74E to 66.50E. The east end of this feature is a burned clay wall, Feature 280, which rests on the "2066" floor level. However, the surface of "2066" in this location was burned and the burned portion extends about 30 cm. under the wall. The archaeomagnatism sample mentioned above was taken from this floor. However, the platform that extends to the west of this floor may be older than the floor since the fill of the platform attains a depth of at least 2038 azep.

Feature 280 is the east wall of the platform; it runs north-south and was backed by faced pumice blocks. One laja was found in the immediate area which may indicate that the wall was topped with a cornice. The west side of the platform seems to be defined by the remnant of a wall filled with pumice.

The division between the fill of the platform, st. 320a, and the stratum immediately to the west is unclear. This may be due to disturbances in this area during the construction of D3. Stratum 316 is definitely associated with this construction activity and since it seems to fade gradually into st. 320 it is reasonable to consider that st. 320 is a structural continuation of st. 316. Stratum 320a, however, is probably the original fill of the hypothesized platform which has been slightly disturbed by the later construction activity.

The top of the hypothesized platform is at the "2106" level, which is a level associated with U2. Thus, it seems that the top of the platform was above at least the last two floor levels of this Stage.

Stage U2

This Stage is also not subdivided and is composed of only two floors. These floors, "2106" and "2119", are separated from those in the previous Stage because the first of these seems to articulate with the base of the D3 construction and therefore can be assigned to Amatle II and not to Amatle I.

No structures occurred in the trench during this Stage and the one feature from the previous Stage was covered. D3 has already been discussed in detail and it need only be pointed out here that the east base of D3 extends at least to 62E and probably to 67E. A plaza floor, "2106", seems to articulate with the base of D3 in 66E or 67E and continues on east across the Plaza. Stratum 321 is the fill below this floor and rests on another floor, "2082"; the "2096" floor was not noted in this profile. The floors assigned to U2 are given the stratum number 321. The only other element in the profile that may belong to U2 is a layer of yellow-brown clayey sand on top of the "2116" level that may be either residue left by the users of the plaza or an erosional deposit.

The function of the Upper Plaza does not seem to have changed much from Stage U1 to U2. At the east end of the Plaza there were two pits containing similar artifacts in units 77E and 85E, that had been excavated through the floors of U2.

Stage U3

This Stage, unlike the other two earlier ones, has two substages. In U3-a the deposition and formation of st. 1 occurred. In

U3-b there was brief occupation on the top of st. 1 in 61-62E (Fig. 51). This was followed by the deposition of st. 319, a dark gray brown sandy loam.

U3-a. This substage cannot be assigned a date since it is not known at the present when st. 1 was formed. Stratum 1 is not as thick in the Upper Plaza as it is in the Lower Plaza. This is perhaps due to more erosion of soil into the Lower Plaza from the mounds surrounding it, since there would be no such source of eroded soil in the Upper Plaza.

U3-b. This substage also cannot be dated. The remains of the occupation in 61-62E are composed of a large number of burned clay and pumice lumps, and rocks. The materials were clustered in these squares without discernible pattern. The latest Upper Plaza stratum, st. 319, totally surrounded some of the material but most of it was embedded in st. 1. This indicates that these materials were deposited before the end of the formation of st. 1. No distinguishing artifacts were found with the materials, thus making even relative dating impossible.

Stratum 319 is found only on the west side of the Plaza, from 57.70 to 73.25E. The origin of st. 319 is unknown, but this stratum is very similar in composition and color to st. 54 in the Lower Plaza and the two strata may have had the same origin.

CHAPTER 4

COMPARISON OF MIDDLE CLASSIC ARCHITECTURE AT KAMINALJUYU AND TEOTIHUACAN

At the Palangana, the major portion of the excavated material is dated to the Middle Classic, and these remains show many similarities to the archaeological remains at Teotihuacan in the central Highlands of Mexico. The major part of the chapter will be devoted to examining these similarities between Teotihuacan and the Palangana and other Middle Classic material from Kaminaljuyu. Not enough is known about the architecture of the other phases at the Palangana to make comparison with other areas possible.

The Middle Classic at Kaminaljuyu

First, it is necessary to define the term "Middle Classic" as it is presently used by archaeologists working in Guatemala. The term was first used by Parsons (1964) in his dissertation on the archaeological horizons of Mesoamerica, and was applied to his interpretation of Bilbao (1969); a site on the Pacific Coast of Guatemala. Borhegyi adopted the term in 1966 in a report on Mejicanos, a site on Lake Amatitlan in the Valley of Guatemala that contains Teotihuacan-influenced artifacts.

Parsons has defined the Middle Classic, first, as a time period from A.D. 400-700 (Parsons 1969: 155). This covers the time

span which in Mesoamerica is conventionally assigned to the late Early Classic and the early Late Classic (Fig. 52). The second feature of the Middle Classic of Guatemala is that it includes the time period that shows the influence of Teotihuacan on Guatemala and, by extension on the rest of Mesoamerica. Parsons considers this time period a "horizon" in the classical Peruvian sense (1969: 156).

He further divides the Middle Classic into an early and a late phase. He calls the early phase, A.D. 400-550, "Teotihuacan." This is a period of intense commercial contact, possibly including the founding of colonies in various localities. He calls the second phase A.D. 550-700, "Teotihuacanoid," and considers it to be a "transition to regionalism" (1969: 156). The individual cultures that had been participating in the Middle Classic Horizon began to absorb and consolidate the elements of the tradition and a flourishing new art style developed in a number of places, such as Coatzumalhualpa, Xochicalco and even at Chichen Itza in Yucatan.

The data on which this discussion is based are taken from both published and unpublished sources as well as from my own work at the Palangana. The first indications of Teotihuacan influence in architecture and ceramics will be considered as a marker of the start of the Middle Classic. Thus, structures at Kaminaljuyu have been identified as belonging to the Middle Classic if they were surfaced with piedrine, a local concrete whose temporal distribution is probably limited to the Middle Classic, or contained artifacts showing Teotihuacan influence.

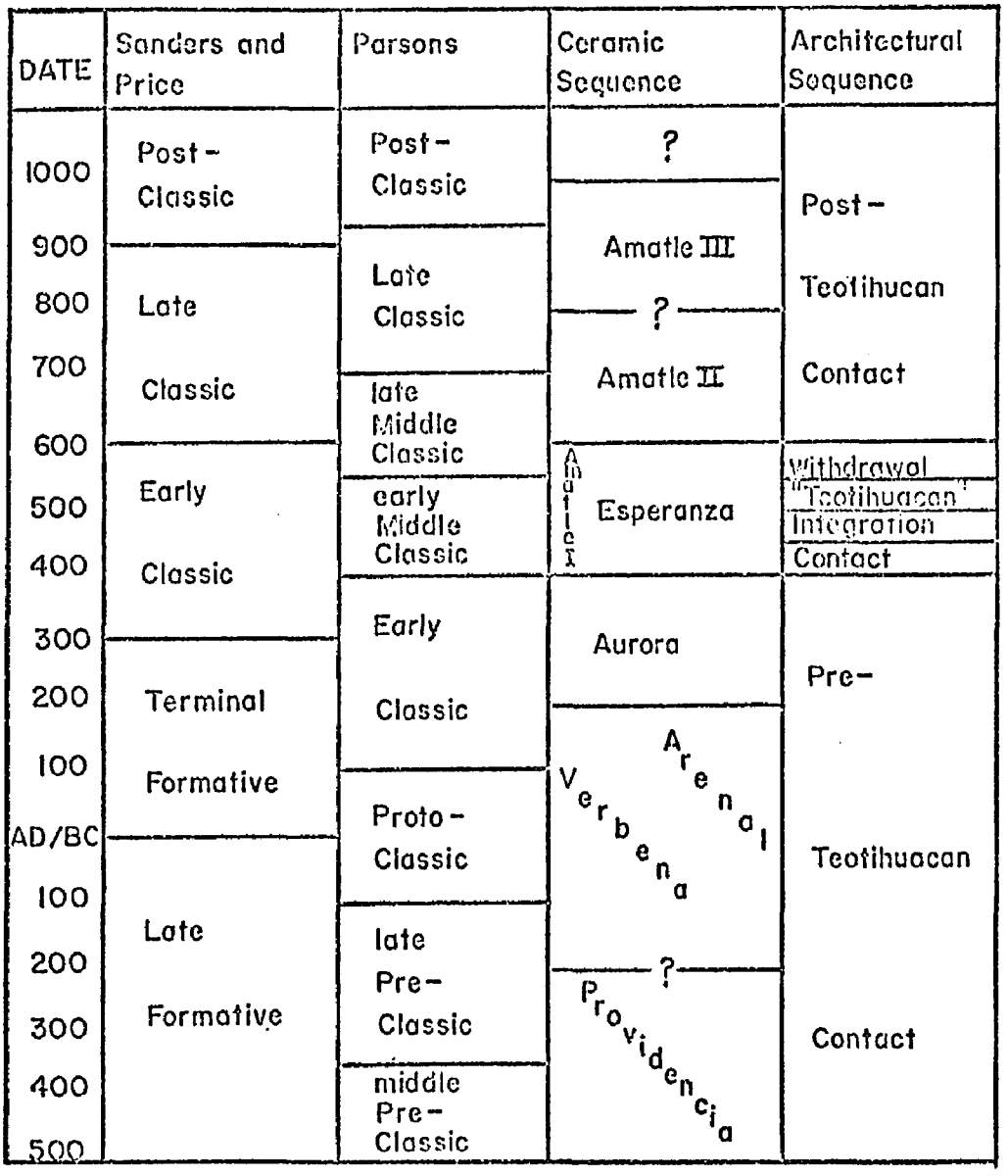


Figure 52. Architectural and ceramic sequences at Kaminaljuyu.

Middle Classic structures have been identified at only two areas of Kaminaljuyu. The first of these areas is located about 1000 m. southeast of the Palangana near the Roosevelt Hospital. This area contains mounds A and B (Kidder, Jennings and Shook 1946) as well as another mound excavated by Vivian Browman Morales (unpublished) and a non-mound structure that Smith discovered (Shook and Smith 1942: 266).

The last two structures are covered with piedrine, as are most of the structures in mounds A and B. the Earlier structures in mounds A and B do not have piedrine surfacing but contain graves whose contents include Teotihuacan-influenced goods.

The other Middle Classic area is in and around the Park. No data on this area are published except on the piedrine constructions in the Palangana. Espinoza excavated a number of pumidrine (a variant of piedrine) surfaced structures in the Acropolis, northwest of the Palangana, and one immediately south of the Palangana. No non-piedrine structures assignable to the Middle Classic were found in the Park area.

From the site survey map made by the Carnegie Institution it appears that the first area contained far fewer structures than did the Park area. This cannot be verified today since this first area is almost completely covered by modern Guatemala City.

Architectural Comparison with Teotihuacan

Construction Materials and Techniques

One of the most obvious and striking similarities between Teotihuacan and Kaminaljuyu architecture is the way volcanic materials

were used for construction. The similarity in construction materials could be due to the fact that both sites are located in regions of recent volcanic activity. At Kaminaljuyu the manner in which the volcanic products were used in the Middle Classic differed from the way they were used in earlier and later periods.

The most striking similarity in material use at the two sites is the utilization of a prehistoric concrete to surface structures. This concrete is composed of tiny pieces of angular stone, 0.5 to 2 m. in diameter, thought to be a particular kind of volcanic ejecta (Kidder, Jennings and Shook 1946: 21), in a matrix of clay and lime (Kidder, Jennings and Shook 1946: 44). When dry and smooth the concrete forms a tough durable surface that resists erosion by the seasonal rains. At Kaminaljuyu the material is called piedrine. At Teotihuacan a material of the same composition is called concreto (Marquina 1951: 63). At Kaminaljuyu, piedrine is replaced toward the end of the Middle Classic by pumidrene, a substance that seems identical to piedrine except that pumice granules are substituted for stone.

At Kaminaljuyu a somewhat similar surfacing material was used in a structure dated to a period other than the Middle Classic. This mound, B-III-1, assigned to the Terminal Formative, has crushed pumice mixed with talpetate used as a capping for structural fill and as a surfacing for stair treads (Bebrich 1969b: 50).

There are a number of other sites in Mesoamerica that have similar kinds of surfacing materials. Three of these are very similar

to piedrine. Two of these three are in volcanic regions -- at Tazumal, El Salvador (Longyear 1944: Appendix C) and at Matacapan, Veracruz, Mexico (Ruppert 1938: 17). The third, Bilbao, is located near the Guatemalan Highlands (Parsons 1969: 28, Fea. 18). The Bilbao material, however, did not contain piedrine.

Two sites in the Highlands of Guatemala, Zacualpa (Wauchope 1948) and Zaculeu (Woodbury and Trik 1953) also have surfacing material that shows a general similarity to piedrine. At Zacualpa, this material occurs in the Pokam phase, which is Late Classic. It is described as adobe clay or lime plaster tempered with various materials from stones to pine needles. At Zaculeu, some structures of the Aztan phase, which is assigned to the Middle Classic, are surfaced with a pebble-tempered lime plaster. These materials seem similar in conception but not in execution to piedrine. Additionally, they are later than are concreto at Teotihuacan and piedrine at Kaminaljuyu. Thus, although the idea for such materials may have eminated from Teotihuacan or Kaminaljuyu, the idea was not transferred in its complete form.

At Kaminaljuyu there seems to be a variety of techniques of preparing structural fill and of materials used (for the Late Formative see Wynn and Bebrich 1971; for the Terminal Formative see Cardenas 1969: 21, 25-26; Bebrich 1969b: 56-59, 64; Austin 1969: 108; and Shook and Kidder 1952: 66; for the Early Classic see Berlin 1952; for the Middle Classic see Kidder, Jennings and Shook 1946: 43-44).

A distinctive type of volcanic fill material is found at both Kaminaljuyu and Teotihuacan. This material is called talpetate at

Kaminaljuyu. A material similar in color and origin used at Teotihuacan is called tepetate. At Kaminaljuyu, talpetate was crushed and used alone as one of a number of fill layers. It was also often crushed and mixed dry with other fill materials like clay, humus or pumiceous ash, or was puddled with these materials; it was seldom used in chunks except as a binder in puddled fill (Shook and Kidder 1952: 66).

In mounds A and B at Kaminaljuyu, the earlier non-piedrine-surfaced structures are filled with puddled adobe as are the Terminal Formative structures, for example E-III-3 (Shook and Kidder 1952). The fill of the piedrine structures is composed of pumice lumps laid in a dark clay matrix (Kidder, Jennings and Shook 1946: 45).

On the other hand, the fill of the structures tested in construction areas D and E at the Palangana contained large chunks of talpetate in dark brown sandy clay. This was not puddled. In both areas, the Palangana and mounds A and B, retaining walls of pumice were used to keep the fill from slumping.

At Teotihuacan tepetate was also used as fill in the form of chunks in a soil matrix (Gamio 1922, Vol. 1, Lamina 16). Another common fill material at Teotihuacan is adobe bricks. At Kaminaljuyu adobe brick fill was not common; it occurred in only three places of which I am aware: the Middle Classic structure found by Smith at La Granja (Shook and Smith 1942: 266), mound B on the roof of tomb B-II and within the B-4 staircase, and E4, a post-piedrine structure at the Palangana.

In summary, the characteristic of using chunks of talpetate as fill material may be related to ideas coming from Teotihuacan. On the other hand, it could be the result of structural considerations. The use of retaining walls of pumice and of walls surfaced with piedrine may have made a rigid fill material such as puddled and dried sand and clay unnecessary, so that looser fill material was feasible.

A third material that is used similarly at Kaminaljuyu and Teotihuacan is a porous volcanic product. At Kaminaljuyu the material is pumice; at Teotihuacan it is tezontle, which is somewhat harder than pumice (Marquina 1951: 63). At both sites these materials were used both as fill in the retaining walls inside the concrete-surfaced structures and, in the form of dressed blocks, as the facing material of the taluds and tableros. Concrete was then placed over the dressed blocks.

There is only one earlier instance at Kaminaljuyu of the use of pumice for facing material, in structure N, D-III-13. This is the last structure built in D-III-13 and Berlin has some evidence to indicate that structure N also had a balustrade, which, as will be pointed out below, is a Middle Classic trait (Berlin 1952: 9). Thus, structure N may be dated to the very end of the Early Classic or the very beginning of the Middle Classic. At no other time in the architectural history of Kaminaljuyu was pumice used in this fashion. Within the Middle Classic itself, with the possible exception of D-III-13's structure N, the pumice facing was used only on talud and tablero structures.

These data suggest a foreign origin of this use of pumice. When considered in conjunction with the other evidence of similarities, it seems likely that the idea of pumice facings came with the Teotihuacan style from Central Mexico.

In addition to the use of construction materials, Kaminaljuyu shows similarities to Teotihuacan in techniques of construction (Kidder, Jennings and Shook 1946: 42-45; Marquina 1951: 63-68). There are, however, a number of construction techniques not shared by the two sites. These include the honeycomb pattern of the matrix of the Temple of Quetzalcoatl and the use of vertical tree trunks to redistribute the weight and transmit the stress forces directly to the ground. The latter was apparently done to prevent the stress forces from being transmitted through the inherently unstable tablero, which might shear it off the side of the structure (Marquina 1951: 65). It is possible that these techniques do not appear at Kaminaljuyu because they are structurally unnecessary in the smaller structures at that site. It is also possible that the architects who built the Kaminaljuyu structures were familiar only with the form of the talud and tablero and not with the construction techniques. If the latter supposition is true then a case can be made for the construction of the Kaminaljuyu talud and tablero structures by local architects, though probably under the direction of someone who knew Teotihuacan architecture relatively well.

Architectural Elements

Changes over time in architectural elements with similarities to Teotihuacan style involved three kinds of wall forms: straight, sloping or battered, and a combination of the two, called talud-tablero.

In the Terminal Formative and Early Classic, public buildings were vertical sided, stepped or terraced structures, as in E-III-3 (Shook and Kidder 1952), B-III-1 (Bebrich 1969a) and B-II-1 (Austin 1969), D-III-13 (Berlin 1952), D-III-1 (Miles 1963).

The earliest Middle Classic structures in mounds A and B are small vertical-walled platforms called shrine platforms. Unfortunately, we do not know what kind of larger structures were built at the same time as these platforms. Structure N in D-III-13 is a good candidate, but not enough of it was found to give an indication of its over-all form.

Over these structures, a type of structure that had two new architectural elements was added. These elements, a talud and a rectangular molding, were supported by a laja and projected over the edge of the talud. Five structures have these new elements usually with a single slope to the wall. One structure, B-2, differs from the others in that it has short vertical walls alternating with a number of taluds. The molding supported by lajas is a characteristic element of Teotihuacan architecture, though the talud seldom appears at Teotihuacan without the tablero over it.

The next major change in the form of structure at Kaminaljuyu is the incorporation of the talud-tablero. This element indicates the close affinity of the architectural style of Kaminaljuyu to that of Teotihuacan (Kidder, Jennings and Shook 1946: 44-46). There are few if any public structures at Teotihuacan without a talud-tablero.

The ratio between the talud and the tablero is one major difference between Kaminaljuyu and Teotihuacan. At Teotihuacan, the tablero is at least three times as large as the talud (3:1), at Kaminaljuyu, the two elements are about the same size (1:1). Matacapan, Veracruz, Mexico is the only other site in Mesoamerica with a 1:1 ratio (Valenzuela 1945: 94-96, Plano II).

Another feature of all Middle Classic Kaminaljuyu structures, except the shrine platforms, is a balustraded staircase. The Middle Classic examples are the earliest balustraded staircases at Kaminaljuyu, and are similar to those of Teotihuacan. One detail of the staircase that is not identical at the two sites is what at Teotihuacan is called a remate, a rectangular cap on a balustrade that projects beyond the edge of the balustrade. Often, there will be several spaced along the length of the balustrade. According to Bernal (1963: 13), recent work at Teotihuacan indicates that this feature is common to almost all of the structures excavated. At Kaminaljuyu this feature is reconstructed for structure A-7 only (Kidder, Jennings and Shook 1946: Fig. 108). It is not certain whether it occurs at the Palangana since the relevant portion of the structures had been destroyed. At the Acropolis, however, most of the structures, particularly the pumidrene ones, have a remate.

One possible cause of the absence of the remate on any particular balustrade, whether at Teotihuacan or Kaminaljuyu, may be the distance between the edge of the staircase and the edge of the body of the structure. At Teotihuacan, the terraced bodies of the structure project close to the edge of the balustrade, sometimes with the top cornice of the tablero articulating with the edge of the stairs. This provides the stylistic opportunity for continuing the cornice onto the balustrade through the remate. At Kaminaljuyu, except for the pumidrene-covered structure in the Acropolis, very few structures have top cornices that come close to the edge of the stairs.

A third feature that appears on a number of buildings at Kaminaljuyu is an apron, or, as Kidder calls it, a "frontal platform" (Kidder, Jennings and Shook 1946: 44). These aprons are usually composed of two or more platforms that may have either vertical or battered walls. The aprons appear in mounds A and B and in the Palangana, but not in the Acropolis. All known examples are covered with piedrine. These features are not found at Teotihuacan. One particular apron-related feature, which does resemble elements at Teotihuacan, is the projecting frontal platform of mounds B-4 and B-5, which is very similar in form to projecting platforms at Teotihuacan.

Structural Types

At Kaminaljuyu, structures built in the Middle Classic can be divided into four types: shrine platforms or altars, public ceremonial buildings or "temples," enclosures and multichambered rectangular structures.

Shrine Platforms. This type can be divided into two subtypes, based on different forms and construction techniques. The first subtype is found only in the earliest levels of mounds A and B, structures A-1, A-2, A-3 and B-1. All members of this class have vertical walls and are small. A-2 and A-3 have tombs associated with them which contain Teotihuacan influenced artifacts, such as cylindrical tripods, and some objects that may have come from Teotihuacan, such as green obsidian. For this reason these structures are placed in the Middle Classic. Although there are no tombs associated with structures A-1 and B-1, they are also assigned to this phase on the basis of their similarities in form to the other platforms.

The second subtype of shrine platform or altar is quite different from the first. There is only one example of a shrine platform, structure E1, of construction area E in the Palangana. E1 is a truncated pyramid similar to the temples to be discussed next, but it is smaller and differs from them in form, having a room with piedrine walls that completely covers the top of the pyramid. The wall of the room forms a modified tablero and the base of the pyramid forms a talud. This structure, unlike those of the first subtype, is surfaced with piedrine.

Construction E1 is similar in some respects to the altars (adoratorios) found in the patios of the residential complexes, for example Zacuala, Yayhuala, and Tetitla, at Teotihuacan during the Xolalpan (Teotihuacan III) phase (see also Marquina 1951: 94 for adoratorios at the residential groups of Atetelco and Xolalpan).

Most of these structures are without rooms on their top surfaces, and have both taluds and tableros on their bases (Sejourne 1966: Zacuala, Photo 94, Fig. 86; Yayhuala, Photo 95). Others do have rooms on the top, but the walls are very low (Tetitla, Photo 97, Fig. 88). The walls of El were mostly destroyed. They are reconstructed as if they were full walls of an enclosed room, although they may have been low. Another point of similarity is the dimension of the structures. Scale drawings of Teotihuacan indicate that the altars range between two and three meters square. The one at Kaminaljuyu is 3.2 m. square. In both sites the structures seem to sit on a low projecting basal platform. At Kaminaljuyu this feature is actually a molding that was attached after the base was built; the base was not placed on the low platform. This suggests that the builders knew what the Teotihuacan building looked like, but did not know how it was built.

Temples or Public Ceremonial Buildings. These structures were truncated pyramids with balustraded staircases. They probably supported a perishable superstructure. All have slanting walls in one form or another. On the basis of style and surfacing materials, the temple structures can be divided into two major substages, one of which can be further subdivided.

The first subtype of temple utilizes puddled adobe fill and is surfaced with a "vegetable shellac" (Kidder, Jennings and Shook 1946: 17). It usually has only one structural "body," that is, the slope of the wall is uninterrupted; the wall is not terraced. The second subtype is surfaced with piedrine and is usually terraced, that

is, it has two or more tiers and the walls of each tier are in the talud-tablero style.

There are five examples of the first subtype of temple: A-4, A-5, A-6 and B-2 and B-3. In addition to the attributes mentioned above, the structures in mound A have a projecting molding resting on rows of lajas and extending around the top of the pyramid. B-2 differs from the other members of the subtype in that it has a complex profile involving both vertical and slanting elements. B-3 is the only one of these structures that has an apron projecting from under the front of the staircase. The tombs in these structures contain Teotihuacan influenced artifacts, thus placing them and the associated structures in the Middle Classic. Architecturally, except for the presence of the projecting molding and the sudden appearance of the talud, there is no absolute evidence that this kind of structure was influenced by Teotihuacan architectural ideas. However, it is probable that it was.

The second subtype of temples is restricted to those structures that have the talud and tablero and are surfaced with one of the two types of local concrete, piedrine or pumidrine. The subtype can be further subdivided on the basis of the proportion of the length to the width of the ground plan -- some are 1:1 and others are around 1.5:1.

All the piedrine structures in mounds A (A-6 and A-7) and B (B-4 and B-5) have a 1:1 length to width ratio. These structures all contain tombs with Teotihuacan influenced artifacts. All four of the

structures have aprons with those on the B structures the most elaborate. Structure B-4 has a projecting platform attached to the front. This platform resembles that of the Temple of the Moon at Teotihuacan (Marquina 1951: 78).

Other temples have a long axis perpendicular to the central stairs and a 1.5:1 ratio of length to width. At least seven of these structures have been excavated at the Acropolis where quite a few more probably remain in unexcavated areas. There may also be one of these temples in the Palangana, D3-b, but there was time to excavate only the balustraded staircase and not to explore either side. Thus, the hypothesized talud-tablero was not found. No tombs have been found associated with these structures, nor were any aprons attached to them.

The differences between the temple structures with a 1:1 ratio and those with a 1.5:1 ratio may be temporal. Most of the structures in the Acropolis are surfaced with pumidrine instead of piedrine. At the Palangana, pumidrine replaces piedrine as a surfacing material late in the sequence. These data suggest that most of the structures in the Acropolis were built later than the piedrine structures in mounds A and B and that the difference between the ratios may be the result of stylistic change over time.

It is also possible that the differences are functional. The larger surface area on the top of the structures of the 1.5:1 type could indicate that they had domestic as well as ceremonial functions. Evidence gathered by the Pennsylvania State Project suggests that some

buildings had both domestic and ceremonial functions during the Late Classic at Kaminaljuyu according to Sanders. Taken in conjunction with the seemingly later construction date of these structures, these "temples" could conceivably presage the form of the Late Classic society.

Structures of the second subtype of temple at Kaminaljuyu in the Middle Classic exhibit closer architectural similarities to Teotihuacan architecture than do any other structures. They are very similar to the talud-tablero structures that line the Street of the Dead at Teotihuacan, which are also concreto (piedrine) surfaced, terraced, truncated pyramids whose walls have a talud-tablero. The fronts of these structures have balustraded staircases with remates but do not have aprons.

Two other structures at Kaminaljuyu fall in the category of temple and were probably of talud-tablero style. The first of these piedrine covered structures was discovered during the widening of Roosevelt Highway near mounds A and B. The structure is south of the highway near Roosevelt Hospital; mounds A and B are north of the highway.

The archaeologist assigned to salvage the structure, Ismael Tercero, was prevented from finishing the job because he was transferred to Tikal to administer the museum there. Vivian Browman Morales finished the excavation and allowed me to see the planviews and profiles done by Tercero. I also talked with the assistant Inspector General of Monuments of Guatemala, Jacinto CiFuentes, who had been foreman at the excavation.

The structure was a rectangular piedrine-covered platform that had a smaller platform projecting from its front. The bases of the platforms were battered and probably were the talud half of a talud-tablero, but since the structure was destroyed above the top of the talud it is not certain whether a tablero existed. However, two or three lajas of the type that support the tablero cornice were found, supporting the hypothesis that this structure had been of talud-tablero style.

The last structure to be included in the second subtype was discovered and excavated by Gustavo Espinoza. It is south of construction area D at the Palangana. Only the talud portion was preserved, and there is no further information on the structure.

Enclosures. These structures consist of two piedrine surfaced elements -- a rectangular enclosed patio or courtyard and an attached platform. Structures of this type have been found only in the Lower Plaza at the Palangana.

The sunken enclosure concept does not seem to appear in other areas of Mesoamerica. I have been able to find only three vaguely similar features in the literature. Though they occur in different time periods, they come from sites that are culturally linked: Kaminaljuyu, Teotihuacan, and Bilbao. The earliest example occurs on a Terminal Formative mound, B-II-1, excavated by the Pennsylvania State University Project (Austin 1969). This is a 50 cm. deep sunken court on an elite housemound. The court seems to have occupied the total area within the perishable structure on top of the mound

platform and therefore may have been part of the pattern of domestic architecture.

The second example showing a vague resemblance to the Palangana enclosure is a shallow sunken patio that is part of a residential complex. All residential complexes so far excavated at Teotihuacan contain examples of this feature. The third example is at Bilbao, on the Gulf Coast of Guatemala, 35 miles west of Kaminaljuyu. It is a sunken court in which the ball player stelae stood. Originally, the stelae rested on a level plaza floor, but at the beginning of the Late Classic, A.D. 700, the plaza floor was raised. However, the area immediately around the stelae was not raised, so that the scenes on the stelae would remain visible. This created, in effect, a sunken court or enclosure (Parsons 1969: 61

These examples have been presented according to their relative placement in time. Their relationship to the enclosure at the Palangana is speculative. It is possible, or even likely, that the Palangana structure was an elaboration of the Terminal Formative sunken court at Kaminaljuyu.

There are two superimposed examples of enclosures, E2 and E3. The relationship between the enclosure and the platform changed over time. In E2, the platform was a minor architectural element and was incorporated into the south wall of the enclosure. The platform faced south, away from the enclosure. In E3, the platform was free standing; it was north of the enclosure and faced south, toward the enclosure. The enclosure in both cases had vertical walls and was sunken below the surrounding plaza surface.

In the second enclosure, E3, the first substage, E3-a, saw a major increase in Teotihuacan elements, including the re-introduction of talud-tablero. A talud-tablero was placed on the front half of the platform and a bench on the back half. Though it was not unusual for a talud-tablero to be placed on only the front half of a structure at Teotihuacan (Sejourne 1966, Fig. 102; Marquina 1951: 82), there are no published examples of such structures with benches on the back half.

Features of this substage that are not found at Teotihuacan include the enclosure itself, the atrium between the enclosure and the platform, and the niches in the vertical walls of the enclosure.

The entire structure remained essentially the same in the succeeding substage, E3-b, except for further increases in Teotihuacanoid architectural features. The talud-tablero was extended to cover all four sides of the base of the platform, as well as the entire exterior wall of the enclosure. There were no major changes in the architectural elements in the next substage and therefore the structure did not become more or less similar than Teotihuacan structures.

Multichambered Rectangular Structures. There is only one example of this fourth type of Middle Classic structure. It was found by Smith (Shook and Smith 1942: 266) under a late Middle Classic or Late Classic ball court in an area called La Granja. This area is

east of the Park, but its exact location is not known. It may be near mounds A and B, around Roosevelt Hospital. Though the structure was almost completely razed when the ball court was built, enough remained to indicate that it was probably a secular building used for housing, administration or storage, rather than a religious structure. The structure was a "multichambered affair without supporting platform. In its piedrine floor were postholes and on it were butts of several free standing walls of mold made adobes faced with pumice blocks and piedrine" (Shook and Smith 1942: 266).

Little architectural description for Teotihuacan has been published, except for descriptions of residential complexes and public buildings. The multichambered structure at Granja was possibly similar to the residential structures at Teotihuacan, but on a smaller scale.

Layout

Teotihuacan and Kaminaljuyu are quite dissimilar in their physical layouts, both at the level of individual architectural groups and at the level of sites. One of the few similarities between the sites is that all the Middle Classic structures at Kaminaljuyu, with the possible exception of the structure at La Granja, are oriented to the four cardinal directions, as are Teotihuacan's public structures.

Another difference between Kaminaljuyu and Teotihuacan is the use of the Acropolis concept at the former but not at the latter. The major mound groups at Kaminaljuyu belonging to the Middle Classic, the Palangana and the Acropolis, are both built in the form of an acropolis.

However, the area of mounds A and B is not of this form. The acropolis is a Mayan architectural form and does not appear at Teotihuacan.

The over-all city plans of the two sites are also different, and of course Kaminaljuyu is built on a smaller scale. At Kaminaljuyu as far as is known, there are two loci of public construction, the Park and the area of mounds A and B. The Park is the larger area and can therefore be assumed to be more important, in at least some respects, than the other area. In contrast to this city plan, the public buildings of Teotihuacan are centralized and arranged along the Street of the Dead and cross-cutting thoroughfares.

The Middle Classic population of Kaminaljuyu, according to the data from the test pits (Michels 1969: 14), is clustered mainly around the Park, with a smaller population cluster around mounds A and B. The large majority of Teotihuacan's population was centered in the city itself, with only a few specialty sites in the valley proper (Sanders and Price 196: 141).

There were other large sites in the Valley of Guatemala at this time, as well as a large number of scattered farming hamlets. Again, this pattern is different from that of Teotihuacan, where the urban concentration resulted in an almost total disappearance of outlying hamlets. In general then, the over-all pattern of physical layout of the two sites and their relationship with their sustaining areas is quite different.

