



**TERQA PRELIMINARY REPORTS**

**NO. 10**

**THE FOURTH SEASON:**

**INTRODUCTION AND THE STRATIGRAPHIC RECORD**

**UNDENA PUBLICATIONS**

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# *Bibliotheca Mesopotamica*

Primary sources and interpretive analyses for the study  
of Mesopotamian civilization and its influences from  
late prehistory to the end of the cuneiform tradition

Edited by Giorgio Buccellati

Volume Ten

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*The International Institute for Mesopotamian Area Studies*

# *Bibliotheca Mesopotamica*

*Volume Ten*

TPR 10

*The Fourth Season:  
Introduction and the Stratigraphic Record*

*by Giorgio Buccellati*

During the fourth season of excavations at Terqa, a major clarification was obtained of the city defensive system. Structurally it was seen to consist of three massive defensive rings from the third millennium, for a total width of some 20 meters and a perimeter of about one mile, and with excellent stratigraphic evidence for long term extramural deposition in a moat-like depression. Dated typologically and by C-14 to the early part of the third millennium, and with antecedents which go back to the fourth millennium and perhaps earlier, this is the largest among the most ancient fortification systems of the Near East. —A second major result was the discovery of a private archive of cuneiform tablets, belonging to a man by the name of Puzurum, of which the stratigraphic context is described here. The tablets were preserved in a room which served for the dead storage of a variety of items, important and not. —Two new periods are now also documented. For the first millennium B. C. we have some interesting burials and possible traces of a “nomadic” or “Aramean” temporary settlement at the site. From Parthian times we have two isolated artifacts, without connections with any structural remains. Finally, we have found for the first time evidence of modest dwellings, from the medieval or early modern period.

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## PREFACE

The first nine issues of the *Terqa Preliminary Reports* were published as fascicles of the journal *Syro-Mesopotamian Studies*. This tenth issue appears in book form because of the quantity of data involved and the degree of the elaboration to which they were subjected. The basic modular concept of the reports is, however, retained. This volume deals extensively, but exclusively, with the stratigraphic record. A typological analysis of the artifacts will be provided in future fascicles of *SMS* and in a new series of *Terqa Final Reports* which will begin to appear in the near future.

The present report contains a greater amount of detailed information than is usual for preliminary reports. This refers in particular to the city defensive system and the private archive room STCA1. In the latter case the reason is that the excavations of the archive are essentially complete, and the first two volumes of the *Terqa Final Reports*, due to appear soon, are devoted to the tablets and seal impressions from that archive; while a final stratigraphic report is reserved to a later volume which will deal with the residential quarter as a whole, an extensive preliminary report seemed useful at this point, with details about the interesting depositional history of the room. As for the defensive system, we do not expect to continue its excavation in the immediate future. For this reason, I have decided to give a fuller account of the results of this season, which are of major importance for the study of early urbanism in Syria and the Near East. This remains a preliminary report, because (1) only a portion of the data uncovered has been analyzed, and (2) several hypotheses could easily be tested by further excavations. It will be however an extensive documentary report.

The author is responsible for the presentation of the data in the form given here and for the final interpretation of the stratigraphic sequences. The contributions of staff members are acknowledged for individual chapters in the measure in which they contributed to the substantive elaboration of the material. But the major collaboration came from the individuals mentioned on the title page. Marilyn Kelly-Buccellati contributed in an essential way to the definition of the research strategy, to its implementation in the field and to its embodiment in this report; in particular, she oversaw the analysis of the artifactual material and its relationship to the stratigraphy. James Knudstad was also instrumental in defining the overall goals of the excavation, and he was indispensable in articulating the details of the stratigraphic sequence, especially of the defensive system.

Renata M. Liggett was of invaluable assistance in the final editorial coordination of the publication, particularly with regard to the complex graphic documentation.

Publication of this volume, the first book-length report on the *Terqa Archaeological Project*, was aided by a grant from the Ambassador International Cultural Foundation, which has sponsored the excavations of the 1978 Season. For this, too, we gladly acknowledge our warm appreciation.

G. B.

September 8, 1979



ERRATA CORRIGE – BM 10

Location:	Instead of:	Read:
Cover	TPR No. 11	TPR No. 10
p. 23, line 9	DS 3 XX-XX	DS3, 62-63
p. 32, line 4	FT15	(FT15)
p. 34, line 16	realignes	realigns
p. 44, line 11	TA3	TQ3
p. 50, line 2	20ms.	20cm.
p. 71, 6.2.5.	The Evidence of ....	The Artifactual Evidence:
p. 72, line 8-9	From our excavations... Qraya.	From our excavations... it appears that a ware called HH by us at Qraya may be an early type of TM ware.
p. 72, line 11	Delete "This was then maybe ...."	
p. 73, line 1	Delete "EDI...."	
p. 77, in the 2400- date range		Add intramural deposition in ARB, and extramural deposition in MP13+
p. 83, line 4	presuppsed	presupposed
p. 87, line 7	Texical	Lexical
Figure 16, legend	Linear patterns...extend	extent
Ill. 25 & Figure 17	Delete STCD3 & STCF	
	STCD1	STCD3
	Room to the right of STCD2 = STCD1	

Figure 9 :

Between FT13 & FT10 = FT11  
 Between FT17 & FT16 = FT6  
 White arrow in FT6 = FT5

Figure 11 :

at 1200, < 300 = FT69  
 at 1800, < 225 = FT45 & 46  
 at 1900, < 225 = FT40  
 at 2200, < 290 = FT54  
 at 2175, < 225 = FT36  
 at 2650, < 200 = FT60  
 at 2850, < 220 = FT60  
 at 2900, < 230 = FT57

Figure 13 :

Cultural section: representation of CW4/4A should show heavy dot pattern exactly as that in FT16, CW4/MP13+.

at 2500W, < 100 = FT30  
 at 2550W, < 175 = FT29  
 at 2550W, < 200 = FT28  
 at 2300W, < 050 = FT54  
 at 2300W, < 125 = FT31  
 at 2325W, < 150 = FT53  
 at 2200W, < 175 = FT50  
 at 1600W, < 200 = ◇C, ◇OG  
 at 1700W, < 200 = ◇C, ◇LB  
 at 1100W, < 100 = FT25  
 at 1000W, < 200 = FT17  
 at 200W, < 125 = FT20  
 at 200W, < 100 = FT21  
 at 100E, < 200 = FT10



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## ABBREVIATIONS

For a complete list of abbreviations and definitions, see *ARTANES* 2. Here only the most common abbreviations used in the present volume are given.

### A. Documentary

<i>AAS</i>	<i>Annales Archéologiques Arabes de Syrie</i> , Damascus.
<i>ARTANES</i>	<i>Aids and Research Tools in Ancient Near Eastern Studies</i> , Malibu.
<i>DS</i>	<i>Audio-Visual Modules: Documentary Series</i> , Malibu.
<i>KPR</i>	<i>Khana Survey Preliminary Reports</i> , published in <i>SMS</i> .
<i>SMS</i>	<i>Syro-Mesopotamian Studies</i> , Malibu.
<i>TAP</i>	<i>Terqa Archaeological Project: General Reports</i> , published in <i>AAS</i> .
<i>TPR</i>	<i>Terqa Preliminary Reports</i> , published in <i>SMS</i> .

### B. Stratigraphic

AR	Area (followed by letter symbol: ARA, ARB, etc.)
BR	Burial
CF	Chance find
CW	City Wall
DR	Defensive Ring
FT	Feature
HR	Horizon
LC	Locus
LV	Level
MP	Municipal Project
PH	Phase
SF	Surface find
SR	Stratum
ST	Structure
WL	Wall

For abbreviations and symbols used in the Figures, see especially Fig. 10.

## CHAPTER 1

### INTRODUCTION

#### 1.1. Chronicle

The fourth season of the joint Expedition to Terqa lasted from September 11, 1978 to December 4, 1978. The main contingent of the staff arrived September 16 and left December 2. Excavations at the site of Terqa were carried out from September 18 to December 3, and at Qraya from November 25 to November 28, while the intensive survey was carried out from September 24 to November 23. A brief study season of the epigraphic finds was undertaken by O. Rouault at the end of December and beginning of January. A follow-up seminar on problems of stratigraphic analysis was held in Los Angeles in May 1979, with the participation of most area supervisors and J. Knudstad.

With a staff of 35, this was the largest contingent yet to take part in the excavations. As in earlier seasons, housing was provided by private residences in the town of Ashara. The regional and local authorities were of great assistance in facilitating our work, especially by arranging for the removal of some items such as utility poles from excavation areas and by coordinating with us the use of the Municipal Park at Ashara.

An important factor of the fourth season was a major public project which affected the tell and hence our work, namely the completion of a sewer system which had been started in 1976 (*TPR* 1, p. 24). This year's trenches affected the northernmost portion of the tell; also, several holes had been dug for clean-out and juncture points in the central and southern portions of the tell. With the full cooperation of the pertinent authorities and the people, and in spite of great general inconvenience, the sewer system project came to a halt for almost three months, and we were allowed to study the entire extent of the system. The trenches were uniformly 90 cms. wide and 2 ms. deep, while the juncture and clean-out points were 2 ms. square. All excavations had already been done by a mechanical shovel by the time we arrived at the site: we studied in detail all exposed sections, and dug deeper wherever necessary, reaching in a few places a total depth of some 5 ms. below surface (Ill. 73). It was our concern to complete our work there as soon as possible, and at first we thought that two or three weeks might be sufficient; hence we had several staff members working at the same time in various sections of the trenches. When the importance of the material exposed became clear, we planned for a more systematic and thorough analysis. A corollary of our intensive work in the trenches was that we came to utilize fewer workmen than we had expected, since much dirt removal had already taken place by the machine. Another consequence was that our projected excavations at Qraya were cut down to just a few days' work.

The weather was generally clear and warm. There were only a few sprinkles in mid-October and in mid-November, with even some snow flurries on November 16. The midday temperature averaged from about 100°F. at the beginning to about 60°F. at the end (in the shade), and reached as low as 30° during the nights in November.



## 1.2. Acknowledgments

The fourth season of excavations was made possible through a major grant from the Ambassador International Cultural Foundation. We wish to record here our warm appreciation for the Foundation's generous support, which was especially significant during the fourth season. It is a pleasure to acknowledge in a special way the direct and sustained personal interest in our work on the part of the Foundation's chairman, Mr. Stanley R. Rader. It was also our pleasure in 1978 to have a field visit by Dr. Herman H. Hoeh as representative of the Foundation.

The UCLA field school, associated with the excavations, was supported by a grant from the Chancellor's Associates at UCLA, which made possible the participation of a group of graduate students from the University. To Chancellor Charles E. Young goes our full gratitude for his personal role in initiating the grant. We are also grateful to the UCLA Office of Instructional Development, and its Director, Dr. Andrea Rich, for providing a grant for the participation of one undergraduate student in the field school.

The technical expenses involved in the preparation of architectural and artifactual drawings for archival and publication purposes were defrayed through a grant from the office of the Dean of Academic Planning, California State University, Los Angeles.

The official carrier of the Expedition for 1978 was Alia, the Royal Jordanian Airlines: their efficiency in handling the difficult logistic tasks of a large expedition are gratefully acknowledged.

General funding for the project was provided by IIMAS, The International Institute for Mesopotamian Area Studies, a newly established foundation which has as its goal the study of ancient Mesopotamia as a specific civilizational model.

A special grant has been awarded by the CNRS, Centre National de la Recherche Scientifique, Paris, to Maryse Gaborit for research on a group of tablets purported to be from Terqa, and preserved in the National Museum in Aleppo.

It was a privilege to receive Dr. Afif Bahnassi, Director General of Antiquities and Museums in Syria, for an official visit in Los Angeles during the summer of 1979. While introducing him to our home base of operations, we felt as though we were reciprocating symbolically the warm hospitality with which we have met unfailingly in Syria. For this we wish to thank explicitly, as in previous years, Dr. Bahnassi himself and his associates in the Directorate General—in Damascus, Mr. Adnan Bounni, Director of Excavations, and Mr. Kassem Touer, Assistant Director of Excavations; in Aleppo, Mr. Mahmud Hreitani, Director of Antiquities of Northern Syria and Mr. Wahid Khayyata, Director of the Aleppo National Museum; in Der ez-Zor, Mr. As'ad Mahmud, Director of the Der ez-Zor National Museum. The representative of the Directorate to our Expedition was once again Mr. Muhammad Muslim of Aleppo, who assisted us with extreme effectiveness and competence, particularly in the delicate task of coordinating our work with the needs of the municipality.

The enlightened interest and support of the Governor (*Muhafadh*) of Der ez-Zor, Mr. 'Abd el-Salaam Bitar, was especially important to us this year when so much interaction was bound to take place between the expedition and the civil authorities who were in charge of public projects. Our gratitude for their most efficient cooperation goes to the Governor, and to Mr. Yusuf Qudsi, Mayor of the District (*Mudir Mantaqa*) of

Mayadin, to Mr. Ibrahim Hasan, Mayor of the Town (*Mudir Nahya*) of Ashara, and to Mr. Muhammad Hussein al-Jabir, Head of the Municipality (*Ra'is Baladiya*) of Ashara. Of the other officials in Der ez-Zor we are especially indebted to Mr. Saleh Najjar, Advisor for Cultural Affairs.

### 1.3. Staff

The Joint Expedition to Terqa is under the academic sponsorship of the University of California, Los Angeles (UCLA), the California State University, Los Angeles (CSULA), and the International Institute for Mesopotamian Area Studies (IIMAS), and in association with Johns Hopkins University, Baltimore, the University of Arizona, Tucson, and the University of Poitiers in France.

There was a total of 33 individuals on the 1978 staff, including the following:

#### *Academic and Professional*

Giorgio Buccellati, Director (UCLA)  
 Marilyn Kelly-Buccellati, Co-Director (CSULA)  
 William R. Shelby, Assistant Director (UCLA)  
 Olivier Rouault, Epigraphist (Poitiers and Collège de France)  
 James Knudstad, Architect  
 Richard Anderson, Architect and Photographer  
 Barry Beitzel, Historian (Trinity Evangelical Divinity School, Deerfield)

#### *Representative of the Syrian Directorate General*

Muhammad Muslim, Aleppo

#### *Technical Staff*

David Berry, Geologist and palaeopathologist (UCLA)  
 Jean-Jacques Desplanches, Assistant photographer (Poitiers)  
 Max Farrar, Illustrator (UCLA)  
 Maryse Gaborit, Epigraphic registrar (Poitiers and UCLA)  
 Kathy Galvin, Palaeozoologist and paleobotanist (UCLA)  
 Brenda Huffine, Photographer (CSULA)  
 Robert McGuire, Ceramicist (Johns Hopkins)  
 Fattah Mehsin, Ceramic assistant (Ashara)  
 Hassan Muharram, Manager (Aleppo)  
 John Peck, Assistant photographer (UCLA)  
 Gay Robertson, Registrar (Los Angeles)  
 Muhammad Qadri, Restorer (Aleppo)  
 Eunice Saver, Restorer (UCLA)  
 Kay C. Simpson, Survey analyst (Arizona)

*Area Supervisors*

Elizabeth Blodgett (UCLA)  
 Mark Chavalas (UCLA)  
 William Cox (Toronto)  
 Jean-Michel Gaborit (Poitiers and UCLA)  
 Paul W. Gaebelein, Jr. (Fuller)  
 Arlene Harris (UCLA)  
 Robert Keller (UCLA)  
 Renata M. Liggett (UCLA)  
 Eiko Matsushima (Paris)  
 Steve Reimer (UCLA)  
 Chiara Sogno (Milan)

The maximum number of workmen employed was 25.

As in the preceding season, all the architectural recording was the work of James Knudstad. The author, Jean-Michel Gaborit and Renata Liggett did the final preparation for publication, assisted by Michael Pixley. The original drawing of the sherds (Figs. 20-23) is by Max Farrar.

We were fortunate this season to have Richard Anderson join us for two specialized tasks. As architect, he developed and implemented plans for the Archaeological Park (see below, 1.5.2). In addition, he was in charge of aerostatic photography, for which he used successfully an airfoil system of his own design.

Responsibility for daily recording was divided among the supervisors as follows:

- MP11: Kathy Galvin and David Berry, with the assistance of Kay Simpson and Mark Chavalas
- MP13+: Robert Keller, with the assistance of Mark Chavalas, Renata Liggett and Steve Reimer
- SG17: Paul Gaebelein and David Berry
- SG50: Robert Keller
- SG25: William Cox, with the assistance of Renata Liggett and Steve Reimer
- SG35-36: Robert McGuire, with the assistance of Elizabeth Blodgett, Mark Chavalas and Eiko Matsushima
- SG30-33: Marilyn Kelly-Buccellati and Jean-Michel Gaborit with the assistance of Steve Reimer and Eunice Saver
- STCC: Eiko Matsushima
- STCA1: Giorgio Buccellati, Maryse Gaborit and Kathy Galvin, with the assistance of Renata Liggett, Arlene Harris, Chiara Sogno

SG40: William Shelby, with the assistance of Steve Reimer and Elizabeth Blodgett

In several cases, participation went well beyond the task of recording, and it involved a direct contribution to excavation strategy and stratigraphic analysis. This is true especially of David Berry, Maryse Gaborit, Kathy Galvin and Robert Keller, whose collaboration in this respect is especially noted in the pertinent sections of this report.

## 1.4 Archaeological activity

### 1.4.1. Terqa

The main goals which we had set ourselves for the fourth season were as follows:

- (1) A study of the configuration of the urban layout, with several operations at different parts of the site; as a result of this, we were hoping to obtain some clarification as to occupational patterns of the early second millennium B.C., a period unknown at Terqa in terms of structural remains.
- (2) An extension of the horizontal exposure in Khana period strata (ARC), in order to obtain a better insight into the nature of a residential quarter of that period.
- (3) The careful, ministratigraphic recovery of the deposition in what we expected to be an archive room (STCA1) in the residential quarter.
- (4) The beginning of a clearance along the vertical face of the cliff overlooking the Euphrates, in order to obtain a "high section" which would presumably be representative of the major stratigraphic sequences at the site.
- (5) The utilization of diversified systems of aerostatic photography.
- (6) The development of an effective public display of the results for visitors to the site.

Some realignment of these goals was necessitated by the demands imposed on us by the Municipal Sewer Project. As it turned out, the results obtained have provided some good answers to our first and in part our second goal, since much was learnt from the defensive system about the urban layout and about some of the major building periods affecting the city as a whole. On the other hand, our efforts pertaining to horizontal exposure and to the "high section" were somewhat reduced as a result of our concentration on the Municipal Project. We proceeded instead as planned with the applications of aerostatic photography (see below, 1.4.7) and with the development of public displays (1.5.2).

Our investigations into the urban layout of ancient Terqa were carried out along three different avenues of research. First, we concentrated on a clarification of the outer perimeter, represented by the defensive system and its interface with the plain level. Our main exposure was provided by the long sewer trenches at the northwestern end of the tell (MP11, MP13+), which was supplemented by various additional soundings (SG17, 50-52) and by materials already studied in 1977 (SG21, 22). Our second line of research was an investigation of three areas which were approximately on a line along the radius emanating from the presumed

center of the ancient city toward the periphery, namely Areas E, F, G. Finally, we studied all the Municipal Project excavation units which were located toward the center of town (MP12, 15-21). These were scattered at considerable intervals within the site, and provided us with important clues as to patterns of habitation and depositional growth.

The horizontal exposure of the Khana period residential quarter was not as extensive as anticipated. We opened several new excavation units (SG30-33) but did not have the time to carry the excavations to the same stratum as reached in earlier seasons (in STCA and STCB). We did however reach a clear Khana period stratum, which provides a good stratigraphic seal for future research.

The recovery of the archive in STCA1 was successfully completed, using almost entirely mini-stratigraphic methods.

The vertical clearance of the "high section" was only begun in Area E, but even just from the limited exposure obtained it appeared to be a very promising and rewarding operation. The preliminary results are briefly outlined below in 5.3.2.

Much unexpected and important information emerged from the activities of the fourth season. This pertained primarily to major cultural periods and possibly to settlement patterns. With regard to the first, the cultural horizon of ancient Terqa is now expanded both toward the more remote past (see especially 6.3.2) and into the Aramean period (see especially 4); in addition, we also found sporadic evidence from the Parthian period (3) as well as some limited evidence for medieval residential quarters (2.2).

As for settlement patterns, there is some hint of nomadic occupation from the Aramean period (4.2): even though limited and still somewhat hypothetical, this deserves special mention because one of the reasons for excavating at Terqa was to search for evidence of nomadic adaptation (TPR 1, 1.1.4).

#### 1.4.2. Qraya

While a major effort had been planned at this important proto-historic site, excavations there had to be sacrificed on account of the Municipal Project excavations at Terqa. We were only able to expand in depth our sounding from 1977, which proved that the occupational layers extend well below the existing plain level. Our interest in fourth and possibly fifth millennium material from Qraya is now heightened by our own discovery of contemporary material at Terqa, and from the results of the Dutch excavations at Bouqras (north of Mayadin). The latter site extends back to the early neolithic period, so that we can look forward to establishing a complete cultural sequence for this important region.

#### 1.4.3. The Khana Survey—extensive and intensive (by K. Simpson)

As outlined in the report of the third season (TPR 6, 1.3.3), the Expedition had planned a regional survey of the area around Terqa, and, ultimately, of the Euphrates floodplain from the mouth of the Khabur to the Syrian-Iraqi border. A research program that seeks to analyze the spatial distribution of this regional system is dependent upon a multi-stage field program combining reconnaissance and intensive surface survey, limited test excavations of selected sites, such as Qraya, and broad scale excavation of major centers such as Terqa.

The Expedition initiated in the 1977 field season a reconnaissance survey of the easily observable tells along the river basin from the mouth of the Khabur to Mari (TPR 6, 1.3.3). This survey area encompasses the maximal boundaries of the district of Terqa that can be inferred from the Mari texts. This extensive, or reconnaissance, survey was continued in 1978 with systematic visits to known tells along both sides of the Euphrates and of the lower Khabur. It was undertaken primarily by Olivier Rouault and Barry Beitzel.

In the 1978 field season it was posited that in addition to large, multi-occupational, historic tells there may be small habitation units and specialized activity areas usually represented in the archaeological record by sherd and lithic scatters. Another common archaeological site type is the use area, an area of low-density artifact scatter without definable site boundaries. Such sites are rarely discovered in reconnaissance survey, especially in those conducted by vehicle. To discover these site types an intensive foot survey is necessary.

Such intensive surface surveys can provide data on gross chronology, settlement size and relative occupational density, relative architectural complexity, site location with respect to major natural and cultural features, and changes in these variables over time. The major hindrances to intensive survey are the lack of fine ceramic control in this region and the inability to assess functional differences within and between sites. An intensive survey can reveal smaller contemporaneous sites located in the hinterlands of large, multi-functional and multi-occupational sites, but only systematic excavation of rural sites can attack the problem of site functional specificity and local exchange patterns.

In the 1978 field season Kay Simpson conducted a transect survey to ascertain the feasibility of such a large-scale intensive foot survey. A transect 2 km north/south by 8.5 km east/west (from Terqa westward to the Syrian Desert escarpment) for a total of 17 km<sup>2</sup>, was intensively surveyed (Fig. 1). Fifty-nine sites were recorded: one lithic scatter, two tells (including Terqa), 23 limited activity sherd scatters, and 33 medium to heavy density sherd scatters. The lithic scatter, located on the rim of the Syrian Desert escarpment, was post-Neolithic; Islamic sherds were also found within the scatter. Four sherd scatters had Byzantine/Early Islamic sherds and six had twentieth century ceramics. The remaining 48 sites could be dated to the Islamic period.

The results of this transect indicated that an intensive foot survey of the Terqa district is not logistically feasible. Site density of first and second millennia A.D. period settlements is extremely high. Initially it was felt that due to extensive road and canal building and the recent introduction of modern cultivation methods, earlier sites buried in the alluvium may be found. The total absence of early material did not confirm this assumption.

The transect survey also indicated a problem in site identification. Low artifact density lithic and/or sherd scatters were continuous over large areas. Such distributions present identification problems with site boundaries, chronological indications, and contemporaneity of activities. One approach to this problem is the "siteless survey" (Mason and others 1977), which plots the distribution of all artifact densities relative to the area surveyed, not just the location of artifact concentrations or "sites." Collection of isolated or sparsely distributed artifacts in a survey area as large as the district of Terqa is simply not feasible. Another approach is to record such areas as "use areas" and make few or no collections.

When the transect survey indicated a foot survey was not feasible, a brief one-day experiment was conducted to see if an intensive jeep survey would be profitable. Excellent 1:5000 series maps exist for the Euphrates basin on which it is possible to locate all rises of more than one meter. Five rises or tells within a 12 km<sup>2</sup> quadrant adjacent to the transect

area were field checked. All but one of these had cultural material. The one without was a one-meter obliterated by recent plowing.

Therefore, for the 1979 field season we plan an intensive vehicle survey of all elevated areas within the floodplain. A 100 km<sup>2</sup> quadrant with a 10 km east/west radius centered on Terqa will be initially examined.

An inventory survey of a large quadrant can easily be combined with information gathered from subsequent surveys.

All sites are to be recorded on IIMAS survey forms, designed to provide the following information: (1) cultural and temporal affiliation of the site; (2) past activities represented at the site; (3) nature of site deposits (stratified or surface); (4) post-occupational site disturbance; (5) the relationship of the site to others in the region.

The research design for the survey focuses on central place theory, a branch of urban network analysis concerned with the location, characteristics, and interrelationships of towns in their role as consumer service centers to their hinterlands. Sites along the Middle Euphrates are not expected to be randomly distributed. Whether the spatial ordering of these sites can be attributed to economic processes and the identification of these processes will be the goals of the Khana survey.

#### 1.4.4. Museum Research (by M. Gaborit)

The National Museum in Aleppo has a group of several hundred tablets dated from the period of the third dynasty of Ur. These are tablets which had been collected or brought by the museum from different people after clandestine excavations so that it is impossible to replace them in their context. The Museum's archival registers list all of these tablets under the title: "Tablets presumably coming from Terqa-Ashara." But this may simply refer to the geographic origin of the seller(s) because none of the tablets considered up to now comes from that area (see already *TPR* 1, 2.4).

Most of them are from Umma: their shape, the way they are written, and the information they convey are as many proofs of it. The other documents come from Drehem and only a small amount of them from Lagash or the Girsu area.

Study of these tablets is conducted with the aid of a grant from the CNRS (Centre National de la Recherche Scientifique), to which I would like to express here all my appreciation.

All these texts are administrative and economic documents about topics or problems as diversified as the *guru*-workers, payrolls concerning various individuals, listings of different taxes, livestock, products, reeds and their utilization, field work and agricultural tools. The reeds were an easy material to get, easy to stock, and inexpensive. Moreover they were an important element in the construction of buildings and the manufacturing of various objects. Besides the *guru*-work (loading and unloading boats, cutting reeds, working in the fields and harvesting), much information is contained about the barbers, gardeners, messengers or the soldiers and the UN.IL workers. All these people were receiving wages in kind (oil, corn, flour, beer or bread) and, at least as long as the messengers and the soldiers were concerned, roads provisions of the same kind. Field work (such as harvesting or hoe work) and agricultural products are also well documented in these texts.

As far as the dating is concerned, the tablets cover a rather long period, from the last years of Sulgi's reign (about his fortieth year) till the first years of Ibbi-Sin's reign (about his third year), revealing new variants of year names and maybe some new year names as well.

The majority of these tablets were sealed, the cylinder seal having been rolled on all the surface of the tablet before it was inscribed. The seals represent either an inscription of a scribe or of a ruler, or an inscription plus the figuration of the seated god or king.

This group of Ur III texts brings additional confirmation of the economical importance of Umma and other cities in southern Mesopotamia during the third dynasty of Ur. The variety of economical themes, the quantities of agricultural products mentioned, as well as the number of the officials in charge of the execution of all these tasks—all of this, however repetitive in terms of the Ur III epigraphic repertory, promises to add a considerable body of documentary data. Even though the association with Terqa has proven to be non-existent, the research will be continued within the framework of Terqa Archaeological Project in order to prepare the texts for publication.

#### 1.4.5. Geological analysis (by D. Berry)

All sediments listed on the stratigraphic profiles were examined macroscopically in the field and also with aid of a 10 power hand lens. Selected samples were then disaggregated in the field laboratory and were subjected to grain-size analysis using standard wet-sieve and pipette techniques. Washed residues were then scanned under a low power binocular microscope to determine not only sediment particle morphology but mineral and fossil components as well.

In general, the Munsell Soil Color Charts (Baltimore, 1975) were used to standardize color terminology although in a few instances well-known colloquial field terms (e.g. "gray-green") were employed when the sediment showed much variegation and could not easily be placed into any dominant Munsell soil color category. In some cases, a general term such as "gray-green" better met the needs of field workers than its appropriate Munsell equivalent.

An attempt has been made to not only describe the physical characteristics of the various sediments, but, more importantly, to infer from their various properties something relevant to their mode of origin or emplacement. Hence, terms such as "fill," "rubble," "plaster," and so forth, have been used as an integral part of the sediment description in order to illustrate that soils within an habitation site should not be considered apart from the human activities which affected their mode of deposition.

A more detailed sedimentologic analysis of the depositional sequence at Terqa is anticipated and will be published as a separate contribution at a later date. Thus, these notes should be considered only as the preliminary results of an exploratory project undertaken during the field season of 1978.

#### 1.4.6. Methodology: concepts and terms

An objective of the Terqa Archaeological Project has been to develop and apply certain principles in archaeological method and theory. A specific concern in this respect has been the definition of an explicit recording system, conceived as the extrinsic embodiment of a conceptual ordering of the data. This seems especially important on several grounds. First, the recovery of depositional history is an irreversible process, and the greatest care should be taken in documenting not only the data but the recovery process itself. This is what



can properly be called stratigraphic analysis—and such analysis is, in our opinion, the primary characteristic of archaeology. Second, the conceptual framework which underlies the recording inevitably conditions the excavation, since it is a reflection of the intellectual concerns with which one understands cultural deposition in its component parts; this is all the more important inasmuch as excavating is by necessity team work, and it is imperative for the pertinent categorization to be shared consciously and critically by all participants. Third, the articulation of the data into an integrated system of small bits of information (even if non-digital in formalization and non-electronic in storage format) allows for a very rapid and effective utilization of the record even while it is being established; this is at a basis of any successful effort at a prompt dissemination of the results.

In the recording of the data, and in the presentation given here, we have followed closely the system which we have outlined in the *IIMAS Field Encoding Manual (ARTANES 2)*. For the general terminology and concepts utilized we refer the readers to the *Manual*. Here we wish to emphasize one particular point. The nature of our work on the defensive system has entailed work on literally hundreds of square meters of exposed sections; our recording was rigorous, and the object of a continuous, systematic collective analysis on the part of all the members of the team who were involved in this operation. The importance accorded these sections in the present publication is a reflection of the care with which they were drawn. The presentation of some of these sections in multiple versions should not be considered redundant; it was our concern to obtain information at different levels of analysis, and we have sought to maintain these levels discrete in the recording and the presentation.

The primary sections focus on the material configurations of the deposits (Fig. 11). Homogeneous soil strata were analyzed and described geologically; homogeneous masonry strata were recorded and described according to brick size. Heterogeneous deposits were recorded and described on the basis of the characteristic of the dominant inclusions (e.g. heavy sherd and/or bone concentration), and according to the soil matrix in which they were embedded. Boundary lines between strata were recorded with graphic symbols which, even when not in common use, seem useful to indicate special features; note especially the dot/dash line ( - · - · - ) to indicate merging boundaries, and the jagged line ( - √ - ) to indicate excavation boundaries, where the direction of the notch refers to the direction of the excavation, the open side of the notch being toward the excavated side. Where boundary lines do not coincide with the changes in soil deposition, they stand normally for a change in the degree of density, which results from different types of either accumulation or compaction.

The secondary sections focus on the manner of deposition. Generally, these sections highlight the broad outline of the cultural process of emplacement and accumulation, and as a result they convey graphically the basis for the temporal sequence of deposition in its various spatial components. At this level belongs especially the distinction between phases. A more minute level of depositional analysis identifies specific types. If deposition be understood as a process whereby cultural remains are embedded in the ground or rest over it, two main subtypes can be distinguished: *emplacement* or *installation* is a process characterized variably as primary, intentional, permanent, structural; while *accumulation* is a process characterized variably as secondary, accidental, ephemeral. Examples of the first are a wall, a cut, a fill, a compacted subfloor, a midden; examples of the second are a living floor, a wall fall, a wind deposit resulting from neglect or abandonment. The clues to these processes are to be found in the configuration of the

material: for instance the alignment of homogeneous elements (typically a wall face) is indicative of emplacement, whereas the dispersion of homogeneous elements is indicative of accumulation (e.g. brick bats in a wall fall). The identification of such configuration is obtained through the retrieval system which we call stratigraphic analysis: since deposition is a temporal and causal process, stratigraphic recording is an identification of reciprocal temporal and causal connections among *all* components in a given deposit. We may in turn distinguish between primary stratigraphy, which records positive contact (whether through intersecting or adjacency), and secondary stratigraphy, which extrapolates from primary stratigraphy and from typology to account for the clustering of items which are not in contact. The hallmark of primary stratigraphy is the recognition of cleavage lines and planes, and the reconstruction of their reciprocal hierarchy; the hallmark of secondary stratigraphy is the recognition of patterns of association among stationary units and movable items. The ultimate goal is to demonstrate how everything holds together (“tout se tient”). The sections are one of the main documents of this demonstration: as planes which cut across volumes, they identify graphically the depositional components in their internal structure (alignment, dispersion, etc.) and their positive contacts (cleavage lines of intersection or adjacency); by the same token, they illustrate the temporal and causal sequence involved, and the degree of association among both contiguous and distant elements.

One other issue with which we were confronted, and which needs clarification here, pertains to different levels of stratigraphic analysis. It is obvious that the care in the recovery of the data cannot be the same in every case since it is conditioned by severe limiting factors, whether extrinsic (e.g. the race against time in a salvage project) or intrinsic (e.g. the needs of the overall research strategy). It is ultimately a question of sampling procedures, and what matters is to be aware of the particular mode of analysis chosen, and to make this explicit in the record. During the 1978 season we were operating in different modes at once, and our particular understanding of these modes is given in tabular form in Chart 1. The qualifications “micro-,” etc., refer to the degree of articulation of the data being recovered, from the level of microscopic observability of physical elements (“micro-”), to the level of minimal cultural components such as sherds (“mini-”), to the level of the major cultural components, such as sherd lots or complete objects (“mega-”), all the way to the broadest cultural configurations such as architectural units (“maxi-”). The mega-stratigraphic mode was the normal mode of excavating and recording. In certain parts of the Municipal Project exposure (notably MP11 west of Sector 5, MP12, 15-18, 20-21; to some extent also SG52, 60-61) we utilized the maxi-stratigraphic mode, which is in general characteristic of salvage projects. In STCA1 we employed to some extent the mini-stratigraphic mode, which is characterized primarily by the individual localization of all artifactual materials, including sherds, without the utilization of lots (for which see *ARTANES* 2, p. 19). The micro-stratigraphic mode was not utilized in 1978.

#### 1.4.7. Technical Resources

One objective of the fourth season was to implement a diversified approach to aerostatic photography, with an aim to obtain easy coverage from various altitudes.

For the higher ranges we had planned to use both a gas-filled balloon and an airfoil. For the first we had a Whittlesey system, which unfortunately we could not use because procurement of the necessary gas proved to be too difficult. We obtained, however, good coverage with the aid of an airfoil system designed and flown by Richard Anderson: the

		manner of recovery							
		micro-stratigraphic		mini-stratigraphic		mega-stratigraphic		maxi-stratigraphic	
		collection	localization	collection	localization	collection	localization	collection	localization
object of recovery	physical components	total	individual	partial	cluster	partial	cluster	rare or none	cluster
	samples and specimens	total	individual	partial	individual	partial	individual	rare or none	individual
	artifactual components:								
	minimal (e.g. sherds)	total	individual	total	individual	total	cluster	partial	cluster
	maximal (e.g. vessels)	total	individual	total	individual	total	individual	partial	individual
	architectural components:								
	minimal (e.g. bricks in wall)	total	individual	partial	individual	rare	individual	none	none
maximal (e.g. wall face)	total	individual	total	individual	total	individual	total	individual	

### 1. Modes of Stratigraphic Analysis

results were excellent, as shown by various photographs reproduced in this publication (see also *DS* 3, 12-13, 22, 27, 42, 47-51, 59).

For the lower ranges we used both a Whittlesey bipod and a device of our making, essentially a high monopod nicknamed "giraffe." The latter was built to provide for an easier and speedier set-up, since our aim was to obtain a photograph for every level in every excavation unit. While this goal was not fully achieved, the prototype "giraffe" which was built in the field by Richard Anderson proved to be a very flexible tool: a boom hoisted on a tall ladder would be raised and lowered, with the camera hanging from a pulley at the outer end; two cables would hold the ladder in the desired position (see *DS* 3, XX-XX). The maximum height obtained was about 8 ms. above ground. While the well-known Whittlesey bipod remains superior in terms of precision, especially for photogrammetric separation, the "giraffe" seems very promising because of its great maneuverability, which makes it especially suitable for situations where two opposite baulks are not at the same elevation, when one baulk is missing, or where the area around the excavation is not otherwise level. An improved version of the "giraffe" has been built in the meantime by Steve Reimer and will be utilized during the coming season; some of its features are a mount for two cameras which will facilitate stereo-photography, a multi-directional swivel for the camera mount which allows for high obliques and horizontals, and a modular type of construction which will allow it to reach heights of 10 ms. and more.

## 1.5 Dissemination

### 1.5.1. Publications

The modular program of preliminary reports has continued with the publication of several new titles from earlier seasons. In addition, we have now projected for the near future the beginning of a series of *Terqa Final Reports*: the first two volumes will include, as noted below, the tablets and the seal impressions of the archive of Puzurum, which is considered as a complete entity. We are also listing here publications and theses which utilize primary material from Terqa, but have not appeared in the official series of expedition publications. Only *new* items are listed below; those actually in print are marked by a solid circle, those in press or in preparation by a hollow circle.

#### *General Reports*

- *TAP* 4: G. BUCCELLATI and M. KELLY-BUCCELLATI  
"The Terqa Archaeological Project: General Report on the Fourth Season," forthcoming in AAS

#### *Modular Preliminary Reports – Terqa*

- *TPR* 7: O. ROUAULT  
"Les documents épigraphiques de la troisième saison,"  
*SMS* 2/7 (1979) 1-12, Pls. IV

- *TPR* 8: E. GRIFFIN and W. R. SHELBY  
“Ceramic Vessel Typology of the Third Season,” *SMS* 3/2 (1979)
- *TPR* 9: L. MOUNT-WILLIAMS  
“Object Typology of the Third Season (Excluding Vessels and Lithics),” *SMS* 3/3 (1979)
- *TPR* 10: N. M. MAGALOUSIS *et al*  
“Sourcing Techniques Applied to Soils and Ceramics From Terqa and Dilbat,” *SMS* 3/4 (1979)
- *TPR* 11: G. BUCCELLATI  
“The Fourth Season: Introduction and the Stratigraphic Record,” *BM* 10 (1979) pp. 000, Figs. 23, Pls. XXVIII
- *TPR* – O. ROUAULT  
“Cuneiform Texts Found at Terqa Before the Joint Expedition: A New Edition,” forthcoming in *SMS*
- *TPR* – B. HUFFINE  
“Third Millennium Burials,” forthcoming in *SMS*
- *TPR* – M. MUSLIM  
“Oral History of Modern Ashara,” forthcoming in *SMS*

*Modular Preliminary Reports – Khana Survey*

- *KPR* – O. ROUAULT  
“Soundings at Qraya – The Protoliterate Period,”  
forthcoming in *SMS*

*Terqa Final Reports*

- *TFR* – O. ROUAULT  
*L’archive de Puzurum—Les tablettes*, forthcoming in *BM*
- *TFR* – M. KELLY-BUCCELLATI  
*The Archive of Puzurum – The Seal Impressions*,  
forthcoming in *BM*

*Audio-Visual Modules*

- *DS* 3: G. BUCCELLATI and M. KELLY-BUCCELLATI  
*Terqa* 1978. Malibu 1979

*Other Publications and Research*

- V. GRITTON and N. M. MAGALOUSIS  
“Atomic Absorption Spectroscopy of Archaeological Ceramic Materials,”  
in G. F. CARTER, ed., *Archaeological Chemistry, II*, “Advances in  
Chemistry Series, 171” Washington, D.C. 1978, pp. 258-270
- B. HUFFINE  
*A Study of Early Dynastic Burials Discovered at the Site of Ancient  
Terqa in Syria, 1976 and 1977 Excavations*, M.A. Thesis, California  
State University, Los Angeles 1979
- K. GALVIN  
*Early State Economic and Political Development in the Ancient  
Near East: The Role of Specialized Pastoralism*. Ph.D. Dissertation,  
University of California, Los Angeles, in preparation
- K. SIMPSON  
*Locational Models for the Middle Euphrates Regional System*, Ph.D.  
Dissertation, University of Arizona, Tucson, in preparation

**1.5.2. Archaeological Park**

Special displays were prepared to provide an opportunity for self guided tours at the site. Housed under a small roofed kiosk (Ill. 45), the displays contain drawings, photographs and casts of objects, accompanied by a descriptive text in both English and Arabic (with translations in other languages available on flyers): an example is shown in Ill. 44. Produced and executed professionally by Richard Anderson, these displays are located at various points on the site, and they illustrate not only the monumental remains in view, but also the historical background of Terqa and the methods of archaeology.

**1.5.3. Field School**

Continuing with the goals stated in *TPR* 6, 1.4.2, the UCLA field school at Terqa, under the direction of G. Buccellati, enrolled eleven graduate and one undergraduate student during the 1978 season, from both UCLA and other institutions. We also began a volunteer program, with trainees attending the regular courses without formal registration at UCLA, but with the possibility of concurrent credit through UCLA Extension, the University adult education program. A total of seven trainees participated in the 1978 season.

## CHAPTER 2

### MEDIEVAL AND MODERN STRATA

#### 2.1 Burials

A large number of recent burials was found in certain operations (ARD, ARF, ARG; for ARE see below); curiously, they were missing in ARC, in spite of the considerable exposure obtained. They were characterized by a simple interment in a shaft, covered by bricks and stones, without any offerings and oriented with the head facing south; the only detail which distinguished some burials was that their shaft was dug deeper, sometimes forming an L-shaped lower shelf on which the body rested. Occasionally, a stratigraphic sequence could be reconstructed with several phases of typologically similar shafts. However, it would appear as though all burials in ARD, ARF, ARG are modern, in line with current oral tradition.