Summary. The major similarities and differences between the architecture at Kaminaljuyu and Teotihuacan are as follows:

(1) construction materials were very similar, particularly the concrete like surfacing called piedrine or concreto, (2) construction techniques were in general similar insofar as they pertained to the stress requirements of the talud-tablero, (3) style at Kaminaljuyu involved a gradual increase over time of Teotihuacan elements; with the introduction of the full talud-tablero, the style became almost identical except for the different tablero to talud ratio, (4) orientation at Kaminaljuyu was in general similar to that of Teotihuacan, but layout was not, and (5) the acropolis concept was used at Kaminaljuyu but not at Teotihuacan.

Summary Sequence of Teotihuacan Influence

The structures at the Palangana can be grouped into two major construction Stages on the basis of different kinds of Teotihuacan influence. The first is exemplified by E1 and E2. In this major construction Stage, some Teotihuacan traits like the talud-tablero and piedrine were accepted and then altered to fit the local style. E1 was very similar to Teotihuacan style architecture but was covered by E2, which was not similar to Teotihuacan style. Rather, E2 probably originated in Terminal Formative architecture like B-III-1. The second major construction Stage included E3 and D2, and shows an increase in Teotihuacan elements like the talud-tablero and a lack of innovative stylistic elements.

At mounds A and B, where there is a longer structural sequence, three major construction stages can be distinguished. The first

includes only the shrine style platforms which, though in a strictly local architectural style, are associated with graves that contain Teotihuacan influenced artifacts. The second major construction Stage includes the truncated pyramids (temple subtype 1) that seem to be local interpretation and integration of a number of separate elements of Teotihuacan architecture. The third major construction Stage at mounds A and B contains the truncated pyramids (temple subtype 2) that are in full Teotihuacan style with talud-tablero surfaced with piedrine. One of these, B-4, especially shows the influence of Teotihuacan style in the projecting front platform, similar to the platform on the Temple of the Moon.

This summary of Teotihuacan architectural style at the Palangana and at mounds A and B indicates that Teotihuacan elements were incorporated into the architecture of Kaminaljuyu in two distinct phases.

Phase 1. Three of the major construction stages just discussed (Stages 1 and 2 at mounds A and B and Stage 1 at the Palangana) can be lumped into this phase. It is likely that the shrine platforms at A and B were built prior to the shrine platform and enclosure at the Palangana. It is possible that the second Stage of construction at mounds A and B was also earlier than the Palangana's second Stage, since this Stage does not contain piedrine surfaced structures as the Palangana does. However, this is not necessarily so since change can occur at different rates at different parts of a site.

Phase 2. This phase of Teotihuacan architectural influence contains the structures of the second major construction Stage at the Palangana and of the third Stage at mounds A and B. It is characterized by an intensification of the acceptance of the Teotihuacan style with little local elaboration or alteration.

It is not certain how the structures of the Acropolis fit into this sequence. Because of their strict adherence to the talud and tablero style, the ones so far excavated can be assigned to the second phase of influence. The structure that most closely resembles those at the Palangana is the small piedrine-surfaced, truncated pyramid in the center of the courtyard. There are many structures over this central one, most of which are surfaced in pumidrine. Pumidrine at the Palangana is associated with the last structures built in the Teotihuacan style. Because of this, it is tempting to assign these pumidrine structures to a separate phase, or at least a subphase, in the sequence of Teotihuacan influence.

The use of pumidrine can be considered as either a degeneration or a local innovation and thus could constitute evidence for at least two different hypotheses. One hypothesis is that the major force of Teotihuacan influence had withdrawn and that the rulers left in power at Kaminaljuyu were maintaining strict adherence to old symbolic forms in an attempt to strengthen or maintain their old power base. Another possible explanation is that the Teotihuacan rulers of Kaminaljuyu were cut off from the homeland with no source of new architectural ideas. I would favor the former of these two hypotheses, though both are extremely speculative.

Conclusion

I would like to discuss a process I think was operating in the sequence of architectural change outlined above. This process of diffusion or acculturation resulting from culture contact seems to occur whenever some cultural trait or trait complex is transmitted from one culture to another.

The participants in the interchange are called the doner culture and the recipient culture. The actual process of transfer can be analytically broken into five stages: selection, presentation, selection, acceptance, and integration (the last could also be called transformation). Selection operates, consciously and unconsciously, in both the donor and recipient cultures. The donor presents certain features of its culture to the recipient. What is presented depends on a number of factors, including the kinds of persons (roles) who contact the recipient group, their degree of participation in their own culture and the kind of contact involved, for example, directed contact of casual contact (Linton 1944).

The recipient group then selects particular traits or trait complexes out of what is presented to it. If these are accepted by the members of the group, they are integrated into the recipient culture. The integration of new elements into the pre-existing cultural matrix usually requires the transformation of the form, meaning, use and function of the elements (Linton 1944). Actually, this transformation occurs as soon as the borrowed elements enter the new cultural setting, since they thereby often lose the meanings that were

associated with them in the donor culture. Often the form of the items will have to be transformed before they are admitted to the recipient culture.

Archaeologically, it is difficult, for a number of reasons, to discern whether an item of culture is borrowed from another culture. Often, when only a single item or trait is borrowed, little of its original context is borrowed with it. Therefore, it is often altered extensively by its new context, and identification of its origin becomes difficult. However, when there is more contact between cultures, more context is often transferred with the borrowed items, and thus they retain more of their old identies and are more recognizable. However, even in situations such as this, the borrowed items will, over time, be integrated into the recipient culture to such a degree that their original identities are lost (Cheek 1969).

Though there are exceptions to this general pattern of culture contact situations and cultural transfer, the pattern is often identifiable in archaeological contexts. In South America both the Tiahuanaco and especially the Chavin horizons seem to exhibit this pattern (Lanning 1967: 106-8, 133, 141). In Mesoamerica it seems particularly evident in the Olmec influence on other Mesoamerican societies and especially on Highland Mexican societies. Similar patterns can be found in the remains of societies influenced by Teotihuacan and Tula.

I think that this pattern can be seen in the first phase of Teotihuacan influences on architecture at Kaminaljuyu as outlined above.

CHAPTER 5

EXPLANATIONS OF TEOTIHUACAN INFLUENCE AT KAMINALJUYU

Whenever the words diffusion and influence are used, a situation which includes culture contact is brought to mind. This chapter is concerned with the nature of the contact between the societies of the Guatemalan Highlands and the Central Highlands of Mexico. The model of cultural contact discussed in Chapter 4 views contact and diffusion as an opportunity for change rather than as an explanation of change (Erasmus 1961: 340-41, n. 5). The model of diffusion or of the transfer of traits between societies is one that outlines identifying features of the transfer process, identifying what happens and how it happens, but not why it happens.

The discussion in Chapter 4 presented architectural evidence to support the hypothesis that two separate contact processes can be identified in the Middle Classic at Kaminaljuyu. The first sequence of architectural events, the gradual incorporation of Teotihuacan traits and their transformation, fits this transfer model of culture contact. The second sequence of events identified suggests the termination of this first process and the use of unaltered Teotihuacan architectural techniques and styles. In this chapter I consider some possible explanations for the shift from the first "gradual" process of change to the "abrupt" process of change. I shall first present

a number of hypotheses concerned with the causes behind the appearance of Teotihuacan style artifacts and architecture at Kaminaljuyu and then consider how each of them fits the "facts" as I have reconstructed them. Previous hypotheses put forth to explain this phenomenon of Teotihuacan influence have not considered it within the two-stage framework discussed here. However, the hypotheses will be applied to both processes to test their fit in each situation. I shall also present my own interpretation of the events on the basis of the goodness of fit between the architectural data and the postulated sequence of events.

Hypotheses on the Nature of Teotihuacan Influence

Two kinds of explanations have been advanced for the appearance of Teotihuacan influence at Kaminaljuyu. The first is represented by Kidder (Kidder, Jennings and Shook 1946) and Borhegyi (1956 and 1965), the second by Parsons (1969) and by Sanders and Price (1968).

Kidder "thinks it possible" that "many of the northern (Central Mexidan) ceremonial elements in Esperanza /Middle Classic/ culture were due to conquest of Kaminaljuyu by a small group of war-like adventurers who later became overlords of an already resident population (Kidder and others (1946: 245). The skeletons in mounds A and B would be those of priest rulers (1946: 255). Kidder bases this hypothesis on evidence that, first, similar instances of small armed bands conquering by force are recorded in the literature of pre-Hispanic Mesoamerica, and

second, Teotihuacan ceremonial elements indicate the presence of Teotihuacan religion, which in turn suggests the presence of Teotihuacan government, since in Mesoamerica religion and the state were closely related (Kidder, Jennings and Shook 1946: 255).

Kidder's hypothesis does not consider causes for the movement of the "adventurers." He discredits diffusion without structured contact and mass migration. He concentrates on the portable artifacts rather than the architectural similarities as evidence of contact.

In an early article Borheygi (1956) had postulated that the spread of Mexican ceremonial elements was due to the spread of new religious ideas which "became fashionable with the cosmopolitan upper classes [of Highland Guatemala] . . . ." (Borhegyi 1956: 348). In 1965 he changed his ideas to favor Kidder's hypothesis of the invasion of priest-kings. His more recent interpretation of Highland Guatemalan prehistory emphasizes cyclical invasions of Guatemala by Mexican groups, not necessarily by mass migrations, but at least by the movement of small war-like groups such as the "Pipil." The evidence which caused him to favor the priest-king invasion hypothesis of Kaminaljuyu during what he then called the Early Classic (later he favored the terminology of Parsons, in which Middle Classic includes parts of this sequence previously included in Early and Late Classic) is as follows: (1) heavy Mexican symbolism on portable objects, (2) culinary ware that is relatively unchanged from the Terminal Formative into the Early Classic (here I think he refers to the Valley of Guatemala as a whole, as there seems to be a continuation of local

Terminal Formative wares in the rural areas but a shift to the Teotihuacan influenced ceramics at Kaminaljuyu, according to Lischka, and (3) the introduction of ceramic objects made from molds, a Teotihuacan characteristic (Borhegyi 1965: 24). Like Kidder, Borhegyi does not, in the 1965 article, postulate why the group swept into Guatemala.

Sanders and Price (1968) and Parsons (1969) hold similar views on the relationship between Teotihuacan and Kaminaljuyu their view differs from the Kidder and Borhegyi view. Both Parsons and Sanders and Price think it was an imperial colony of Teotihuacan established by conquest for economic reasons. Sanders and Price go as far as saying that the Esperanza (Amatle I) materials at Kaminaljuyu represent "at least a partial rebuilding of an earlier settlement as a replica of Teotihuacan." They feel that Kaminaljuyu was conquered to obtain control of the cacao lands, and therefore of the cacao trade on the Pacific coast of Guatemala (Sanders and Price 1968: 168-9). Sanders has recently suggested to me that the economic objective of the Mexican intrusion into the Guatemalan Highlands was control of the second largest obsidian source in Mesoamerica, El Chayal, just outside the Valley to the northwest, rather than control of the coastal cacao route. If the latter had been the objective of the Teotihuacanos, they probably would have set up a colony on the coast, since control of the coast from a highland center would have been difficult. Sanders and Price do not feel that the similarities of the Mexican and Highland Guatemalan artifacts could result from mercantile contacts or from religious pilgrimages (Sanders and Price

1968: 167). They support this by referring to the architectural similarities between Teotihuacan and Kaminaljuyu. They feel that large scale ceremonial architecture of foreign style indicates foreign control of the local labor surplus. Except for implying control by conquest, they do not discuss the various ways that this could be accomplished. Bennett's discussion of the spread of Incan architecture (1946: 143) is cited as supporting evidence (Sanders and Price 1968: 166).

Parsons emphasizes commerce as the "motivating factor" in the expansion of Teotihuacan. The need for ceremonial goods like "cacao, rubber, amber and salt" (1969: 160) and others resulted in the founding of many "colonial outposts" (1969: 156). In his model, merchants were accompanied by "military orders" to maintain the established trade centers. There is some evidence from the murals at Teotihuacan that groups similar to the Toltec and Aztec military Orders of the Eagle and Jaguar already existed in the Early Classic. He believes that Kaminaljuyu was an actual colony (Parsons 1969: 158) which controlled the Pacific coast of Guatemala at least through the early Middle Classic. He does not believe it was just a trade center. He does not speculate why the Teotihuacanos chose the Valley of Guatemala as their base other than that its environment, a volcanic highland basin, was similar to that of the Valley of Mexico; nor does he consider the size or composition of the Teotihuacan group.

Assessment of Hypotheses in the Light of the New Kaminaljuyu Sequence

The above are the major hypotheses about the causes of Teotihuacan influence in portable and non-portable artifacts in the Valley of Guatemala and particularly in Kaminaljuyu. It is now necessary to attempt to fit these theories to the two-phase sequence of architectural influence described in the previous chapter. It is important to note that I am attempting to limit my discussion to the architectural evidence as much as possible for three reasons: (1) these are the data with which I am most familiar, (2) no other kinds of data from the Kaminaljuyu project are, as yet, available, and (3) investigations of this nature, isolated from the study of other evidence, can serve as independent tests of the same hypothesis. Furthermore, sequences abstracted from different artifact systems but covering the same time period may contribute knowledge of how the same force acted differentially on the different subsystems of the culture.

The Gradual Process

Borhegyi's 1956 hypothesis of the diffusion of religious ideas can partially account for the gradual nature of the change in Kaminaljuyu architecture. According to this model, the elite would become more and more like the Teotihuacanos, slowly selecting appealing features of the Mexican ideology, and symbols that went with it, and integrating them into their own culture. Supposedly, the general architectural similarities, such as are apparent in the early phase of contact at Kaminaljuyu, would have been included among these features borrowed from the Mexicans.

Neither Sanders and Price nor Parsons suggest mechanisms which could explain these early vague, general, similarities. In fact, one would expect the imperialistic merchant, or the adventurous priest-kings of Borhegyi's later article, to build structures which more closely resembled the temples of their homelands. I think the point that Sanders and Price make about controlling local surplus labor does apply, but to only the second phase of influence. Sanders and Price do, however, suggest a mechanism that could account for the presence of some of this early influence. They quote Chapman (1957) as saying that before tribute, and therefore before conquest, went trade. However, this does not explain why architectural traits were acquired as well as artifactual ones.

An Interregional Interaction Model. In the Valley of Oaxaca evidence for interaction between Olmec and Oaxacan cultures lead Flannery (1968: 79-111) to postulate a model of interregional interaction that is applicable to the situation at Kaminaljuyu.

The archaeological situation in the Valley of Oaxaca during the Middle Formative (1200-600 B.C.) is similar to that in the Valley of Guatemala during the Middle Classic (A.D. 400-700). The Oaxacan sites that Flannery excavated exhibit numerous influences from the Olmec area, including similarities in pottery styles, ideological symbols, and architecture. The Oaxacans, like the Olmecs, used adobe walls and colored clays in the construction of platforms which were oriented eight degrees west of north. Unlike the Olmecs, they also used white plaster and building stone and arranged their platforms around a courtyard (Flannery 1968: 100).

The Olmec influence was greatest in the San Jose phase (1200-900 B.C.), less in the Guadalupe phase (900-600 B.C.), and gone by the beginning of Monte Alban I (Flannery 1968: 101). In other words, this sequence follows the classic pattern discussed in the previous chapter for the diffusion of material between societies: the presentation of elements by the donor culture, the selection from these by the recipient culture and the resulting change in form, function, use, and meaning or all four with the passage of time.

Flannery presents four factors that he believes contributed to the transmittal of Olmec traits to Oaxacan societies. First, the motivating factor for contact was the desire by the Olmecs to acquire exotic goods such as polished magnetite mirrors, which the Oaxacans could provide. These could be used as items of status insignia. Second, the entrepreneurs controlling the trade were in the upper echelons of both societies. Third, the mechanism for the transmittal of goods was not trade as we think of it today but the kind of trade that occurs in societies that have not compartmentalized such activities as economics, politics, and religion. Trade in these societies occurs in a social and political matrix and involves not only the economic exchange of goods but also the ritual exchange of goods. Individuals, such as marriage partners, are also often exchanged. Fourth, the acceptance of the traits presented by the donor culture is dependent on the relative position of the two societies on the scale of social complexity. Flannery hypothesizes: "The areas most likely to form exchange systems with it [the Olmec area] and truly emulate the

behavior and symbolism of the Olmecs were not the least developed regions of the Highlands, but the most developed . . . ." (Flannery 1968: 106). Such societies would tend to emulate the more advanced Olmecs because their elite would want to copy the more complex social system and accouterments of status, since such borrowing "would enhance their own status among their own people . . ." (Flannery 1968: 106).

Flannery drew his model from ethnographic examples (1968: 102-05), specifically the relationship between the coastal Tlingit of the northwest coast of America and the inland Athabascans, and that between the Shan and the Kachin of Highland Burma. However, some of the most striking examples can be seen in the interaction between western industrialized nations and underdeveloped nations. It is neither the Bushmen nor the Australian aborigines who are most imitative of western ways but those societies that have approached the political and economic level of the industrial nations. The developing nations are the ones that emulate "the religion, symbolism, dress and behavior," to use Flannery's words, of the industrialized nations. One example is the development of the Protestant Ethic among the Roman Catholics in Sonora, Mexico (Erasmus 1961: 14).

Thus, the situation in Oaxaca is reconstructed by Flannery as follows: an exchange system, run by the elite, was set up between the Olmecs and the Oaxacans for the exchange of exotic goods used as status items in both societies, magnetite and ilmentite went to the Olmecs, and shell and perhaps finished jade items to the Oaxacans. The Olmec social system, which was stratified, was more complex than

the Oaxacan system giving the Olmecs greater status in the eyes of the Oaxacans. The Olmecs may also have provided techniques of social organization, such as social stratification, by which the Oaxacan elite could solidify their position of power. Thus, the Oaxacan elite borrowed from the Olmecs those items they felt would increase their prestige in the eyes of their fellow Oaxacans. Such items included religious symbols and ideology, pottery forms and decoration, and elements of architectural style, all of which were eventually integrated into the Highland society, losing their uniquely Olmec character.

Flannery's Model and Kaminaljuyu. This model could be used to help explain the archaeological record of material culture at Kaminaljuyu during the first phase of Teotihuacan influence. This phase involved the presentation of cultural elements to Kaminaljuyu by Teotihuacan through the vehicle of trade and the acceptance, integration, and alteration of some of these elements by the people of Kaminaljuyu.

However, there are problems in applying this model uncritically. What, for example, was the relative ranking of the two societies on a scale of social complexity? We have very little evidence about the kind of society the inhabitants of Kaminaljuyu had in the Aurora or Early Classic period, before the impact of Teotihuacan. I think that Teotihuacan had a more complex social organization than did Kaminaljuyu at that time, as Sanders and Price seem to do by excluding it from their discussions of the history and distribution of

Mesoamerican civilizations (1968: 140-45). If so, the elite of Kaminaljuyu might have attempted to imitate some of the behavior of the Teotihuacan elite, particularly if the Kaminaljuyu elite were controlling the interchange of material and products. We do not know yet what specific products were traded between the two cultures. This is a minor problem at the moment and its solution is not crucial to the validity of the application of the model. However, we also do not know if the form of interregional trade conducted by Teotihuacan was similar to the form Flannery hypothesizes for the Olmecs. It may have been considerably different since the Teotihuacanos, in a market system (Millon 1968: 110), had a more complex economy than did the Olmecs. Would there still be customs like intermarriage and other mechanisms of personal elite contact or would Teotihuacan have developed more "secular" systems of trading relationships?

These questions are unanswerable at the present level of our knowledge. Nevertheless, I think that the hypothesis that a society at the level of complexity close to, but below, that of another society would borrow cultural items for prestige reasons is reasonable and seems to fit the early part of the sequence at Kaminaljuyu.

It will be recalled that Borhegyi, in his 1956 article, said that the elite at Kaminaljuyu borrowed ceremonial traits from the "itinerant merchants" with whom they had contact, because these traits became fashionable. If imitation of behavior because it is fashionable can be considered imitation because it is prestigeous, this model is similar to Flannery's. They differ in that Flannery places a

stimulating factor, interregional exchange directed by the elite, in a much more crucial position than does Borheygi. Flannery's model also helps to explain why certain features of the Teotihuacan system, such as ideological symbols, were present at Kaminaljuyu.

The "Abrupt" Process

Of all the models, Flannery's can best explain the events at Kaminaljuyu attributable to the "gradual" process of change; but the model and my interpretation of it cannot explain the second process of "abrupt" change. It cannot explain why structures essentially identical to some at Teotihuacan would be built by a local society which has its own set of traditions and which is creatively changing and elaborating new ideas, integrating them into its culture. This change in style of ceremonial architecture is considered by Sanders and Price to be an indication that there is foreign control of the local surplus labor, a control obtained through force (1968: 166). Other ways of obtaining this power are, of course, possible, including the conversion of a local ruler to the religion of the foreigners.

In this case, however, I agree with Sanders and Price, especially considering the evidence for the Early Classic appearance of the Aztec- and Toltec-like Jaguar and Eagle military order. Such evidence can be found on the murals at the Middle Classic Temple of the Warriors at Chichen Itza (Parsons 1969). Other evidence of militarism includes the Mexican looking warriors on the side of the Early Classic stela 31 at Tikal (Coe 1965: 33, 37).

I would not agree with Sanders and Price's contention that Kaminaljuyu was rebuilt in the form of Teotihuacan, since this is patently untrue. I would agree that there was a major rebuilding program instituted at the Palangana including E3-a and E3-b and the Upper Plaza and the piedrine structures in mounds A and B. However, some Maya elements did remain in the architecture. The layout was not similar to that of Teotihuacan and two acropolises, the Palangana and the Acropolis to the west of the Palangana, were built at this time. The acropolis concept is not found at Teotihuacan but is quite common at major Maya sites such as Tikal and Uaxactun.

I would not equate the new rulers of Kaminaljuyu with bands of war-like adventurers as Borhegyi would, nor with priest-rulers as Kidder would. These hypotheses tend to place the locus of causality in the whims of individuals. The invasion and colonization of Kaminaljuyu was probably part of a Teotihuacan imperialistic-economic program that required a secure base in the Guatemalan highlands. Possibly, as Sanders suggests, the Teotihuacanos sought a monopoly of the obsidian trade.

One further point remains to be discussed: the question of which segments of the Teotihuacan society had contact with Kaminaljuyu. Again, the concept of "screening," which is part of the diffusion process, is used, but this time I refer to that part of the process that occurs within the donor culture. The same concept was used by Foster in defining "the culture of contact" (1960) between the New World and Spain. He pointed out that only certain elements of Spanish culture

were presented to the Indians because of the limited kinds of people who came to the New World from Spain. These individuals differentially represented both spatial and occupational groups of the Old World. Since no individual can carry all of the culture of a society, each individual brought a restricted portion of the total Spanish culture.

Similarly, we can assume that individuals from all segments of the Teotihuacan society did not come to Kaminaljuyu. Thus, only certain portions of the Teotihuacan culture were available to the inhabitants of Kaminaljuyu. The identity of one kind of person who was present at Kaminaljuyu seems obvious -- a religious specialist. Other kinds of persons such as administrators and merchants are probable.

Revised Hypothesis on Kaminaljuyu-Teotihuacan Relations

My interpretations of the events discussed so far would then be as follows: the initial contact with Teotihuacan was accompanied by the establishment of a system of regional exchange based on products whose identities are as yet unknown to us. The elite at Kaminaljuyu controlled this system of exchange at the Guatemalan end and as a result became familiar with some parts of the Teotihuacan culture. Items of this culture were selected because of their prestige value and integrated into the Kaminaljuyu society. Shortly after the initiation of this trade, Teotihuacan influence at Kaminaljuyu became stronger than could be expected on the basis of Flannery's model. Like Parsons and Sanders and Price and other authors, I consider this the result of an actual political takeover of Kaminaljuyu, probably

by military force, by representatives of Teotihuacan. A program of building talud-tablero style structures was instituted. Stylistic features of the local architecture, such as the niches and the benches at E3-a in the Palangana, were covered by talud-tableros, although some Maya elements were retained.

The Middle Classic and the Kaminaljuyu Sequence

Throughout the body of the text, I have used Parson's new scheme of classifying the prehistory of Mesoamerica. Though I do not necessarily agree with his placement of phase divisions, I find that the concept of the Middle Classic is a very useful one. The final section of this chapter will concern itself with exactly how my sequence fits Parson's scheme.

Parsons divides the Classic period into the Early Classic, A.D. 100-400; early Middle Classic, A.D. 400-500; late Middle Classic, A.D. 550-700; and Late Classic, A.D. 700-900. This is different from the conventional sequence in which the Early Classic comprises A.D. 300-600 and the Late Classic, A.D. 600-900. Parsons does not explain why he puts his Early Classic back to A.D. 100. I have no definite evidence favoring either the 100 or 300 date. Because there is little evidence of Early Classic (Aurora) activity, suggesting a short duration of this phase, I would date its inception to A.D. 200 or 250. I have no new data from absolute dating techniques with which to assess the accuracy of the absolute dates presented by the various authors for the periods discussed here. In general, I am accepting Parsons' chronological scheme and adjusting it to the frequency of architectural

remains. According to Parsons, the early Middle Classic begins at A.D. 400 with the first contact between Teotihuacan and the rest of Mesoamerica, specifically between Teotihuacan and Monte Alban in Oaxaca and sites on the Veracruz coast. I think the early Middle Classic at Kaminaljuyu begins at 400 also and includes the early structures at Kaminaljuyu, A-1, A-2, and A-3, that were built in traditional style architecture but contained graves with Teotihuacan influenced artifacts. This would be the initial contact period.

I see the acceptance of elements of Teotihuacan architectural style and construction techniques, the start of the "gradual" process, occurring about A.D. 450. This could be called the integration period. The initial contact and integration periods comprise the vents of the first phase of Teotihuacan influence, the "gradual" process of cultural change. After only a short time, at A.D. 500 or earlier, the second wave of Teotihuacan influence, the second phase or "abrupt" process of change that probably involved conquest or political takeover, may have begun.

Parsons puts the beginning of Teotihuacan's withdrawal at A.D. 550. I would tentatively agree with this interpretation, at least as it pertains to the Pacific coast and highlands of Guatemala. However, the number of structures at the Acropolis indicate that this withdrawal phase at Kaminaljuyu may have lasted into the late Middle Classic period, to perhaps A.D. 600.

After this period at Kaminaljuyu Amatle II ceramics and earthen non-piedrine surfaced structures at the Palangana and the Acropolis

apparently appeared at the same time. The Amatle II phase thus seems to begin in the late Middle Classic and lasts into the Late Classic. The contents of Amatle II seem to fit one of Parsons' criterion of the late Middle Classic, that the period is a "transition to regionalism," and not another, that the period is characterized by the development of new and vigorous art styles.

When the Amatle III transition occurred is uncertain, but if one of the distinguishing features of the Amatle III ceramic complex is the appearance of San Juan Plumbate, this period would have to start by A.D. 800 and perhaps earlier, since both Shook (1965) and Parsons (1969) place San Juan Plumbate in Late Classic sites on the Pacific coast of Guatemala.

The short amount of time allotted to the period of Teotihuacan influence corresponds to the small amount of time represented by early Middle Classic construction, particularly by the piedrine constructions. If the remodeling of B-4 and B-5 are included, only three or four major increments of piedrine structures were constructed in mounds A and B. At the Palangana, there are only two structures that I would assign to the period of Teotihuacan control, E3-a and E3-b and D2. At the Acropolis, I identified only one structure of piedrine, though there may be more. The pumidrine structures were constructed in the late Middle Classic.

Parsons does not reconcile his interpretation of Mesoamerican prehistory, in which the influence of Teotihuacan fades at A.D. 550, to the view held by most archaeologists that Teotihuacan did not

"fall" until A.D. 750. He probably did not attempt this because there is little evidence that bears on this question.

Bernal (1965) also believes that the fall of Teotihuacan from power took place earlier than A.D. 750, and that it was reflected in the early destruction of the Temple of Quetzalpapalotl. However, his evidence is unsubstantiated at present.

Conclusion

The excavations at the Palangana were initiated as part of the Kaminaljuyu Project at the Pennsylvania State University. They were undertaken as part of the Project's plans to test the mounds that still remained at Kaminaljuyu and to investigate the composition of the population in the different parts of the site. It was soon apparent that the structures in the Palangana would be able to contribute information on another problem of interest to the Project -- the relationship between Kaminaljuyu and Teotihuacan.

This report has been mainly directed toward the description of the architectural data that were gathered during the excavations of the Palangana and a discussion of the relationship of the complex to the larger site of Kaminaljuyu and to Teotihuacan. The results are briefly summarized in the following pages.

Throughout most of the known periods of occupation at the Palangana the complex seems to have served as a public, and probably ritual center. The only times at which the Palangana served other functions was in the Verbena-Arenal phase (Terminal Formative) when it served as an area for non-elite residences as well as a public and

elite center, and during the Amatle II phase (Late Classic) when it may have been used for the domestic activities of a small elite population.

The form of the Palangana also changed over time. The change can be characterized as a gradual increase in the height of the Lower Plaza and in the number of structures around the Lower Plaza. Only one large public structure was built during each of the Terminal Formative and Early Classic periods. The major construction activity at the Palangana occurred during the Middle Classic period when a series of constructions in areas E, D and U were built and subsequently remodeled several times. In the Late Classic construction areas E, D, and U were remodeled again, and the Lower Plaza was enclosed completely by the construction of mounds in areas A and B and on either side of the central mound in area C.

The sequence of changing form in the Middle Classic structures at the Palangana provided architectural evidence with which to re-examine the question of the nature and timing of Teotihuacan influence on the Highland Maya society of Kaminaljuyu. Two distinct phases in the incorporation of Teotihuacan-like architectural traits into the local architecture were identified. In the first phase, the public structures changed from vertical-sided, stepped pyramids to sloping, unstepped, truncated pyramids. Additionally, new construction materials and techniques appeared -- piedrine-surfaced pumice-fill wall construction. Both the architectural traits and the new construction materials occur at Teotihuacan on earlier time horizons. In this first phase the structures on which these traits appear do not

resemble Teotihuacan structures but seem to be a product of the incorporation of foreign traits into a local architectural tradition.

The relationship between the two societies at this time is postulated to be similar to that which Flannery (1968) thinks existed between the Olmecs and the Oaxacans in the Middle Formative. Following his model, the contact between Teotihuacan and Kaminaljuyu would have been brought about through trade connections. The incorporation of Teotihuacan-like elements into Guatemalan architecture would then have been motivated by the desire of the elite of Kaminaljuyu (on a lower level of sociocultural complexity than Teotihuacan) to acquire greater prestige through the imitation of a society (Teotihuacan) with a more complex form of social organization.

The second phase of Teotihuacan influence at Kaminaljuyu is represented by an abrupt increase in the number of Teotihuacan architectural traits, such as the talud and tablero in a form that is nearly identical to that which appears at Teotihuacan. More significant, however, is the appearance of structures that essentially duplicate structures that line the Street of the Dead at Teotihuacan.

The characteristics of the second phase of Teotihuacan influence do not correspond to the characteristics that would have been predicted using Flannery's model of interregional interaction. His model would predict a gradual decrease in the typically foreign traits which is the opposite of the increase seen at Kaminaljuyu.

This leads me to hypothesize that the normal course of the first phase of interaction was halted by a new process -- the political

takeover of Kaminaljuyu by the Teotihuacanos, probably for economic reasons. I would not say the site was entirely taken over by the Teotihuacanos nor that it was made over into a replica of Teotihuacan, but that the Kaminaljuyu society still reflected its Maya ancestry.

As I have pointed out before, this study was restricted, for several reasons, to architectural data. When the ceramic and other artifactual material has been fully analyzed and when the results are in from the various "absolute" dating techniques, my conclusions can be assessed in a fuller context. From the differences and similarities among the results from my data and the results from other sources, a more complete picture of the prehistory of Kaminaljuyu, particularly in the Middle Classic, will be possible than the one I have presented here.