The only burial which appears to date to the medieval period is BR2 in ARE SG40. This is stratified well below a house with associated storage pits which are presumed to be medieval on the basis of the pottery.

#### 2.2 Residential areas

The first residential structures of the medieval or recent period at Terqa were exposed in 1978 in ARE and ARG (Fig. 3, Ills. 10-12). We have no certain typological clue as to the date, nor is there any clear stratigraphic interface between what may be modern and what may be medieval, unlike the clear demarcation with respect to more ancient periods. We presume however that they belong to the medieval, or at least to the premodern period, on the basis of the following considerations.

(1) The glazed pottery belongs generally to the Ayyubid period, in the twelfth century (see *TPR* 5). Even though we know very little about Islamic common ware, the amount of glazed pottery found in stratified contexts is considerable, and preliminary analysis shows them to be rather homogeneous. Since the collection of pottery from these levels and the attendant recording have been exhaustive and intensive (except for the fact that there was no screening), future research into our material will contribute to an understanding of both our stratigraphic sequence and Islamic material culture.

(2) Modern strata are characterized by a type of refuse and debris which is lacking in the strata excavated so far. There is especially a type of large, thick chunks of gypsum plaster which are found frequently and seem associated primarily with modern constructions.

(3) The deposition is generally continuous and homogeneous above the more ancient

levels, without any clear interface between medieval and modern. Since we have evidence for the existence of Ashara at various points from the Ayyubid period to the present (see below), it is possible that the stratigraphic continuity reflects a modest but continuous occupation from the twelfth century on. This is an alternate hypothesis to the one formulated in *TPR* 1, 1.1.5, where it was assumed that the medieval settlement lasted only for a short time. In any case, the fact remains that no major monumental structure has been found for the medieval and modern period.

One of the features of the medieval/modern residential area is the presence of numerous storage pits. A good view is provided by Ill. 25, where the higher levels of ARC are riddled with holes sunk into the second millennium deposition. Some were found empty (notably SG8 FT14, excavated in 1978), some were filled with debris, while still others contained storage jars. A good example of the latter is shown in Ill. 13 (see also Ill. 17), where two of four jars (TQ4-91, 101, 107, 115) found in SG40 FT15 are in evidence at the bottom of the pit. In SG30 FT20 a jar (TQ4-69) was still full of barley seeds. In SG31 FT7 there was a group of particularly fine glazed vessels (TQ4-77, 86, 90, 93, 95, 97, 126) and an equally fine small glass bottle (TQ4-60).

While no systematic study has yet been undertaken of the medieval and modern period, there are at least two interesting references from modern travellers which we owe to the courtesy of Mr. Jean-Paul Pascual of the French Institute of Damascus, to whom we wish to express our appreciation. The first is by the Abbé Carre, who was travelling in the area between 1762 and 1764. He wrote: "Having left the banks of the Euphrates, at seven o'clock in the evening we crossed two large plains and arrived at midnight at the little town of Achera, situated on a hill with the river at its base. We dismounted at the house of the Governor, who is called in Arabic the Sheikh. He received us with much honour, gave us food, and spread carpets for us, on which we slept the rest of the night" (CARRE 1947: Vol. I, p. 54); "We stopped to water our horses and I recognized a little path through some bushes, which I remembered passing twice before. It led directly to a town called Achera, only two hours away by road. . . Since I was well known there and had been received with great friendship by the Governor and all his family, I wished to go there. . . There were about eight companies of [horsemen] in these small towns of Qala, Rahacba, Ashara and Mahlaha, which are all in sight of one another" (CARRE 1948: Vol. III, p. 876).

A little over a century later, in 1808, another traveller describes the same area, but does not mention Ashara (ROUSSEAU 1899: p. 183f).

For the modern period, oral history is also of considerable importance, and Mr. Muhammad Muslim has begun to collect materials for a research which we plan to publish in *TPR* with a photographic record of contemporary Ashara.



## CHAPTER 3

### LATE ANTIQUE ARTIFACTUAL EVIDENCE

Two interesting items were found in our excavations dating to the early part of the first millennium A.D. One is the head of a small plaster figurine (TQ3-121): it was found in 1977 in ARB at the base of the modern dump just overlaying the third millennium strata. Because of its findspot, it was not even mentioned in our preliminary reports, given the possibility of its having been taken to Ashara from elsewhere, possibly in modern times. The second object is a jar (TQ4-192) with decorations of a type common at Dura-Europos: it was found in ARC SG32, inside a storage pit (FT2) possibly of medieval times.

Since there is no evidence thus far of first millennium A.D. occupation at the site, in the way of either structural or artifactual material, it would appear that both objects were in fact obtained elsewhere, possibly as surface finds at Dura-Europos, and then brought to Ashara because of their aesthetic qualities.

## CHAPTER 4

### FIRST MILLENNIUM STRATA

It was already previously known from a single important find that the site had had some form of occupation in the first millennium B.C.—a curious stela with a poorly-written cuneiform text, apparently set up on the occasion of a stopover of Tukulti-Ninurta II at the site (*TPR* 1, 1.1.4; 2.4). The name of the settlement was then Sirku, and the name of the region Lagē ; while the first name is a variation of ancient “Terqa,” the name Lagē , which replaces ancient Khana, is probably that of an Aramaic tribe. In 1978 we may have found evidence of such Aramean occupation at the site, in the form not only of burials but even more interestingly of a presumable semi-nomadic settlement.

#### 4.1 Burials

Those burials were found, each in a different location. Stratigraphic and typological considerations place them in the first millennium B.C., and we presume they belong generally to the Aramean period.

One burial (MP13 LC7 FT53=BR1) was found outside the modern perimeter of the tell and outside the ancient defensive system (see Fig. 12; Ills. 18-20). The body of a man was inside a large jar, in a flexed position and lying on the right side, the head facing east, with a small bowl (TQ4-85) next to his head and an iron dagger (TQ4-109) under his shoulder; the jar had been lowered into a shaft in which no other offerings were found. Stratigraphically, the shaft was cut into horizontal strata which seem not to presuppose any longer the moat-like deposition associated with a defensive system (see below, 6.2.1.3): this, plus the presence of the spearhead, suggest a dating into the first millennium, when the defensive system had lost its effectiveness and iron had come into use. The typology of the ceramic jar (TQ4-78) is also different from what we know of second millennium ceramics at Terqa, and it shares common features with the jars containing the other two burials: they are all tall vessels, with a thick ring base and in one case (TQ4-190=SG40 BR3) with crude linear decorations on the bottom of the base and bitumen coated on the inside. The ring base was actually missing in TQ4-78 (=MP13 BR1), but there were clear marks to show that it was there in the first place and had then been shaved off in antiquity.

Another burial was found in Area E, the central part of the site (SG40 FT29=BR3). It contained the body of a child, the head facing south, interred inside a jar (TQ4-190) of the type just described, with a brick laid as a lid against the rim. The burial included a series of beads (12 larger ones of shell, gypsum and hard stone, and 91 small ones of blue frit, TQ4-169/180, 182) which could be strung to form a necklace, and two bronze earrings (TQ4-181). The jar was sunk inside a shaft which had been cut into and possibly from strata

datable to the Aramean period (Ill. 17, and see below, 4.2). The burial jar had been crushed, and the base, where the head of the child had been placed, was broken off and disturbed.

The third burial (MP 18 FT2=BR1) had been cut in half by the mechanical shovel in digging a hole for a sewer juncture. This was also in the central part of town. As we began to clear (Ill. 21) what was left of the burial inside the jar, we discovered that only the upper portion of the body was left, in very good state of preservation, the head facing east, and the arms folded with the hands next to the cheeks. A gold ring was found on the right nostril (TQ4-145, Ills. 22-23), two sets of coiled bronze armlets (four coils on each arm) were still in position (TQ4-214, Ill. 24), and a carnelian bead (TQ4-146) was retrieved in the dirt. No offerings were found inside either the jar or the burial shaft, but the jewelry seems to imply a status of a certain importance for this individual, whose sex could not be determined.

#### 4.2 Residential areas

In ARE SG40 an interesting stratigraphic situation was observed. Just below the medieval strata there was a considerable deposit of more than one meter in depth and extending over most of the excavation unit: this deposit was a uniform series of laminations derived from wind-blown sand, occasionally compacted like floors (Ills. 15-17). There were small pockets of sherds at various points, which indicated that the laminations were part of a process of cultural deposition, but presumably on a limited scale, since natural sedimentation was intermixed with it over a long period of time. The sherds were generally quite small and weathered, therefore generally not diagnostic, but some occasional pieces, such as a pointed goblet base (TQ4-152), are of a type common in the Assyrian period. Hypothetically, we are considering this as an example of (semi-)nomadic occupation, one which may have been characterized by a limited number of items in the inventory of material culture (especially pottery), by long intervals between occupational periods, and thus presumably by temporary shelters in lieu of permanent structures. In view of the stratigraphic position, the chance find of a stela, and the historical information, we attribute this, at least conjecturally, to the period of the Aramean (semi-)nomadic tribes.

## CHAPTER 5

### SECOND MILLENNIUM STRATA

#### 5.1 The Residential Quarter in Area C (by M. Kelly-Buccellati)

The excavation in Area C (Ills. 6, 8-9, 64) had started along the steep edge of the present mound in 1976. During that season we determined that this area had been a residential quarter during the Khana period; the deposition, especially as seen in the large section of the site overlooking the river, indicated that the house had burnt down in an extensive fire affecting this entire portion of the site. Subsequent to the fire some of the rooms had been used for burials (*TPR* 1, 3.4). In 1977 the expanded horizontal exposure uncovered more remains of at least three houses (STCA, STCB, STCD) and a street (STCC).<sup>1</sup>

During the 1978 season we continued to expand this horizontal exposure by opening up four more squares (5x5 meters) just south of the 1977 excavations; they were designated SG30-33 (Fig. 17, Ill. 25). In addition to these new squares we resumed the excavation in STCA1 (see below 5.2).

##### 5.1.1. Stationary Units and Movable Items

In the four squares opened up on the south side of Area C portions of two large rooms (STCD3 and STCD4), a street or alley (STCE) and the corners of two other rooms (STCF1 and STCF2) on the southern side of the street were excavated (Fig. 17, Ill. 25).

In 1977 we had begun to excavate the northern corner of STCD3; it was determined then that the north wall was thicker (1 m. wide) than the private house walls in Area C

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<sup>1</sup>The sorting order in 1978 remained the same as in 1977, except that the letter C was added after the abbreviation ST (Structure) in order to identify the pertinent area of excavation, namely Area C. The correlation is as follows:

1976	1977	1978
---	STA1	STCA1
ST2	STA2	STCA2
ST4	STA3	STCA3
---	---	STCA4
ST3	STB1	STCB1
ST1	STB2	STCB2
ST3	STB3	STCB3
ST1, ST3	STB4	STCB4
---	STC	STCC
---	STD	STCD
---	---	STCE

which are on the average 80 cm. wide. As the other walls of STCD3 were being cleared in 1978 it was seen that the plaster on the eastern, northern and part of the western walls (FT11, 19 and 9 respectively) had been scorched in a very hot fire. A fourth wall with traces of scorching FT15 was the original southern wall of the room; it had a doorway in it near the eastern end. In addition a doorway (FT27) with one rabbeted jamb led into another room, STCD4.

There appears to have been considerable rebuilding associated with STCD3. The first wall constructed was FT19; a short wall with the rabbeted corner (FT9) was bonded to it. (FT9 however may only be bonded on the surface and not below, see p. 33). On the eastern end FT19 went all the way out into the street possibly indicating that the room was originally larger toward the east and that FT11, abutting FT19 on the east, was added later. Feature 11 was certainly added before the fire because it was scorched along with FT19 and 9. Later, after the fire, a new southern wall of the room was added, FT12; this wall is founded on a thin layer of reeds or grass clearly visible in section. Between FT15 and FT12 is a mud packing FT14; this packing is 1.40 m. wide at its widest point on the east and narrowed until it disappeared on the west. This packing was necessary since FT12 is aligned differently than the original wall of the room, FT15. Also a new southern portion of the door jamb (FT26) was added at this time without rabbeting and slightly realigned. The original walls of STCD3 were plastered with a thick mud plaster mixed with a lot of straw; several replasterings are evident.

The highest floor in STCD3 was FT16, preserved directly under the modern debris filled stratum. This floor was contemporary with the rebuilding of the room; it had no objects associated with it and only a few sherds. Contemporary with this floor were a series of floors on the south side of FT12 and going up to it over FT15. From these floors came a goblet (TQ4-103) and a plaque showing a bull-eared god (TQ4-121). In the construction of the floor (FT16) an ashy fill was laid first to level the area after the fire. This was needed because a large amount of charcoal from burnt wood and reed matting as well as some objects were still on the floor, designated FT18 (Ill. 26). The reed matting in some areas of the room had been pressed into the mud plastered floor below so that the woven pattern was clearly visible. One of the objects in the room (TQ4-135, see Ill. 26), was a grinding stone of the same type as had previously been found in 1977 (TQ3-24).

We have less evidence for STCD4 than for STCD3 since this area was cut up later by a large number of pits (Ill. 25). The latest evidence from the Khana period for this room appears to be subsequent to the depositional history which could be reconstructed for STCD3. After STCD4 was no longer in use as a room (but still in the Khana period), a mud brick packing FT21 was laid inside the room, possibly as a foundation for a later construction of which there is no trace left. Contemporary with the floor FT16 in STCD3 there is a well laid mud floor (FT22), with patches of green clay appearing in what is otherwise a dark brown matrix. During this period FT12 was the southern wall of the room while a wall which abutted FT19 formed the northern side. This wall is slumped toward the southeast for its full length; its original placement in line with the face of FT19 was found in the section of a pit, FT13. On the west, only an eroded wall stub made of crudely laid mud bricks was found; it could have been the foundation for the western wall of this room. Up against FT19 we discovered what appears to be a bench, FT9 of SG32; it may however be the surviving portion of an earlier wall. An ashy layer had been laid as a base for FT22 repeating the construction pattern already evident from STCD3. Unfortunately the floor (FT23) contemporary with the burned floor in STCD3 is poorly

preserved in STCD4. This is partly due to the presence of the later pits but also stems from the fact that this floor was not well made. Scorching appeared on all the preserved walls of STCD4 in this stratum. Few objects were found in STCD4; this may be due to the subsequent disturbances through pitting or from a clearing of the room before the fire.

In STCD4, the large pits show in section some evidence for earlier strata. Two walls, SG32 FT30 and SG33 FT27, appear to be earlier. FT30 in SG32 was found only in the section of a pit, FT2. The western face of this wall as exposed in the pit is at right angles to the point where FT19 stops. It is possible that FT30 is bonded to FT19 at this point and therefore formed the original western side of STCD3. Further excavation will clarify this point. In SG33, FT27 was found in the sections of two pits (FT5 and FT18). The faces of both these walls (FT27 and 30) show several replasterings with the last one having a red wash or scorching on the exterior. A red mud packing, which had been laid wet, was found up against both these walls. Excavation did not continue in the lower strata so that their date is based only on their stratigraphic position.

Bordering STCD3 on the northeast was a street (STCC) which we had begun to excavate in 1977, although not to a uniform depth (a step in the street still shows in Ill. 25). In 1978 we excavated the southern half to the same floor level as in the north. An important item found in this southern sector was the fragment of a bead (TQ4-T87), apparently made from a colorful river pebble almost resembling agate, on which a few cuneiform signs were preserved.

Bordering STCD3 and STCD4 on the south was a street or alley (STCE). It runs approximately east-west and is contained on the north by the southern walls of STCD3 and 4 and on the south by what appears to be a private house STCF. During the reuse of rooms STCD3 and 4 when FT12 was the southern wall, floors in the street ran over the eroded top of FT15 and up to FT12. When FT15 was the southern wall of STCD3 and 4 a series of floors connected it with STCF. In the lower levels the street, STCE, becomes narrower toward the east where it is broken off by the edge of the mound.

The private house structures of the town appear to continue on the south side of STCE as evidenced by two rooms: STCF1 and STCF2. On the westernmost exposed portion of FT16 there seems to be a small porch leading into STCF1; this porch had a series of floors on it. Our investigations of STCF were limited to defining the walls; excavations will continue when more of the rooms can be opened up. In a cursory look at the section exposed on the side of the mound it appears that FT16, the northern wall of STCF1 and 2 was founded before the construction of FT15. This too will have to be confirmed next season.

### 5.1.2. Preliminary Stratigraphic Interpretation

In order to summarize the above data the following chart is presented with a description of the phases and strata excavated in Area C during the 1978 season. In this chart the phases and strata in STCA1 are omitted. The Modern and Medieval Phases are mentioned briefly in order to indicate the complete stratigraphic sequence.

5. *Second Millennium Strata*

Phases		Strata	
1	Modern	1	Long narrow pits dug and filled in SG32 and SG33
		2	Loose fill containing undecomposed garbage and large chunks of gypsum into which pits of Stratum 1 were dug
2	Medieval	3	Pits dug into earlier material and the filling inside these pits
3	Khana	4	STCD3-(this stratum not found here) STCD4-mud packing inside room (FT21)
4	Khana	5	STCD3-FT16 reuse floor, mud plastered STCD4-FT22 brown and green floor STCE-Floors going up to the southern face of FT12
		6	STCD3-FT17, an ashy layer creating a level base for FT16 STCD4-FT23, an ashy fill creating a level base for FT22
		7	STCD3-Wall, FT12, inserted into room and FT14 constructed as filling between FT12 and FT15; FT26 realigns the southern door jamb STCD4-Wall, FT12, inserted into room
		8	Destruction stratum STCD3-Burning of room and floor, FT18 STCD4-FT23 ashy layer burnt as well as walls STCE-Floors going up to FT15
5	Khana	9	STCD3-FT15, 19, 11 and possibly 9 built as room walls; floor FT18 constructed..... STCD4-FT15, 28? and 30? built as original walls of the room; ashy deposit FT23 accumulated
		10	SG32 and 33 mud packing laid wet between FT27 and 30 STCF-house walls founded
6	Khana	11	SG32 and SG33-walls FT27 and 30? constructed and plastered

2. **Phase and strata sequence for Area C**

The stratigraphic connection between STCD and the street STCE and the private houses on the northeastern side of the street has not yet been investigated. Therefore we cannot link up the phases established in the 1978 excavations with those to the north as presented in 1977 (see *TPR* 6 pp. 11-12). In STCD3 and 4 we are still higher, in terms of absolute elevation, than the latest living floors in STCA and STCB. Also the nature of the connection between STCD1 and STCD3 is not evident. The walls excavated thus far in STCD1 are later than FT19 of STCD3; further digging will clarify these points.

There is a possibility that at one point in its history the building containing the rooms STCD3 and 4 was freestanding on at least 3 sides. To the east and south, streets border this building; on the north the walls of STCD1 as they stand now are later. The western extension of this building is unexplored as yet. Whether or not the building was freestanding, it clearly has a unique character in relation to the other buildings in Area C: (1) its walls are thicker (1 m. to 1.60 m. wide); (2) its rooms are larger; (3) it contained one rabbeted doorway, usually indicative of important, public structure; (4) few objects have been found inside it as opposed to the private houses. The excavation of this building in 1979 should help to explain its functional history.

It is evident from the few objects and ceramics that were found in STCC, D, E and F that they are all to be dated to the Khana period. These objects and ceramics will be published together with those excavated in 1979 in future issues of *TPR*.

## 5.2. The Archive of Puzurum (in collaboration with M. Gaborit and R. M. Liggett)

### 5.2.1. Strategy

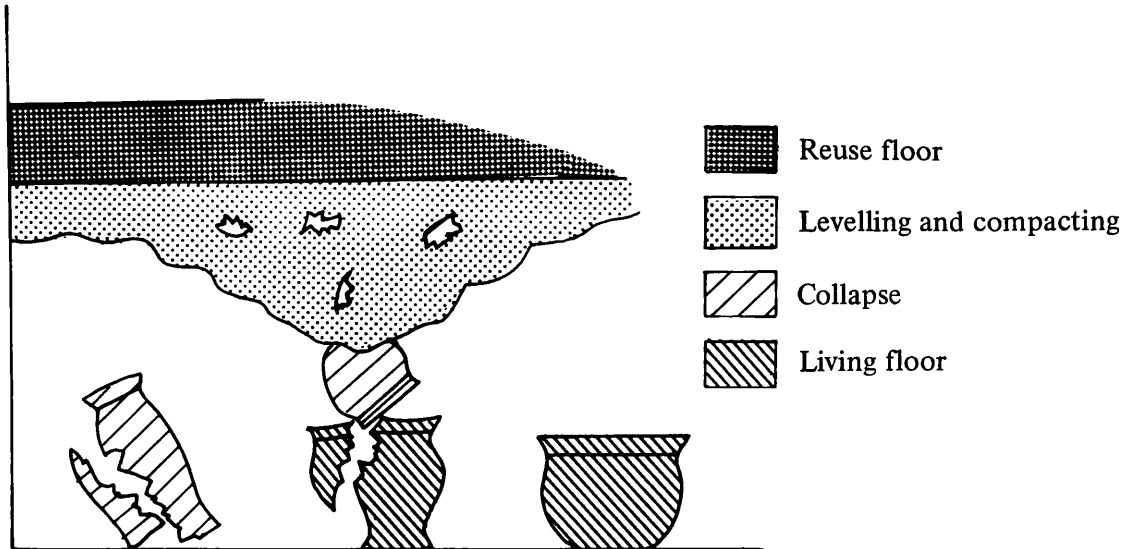
The excavations of 1977 had revealed the presence of epigraphic materials in a well stratified context—a living floor which had been engulfed in a general fire and had been sealed by a reuse floor. All of this was intimated by a small test locus, SG8 LC9, which had been opened below the topmost reuse floor, FT2, in STCA1 (see *TPR* 6, p. 11, Fig. 3; Ill. 2, 5; *DS* 2, 20-23). We expected the epigraphic aggregate to be sizeable, possibly an archive, since the nature of the one text found in the test locus (*TPR* 7, 2)<sup>1</sup>, a private contract, was such that it suggested it had belonged to a larger group of similar texts. We expected the deposition below the reuse floor FT2 to preserve much of the original material in the room because such a situation had obtained in the neighboring rooms (STCA3, STCB1); this suggested that the contract text may have been stored as part of a group of tablets (an archive), and not alone. Finally, we expected the depth of the deposition below the reuse floor FT2 down to the surface of the living floor to be of about 80 cms. if the elevation of the living floor was to be the same as the elevation of the floors in the adjacent room (STCA2); the two rooms were in fact in communication, since they both opened into the same structure STCA4, possibly a courtyard. Given these expectations, we set to work with an explicit excavation strategy, which had as its aim to recover the minutest details of the depositional history of the room, and ideally to obtain a concrete picture of what an archive room in a Khana residential house looked like.

We developed a hypothetical model which may be simplified graphically in the following diagram:

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<sup>1</sup>The numbering sequence of the fascicles *TPR* 7-9 as given in *TPR* 6 p. 12f. is incorrect since the publication order was changed. For *TPR* 9 read *TPR* 7 (O. Rouault, "Documents epigraphiques"). For a complete current list see above, 1.5.1.





3. Excavation model for STCA1

The main variables, in our expectation, were going to be the amount of intrusion subsequent to the fire (as a result of both a search for burnt artifacts and levelling for the reuse floor) and the amount of material which had collapsed during the fire (both stored artifacts and structural elements such as roof beams). The main goal was to reconstruct the original emplacement of the tablets, whether on shelves, in baskets, or the like.

We proceeded by establishing small excavation units within the room, 30 loci (see Fig. 6) approximately square and generally 50 cms. on the side, and levels 10 cms. deep. The subsequent analysis and recording may be called microstatigraphic at the level of the artifact if not of soil deposition—or ministratigraphic as explained above (1.4.6). In some loci (especially at the beginning) every artifact, including sherds, was triangulated; in other loci, smaller lots within each locus were declared and triangulated. All the soil was sifted through a 1 mm. screen, except for numerous samples which were kept for flotation. At first 15 loci were excavated in the northern half of the room; then 10 loci were opened in the southern half, leaving a baulk of 5 loci in the central portion of the room; the baulk was also excavated at the end. At the beginning, the loci were excavated one at the time within each level, in such a way that a level would be exposed completely through an entire portion of the room. As features began to appear, largely in the form of soil discolorations, the excavation mode switched and we followed natural boundaries in both the excavation and the recording.

The living floor was reached throughout most of the room; in a few places, notably the eastern corner of the room, some deposition was left in place which may have been resting on the floor, and thus should in effect have been removed. An option in this matter was

precluded by lack of time at the end of the season; but whatever the result of future excavation in these areas, it appears clearly that we have recovered all the essential data for an understanding of the depositional history of the room.

### 5.2.2 Depositional history

A first alteration of the model outlined in Diagram 3 was the discovery of other reuse floors. The topmost one (FT2) had already been cleared in 1977 for the entire room. The bottom one (FT8) was found throughout the entire room, whereas two other intermediate floors (FT9, 10) were only found as lenses in portions of the room. No epigraphic material came from this stratum; of the artifacts, one which deserves special mention is a silver crescent (TQ4-38).

The levelling and compacting was less pervasive than we expected. Even though there was no clear boundary between this and the other strata, there were a few general characteristics which differentiated it from the collapse stratum. (1) There was no clear demarcation between black and orange colorations in the soil as was the case in the lower strata; this is attributable to the mixing of debris resulting from their being reshuffled when the top surface was evened out for the new floor. (2) There was a general prevalence of smaller debris instead of items such as large sherds or bricks: this also is attributed to the breakage action resulting from levelling and compacting. (3) On the other hand, the debris was by no means broken down to a fine degree, which implies that the secondary impaction on the debris (secondary, that is, to the collapse itself) was limited only to a superficial flattening of the coarsest rubble, without any major removal or discoloration. (4) Similarly, there was no evidence of tunneling or other types of deeper intrusion into the lower collapse stratum, and much epigraphic material was found in the higher levels immediately below the reuse floor: it appears then as though no deliberate attempt had been made to sift through the debris in order to recover particular items. —All in all, then, the compaction and leveling stratum was only a few centimeters in depth, generally between levels 2 and 3 (Ill. 28, 31, 33), and contained many important movable items, in particular a duck weight (TQ4-42) and several tablets (see below 5.2.4).

The two most characteristic features of the collapse stratum are the sharp discolorations in the soil and the presence of almost complete bricks and large brick bats. The two dominant colors are (1) a very dark brown or black, which is due to the burning of organic materials, such as wood, and (2) a bright orange, which corresponds mostly to the mud or clay of bricks, mortar and roofing material (Fig. 5, Ills. 31-32), and *DS* 3, 73f., 77). The mud roofing material was present everywhere in small to medium chunks, up to a maximum of about 30 or 40 cms. There were several pieces of roofing material which exhibited one or more faces: some bore the impression of larger beams (up to 10 cms. in diameter), some the impression of smaller reeds (about 1 cm. in diameter), others were flat faces; it was not possible, however, to determine any general direction for the roof fall. Since the roofing material was scattered everywhere (see Ill. 36), including the top of the collapse stratum, there seemed to be no evidence of a second story, although it is quite possible that some of the material found in the collapse stratum was originally stored on top of the roof.

The brick material was equally uninformative as to the direction of the wall fall, because there was uniform orientation to the bricks. There were many bricks almost complete, but there was no single chunk of wall, i.e. no bricks still held together by mortar,

nor was there any recognizable trace of a plastered face. This too seems to argue for the absence of a second story. Considering that the walls are still standing to a height of almost two meters, it would appear as though only the top courses of the walls and the parapet around the edges of the roof were pulled down by the falling of roof beams.

It was especially in the collapse stratum that we searched for possible meaningful patterns, especially in form of clusters of items or of broken vessels which could be reconstructed from the scattered sherds. Especially tempting was the possibility that a single jar might have contained the tablets, and that we might reconstruct the manner of storage and the manner of breakage. But nothing could be made of these possibilities. Admittedly, given the large amount of sherds, we cannot claim to have exhausted all possibilities with regard to restoration, far from it; but it is significant that a prolonged search for joints by two expert restorers, among sherds well identified as to provenance and spatial association, failed to yield any sizeable numbers of complete vessels. We also found no evidence of wall installations such as shelves, either on the well preserved faces of the walls or in the debris of the collapse stratum.

When we finally reached the living floor (Ills. 37-38), we were surprised by the relative paucity of artifacts. Especially in comparison with the pantry room STCA3, excavated in 1976 (*TPR* 1, 3.4.3), it was interesting to note the following. (1) There were many bricks which had originally been stacked, however irregularly, on the floor of the room; since they were laying flat or almost flat on the floor of the room, and since they had no trace of mortar, they were obviously placed there before the collapse. (2) There were several large sherds which also must have been stored as sherds: both a rim and a base, for instance, were resting flat on the floor, and could certainly not be joined to any neighboring sherd, in spite of a very careful search. (3) There were very few complete items, quite heterogeneous in nature (see Ills. 38-39). (4) The door socket had apparently been removed from its hold and placed at a distance about a meter and a half (Ill. 38); next to it, though at a lower elevation, there were the remains of a carbonized wood panel which may have belonged to the door. (5) There were two fixed installations in the northeastern corner of the room (Ill. 43), both semi-circular in shape, one raised as if a pedestal with a small cavity in the center, the other set into the ground, and both contained by a heavy deposition of ash and charcoal.

Circulation within the room does not seem to have been easy. Generally, it would appear as though there was a small open area in front of the doorway, and then a pile of bricks in the middle which divided the room in two halves. From the distributional patterns noted on Figures 5-7, it appears as though the back side of the room contained the most important items—but certainly in a helter-skelter fashion, without any particular concern for an orderly retrieval of these items. Hence our conclusion that STCA1 served the purposes of dead storage, somewhat like an attic: the amount of broken items stored, the contrast in quality among the different types of items, the lack of any ordering to favor retrieval, the absence of installations for shelving or the like—these are as many typological grounds for our conclusion. Further corroboration comes from the stratigraphic observation that no attempt was apparently made after the fire to recover any of the items, especially the documents.

The floor itself was very well defined: it consisted of a very fine soil, highly compacted and burnt to a bright orange color. It sloped considerably from the edges along the walls toward the center, by as much as half a meter. The bricks stacked in the middle as well as the pile of bricks in the southeastern corner were not removed during the course of excavation,

and to that extent the floor was not totally exposed. A floor plan with elevations and a description of the physical properties of the floor remains is found in Fig. 5.

### 5.2.3. Movable items

A full typological description of the artifacts found in STCA1 will be given in later issues of the *Terqa Preliminary Reports*, while tablets and seal impressions will occupy the first two volumes of the *Terqa Final Reports*. Here we will limit ourselves to a tabulation of the items by major categories, since such a classification is useful for an understanding of the depositional history outlined in the preceding section. The high degree of heterogeneity among, and the great amount of, items stored in STCA1 is one factor in suggesting that the room served for the purpose of dead storage.

The totals of various lots follows, with a gross estimate of the amount of individual items per category (exact tallies are left for further analysis in future seasons):

pottery:	271 lots	=	about 5,000 sherds
bones:	131 lots	=	about 500 bones
stones:	80 lots	=	about 500 stones
shell:	17 lots		

Several clusters of barley seeds were found scattered on the floor, one of which is shown in Ill. 41.

The two most important objects were a small duck weight (TQ4-42, 1.7 cms. in length, 1.5 grams in weight) and a silver crescent (TQ4-38, 3 cms. in diameter, 2.30 grams in weight). The latter may be the kind of amulet known in Sumerian as *u<sub>4</sub>-sar* or "moon crescent," cf. LIMET 1960, p. 232, and see also *šeḫrum* and *su'ennu*, HALLO 1963, p. 141; note that the weight quoted by the documents (LIMET *ibid.*) is of between 1/4 and 1/3 of a sheqel, which (at the rate of about 8 grs. per sheqel) would correspond exactly to the weight of TQ4-38.

Of the vessels, the most interesting was a large oval basin (TQ4-208; rim 68 x 78 cms, height 63 cms.) of a type apparently used for bathing (PARROT 1936, p. 17f., Pl. III/2). The "bathtub" was found broken, and it would seem as though it had been stored broken, since among adjoining sherds some were totally blackened in the fire, while others were not (see especially DS 3, 82); it may be noted that no drainage or bathroom-type installations were found in the room. Another large vessel (TQ4-209) could be reconstructed almost completely from sherds which lay together in the western part of the room; not far, there was a common jar stand TQ4-205 (to the south) and a flat platter with straight edges and a hole in the center (TQ4-201, to the north). The other utilitarian clay objects included a piece of a toy cart (TQ4-157) and three jar stoppers (TQ4-66, 83, 141). Non-ceramic objects included a stone mortar (TQ4-U120) which may have been used as a door socket since it fits in the hole next to the door, an antler (TQ4-S322), and a wooden board (TQ4-S402).

The epigraphic finds represent, naturally, the most important material from STCA1. They may be divided into four major categories:

- (1) tablets;
- (2) envelopes, found either on their respective tablets, or next to them, or without any corresponding tablets;

- (3) bullae, i.e. lumps of clay pressed on a string used to tie a cover on the opening of a vessel, to seal its contents;
- (4) tags, i.e. lumps of clay flattened against the straight sides of containers such as boxes, to seal their contents.

While tablets and envelopes normally exhibit both cuneiform writing and seal impressions, bullae and tags are only sealed. Related to these items, although anepigraphic in nature, are

- (5) tokens, i.e. round discs of clay which were apparently used for some form of reckoning.

The majority of the tablets are contracts, of the type already known from various tablets from Terqa (see most recently *TPR* 7). Puzurum appears as the buyer in most contracts, hence the assumption that this was *his* archive, and STCA possibly his house. There are however some texts where he does not appear. One tablet was found with not just one, but rather *two* envelopes (TQ4-T95, T97+, T173); the inner envelope repeated the entire text, while the outer envelope had only seal impressions except for the title "the tablet of" followed by the first line of the text (*tuppi 2 SAR É [ . . . ]*). In this, and in other cases as well, the envelope had been broken before the collapse of the room, although tablet and envelopes had been stored together.

An interesting stratigraphic observation pertains to TQ4-T39 and T55, the obverse and reverse respectively of a loan text, in which a record had been made of silver borrowed by Puzurum from the temple. The tablet had been broken longitudinally in half, and the two pieces, obverse and reverse, were stored about one meter apart from each other. Obviously, the tablet had been broken intentionally (perhaps at the time the debt had been repaid), and one can in fact see plainly the percussion point on one side of the tablet (*DS* 3, 111f.).

The bullae and tags were discarded without any trace left of the containers to which they were attached; they may have been kept as receipts documenting the delivery of given goods, but they were certainly not stored in this room with the goods themselves. The nature of epigraphic finds, then, confirms the interpretation of STCA1 as an area for dead storage or, as we might say today, as an attic.

Figure 7 documents in some detail the distributional patterns for epigraphic and artifactual material. The main conclusion is that epigraphic finds tend to occur in the back of the room, except for tokens (which are found mostly near the door) and for isolated envelope fragments (which are more frequent in the front of the room). All items are generally found in all levels, except that the epigraphic finds are rare in the higher levels.

### 5.3. Other Second Millennium areas

#### 5.3.1. A monumental building (Area E)

Somewhat to the north of the residential quarter exposed in Area C, we have begun excavations in an area where massive remains of a monumental building are clearly apparent in the cliff face overlooking the river. From the size of the bricks it appears that the building is datable to the Old Babylonian period. The walls are standing to a considerable height, they are larger than the ones in Area C, and there is ample use of baked bricks and drains. On the basis of what is in evidence on the vertical face of the cliff (Ill. 65), a tentative floor plan may be reconstructed as proposed in Fig. 4. The importance of this area is also borne out by its central position in relationship to the tell and by the fact that *TPR* 2, 1, a cuneiform tablet of the early second millennium, was presumably found on the surface in exactly this location.

#### 5.3.2. A street (Area F)

In an effort toward obtaining a view of the urban configuration of ancient Terqa, we began operations in Area F, almost half way between the presumed center of the ancient city (around Area E) and its perimeter (Areas A and G). Our findings there could be correlated to those of various nearby municipal excavations (MP20, 16, 19, 17, 18), which we studied and recorded carefully in section and on the basis of whatever artifactual material could be associated with identifiable strata. A presentation of this type of evidence is best reserved for a later publication, where it will be possible to integrate it with a broader exposure in Area F. For now only a few remarks will suffice. The single sounding in Area F (SG25) revealed a good street surface, with a deposition of more than a meter clearly datable to the second millennium. Two important movable items come from these strata. TQ4-T58 is a tablet fragment with a mathematical text, and TQ4-T76 is a cylinder seal with a hunter accosting a large bird which resembles Imdugud (except for the head), carved in a local style.

## CHAPTER 6

### THE DEFENSIVE SYSTEM

#### 6.1 The System

##### 6.1.1. Introduction

A major defensive system encircled the city in antiquity for a perimeter of at least 1300 meters and probably up to 1 mile. At its widest known extent the system measured 21 meters across. It consisted of a variety of structural components—masonry walls, boulder courses, open spaces, a moat—which taken together constitute a planned and differentiated system, one which can be found with some degree of regularity at various points of the tell. The major system as we have it was built in the early third millennium, and most of the system remained in use in the second millennium, with some rebuilding. We are dealing with a massive and extensive structure, which is unitary in its overall realization, though fragmentary in its execution and documentation. While not claiming that the various components were thought out at once as part of a single design, their juxtaposition amounts to more than uphazard build-up: they are functionally interrelated concentric rings, rather than an accretion of localized patchwork.

Although indications are that it was built over a relatively short period of time (7.1), the sheer size of the structure would make it likely that different sections would have been built in slightly divergent ways. This would have depended on such factors as the configuration of the urban quarter adjacent to a particular segment of the wall, the condition of previous defensive structures, the name of the terrain, the availability of building materials.

The documentary sample exposed, although representative and sufficiently detailed, is very small: of a perimeter reaching an estimated length of some 1300 meters, a total length of only some 10 meters has been excavated. In addition, some 20 meters are visible on the surface, although here only a mass of masonry has been identified, no structural details. But even though the exposure is small in absolute terms, it is quite diversified and thus very informative. The portions excavated were selected according to various criteria. The first and so far largest single exposure (ARB) came as a result of observations pertaining to surface evidence of massive masonry (see *TPR* 1, 3.5). The second (SG17) was a test made specifically to provide a verification of the structural profile at a point on the tell almost directly opposite the first one (see *TPR* 6, 3.4). The third major exposure (ARD) came as a result of excavations conducted for non-archaeological reasons (1.4.1), but in areas which turned out to be highly revealing. Thus, while our control in terms of a sampling strategy was limited, the overall results are satisfactory. Unquestionably, a definitive treatment of the defensive system would have to be based on more excavations conducted according to an explicit sampling plan, a task which we envisage for later seasons at Terqa. But even at this stage the evidence recovered is both sufficiently diversified and patterned to allow for a coherent preliminary interpretation.

As we found ourselves working in long, narrow and somewhat parallel trenches, we were reminded of the dig configuration at such sites as Fara in Iraq. This was ironic since our stated goal had been to obtain a large horizontal exposure, yet it was instructive. On the one hand, it brought vividly to mind the fervor for stratigraphic analysis which in the Near East characterized especially the German school at the beginning of the century. On the other hand it allowed remarkable substantive conclusions which were based on purely stratigraphic reasoning, with little support from movable artifactual evidence and no overall visual verification of the monument as such. In this respect, our work was exquisitely archaeological in nature, in that it led to an abstract, conceptual understanding of volumes which were indeed present in space before us (i.e. were not exposed, reconstructed or restored), but could not be perceived visually as physical and concrete masses.

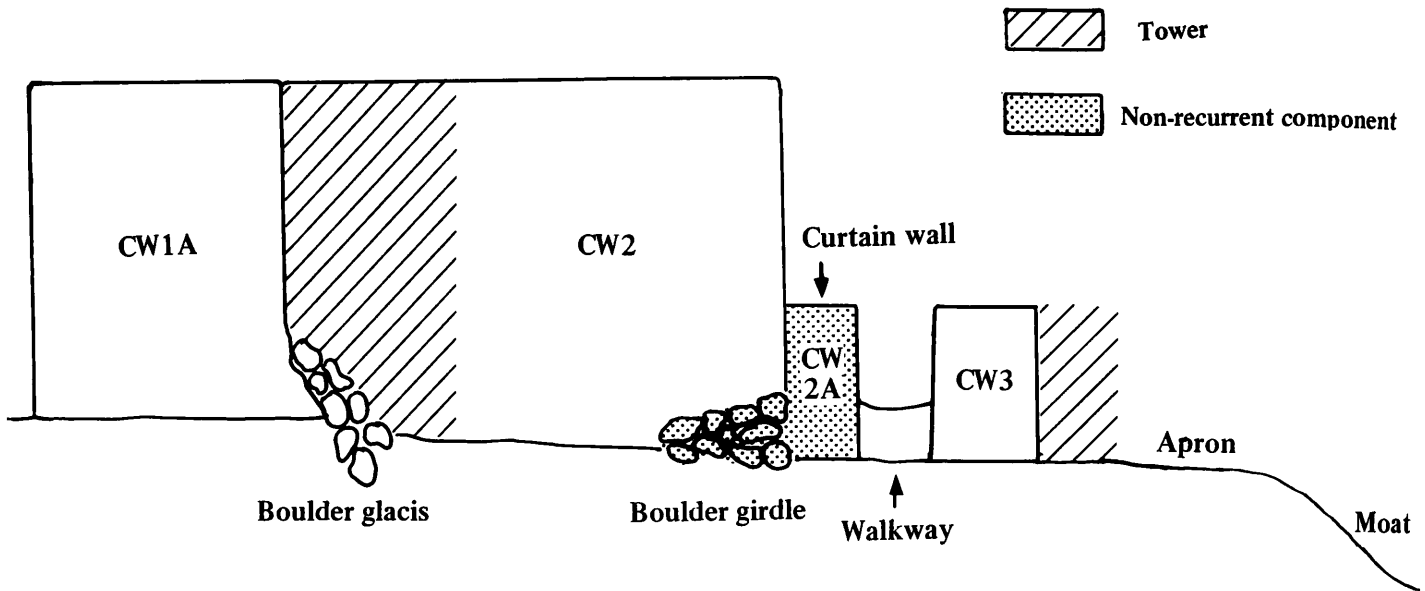
### 6.1.2. Terminology

The unitary aspect of the system is reflected in the presence of five concentric and partly adjacent rings of solid masonry. Each DEFENSIVE RING (DR) corresponds stratigraphically to an HORIZON (HR), i.e. a maximal unit in a system relating spatial elements in terms of a temporal sequence. The defensive rings are numbered sequentially from earliest to latest, i.e. DR1, DR2 and DR3.

While each ring is conceptually a single structural unit, it is predictable that its execution would consist of different segments, especially in the later rings. These are in fact conditioned by the state of preservation of the earlier rings, which they sometimes serve to repair; hence we find several different walls which are part of the same ring, but are not present uniformly around the entire perimeter. To the extent that these walls may in fact be associated with the defensive system, they are labeled CITY WALLS (CW). The sorting criterion for both Defensive Rings and City Walls is the entire city, but the initial identification of these structures was of course based on work carried out in the individual excavation units, where the numbering varied depending on the moment of the discovery and where the sequence of city walls varies depending on the location. Hence the same structures are also labeled generically FEATURES (FT) or, at an intermediate level of specificity WALLS, (WL, on this concept of specificity see *ARTANES* 2, 18f). The sorting criterion for Features is provided by a minimal excavation unit, hence the label FT must always be associated either with SG for SOUNDING or with MP for MUNICIPAL PROJECT. The sorting criterion for Walls, on the other hand, may be provided by a combination of units, e.g. with MP13+ (which includes SG60, 61, MP10, 13) and with Area B (ARB). Since these labels serve different identification purposes, they are used interchangeably in this publication, so that the same structure may be referred to by any one of the three labels, CW, WL, FT. A concordance for all these designations will be found below in 6.3.1, Chart 12.

Each City Wall, with its associated deposition, corresponds stratigraphically to a PHASE (PH), i.e. an intermediate unit in a system relating spatial elements in terms of a temporal sequence. Here too the sorting criterion is provided by the city as a whole. Various summary lists with all pertinent data are found below in 6.3.1. To clarify the presentation given below, we anticipate here the conclusions reached and provide a graphic rendering of the defensive system in its major components, with the terminology used in the course of the discussion.





4. Structural components of the defensive system

6.2 Documentary Data

6.2.1. Stratigraphic Sequences

6.2.1.1. Introductory

The following excavation units have provided pertinent evidence (they are listed here counterclockwise from northwest to southeast):

Excavation Unit	Season of Excavation	Section (Figure N)	Plan (Figure N)
ARD MP10	TQ4	---	---
MP11	TQ4	11, 14, 16	---
MP13	TQ4	13, 16	13
SG60-61	TQ4	13, 16	13
SG17	TQ3, TQ4	19, 16	13
SG50	TQ4	---	---
ARA SG22	TQ3	---	---
SG23	TA3	---	---

} 18

ARB	SG5	TQ2, TQ3, TQ4	}	9	}	8
	SG11-16	TQ3				
	SG21	TQ3, TQ4				
	SG51	TQ4				
	SG52	TQ4				

At various points along the perimeter of the tell there is surface evidence of masonry which may be considered to belong to the City Wall—on the basis of layout, general alignment and brick size. Their general location is noted on the site map (Fig. 2), but they have not been assigned excavation unit numbers.

The complex depositional history in each unit is illustrated in detail by the sections given in Figs. 9-15. In the trenches designated as MP (Municipal Project, see 1.4.1), the top two meters had been already removed by a mechanical shovel by the time we started our work. There was a considerable amount of Third Millennium material even at this elevation, relatively near the surface; this was generally characterized by the massive mudbrick of the various City Walls, and by a compact type of accumulation resulting from protracted open air deposition. In sharp contrast with this were the medieval and contemporary strata, characterized by a loose fill, found generally within large pits, most of them burial shafts. Once the general context was understood, we decided to use ourselves the mechanical shovel in two locations. One was SG60-61, which represents an eastward continuation of MP13: here the mechanical cut reached a depth of 1-2 meters, down to the top, of decayed third millennium masonry. The other was SG52, a trench which was sunk perpendicularly to the face of the City Walls in ARB, and reached virgin soil through a series of extramural depositional layers.

Given the amount of detail illustrated in the sections, we have chosen to produce several complementary drawings for the major units involved. On the one hand, several different scales are used: MP11 is given both in a large and a small scale, the first expanding for the entire length of the trench and illustrating the relationship between the defensive system and the medieval to ancient plain level, the second concentrating on the defensive system itself; MP13 is given only in a larger scale, and all other sections in a smaller scale. On the other hand, two sections are given side by side for the same unit in the case of MP11, MP13+, and ARB: in each case one drawing renders the details of physical stratigraphy, while the other illustrates our reading of the cultural development (Figs. 9-12). By physical stratigraphy we refer to the analysis of distinct depositional units which result from either cultural or non-cultural activities but are in any case identified on the basis of discrete physical properties (see *ARTANES* 2, 11-15): the two main types of cultural activities are architectural installation and destruction with consequent debris accumulation, while non-cultural activities entail, in our case, erosion and deposition by wind or water.

We will now review the salient points for each of the major excavation units. It should be noted that the locus numbers are not consecutive, nor are the various loci of the same dimensions, because work in the Municipal Project area proceeded with the uncertainty of how much time might be available for the entire operation: as a result, individual excavation units within the trenches were opened in response to the measure in which our understanding of the stratigraphy progressed.

## 6.2.1.2. MP11

This Municipal Project trench provides the longest stratigraphic sequence, extending all the way from the inner face of the City Wall to the ancient plain level outside the City Wall. It is divided here into Sectors for the sake of presentation only, since the concept of sector was not used for stratigraphic sorting at the time of recording.

Virgin soil was reached at the bottom of several loci in the area of the City Wall proper (LC1, 5, 7, 12, 6, 11, 10 and 14), and perhaps outside the City Wall (FT16): it is a hard reddish clay, locally cemented with gypsum, completely sterile of cultural remains. Its top profile exhibits a downward slope from elevation 250 in the east to 0 some 20 meters to the west. This does not necessarily indicate the existence of an original hill-like rise on the terrain, but is likely instead to have been the result of excavations for a moat.

Sector 1 corresponds to Locus 1. Here there was a continuous series of floor deposits, composed of thin, silty clay laminations, and sloping up the face of the wall (FT15, 18, 22, 23, 24). Numerous ash lenses were found in the floors.

At elevation 330 a layer of stones (FT26) abuts the face of the wall, which at this point exhibits a curious protrusion consisting of a single course of bricks (Ills. 46-50). Both the stone layer and the brick course rest on a single floor (FT28) which consists of silt with ash lenses; a sample from FT28 (TQ4-S284) has been analyzed for C14 determination (see 6.2.4).

The protruding brick course may be understood as the base line of a newly built wall, which maintained the same alignment as the earlier wall, and utilized that wall as a foundation. There is a similar earlier wall in ARB (SG51 FT1, see 6.2.1.5) which exhibits in its outer face the same alignment as the later wall; here, too, the two faces are separated by a few brick courses which jut out from the otherwise continuous vertical face line. This interpretation finds some support, in MP11, by the marked evidence of erosion (FT63) on the outer face of the wall at an elevation identical to that of the brick protrusion: it would appear as though an earlier wall had been torn down to a line going from the brick protrusion to the erosion mark, and a new wall had been built on top of the old stump which had come to serve as a foundation. Such a conjecture finds partial corroboration in the very high C-14 determination yielded by a sample coming from extramural deposition associated with the lowest strata of the City Wall (see 6.2.3). Hence we assume that we have here, as in ARB, a superimposition of the two oldest walls in the system, CW1 and CW1A.

This possible earlier wall is associated with three floors (FT29, 30, 32). Two small pits (FT31, 33) were dug from elevation 245, and belong possibly with floor FT29, which shows extensive ash and bone concentration. These floors coincide with the very bottom of the wall. Beneath the floors and the wall there is a layer which contains very little cultural deposit and shows no trace of slow compaction or lamination: it rests immediately above virgin soil, and corresponds probably to the period of preparation for the construction of the wall.

Sector 2 includes FT3 and FT34. They are respectively the masonry and boulder glacis of WL1, the first, or possibly the first two, city wall(s) in MP11. The inner face in LC1 is well preserved, with a thick and coarse plaster, and the base of the (earlier) wall clearly preserved in connection with floor FT30. No foundation trench was dug for the wall; it rested instead on a flat platform which practically coincided with virgin soil. The width of the masonry section of the wall is of about 5 m., the approximation resulting from the

fact that the outer face is irregular. It is important to note that the width shown in the section is greater than the real width of the wall because the section is not perpendicular to the face of the wall (see plan in Fig. 18); this is compensated for in the schematic section on Fig. 16. Below the boulder glacia (FT34) two layers of sterile clay (FT40, 41) were found which rest on top of virgin soil and correspond to the ones found in LC1 (Ills. 54-56).

Sector 3 is an area of about 10 m. immediately to the west, characterized by a diverse depositional process. This sector includes LC7, 12, 6, 11. Above the downward slope of virgin soil (FT41) there is in the first place a layer (FT40) with little cultural deposit, similar to the one found in Sectors 1 and 2 (Ill. 56). In contrast with the red clay of virgin soil, this is a fine laminated brown clay tending to dense brown, with gypsum flecks. This was followed, above, by a layer (FT39) which contains the extramural deposition associated with what we presume to be CW1: it consists of thinly laminated ashy floors. Two other features are associated with CW1A. In LC12, a small mud brick construction (FT43) was uncovered, running in an east-west direction: given the very limited exposure, its function could not be determined, but it is interesting in that it denotes a building activity just outside the City Wall. Between LC7 and LC12 (in an area not excavated below the cut line of the mechanical shovel), there were some boulders (FT35) of the same type as in the glacia, but clearly not belonging to it since they were embedded on top of the ashy floors (FT39) which ride up to the glacia and even cover its lower course of boulders. It appears then that the boulder emplacement too reflects two phases, just like the masonry work; the two phases, corresponding to CW1 and CW1A, are separated by floor deposition. Our interpretation in the field had been that FT35 represented boulders which had fallen from the glacia after a certain period of use. With the benefit of subsequent analysis (see especially 6.2.4) it seems now equally possible that FT35 may correspond to a second glacia, which could belong to CW1A as a rebuilding of CW1. The pocket of silty clay (FT63, Ill. 56) which is found between courses of bricks at what we suppose is the interface between CW1 and CW1A may perhaps be, if not simply a large rodent hole, an extension of the floors which were overriding the lower courses of the initial boulder glacia. Since in the field we had not distinguished between the possibility of two distinct building phases, the single label WL1 was used for both CW1 and CW1A. Also, the possibility of an interface between the two walls was not pursued, and the excavation stopped at a line above that level.

The masonry and loose debris resting on top of the layers just described are the structural remains of the second wall (WL2=CW2). We conceive of this as a single structural unit without foundations (like WL1) and consisting of a single mass of unbaked mud bricks of which only the eastern and western portions are preserved in this particular section. The central portion of the wall contains a large mass of loose masonry and stones (FT37), which may represent rubble from CW2 after a period of erosion and/or destruction. Note that the big boulders FT47A, 47 are also contained within this rubble. The outer face of CW2 is preserved only to a minimal height, but at least five courses of bricks are clearly identifiable at its bottom: they jut out slightly from the face of the wall, and show very clearly the juncture where floor deposition rides up against them (Ills. 60-61). There was no trace of boulders at this location.

Sector 4 is an area of about 5 ms. to the west of Sector 3, and it includes Loci 11, 13, 10 and 14. The lower portions give further indication of the presence of virgin soil, which slopes sharply downwards. No clear evidence was found of a moat-like deposition as in MP13, but the sharpness of the slope is a stratigraphic suggestion to this effect as a scour-and-fill structure. It is interesting to note that even though elevation 10 was reached in LC14, there was no immediate evidence of the water table which appeared instead at the same

elevation in MP13. The laminated ashy floor associated with CW1 continue as in Sector 1, (FT39), except that they are even thicker; a carbon sample (TQ4-S314) was retrieved from this floor deposit in FT51 (Ills. 60-61); it yielded a C-14 determination of 3700-3600 B.C. Unfortunately, we did not obtain a complete stratigraphic section of these lower levels; it appears, however, from the projection suggested in Fig. 11, that the higher deposition associated with CW1A was all but obliterated in this sector. Only a small layer of ash in LC11 may be linked with FT36 and hence with CW1A; the rest has been cut into by the extramural deposition of CW2. Above these floors there are layers of clay and silt which are covered at the top by a dense red mud layer (FT54); this is apparently to be understood as intentional fill placed against the wall and contained by a thick plaster-like layer. Very little evidence was found of floor deposits associated with CW3; instead, the red plaster was overlaid directly by fill layers of varying density, with clay lumps and mudbrick bats, which may represent rubble from CW3. The upper boundaries of this fill layer are indistinct, particularly because the section exposed here by the mechanical shovel had become dried out considerably by the time we set to work on it, so that the possibility of different stages in the debris accumulation could not be pursued.

Sector 5 is an area of about 3 ms. west of Sector 4, and it includes part of LC14 plus all of LC15. The bottom stratum (FT60) is a dense, massive clay fill which seals the extramural deposition accumulated in front of CW2. On top of it is a fine layer of sand (FT59) which is then in turn sealed by a dense mud plaster (FT57). All of this is apparently an intentional platform built to support the construction of a brick structure, FT56. Even though only five courses of bricks are preserved, and in spite of the narrow exposure obtained in the trench, this piece of masonry can clearly be identified as a tower-like projection. Two faces are preserved, joined at a 90 degree angle (see Ill. 62): this is the corner of the projection. The inside corner, which would correspond to the juncture with the outer face of the wall, is not preserved; there is, however, a good correlation with CW3 in MP13 (6.2.1.3): the alignment is the same, brick sizes correspond (6.2.3) and there is only about 1 m. difference in elevation. It appears thus safe to identify the two as parts of the same city wall. The outer face of CW3 is preserved in the north baulk, where it caved out against ash deposits. A small portion of the depositional build-up against the tower was recovered (FT58).

At least nine courses of a different wall (FT65) were identified in section, but not in plan because the wall to which they belonged had been totally removed by the back-hoe. The traces left in the section exhibit no face at either end, but what is left of the bricks extends beyond the outer face of the tower of CW3. This shows that FT65 and CW3 are indeed two different walls, even though their brick size is very close; thus it can be inferred that FT65 is later than CW3 (because of their reciprocal stratigraphic emplacement), but not by much (because of the similarity in brick size which precludes, at least, dating the later wall into the second millennium, see 6.2.3). FT65 was labeled WL4, and is now understood as CW3A. If this was a rebuilding of CW3, it entailed a considerable amount of structural alteration, since it extends by at least 2 ms. beyond the face of CW3. In any case it is important to note that nowhere else on the site do we have evidence of a brick structure immediately overlaying CW3. Further investigation of stratigraphic relationships in this general area was made impossible by the impending danger of baulk collapse, which did in fact occur toward the end of the season in the general area of FT13 (a recent trench for a water main).

Above CW3A there is a non-distinct mass of masonry and/or brick rubble (FT3) which

represents probably a mixed collapse level of CW2 and CW3/3A, as well as, perhaps, of the walls of CW4/4A (for which see 6.2.1.3).

Sector 6 is an area of about 6 ms. west of sector 5. It was not excavated below the bottom level of the backhoe trench, and it was eventually subject to a cave-in from the southern baulk, which we had known all along to be rather unstable. The only interesting feature which was noted in section was a stratum (FT3A) which contained brick rubble of a distinctive red color. This may have been the result of burning, which would appear to have been secondary, given the nature of the deposition: the downward sloping stratum may be the result of intentional destruction, of either CW3/3A or of CW4/4A—but this is purely a conjecture. The brick fragments were quite weathered and may just as likely have been the result of an unused wall disintegration.

The remainder of MP11 is characterized by a uniform horizontal stratification, which continues uninterrupted toward the west. The contrast with the predominant downward slope of the stratigraphy connected with the extramural deposition of the defensive system is indicative. We have here the natural alluvial build-up which represents the slow rise of the plain level without any significant cultural deposition other than modern—the gravel stratum FT11 which may represent an earlier road bed, and the various trench intrusions (FT13, 14, 17, 66, 67). This was clearly an area of open fields outside the city, without obvious trace of structures. Potsherds and floor-like laminations are the only link between the field area and the settlement, except for the burials, which cluster together at the western end of the trench (LC3), and which are all from the medieval/modern period. These burials are intrusive into strata containing much ash and charcoal, in the nature of ash dumps, rather than hearths, which give evidence of some degree of open air activity, but these too are not associated with any structural remains.

Because of the scarcity of artifactual material and the uniformity of the deposition as recognizable in the section we were not able to assign the alluvial build-up any values in terms of cultural stratigraphy. This might be an interesting project at some later date, to be carried out with the insights gained from MP11, and with some higher degree of exposure and of stratigraphic control, including microstratigraphy. An interesting feature is FT16, a stratum of red brown silty clay barely showing at the bottom of the backhoe cut: this may represent the laminated silts found elsewhere (MP13) shortly above virgin soil. If so, this would have here a good clue as to the ratio of open field accumulation through time, for which see below, 6.2.1.3.

### 6.2.1.3. MP13+

This operation started as a municipal project trench (MP13); it overlaps with another such trench (MP10) at the point where they join and it was continued in a straight line to the east by two regular excavation units (SG60, 61). The symbol MP13+ is used to refer to the sequence of four operations considered as a single unit. A subdivision into sectors is used for the sake of presentation as was done above for MP11.

Sector 1 (SG60) includes WL1=CW1A and the floor deposition built up against its inner face on the east. The face of the wall has been traced in section only to a depth of a meter. It is not vertical; however, given the overall alignment with the city wall in the adjacent operations (MP11, SG17), there is little doubt but that this is the inner face of CW1A; it may have been cut back after slumping or erosion. The massive mudbrick can be followed for a distance of some 5 ms. to a joint which corresponds to the interface between CW1A

and CW2. The top of CW1A is preserved to very near the modern surface of the tell, covered only by some 20 ms. of topsoil. Modern grave shafts cut more deeply into the masonry structure, one of which shows in the section of CW1A. Only the top 50 cms. of ancient floor deposits were exposed where they abut the inside face of CW1A; the higher strata in this location include a small portion of a retaining mudbrick wall, presumably of a later date, and fill deposits.

Sector 2 (1140-200) includes the preserved portion of WL2=CW2 (of which actually very little is left), plus remnants of two rebuildings of the same wall (WL3 and 5). The mass of mudbricks has been cut into by several modern burial shafts, so that only one or two courses of bricks are exposed in the trench. The juncture with the next wall on the west (SG61 FT1=WL5) does not represent the outer face of CW2, since the width of CW2 is greater in both MP11 and ARB. It can thus be assumed that CW2 had eroded in part or was cut back, and a new block of masonry was set in place above its western end. This masonry includes two distinct types of mudbricks, which correspond presumably to two different walls. They were identified by us as SG61 FT1=WL5 and SG61 FT11=WL3; the interface between them remains to be determined. The bricks of FT11 are related in size to the bricks of SG17 FT48, which cuts into and is built against CW2; accordingly, it would appear that SG61 FT11 is later than CW2. Also, the alignment of FT11 is at odds with the general orientation of the city walls in this area, which may argue for its being later than the main defensive system. The outer face of FT11 is preserved up to 11 courses of bricks, which are all part of a foundation (SG61 FT4) cutting deeply into a well defined sequence of floor deposits: the presence of a foundation is once again at odds with what else we know of the City Walls in the early periods, and this too argues for a later date of FT11. So on the basis of brick size, alignment and structural make-up (presence of a foundation) FT11 seems later than CW2. And yet consider the following: (1) the outer face of FT11 is about where we would expect the outer face of CW2 (i.e. some 9 ms. from the interface between CW1A and CW2); and (2) the bottom of FT11 is slightly lower in absolute elevation than the bottom of CW2 in nearby SG17. In other words, FT11 seems to have taken the place of CW2, possibly as part of a major rebuilding.

The relationship between FT11 and FT1 remains uncertain, but we will argue here for a sequence according to which FT11 is earlier than FT1. It must be stressed that there is no direct evidence and our reasoning is only inferential. Although square (like the ones of FT11), the bricks of FT1 are different from any other in the defensive system. So brick size is of no immediate help in relating the wall to others in the system. Our main clue is based on two concomitant considerations. (1) In SG61, FT11 is preserved in its outer face which rests directly on floor deposition, not on an earlier wall. (2) SG61 FT1 and SG17 FT48 are almost certainly the same wall because they both cut CW2 and they both share the same brick size. One would think that erosion is more likely to occur first at the outer surface of a wall rather than in its middle. On this basis, it would appear that the outer wall (SG61 FT11) may be the first refacing of CW2, and the inner and higher wall (SG61 FT1, SG17 FT48) a later relining; the outer face of this inner wall is lost because it was higher than the face of SG61 FT11. This hypothetical reconstruction of the rebuilding activities may be represented graphically in the diagram given below. Further excavation in SG61 could easily solve this problem, but they would require a considerable expenditure of time since one may have to go to a certain depth to obtain any real clarification.

As for the relationship of both FT11 and FT1 to the other walls in the MP13+ sequence, we assume that they are later than the next wall to the west (CW3=MP13 FT1, in Sector

3), because the trench into which SG61 FT11 is set (SG61 FT4) is cut from a much higher level than the platform upon which CW3 is standing. Also, the general alignment of CW3 is the same as that of CW1A and CW2, whereas the alignment of SG61 FT11 differs. Hence we consider SG61 FT11 and FT1 as part of CW4, or specifically FT11 as CW4 and FT1 as CW4A. It must be stressed, however, that this relative sequence is not really demonstrable, and rests only on inferential grounds. The sequence CW4/4A is particularly conjectural.

In Sector 3, the depth of the trench is much greater than in the eastern portions, since it reaches almost 5 ms. below ground level. At the bottom we have a large portion of virgin soil (SG61 FT17, FT15; MP13 FT42, FT41): it slopes downward to the west, with an abrupt step toward the end of the exposure (in LC2) which appears too steep to be natural, and may be the result of a cut, perhaps for a moat. The layers above correspond to extramural deposition in front of CW1(?), 1A and 2. We cannot say for sure which strata are associated with the three different city walls, since CW1A and CW2 were not exposed to their base in MP13+, and no portion of CW1 has been exposed at all—assuming that CW1 was even preserved here. We may infer that SG61 FT8 represents the top of the CW1/1A deposition, on the assumption that FT11=CW4 had the same base elevation as CW2, and considering that the horizontal top profile of FT8 at its westernmost end corresponds probably to the platform on which CW2 rested. If so, all the remaining higher strata are to be associated with CW2—and not with FT11=CW4, which was cut into the CW2 deposition.

The extramural deposition was not limited to debris accumulation. MP13 FT46 is a small mudbrick structure which gives evidence of a localized activity area, of unknown function, but clearly different from generalized dumping. It may belong with either CW1 or CW1A, and corresponds to similar features in MP11.

The mudbrick wall MP13 FT1=WL4 is set into the CW2A deposition, but it is not clear from which level. Its base overrides MP13 FT11, FT13, FT18 which are presumably associated with CW2. Its eastern side cuts into SG61, FT3, FT5, FT6 (the northern section, not shown here, shows traces of a trench cut); these strata are certainly associated with CW2. On its western extreme, MP13 FT4 is clearly built up against the wall MP13 FT1, because, as seen on the northern section of the trench (not drawn here), there are pockets of deposition of FT4 material pressed into the eroded side of the wall. As for MP13 FT3 and 2 they may either have been cut by the emplacement of the wall or built up against it. The former alternative is suggested by the profile of the base of the wall, which is stepped back in a fashion characteristic of foundations. The space between MP13 FT2 and the wall could then represent the foundation trench: presumably FT3 and FT2 were both cut along the same vertical plane (which would explain the upward curl of FT2), and then material from FT3 would have trickled down into the foundation trench. But we prefer another alternative, as follows. The wall MP13 FT1 would have been built directly above MP13 FT11 which was cut back and evened out in front of the wall to serve as a small platform or walkway. MP13 FT2, 3 and 4 would then represent a deposition built up against the wall; the space between FT2 and the wall could then be explained as a fissure resulting from the drying up and shrinking of the soil as mud. One reason for favoring this alternative is comparative. The wall MP13 FT1 is very probably the same as CW3 in MP11, because they both have the same alignment, similar elevation and the same brick size. Now the deposition built up against the wall in MP11 includes a stratum (MP11 FT58) which has the same unusual composition as MP13 FT3—sandy nodules set in a silty matrix. Finally, there is no correlation between the strata on either side of the wall MP13 FT1, which normally would have been sunk into a preexisting deposition. For a graphic reconstruction, see Diagram 5.



The back side of the wall MP13 FT1 is set at some distance from the front face of SG61 FT11=CW5. We have no way of determining whether we are on the inside of a casemate wall, or a structure such as a gate or a tower, or whether there was a walkway between the two walls. In any case, it is certain that we are dealing with one more City Wall, CW3: the general alignment of the structure and especially the deposition in front of it, which is clearly that of a moat, leave no doubts about this interpretation.

Sector 4 contains the best documentation for a moat. We have already mentioned the abrupt cut into virgin soil in LC2, which probably represents the earliest cut done to accommodate the bed of the canal. Above it, there is a gradual build-up, which is probably associated with CW1 and CW1A up to MP13 FT32. This is in turn cut sharply on the west by what was probably the first bed of the moat associated with CW2. The strata above (MP13 FT13 and 11) represent the deposition associated with CW2, which has a more gradual, but still definite, downward slope to the west. The next band of strata represent the deposition associated with CW3; they are: MP13 FT36, 2, 19, 3, 4, 12, 16. Of these strata, FT2 (a very stiff clay) may be understood as a protective fill packed against the wall, and FT3 (a sandy silt) as the dredgings of a water channel.

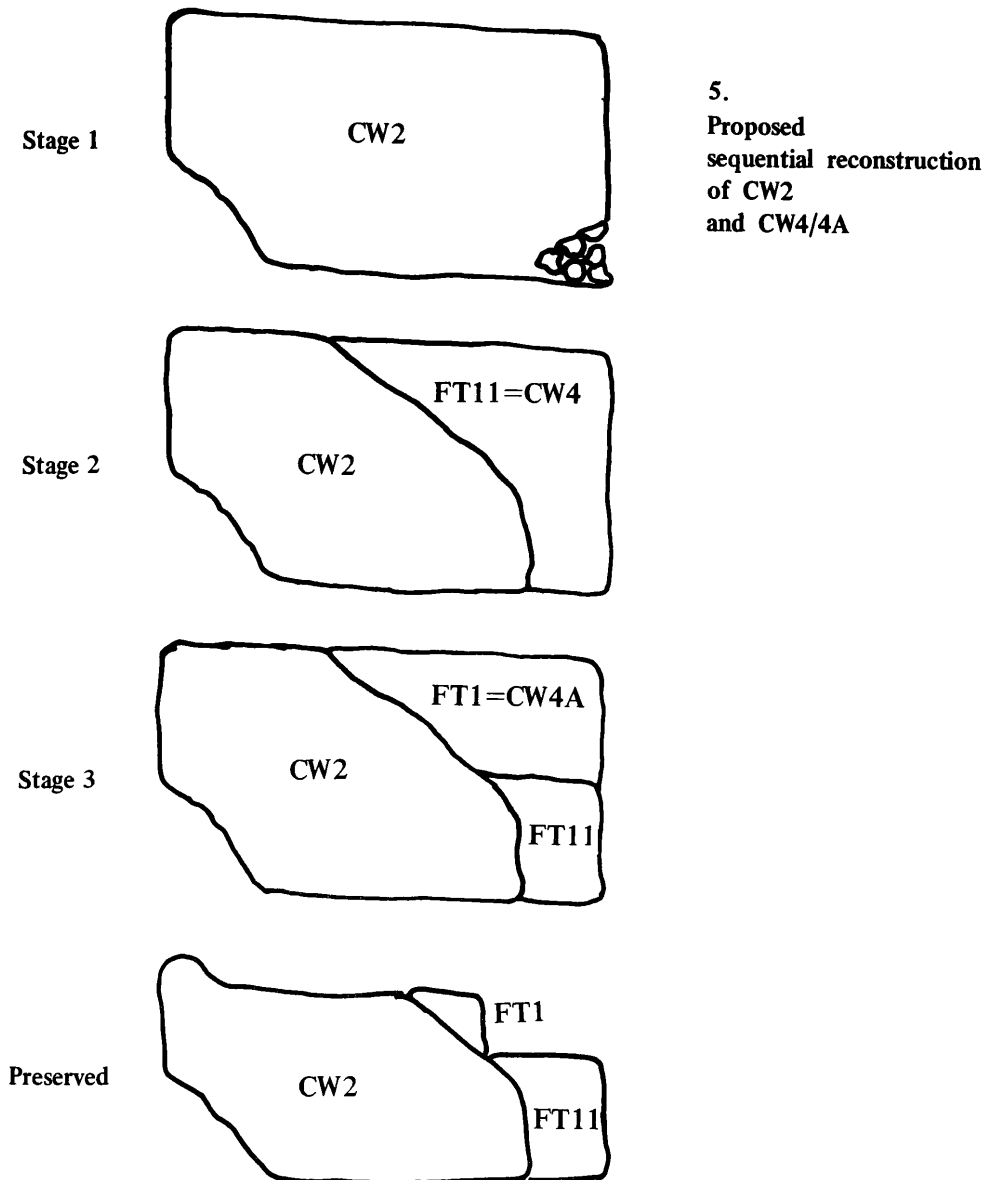
Next comes the much smaller channel bed represented by FT10 and 14. This would appear to be a small irrigation canal in use at a time when the moat apparently was not in function, as if during a period of urban decline. No major deposition can be associated with it.

But this was not the end in the development of the moat's history. The small channel bed was in turn overridden by major moat-like deposition, represented by FT5 and 6 on the east and possibly by FT15, 47, 23, 24, 17, 25, 26 in the west. Conjecturally, we assume that this deposition band is associated with CW4 (in Sector 2). This is based simply on the following observation: (1) the moat-like deposition (FT5-26) overrides the small channel bed (FT10 and 14); (2) this channel bed interrupts the deposition associated with CW3, and seems to suggest a period of abandonment; (3) CW4 is a massive city-wall, of the type normally associated with a moat; (4) CW4 was set at a higher elevation than CW3, and it is plausible that its extramural deposition might have overlaid the stumps of CW3.

FT7 is the last deposition band which may be associated with a moat, as the higher part of its bank. Here too we can only conjecture as to its possible association, which we presume to be CW4A; as the last major rebuilding of the defensive system, this wall would likely be associated with a moat, and FT7 is the last depositional band to reflect the general downward trend typical of moat deposition. This proposed reconstruction is summarized graphically in the section on cultural stratigraphy given in Figs. 13 and 16.

Such a trend is notably absent in Sector 5, which follows on the west. FT38 has a marked slope in the opposite direction, after which we find a generally horizontal accumulation. The burials are the most interesting features found here. Only one was exposed (FT53), but FT52 seems to represent the top part of another shaft, which however we did not excavate. The emplacement of these burials was made from a floor surface (FT50 and 29) which, in LC13, overrides a series of fine laminations, partly water laid: the latter may represent a period of relative abandonment, with little cultural activity.

The same kind of deposition is observed above the burial area, where medium size depressions are found, characterized by water laid silts. There are likely to be the beds of irrigation canals, dug after a considerable open field accumulation had covered the burial shafts.



One final important observation pertains to the layers into which the burial shafts were dug. In LC7 we reached virgin soil (FT54) at elevation 125: this is lower than the elevation of virgin soil inside the walls (elevation in MP11 LC1), but is considerably higher than the bottom of the moat channel (below elevation 0). From this observation two important corollaries follow.

(1) The western end of the moat, i.e. its upward slope toward the open field, must be west of LC7. Hence the total width of the moat would not have been more than 15 ms. A similar clue is also found in MP11 FT16, see above 6.2.1.1.

(2) The open field accumulation preserved stratigraphically on the northwestern side of the ancient mound reaches a depth of about 3 meters for a period going from the beginning of human settlement some 5500 years ago to the modern period. Even allowing

for erosion (which does not seem to have been major, given the lack of any strong stratigraphic demarcation in the section) and for modern grading, this may be a good approximation of the ratio intervening between open field accumulation and real time.

#### 6.2.1.4. SG17

The exposure in SG17 is much smaller than in the previous two operations, but it provides some important information which eluded us elsewhere: this pertains especially to the depth and nature of deposition against the inner face of CW1A, and the presence of a tower against CW1A. Excavations here were undertaken already in 1977, and were reported on briefly in *TPR* 6, 3.4.2, and were illustrated in *DS* 2, 60-64, but no section or plan was provided in the publication. We do so now, and include whatever stratigraphic information is immediately pertinent to an understanding of the defensive system.

The inner face of WL1 was exposed to its base, which rested upon virgin soil, without foundations. The total height of the inner face as preserved is 4 ms., the highest exposed so far. The deposition against the face is of great interest, because it shows a continuous floor accumulation, rising from virgin soil to the full preserved height of the wall. No stratigraphic break occurs for the entire stretch of the 4 ms. section: there is only an alternation of greater and lesser compaction, which results in a series of striations sloping up toward the face of the wall. Because of the correlation in brick size with CW1A elsewhere, and because of the general alignment with other preserved portions of the City Wall, we label SG17 WL1 as CW1A. Here, then, we have no evidence for CW1; this may imply either that its inner face was set out from the inner face of CW1A (and thus was not exposed by our excavation), or that CW1 had been completely removed before the building of CW1A.

The face of the wall itself is covered by a thick layer of plaster, which has been preserved for the entire height of the wall. The width of CW1A to the outer face is 5.20 ms. The outer face is preserved to a lower height (about 2 ms.), because the wall was gouged by a large and deep medieval pit. At its base we have found the boulder glacis which is typical of CW1A wherever its outer face has been exposed.

A surprise which awaited us was the presence of a tower-like projection, FT27, which extends outward from the outer face of CW1A. The side face extends in a direction almost perpendicular to the face at the base, and slightly oblique (inwardly) at the preserved top. This is due to a pronounced batter of about 10 degrees, which may have occurred throughout. The projection was not bonded with CW1A, and the bricks were somewhat different in size; when CW2 was built (see presently) it simply filled the corner between CW1A and the projection. The interface between CW2 and the projection was not apparent on the surface, whereas the interface between CW1A on the one hand and FT27+CW2 on the other showed as a single line. This accounts for the fact that we missed the tower until we had excavated through parts of it—after a workman had dug through the two different blocks of masonry without realizing that they were in fact different. The purpose for what we thought would be a simple test locus LC22 was to expose the face of CW1A and verify the presumed existence of a boulder glacis at the base of CW1A. While all indications are that the projection is a tower, we cannot consider this identification proven since we do not have its full perimeter: the western face of FT27 was cut by a later wall (see presently), and our efforts to recover the southern face failed. To this end we conducted little more than some surface cleaning, which was however hampered by the presence of numerous recent burial shafts and much evidence of erosion.

The masonry which fills the corner between CW1A and the tower-like projection FT27 is clearly a part of CW2. Its location and brick sizes are the same as those of CW2 elsewhere. Its width, however, is much less than elsewhere because both CW2 and the CW1A projection (FT27) were cut back by another wall (FT48). Because of the similarity in location and brick size we assume that this wall was the same as SG61 FT1, i.e. CW4A. Given the extent to which CW2, and perhaps the CW2A projection, were cut back (a roughly straight line at least 5 ms. in length), we may assume that this was a major rebuilding of the defensive system, which utilized the extant part of CW1A and CW2 as its inner core (see above, Diagram 5).

#### 6.2.1.5. ARB

Area B was the first place where we encountered evidence for the City Wall in 1976 (SG5: *TPR* 1, pp. 33-38); this became a major excavation area in 1977 (Area B, SG11-16: *TPR* 6, pp. 14-20). It still remains the only considerable horizontal exposure we have of the defensive system, even though in 1978 our excavations were limited to two test loci and some surface clearing—SG51, SG52 and SG21.

SG51 was a small locus, about 1 x 1.50 ms., at the point where the juncture between CW1A and CW2 is exposed vertically. Our purpose here was to follow the interface between the two walls to their base, which we expected to rest almost directly upon virgin soil, as in ARD. Instead, we found here traces of masonry and associated floor deposition which belong to the oldest horizon yet discovered on the site.

SG52 is a deep and narrow trench cut perpendicularly to the face of CW2 to a depth of some 3.50 ms. below the point where the modern plain level joins the preserved face of CW1A. Its purpose was to investigate the interface of the ancient plain level and/or river bank with the exterior base of the city wall. Since we did not expect structural remains, we had the trench dug by a mechanical shovel. Our expectations were met, in that we did not uncover structural remains on the slope down from the base of the wall to virgin soil. We hit water table at elevation -150: this is a meter and a half lower than in MP13 (see above), which is predictable given the proximity of the river in ARB.

SG21 was the operation at the southern end of ARB where we had already conducted some surface cleaning in 1977. Since the results in 1977 had been rather inconclusive, this operation was not included in our publications except for two photographs (*TPR* 6, Ill. 27; *DS* 2, 58). In 1978, on the other hand, we were able to incorporate some of the data from this operation, on which new light was shed by the new exposure in ARD. These data are the wall remains showing in section just south of CW2: they could be more clearly articulated this year in relationship to the surrounding deposition, and they are now included in a more complete composite section of ARB (Fig. 9).

Already in 1977 we had reached some very early strata (SG5 LC8), consisting of floor levels and a small portion of masonry. The artifactual data from this test locus were inconclusive, but the stratigraphic configuration indicated that we had both structural emplacement and floor accumulation predating the construction of what we now call CW1A.

This was confirmed in 1978 through the findings in SG51 and 52. As for structural remains, we uncovered the outer face of a wall (SG51 FT1) which lies immediately beneath and on an exact alignment with CW1A, except that its face stands out some 30 cms. to the southeast. Only 8 courses of bricks are preserved, and the brick size could not be determined. The wall rests, without foundations, on a dense red clay (SG51 FT4) which may be assumed

to be virgin soil, linking up with SG52 FT9. This stratum dips to the southeast, away from the face of the wall, and on top of it there is a layer of fine fill which is very thin in SG51 (FT3) and thickens toward the lower slope (SG52 FT8): this stratum appears clearly to be the sedimentary deposit found at the bottom of a channel of slow-moving water. It was relatively clean of cultural deposit, at least as far as it could be determined in section. For a more detailed description of this portion of SG52 see below, 6.2.2.3. We assume SG51 FT1 to be the oldest remain of the defensive system, which we label CW1.

In SG5 there is a dense red fill with gypsum crystals into which the boulder glacis of CW1A is set. This layer does not reappear in SG52, and it may have been associated directly with the emplacement of the boulder glacis in front of CW1A.

CW2 rests on a layer of reddish-gray to olive silty clay (SG52 FT7) relatively clean of cultural inclusions. The same layer also continues in front of the face of CW2, where it was then cut by the emplacement of CW2A (SG52 FT1). The uniformity of the sediment below and in front of the boulder girdle in CW2 may indicate that FT7 was associated with CW1A and that the boulder girdle was set *into* it—which would be as close as we come to a foundation trench in the case of the third millennium walls.

As we have just seen, CW2A rests directly on top of FT7; its back side is built against the face of CW2A. Of the front face only the lower portion is preserved. CW3 was clearly in use at the same time as CW2A because the space between the two walls is filled with a floor accumulation which respects both walls. This may be understood as a walkway between the two, an arrangement of features also possible in MP11 and MP13+ where the back of CW3 is not in contact with the front of CW2. In MP11 and MP13+ there is no trace of CW2A. In MP11 it is demonstrably absent, because we have the front face of CW2 preserved, and only floor accumulation in front of it. In MP13+ the face of CW2 is lost, but it probably coincided with the face of CW4 which replaced it. In front of this face there is a type of floor accumulation which is comparable to that in ARB between CW2A and CW4, hence it is likely that in MP13 too CW2A had never been built. There is an interesting correlation, then, between CW3A and the boulder girdle of CW2: both occur together in ARB, and both are absent in ARD.

We may then understand CW2A as a localized wall in ARB, almost as a casing protecting the boulder girdle. CW3, on the other hand, is characterized by a walkway (or case-mate?) between it and CW3 (or CW3A). The situation may be summarized as follows:

	DR2B	DR2C
ARB	CW2 + girdle + CW2A	walkway + CW3
ARD	CW2	walkway + CW3

#### 6.2.1.6. Surface exposures

At various locations on the site there are traces of the defensive system. The assignment of the different pieces of masonry to one city wall or another is only conjectural and is based on the general alignment rather than on stratigraphic or structural considerations. In SG22 we have presumably the inner face of CW1A, with a kiln adjacent to it (see *TPR*

6, 3.4.3. and Ill. 23), just as in ARB. The small portion of masonry between the Municipal Park and the Water Tower, marked on the site plan (Fig. 2) but not labeled, also seems to belong to CW1A. In SG50 we have the outer face of CW1A showing for a distance of some 25 ms. to the south. The masonry of CW1A shows especially in the exposed area to the south, and the top of the boulder glacia is also occasionally in evidence. In SG50 there is a small structure adjacent to the face of CW1A, consisting of stone slabs laid flat on the ground, with boulders on either side. In spite of its importance as the only major extramural installation of the early periods, it could not be investigated in the 1978 season, and remains unexplained for now. North of Area D portions of masonry are evident on the surface: they may belong to CW2, or to its later rebuilding CW4, but this too requires further investigation.

### 6.2.2. Geological details (D. Berry)

#### 6.2.2.1. Introductory

The various stratigraphic features shown on the accompanying sections, whether naturally occurring or anthropogenic, are designated by appropriated symbols and code which represent the dominant soil type or sedimentary constituents. However, as in all geological formations, minor variations, often of local significance, occur along an outcrop or artificial cut and therefore the following somewhat detailed descriptions, composite, and yet containing specific detail where necessary, are given for each feature. For example, it is insufficient to describe a sediment as simply a "silty clay" if it shows local accumulations of charcoal, ash, or plant impressions since all of these attributes give evidence of special activity areas or environmental conditions. Changes in color of the same basic sediment type from green to red (or the converse) may be used to infer, even if only generally, some aspect of the environment of deposition. Thus, the description of sediments has been carried out with two levels in mind; one, for the purpose of constructing a generalized profile of the sedimentary sequence exposed in the sections which would relate, at a descriptive and somewhat gross level, one body of cultural or mineral detritus to the other and, secondly, another more detailed synopsis of the components of a unit from which one may infer special conditions of deposition and thus serve as an aid to environmental reconstruction. Also certain features such as the yellowish brown clay with plant impressions, while admittedly reflecting a potentially recurrent facies, may serve as a horizon marker for more detailed mapping of the site at a later date when more sections are available; hence, it has been included as a separate feature in the otherwise common silty clay.

It will be noted that not all features cited in this report are shown on the section drawings or have a detailed lithologic description. Also, gaps may appear in the numbering system as it occurs on the cross sections. Basically, this is due to the fact that some features, originally thought to be of stratigraphic significance, were "collapsed" when it was decided that they were only local facies of a larger unit of no particular stratigraphic or cultural significance. Also, some features were identified only in the floor of an excavation unit and therefore are not shown in the section profile.