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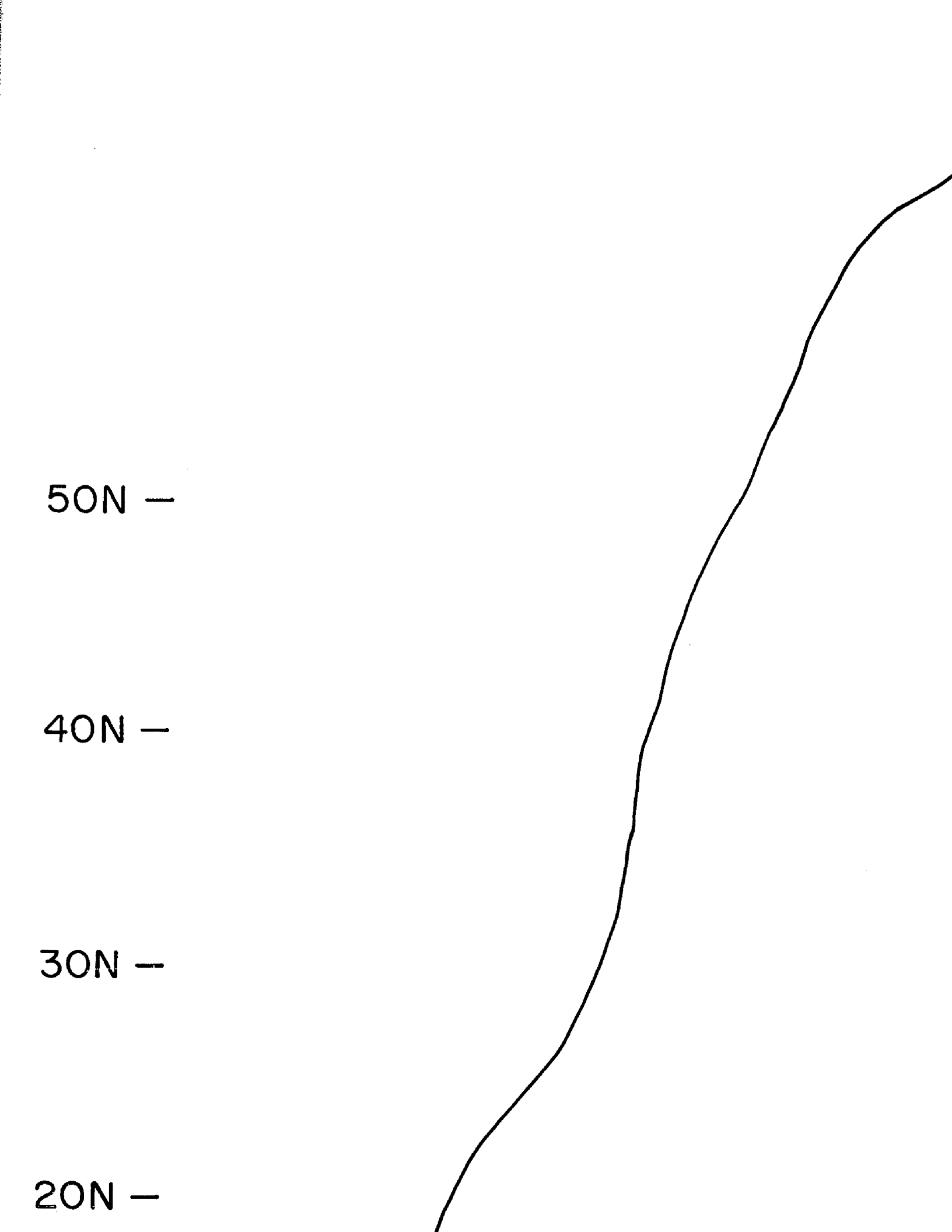
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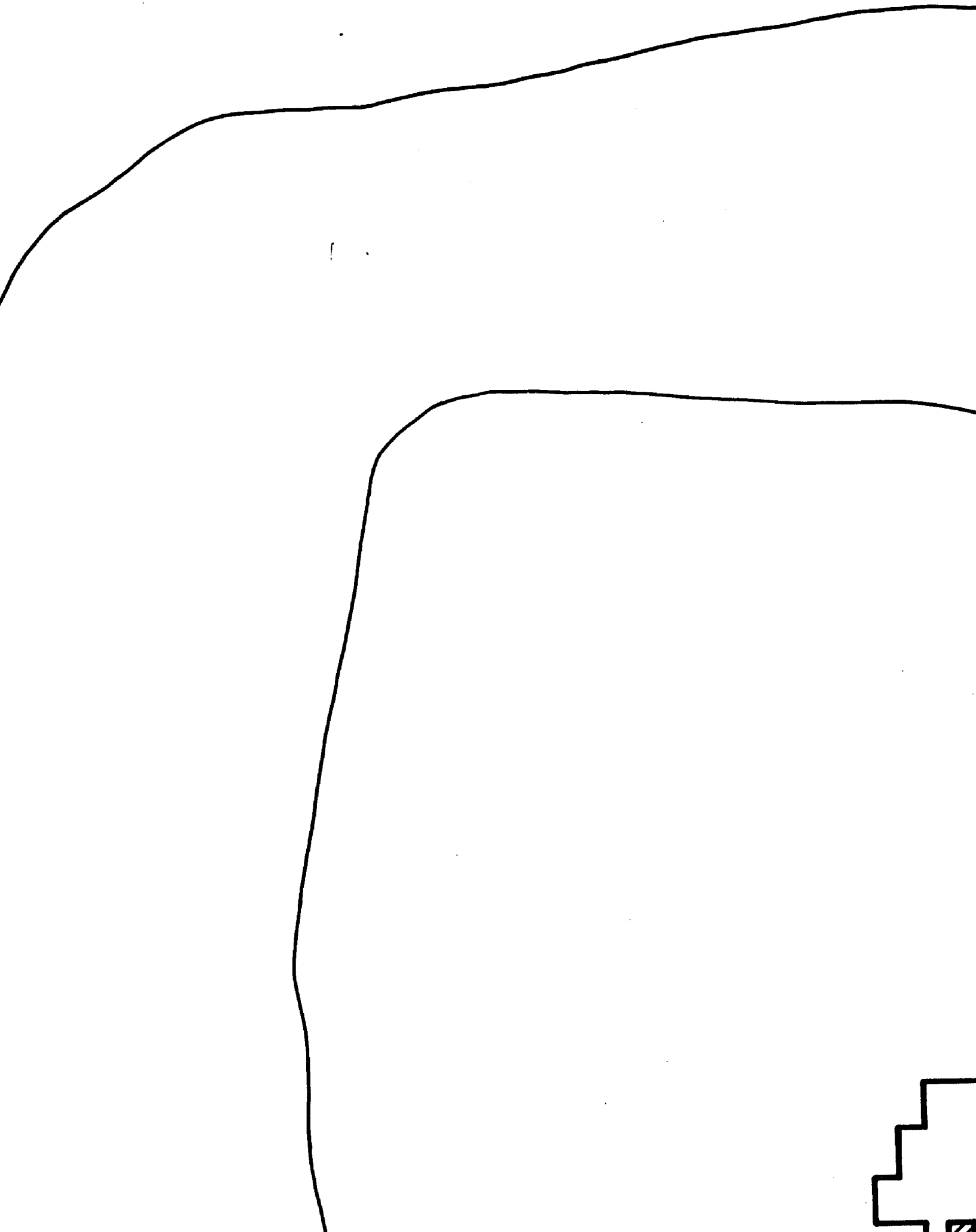

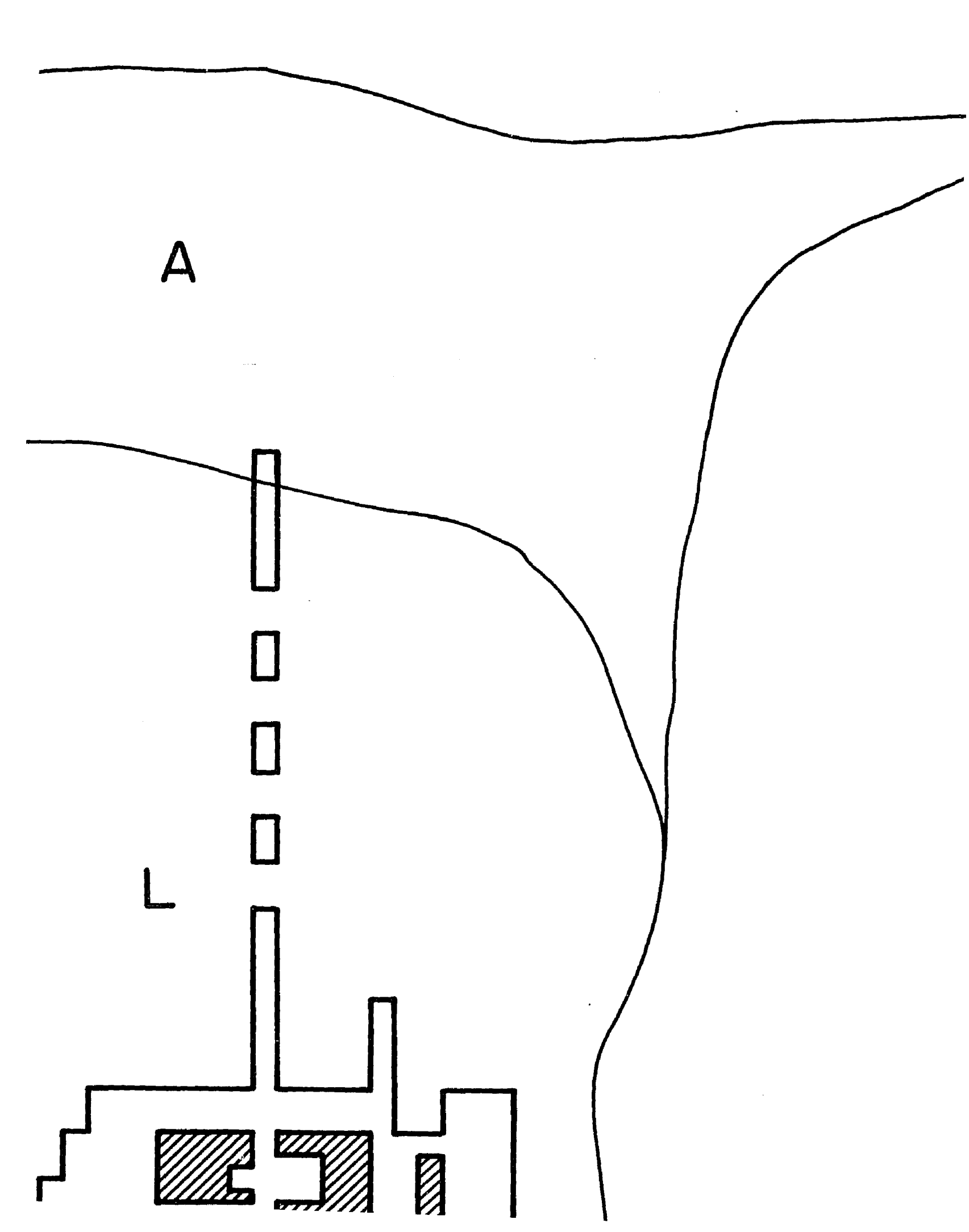
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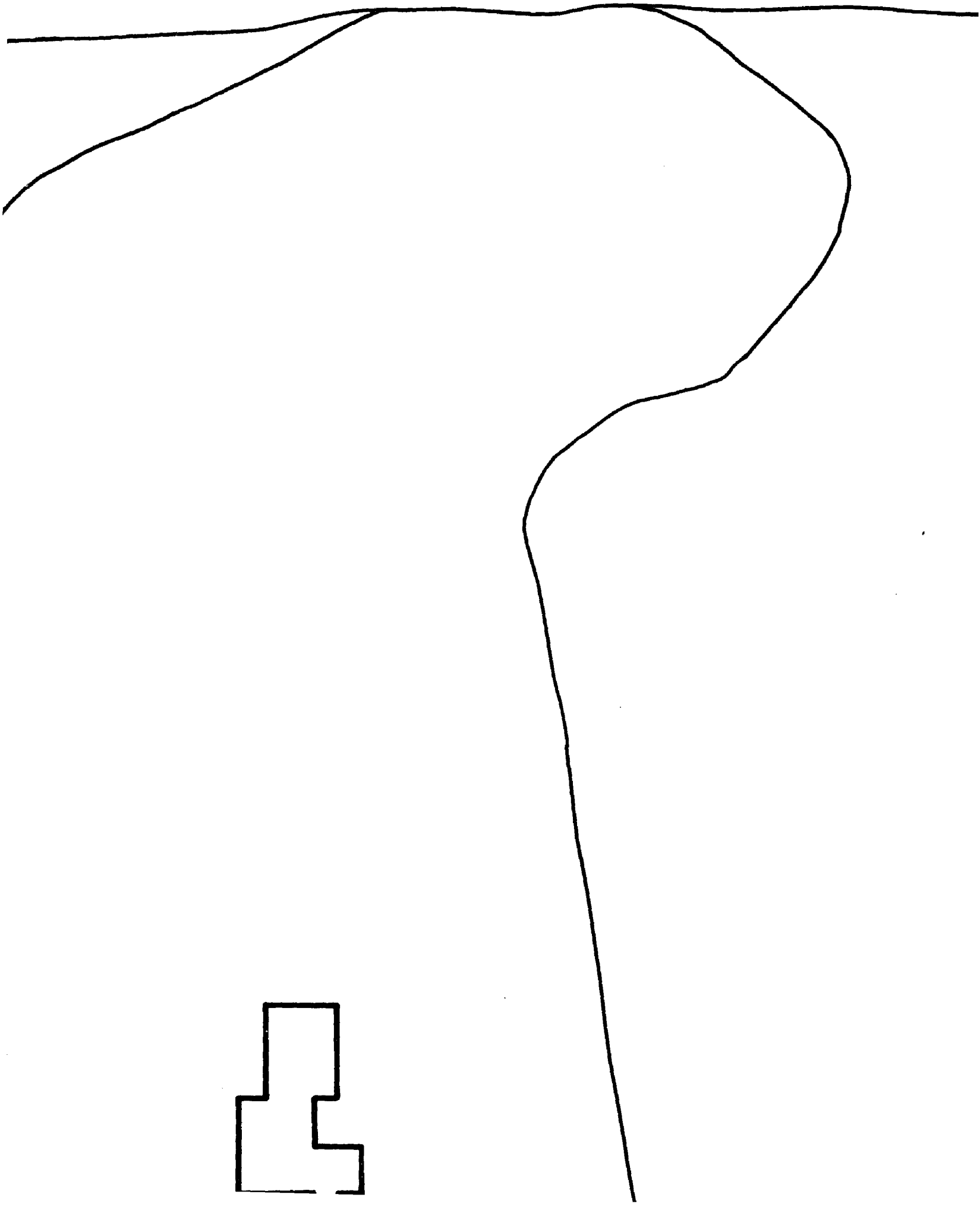

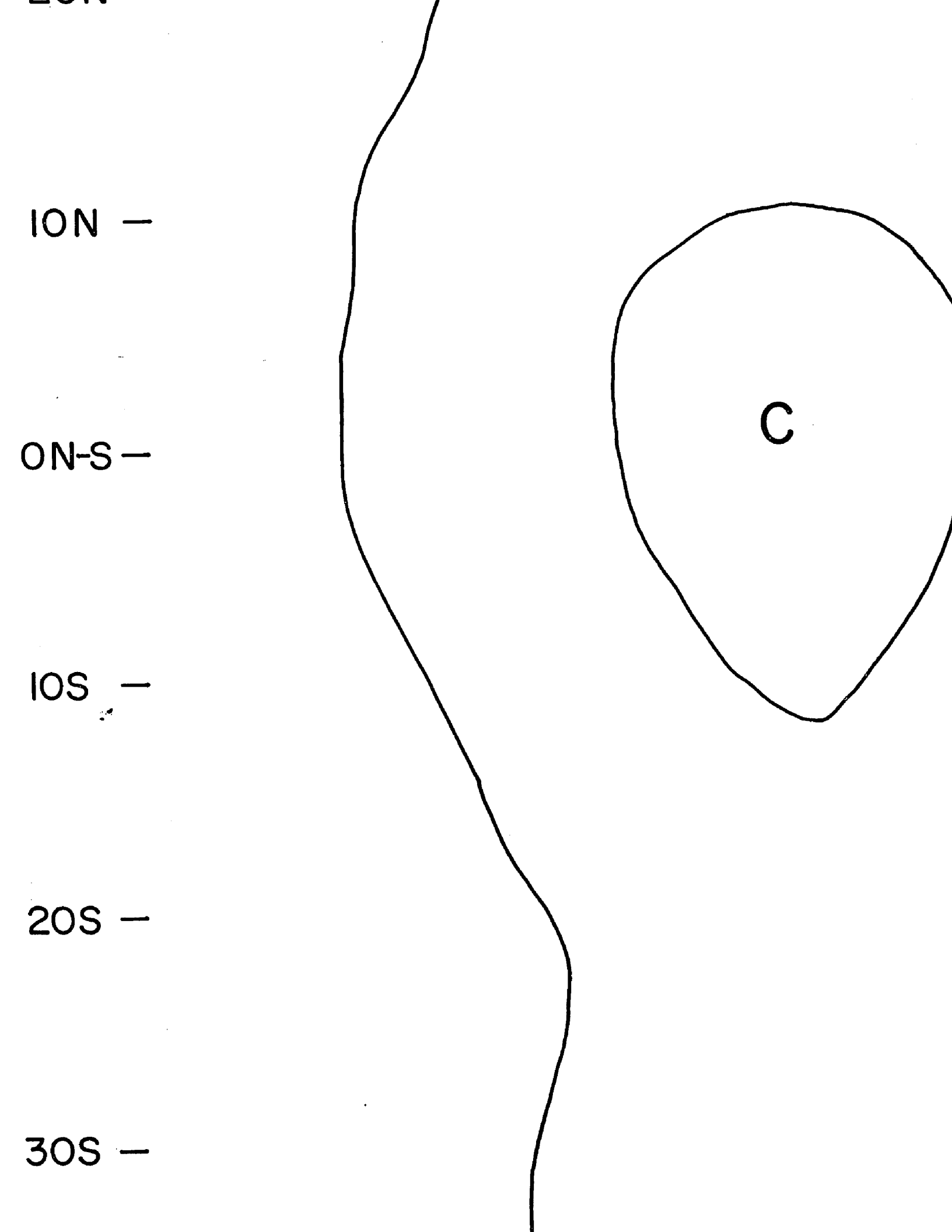
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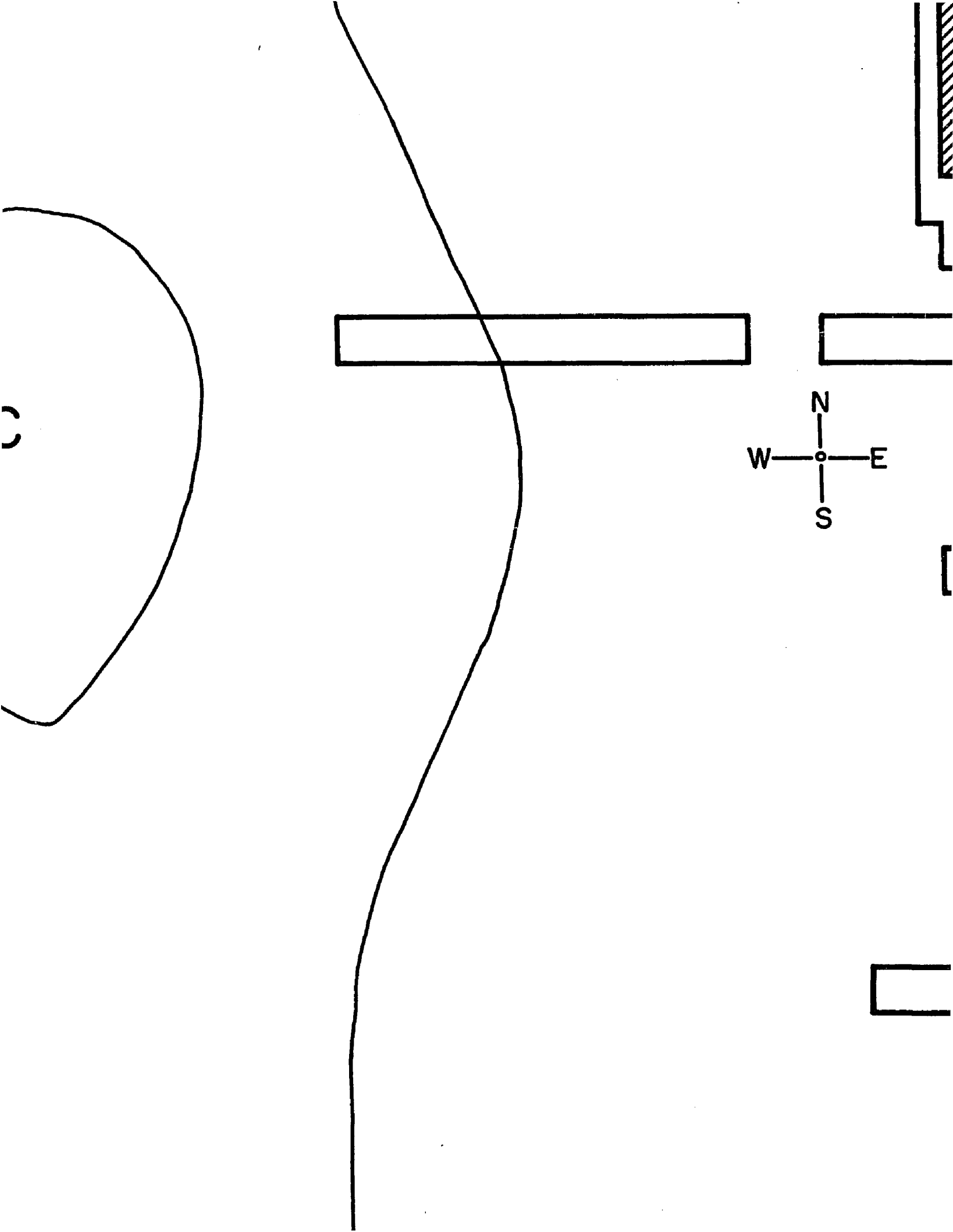
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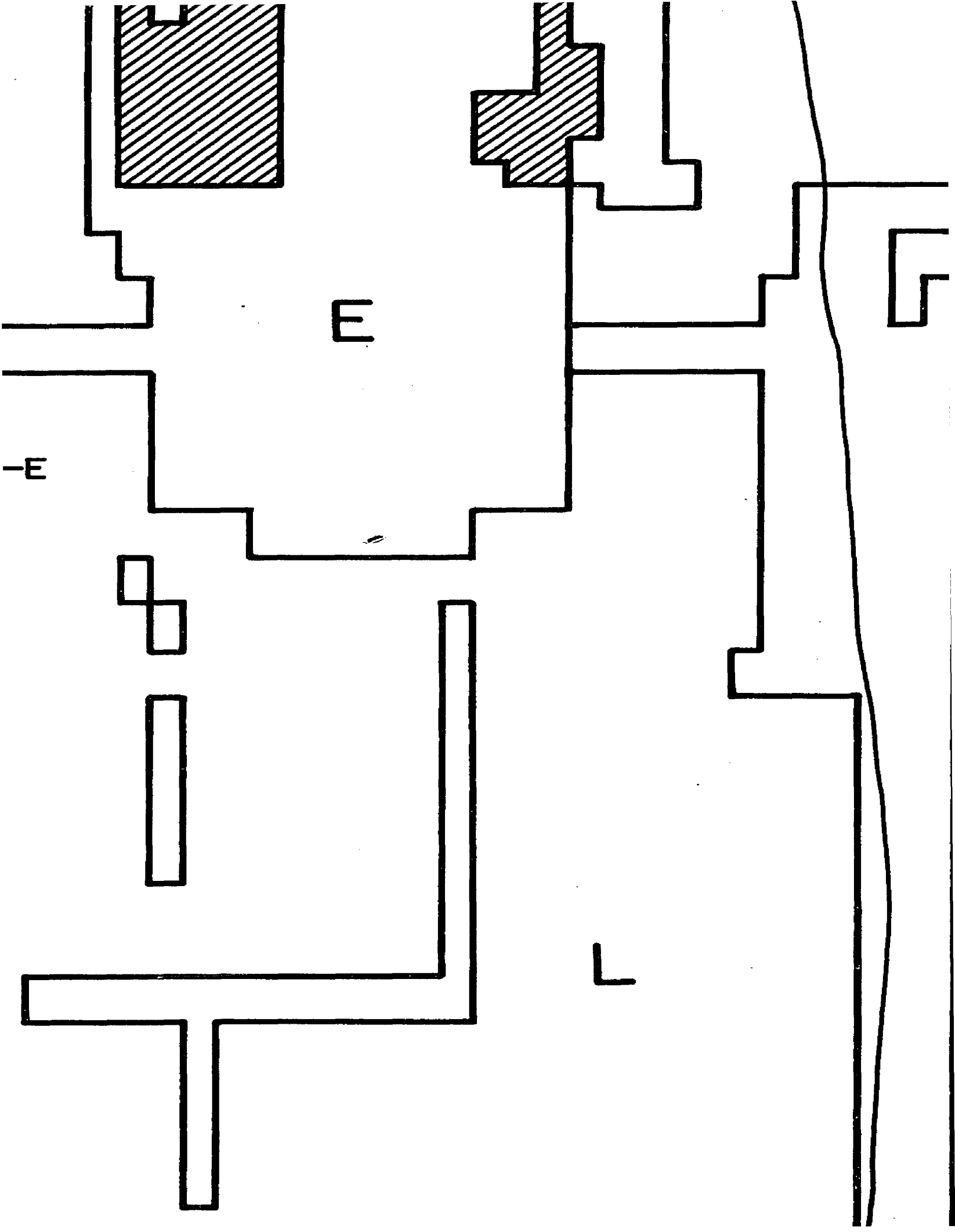
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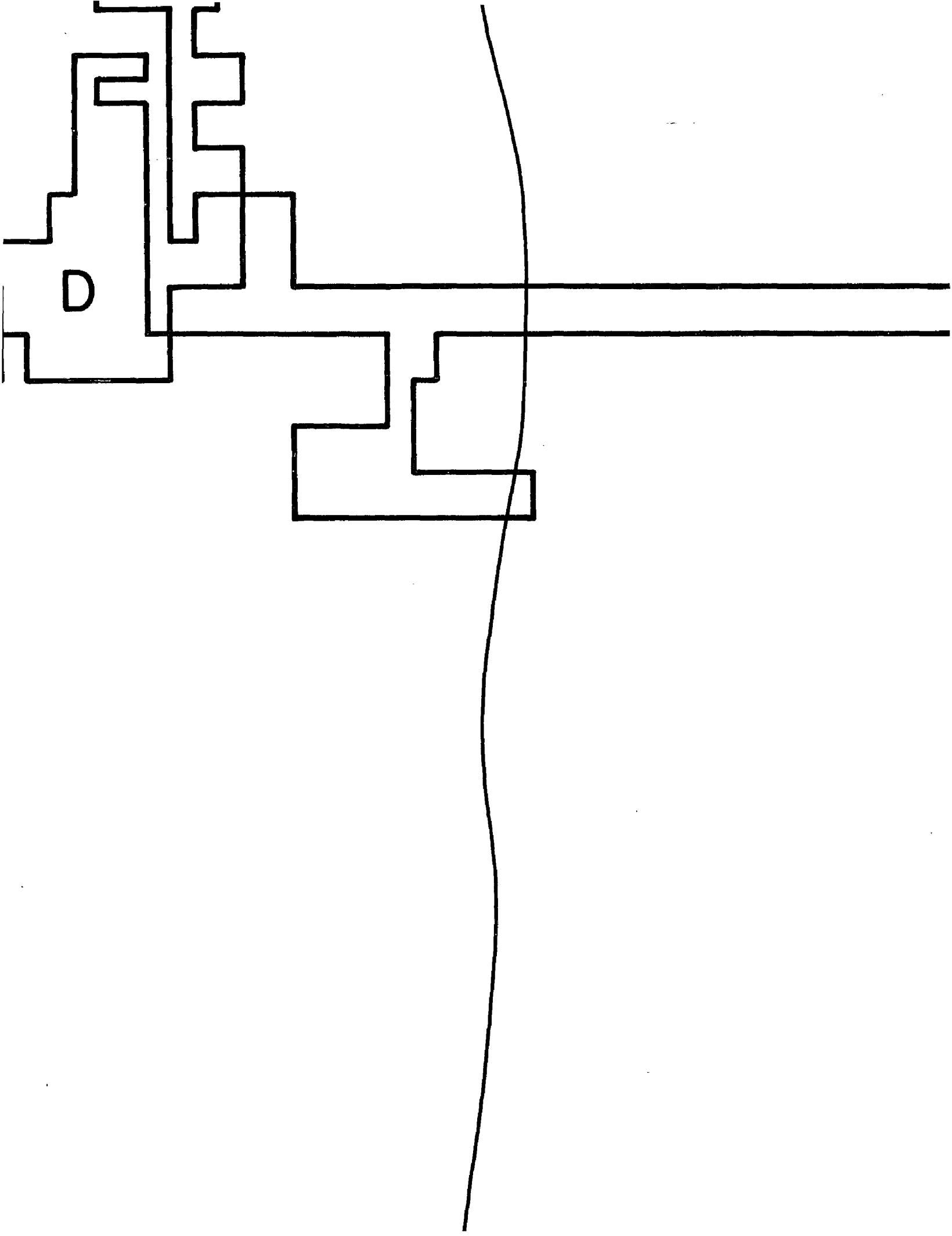
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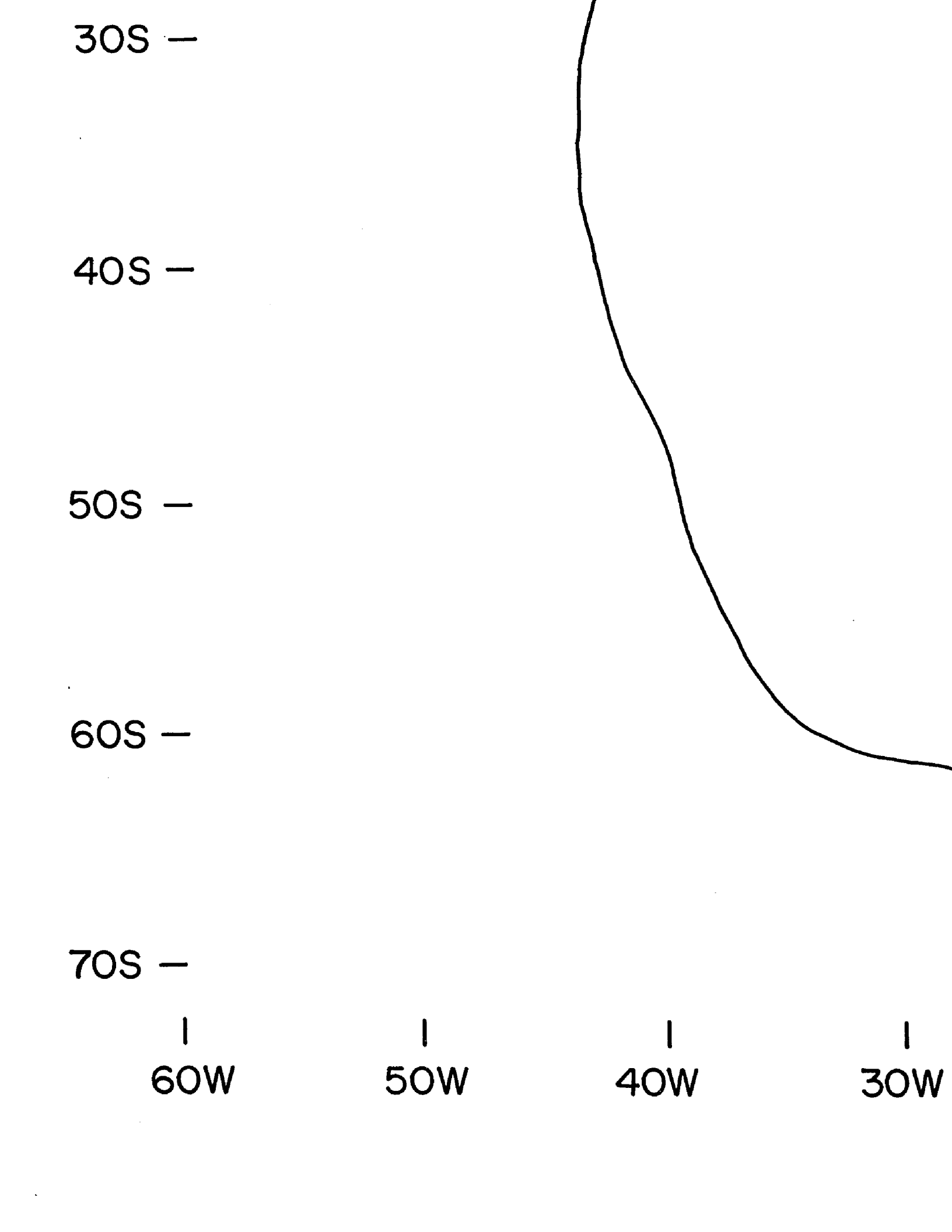
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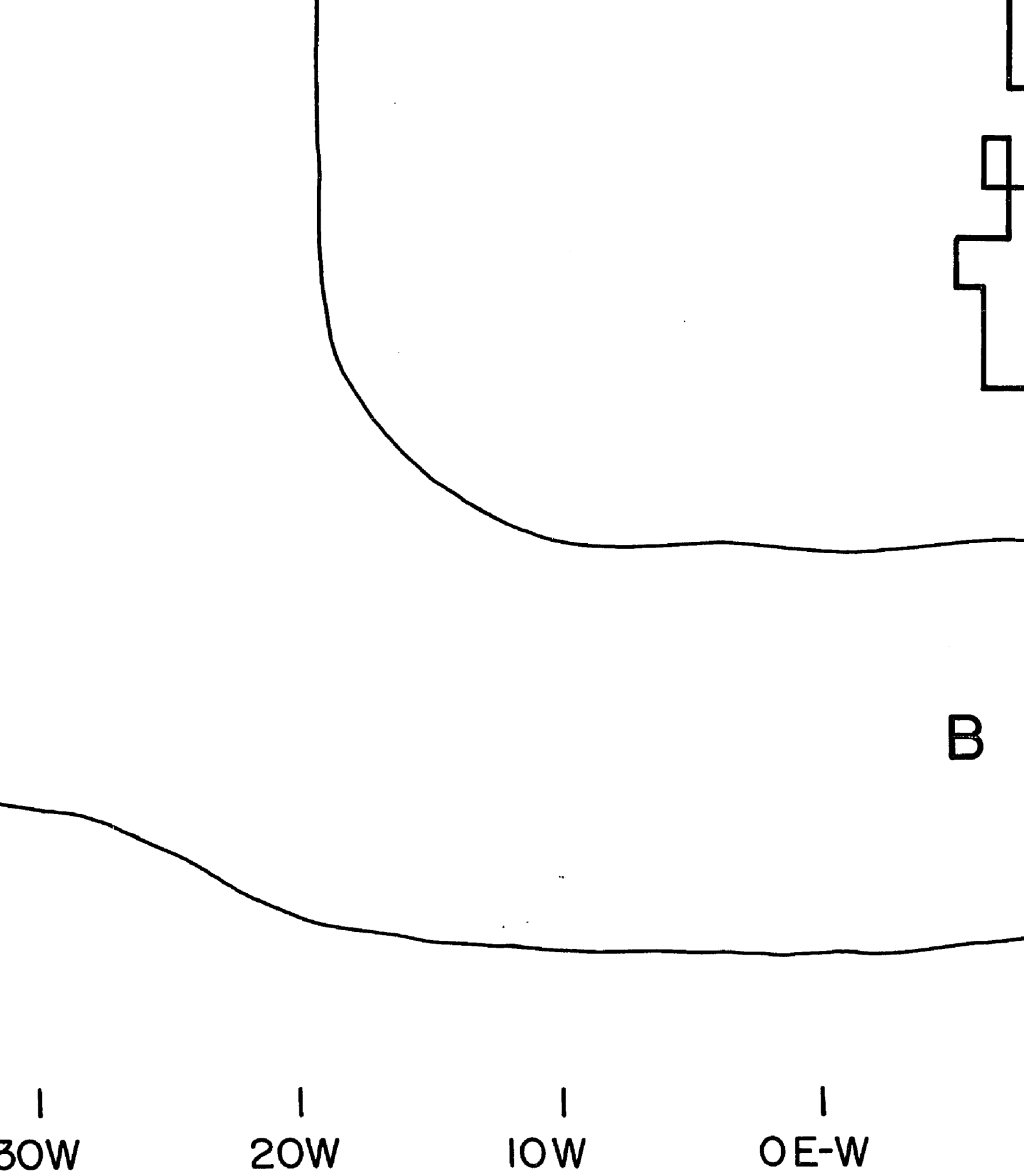

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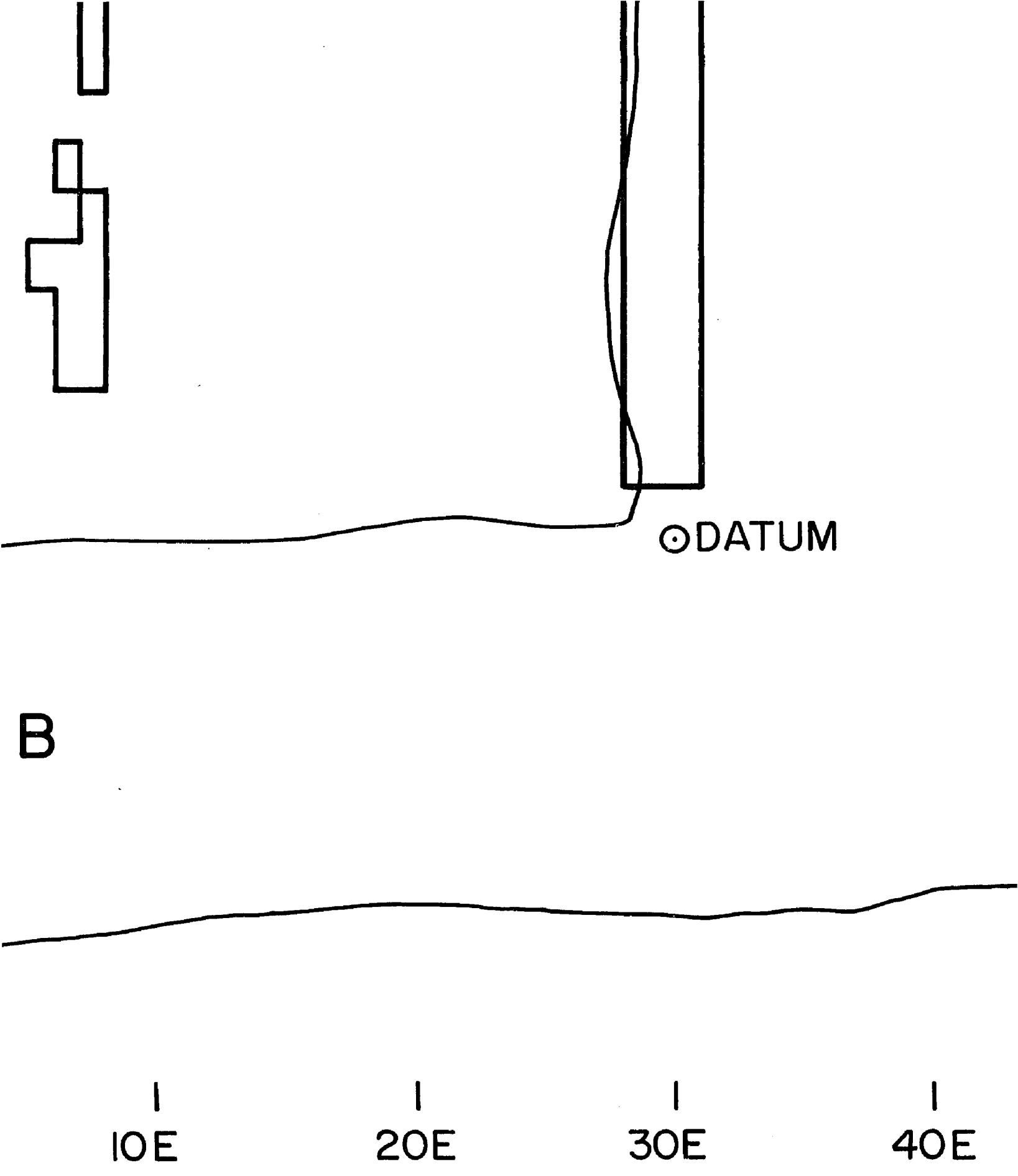
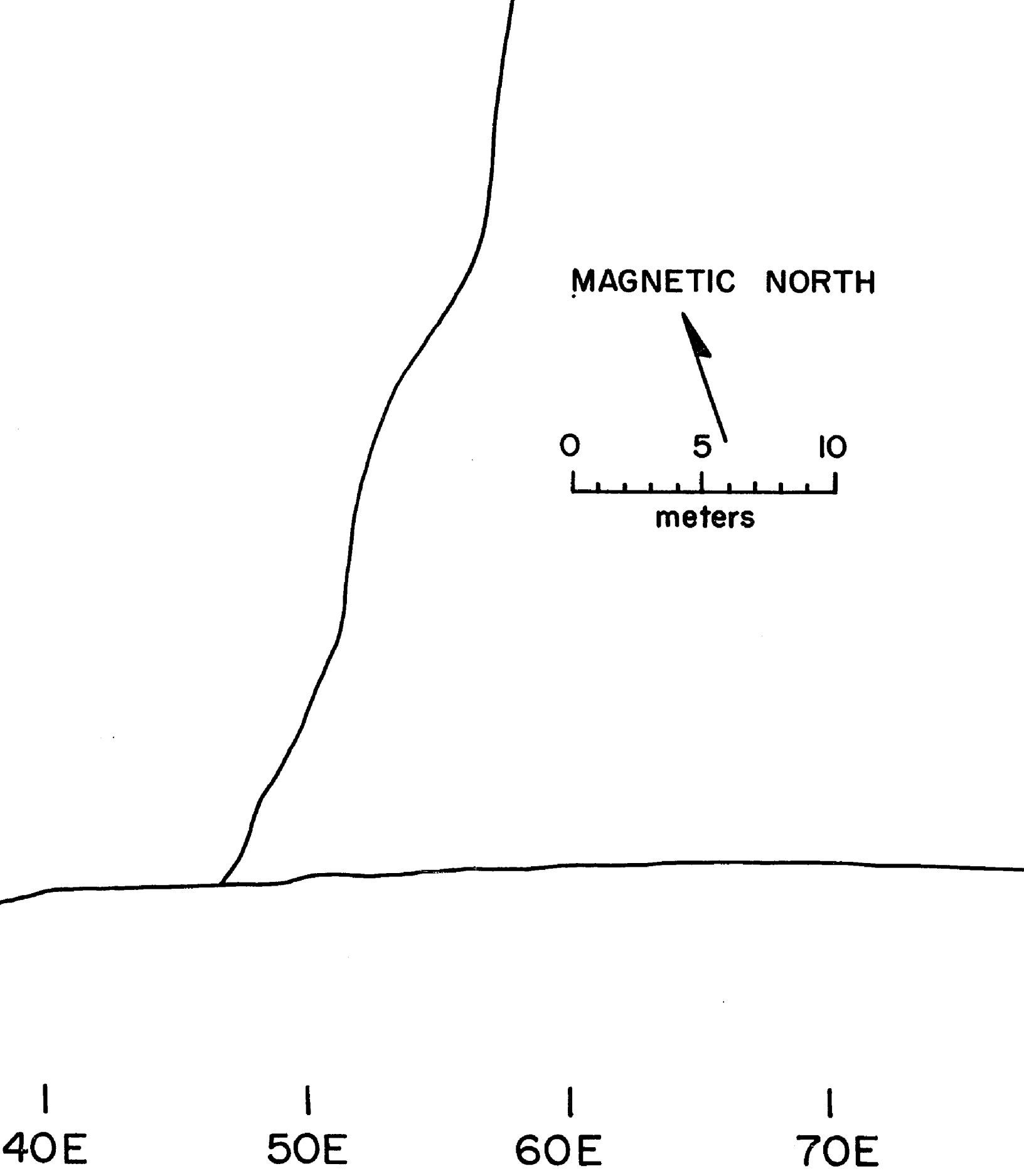


Figure 3. The Palangana, Kaminaljuyu.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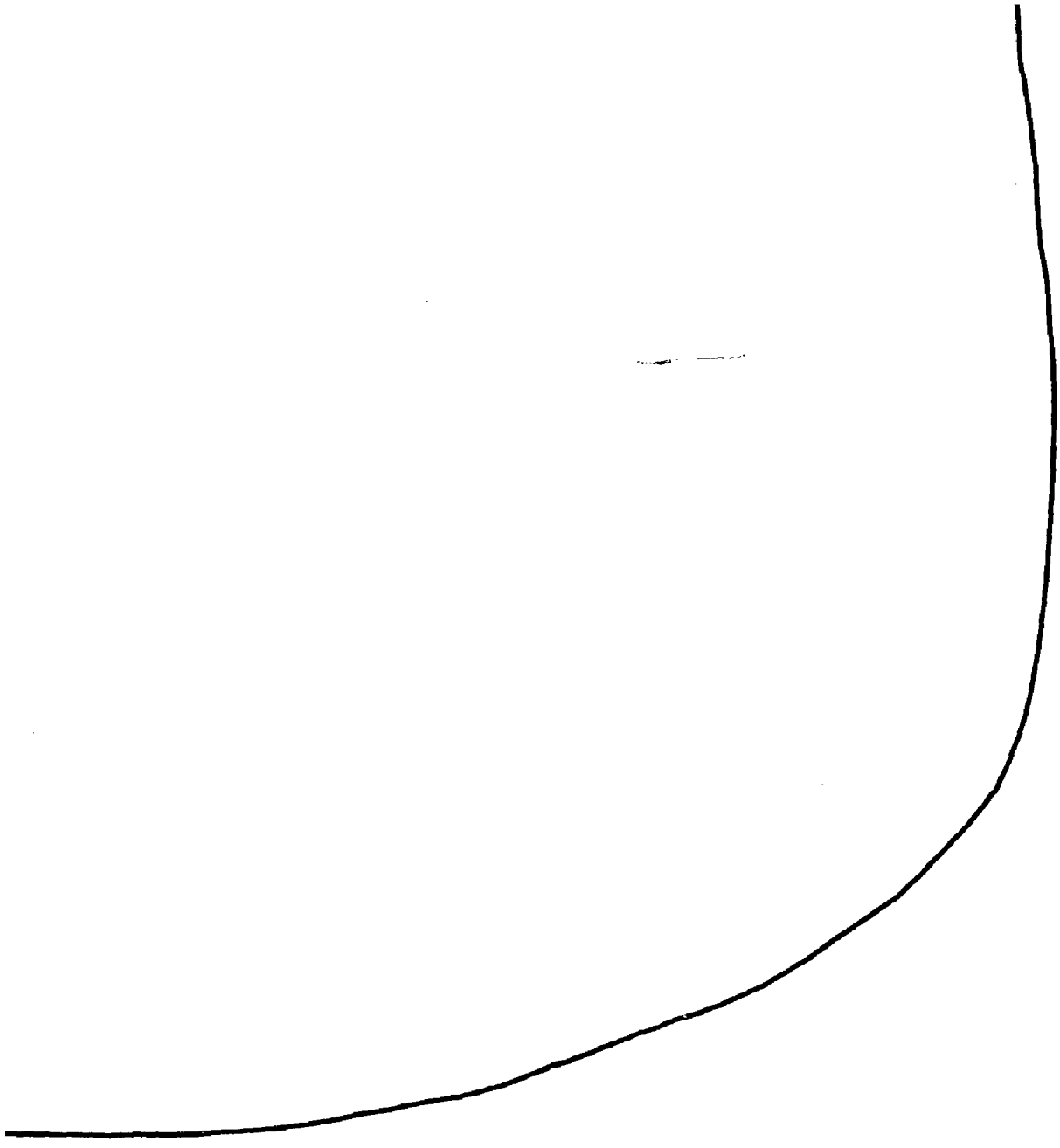

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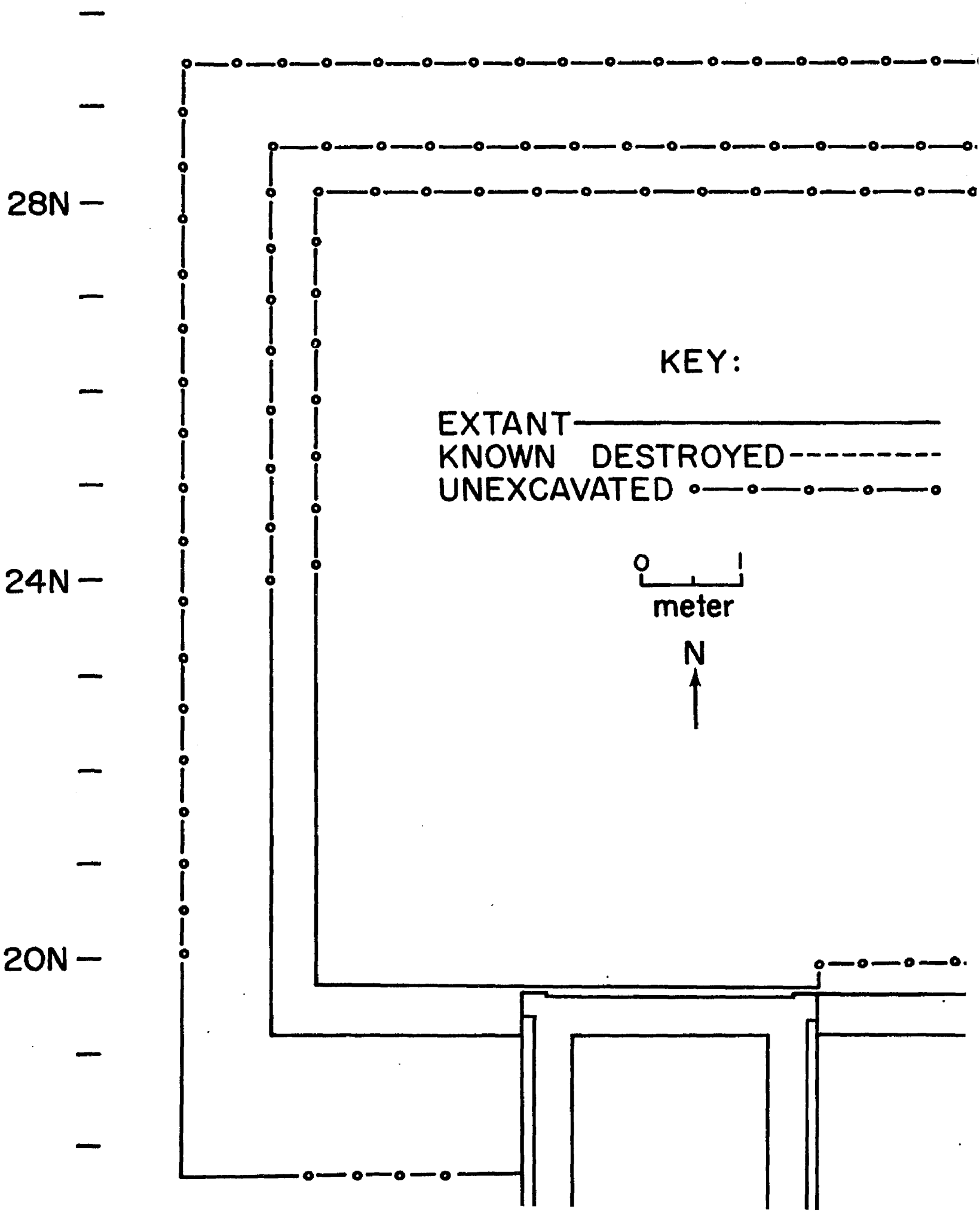
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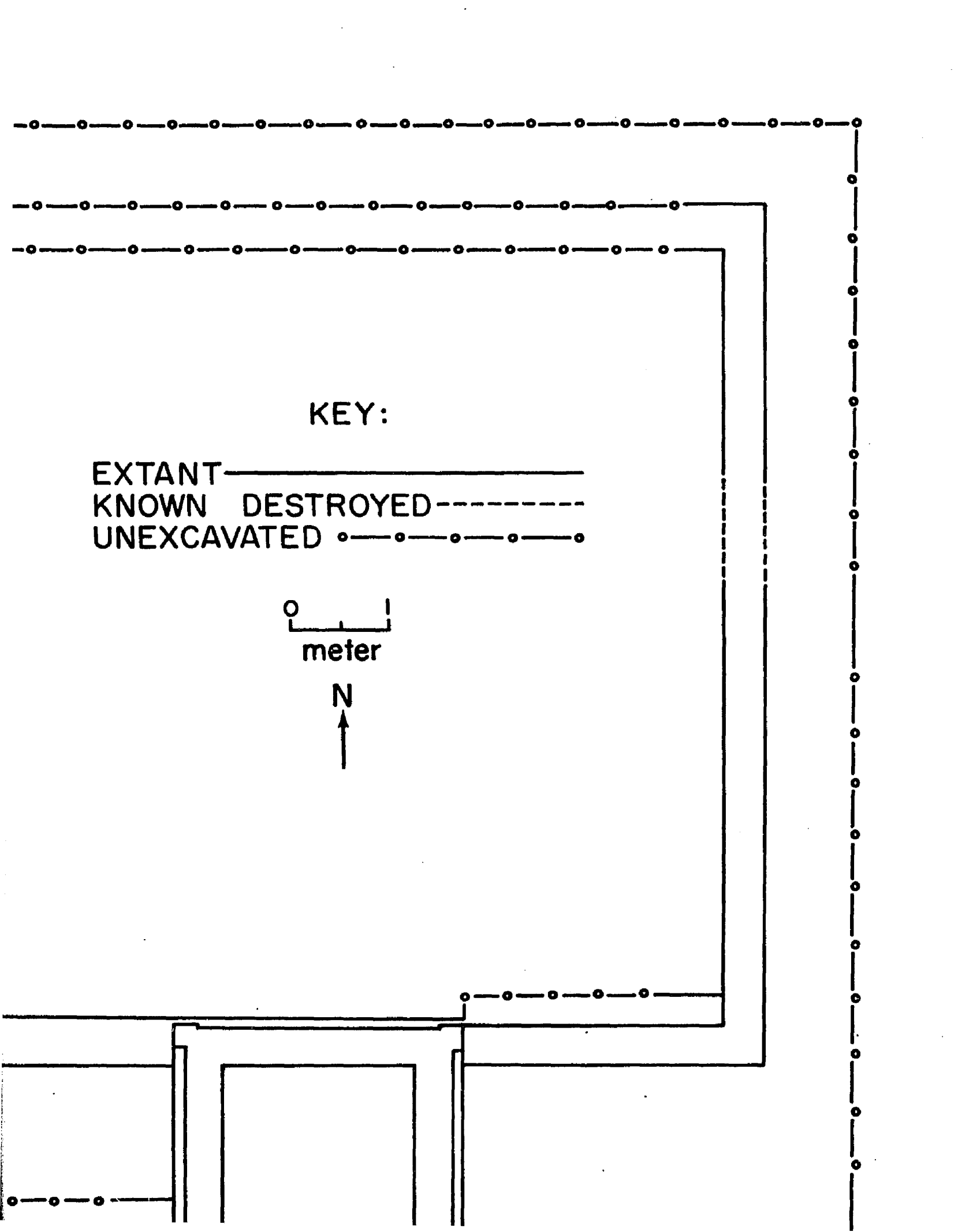
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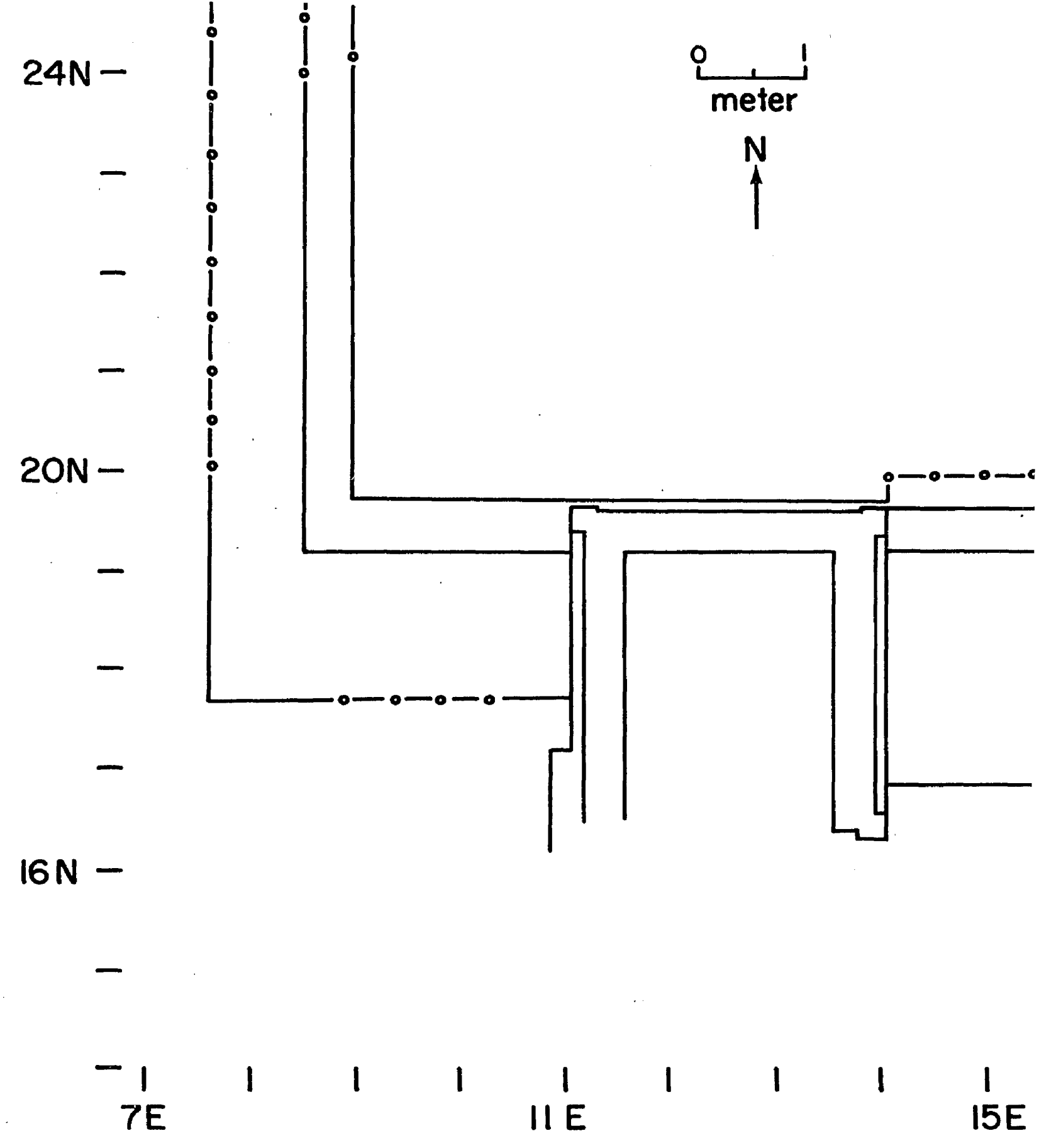


Figure 17. Planview substage E2

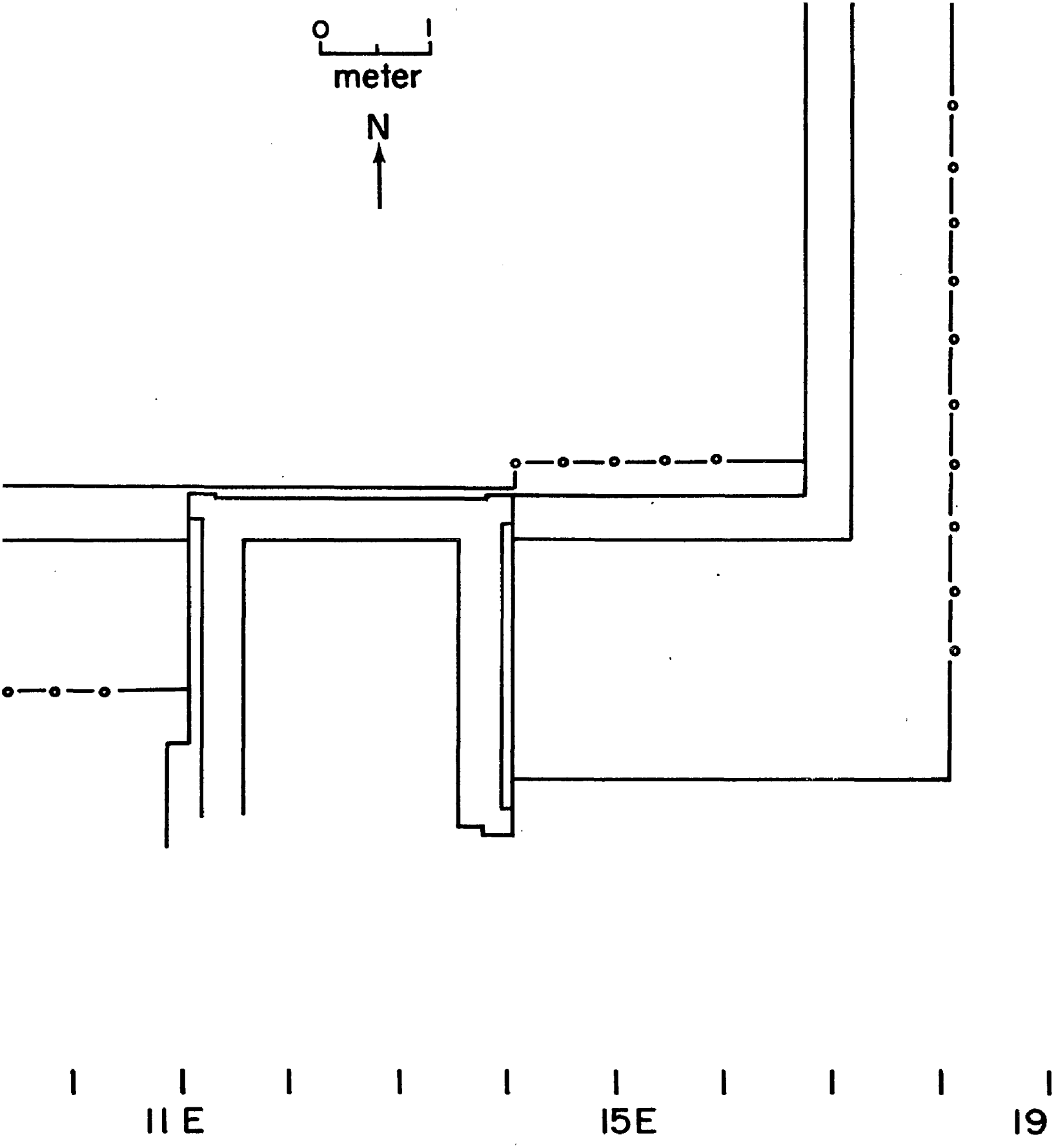
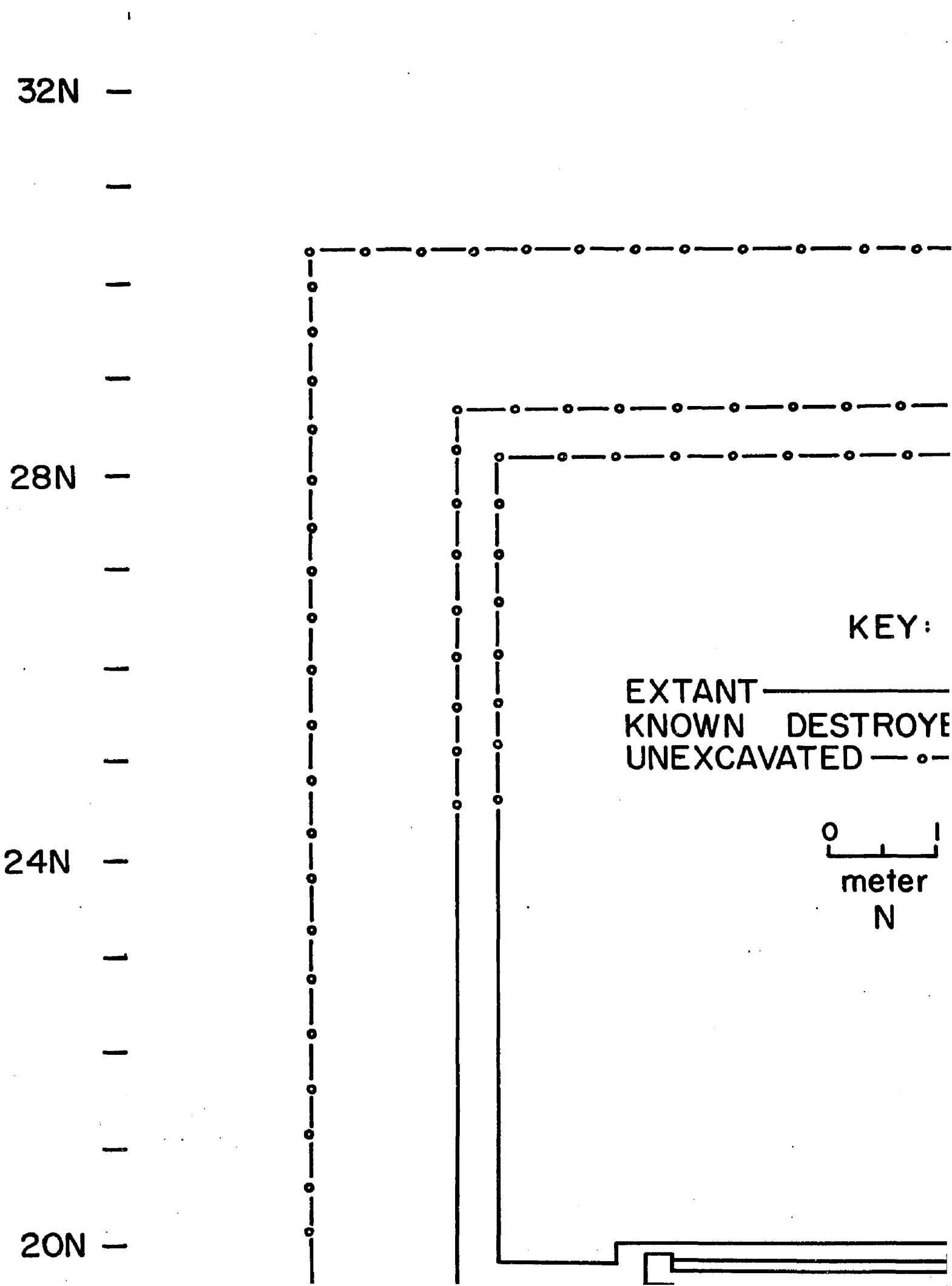