During the course of describing the sediments exposed in the machine cuts for the Municipal Project (MP), it was found, not unexpectedly, that the dominant sediment type was largely a sequence of light gray to reddish brown silts and silty clays. Such sediments were anticipated in the floodplain deposits of a meandering river system. Nevertheless,

detailed examination of the sequence showed concentrations of shells of aquatic gastropods intercalated with lenses of carbonaceous trash below a mass of mudbrick (city wall). In the profile exposed in MP13 and SG61, one may observe the basal silty clay of the “virgin soil” becoming progressively finer grained as one goes higher in the section, thus reflecting a classic channel-fill sequence. The superjacent, culturally sterile, dark-stained clay, locally containing macerated plant debris and the accumulations of snail shells are consistent with such an interpretation. Further, the alternating clay, silty clay lithology so typical of the “virgin soil,” particularly as exposed in MP11, and the presence of possible scour-and-fill structures in Locus 10 of that trench, all point to channel filling by natural processes prior to the deposition of cultural detritus into the remnants of the channel (containing the abundant snail shells) which may have been maintained as a moat (for whatever purpose) around the early city. Abundant macerated plant remains found in the otherwise sterile clay of MP11 LC10 FT62 and ARB SG52 FT11 suggest that marsh conditions prevailed immediately adjacent to the habitation sites and that the city grew by the emplacement of trashy fills over these ponded environments. The same policy and essential techniques of “made earth” reclamation of swamp and coastal marshes persists to the present day in many communities (e.g. the east San Francisco Bay region) and is the source of much controversy and litigation.

#### 6.2.2.2. Descriptive list of features

MP11	FT1	–	superficial deposit of coarse, silty sand with streaks of charcoal, carbonaceous debris and modern trash
	FT2	–	reddish brown (5YR5/3) silty clay with thin laminae of charcoal and gypsum particles; rare sherds, bone fragments
	FT3	–	mudbrick composed of yellowish-brown (2.5Y6/4) silty clay with particles of gypsum
	FT4	–	lens of friable, light olive-gray (5Y6/2) laminated silt with finely disseminated charcoal and sandsize gypsum particles
	FT5	–	fill of poorly sorted gravel, sand, and silty clay with rare sherds, bone fragments
	FT6	–	loose, reddish-brown, silty clay and interbedded fine sand with laminae of gypsum particles; lenses of limestone cobbles
	FT7	–	sequence of floors consisting of reddish-brown silty clays with gypsum particles, and trace of charcoal fragments
	FT8	–	as in FT7
	FT9	–	light brown (7.5YR6/4) silty clay with charcoal and modern trash

- FT10 – modern fill of trench cut for pipe; poorly sorted silty sand with stringers of gravel; fragments of modern trash
- FT11 – lens of gravel, probably a buried road surface with associated fragments of modern trash including plastic debris
- FT12 – fragments of fire-altered brickbats, burned bright pink (5YR 7/4); possible destruction horizon
- FT13 – modern sand and gravel fill for pipe trench
- FT14 – modern sand and gravel fill for pipe trench
- FT15 – lens of ash, laminated silts with gypsum grains and ash in possible floor
- FT16 – stratum of reddish-brown silty clay below mass of gray-green mudbrick
- FT17 – silty sand and gravel filling modern trench for pipe
- FT18 – lens of charcoal-stained brown silt
- FT19 – light brown, charcoal streaked clay with lenses of carbonaceous debris; modern trash above Islamic burials
- FT20 – carbonaceous silt (W end)
- FT21 – carbonaceous silt (W end)
- FT22 – laminations of gypsum; apparent floors with animal bones
- FT23 – as FT22
- FT24 – lens of gypsum plaster ?
- FT25 – floor with laminae of ash, patches of gypsum and burnt brick fragments; limestone boulders in W wall
- FT26 – limestone boulders in W half of unit  
The large stones facing the city wall in MP11 consists primarily of a sandy, slightly conglomeratic limestone. The hardness of the rock and its vigorous effervescence in cold dilute HCL indicate that it is dominantly composed of calcium carbonate rather than gypsum so typical of sedimentary rocks of this region. Microscopic examination of the stone shows no significant crystal faces and the calcium carbonate cement exists



as an amorphous ground mass. Sand to granule size fragments of quartz and various unidentified rocks occur in the carbonate matrix. The sand grains most commonly consist of round to subrounded particles of quartz which show "frosted" surfaces suggestive of aeolian transport into the basin of deposition. The more coarse (granule size) particles were probably transported into the carbonate environment by intermittent stream activity. The clastic fraction of these carbonate rocks is probably no more than 10 percent. The source of this material is undoubtedly the desert plateau west of Ashara. I have examined identical material there and an informant suggests the same source for identical rocks used in modern construction in Ashara.

- FT27 — floor of reddish brown silt
- FT28 — floor of reddish brown silt with laminae of gypsum particles, ash lenses, and brick fragments
- FT 29 — floor of reddish brown silty clay with abundant ash fill and local concentrations of burnt bone
- FT30 — floor of clean yellow-brown silt with scattered fragments of burnt brick and pebbles
- FT31 — laminations of ash in clayey silt (W end)
- FT33 — ash pit and lens of carbonaceous silt in SE corner of Locus 1
- FT34 — limestone boulders (from Jebel)
- FT35 — mass of limestone boulders 2.5 meters W of FT34  
The limestone is similar to that found in the escarpment W of Ashara. It is a sandy, pinkish-gray (7.5YR7/4) limestone with granule-size particles of chert and quartzite.
- FT36 — possible brick rubble; mass of gray-green silty clay with mud-brick fragments
- FT37 — apparent fill of angular limestone cobbles in matrix of pinkish-gray (7.5YR6/2) clay
- FT38 — boulder; not in section
- FT39 — stratum of ash and charcoal stained silt below floor of dense mudbrick

- FT40 – stratum of brown clay (7.5YR5/2) with streaks of gypsum (=45-46) and clay galls; no charcoal or sherds
- FT41 – homogeneous pinkish-gray (5YR6/2) clay; no visible structures; no sherds or charcoal; single fragment of limestone cobble and bone; may be fill, but likely sterile soil
- FT47, 47a – limestone boulders
- FT48 – sandy reddish-brown (5YR6/3) clay with clay nodules and stringers of fine greenish sand; possible transition to virgin soil
- FT49 – lens of sandy, orange clay
- FT50 – dense, clean sandy clay; no cultural debris =55
- FT51 – series of ash lenses with laminae of finely disseminated charcoal
- FT52 – laminated ashy floors
- FT53 – dense, sticky reddish-brown clay with interbedded lenses of ash and fine charcoal
- FT54 – dense, sticky red clay plaster (?) face over silty clay fill
- FT55 – stiff reddish-gray sterile clay below ash layers; apparent virgin soil =50
- FT56 – tower
- FT57 – yellow clay plaster (?) associated with mass
- FT58 – yellow, silty fine sand with cobbles of fine sandstone
- FT59 – same
- FT60 – dense, sticky mottled reddish-gray (5YR5/2) clay, varicolored, with inclusions of stiff greenish-gray clay nodules
- FT61 – series of ash lenses, intercalated with charcoal-stained clay and containing numerous small, broken sherds
- FT62 – series of silt and silty clay lenses containing cobbles of chert and limestone near base; a general fining upward sequence is noted; unit may represent a series of slope washes

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- FT63 – stiff, olive-gray (5Y6/2) and yellowish brown (10YR5/8) silty clay with locally abundant plant impression and worm (?) borings
- FT65 – mudbrick of light gray (10YR7/2) silty clay with gypsum particles
- SG60** FT1 – mudbrick composed of light gray (2.5Y7/2) silty clay containing abundant sand-size particles of gypsum
- FT2 – laminated silts and silty clay, dominantly light reddish brown in color, with streaks of ash, occasional charcoal fragments, and gypsum particles
- FT3 – loose fill composed dominantly of sandy silt with local concentrations of gravel, potsherds, and bones; color highly variable (variegated)
- FT6 – wall rubble composed largely of many fragments of mudbrick in a matrix of silty, somewhat sandy, clay
- FT7 – fill, dominantly composed of nearly totally disintegrated, mudbrick; few brick fragments in a matrix of silty, somewhat sandy, gypsiferous clay
- FT8 – mottled, greenish to reddish, silty clay with abundant particles of gypsum
- FT11 – consolidated mudbrick as in FT1 except that brick is of different size with larger clay fraction
- FT12 – mudbrick as in FT1
- SG61** FT1 – mudbrick, composed largely of light gray (2.5Y7/2) to brown (wet) silty clay with sand-size particles of gypsum
- FT2 – laminated silts and silty clay with streaks of gypsum particles and sand
- FT3 – dense fill of stiff, silty clay, mottled in part, with local laminae of silt adjacent to face of wall
- FT4 – clay and silt fill with local accumulations of trash
- FT5 – dense, somewhat sandy, fill, composed largely of silty clay; lenses of clay galls

- FT6 – dense fill of somewhat silty clay with streaks of fine sand; contains local accumulations of sandstone cobbles and large fragments of brickbats
- FT7 – unit of fine silty sand with minor admixture of silty clay; scattered pebbles of fine sandstone
- FT8 – dense fill composed largely of mottled gray-green clay galls
- FT9 – lense of dense, silty clay
- FT10 – mottled clay fill containing sherds and fragments of mudbrick
- FT11 – wall of dense, grayish brown (2.5Y5/2) mudbrick composed largely of silty clay with trace of sand-size gypsum particles
- FT12 – laminated sandy silt and silty fine sand in clay matrix
- FT13 – silty clay with lenses of ash
- FT14 – dominantly silty clay with streaks of ash
- FT15 – unit of hackly, dark brown slightly silty clay; lacks cultural material
- FT17 – basal unit of sterile, silty clay with faint laminae of silty, fine sand; “virgin soil”
- FT18 – black burned floor within FT6
- MP13** FT1 – wall of light gray (10YR7/2) mudbrick composed of silty clay with abundant sand-size particles of gypsum
- FT2 – lens of stiff, pinkish gray (7.5YR7/2) clay with streaks of yellow-green silty sand; locally mottled with burrows and old root casts
- FT3 – stratum of silty to slightly sandy gray clay containing local cobbles of weakly-cemented fine sandstone, very rare sherds
- FT4 – probable refuse layer of light brown to tan silty clay with laminae of silt and charcoal; local concentrations of burned bone and brickbats
- FT5 – wall debris (?); light gray (10YR7/2) to pinkish gray mottled silty clay with apparent mudbrick fragments and cobbles of friable, silty fine sandstone

*6. The Defensive System*

- FT6 – lens of light gray mottled silty clay with abundant borings and root casts; scattered sherds and lumps of charcoal
- FT7 – dense light grayish brown (10YR5/2) to pinkish brown silty clay with scattered sherds; lacks charcoal
- FT8 – loose fill consisting of silty, somewhat sandy, clay with scattered pebble to cobble size clasts of friable fine sandstone
- FT9 – surficial fill of sandy, somewhat silty, clay, weakly stratified, with abundant fragments of modern gypsum plaster, pebble lenses
- FT10 – stratum of dense, reddish brown clay with laminae of silt and fine sand
- FT11 – stratum of reddish brown silty clay; trace of charcoal at base
- FT12 – unit of dense, sticky clay with scattered sherds and cobbles of friable fine sandstone
- FT13 – stratum of gray, charcoal streaked, silty clay
- FT14 – stiff, hackly, brown clay with borings and shells of aquatic gastropods
- FT15 – massive unit of clayey silt with rare charcoal fragments and small sherds
- FT16 – apparent fill of poorly sorted trash in matrix of silty clay; minor streaks of charcoal
- FT17 – stratum of light gray friable silt with scattered pebbles of fine sandstone and burned clay
- FT18 – unit of dense, mottled pink clay with local streaks of silt and cobbles of argillaceous siltstone; occasional ovoid masses of silty clay and reddish brown fired clay noted
- FT19 – lens of stiff, massive, somewhat silty clay
- FT20 – stratum of dense greenish clay with elongate, ovoid clay masses
- FT21 – lens of dense, somewhat silty, pinkish brown clay
- FT22 – silty clay with streaks of ash

- FT23 - lens of silty clay
- F25 - stiff, reddish brown clay
- FT28 - mottled grayish brown clayey silt with nodules of dark brown, stiff clay
- FT29 - thin lense of pale olive (5Y6/3) friable silt; no sedimentary structures or cultural debris
- FT30 - thick unit of stiff, massive reddish gray clay with shells of aquatic gastropods
- FT31 - stratum of somewhat mottled, dominantly light pinkish gray silty clay containing fragments of stiff dark brown clay
- FT32 - reddish brown silty clay with streaks of gray-green silt
- FT34 - reddish brown silty clay with lumps of stiff, light brown clay
- FT36 - as in FT2, but shows extensive bioturbation
- FT38 - artificial fill
- FT39 - dark brown silty clay
- FT41 - sterile unit of dense hackly, dark reddish-gray, slightly silty clay
- FT42 - sterile basal unit of silty, somewhat sandy, pinkish-gray clay
- FT46 - mass of partially disintegrated mudbrick
- FT53 - pit for burial shaft
- FT54 - massive bed of silty clay becoming more rich in clay toward base; apparently a water-deposited, sterile unit
- SG21<sup>1</sup> FT6 - silty, somewhat sandy, clay with gypsum particles and brickbats; apparently debris from eroded wall
- FT7 - brickbats in matrix of silty, somewhat sandy, gypsiferous clay; possibly wall debris
- FT8 - mottled, silty clay with masses of stiff, reddish brown clay and brick fragments; probably wall debris in part

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<sup>1</sup>Based on observations by J. Knudstad.

6. *The Defensive System*

- FT9 – fire altered brickbats in matrix of silty, somewhat sandy, gypsum-flecked clay; wall debris ?
- FT10 – laminated floors; sequence of reddish brown, laminated silty clay with traces of gypsum particles
- FT11 – sequence of finely laminated fills and water-deposited silts; stringers of fine sand; appears to be largely slope wash and wall detritus
- FT12 – accumulation (anthropogenic) of large limestone boulders and cobbles
- FT13 – sequence of thinly laminated, ashy floors
- FT14 – variegated grey, green and red sandy clays apparently derived from weathering of mudbrick
- FT15 – variegated brown and yellow dense fill with abundant nodules (=SG52 FT6) of clay in matrix of gypsum cement
- FT18 – stiff, yellowish brown silty clay; mottled with no apparent structure apparently deposited as a unit, perhaps a laid mud mass fill
- SG52 FT7 – apparent fill with abundant small clay galls and fragments of mudbrick; local accumulations of brickbats (?); unit grades laterally (to E) into a mottled, reddish gray (5YR5/2) to olive gray (5Y6/2) silty clay with small, stiff, blacky clay galls. The deposit appears to be a debris slope which, in part, was deposited subaqueously.
- FT8 – sequence of silty red clay and silt lenses with occasional mudbrick fragments grading laterally (to E) into a sequence of variegated gray, green and red silts, silty clays, and clays which appear to have been deposited subaqueously
- FT9 – stiff red clay with abundant gypsum
- FT10 – dense, olive gray (5Y6/2) to yellowish brown (10YR5/8) silty clay with occasional stringers of fine sand locally cemented into hard, gypsiferous masses. This unit grades laterally, and almost imperceptibly into FT11.
- FT11 – dense, yellowish brown, gypsum cemented clay, locally silty, and with abundant impressions of reeds (?). Unit closely similar, if not identical to, FT63 of MP11

- FT12 = stiff, olive gray (5Y6/2) silty clay with local masses of reddish brown (5YR5/3) sticky clay
- FT13 = stiff, olive gray (5Y6/2) silty clays, somewhat blocky, with tabular, elongate masses resembling partially disintegrated mudbrick
- FT14 = dark gray, charcoal-flecked silt

### 6.2.2.3. General note on SG52

Although there seems to be a diversity of sediment types exposed in the profile of this trench, in actuality they represent only minor and local variations of the larger lithologic units. For example, the interbedded silts and clays exposed here represent slight fluctuation in the velocity of the water which deposited them and thus have no particular environmental or cultural significance. It would be meaningless and confusing to assign feature numbers to these minor sediments.

Also, it should be noted that certain features (such as 7) grade from coarse to finer materials away from the wall in the direction of the river. It appears that wall debris were washed downslope into a body of water (probably a channel of the Euphrates system) where finer particles settled out. The color change from red to gray or greenish sediments is consistent with the presentation that at least part of this feature was deposited beneath water or was at least subjected to periodic inundation. Since this section was drawn at the absolute close of the season there was no time, unfortunately, to study the sediments in the field laboratory.

A particularly enigmatic feature (FT13) consists of tabular masses of stiff gray-green silty clay in a matrix brownish gray silty clay. At first I considered them to be masses of ripped-up clay, torn from the channel during a flood stage. Their size and tabular form strongly militates against them being rip-up structures, however, and the assumption is likely that they are mudbrick. I cannot explain their presence in what are otherwise channel-fill sediments however. Perhaps they represent an inundated outlier of the main town.

### 6.2.3. Structural Details

Typologically, there are four basic types of brick used in the defensive system, and in fact throughout ancient Terqa: regular and large, each one divisible into square or rectangular (the smaller side being normally 20 to 25). With approximate side measurement, this may be tabulated as follows:

	square	rectangular
regular	35	35 × 18
large	45	45 × 22

A further subdivision may be made as to thickness, which is normally around 10 cms.; there are however thinner rectangular bricks (5-7 cms.), and thicker square bricks (12-13



cms.). The full repertory of size ranges is given below in tabular form:

		square	rectangular
regular	thin	A. ---	A'. 7 × 20 × 35
	medium	B. 10 × 35 <sup>2</sup> ; 10 × 32 <sup>2</sup>	B'. 10 × 20 × 35
	thick	C. 12 × 30 <sup>2</sup>	C'. ---
large	thin	D. ---	D'. 5 × 25 × 45
	medium	E. 10 × 45 <sup>2</sup>	E'. 10 × 20 × 45; 10 × 25 × 50
	thick	F. ---	F'. ---

### 6. Repertory of brick size ranges

Within these ranges, we will now give an exhaustive list (Chart 6) with precise measurements, of all bricks found in the defensive system; for comparative chronological purposes, we add brick measurements from other major structures found at Terqa in the ancient periods. The chronological division into two main periods, the third and the second millennium, is anticipated here on the basis of the argumentation contained below in 6.3.

By combining a typological and a chronological distribution, it appears that we have in fact only two basic types: a large rectangular brick (both thin and medium) in the third millennium, and a regular square brick (both thin and medium), with rectangular half modules, in the second millennium. The dating is based in every case on solid stratigraphic grounds, except for CW4 and CW4A, where the argumentation is only inferential, see below 6.3.






The location of every unit is discussed elsewhere in this fascicle, except for SG2, 3, 6, 9, all of which are in ARA; let it suffice to say here that the measurements from these excavation units refer to bricks from walls, about 2 m. wide, which belong demonstrably to Old Babylonian strata (see briefly *TPR* 6, 2.2).

Without exception, the bricks used in structures listed in the chart were all sun-dried, both in the third and second millennium. Baked bricks are known to have been used structurally, see below 7.3.2, but not as part of walls.

The composition of the bricks consists largely of coarse clay with heavy inclusions of pebbles and even cobbles. The bricks of CW2 in ARB were noted to be generally less well made, with hard, red granular clay crumbs and nodules set in a poorly dissolved mix, with considerable gypsum inclusions.

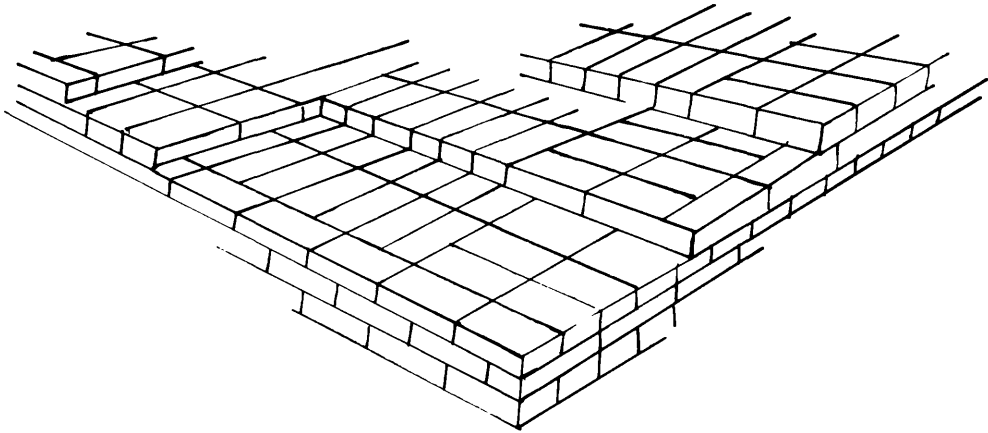
As for the arrangement of the bricks within the various portions of the City Wall the following patterns were observed:

- CW1A — MP13: headers and stretchers  
 SG17: all laid parallel as headers within wall  
 ARB: headers with alternate courses of stretchers at all faces (see below)
- CW2 — MP13: headers and stretchers  
 SG17: laid parallel as either headers or stretchers in alternate courses  
 ARB: possibly predominantly headers
- CW3 — MP13: headers and stretchers

		Third Millennium				Second Millennium			
		Square	Rectangular			Square		Rectangular	
Regular	Thin 	---	7-8 x 35-37 x 20	ARB CW1A				---	
			8 x 36 ? x 21-22	MP11 CW2					
			8 x ? x 24-25						
	Medium 	---				MP13 CW4 10-11 x 32 <sup>2</sup>			
						SG6 8-10 x 36-37 <sup>2</sup>	~	8-10 x 36-37 x 20	
						SG6 8-9 x 34-37 <sup>2</sup>	~	8-9 x 35-37 x 17-19	
						SG9 8-9 x 34-35 <sup>2</sup>	~	8-9 x 34-35 x 17-18	
						SG3 8-10 x 34-35 <sup>2</sup>			
						SG2 10 x 36-37 <sup>2</sup>			
	Thick 	---				ARB CW5 11-12 x 35-36 <sup>2</sup>			
						MP13 CW5A 12-13 x 30-31 <sup>2</sup>			
						SG17 CW5A 12-13 x 30-31 <sup>2</sup>			
						STCA1 11-12 x 35 <sup>2</sup>			
Large	Thin 	---	7-8 x 40 x 20-21	MP19				---	
			7 x 42 x 24-25	MP19					
			8-9 x 43-44 x 21	MP19					
			4-7 x 43-44 x 25-28	SG17 FT27					
			7-9 x 44-45 x 21	MP13 CW1A					
			7-9 x 49-52 x 26-17	MP13 CW3					
			8 x 42-46 x 23-24	ARB SG15					
			8-9 x 43- x 23-24	MP11 CW1A					
			8-9 x 50+ x 26-27	MP11 CW3					
			7 x 51-52 x 27	MP11 CW3A					
	Medium 	---	9 x (45-46) x 20-22	ARB CW2		ARB CW4A 10-11 x 43-44 <sup>2</sup>	~	10-11 x 43-44 x 22	
			9-10 x (40-45) x 17-21	ARB SG22		ARB CW4B 10-12 x 42-43 <sup>2</sup>			
			9-10 x 45-46 x 20-22	SG17 CW1A		ARF 10-11 x 40-41 <sup>2</sup>			
			9-10 x 49-51 x 26-28	SG17 CW2			~	10-12 x 42-43 x 22	
			? x 49-52 x 26	MP13 CW2					

7. Brick Sizes at Third and Second Millennium Terqa

The special arrangement of the CW2 bricks in ARB is illustrated by the sketch below:



8. Diagram of brick arrangement in ARB CW2

#### 6.2.4. The evidence of samples and specimens

Three C-14 determinations were obtained for layers associated with the defensive system. The laboratory analysis was carried out by Dr. Timothy W. Linick at the Mount Soledad Radio-Carbon Laboratory of the University of California, San Diego, under the terms of grant EAR 78-15183 of the National Science Foundation, Dr. Hans E. Suess, Principal Investigator. We are most grateful to Dr. Linick for the rapidity with which he processed the data, which has allowed us to integrate the results in this preliminary report. The pertinent information is tabulated in the chart below:

Stratigraphy & Excavation Number	Field Registry	Laboratory Registry	Conventional Radiocarbon Age	La Jolla Laboratory tree-ring calibration	
				outer range	most likely
MP11 LC1.LV5      FT31 TR19	TQ4-S284	LJ 4821	4090± 80 BP	2900-2500BC	2900-2600BC
MP11 LC11.LV11      FT51 TR22	TQ4-S314	LJ 4822	4790± 80 BP	3800-3500BC	3700-3600BC
MP11 LC14-15.LV2      TR17	TQ4-S267	LJ 4823	5620± 100BP	4800-4400BC	4700-4500BC

9. C-14 determinations from third millennium Terqa

All samples were derived from finely dispersed and divided charcoal; they were collected directly by the staff geologist, D. Berry, and stored in a glass jar until delivered at the laboratory, so that it may be safely assumed that no contamination was incurred. Because of the nature of the sample, its stratigraphic location corresponds more to a diffused area than to a single point, hence the stratigraphic identification has to be understood as a point of reference rather than as an indication of an actual findspot. For an evaluation of the chronological implications see below, 6.3.2-3.

Of other samples and specimens the only ones which can be used in this preliminary report are the clusters of gastropods found in MP13 FT14 and 30 (*DS* 3, 37) and the occasional presence of macerated plant debris (see above 6.2.2.1) both of which confirm the interpretation of the ancient extramural layers as being the result of moat deposition. It remains for later studies to incorporate a full laboratory analysis of all the samples and specimens collected, including more carbon 14 determinations.

### 6.2.5. The Evidence of Artifactual Evidence: Early Third Millennium Pottery at Terqa (by M. Kelly-Buccellati)

#### 6.2.5.1. Introductory

Third millennium ceramics from Terqa have not been recovered in large quantities anywhere on the site. This is especially true for early third millennium ceramics. The nature of the third millennium stratigraphy excavated so far is an important factor in this since we have uncovered strata associated with the construction of the city walls or immediately inside them, as in Area B. Only in one Operation (MP19) did we excavate in what appears to be early third millennium habitational levels inside but not immediately adjacent to the defensive rings. This stratified material from MP19 levels 1-7 indicated the basic chronological sequence of early third millennium ceramics and corroborated the chronological sequence emerging from the relatively smaller sherd sample coming from the area immediately adjacent to the defensive system.<sup>1</sup> Therefore while MP19 cannot be stratigraphically linked with any of the city walls it does give us additional evidence for their date. The most important in terms of amounts of the early third millennium pottery directly associated with the defensive system came from MP13 FT4 and 6 which are related stratigraphically to CW3; SG60 levels 1-3; SG61 levels 10-16; and SG17 levels 10-18. The complete description of early third millennium ware and shape types is given in 6.2.5.4.

We are in a better position for the study of the later third millennium ceramics since two graves containing whole vessels and some sherd material have been found in Area B (see *TPR* 4 pp. 48-53 and *TPR* 9, forthcoming). Also comparable sherd material was excavated in connection with the activities carried out inside the city walls in Area B and SG17 (see *TPR* 9, forthcoming). In SG17 particularly there was a continuous series of floors against the inner face of CW2 spanning the period from the third into the second millennium.

On the basis of these strata we can see that there is a continuity at Terqa among many of the third millennium wares; this leads us to a situation whereby many of the wares which

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<sup>1</sup>MP19 was a manhole excavated by the town of Asharah as part of the sewer system. We excavated seven levels at the bottom of this manhole cut and it is from these excavations that the majority of the sherds came.

are characteristic for the later third millennium levels can be seen earlier. The variations from earlier to later strata can be found in the proportions of occurrence of these wares and the methods of manufacture in some cases. We do not have enough shape types from the early third millennium to determine if the shapes in which the pottery is made change within one particular ware from the beginning to the end of the third millennium. During the early third millennium we do have new wares produced (TK, TL, TM, TN, TO). Since there has not been excavated any fourth millennium pottery at Terqa, we cannot determine whether or not any of these wares had been present earlier. From our excavations at nearby fourth millennium Qraya it appears that a ware called HH by us at Qraya. This ware is buff to orange-buff in color and has a wet smoothed surface, usually with a well smoothed surface. This was then maybe an early type of the TM ware.

One final note about the discussion of these ceramics within the context of this Terqa Preliminary Report on the stratigraphy excavated in the 1978 season. It is not our custom in the TPR's on stratigraphy to also discuss artifactual remains—these are rather discussed in separate fascicles. However considering the importance of the defensive system and its complete report in this volume, it was decided to also include the artifactual evidence connected with it here since the pottery does shed some light on the dating of the system.

#### 6.2.5.2. Early Dynastic I Pottery

Notwithstanding the fact that our sample is small, we still were tentatively able to identify some pottery coming from the excavations as ED I.

The major difference between ED I and ED II ceramics is that what appeared to be Scarlet ware occurred in some lots with early third millennium sherds (true also at Mari). There were few body sherds of this ware and no rim sherds; the Scarlet ware however was clearly identifiable because of the bright orange-red color. In some cases the sherds were burnished so that a striated pattern appeared on them (Delougaz 1952, Pl. 2:Kh. IX 196). One sherd from SG17-SG50 Locus 20 had plum red paint on it instead of the usual bright red-orange color. The plum red color may have occurred in firing or may indicate that we have some mixture with Jemdat Nasr pottery. The rest of the sherds from the same locus were early third millennium types.

In what appears to be ED I pottery lots we have much more mica tempered pottery and a predominance of buff wares (especially TD). A type of TJ ware with buff polished exterior and gray-brown interior is found in these levels. This may be a local variant of the ED I gray wares found at other sites. This ware at Terqa is not related to Metallic ware or to Imitation Metallic ware, neither of which occurred in these pottery lots. Highly fired greenish pottery is also more abundant than in later levels (TM ware). The coarse TE ware in shapes with triangular tab handles is found in these levels and continues throughout the third millennium at Terqa.

Since our sample is limited we had relatively few shape types. However one sherd found in MP13 FT16 appeared to be a type of solid footed goblet (Fig. 21). A sherd from a fruit stand decorated with cut out triangles came from SG17 FT10 while a handle from MP11 (Fig. 23) has parallels in the ED I pottery from Khafajah (Delougaz 1952: Pl. 50:f).

While this sample cannot definitely prove that we do have ED I strata associated with the Defensive System it gives us a basis for tentatively considering that we are digging in ED I (for a further discussion of this see below).

ED I (for a further discussion of this see below).

### 6.2.5.3. Early Dynastic II Pottery at Terqa

During the Early Dynastic II period we had sherds from large jars with a carinated shoulder and straight rims decorated with reserve slip in horizontal lines (only one possible sherd with oblique reserve slip pattern from MP19 has been discovered so far). No evidence for triangular lugs on these jars has appeared. Reserve slip decoration also occurred on smaller shapes judging from the thickness of the body sherds. Another type of decoration on body sherds is the use of incised designs (see Fig. 23). The use of micaceous clays continues into ED II. The TR ware produced in ED II is thinner and redder than earlier with less polished examples occurring.

The shapes associated with this pottery at Terqa are large jars with outturned rims; a variation has a straight neck (Fig. 22). Small cups with string cut bases, and spouted vessels (Fig. 22) have been found.

There appears to be at Terqa a transitional phase in which the production of reserve slip pottery continued while a new type of ceramics, Metallic ware, was first being introduced. The Metallic ware here, while related to the later ED III Metallic ware, tends to be made into thinner, smaller shapes with a higher polish; these shapes can also have the red painted lines on the neck or shoulder of the vessels as in ED III. No Imitation Metallic ware is found with this pottery. Other wares too continued from earlier ED II especially TK, TL and TR wares.

### 6.2.5.4. Description of Third Millennium Ceramic wares

The later third millennium ceramic ware types which were found during the 1976 and 1977 seasons in Area B and SG17 have been described in *TPR* 9, forthcoming. They are repeated here along with the early third millennium ware types for the sake of clarity and convenience for the reader.

#### 6.2.5.4.1. Later Third Millennium Ware Types

TA Metallic ware – Munsell color is 10YR7/2 Light Gray. The ware also appears in darker grays. It is usually used for thin to medium-walled vessels, 5 mm to 1 cm thick. It has sand-temper, with coarser temper for larger shapes; the surface of vessels is occasionally pitted, with pieces of gypsum showing. Vessels in this ware are high-fired. The exterior is wet-smoothed or burnished, occasionally ring-burnished; these processes are usually carried out while the vessel is on the wheel and wheel-marks often show on the exterior. Some vessels have corrugations around the neck.

TB Metallic ware – Munsell color 5YR7/3 Pink. This ware is the reddish form of TA ware.

TC Metallic ware – Munsell color 5YR7/2 Pinkish Gray. There are red-painted lines around the upper body or neck. This ware is the painted form of TA ware.

- TD – Munsell colors 2.5Y8/2 White or 7.5YR6/4, light brown. Sherds sometimes have a buff exterior and reddish interior. Vessel walls are of medium thickness (up to 1 cm.) and the vessels are wheelmade. The ware is grit-tempered with sand and mica and scattered pieces of larger, darker grits. Firing is medium high with fracture planes parallel the vessel wall (2-2, 5 on the Mohs scale). Vessels are wiped with plant or some other material with short strokes in various directions on the exterior and occasionally on the interior also.
- TE – Munsell color 10YR8/3 Very Pale Brown; colors vary from brick red to buff. Vessel walls are from 1 to 2 cm. thick. This ware has coarse pebble temper and is medium low-fired and crumbly. Vessels are handmade, with uneven interior and exterior surfaces; the exterior is wet-smoothed and can even have a slight burnish.
- TF – Munsell colors 5YR7/2 Pinkish Gray and 7/3 Pink. Vessel walls are thick (1.5-2 cm.). This ware has coarse plant temper with some sand and occasional pebbles. Vessels are low-fired (1.5-2 on Mohs scale) with uneven exterior and interior surfaces, often with plant impressions. The exterior is somewhat wet-smoothed, often with horizontal tabs at the shoulder.
- TG – Munsell color 5YR7/3 Pink; most sherds are more tan and less pink than this and can have a greenish tint. Vessel walls are thin (5-10 mm.) with quite fine sand temper. Shapes made in this ware are high-fired (2.5 on Mohs scale) and have wheelmarks on the interior and especially prominent ones on the exterior.
- TH – Munsell color 7.5YR7/4 Pink. Many sherds are more buff than this. Vessels are thin-walled (1-5 mm.), have fine sand temper, and are high-fired. Small, deep, plain-rimmed bowls are a common shape. The exterior has prominent wheelmarks and occasionally is corrugated.
- TJ – Imitation Metallic ware. Vessels are buff and can have red-painted lines as in TC Metallic ware. Walls are thin (5-10 mm.) and vessels are wheelmade. This ware is usually reddish in section, has grit temper less fine than in Metallic ware, and is lower fired than Metallic ware (2 on the Mohs scale). Corrugated lines can appear around the neck.

#### 6.2.5.4.2. Early Third Millennium Ware Types

- TK – Reserved slip placed on the exterior of vessels in horizontal lines (occasionally in oblique lines); medium fire; thickness varies from 5 mm. to 1 cm.; sand and gypsum temper.
- TL – Chocolate brown in color, but can vary to buff to brown on the surface; 1-2 cm thick; much sand temper with small gypsum particles with some finely chopped straw; can be burnished on the surface. In many cases the vessels made from this ware had been secondarily fired so many times that they were black all the way through. A finer variety of this ware is about 5 mm thick and sometimes has gypsum temper on the surface.

- TM – Buff color on the exterior sometimes also green-buff; can have a red interior; wet smoothed; some mica and sand temper with the addition of finely chopped plant (this plant can at times be seen also on the exterior); this ware is similar to TF ware except that it is less coarse, it is thinner walled and is produced in smaller shapes.
- TN – Scarlet ware; bright orange paint over a buff ground; sand tempered with some mica; medium fire; thickness varies from 5mm to 1cm; sometimes burnished.
- TO – White to buff colored slip over a buff ground; plant temper with some gypsum and some sand temper; high fire; 5mm to 1cm thick.

#### 6.2.5.5. Conclusions

The sample of pottery sherds associated with the defensive system is small making it unlikely that our sample is comprehensive. Our conclusions about their date are therefore necessarily tentative. However there are two factors which should be noted in this connection:

(1) All the ceramics associated with the defensive system form a coherent group. There is no major discontinuity in them which would indicate a major chronological break. Indeed there is a continuous use of some ceramic wares (e.g. TE and TJ) through all the third millennium strata associated with the defensive system; and these link up with the more abundant evidence we already had excavated in 1976 and 1977 from Area B and SG17. Even where there are new wares introduced, as in Metallic ware, we see transitional stages in the pottery distribution, again indicating no major break.

(2) The one C14 date we have for inside City Wall 4 confirms the tentative date we had already given the pottery in the field. There has been no pottery dating to the fourth millennium or earlier associated with the defensive system but this may be due to the sample size. We are beginning to get from the ceramics hints that the site may have been inhabited in the fourth millennium and earlier from other areas of the mound as some possible Ubaid sherds have been excavated in MP19.

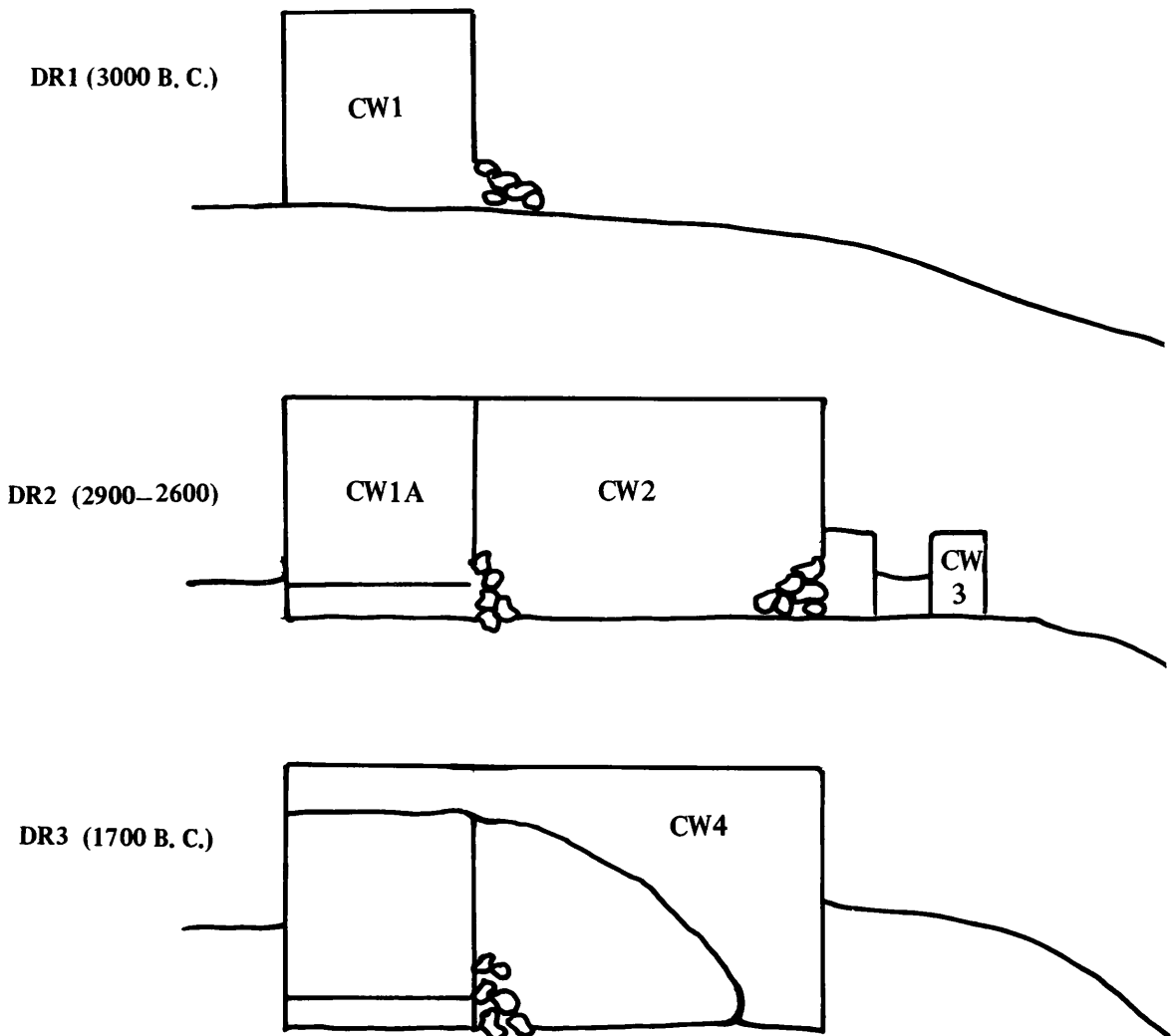
### 6.3 Preliminary Stratigraphic Interpretation

#### 6.3.1. Introductory: Horizons and Phases

The definition of Horizons (HR) and Phases (PH) as used in our system has been given briefly above (6.1.2). We will now sort the data pertaining to the defensive system according to these criteria. Absolute time values are suggested; they are based on a combination of the factors reviewed so far—stratigraphic, typological, physical (C-14)—, but they remain of course simply an indication of ranges. They are not integrated here into established cultural frames of reference (“Early Dynastic,” “Proto-Syrian,” “Early Bronze”), in order to respect the cultural autonomy of the Middle Euphrates region. A correlation between



The Terqa system and other systems will be given below in 7.1. The sequence of horizons and phases is outlined in Chart 11. Unlike our other charts where phases are listed in stratigraphic order, from highest to lowest, Chart 11 emphasizes chronological development, and thus the entries are listed from oldest to most recent. A composite graphic rendering of the stratigraphic evidence is found in Fig. 4 above, while the following diagram summarizes the developmental phases of the system.



10. Structural development of defensive system

Chart 12 lists the masonry work as distinct from the other type of deposition; these are the City Walls proper, as known to us today, either as unitary walls surrounding the city, or as localized walls patching previous structures. The present configuration may naturally be altered easily by new discoveries, and then the numbering sequence would have to be altered accordingly. Simple numbers are used for what we perceive to be the major unitary structures in any given horizon, while letters added to numbers referring to either major rebuildings or localized repair work.