Figure 17. Planview substage E2-a.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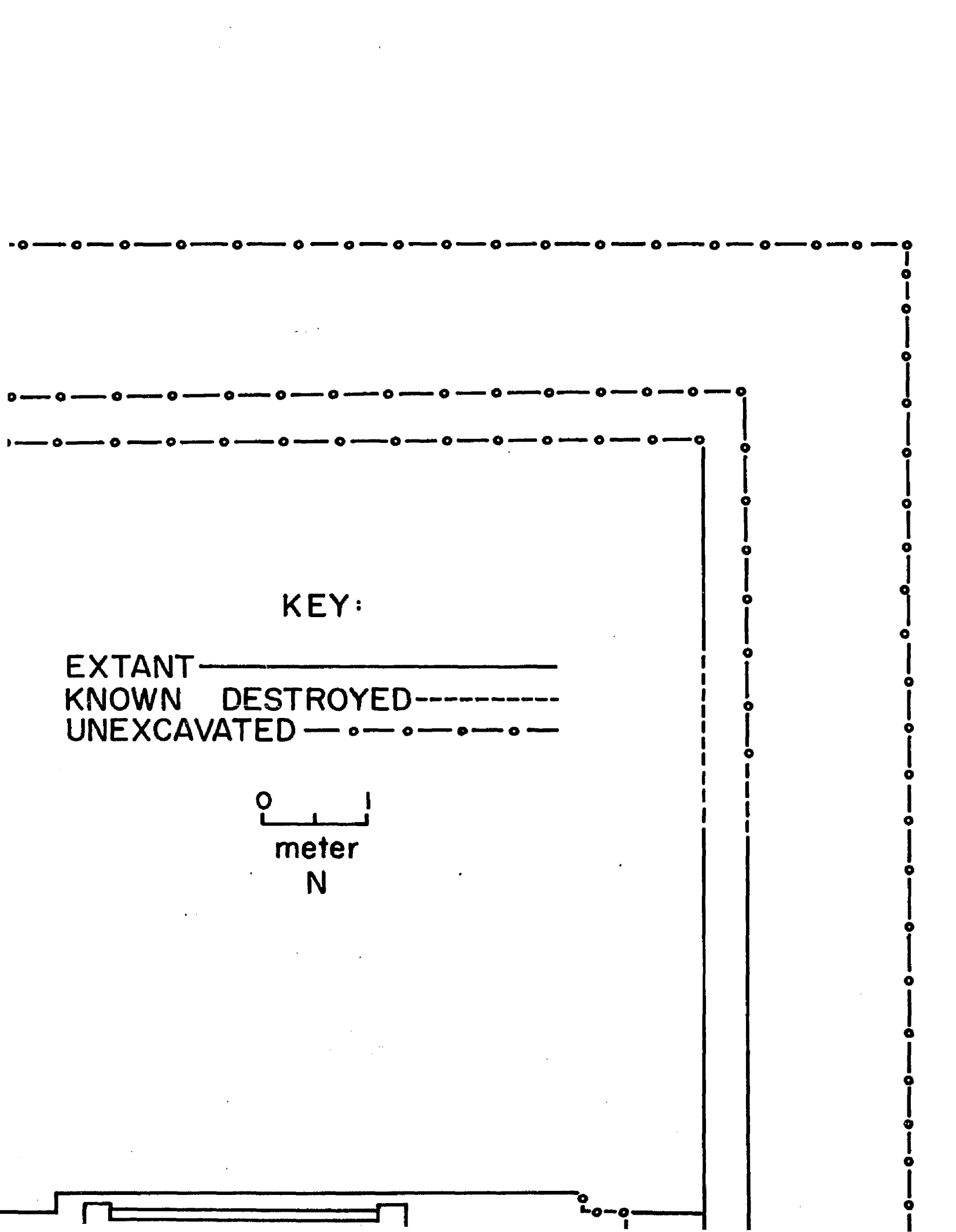
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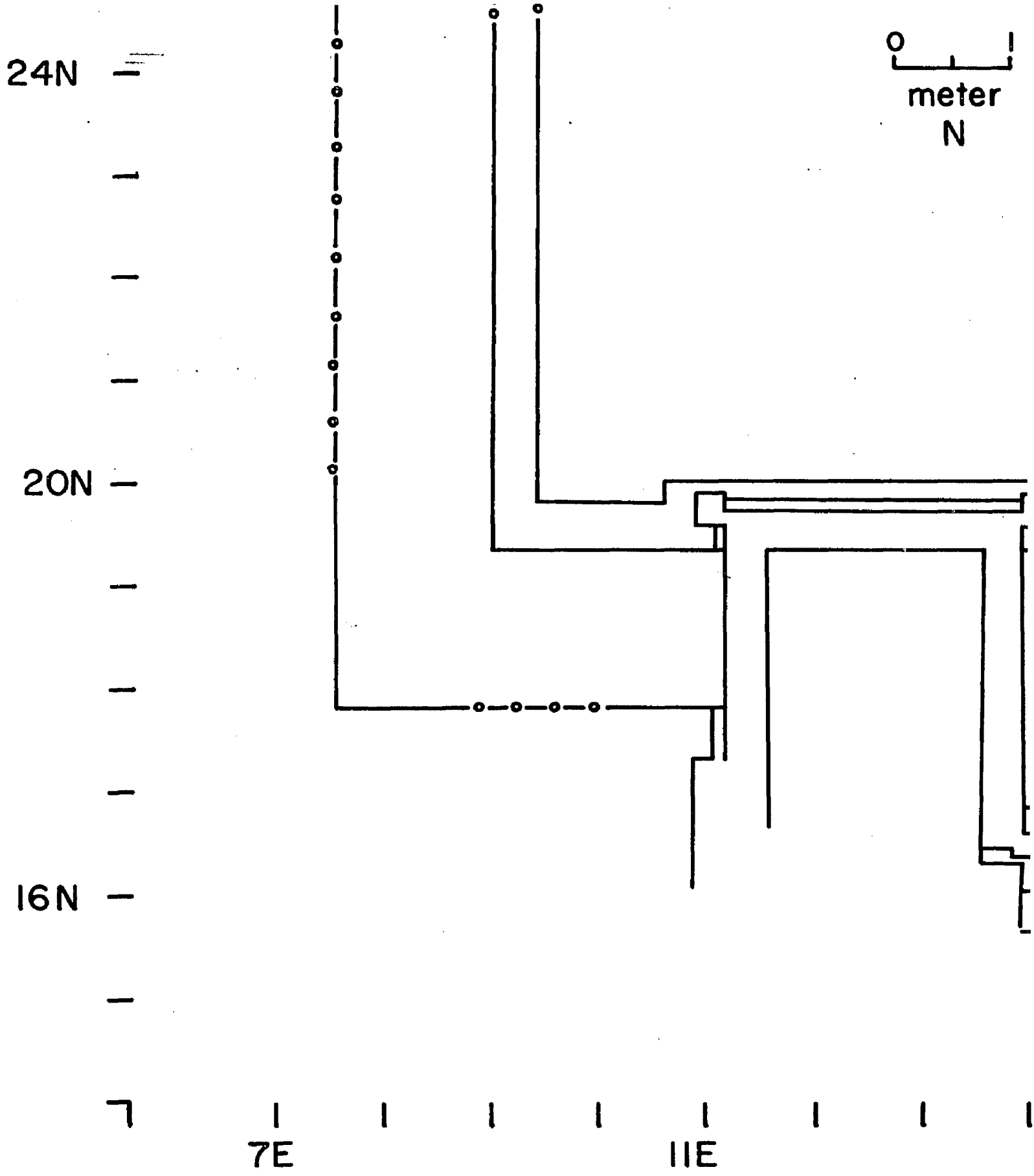
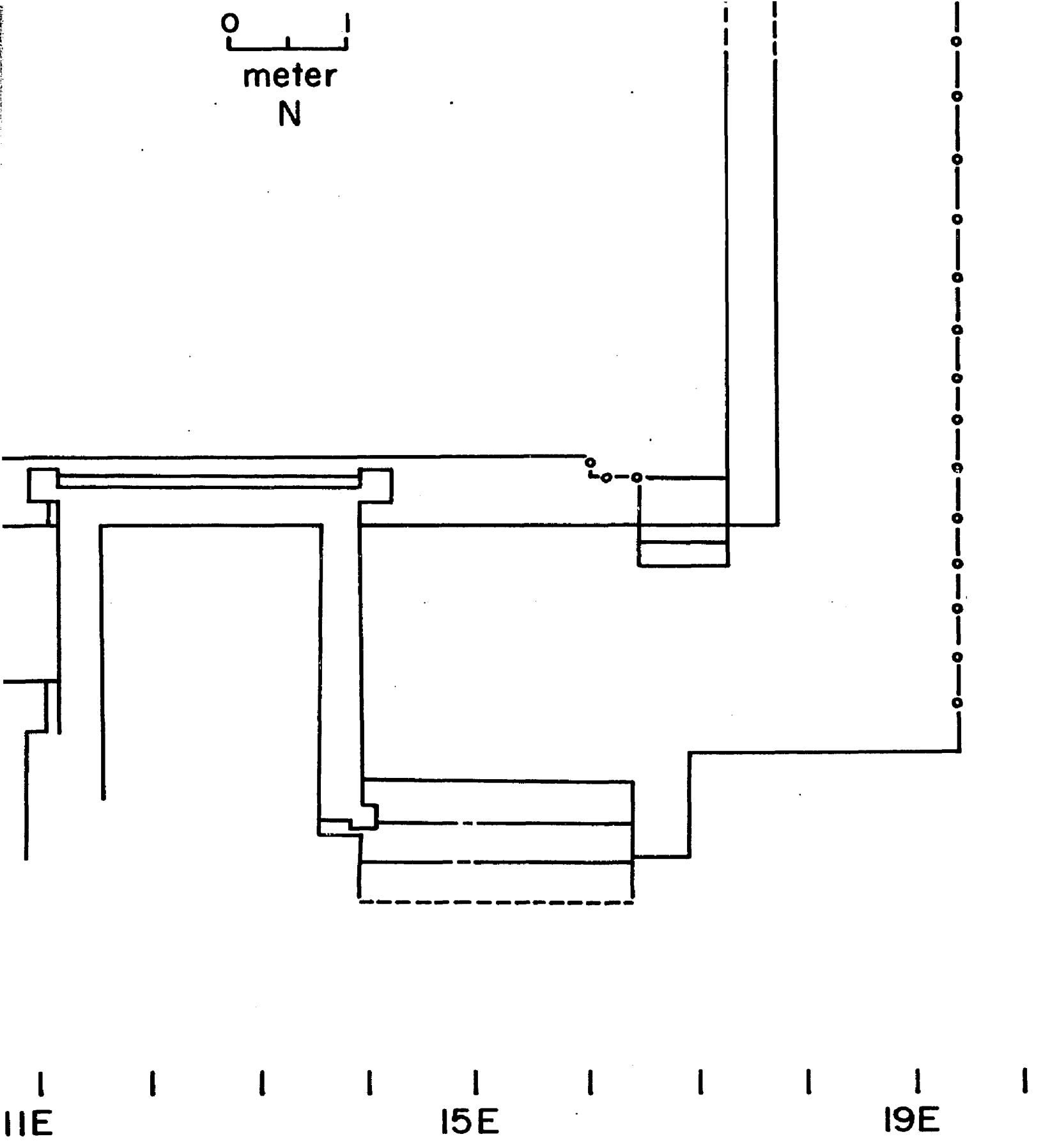


Figure 18. Planview substag



Planview substage E2-b.

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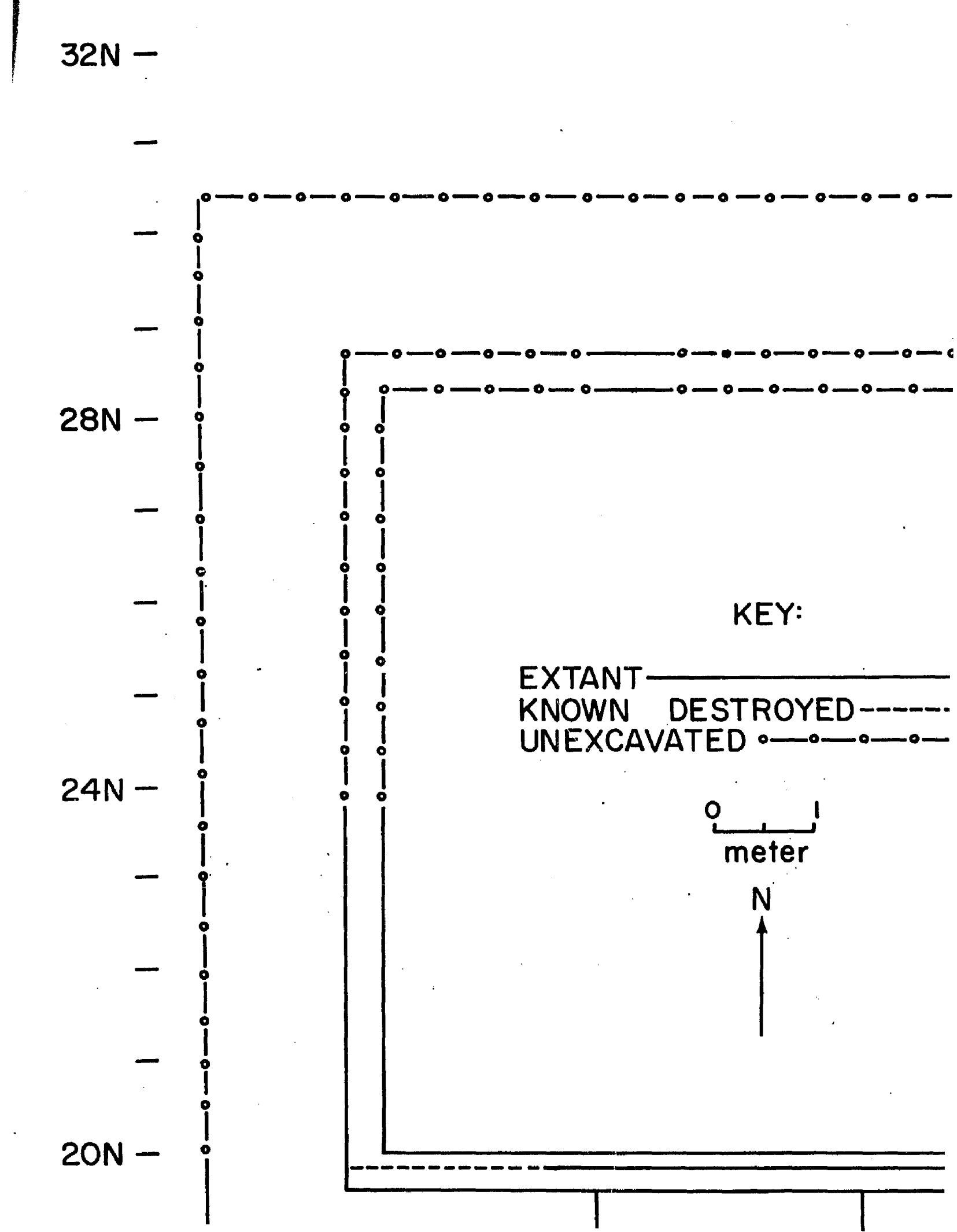
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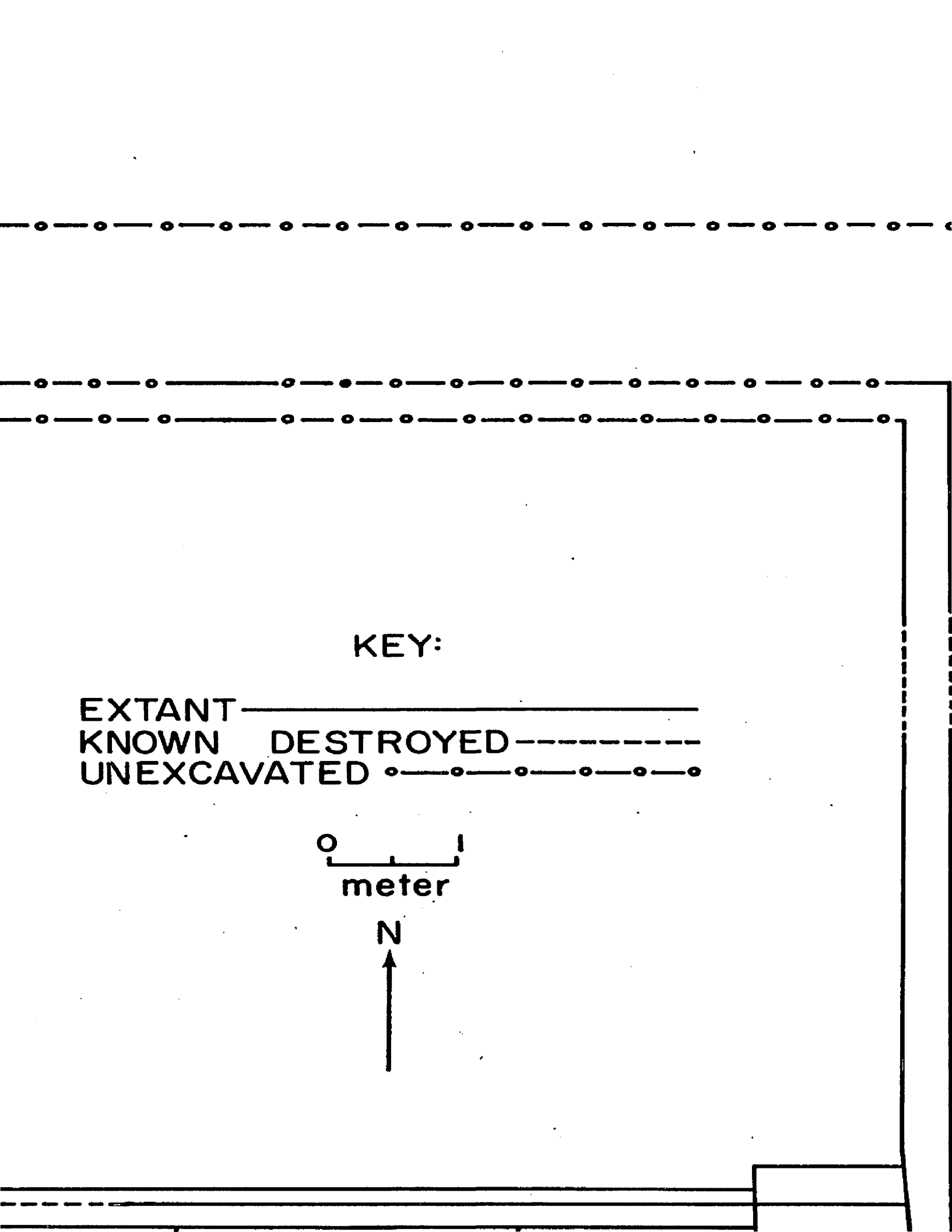
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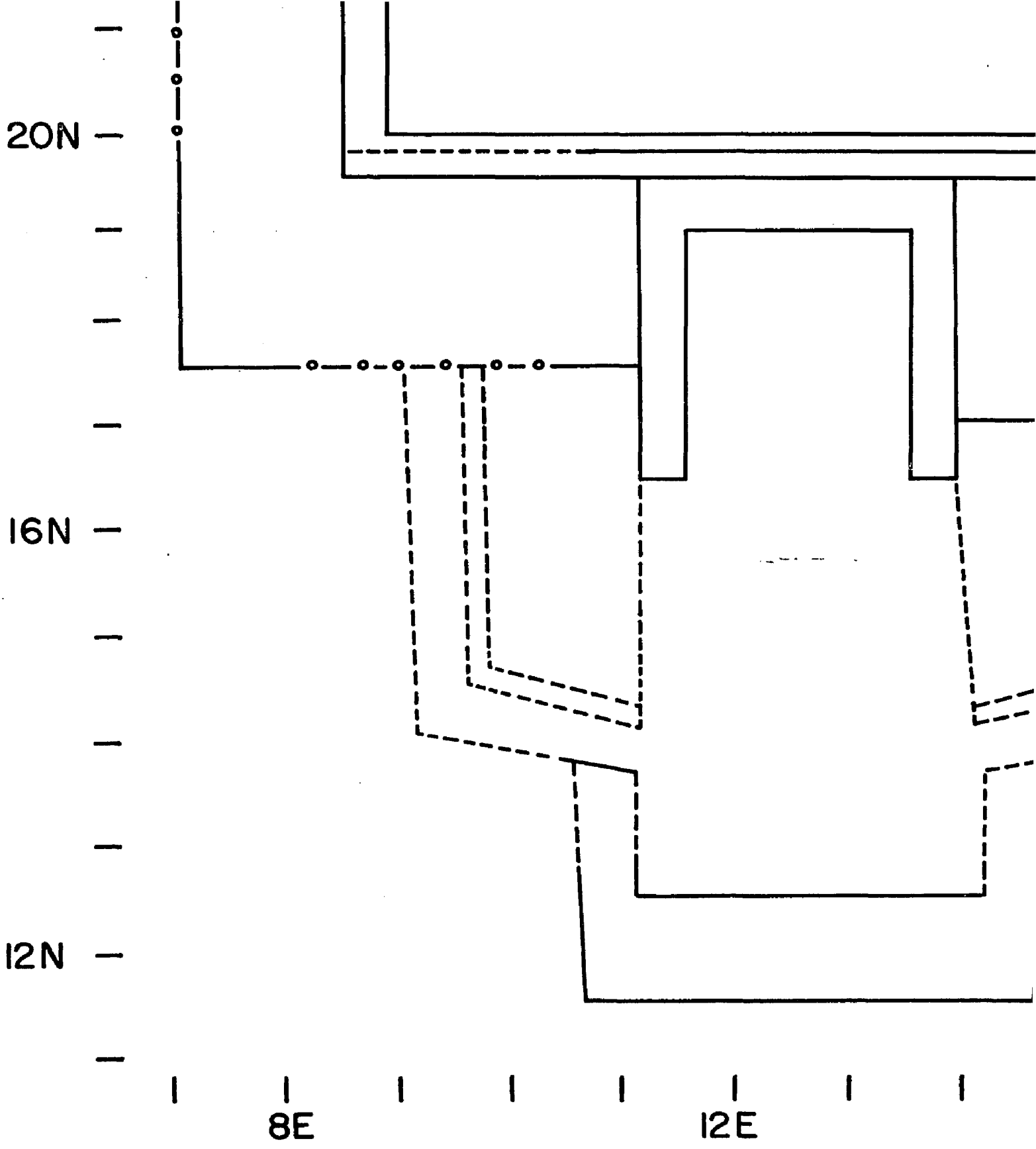
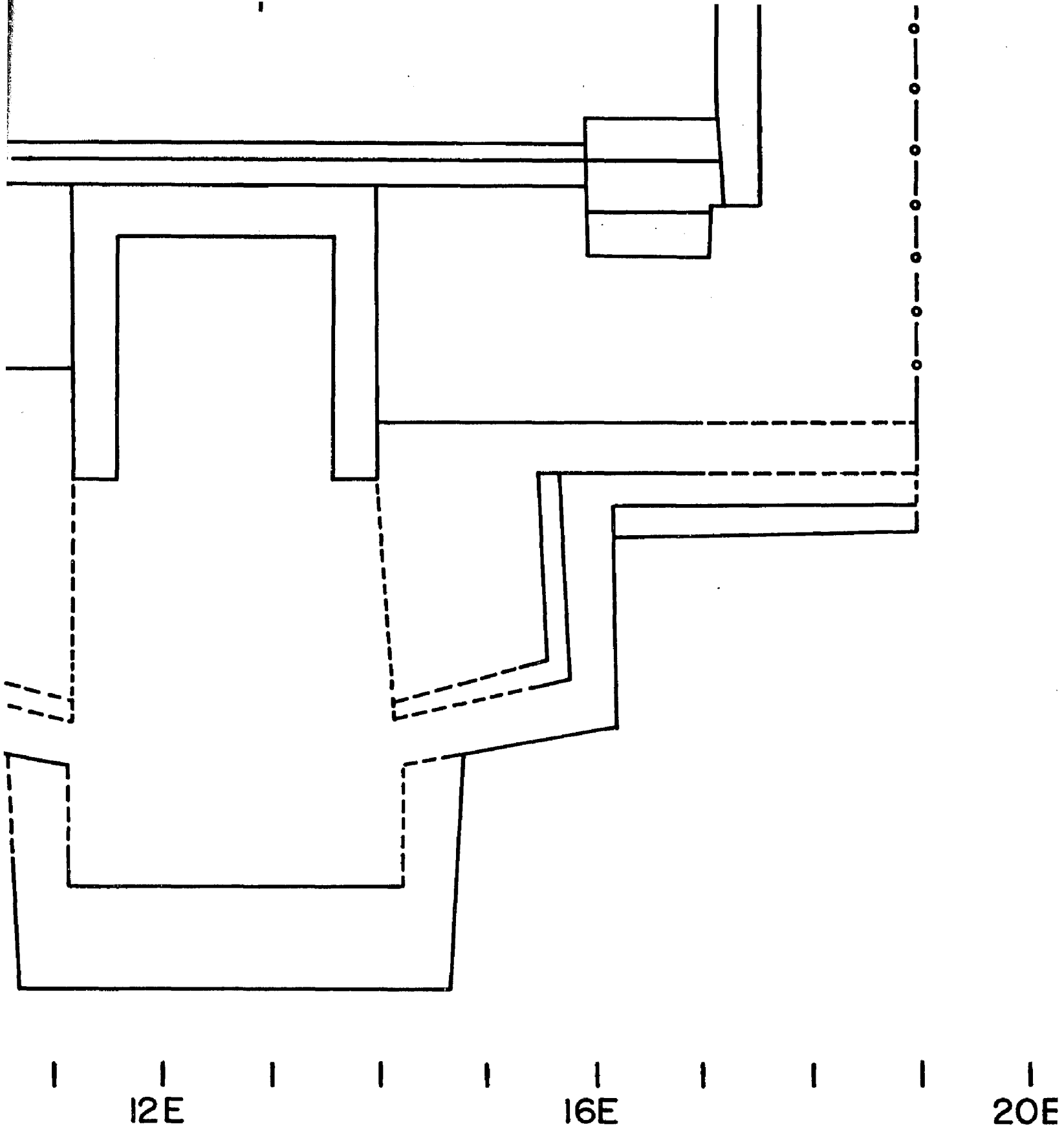
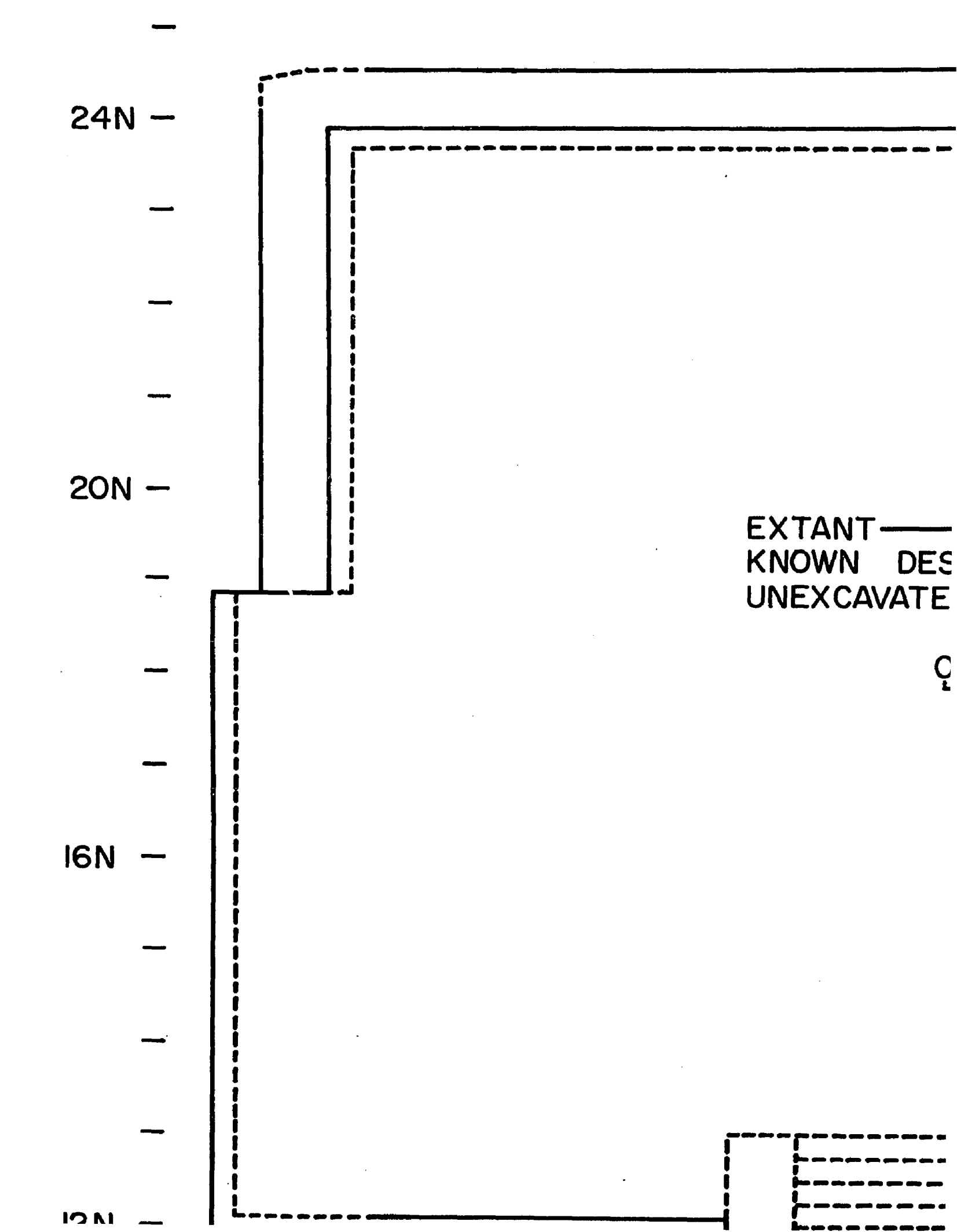