Date Range	Horizon (site-wide)	Excavation Unit				Phase	Type of deposition
		MP11	MP13+	SG17	ARB		
-3000	pre-DR	x				1	extramural dump
3000-	DR1				x	2	wall and floors: intramural emplacement of CW1
		x?			x	3	extramural accumulation
2900-	DR2A	x	x	x	x	4	leveling of CW1 and emplacement of CW1A including boulder glacis
					x	5	emplacement of CW1A tower (possibly coterminous with Phase 4)
		x		x	x		intramural accumulation
			x				extramural deposition: minor structural emplacement moat accumulation
2800-	DR2B	x	x	x	x	6	emplacement of CW2, including boulder girde
		(x)		x	x	7	intramural accumulation
		x	x		x	8	extramural accumulation emplacement of CW2A (possibly coterminous with Phase 9)
2600-	DR2C	x	x			9	emplacement of CW3, incl. tower (MP11), with internal walkway
					x	10	emplacement of CW3, with internal walkway intramural deposition: floor accumulation bins, kiln
		x	x		x		extramural moat accumulation
2400-	early localized DR	x			x	11	emplacement of CW3A as localized rebuilding of CW3 intramural deposition: burials extramural deposition: small water channel (possibly Phase 12)
1800-	late localized DR				x	12	emplacement of CW3B
					x	13	emplacement of CW3
1700-	DR3		x	x		14	emplacement of CW4
			x			15	extramural accumulation
				x		16	intramural accumulation
			x	x		17	emplacement of CW4A extramural accumulation
1000- 1200 AD	post-DR		x			18	burial(s): Aramean
		x		x	x	19	burial(s): Islamic

## 11. Horizon and phase sequence for defensive system

Horizon	DR1	DR2A		DR2B		DR2C	Early Localized	Late Localized		DR3	
CW	1	1A	tower	2	2A	3	3A	3B	3C	4	4A
MP11		FT3 =WL1		FT37 =WL2		FT56 =WL4					
MP13+		SG60 FT1 =WL1		SG60 FT12 =WL2		MP13 FT1 =WL4				SG61 FT11 =WL3	SG61 FT1 =WL5
SG17		FT9 =WL1	FT27	WL2							FT48
ARB	SG51 FT1	WL1		WL2	SG21 FT16 =WL3	SG21 FT17 =WL4		SG21 FT5 =WL5	SG21 FT2 =WL6	SG21 FT4 =WL7	

## 12. Concordance of City Wall segments excavated

### 6.3.2. Defensive Ring 1 (about 3000 BC)

The earliest demonstrable fortification structure is found in ARB SG51. CW1 is here clearly separate from CW1A, but apparently similar to it in size. The outer face (SG51 FT1) is aligned with that of the later wall and while the inner face is not preserved there is an eroded portion of wall (SG5 LC8) aligned with the inner face of CW1A, which may represent the inside of CW1. If so, the floor deposition above the wall stump in SG5 LC8 would imply that a certain time had passed between the construction of CW1 and CW1A, or at any rate that CW1 was destroyed before the construction of CW1A, and was then used as its foundation.

A similar conclusion is suggested by the interpretation suggested above for MP11. While not conclusive, there are indications that CW1A was built on top of the remains of an older wall, CW1. If so, the lowest course of boulders of the glacis would belong to CW1, and the moat deposition which is found in front of and immediately above it would also belong with CW1. An objection to this interpretation is that SG17, a short distance from MP11, seems to preserve no trace of CW1; but since a levelling of CW1 is attested in any case for ARB and possibly for MP11, it may be assumed that, in SG17, CW1 was either (1) levelled to the ground, or (2) incorporated into CW1A without a trace at the juncture, or else (3) not in alignment with the inner face of CW1A. In what follows, we will in fact assume the existence of CW1 in MP11.

There is considerable deposition in front of CW1 in both ARB and MP11. FT51 in MP11 is an ash deposit which yielded TQ4-S314—a carbon sample which provided a C-14 determination of 3700-3600 BC. These layers were very scanty in artifactual material, so that for now no corroboration can be had from this direction for such an early date. Conservatively, therefore, we leave open the possibility that FT51 may contain a fill either from inside the city or from a dredging of the canal bed; this would find a parallel with another, even earlier sample (TQ4-S267), for which see below, 6.3.5. What there was of fourth, and possibly fifth, millennium occupation at Terqa may have been on a smaller scale and without a defensive system. Further excavations at Terqa in deep levels toward the center of

the tell, as well as continued excavations at nearby Qraya will shed more light of these early periods.

### 6.3.3. Defensive Ring 2 (Early Third Millennium)

This Defensive Ring consists of a single wall (CW1A) which is uniform in structure and is found in its full width at every excavation unit on the site connected with the defensive system (MP11, MP13+ SG17, ARB). It is also found presumably at several other locations where surface observation and occasional clearing have revealed traces of the defensive system (SG50, SG22). In particular, the boulder glacis was found in MP11, SG17, ARB and perhaps SG50.

The purpose for the glacis is not explicitly demonstrable, but it can be inferred that it increased the efficacy of the masonry wall with respect to both military attacks and flood scouring. The boulders are not held together by any kind of binding device, but their sheer weight would have kept them in place in normal conditions of flooding from the river or sapping from attackers. Geological investigation (see above 6.2.2.2, MP11 FT26) indicates that these boulders were brought over from the desert plateau some 5 to 10 kms. west of the site.

The construction of CW1A was rapid and unitary. This is predictable if one considers that the wall had to provide protection on all sides if it was to be effective at all as a fortification after CW1 had apparently become inoperative. It is also demonstrable because the structure was uniform in size and in structural details wherever we sought for them. CW1A continued in use without apparent interruption until the end of the city as a major fortification after CW1 had apparently become inoperative. It is also demonstrable because especially in SG17, and by the fact that the general perimeter defined by CW1A seems to have remained a constant for all later fortification systems, especially in the third millennium.

We consider the building of the wall, with its characteristic boulder glacis, as a single phase (4); this included the preparation of the ground by leveling, and the excavation of a ditch outside, which was presumably at the same time the source of material for the mud-brick used in the construction. As for the boulder glacis, it could not be determined whether it was conceived as an integral part of the construction of CW1A, or was added at a later time. If the batter of the outer face is the result of erosion, then the glacis is likely to have been later. If on the other hand it was planned, in order to provide a slope against which the boulder would rest, then the glacis would be contemporary with the masonry.

The next phase (5) includes various activities which presumably spanned a considerable amount of time. We consider the construction of the "tower" in SG17 as an addition to CW1A simply because its masonry is not bonded with that of the wall; but there is no indication as to whether this was in fact an addition after the entire wall structure had been completed or simply the result of specialized, modular or irregular phases of construction.

While intramural deposition has been recovered only through a very limited exposure, and consists exclusively of floor accumulation, extramural deposition has been traced for several meters in length down the slope toward the center of the moat. It appears as though CW1A had a fairly wide, flat area in front of it, something like an apron which may have been used as a walkway: both virgin soil and the deposition under CW2 are in fact generally

level before they dip down sharply toward the moat. Both on the flat apron and on the slope there is some minimal evidence of structural activity—MP11 FT43 (on floor only, not in section) and MP13 FT46. Both features are badly preserved, and their nature escapes us, but it is indicative of an extramural type of activity somewhat more complex than mere dumping.

Both this type of structural activity and the indications of erosion of CW1A (especially the fallen boulders in MP11, Sector 2) suggest that a certain amount of time had elapsed between the construction of CW1 and the construction of CW1A on top of it.

#### 6.3.4. Defensive Ring 2B (first half of Third Millennium)

The third and largest City Wall to be built at Terqa is also a unitary structure which has been recovered in every excavation unit connected with the defensive system, i.e. MP11, MP13+, SG17, ARB, and is probably also apparent on the surface north of MP11 and in SG50. However, it has been recovered to its full extent only in ARB. In MP11, both the front and back face have been found, but the central part is almost totally eroded away. In MP13 and SG17 (and perhaps SG50) only the back portion of the wall is preserved, while the front part has been replaced by walls connected with the latest defensive ring.

CW2 was built directly on the apron in front of CW1A. There is no trace of foundations; the deposition overlaying the flat apron was simply leveled and a massive wall was built directly over it and immediately adjacent to CW1A. It is also clear, from the depth of intramural deposition especially in SG17, that CW2 continued in full use together with CW1A: far from CW1A being buried underneath the later accumulation and ceasing to serve a structural purpose, the two walls together were an integral part of a single defensive system. Such an horizontal trend to the stratigraphy argues against an overlong time span between the construction of the two walls. Combining this observation with the remarks made above about extramural activities in front of CW1A, a time differential of about a century between the two walls may be taken as an approximative range, although clearly based on purely conjectural grounds.

The boulder girdle is preserved only in ARB. While in SG17 and MP13 the face of CW3 has been obliterated by later rebuildings, it is preserved instead in MP11 where only a few courses of bricks remain, but at the base of the wall: thus the absence of the boulder girdle is here positively documented. No particular reason can be given for this. The elevations are very similar in MP11 and ARB, so that exposure to flood scouring would have been the same in terms of wall height over the flood plain. It may be suggested that if the main channel of the Euphrates was already on the east side of the city, the direction of the flood might have been from the east, so that a boulder protection would have been useful especially on that side; but this remains a speculation. Presumably at a later time, a curtain wall (CW2A) was placed against the boulder girdle, possibly to serve a retaining function to protect the walkway (or casemate) which is a part of the fourth defensive ring (see on this the next section).

#### 6.3.5. Defensive Ring 2C (mid Third Millennium)

The fourth Defensive Ring in our chronological sequence is structurally quite at variance

with the preceding ones because (1) the amount of masonry is much smaller and (2) we have instead an open area between walls. DR2C is found in MP11, MP13 and ARB, but not completely preserved in any of these excavation units.

CW2A (found only in ARB) is functionally and chronologically a component of DR2C, even though structurally it is linked to DR2B (i.e. to CW2, hence the label CW2A). As indicated in the preceding section, we assume CW2A to be a curtain wall which leans against the face of CW2 to encase the boulder girdle. This may have been primarily to protect the subjacent open space, whether walkway or casemate, from the possibility of one or more boulders giving way and endangering the activities carried out in the open space. We have already remarked above that CW2A is present only in association with the boulder girdle, and is absent where the latter is also absent; both the boulder girdle and the curtain wall are in other words localized components of the defensive system (see 6.2.1.5).

The brick size in CW2A is the same as in CW3, and CW2A was built on a horizontal plane cut into the extramural deposition in front of CW2 (SG52 FT7): this argues for a time delay between the construction of CW2 and CW2A on the one hand, and for the contemporaneity of CW2A and CW3. Hence it is then that CW2A is structurally a part of DR2B (as a curtain wall encasing the boulder girdle to CW2), while it is in reality a component of DR2C—functionally (because it protects the interior open space of DR2C) and chronologically (because of its stratigraphic relationship to CW3 deposition and because of brick sizes).

Evidence of a walkway or casemate as an interior component of DR4 has been found only in ARB and MP13+. Its need may have arisen from the sheer massiveness of DR2 and 3 which together reached a width of almost 15 ms. This would have hampered communication between the inside of the defensive system, i.e. the city, and its outer perimeter: the outer walkway would have compensated for this by allowing circulation all along the outer perimeter.

CW3 is found in MP11, MP13+ and ARB. Like its predecessors, it is built on a levelled platform, without any foundation trench, but *unlike* its predecessors it is without any boulder protection on the outside. The inner and outer face of CW3 are preserved only in MP13 where the width of the wall is of 1.75 ms. The total width of both the wall and the walkway varies somewhat from area to area. The pertinent data may be tabulated as follows:

	outer face of CW2 to outer face of CW3	outer face of CW2/CW2A to outer face of CW3 tower	walkway
MP11	4 ms. ?	6.5 ms.	—
MP13+	4 ms. ? (*)	—	2.75 ms.
ARB	—	6.25 ms. + ?	1.5/2 ms.

(\*) outer face of CW2 not preserved, but possibly replaced by outer face of CW4.

### 13. Comparison of total widths for CW2 and CW3

The assumption that in ARB CW3 includes a tower projection is purely conjectural on the basis of the width of the masonry structure.

As for the preceding walls, it may be assumed that only a moderate time interval intervened between the emplacement of CW2 and CW2A/3. We must allow sufficient time for the deposition attested in front of CW2 to have taken place. And yet other considerations imply that this interval could not have been too long. On the one hand, the construction details are similar between CW2 and CW2A/3: the brick sizes are closely related, and both rings were erected without foundation trenches. On the other hand, the preservation of CW2 must have been good when CW2A/3 were built, since the outer face of CW2 is still well preserved in ARB, and since the curtain wall CW2A and the walkway presuppose CW2 as an integral part of the system. The period of two centuries proposed above in Chart 11 is purely conjectural and perhaps conservative: the time interval may in fact have been shorter.

The overall structure of the third millennium defensive system is thus rather complex, even prescinding from gate constructions which have not yet been located. The main components of the system, and the terminology used, have been summarized above in diagram 4.

The very early date (4700-4500 BC) resulting from the C-14 determination of TQ4-S267 requires some comment. It comes from MP11 in an area adjacent to the outer face of CW3, and it had been collected in the expectation that it would help to date the outermost face of the entire defensive system. It is clear from the stratigraphy and the artifactual evidence that such a high date cannot result from a primary association of the deposit with the wall. Hence we assume that the earlier material was brought here from elsewhere as part of a dump removal activity or fill emplacement, possibly in connection with the building of CW3. In general, it should be observed that only a long term study and a broader exposure can provide a clear explanation of the type of deposition associated with a city wall.

#### 6.3.6. Localized rebuildings (late third and early second millennium)

The third millennium defensive system remained in function through the early part at least of the second millennium, in any case until the end of Terqa as an urban center. This is demonstrated by the homogeneous accumulation growth within the city wall in SG17, by the survival of the major masses of masonry of CW1A and CW2, and by the evidence of rebuilding. The latter is localized (except for CW4, for which see the next section), i.e. it is found not as part of a ring system which encloses the entire city, but as an isolated episode of patching of an existing masonry structure. There are two distinct types of such localized rebuilding.

The first is datable to the third millennium. It is MP11 CW3A, a masonry structure which overlies directly CW3, and extends beyond it. Neither the front nor the back face were found in our exposure; equally absent was any type of intra- or extramural deposition clearly associated with it. Hence the dating is based exclusively on brick size (see above 6.2.3), which seems however to represent a criterion sufficiently discrete and convincing. Conjecturally, we assign the latest intramural deposition in ARB (the burials published in *TPR* 1, 3.5.1, and *TPR* 6, 3.2) to this phase (11). There is no direct stratigraphic evidence to support this, hence the conjecture is proposed on tenuous inferential grounds. CW3A belongs to the latest third millennium stratum in MP11, and the burials belong to the latest third millennium stratum in ARB. On the basis of their artifactual content, the burials may be dated to about 2400 B.C., hence it is that in Chart 11 we tentatively assign this date to Phase 11.

The second localized rebuilding is datable in the second millennium, here too on the basis of brick sizes. We have two stumps of wall in ARB (CW3B and CW3C) which contain a considerable mass of brick debris on the north, and overlie a compact mud fill. The erosion and filling presupposed by these two walls is of a kind we have not seen before in the defensive system: it seems to imply a fairly long period during which erosion and natural debris was left to accumulate, so that in fact the elevation of the new walls is much higher than that of the older ones. This period of decay in the original defensive system may coincide with the stratigraphic evidence for a small water channel in MP13 (FT14), which is at variance with everything else we know about the massive scale of the system. Since the brick sizes are typical of the Khana period (6.2.3 and 7.2), the dating of the two walls can safely be placed several centuries after the original emplacement of the latest third millennium wall.

### 6.3.7. Defensive Ring 3 (first half of second millennium)

The last major and systematic construction of the defensive system is found in MP13+, SG17 and ARB. It consists of two distinct walls, placed side by side, one as a later rebuilding of the other. The brick sizes do not match in what we consider here to be the same wall, but they seem sufficiently close to warrant the proposed classification:

	MP13+	SG17	ARB
CW4	10-11 x 32 <sup>2</sup>		11-12 x 35-36 <sup>2</sup>
CW4A	12-13 x 30-31 <sup>2</sup>	12-13 x 30-31 <sup>2</sup>	

#### 14. Comparison of brick sizes in CW4

The anomaly is especially apparent in what we consider to be CW4 in MP13+ on the one hand and ARB on the other. It may thus be that the two sections of the wall do in fact belong to different phases, but for simplicity's sake we subsume them here as different building modules of the same wall. Note that the bricks in ARB CW4 are identical in size to those of STCA1, the archive of Puzurum (5.2.2 and 6.2.3 Chart 7), so that they may be dated in the Khana period.

The alignment of CW4 is somewhat at variance with the main alignment of the third millennium city-walls; this too indicates that the time interval between the two was considerable, since presumably the precise configuration of the defensive system had become somewhat altered by the growth of the city in the intervening centuries, and the new alignment of DR3 was meant both to respect this new urban landscape and to utilize the structural efficacy of what was left of the defensive system.

There is no deposition which is directly in contact with either CW4 or CW4A, but we have inferred that some of the moat-like deposition in MP13 was in fact associated with these two walls (6.2.1.3). Whatever the merit of this proposal, the massive nature of the CW4/4A masonry would strongly suggest that a moat was in fact associated with this latest Defensive Ring.



## CHAPTER 7

### HISTORICAL CONSIDERATIONS

Our reports on Terqa aim at a clear distinction between what we have called stratigraphic, typological and integrative sequences (*TPR* 1, 1.1.6). Our emphasis at this stage is on the publication of the primary record, stratigraphic first of all (as in this report), and then typological (as in other *TPR*'s). A fuller integration of comparative data is reserved for a different kind of publication, even when the pertinent research proceeds concomitantly with the primary analysis. Here, then, only a few general remarks will be proposed, to serve the purposes of an initial orientation. This will also provide an occasion for reviewing briefly some of the materials excavated in earlier seasons at Terqa.

#### 7.1 The third millennium and earlier

No artifactual data is known from Terqa from periods earlier than EDI, although they are amply documented at the neighboring site of Qraya. In view of this, the fourth millennium C-14 determination from MP11 FT51, although well stratified in the extramural deposition associated with the earliest City Wall (CW1), cannot be taken as a dating criterion for either the construction or the utilization of the wall. This is even more true of the fifth millennium determination yielded by a sample associated with a layer next to CW3 in MP11, which is stratigraphically later. We may only conclude that the charred remains which were so dated bear evidence of early cultural activity at the site: only these minor debris are known to us at the moment, preserved in extramural dumps which may have come either from inside the city or from an ancient canal bed dredged at the time that it was transformed into a defensive moat.

The main evidence of third millennium occupation comes from the perimeter of the city. The only opportunity we had for an investigation in a more central location was afforded by MP12; but our initial recording of its baulks (Fig. 15) did not appear as revealing as in other operations, so that it was not pursued with the intensity with which we studied the defensive system. It will be for later seasons to explore some of the central areas at the lower depths where we expect to find evidence of the early periods.

The defensive system alone, however, has provided rich evidence of a major urban settlement in the early third millennium. Without undertaking here a comparative study of other early defensive systems, especially from Western Syria and Palestine, it appears that the walls of Terqa represent the largest system known to date for this early period from the Syro-Mesopotamian area. A preliminary comparative chronology is offered in Chart 15.

It is conceivable that Terqa rose to prominence on the Middle Euphrates before Mari, to be then overshadowed by the latter at least by the second quarter of the third millennium.

Terqa		Mesopotamia	Syria	Palestine
ARB burials	2200	Akkad	Proto-Syrian IIA	Early Bronze IVA
	2300			
	2400	Early Dynastic IIIB	Proto-Syrian IC	
	2500	Early Dynastic IIIA		Early Bronze III
	2600			
	CW3	2700	Early Dynastic II	Proto-Syrian IB
CW2				
CW1A	2800	Early Dynastic I	Proto-Syrian IA	Early Bronze II
	2900			
CW1	3000	Jemdat Nasr	Proto Urban	Early Bronze I
	3100			

## 15. Third millennium chronology

It would otherwise be difficult to explain such a massive defensive system, if we are to assume that Terqa was either a satellite or even a close rival of Mari from the beginning.

## 7.2 The second millennium

We have as yet no stratigraphic evidence from the early second millennium, although there are epigraphic data from the beginning (*TPR* 2, 1) of the reign of Zimri-Lim of Mari, when we have the rich documentation provided by the Mari archives. Most of the stratigraphic data are for now datable to the Khana period, possibly in its latest phases. The archive of Puzurum is dated primarily in the reign of a single king who is mentioned frequently in the contracts—Yadiḥ-abum. This is a new king (for whom we have several year names), and so are Yapaḥ-Sumu (TQ4-T168) and Izi-Sumu-abum (TQ-T63). The name of another king, Kastiliaš (TQ4-T165), was already known from tablets published previously. Together with Igid-Lim (*TPR*, 4:7') and the kings known from previously published Khana documents (Iddin-Kakka, Išar-Lim, Zitri-[ . . . ], Isiḥ-Dagan, Ḥammurapi, Šunuḥ-rammu and Ammi-madar), we now have twelve names of “kings of Khana” (LUGAL KUR *Ḥa-na*).

From a preliminary investigation of the texts, we have a total of some 180 personal names, of which about two-thirds are Akkadian and one-third is Amorite. The previously published Khana texts have a total of more than 115 names, of which only one-fifth is Amorite and the remainder Akkadian. It appears, then, that we are beginning to develop a considerable onomasticon and, more generally, epigraphic data base from a period otherwise hardly known. The full publication of the texts from the archive of Puzurum is almost ready for the press by O. Rouault. Together with the forthcoming publication of the seal impressions by M. Kelly-Buccellati and with the ongoing publication of the archaeological record from Terqa, we hope to contribute substantially to a fuller historical appreciation of a key period in Syro-Mesopotamian history.

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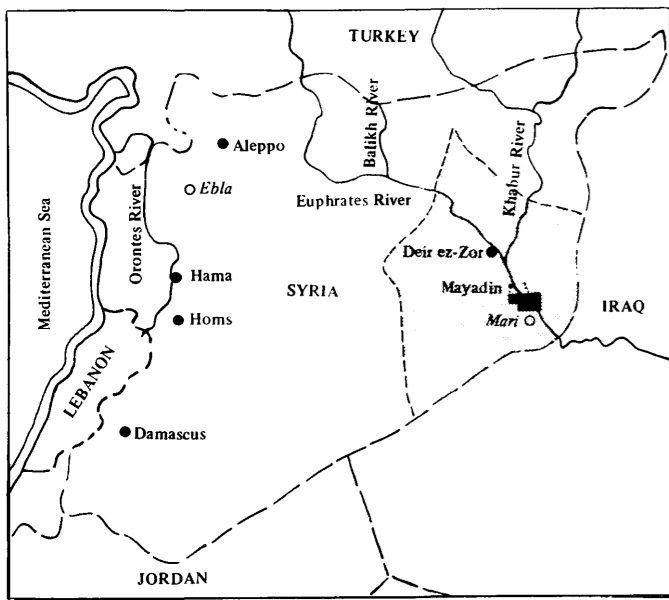
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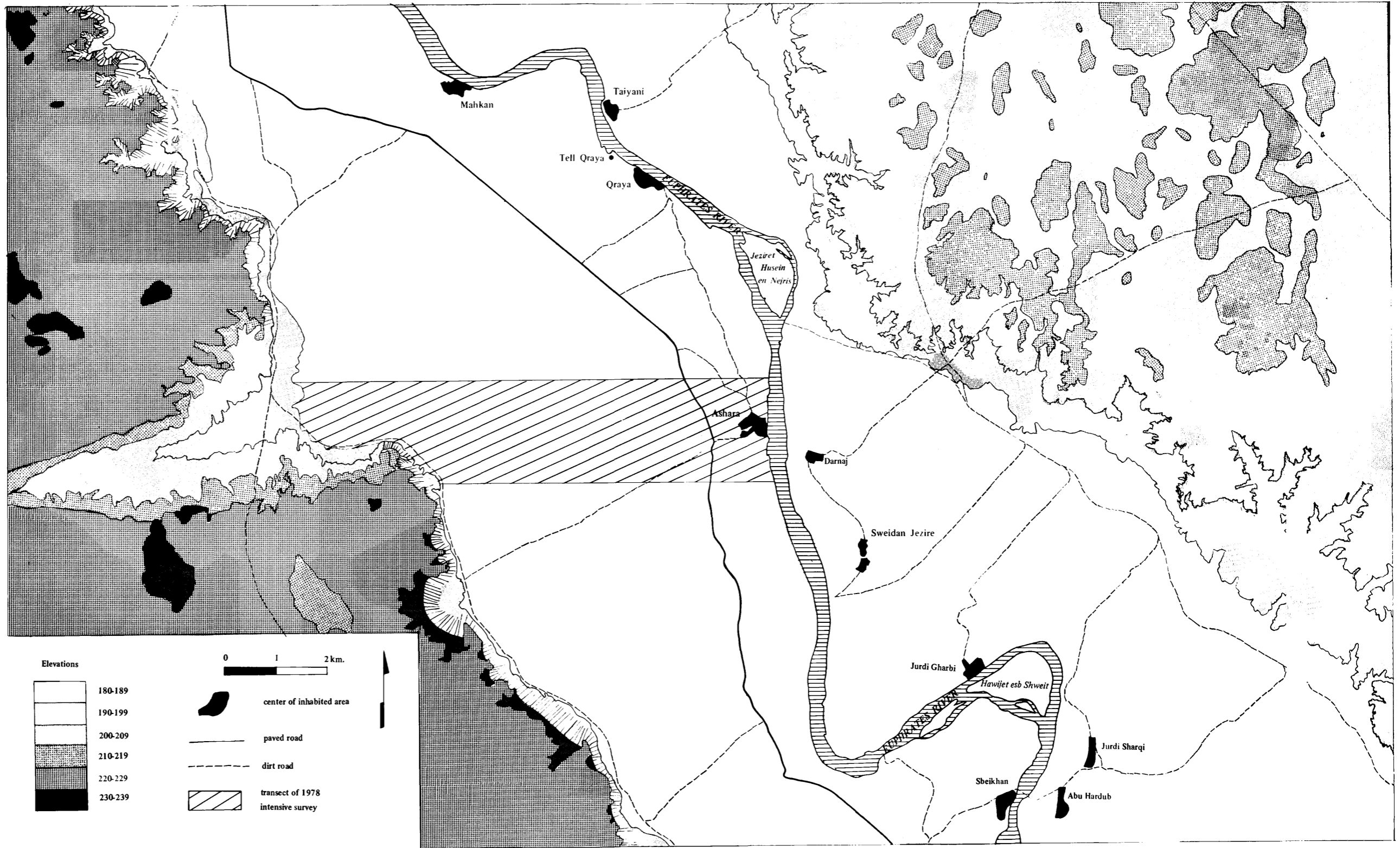


## **FIGURES**





Deir ez-Zor Province
  Inset shows area of map to the left



**Elevations**

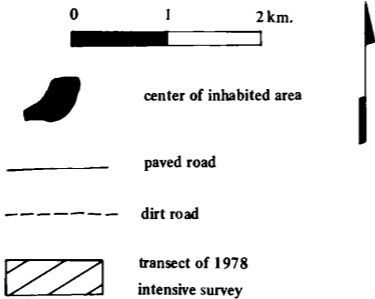
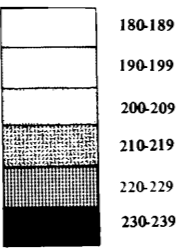
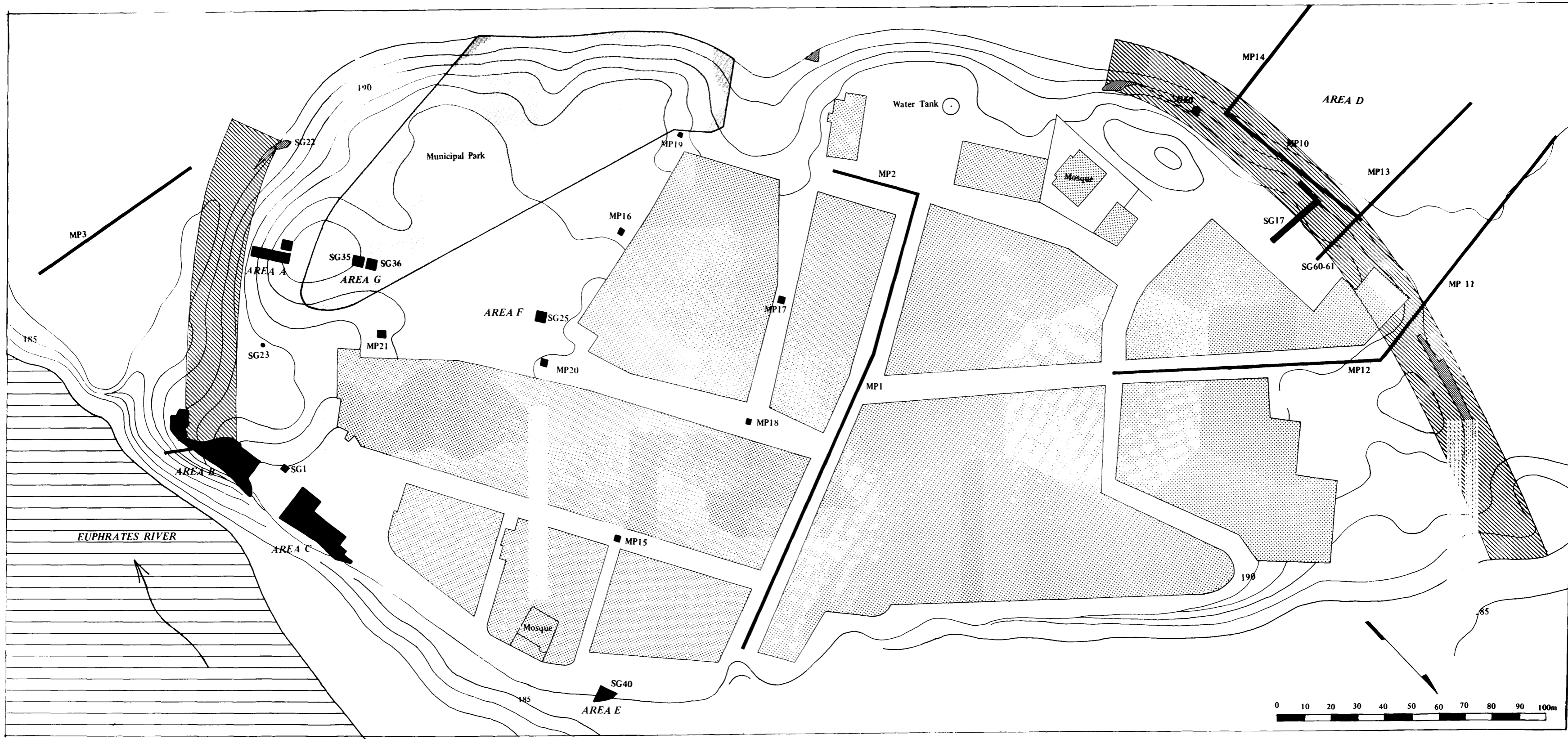
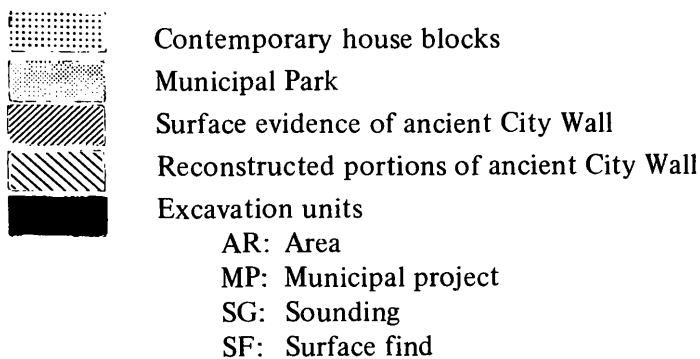


Figure 1. Topographical map of Ashara environs Scale 1:6,000





Two systems of representing elevations are found in this report. The site map bears contour lines "corrected to sea level" and house blocks based in part on a 1962-64 map series at a 1:5000 scale. All other elevations reflect our own arbitrary system which is unified for the entire site: these elevations are independent of sea level, but our zero point corresponds approximately to the 183 contour line of the site plan. Some topographical features of this site are out of date and will be revised in the future. Note that the present elevation system differs from the ones used in previous reports, which were not unified over the entire site. Hence in this report all elevations are positive and uniform for the entire site; only a few elevations are below our zero point and are marked as negative.



### Chronology of Excavation Units

MP1-3		1976	SG11-16	ARB	1977
MP10-14	ARD	1978	SG17	ARD	1977-78
MP15-21	ARE-ARF	1978	SG18-20	ARC	1977
			SG21	ARB	1977-78
SG01-2	ARB	1923	SG22-23	ARA	1977
SG1	ARC	1975	SG25	ARF	1978
SG2-3	ARA	1976-77	SG30-33	ARC	1978
SG4	ARC	1976	SG35-36	ARG	1978
SG5	ARB	1977	SG40-42	ARE	1978
SG6	ARA	1977	SG50	ARD	1978
SG7-8	ARC	1977	SG51-52	ARB	1978
SG9	ARA	1977	SG60-61	ARD	1978
SG10	ARC	1977			

Figure 2. Plan of Terqa/Ashara (Scale 1:1000)

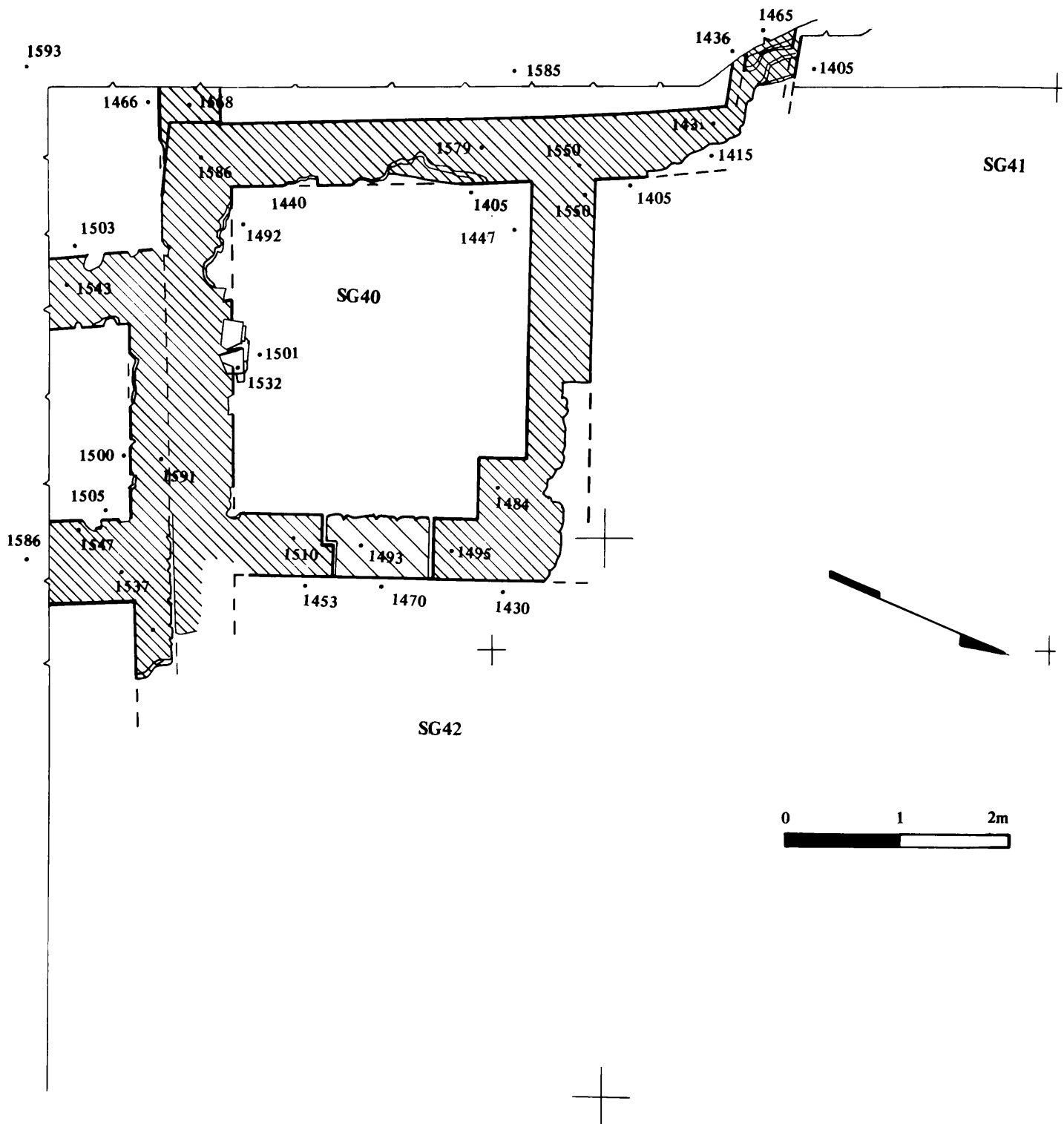


Figure 3. Area E, structures of the medieval period (Scale 1:50)

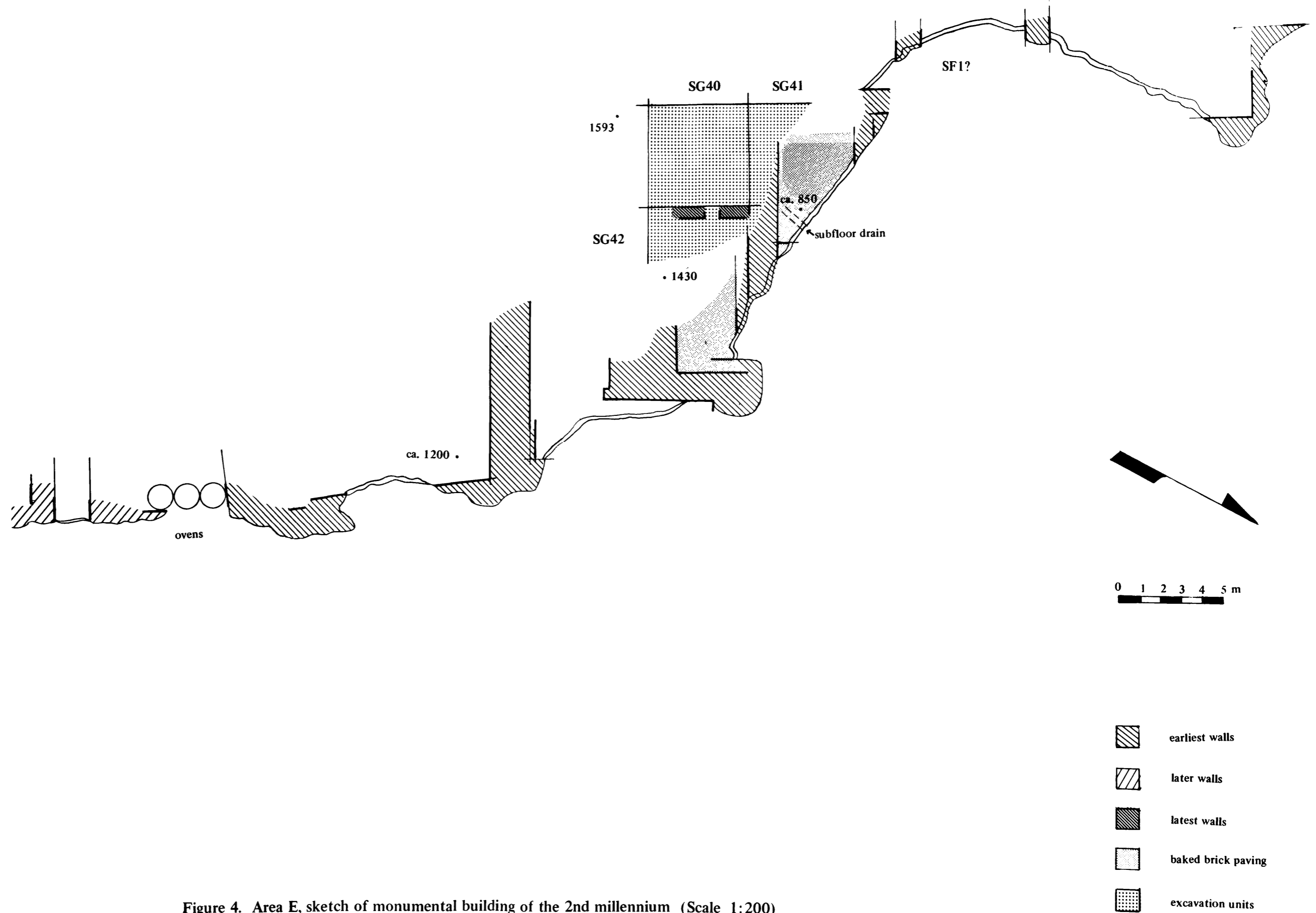


Figure 4. Area E, sketch of monumental building of the 2nd millennium (Scale 1:200)