Figure 19. Planview substa



e 19. Planview substage E2-c.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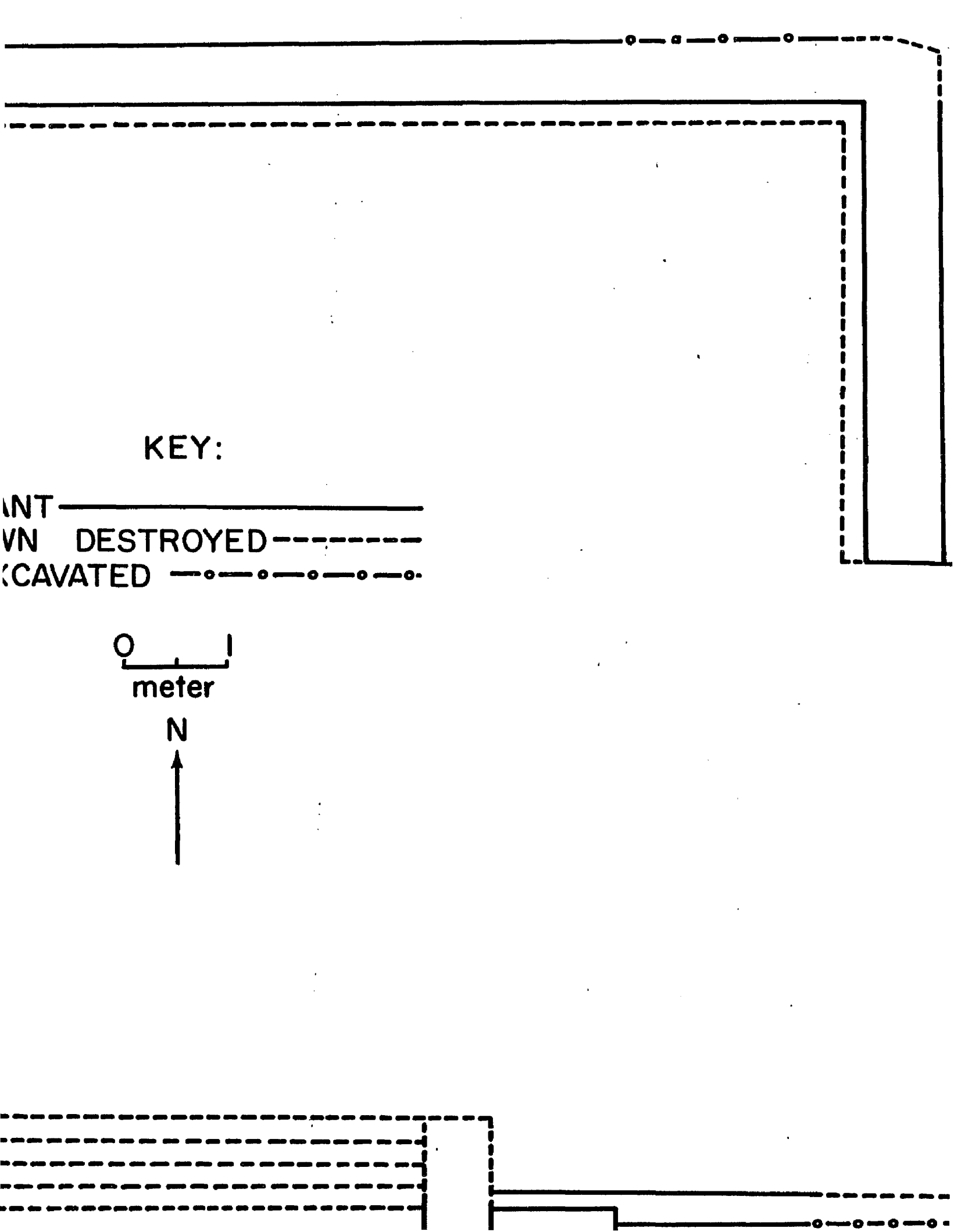
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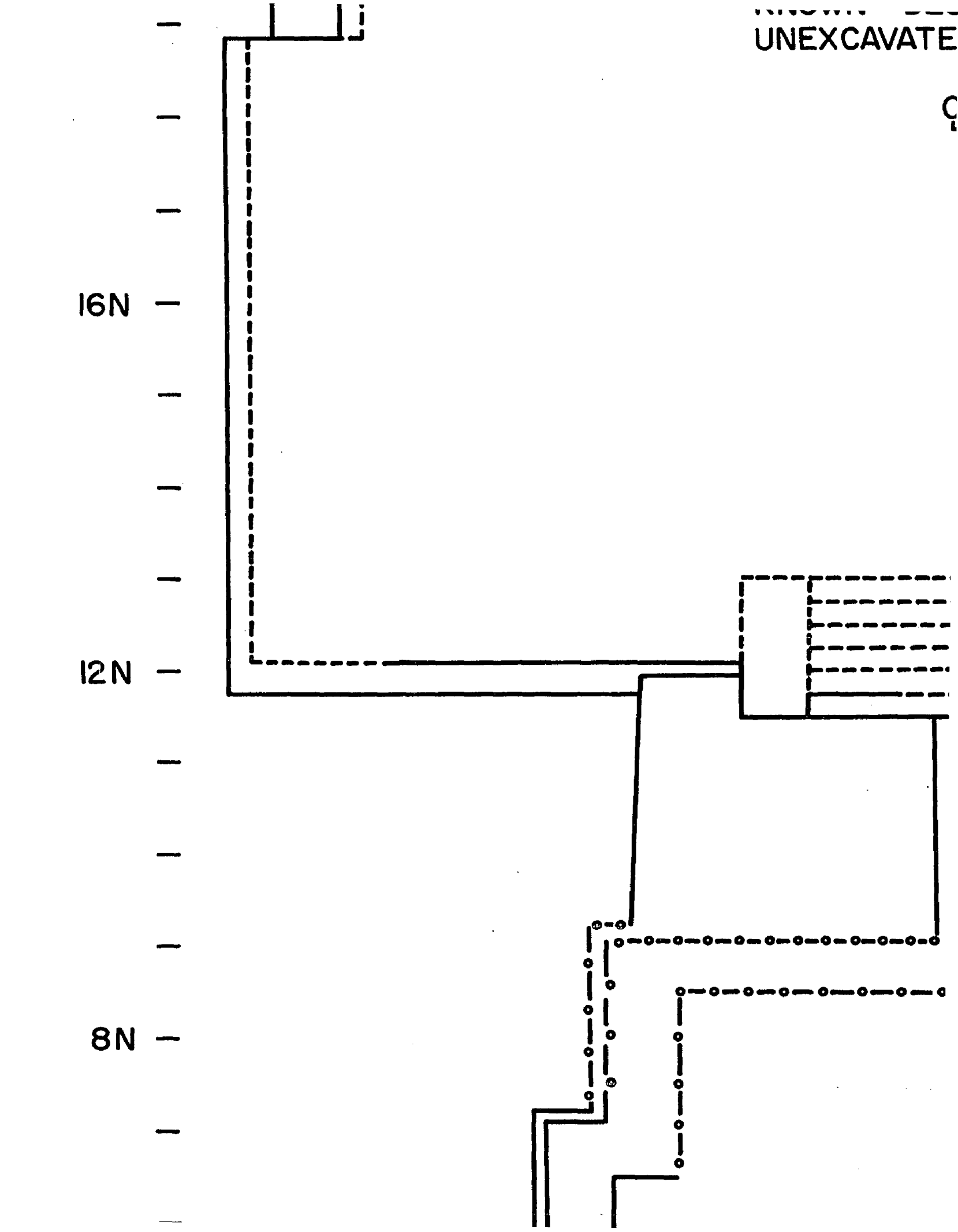
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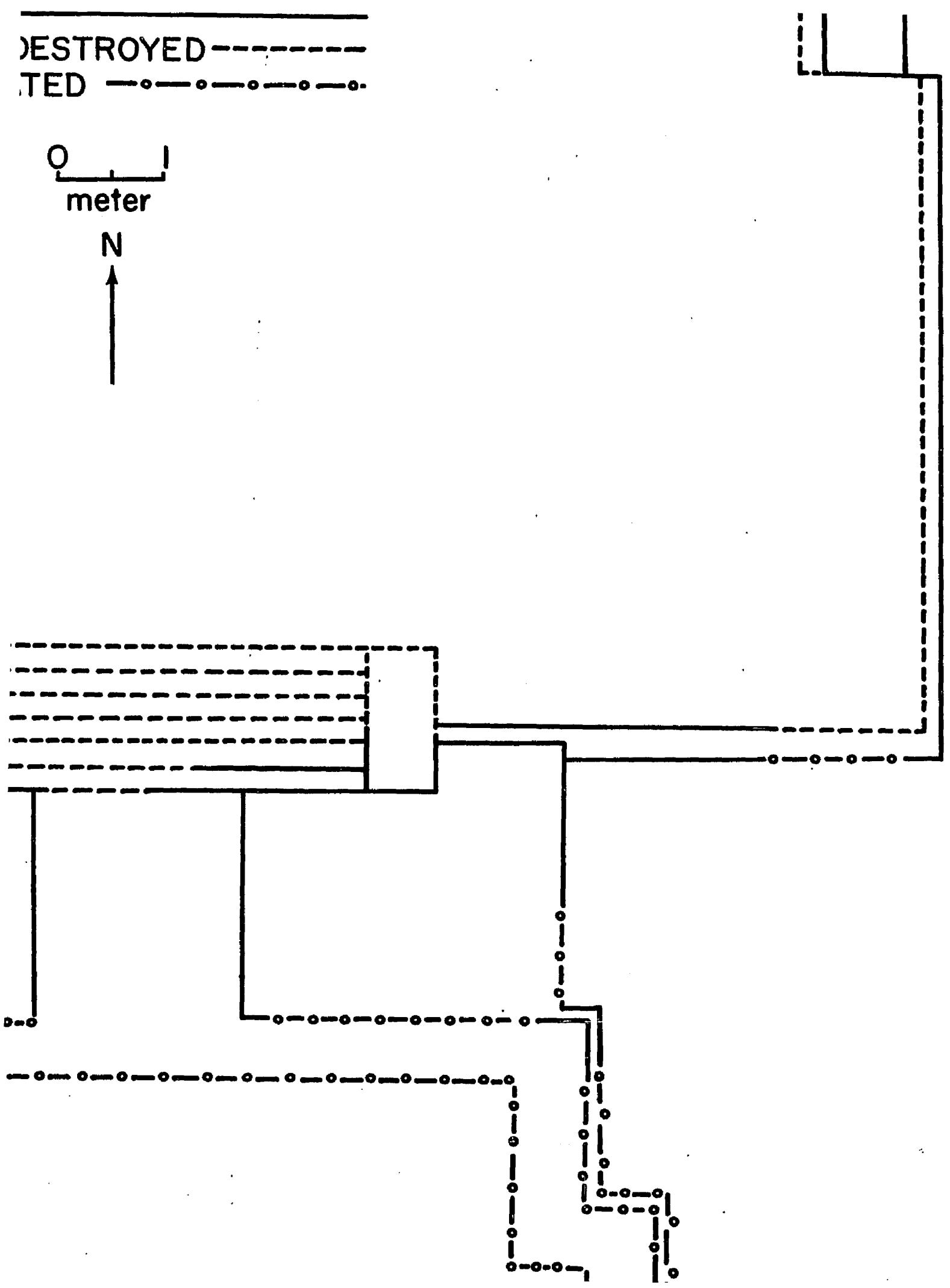
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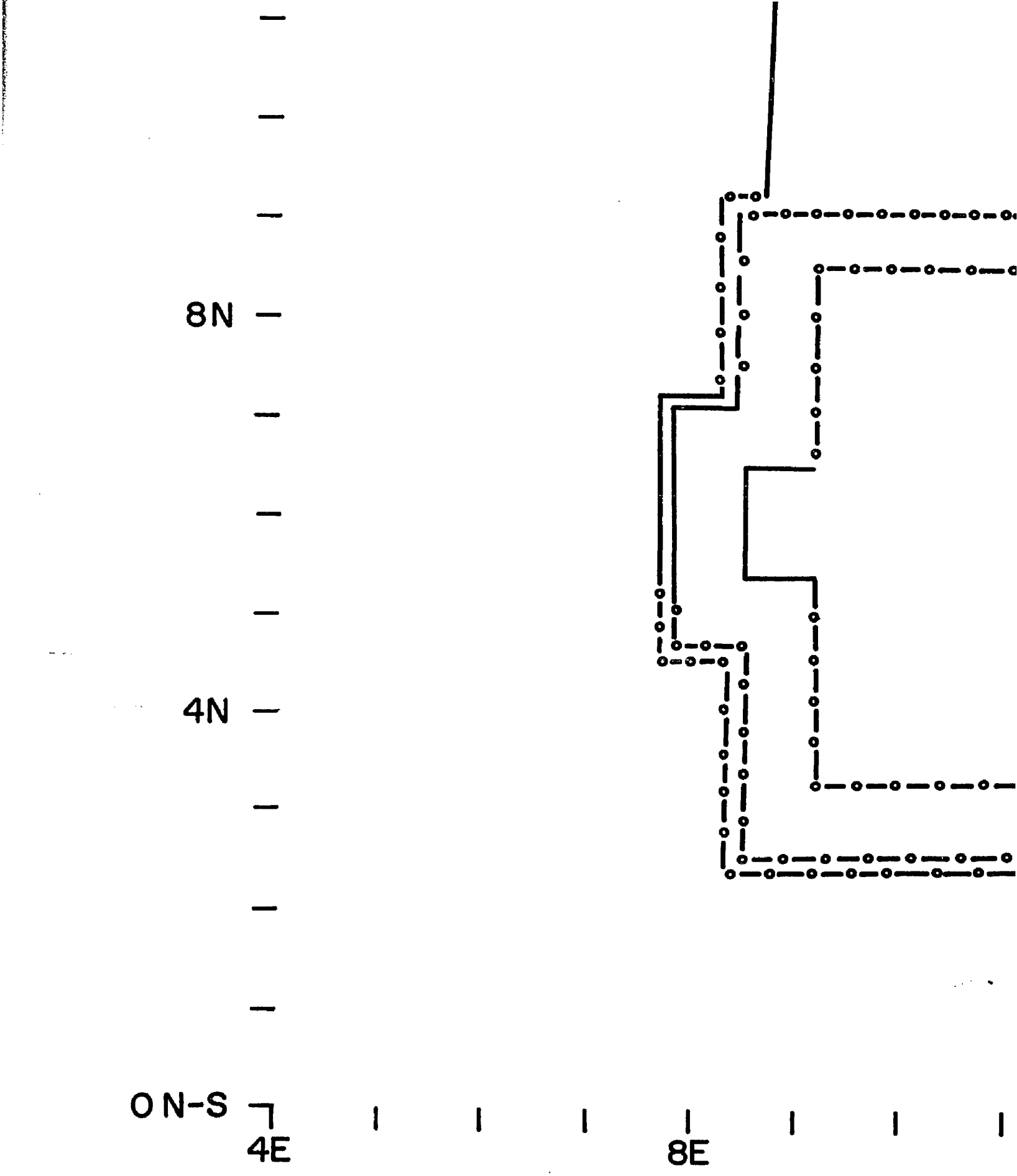
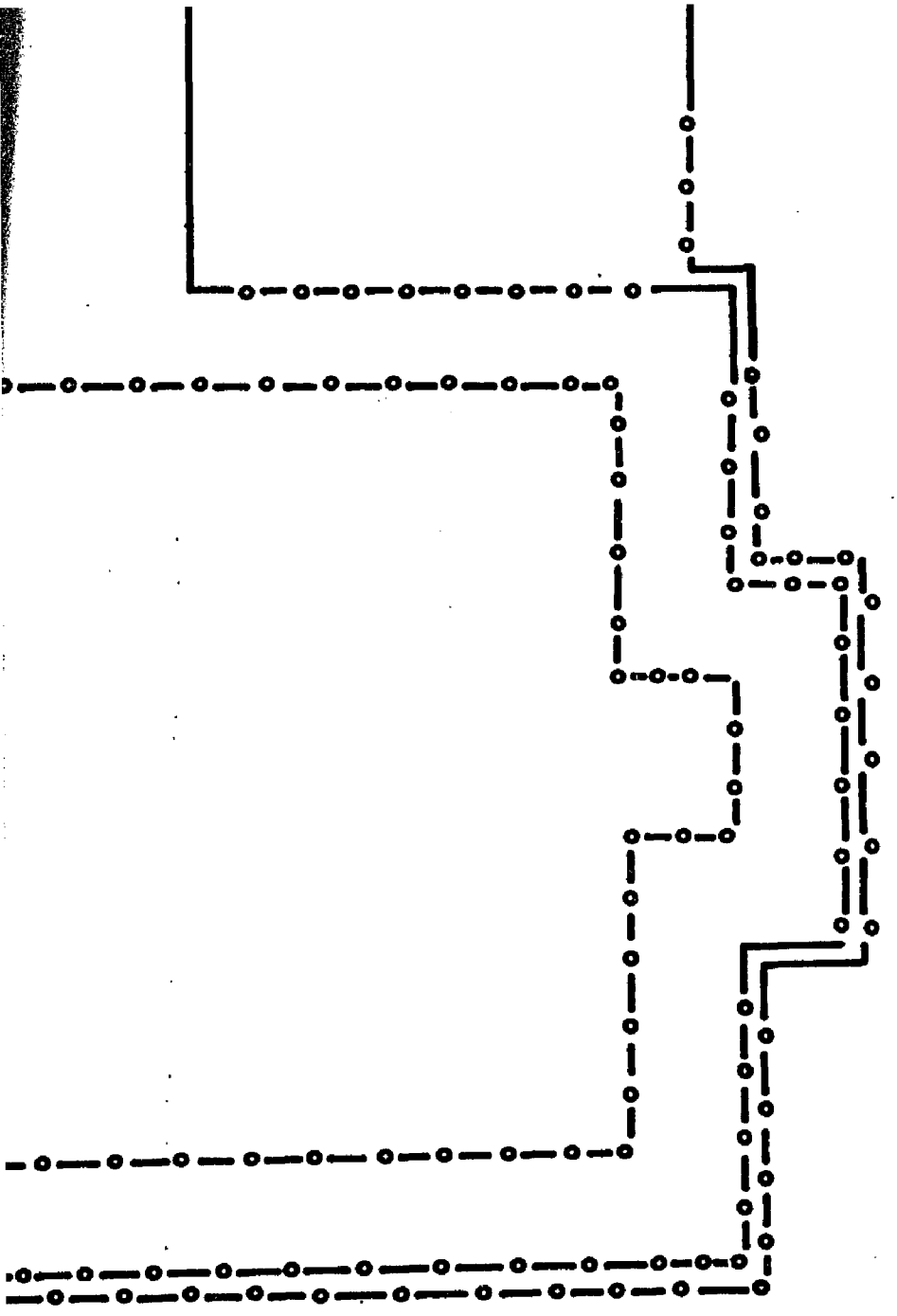


Figure 23.



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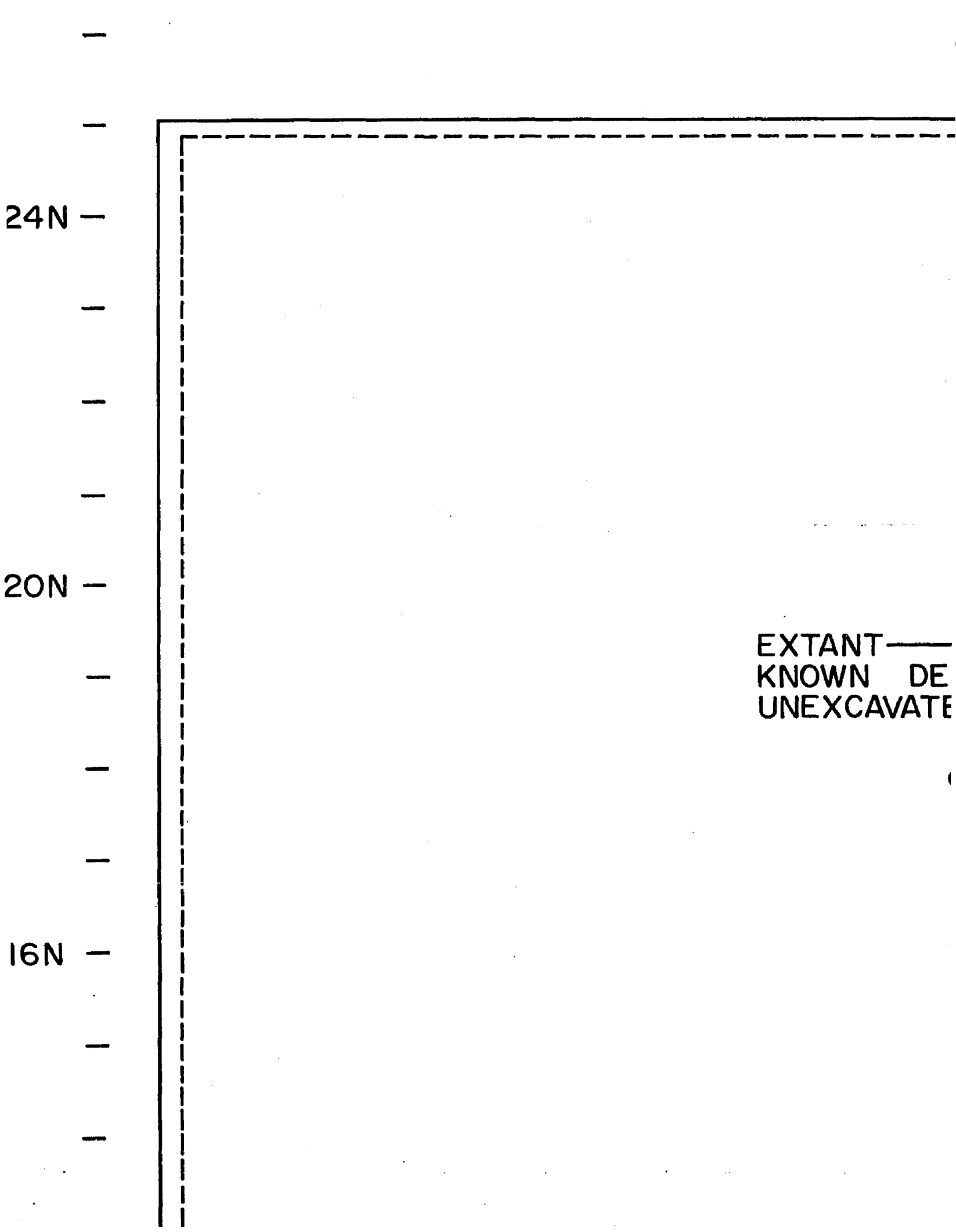
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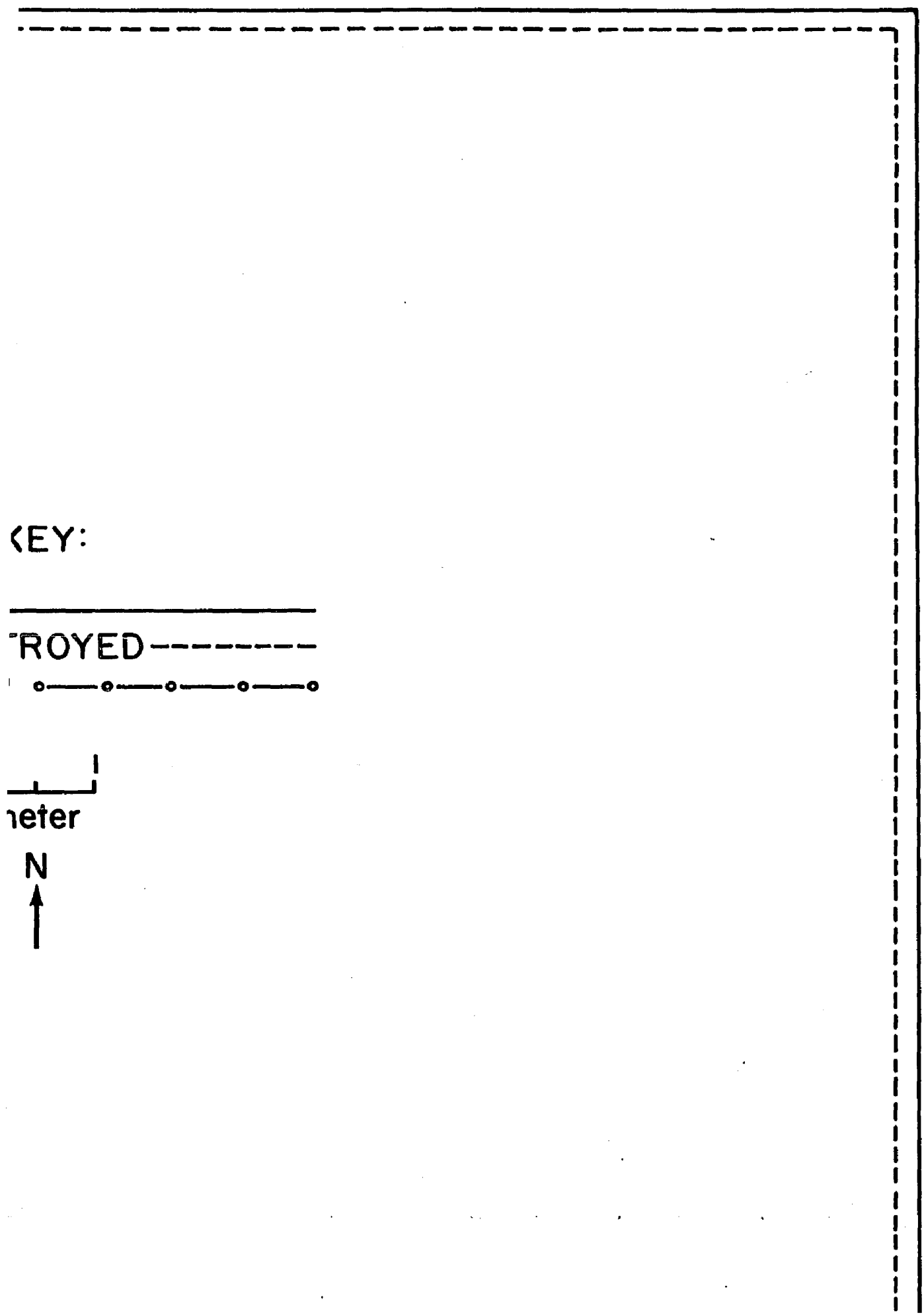
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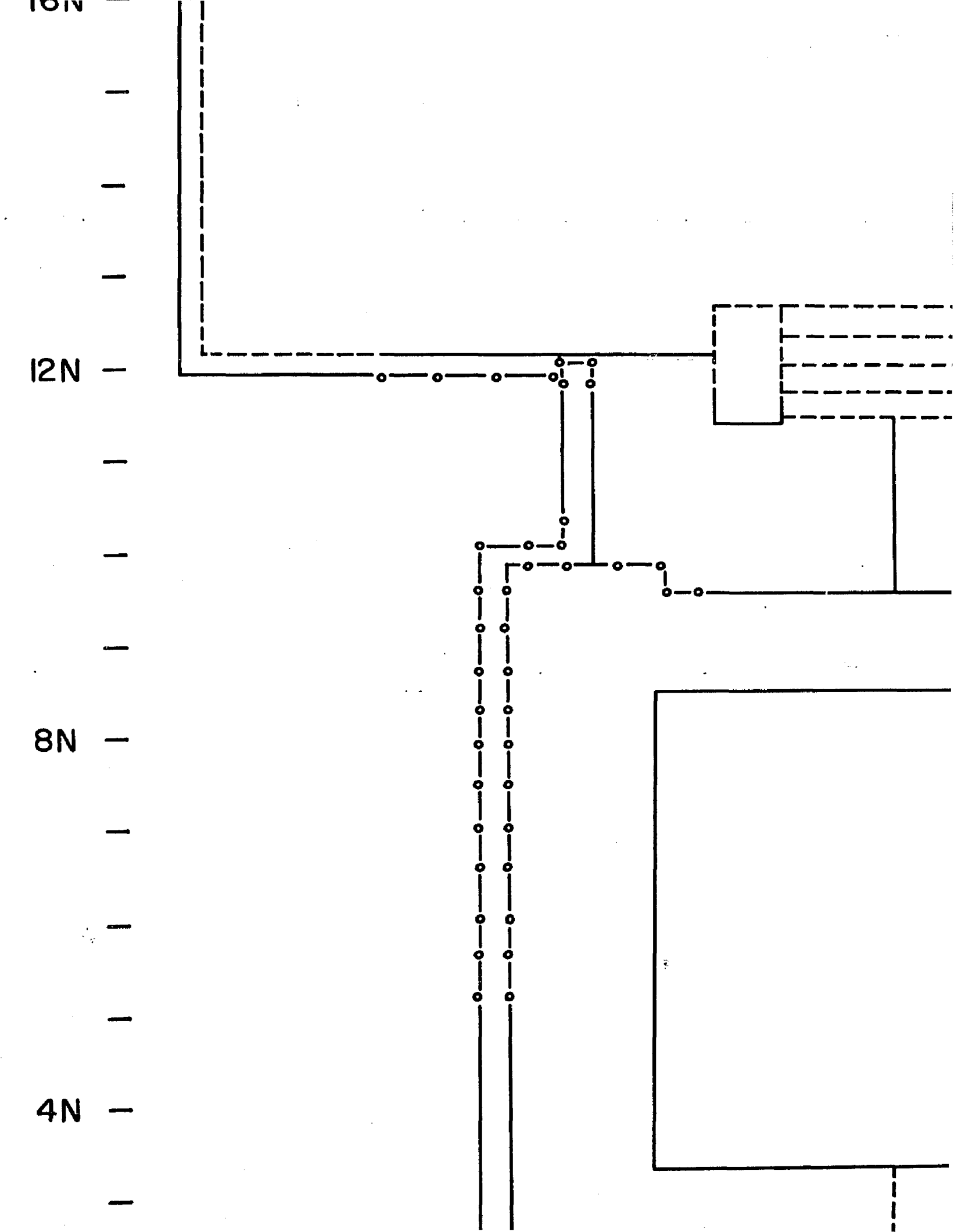
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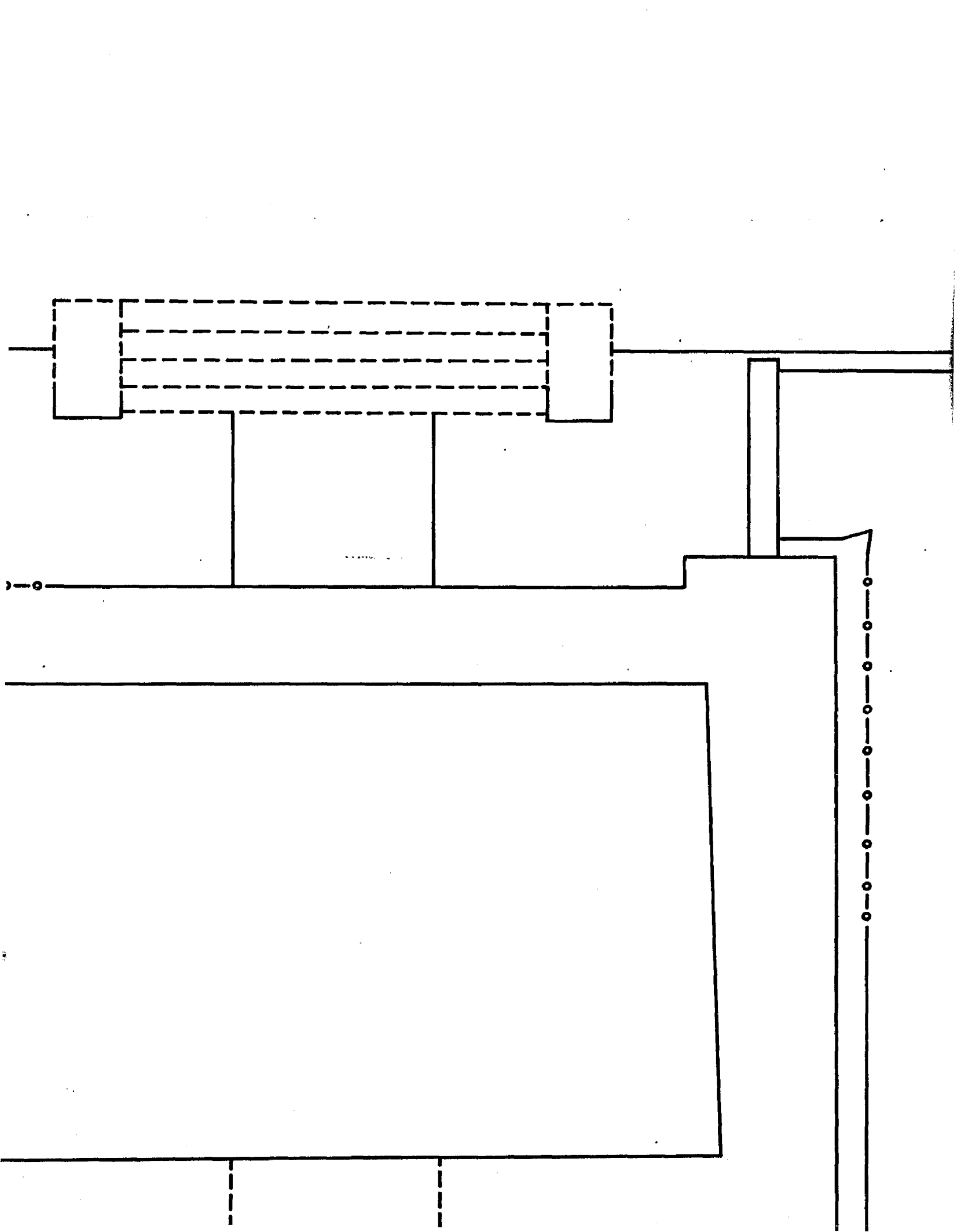
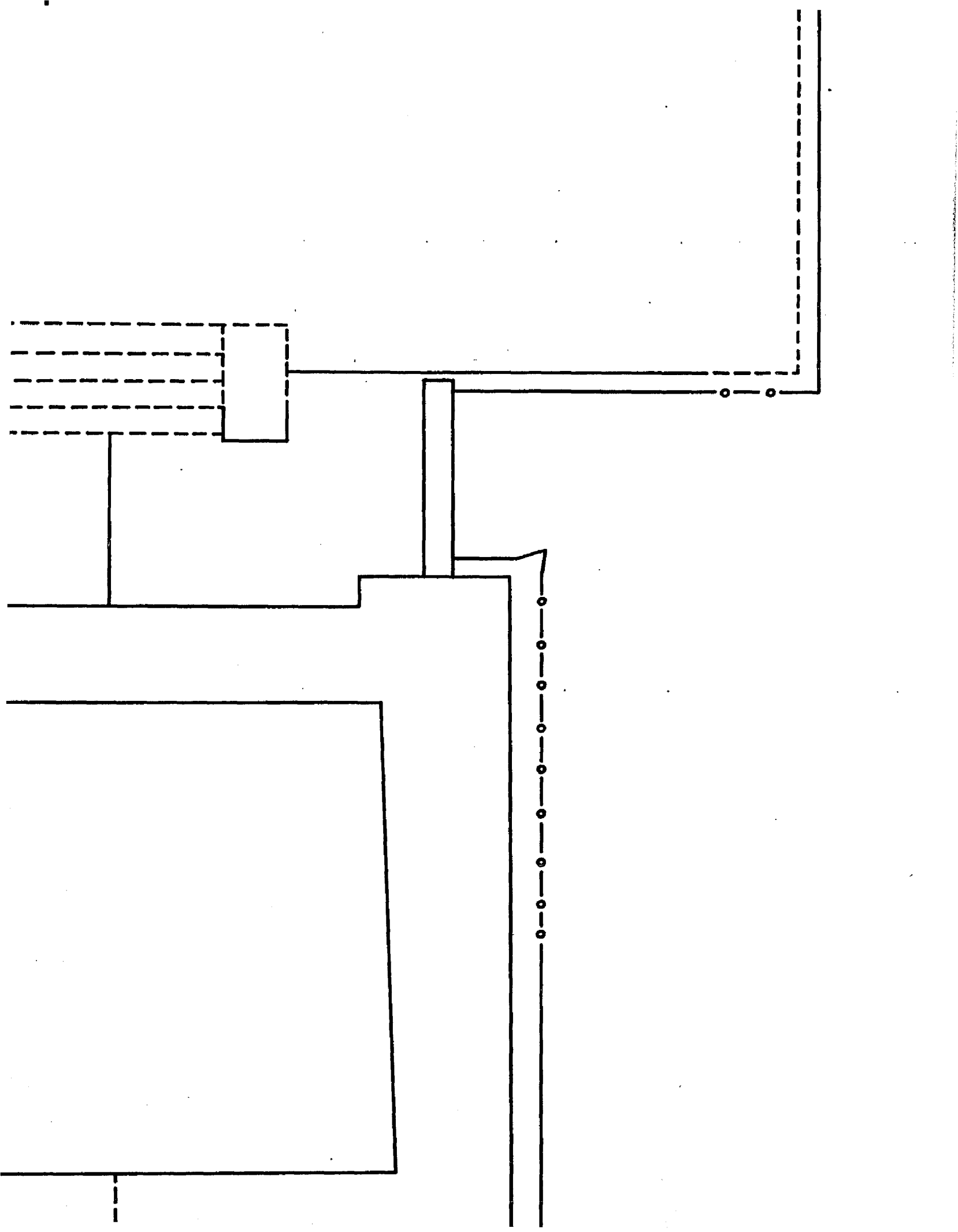




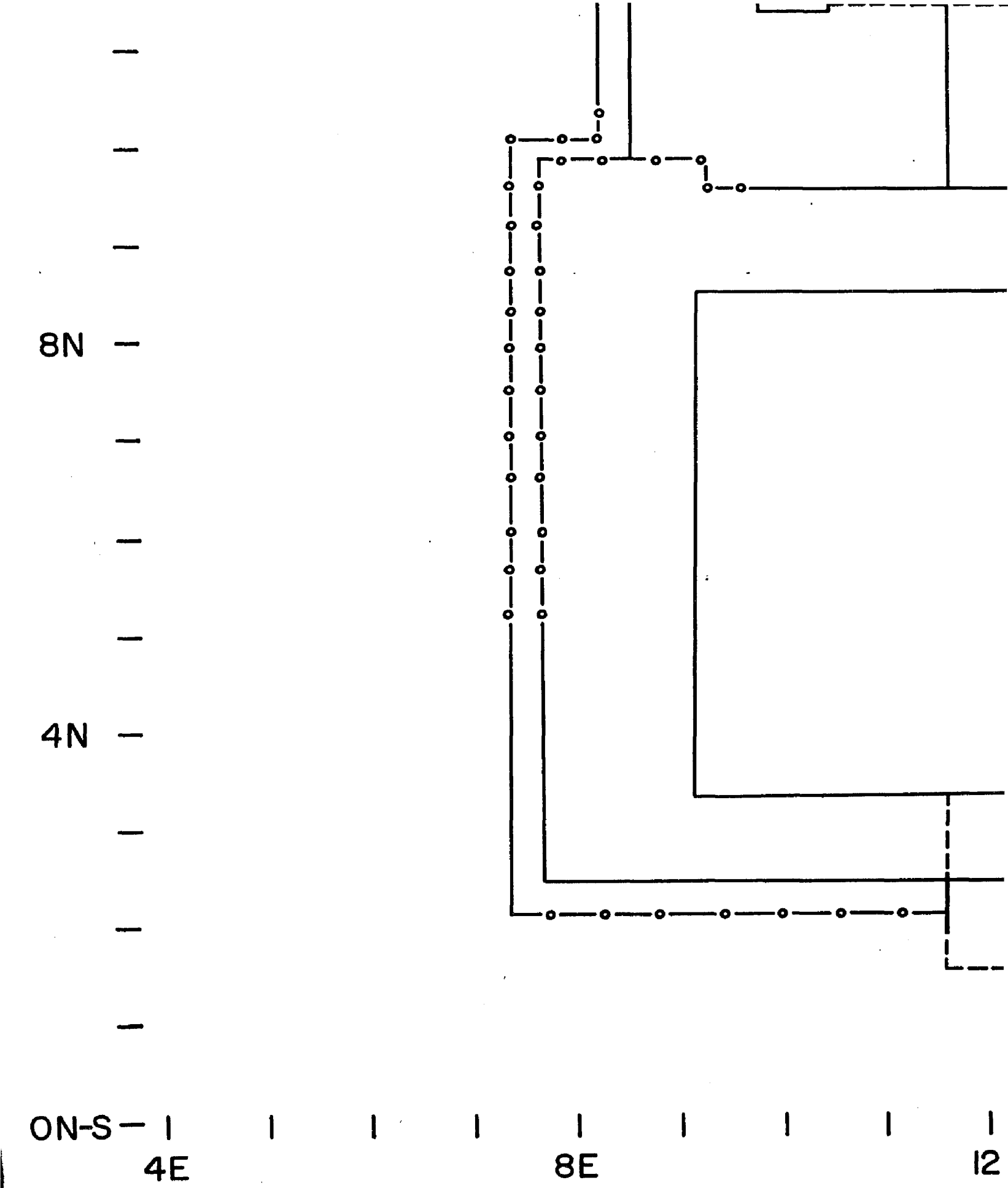
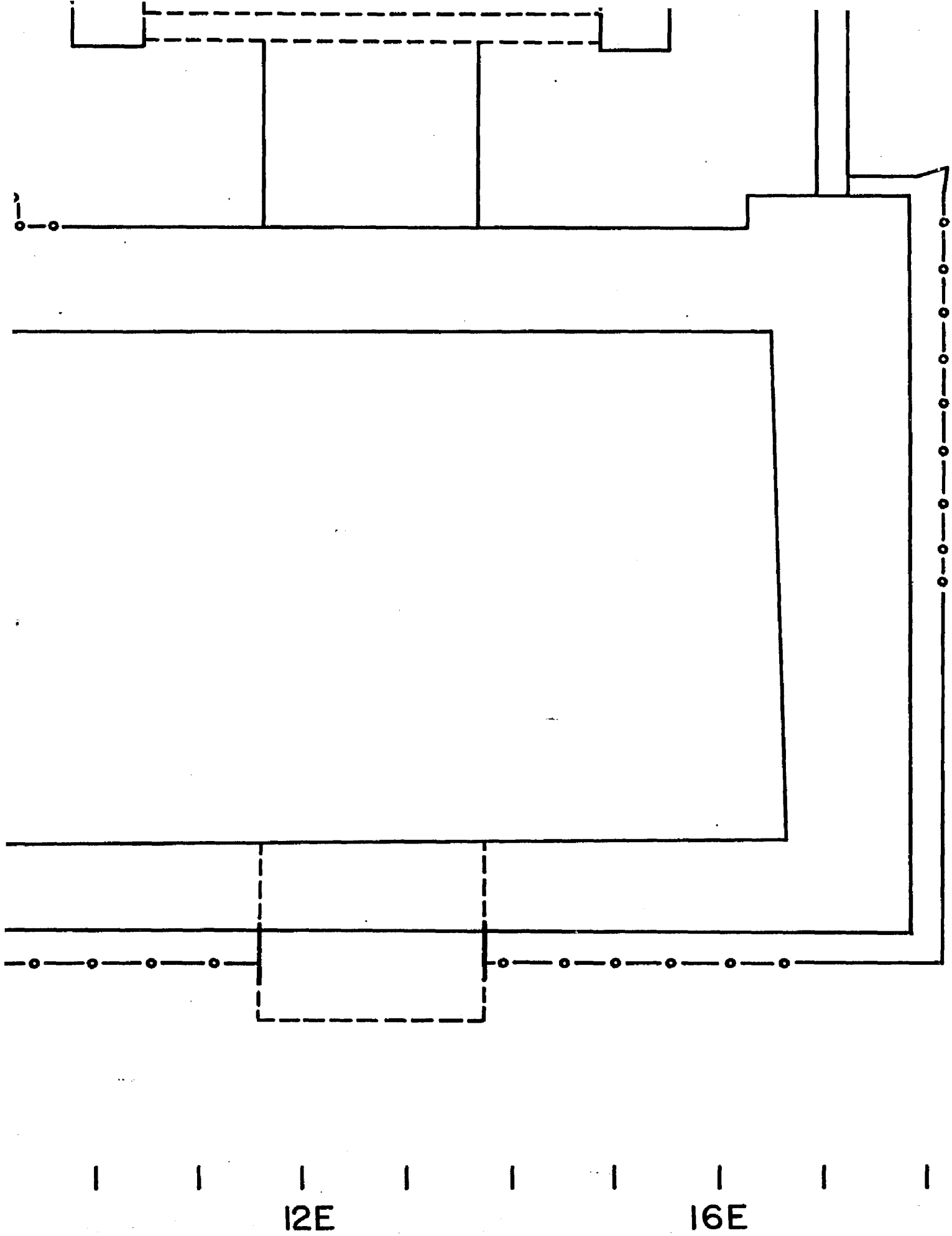
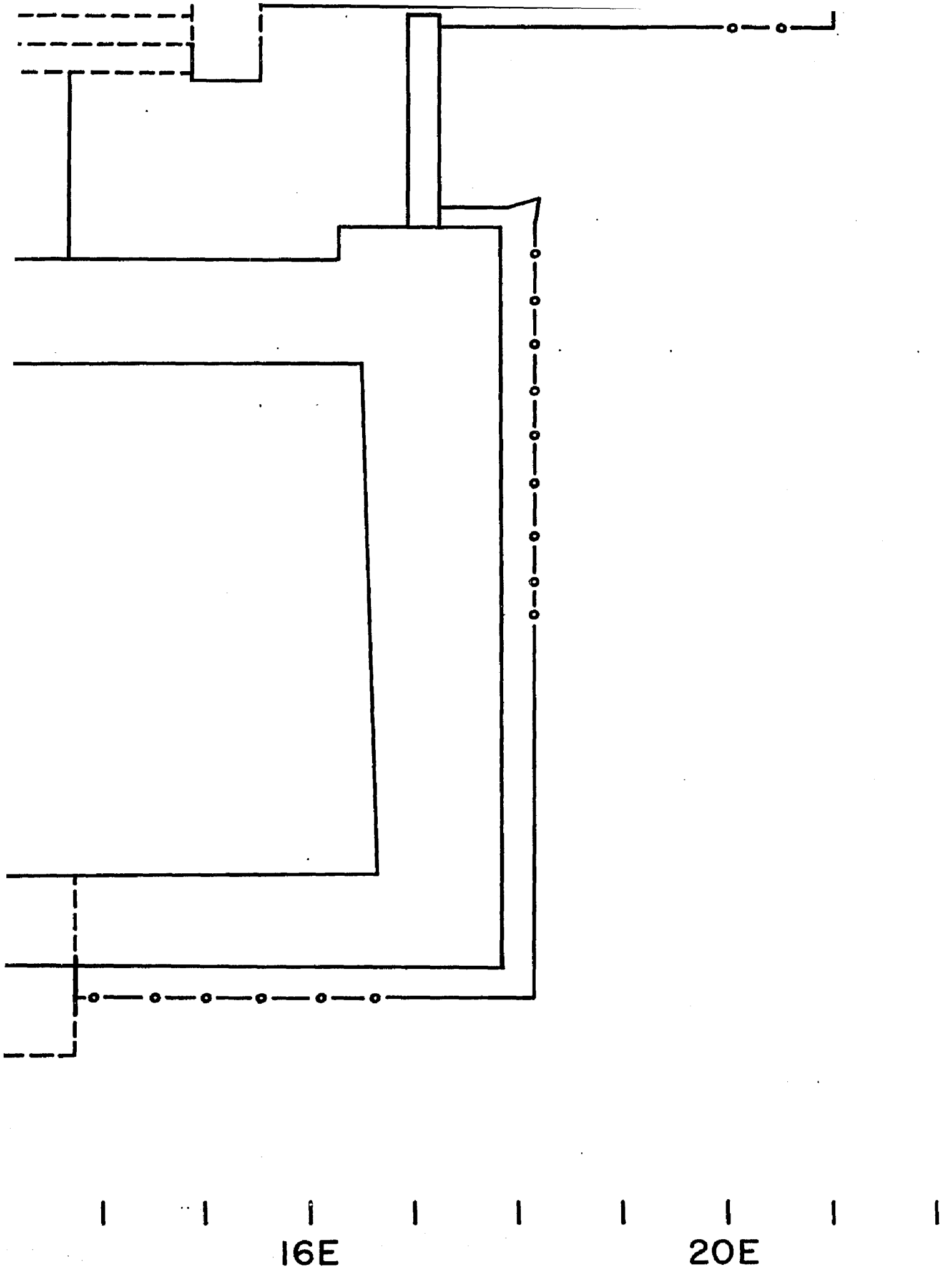


Figure 25. Planvi



gure 25. Planview substage E3-bl.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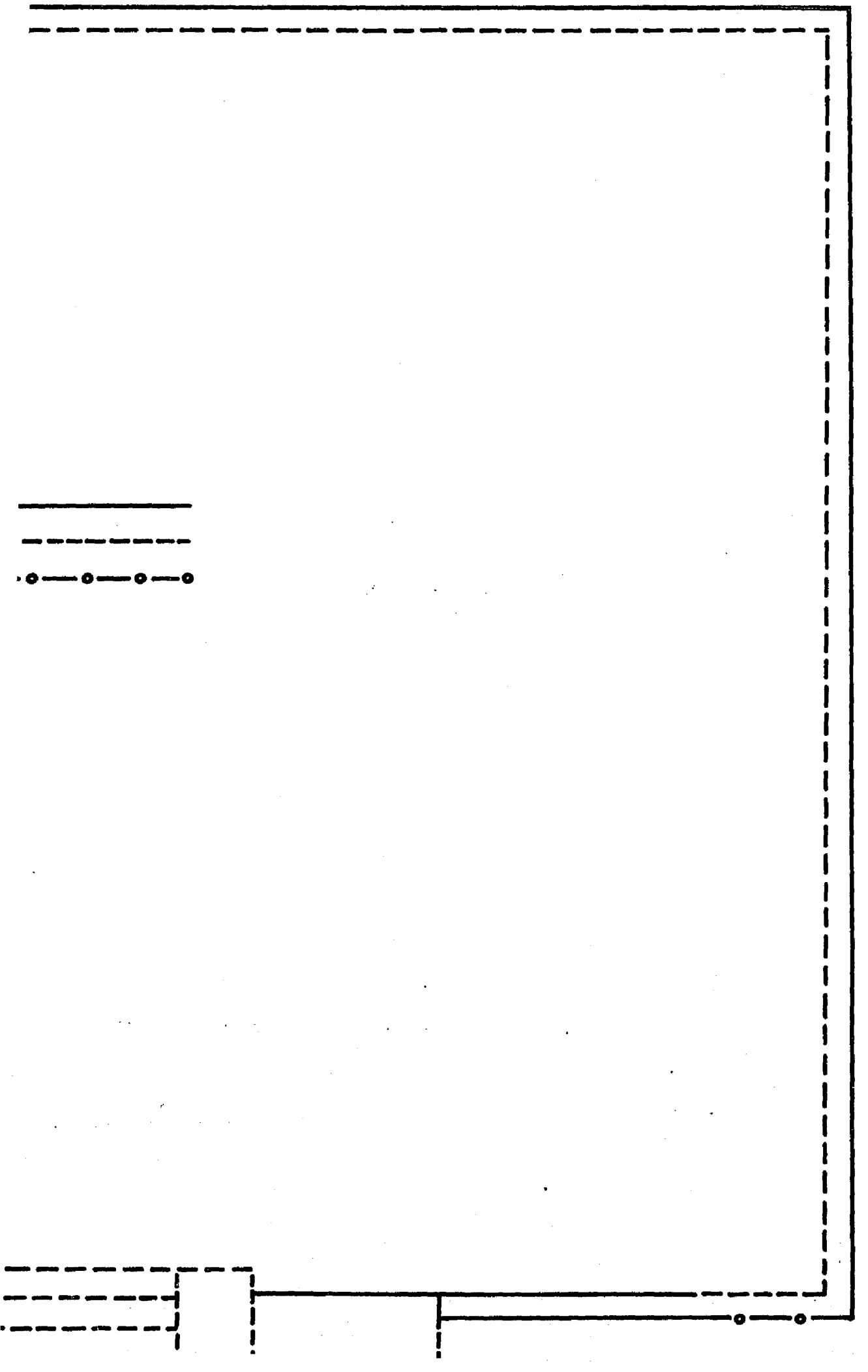

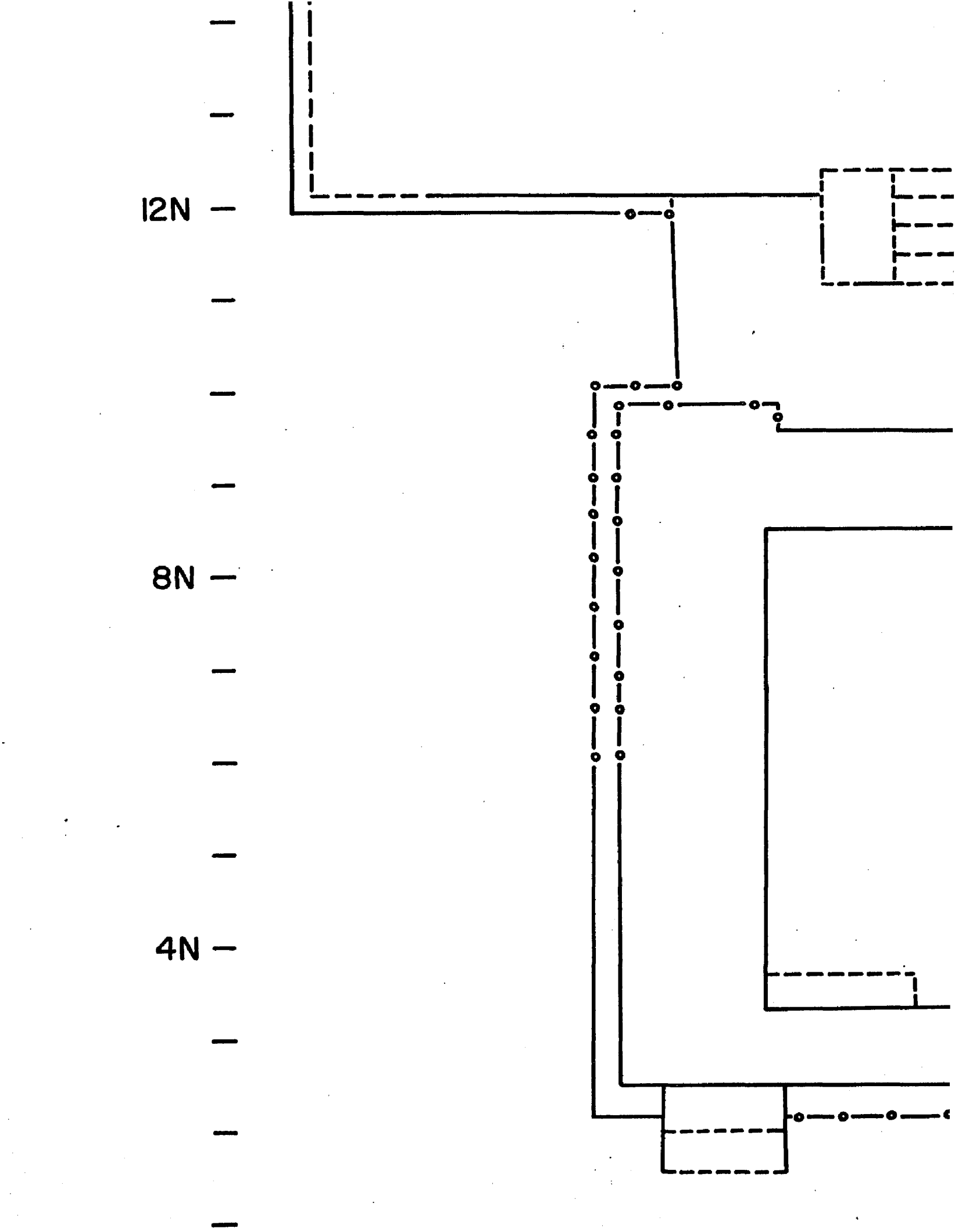
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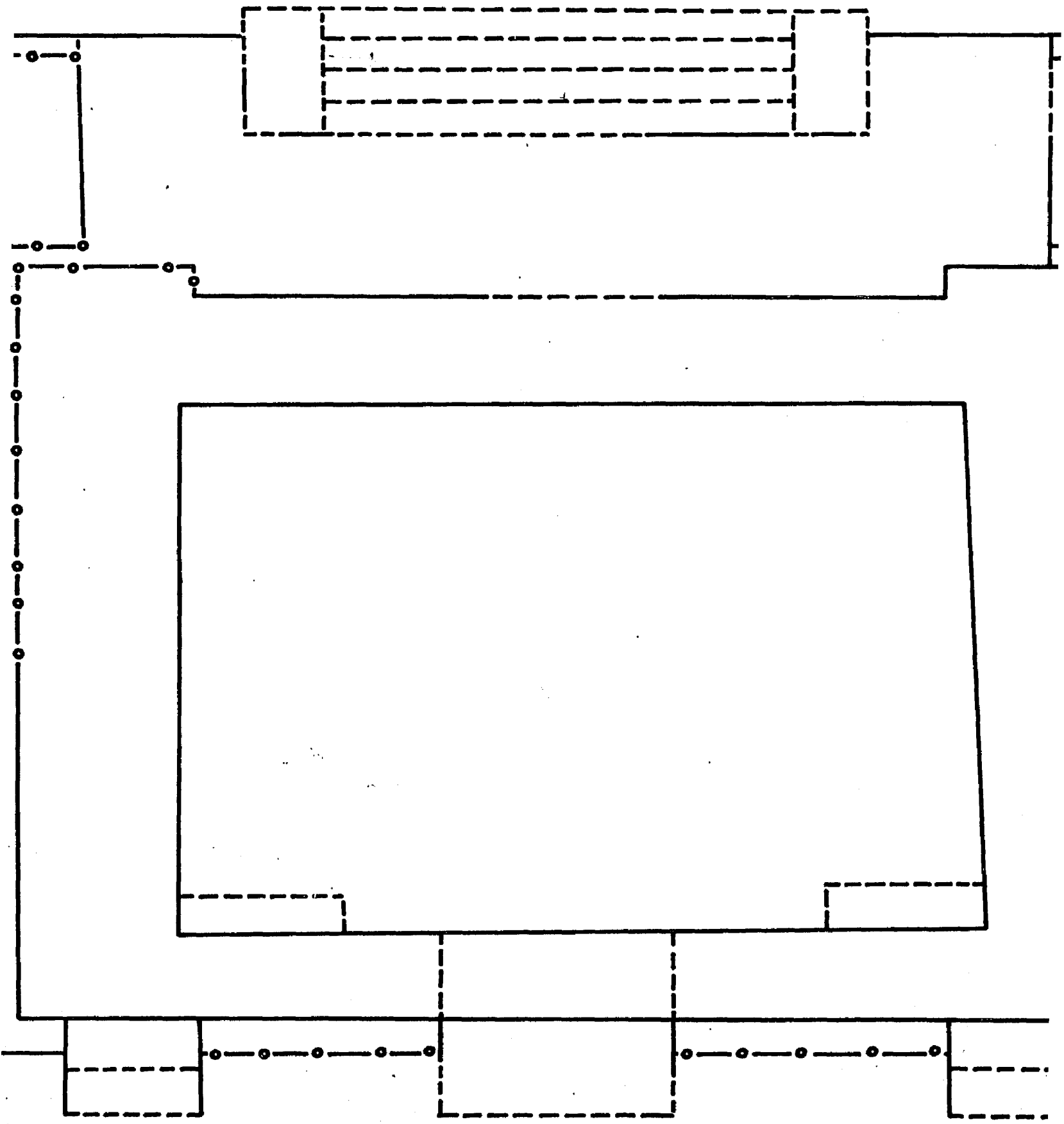

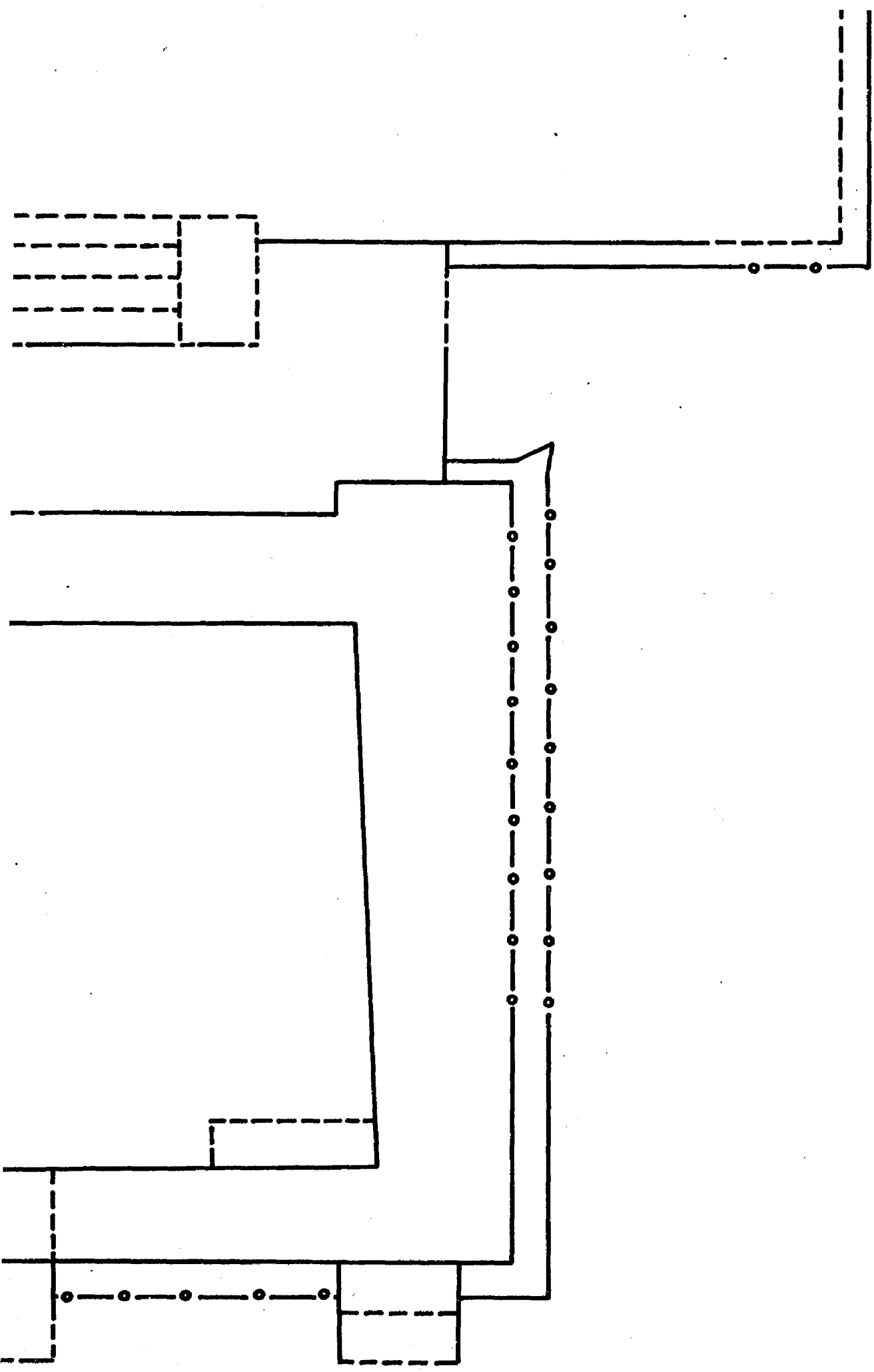

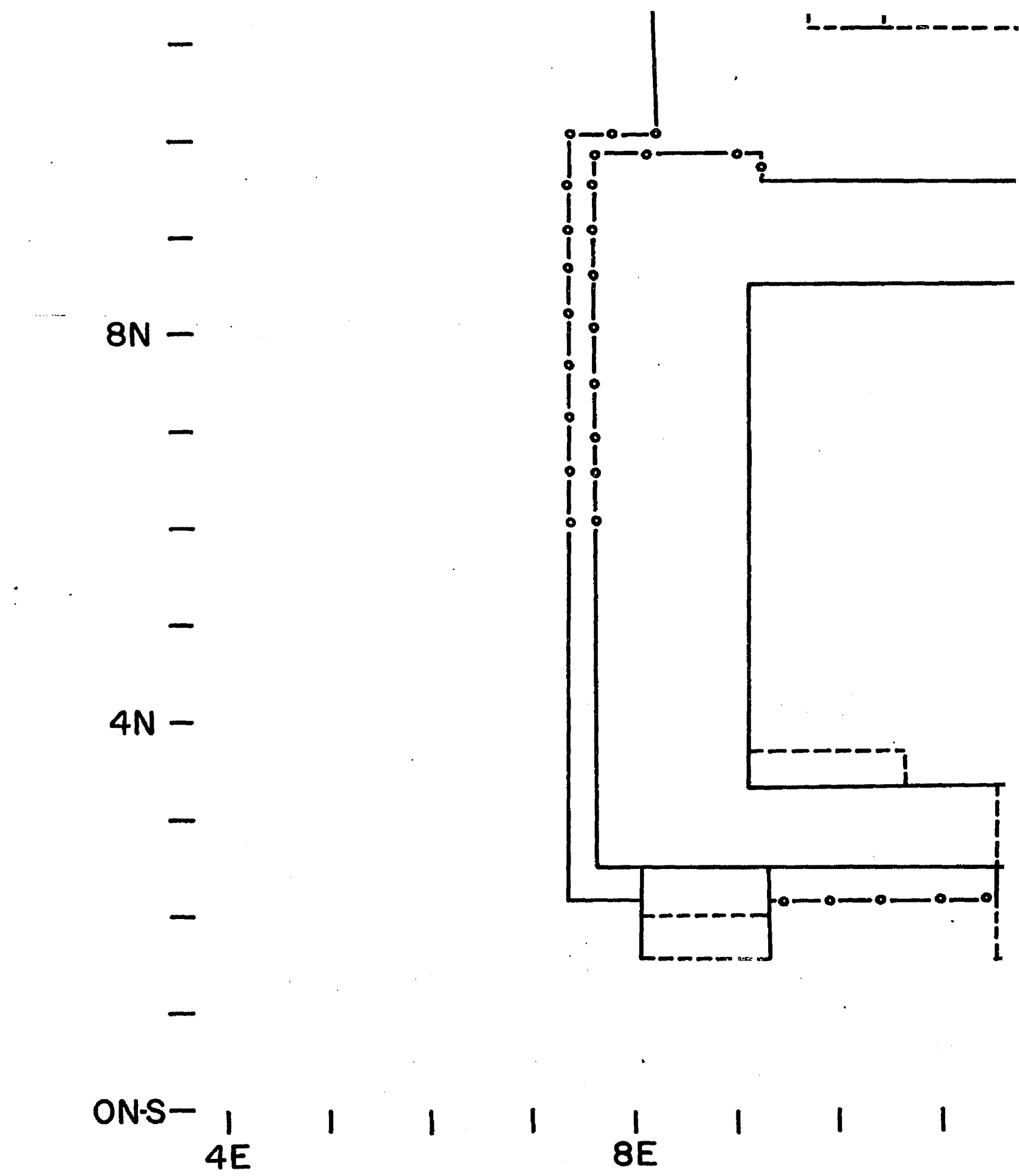

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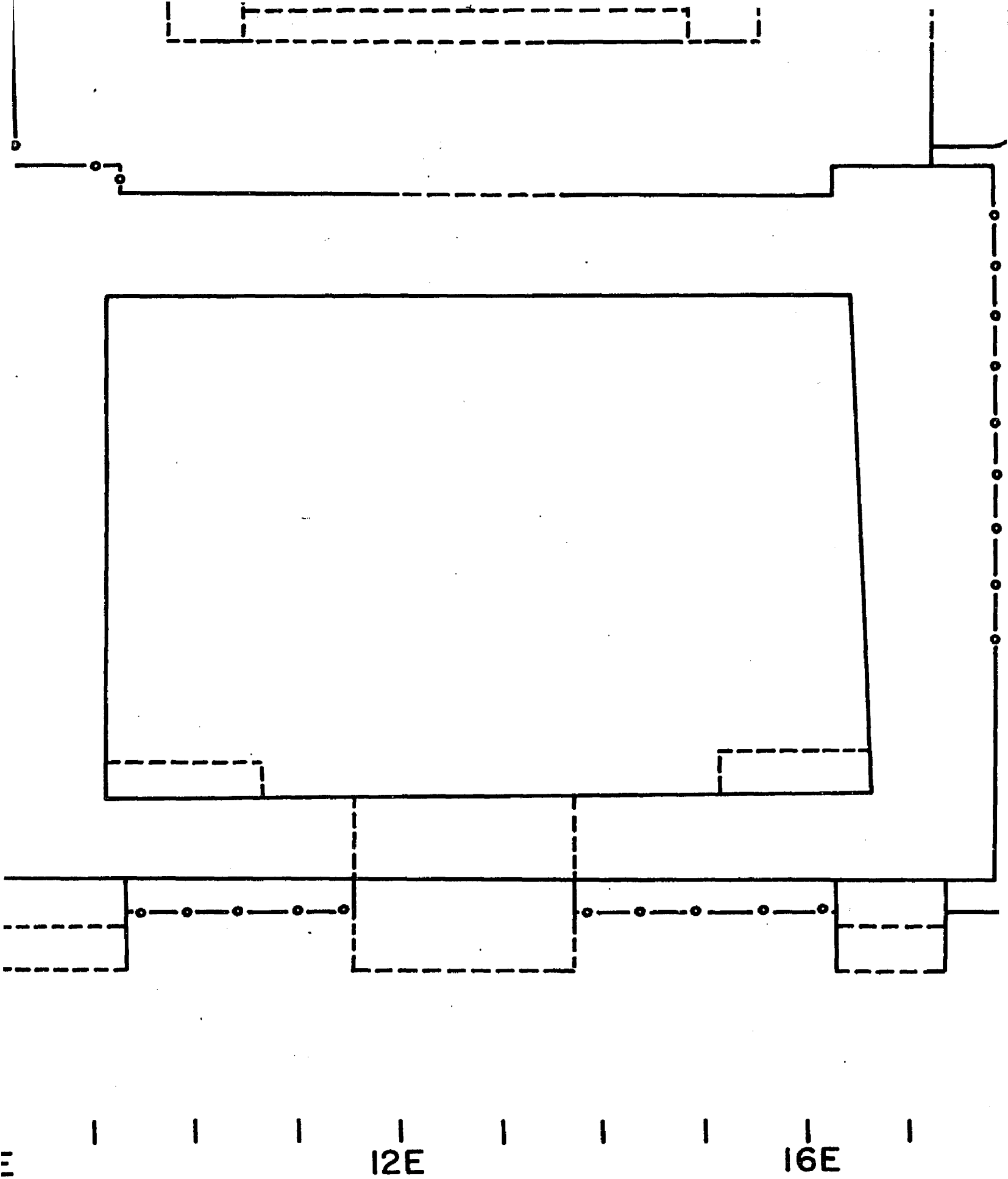
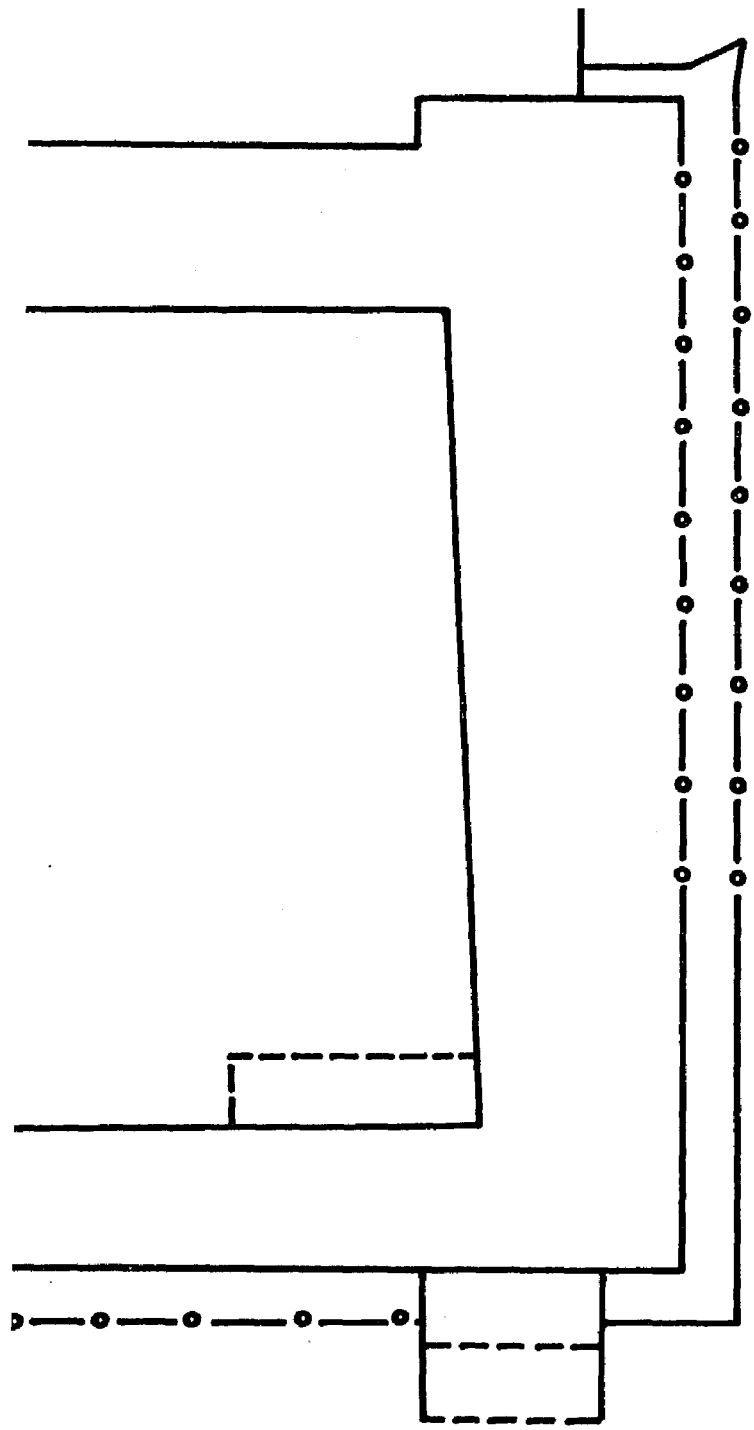


Figure 28. Planview substage E3-c.