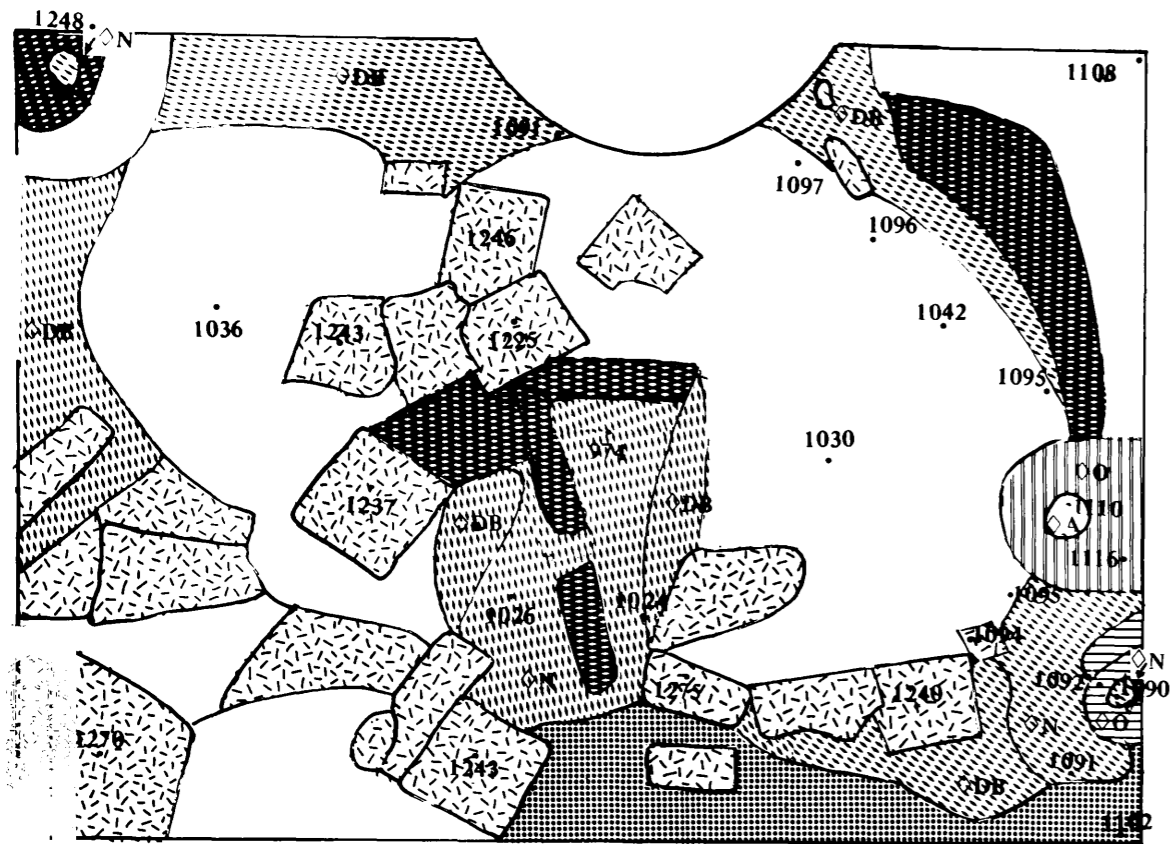
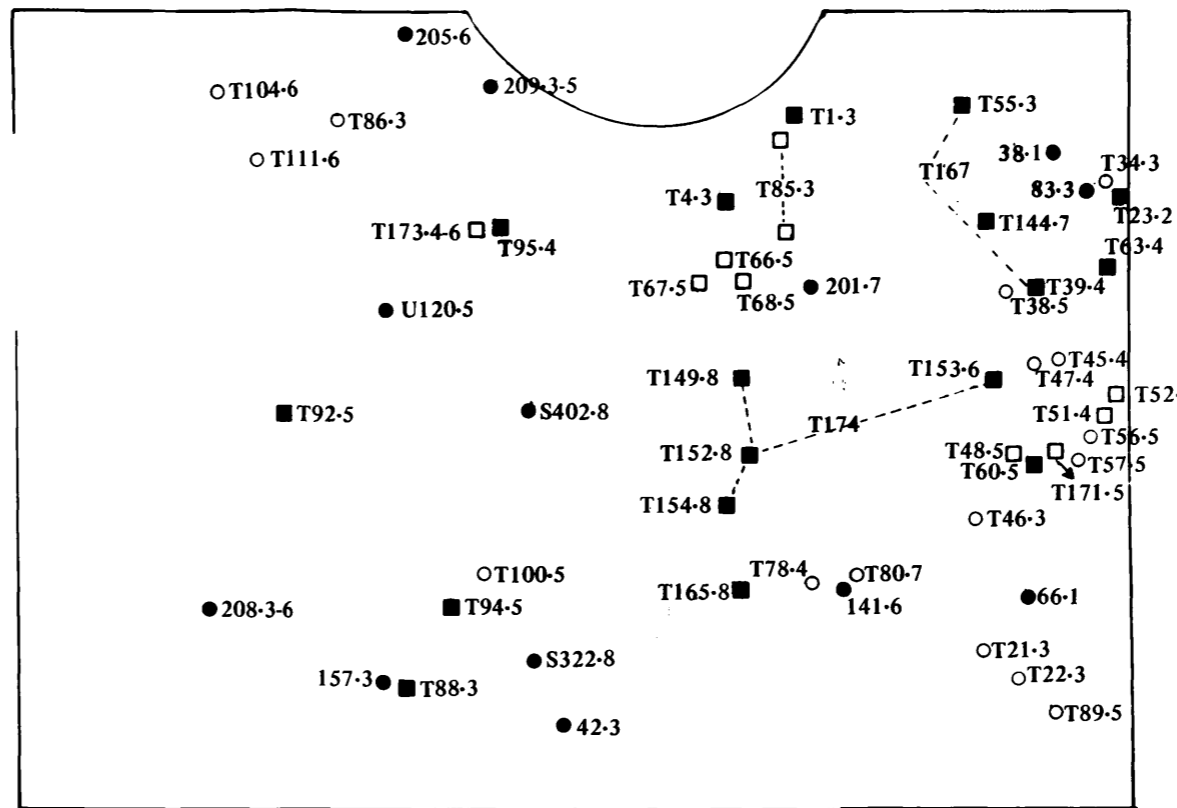


Figure 5. STCA1 living floor (Scale 1:25)



- 38 LC9 LV1 = silver crescent
- 42 LC15 LV3 = duck weight
- 66 LC13 LV1 = jar stopper
- 83 LC17 LV3 = jar stopper
- 157 LC47 LV3 = part of baked clay cart
- 201 LC24 LV7 = large flat bowl w/hole in center
- 205 LC51 LV6 = ring stand
- 208 LC38-45-46 LV3-6 = bathtub
- 209 LC51 LV3-5 = big jar

- S322 LC47 LV8 = deer antler
- S402 LC6 LV8 = wooden panel

- T1 LC10 LV3 = tablet, reverse Ili-dumqi
- T4 LC10 LV3 = tablet, fragment Ili-dumqi
- T21 LC4 LV3 = bulla
- T22 LC14 LV3 = bulla
- T23 LC4 LV2 = tablet, Sîn-abuša contract
- T34 LC20 LV3 = bulla
- T38 LC21 LV4 = bulla
- T39 LC21 LV4 = tablet, obverse loan text
- T45 LC20 LV4 = bulla
- T46 LC14 LV3 = bulla
- T47 LC20 LV4 = bulla
- T48 LC20 LV5 = envelope of T60
- T51 LC20 LV4 = envelope, fragment of Yassi-el tablet
- T52 LC20 LV4 = envelope, frag. of Yassi-el tablet
- T55 LC22 LV3 = tablet, reverse loan text
- T56 LC20 LV5 = tag, joins T57
- T57 LC20 LV5 = tag
- T60 LC20 LV5 = tablet, Yassi-el contract
- T63 LC21 LV4 = tablet, Hašibum contract
- T66 LC31 LV5 = envelope fragment
- T67 LC31 LV5 = envelope fragment
- T68 LC31 LV5 = envelope fragment

- T = epigraphic artifact registry number
- U = TQ4 register number of unrecorded artifacts
- S = TQ4 specific artifact registry number
- 2 = level 2
- all others = TQ4 artifact registry number

- tablet
- envelope
- bullae, tag
- artifact

- T78 LC30 LV4 = tag
- T80 LC26 LV7 = tag
- T85 LC23-24 LV3 = envelope, Ili-dumqi tablet
- T86 LC42 LV3 = bulla
- T88 LC47 LV3 = tablet, list of names including son of Puzurum
- T89 LC18 LV5 = tag
- T92 LC44 LV5 = tablet, list of names and days
- T94 LC48 LV5 = tablet, Izi-dammi contract
- T95 LC50 LV4 = tablet, Yasmaḥ-Dagan contract
- T100 LC48 LV5 = bulla
- T104 LC42 LV6 = bulla
- T111 LC26 LV7 = tag
- T144 LC21 LV7 = tablet, Iddin-kakka contract
- T167 = T39 + T57 = tablet, loan to Puzurum
- T171 LC20 LV5 = envelope of T60
- T173 LC50 LV4-6 = envelope of T95
- T174 LC20, 29, 30 LV6, 8 = tablet, contract of Warad-addu and Šamaš X-lanni
- U120 LC50 LV5 = door socket

41	42	51	32	23	22
40	43	50	31	24	21
3	44	49	30	25	20
38	45	48	29	26	19
37	46	47	28	27	18

South	Center	North
LC34	LC52	LC33

- Level 1 = 1159-1149
- Level 2 = 1149-1139
- Level 3 = 1139-1129
- Level 4 = 1129-1119
- Level 5 = 1119-1109
- Level 6 = 1109-1099
- Level 7 = 1099-1089
- Level 8 = 1089-1079

Figure 6. STCA1 grid and major artifact plan (Scale 1:25 / plan; 1:50 / grid)

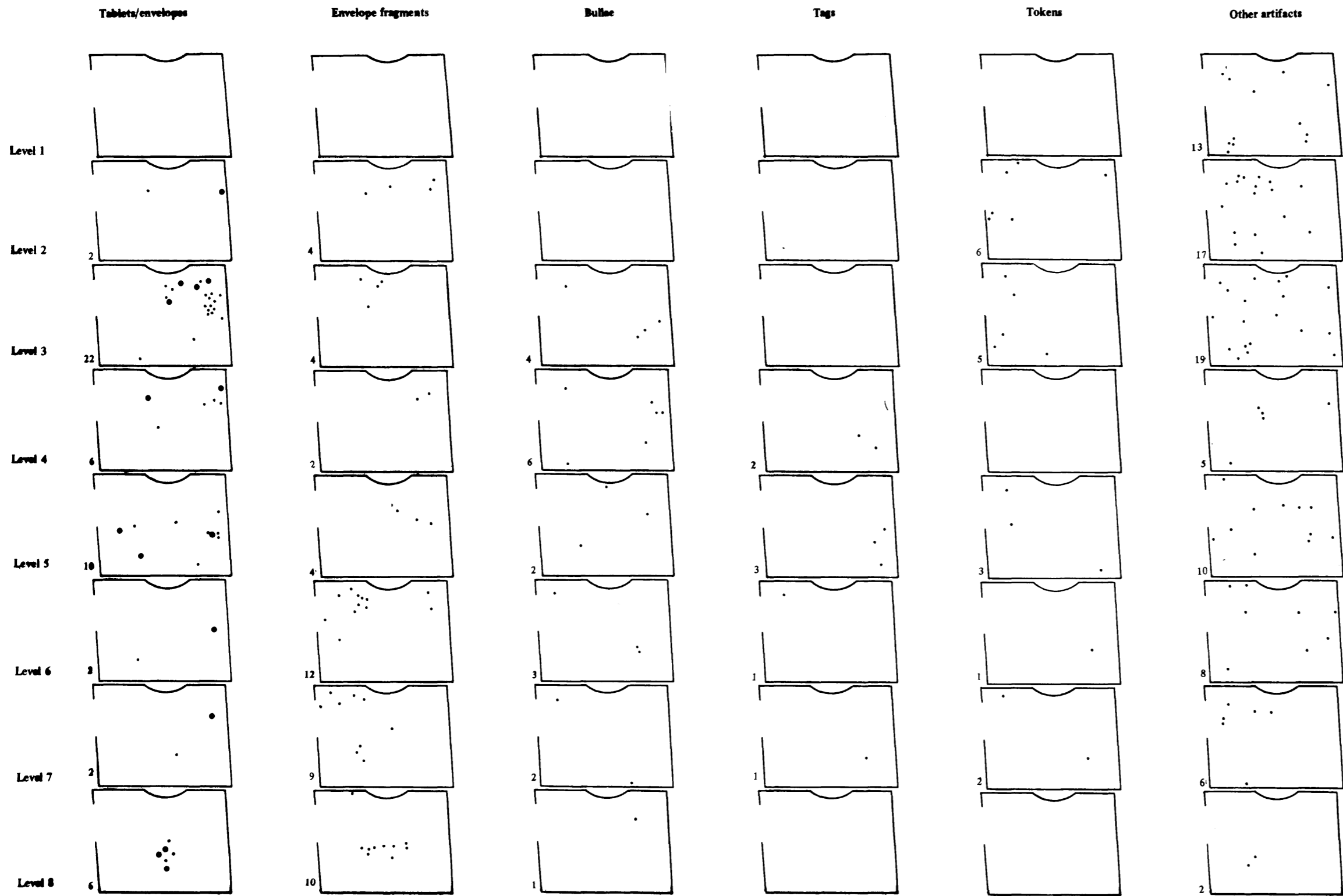


Figure 7. Distribution of artifacts by category and findspot.

The left column includes tablets, tablet fragments, and envelopes associated with tablets. The larger dots refer to complete or nearly complete tablets.

The numbers on the lower left of each entry correspond to the total number of items per entry.



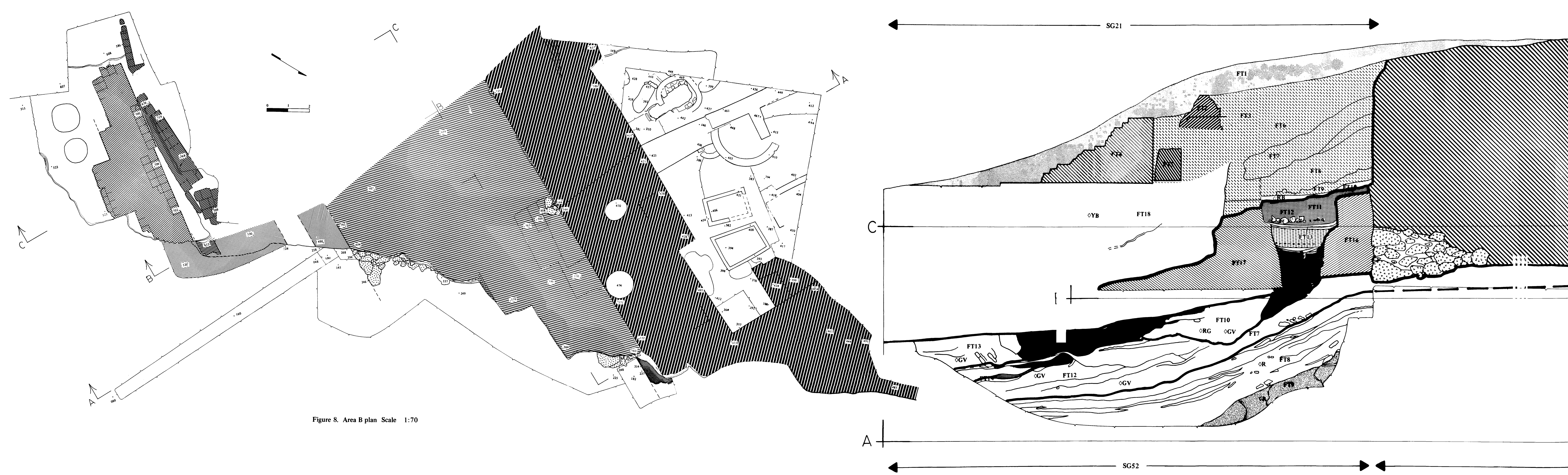
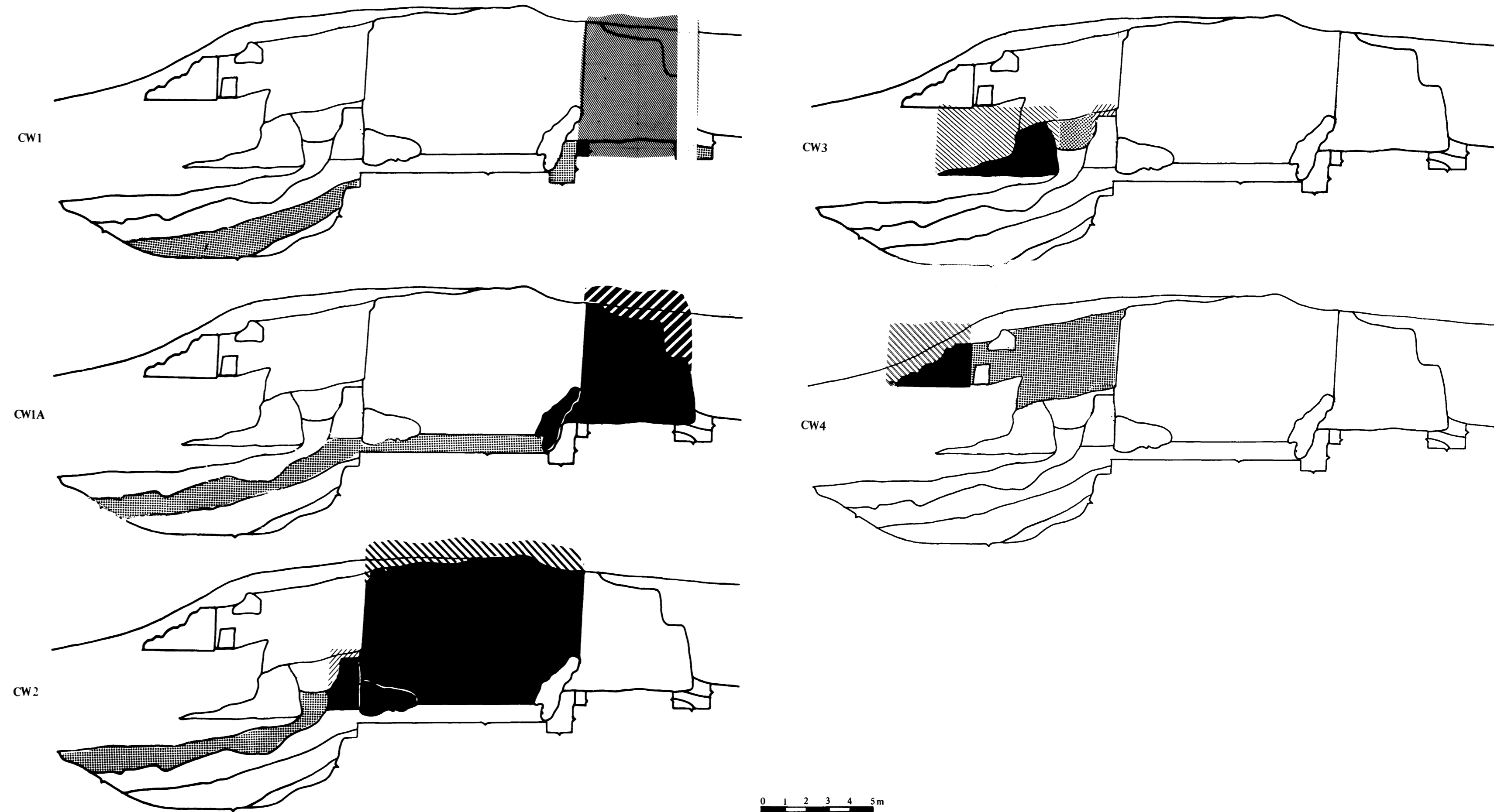
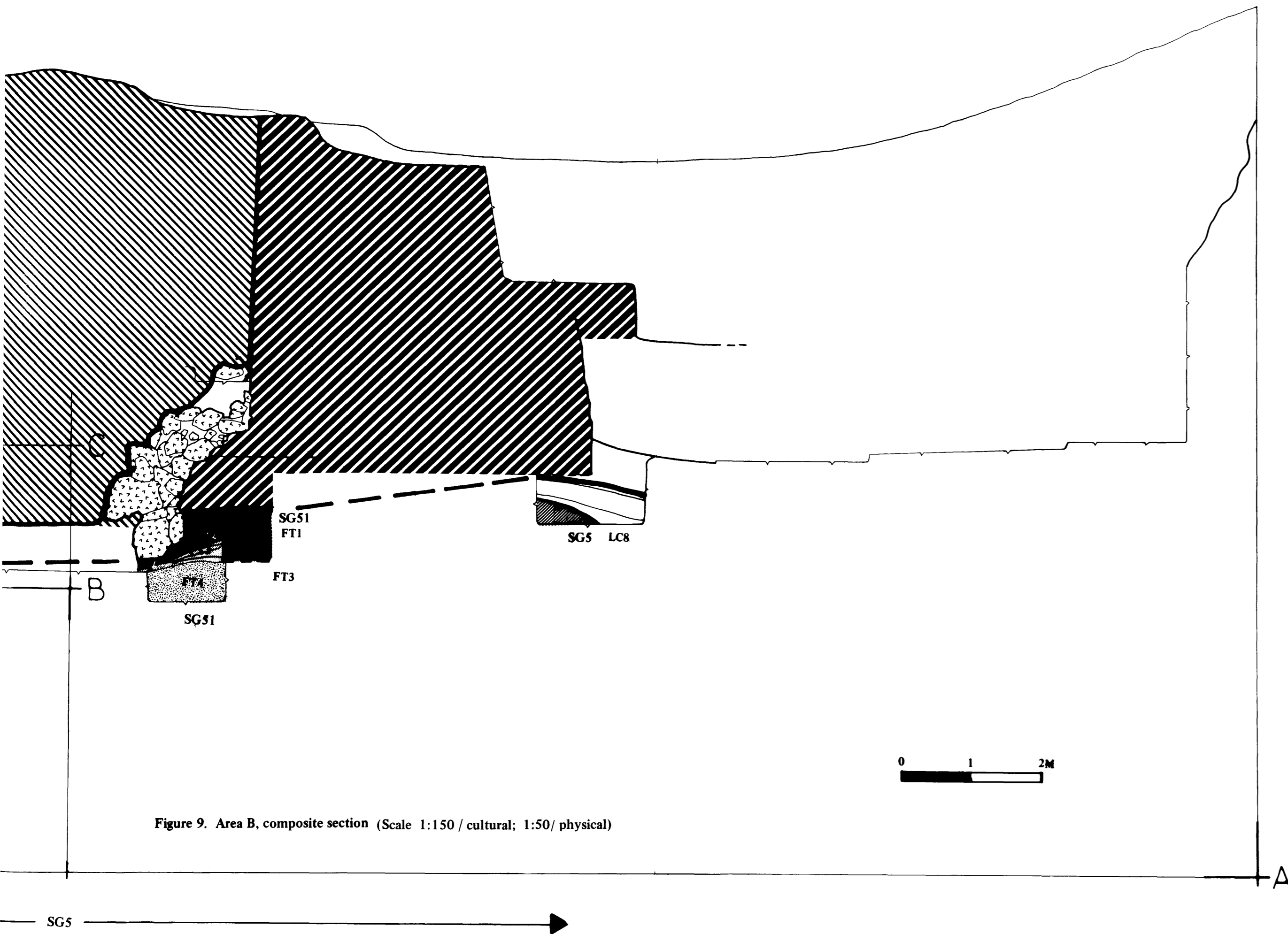


Figure 8. Area B plan Scale 1:70





		GRAPHIC REGISTER		ALPHA-NUMERIC REGISTER (Alpha-Numeric codes are cumulative)	
		Texture and Dominant Color: (Deviations are noted by Alpha-Numeric Register)		Color: (Sequence according to Munsell chart)	
NATURAL STRATIGRAPHY	DEPOSIT	Homogeneous		Color:	
		Within Cultural Deposition: clay (reddish brown) silty clay (light gray) silt (gray) sandy clay (light brown) sand (light brown) rocks (limestone; light brown) gravel Capped by Cultural Deposition: virgin soil (clay; reddish brown)		◇D dark ◇L light ◇R red ◇G gray ◇N black ("noir") ◇W white ◇P pink ◇B brown ◇Y yellow ◇O orange ◇V green ("vert")	
NATURAL STRATIGRAPHY	DEPOSIT	Inclusion and Matrix as Separate Entities: (Graphic or Alpha-Numeric)			
		Primarily Inclusion: wall rubble heavy trash (metal, plastic, rubber, etc.) sherd and/or bone dump midden sewage =◇A ash or charcoal streaks charcoal		Primarily Matrix: =◇C clay =◇Y silty clay =◇S silt =◇Z sand =◇M mixed	
NATURAL STRATIGRAPHY	DEPOSIT	Inclusion and Matrix as a Single Whole:			
		topsoil isolated bricks Bricks in walls (various types of linear patterns which refer to texture, color, temper, boundaries, i.e. brick sizes, and mortar). CW1 CW1A CW2 CW2A CW3 CW3A CW3B CW3C CW4 CW4A medieval other walls			
BOUNDARIES		more less excavation line sharp slope merging or uncertain reconstructed • 1245 elevation (cms. above 0 datum; see Fig. 2)			
CULTURAL STRATIGRAPHY		Demarcation among various horizons is shown by heavier lines on profile of natural stratigraphy. Also, each major horizon is represented by a separate profile which identifies (1) wall remnants in solid black, (2) reconstructed walls each with its pertinent linear pattern, (3) the deposition associated with any given wall by means of a uniform dot pattern.			

Figure 10. Stratigraphic symbols

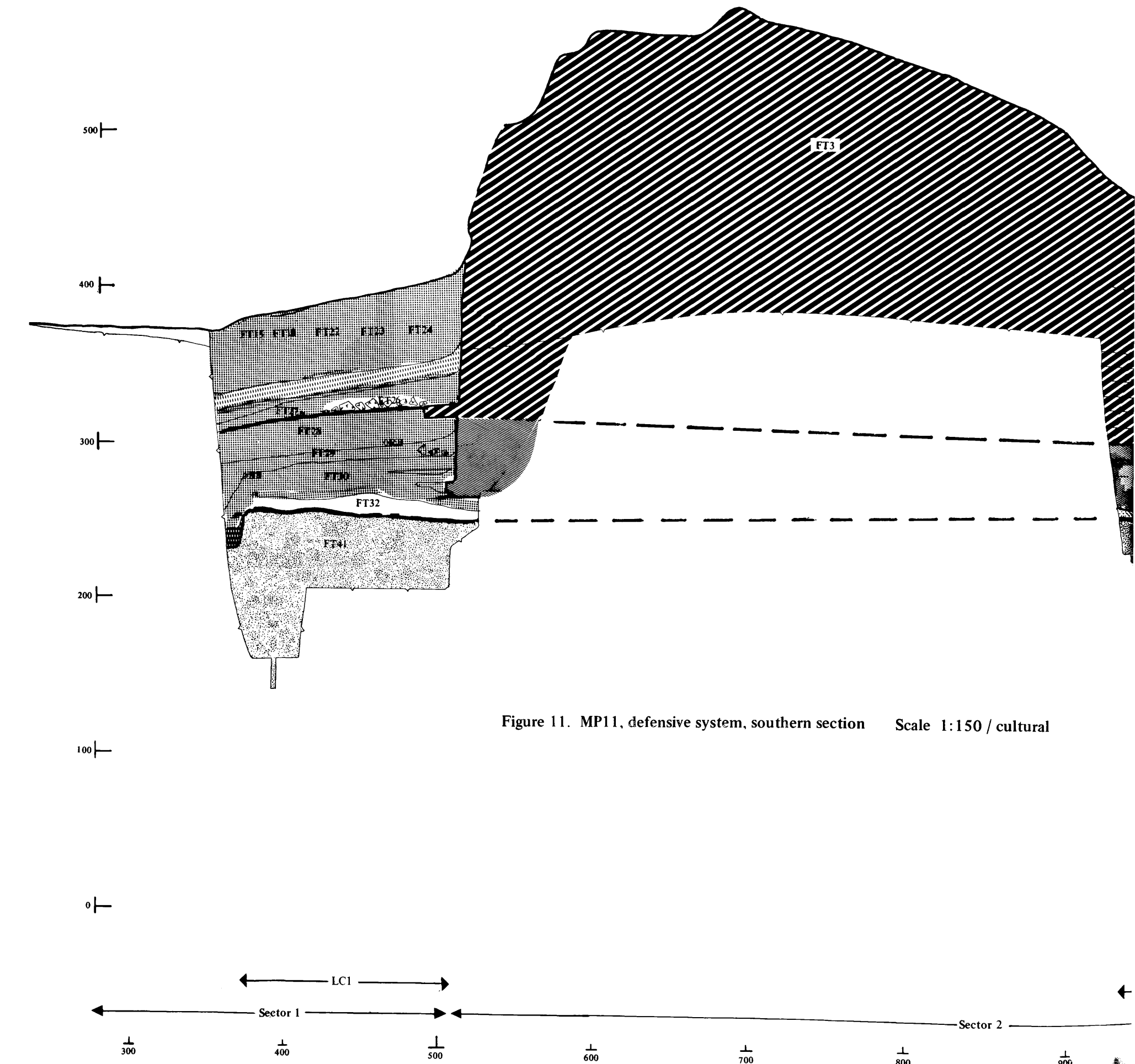
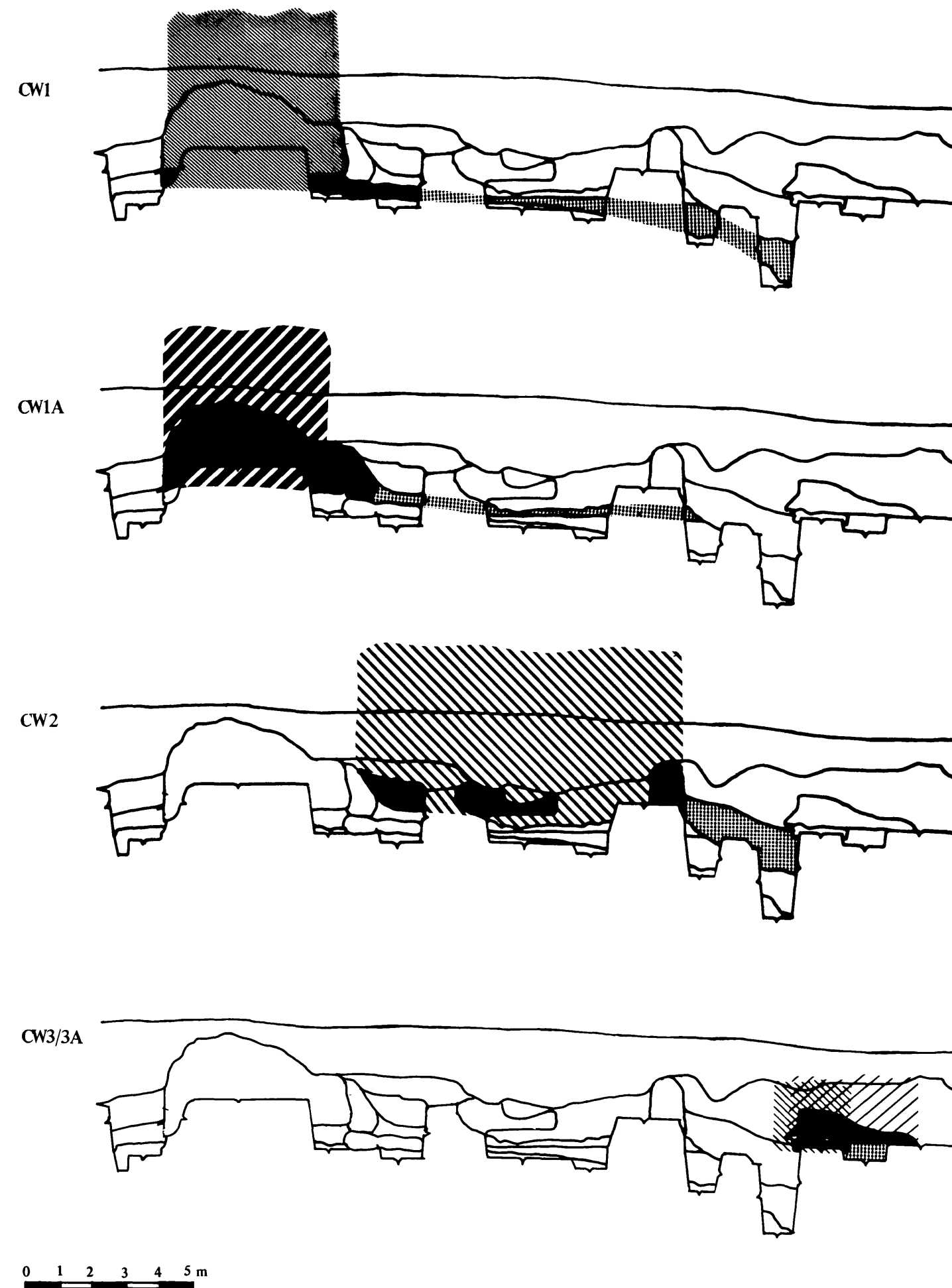
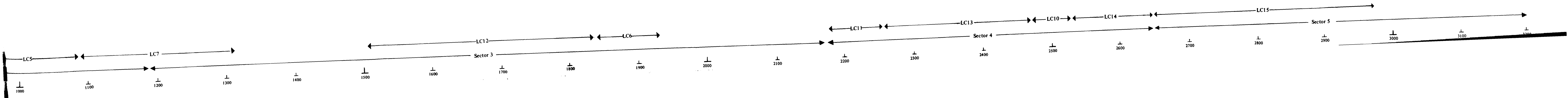
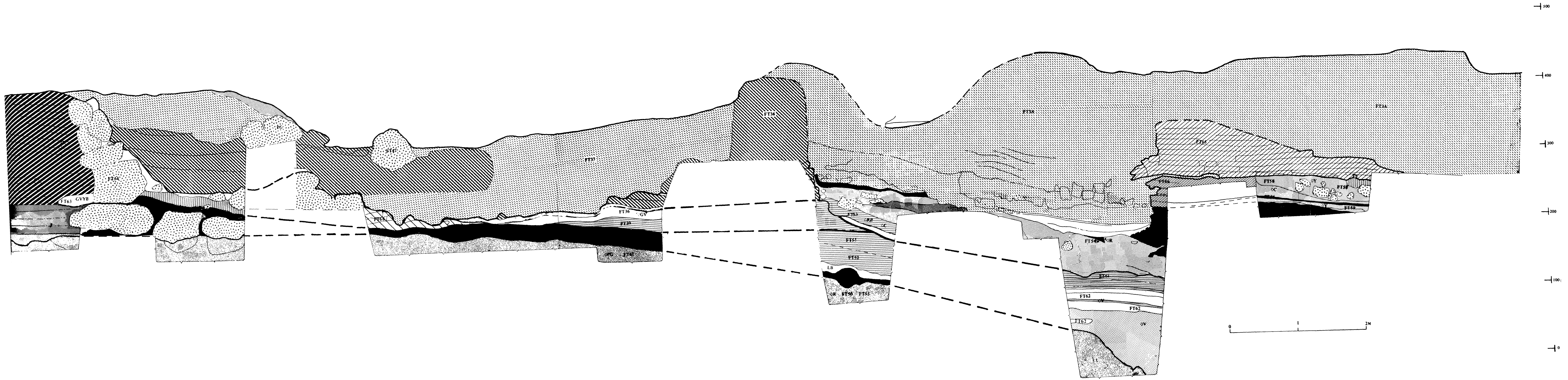


Figure 11. MP11, defensive system, southern section Scale 1:150 / cultural



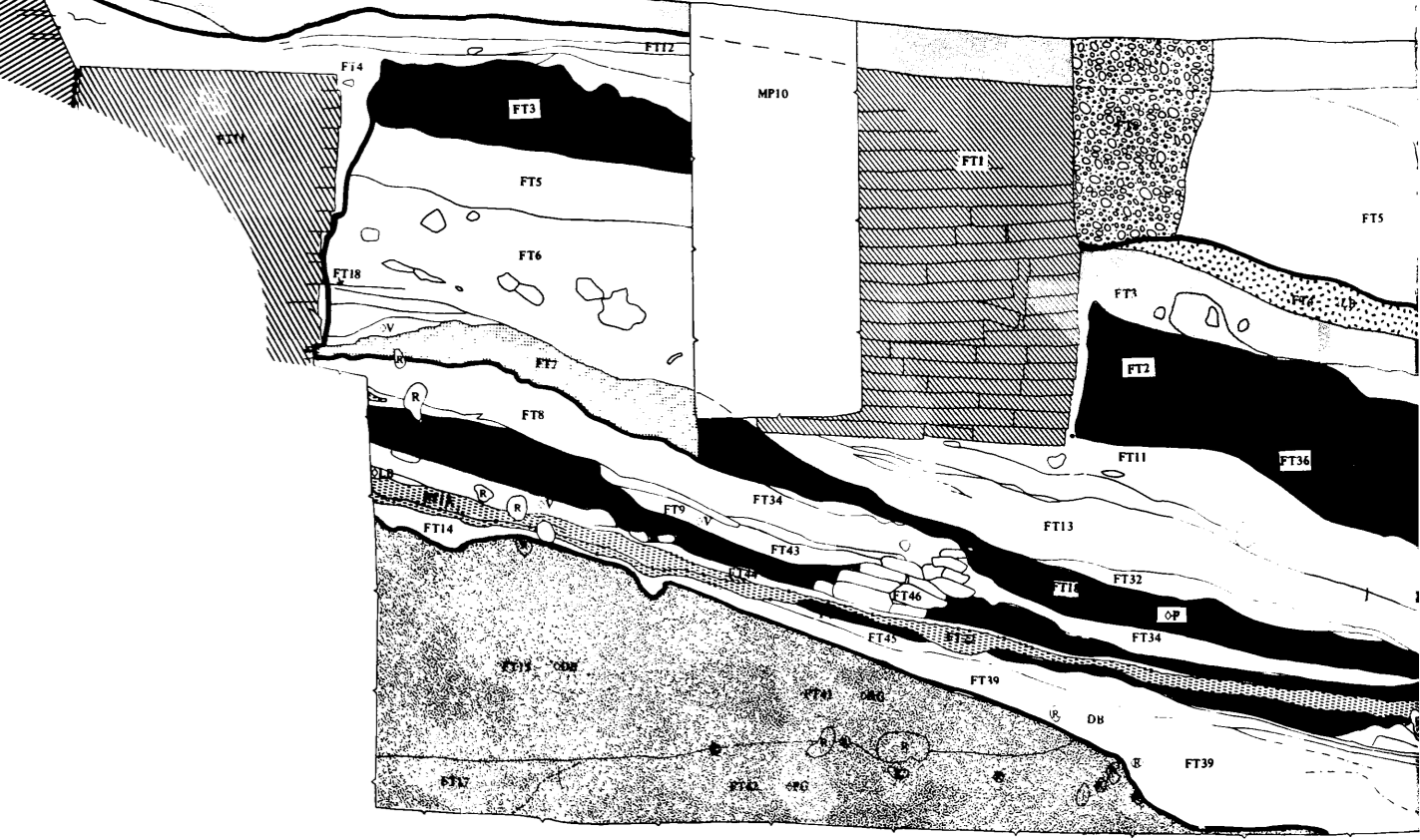
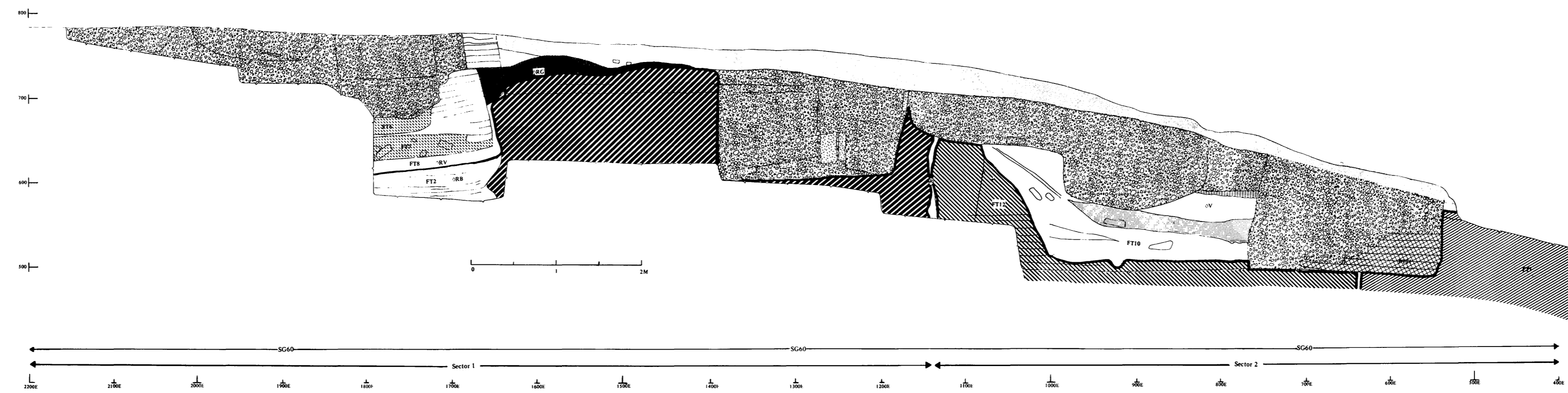
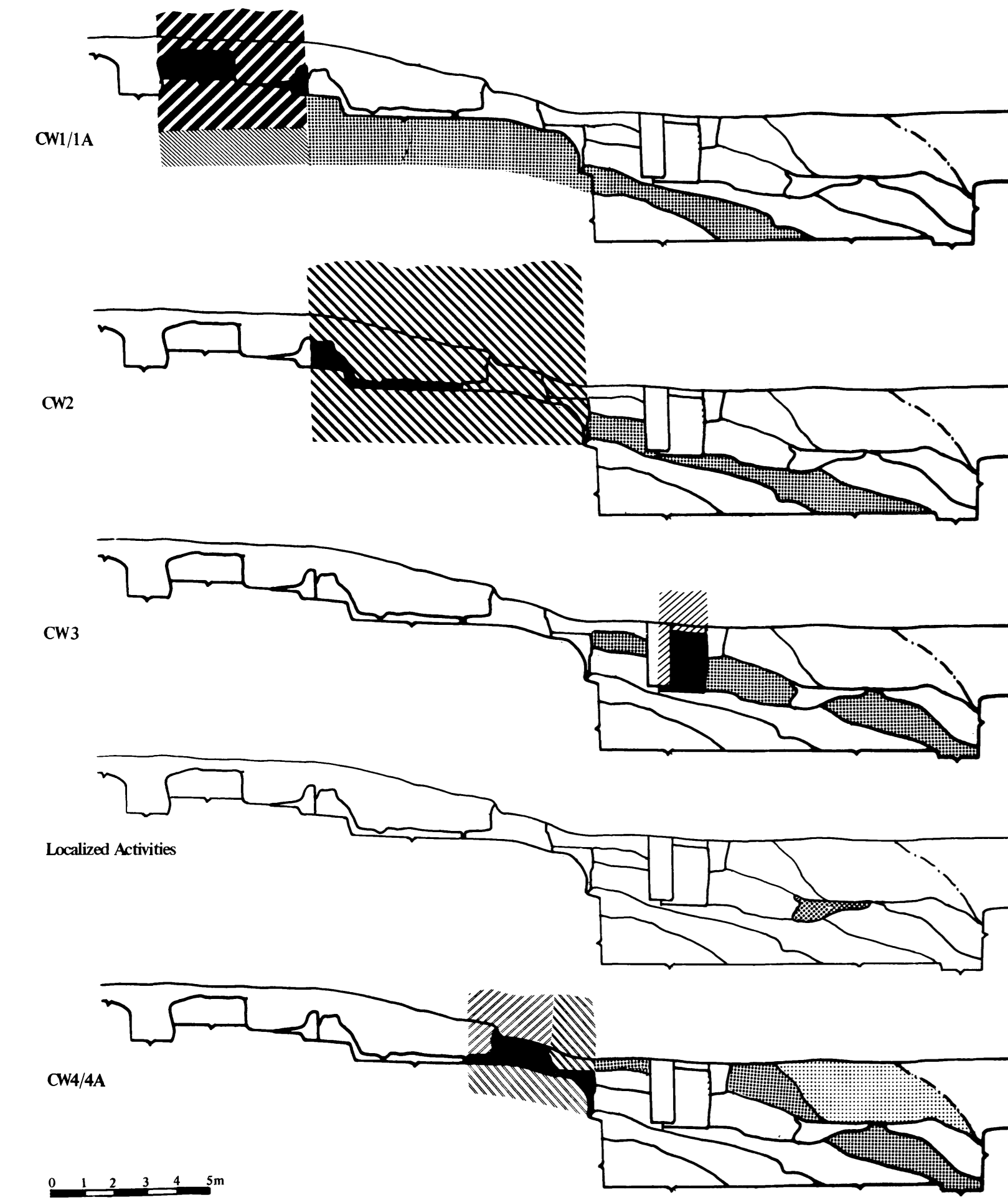
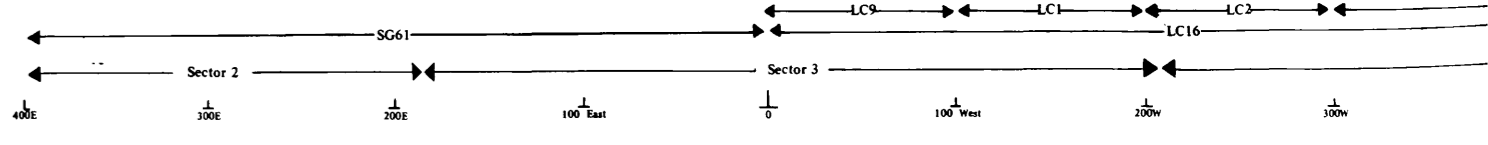


Figure 12. MP13+, southern section (Scale 1:150 /cultural; 1: 30 / physical)





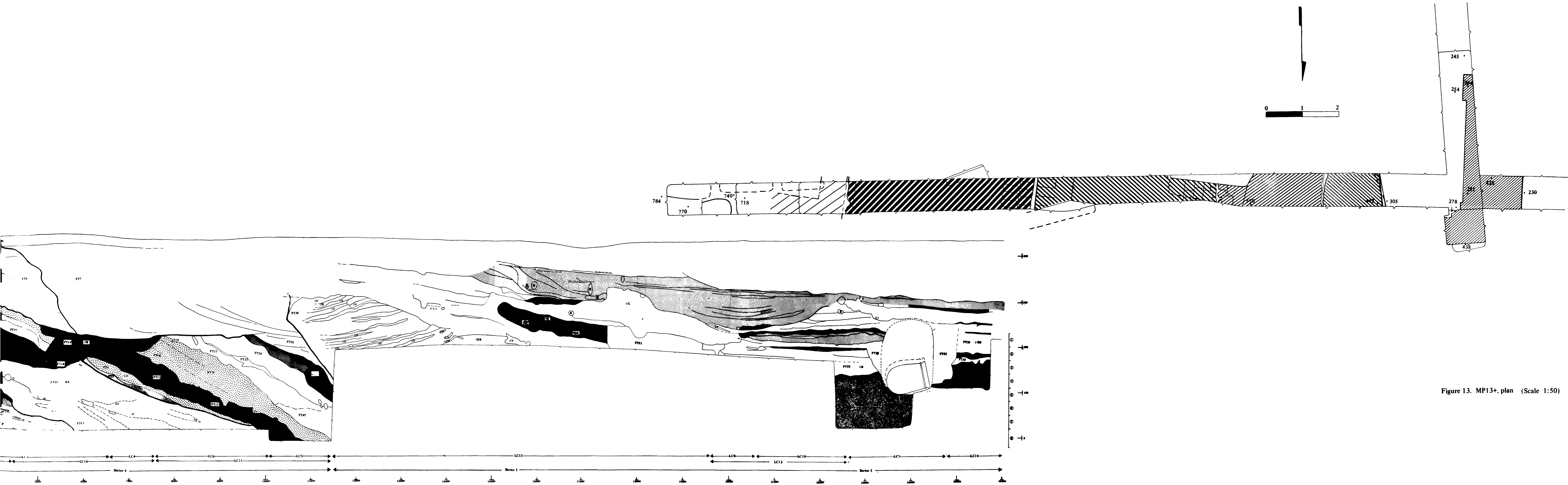


Figure 13. MP13+, plan (Scale 1:50)

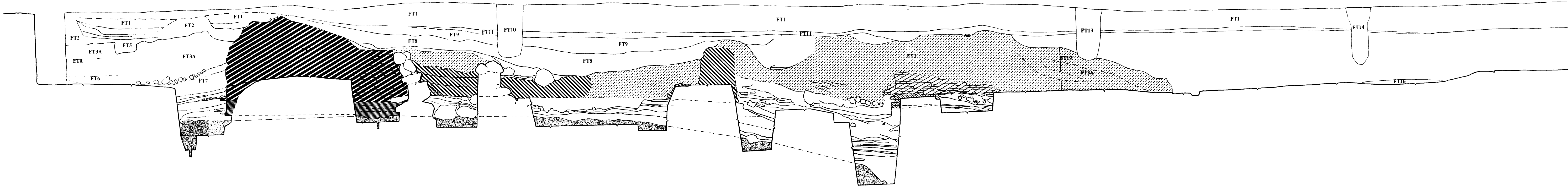


Figure 14. MP11, southern section (Scale 1:60)

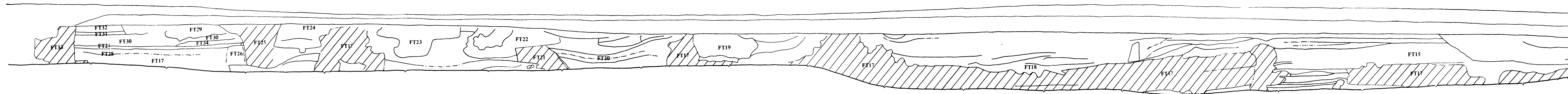
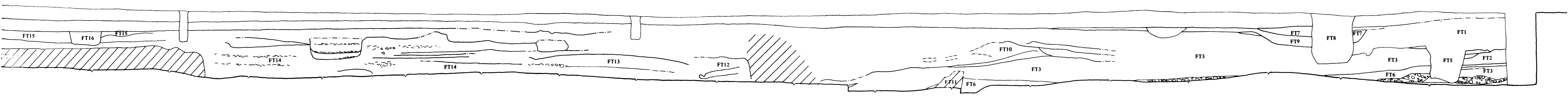
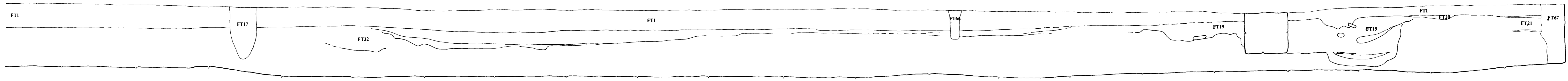


Figure 15. MP12, western section (Scale 1:60)





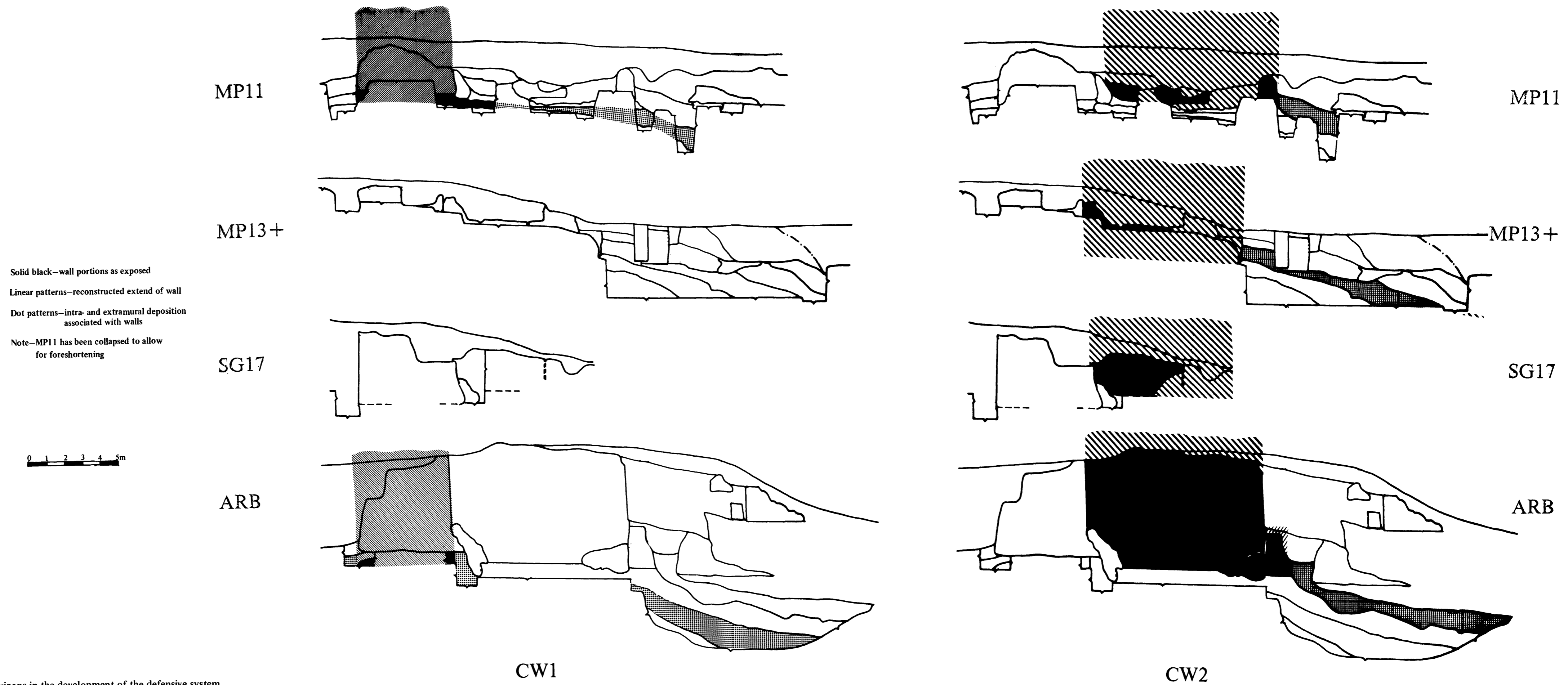
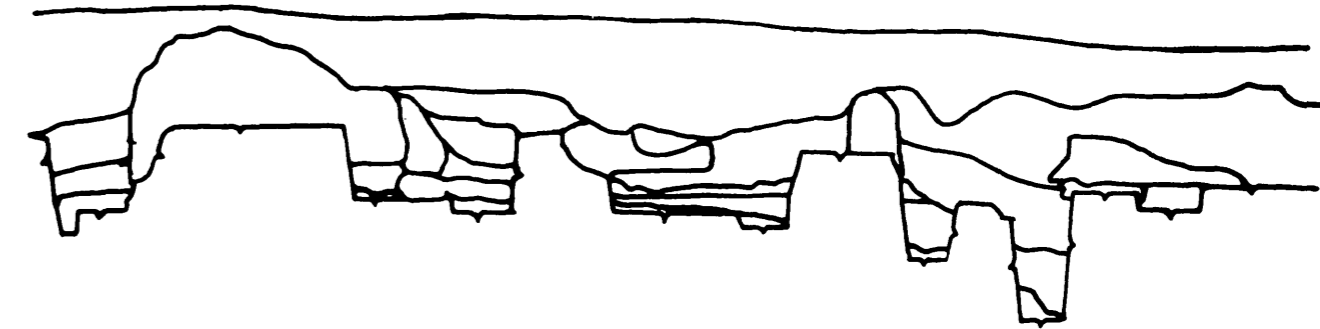
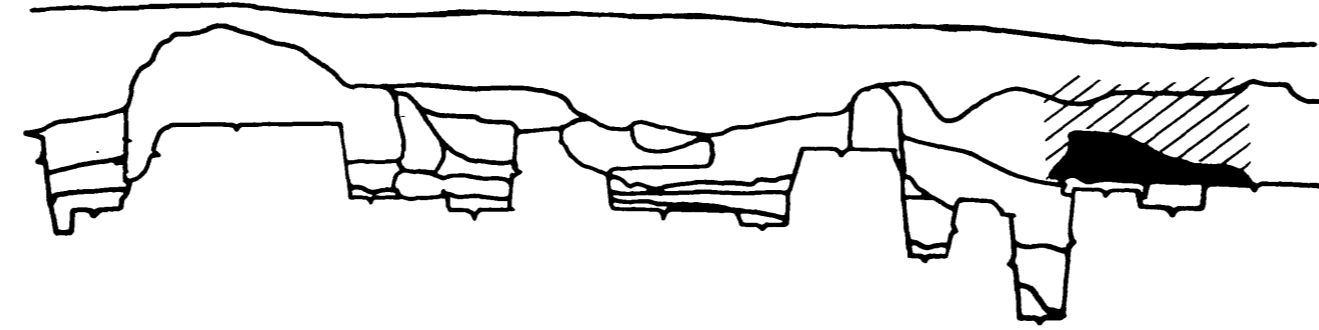
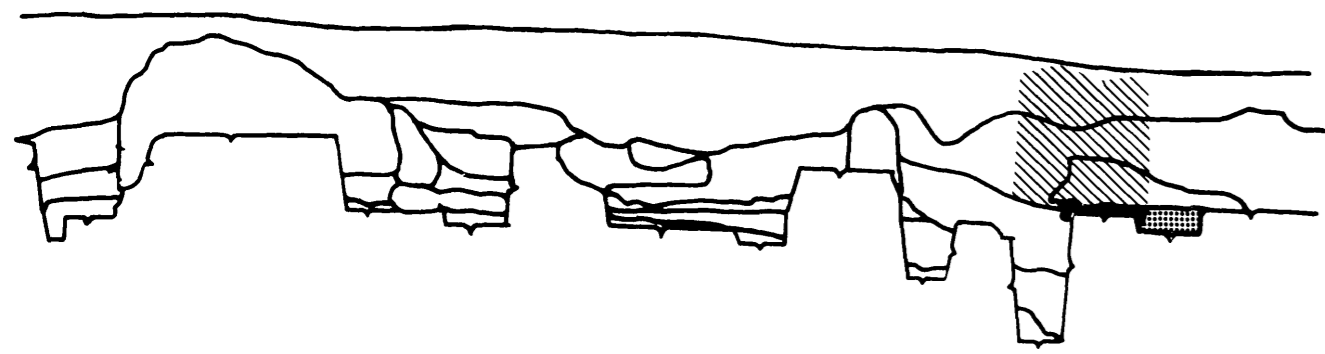
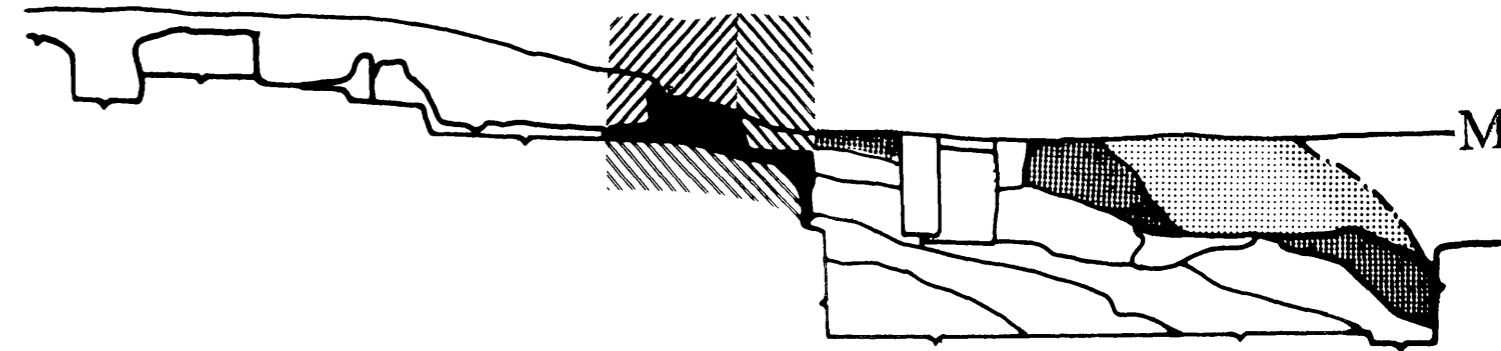
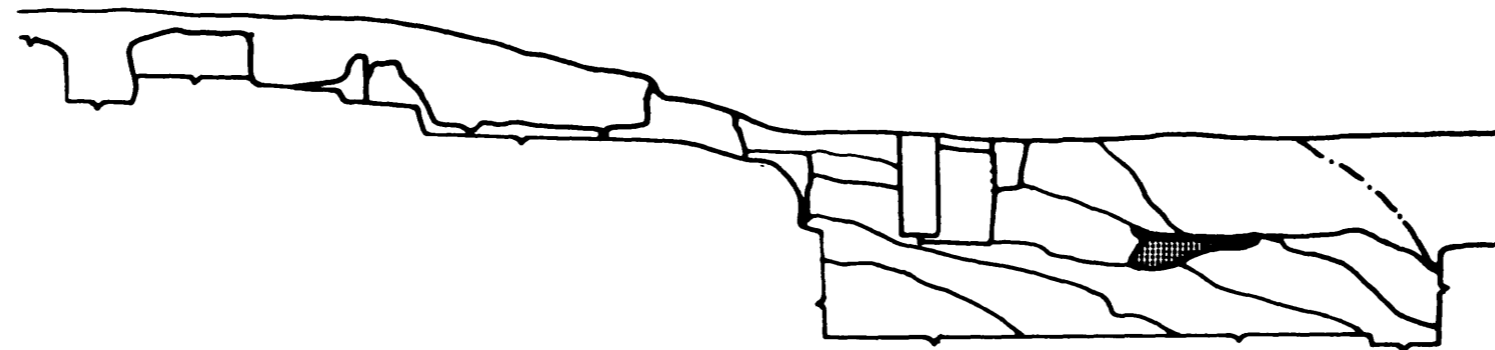
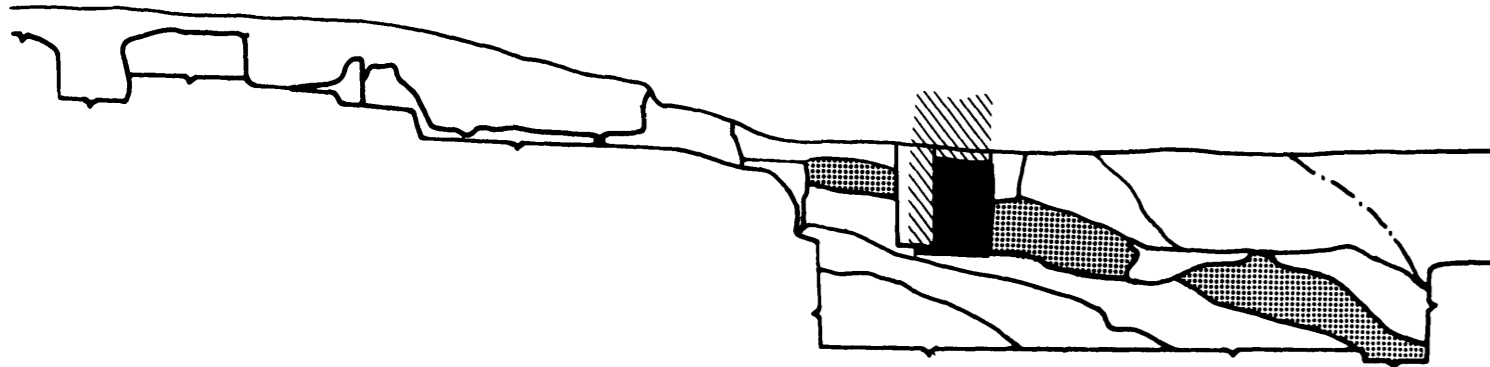


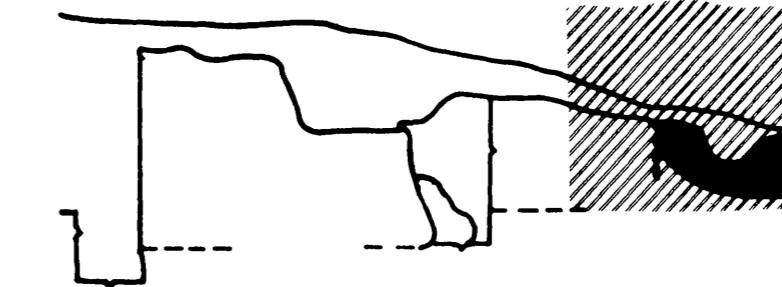
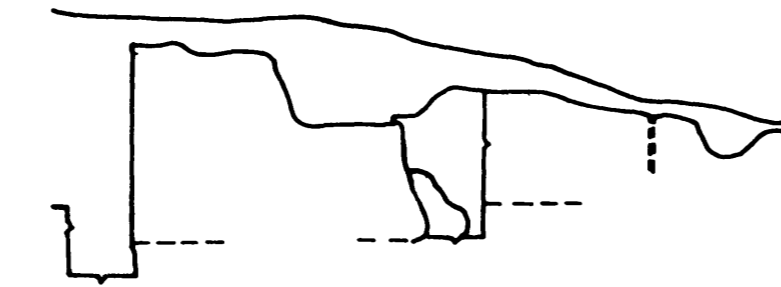
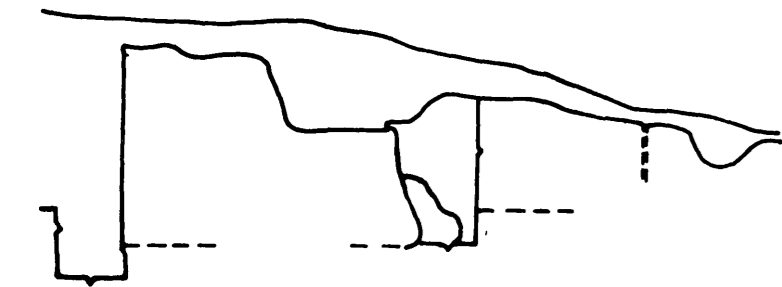
Figure 16. Major horizons in the development of the defensive system  
 (Scale 1:150)



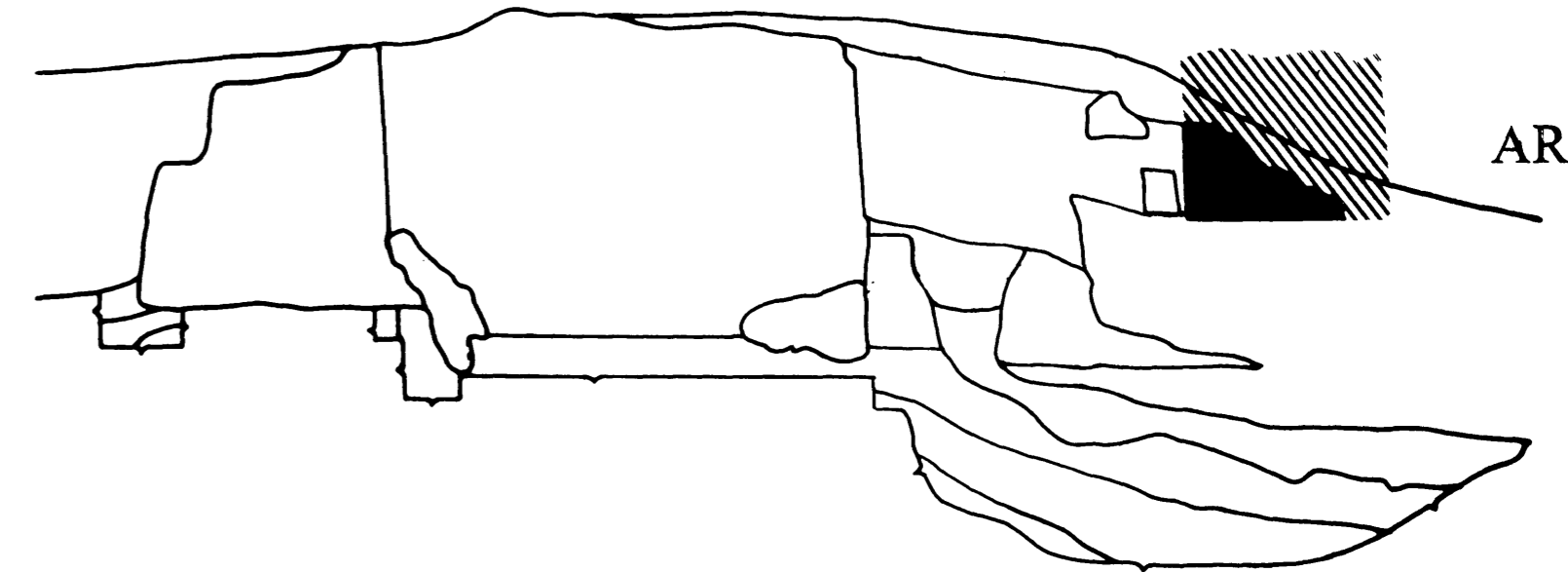
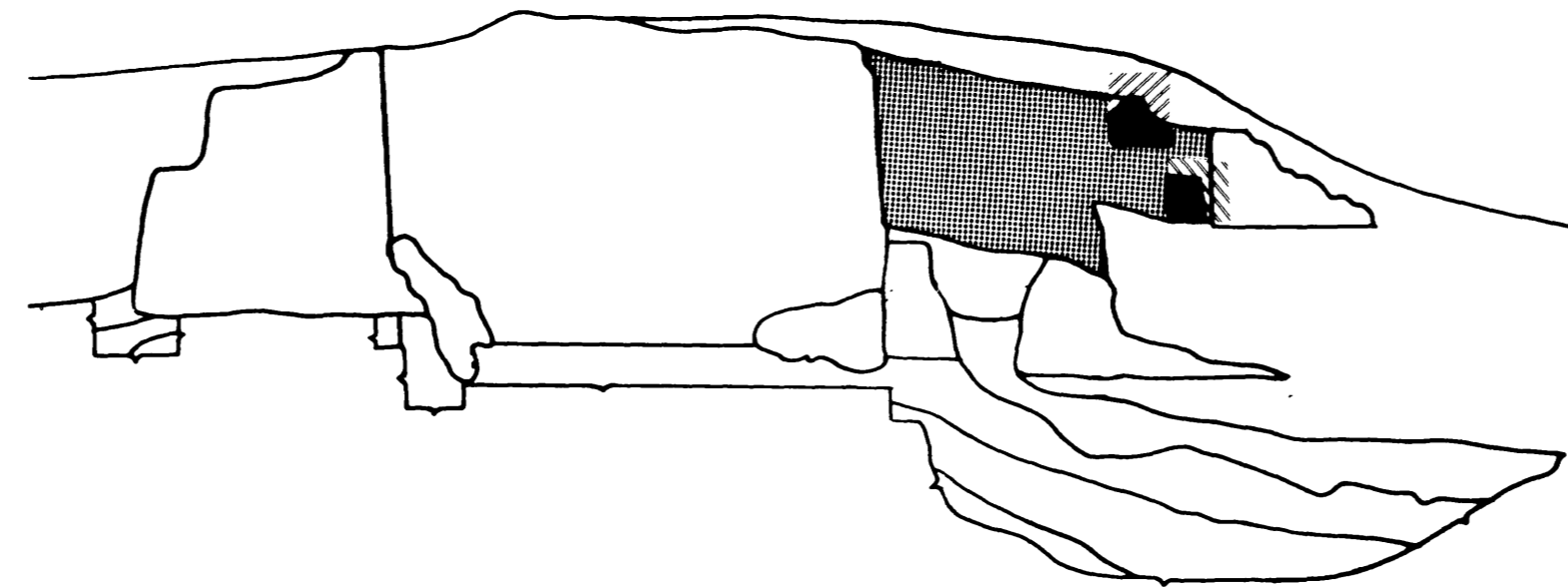
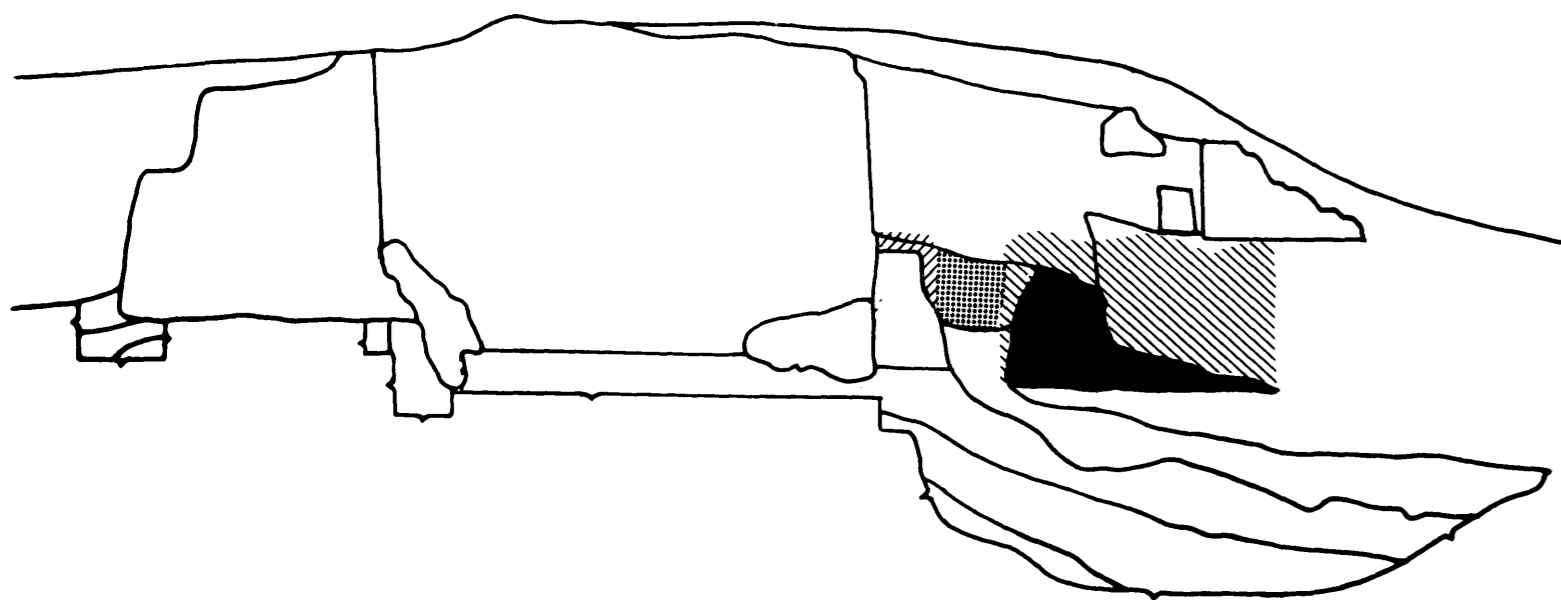
MP11



MP13+



SG17



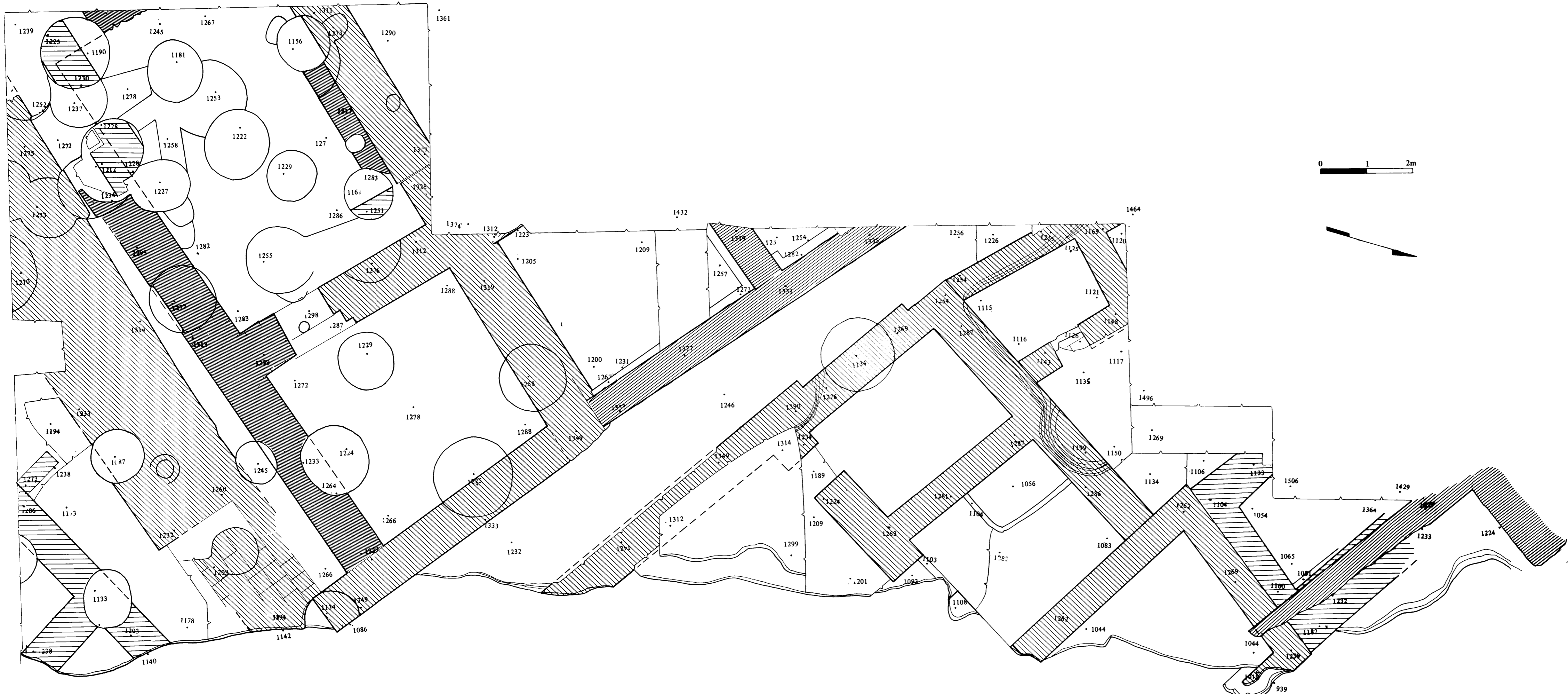
ARB

CW3

Localized Activities

CW4





- latest
- late
- middle
- earliest

Knana period walls  
 (Sequence of graphic symbols does not imply a strict stratigraphic correlation between structures on either side of Street STCC.)

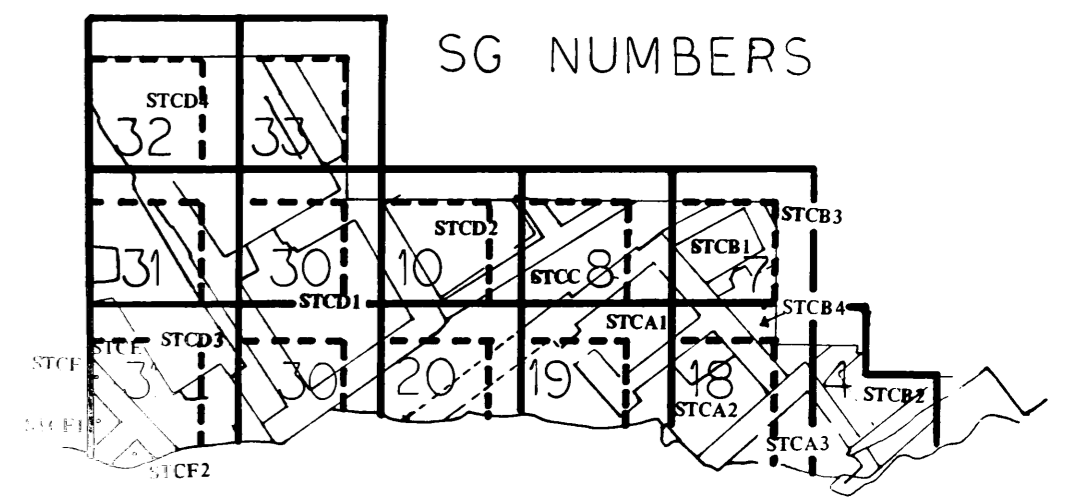


Figure 17. Area C, plan Scale 1:55

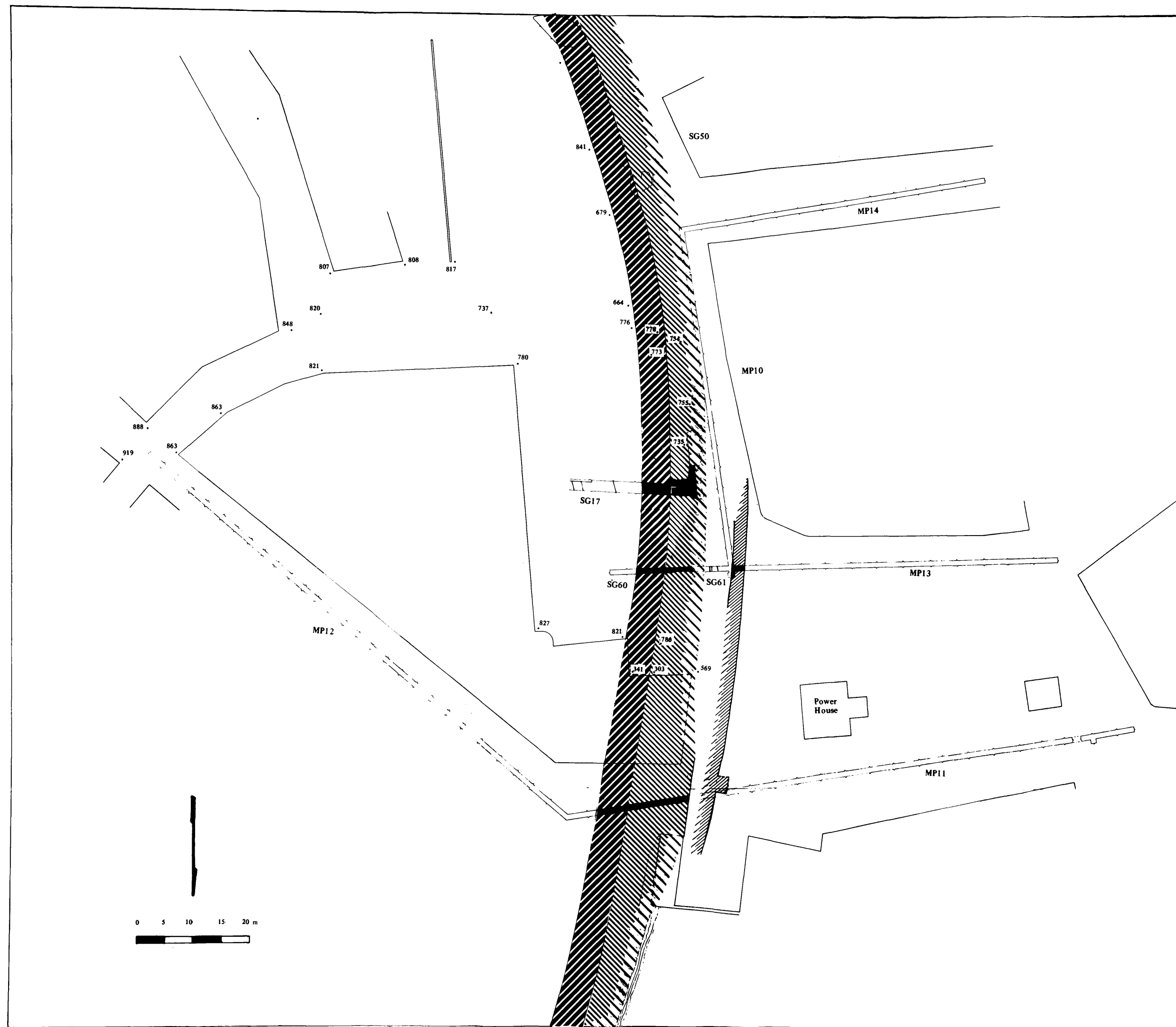


Figure 18. Area D, plan Scale 1:50

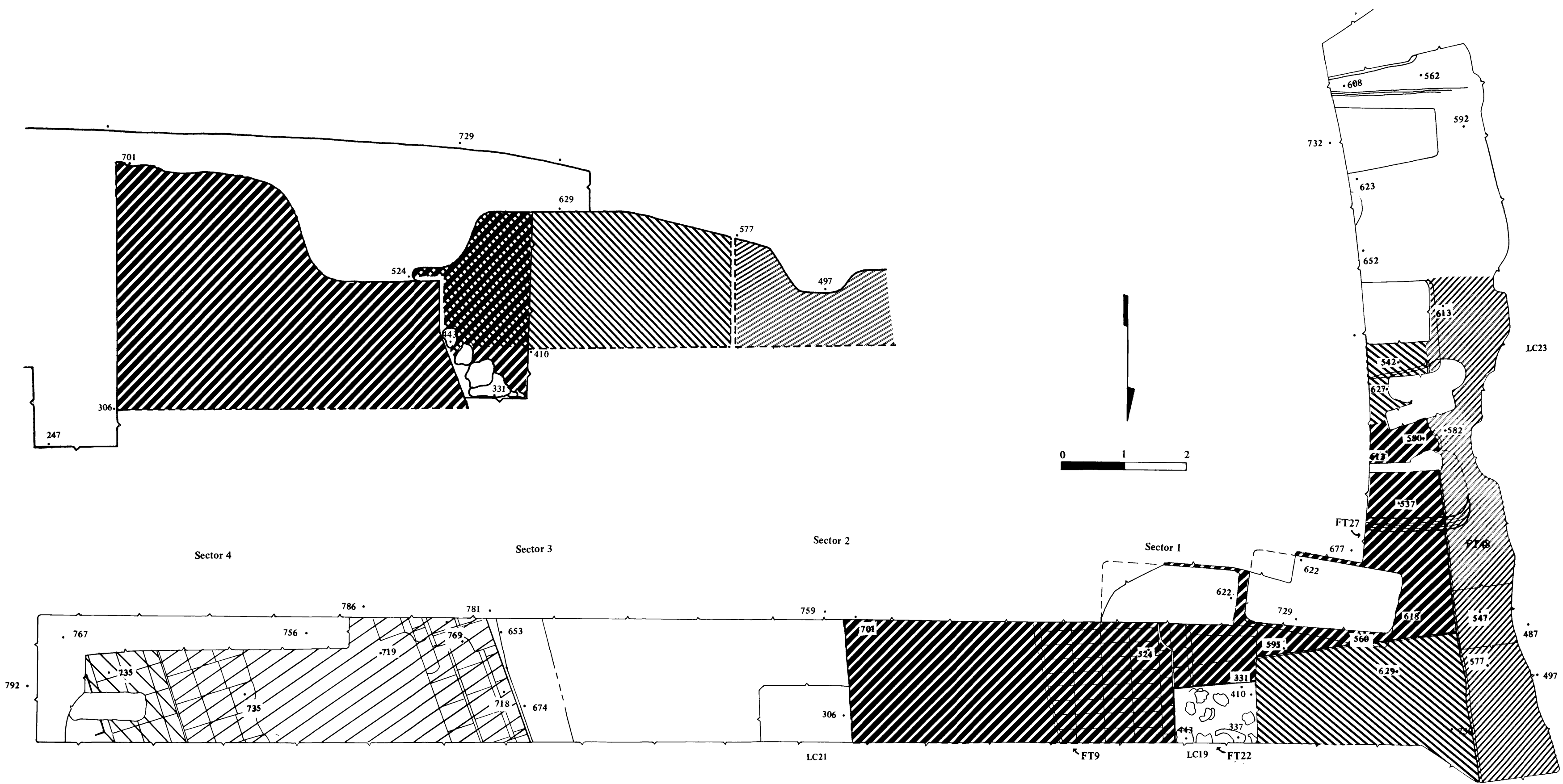
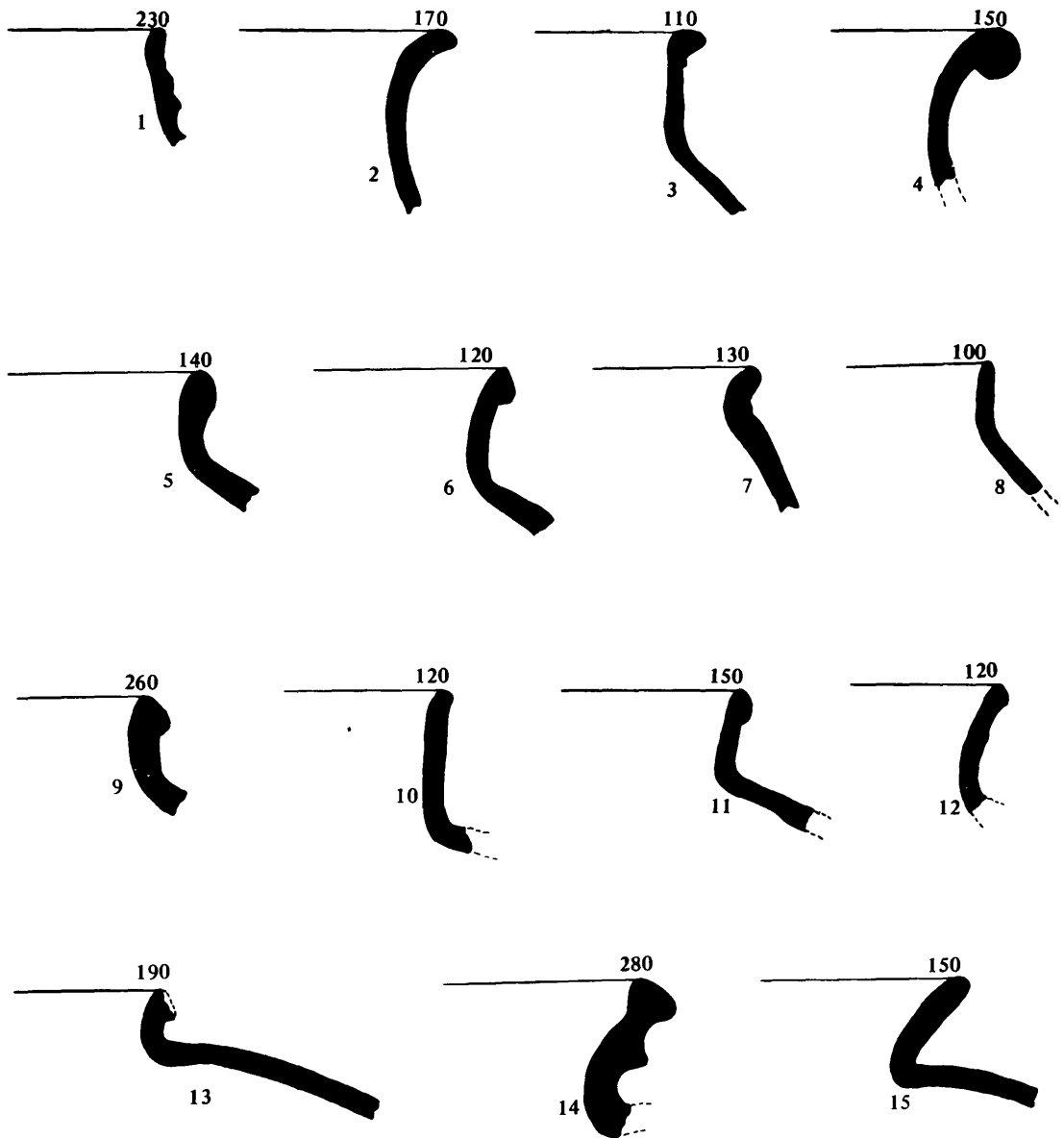