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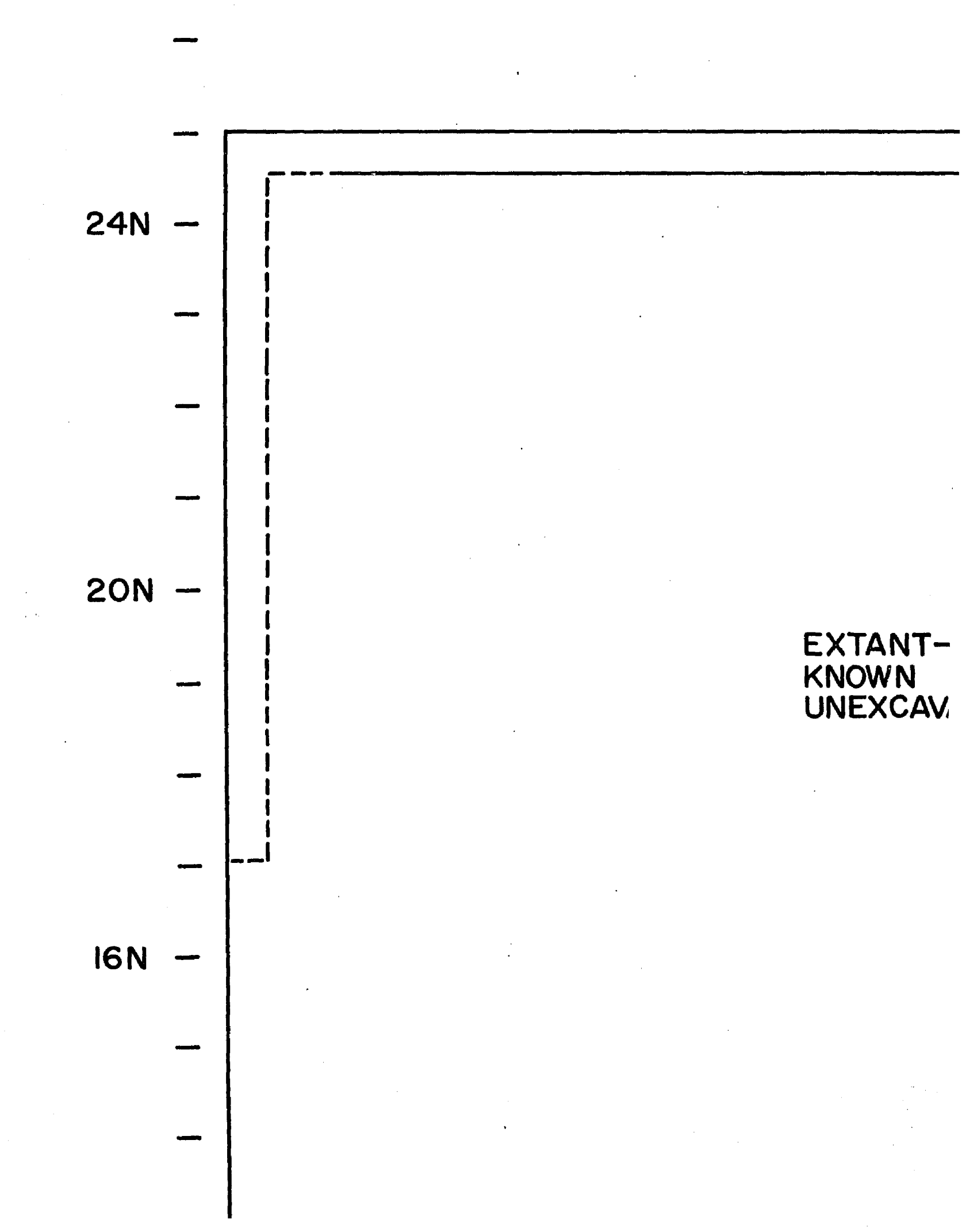
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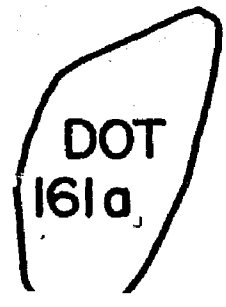

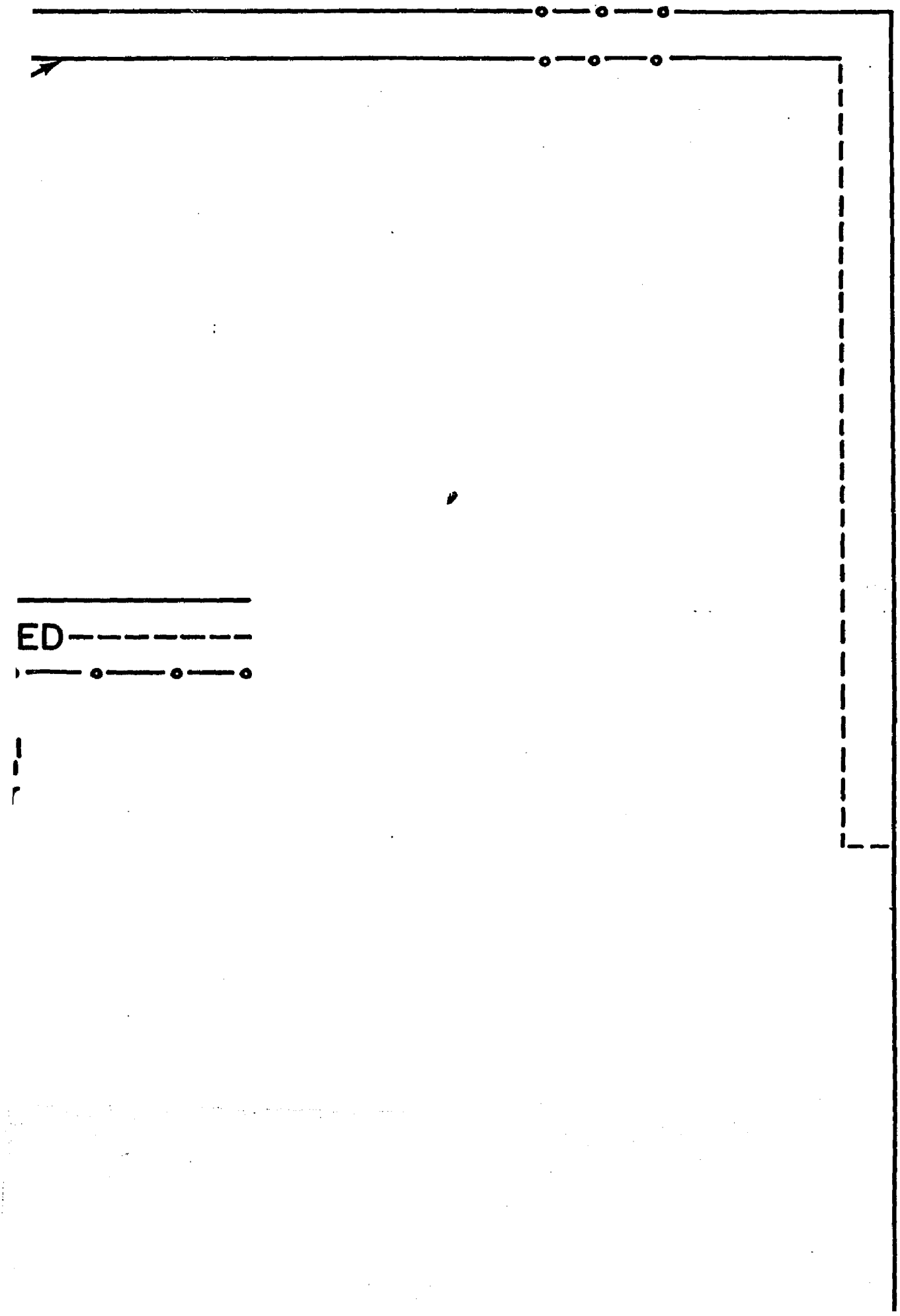
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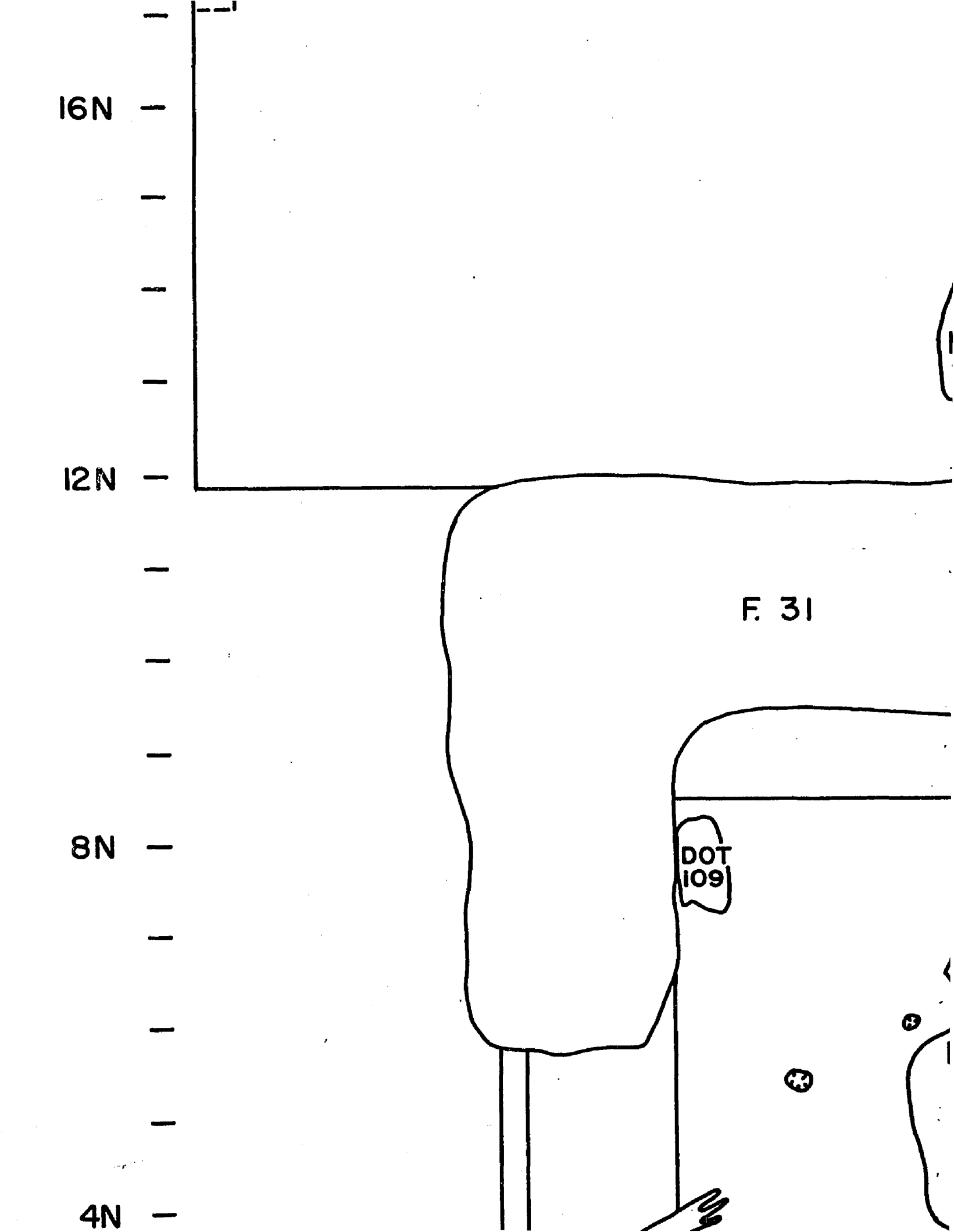
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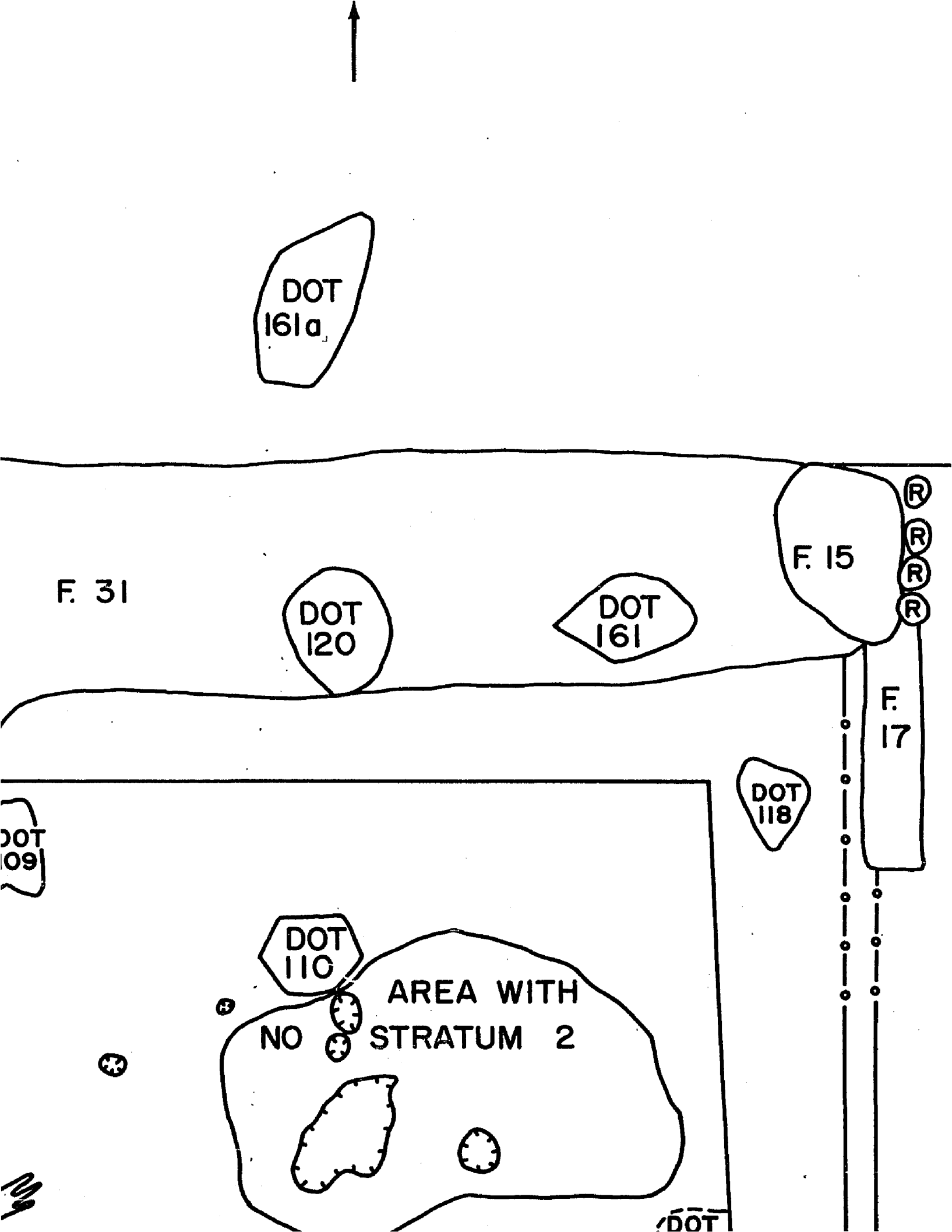
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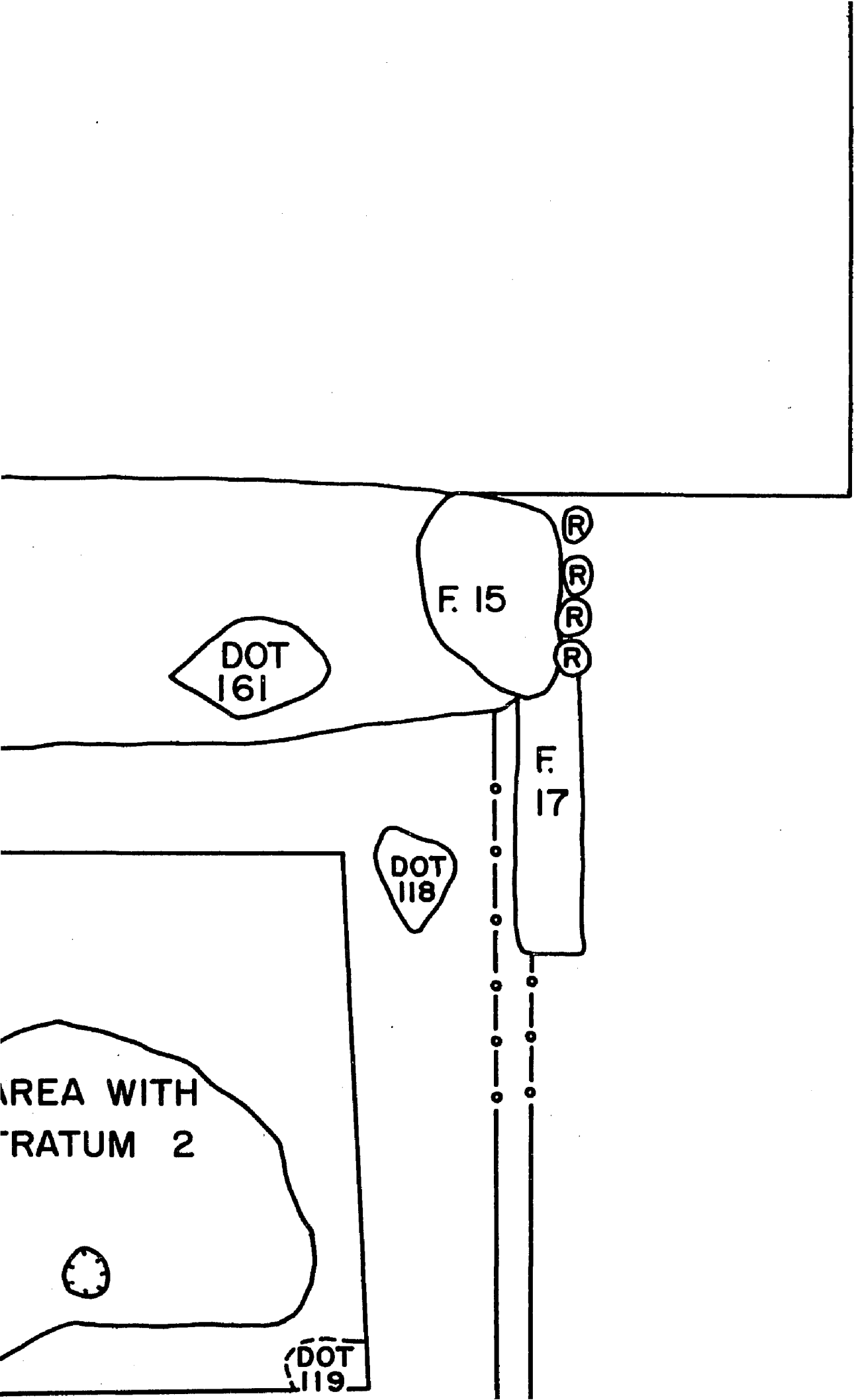
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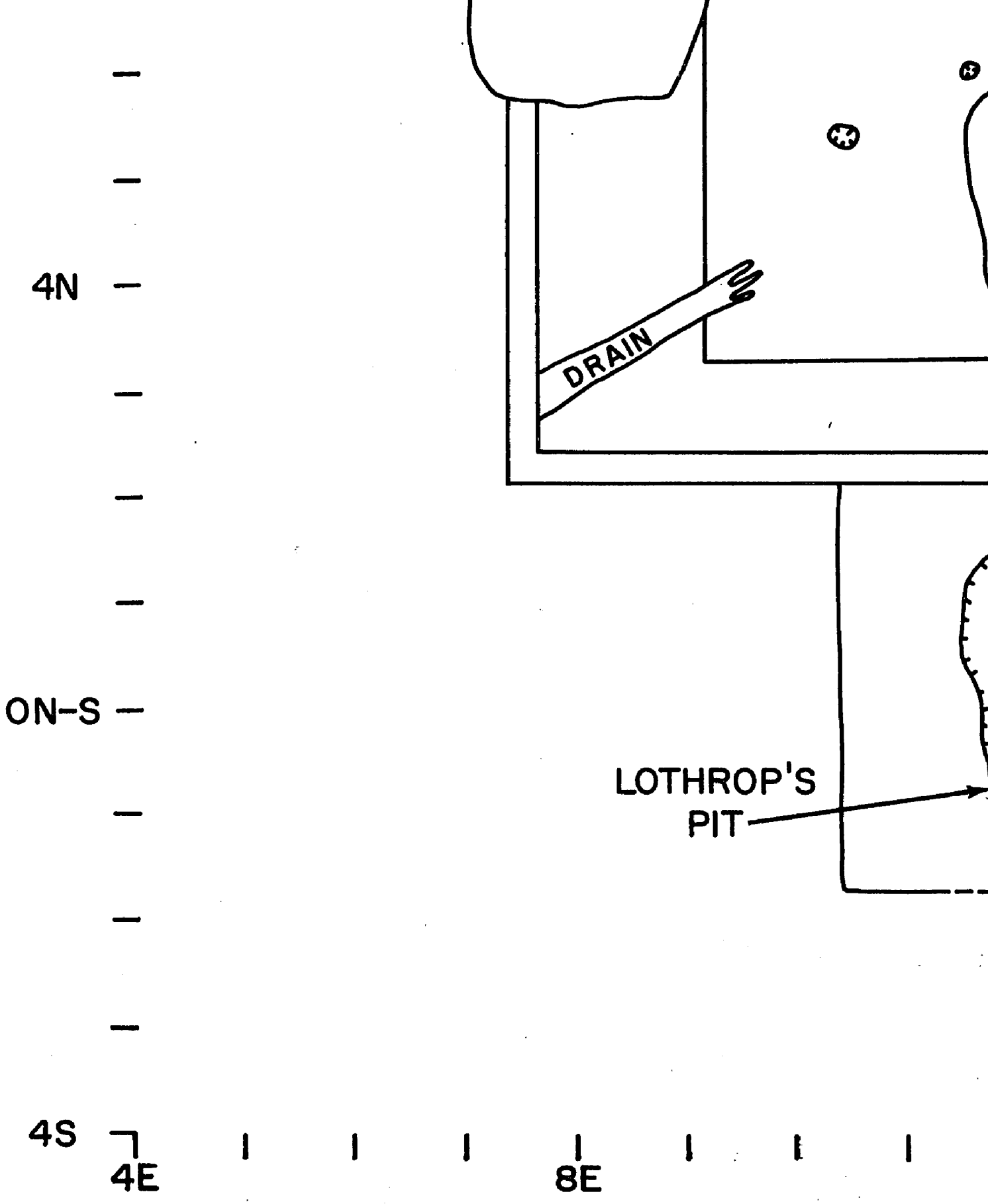


Figure 30.

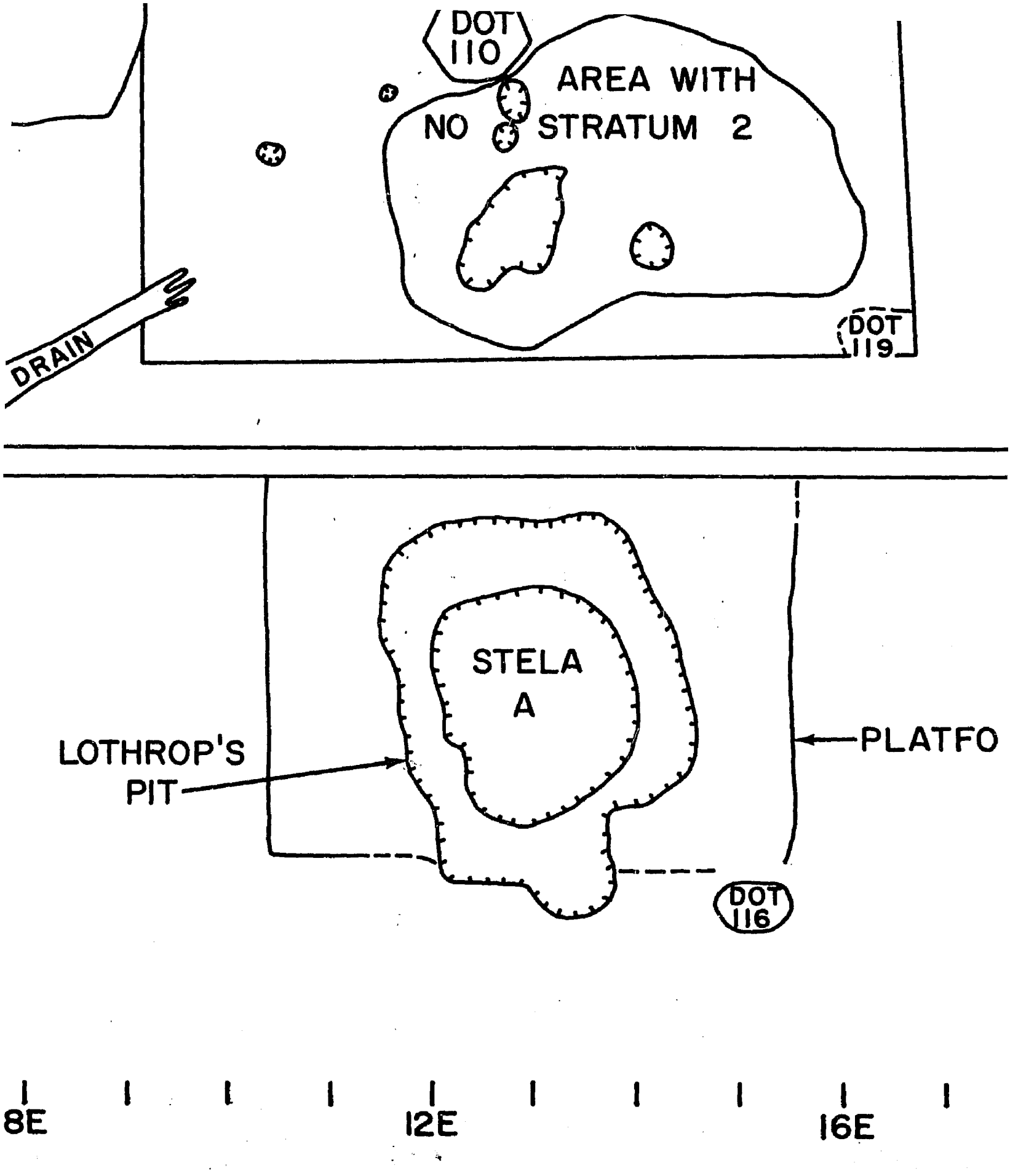
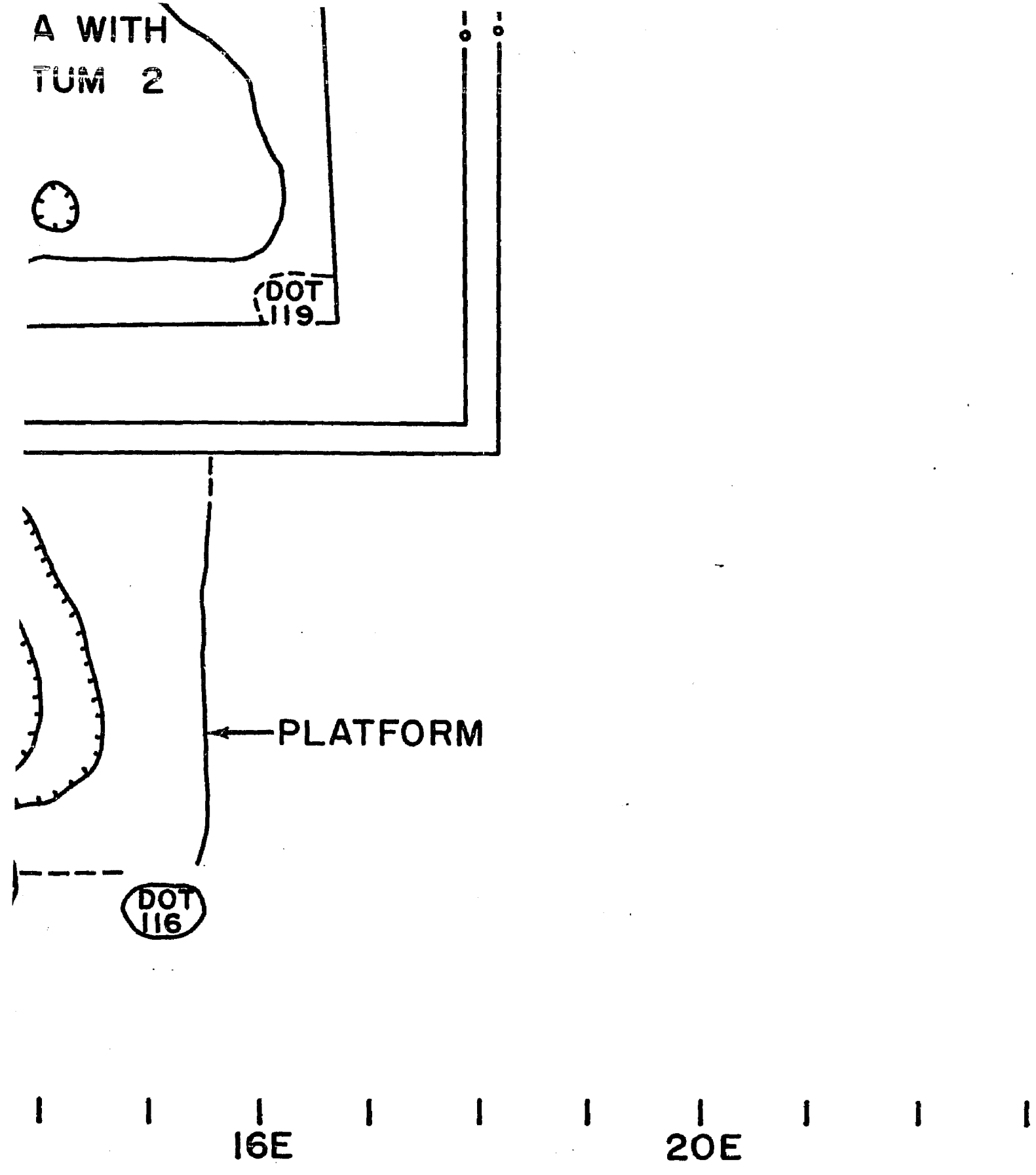


Figure 30. Planview Stages E4 and E5.



Stages E4 and E5.

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