Figure 19. SG17 plan and southern section (schematic) (Scale 1:50)

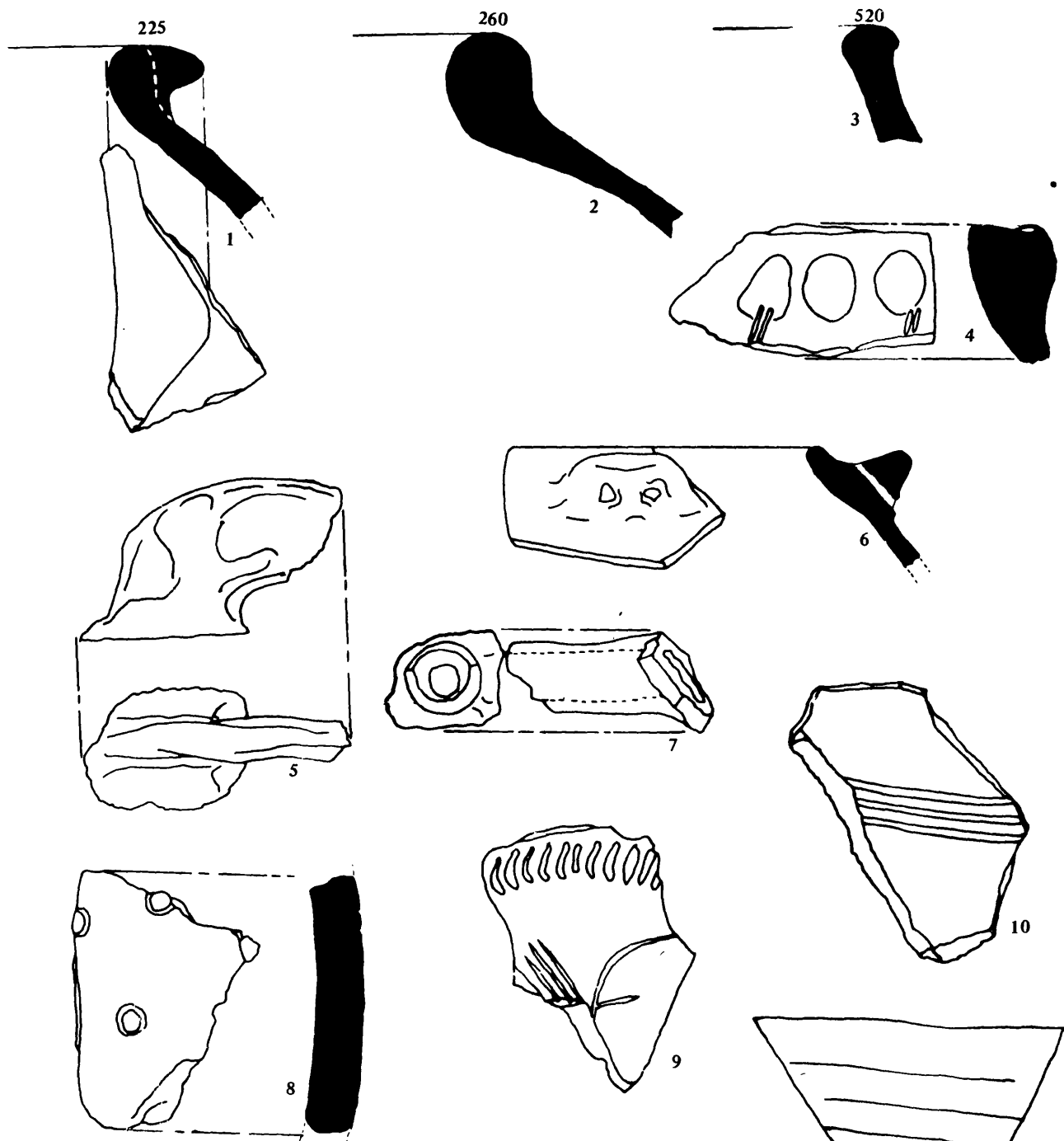


- 1. MP13 LC7 LV4 FT52
- 2. MP13 LC2 FT4
- 3. MP13 FT16
- 4. MP13 LC9 LV1
- 5. MP11 LC1 LV2 FT22
- 6. MP13 LC6 LV5 FT16
- 7. MP13 LC5 LV7
- 8. MP11 LC12 LV12

- 9. MP13 LC6 LV5 FT16
- 10. MP13 LC6 LV5 FT16
- 11. MP13 FT16
- 12. MP13 LC6 LV5 FT16
- 13. MP13 LC6 LV5 FT16
- 14. MP13 LC3 FT4
- 15. MP13 LC6 LV5 FT16

Figure 22. Early third millennium jars

(Scale 1:2; diameter given in millimeters)

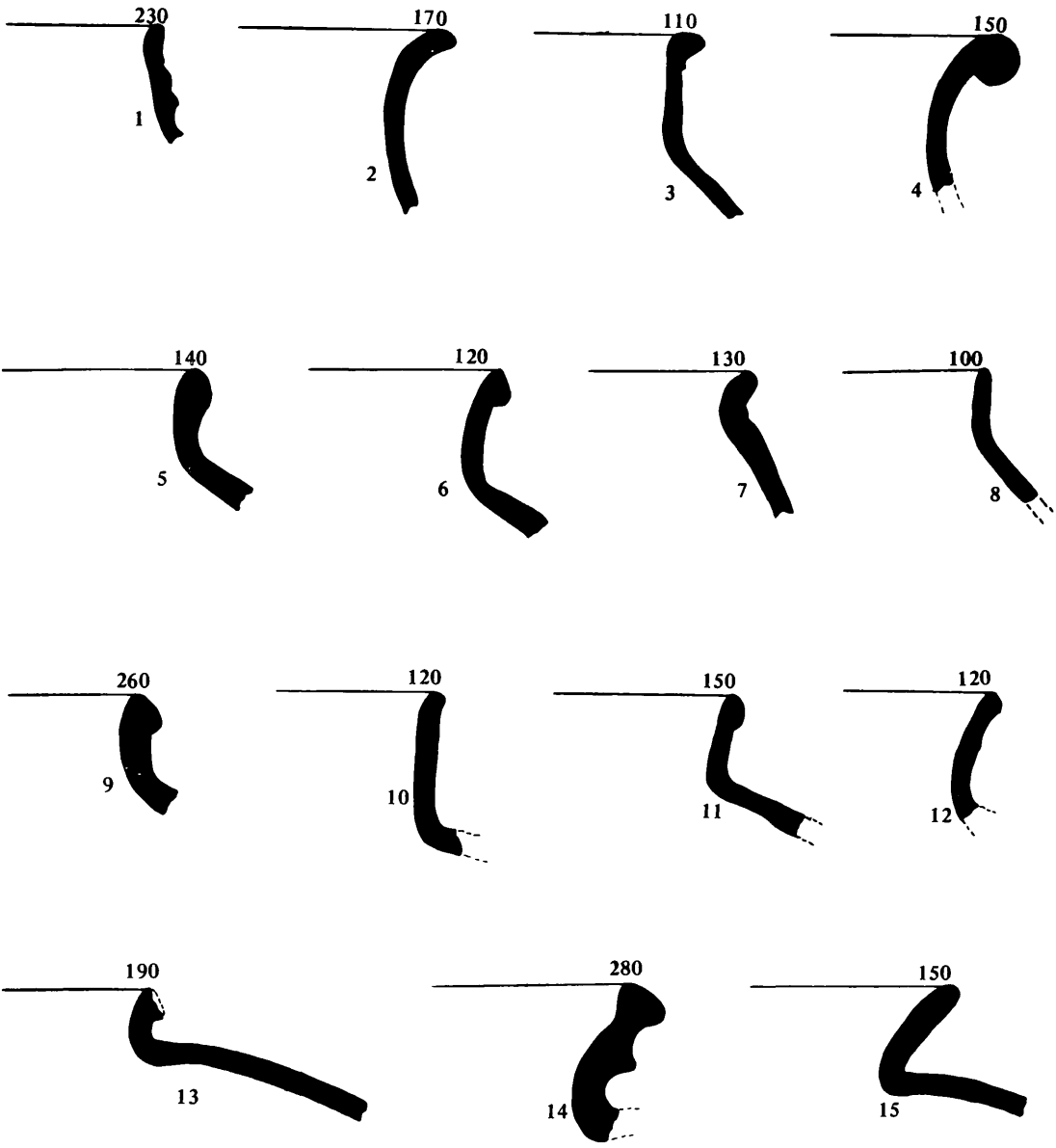


1. MP13 FT16
2. MP13 LC6 LV5 FT16
3. MP13 LC6 LV5 FT16
4. MP11 LC12 LV3
5. MP11 LC1 LV2 FT22
6. MP11 LC12 LV5

7. MP13 FT11
8. MP13 LC14 FT16
9. MP13 LC6 LV3 FT12
10. MP13 LC7 LV7 FT54
11. MP13 LC5 LV6

Figure 23. Early third millennium jars and miscellaneous sherds

(Scale 1:2; diameter given in millimeters)

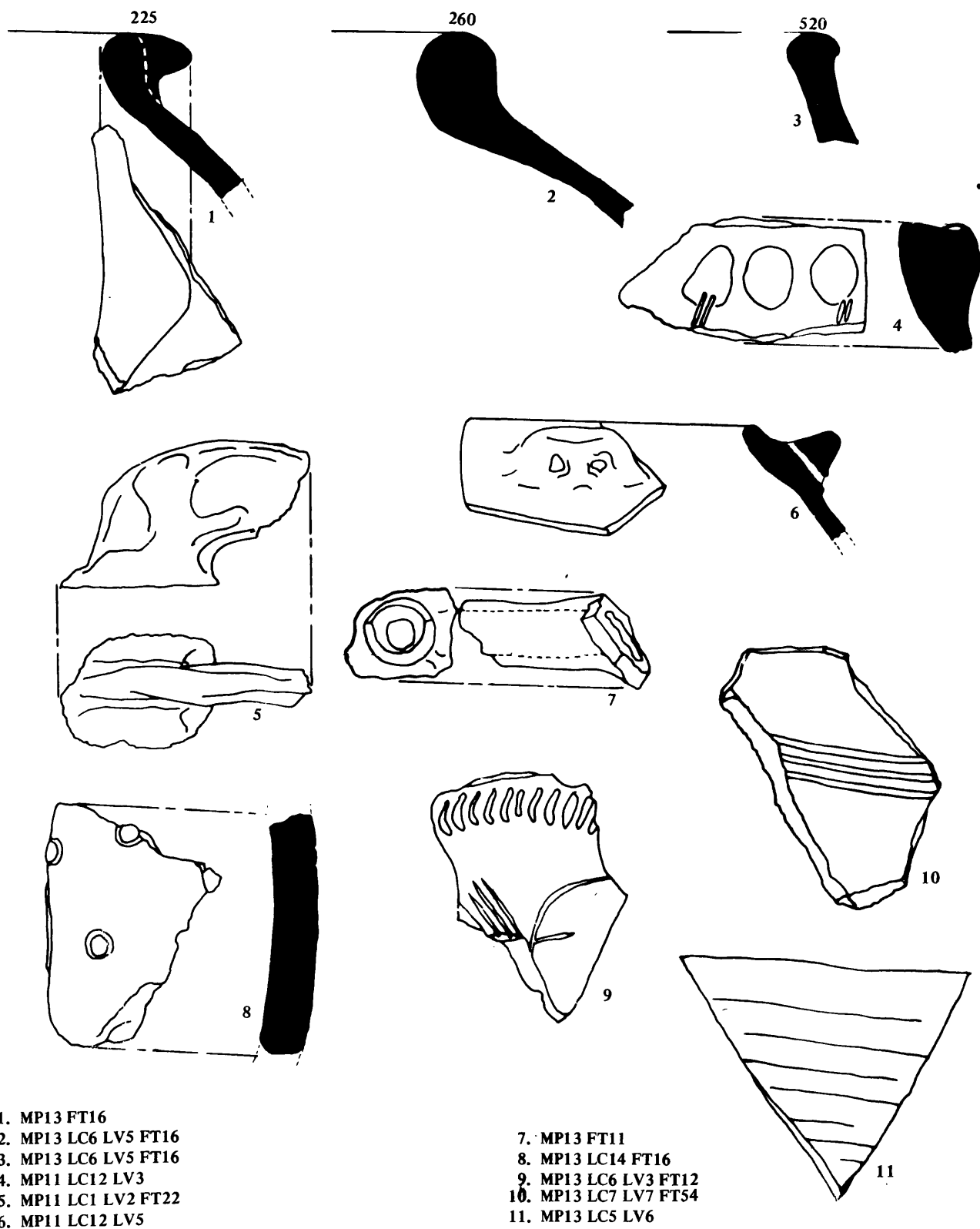


- 1. MP13 LC7 LV4 FT52
- 2. MP13 LC2 FT4
- 3. MP13 FT16
- 4. MP13 LC9 LV1
- 5. MP11 LC1 LV2 FT22
- 6. MP13 LC6 LV5 FT16
- 7. MP13 LC5 LV7
- 8. MP11 LC12 LV12

- 9. MP13 LC6 LV5 FT16
- 10. MP13 LC6 LV5 FT16
- 11. MP13 FT16
- 12. MP13 LC6 LV5 FT16
- 13. MP13 LC6 LV5 FT16
- 14. MP13 LC3 FT4
- 15. MP13 LC6 LV5 FT16

Figure 22. Early third millennium jars

(Scale 1:2; diameter given in millimeters)

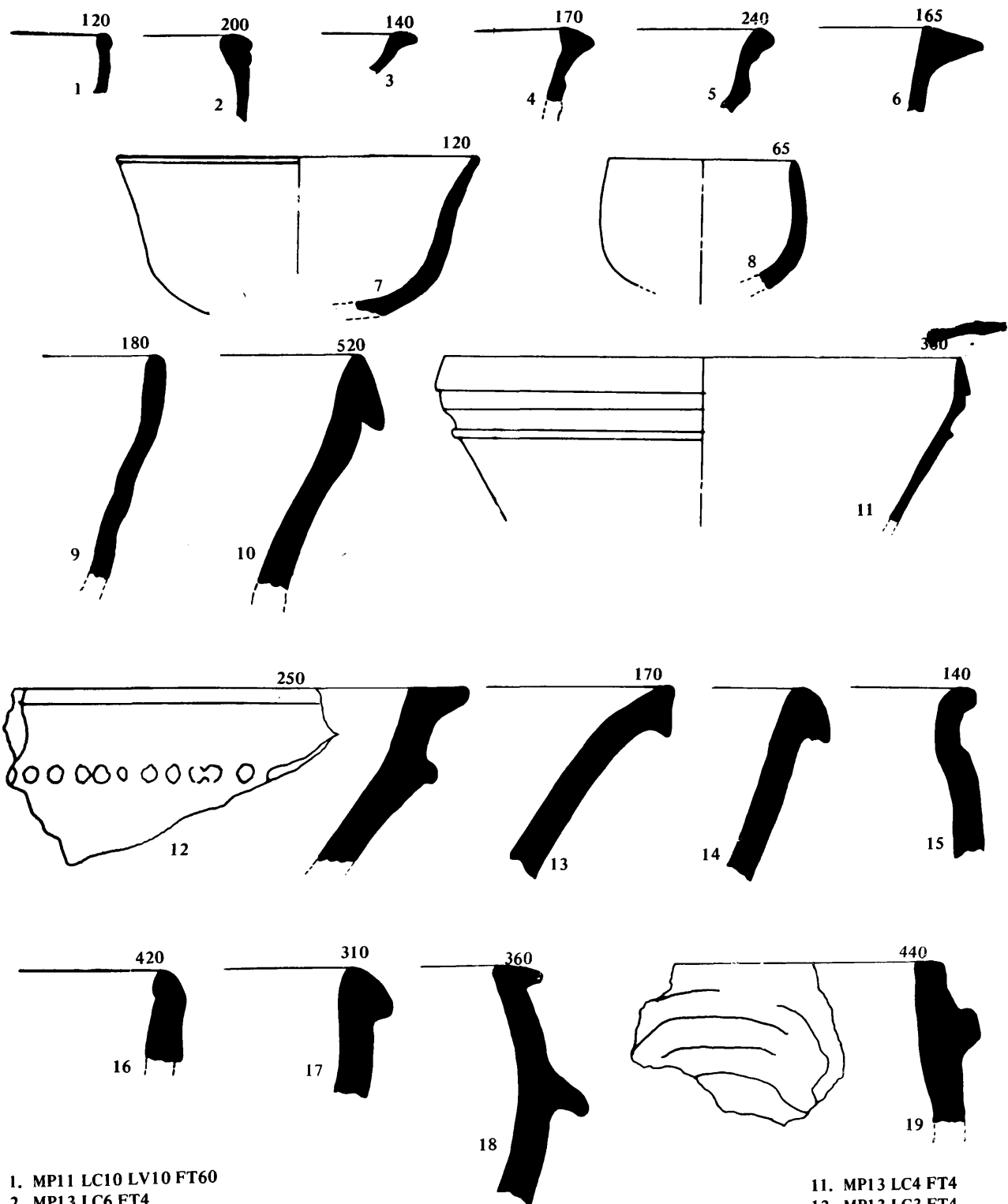


1. MP13 FT16
2. MP13 LC6 LV5 FT16
3. MP13 LC6 LV5 FT16
4. MP11 LC12 LV3
5. MP11 LC1 LV2 FT22
6. MP11 LC12 LV5

7. MP13 FT11
8. MP13 LC14 FT16
9. MP13 LC6 LV3 FT12
10. MP13 LC7 LV7 FT54
11. MP13 LC5 LV6

Figure 23. Early third millennium jars and miscellaneous sherds

(Scale 1:2; diameter given in millimeters)



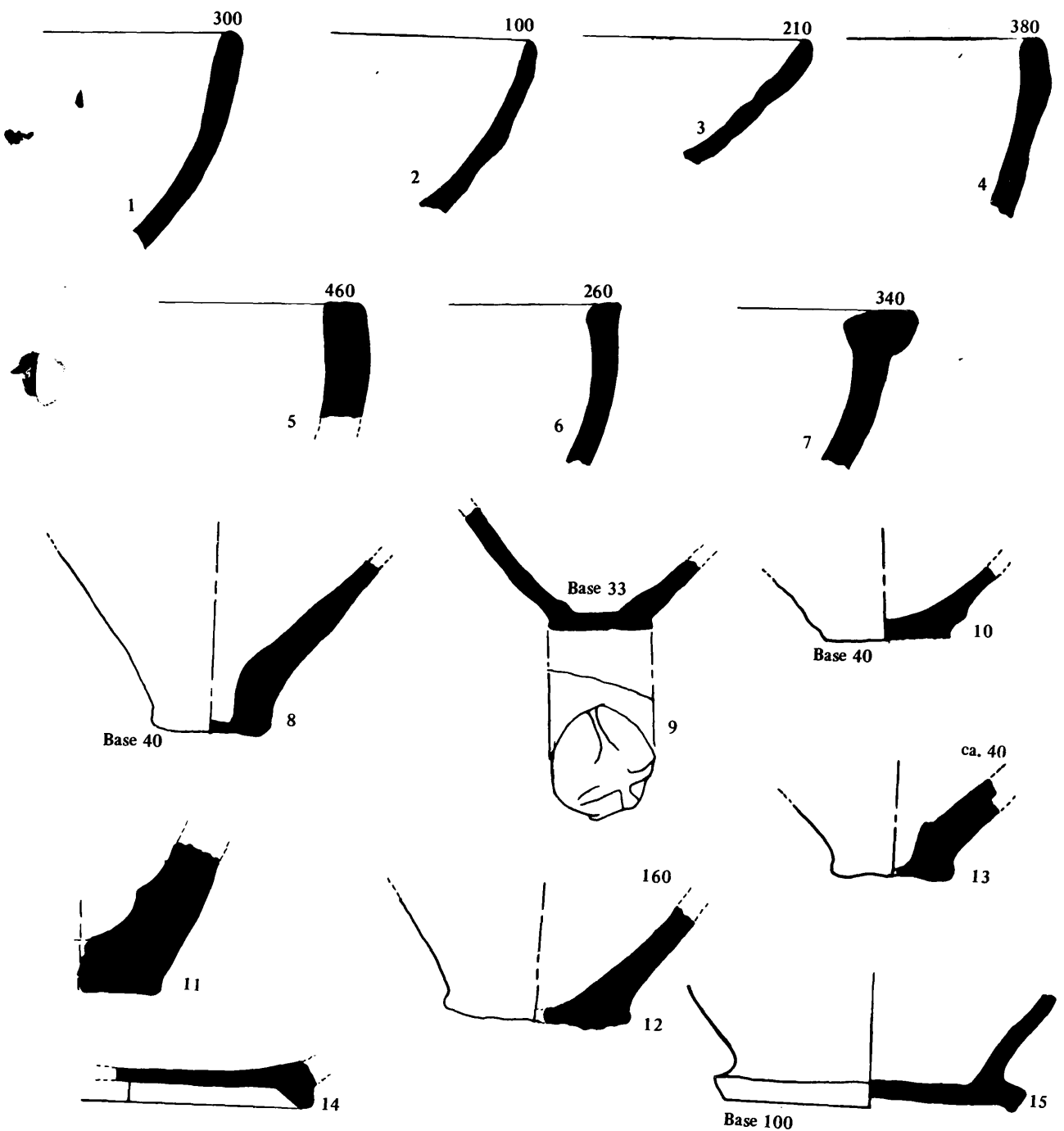
1. MP11 LC10 LV10 FT60
2. MP13 LC6 FT4
3. MP11 LC8 LV2
4. SG17 LC2 LV4 FT2
5. MP13 LC7 LV4 FT52
6. MP11 LC1 LV3 FT29
7. MP13 FT22
8. MP11 LC1 LV3 FT29
9. MP13 LC5 LV7
10. MP13 LC4 FT4

11. MP13 LC4 FT4
12. MP13 LC3 FT4
13. MP13 LC4 LV5 FT4
14. MP13 LC6 LV5 FT16
15. MP11 LC7 LV5
16. MP13 LC3 FT4
17. MP13 LC6 LV3-4 FT16
18. MP13 LC6 LV5 FT16
19. MP11 LC12 LV4

Figure 20. Early third millennium bowls

(Scale 1:2, except for N. 11 which is 1:4; diameter given in millimeters)





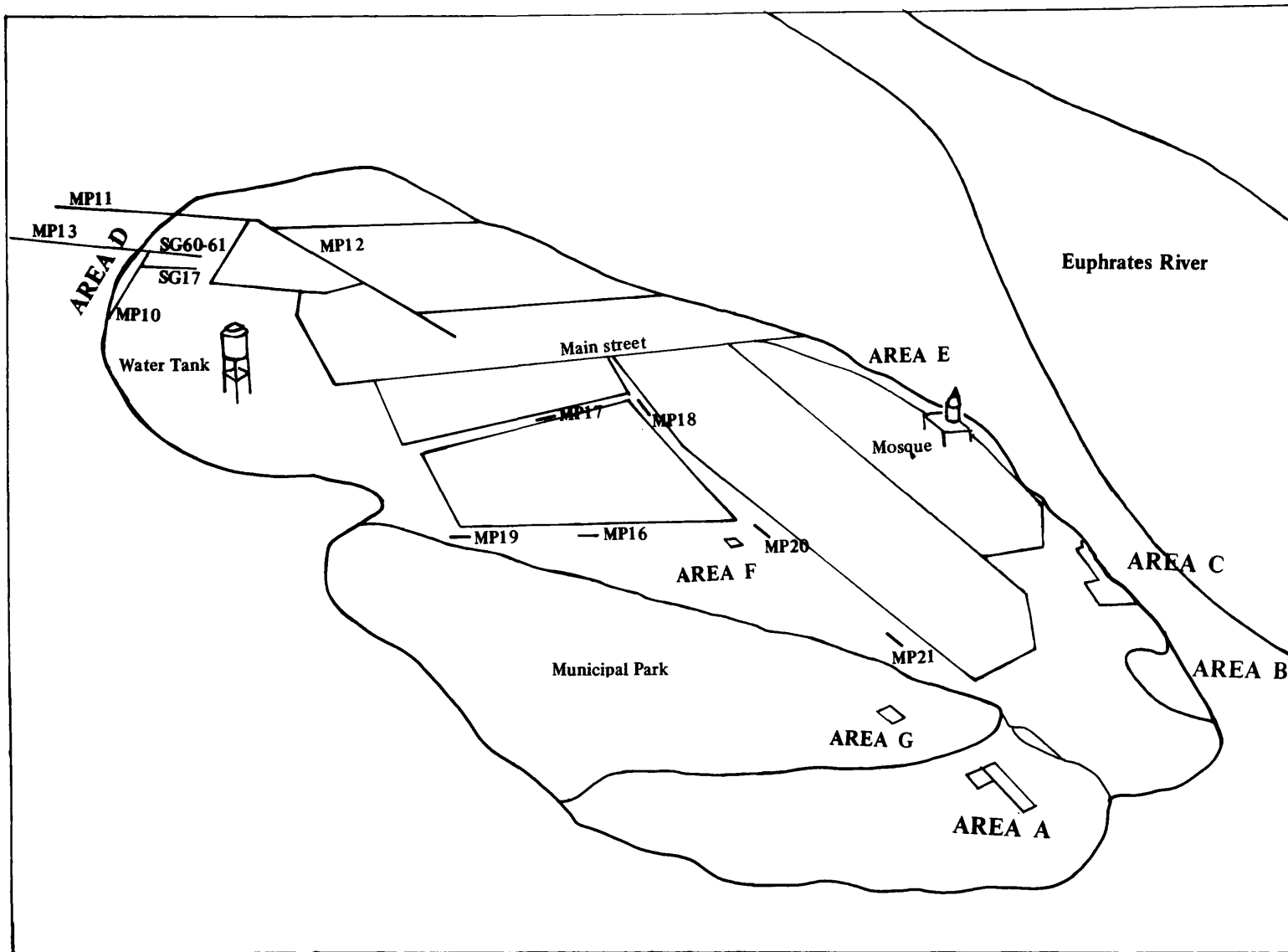
1. MP11 LC11 LV2 FT23
2. MP13 LC6 LV4 FT16
3. MP13 LC6 LV5 FT16
4. MP11 LC1 LV2 FT22
5. MP13 LC6 LV4 FY16
6. MP13 LC2 FT4
7. MP11 LC11 LV4
8. MP11 LC12 LV1

9. MP13 LC6 LV5 FT16
10. MP11 LC11 LV10 FT42
11. MP13 LC2 LV5 FT16
12. MP13 LC16 LV6 FT4
13. MP13 LC6 LV6 FT4
14. MP13 LC6 LV5 FT16
15. MP11 LC3 LV8

Figure 21. Early third millennium bowls and bases

(Scale 1:2; diameter given in millimeters)

## **PLATES**





**1. Aerial view of Tell Ashara**

Looking north, from airfoil

See identification of details on facing page

## II.

### 2. Aerial view of Ashara

Looking NW,  
from  
airfoil.

Modern town  
extends  
on the plain  
to the left.  
The main  
expedition  
house is the  
second  
from the left  
on the front  
street with a  
Volkswagen  
bus parked in  
front of it.



### 3. Aerial view of Municipal Park, Ashara

Looking  
WNW,  
from  
airfoil.







4.  
Aerial view  
of Tell Ashara,  
central and  
southern  
portions

Looking SE,  
from  
airfoil.

Note  
escarpment  
on the left  
and MP12  
(already  
filled in  
except for  
cleanout hole)  
on the lower right.



5.  
Aerial view  
of  
Tell Ashara,  
northern  
portion

Looking SE,  
from  
airfoil.

MP10

#### IV.

##### 6. Aerial view of Area C and adjacent houses

Looking N,  
from  
airfoil.

Note  
escarpment  
on right  
overlooking  
the Euphrates.



##### 7. Aerial view of Areas A and B

Looking N,  
from  
airfoil.

Buildings on  
lower right  
are the  
slaughterhouse  
and the  
waterpump.

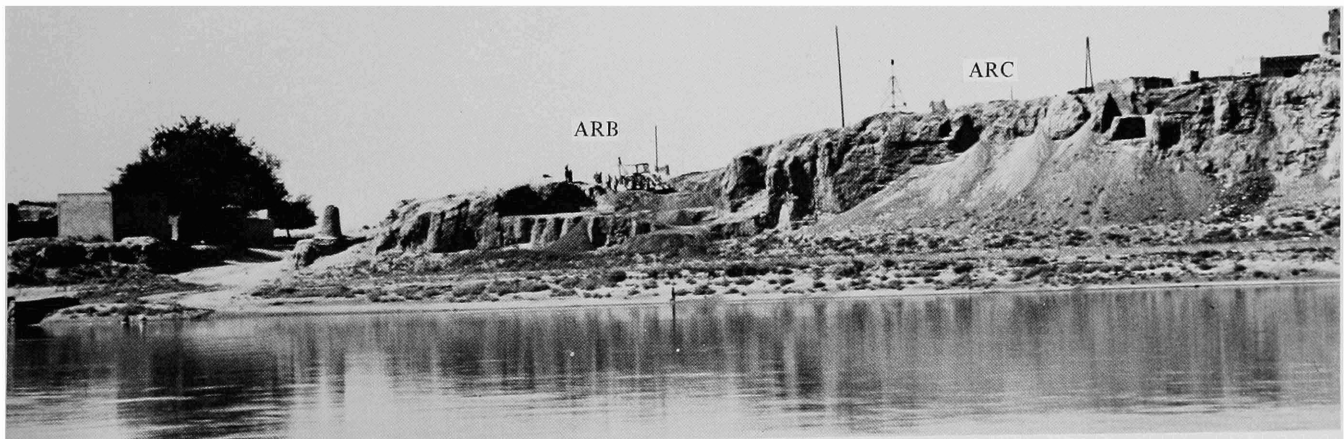


\*Sherds which have been  
processed and analyzed  
\*\*Sheikh's tomb (TPR 1/3,  
2.2; TPR 2/6, 3.1.1).





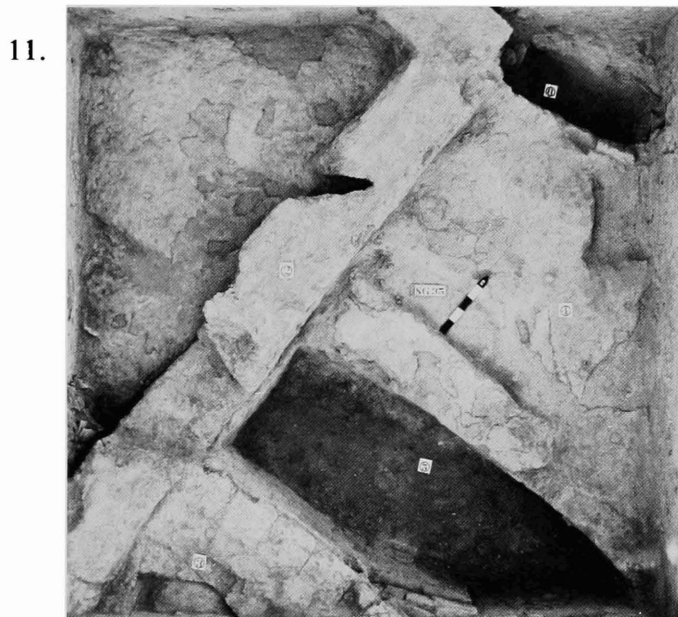
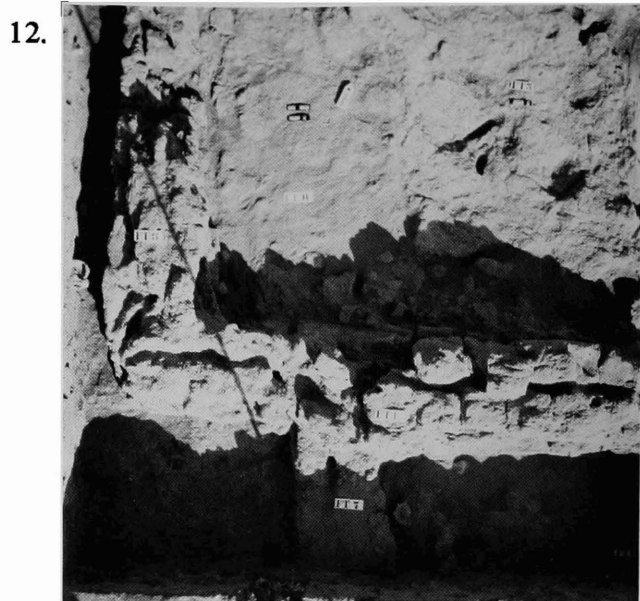
8. Aerial view of Areas B and C  
Looking west, from airfoil.



9. Areas B and C  
Looking west, from across the river.

On the left, the slaughterhouse. The pillar between the slaughterhouse and Area B is modern: it served as an anchor for the overhead wire of a ferry which was in use until recently. The landing of the ferry is still visible on the upper right of Ill. 7.





### 10-12. Medieval Structures

10-11. Area G, SG36 and SG35, overhead with monopod ("giraffe").

Walls and floors have been cut into by shafts of modern burials, which have all been removed. Note sharp contrasts in color and texture of various portions of floors (numbers refer to levels).

12. Area E, SG40, overhead with bipod

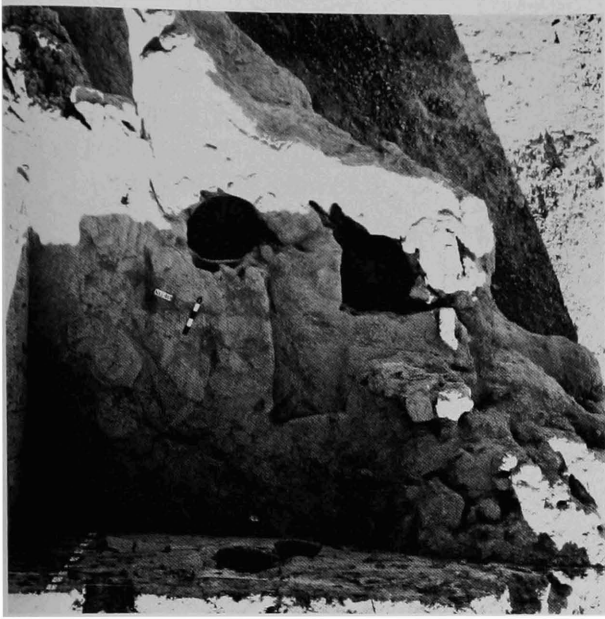
Walls and floors are badly eroded.



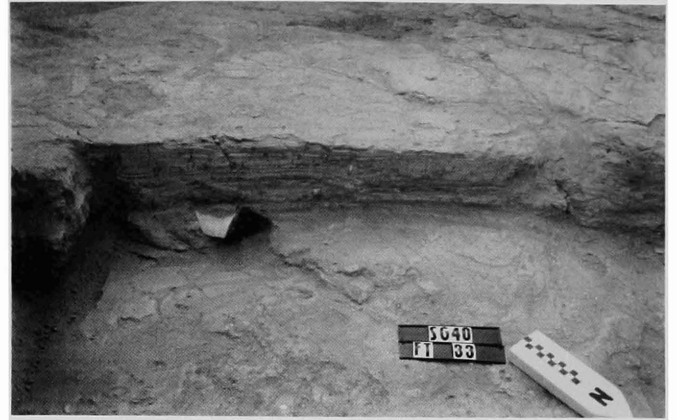
### 13. Medieval storage pit

Area E, SG40, looking SE.

Two of four complete vessels found in pit FT15, with baulk face in background. The same pit FT15 shows as larger hole into baulk in Ill. 7.



15.



16.



#### 14-17. Residential area of Aramean period (?)

14. SG40, overhead with monopod ("giraffe").

The triangle on the upper right represents the edge of the escarpment with loose debris. Top of wind-blown, laminated floors covers most of the square.

15. Detail of laminations in section.

16. Detail of laminations from top.

17. SG40, Southern section.

Laminations fill the lowermost two levels, 8 and 9, and continue for at least some 50 cms. below floor shown here. Smaller hole in lower left side of section is the shaft of BR3, the burial of a child interred in a jar with some personal jewelry.

17.



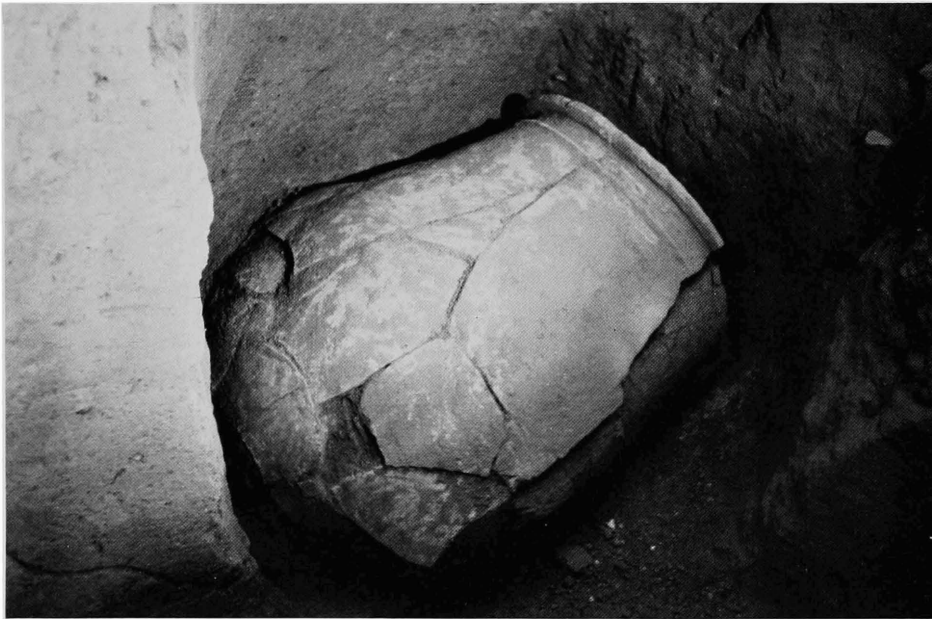
18.



18-20.  
Burial of Aramean period  
with iron dagger  
MP13 LC7 BR1,  
looking southwest (18-19)  
and south (20)

18. Burial shaft with side of burial  
protruding from baulk face (drawn  
in Fig. 12).

19.



19. Burial vessel cleared within shaft.  
Note how vessel is cracked and  
upper portion has been pushed  
down by weight of fill.

20.



20. Body partially cleared with  
offering bowl next to forehead.  
An iron dagger (not shown here)  
was found below the right  
shoulder.



21.



21-24.  
Burial of Aramean period  
with gold nose ring

MP18 BR1

21. General view looking north-northwest. Burial jar had been cut in half by mechanical shovel while preparing hole for sewer juncture (sewer pipe shows on left).
22. Detail of burial, with gold nose ring showing.
23. Detail of skull, in situ.
24. Detail of burial after removal and partial cleaning. Coiled armlets have been cleaned preliminarily and replaced on arm bones.

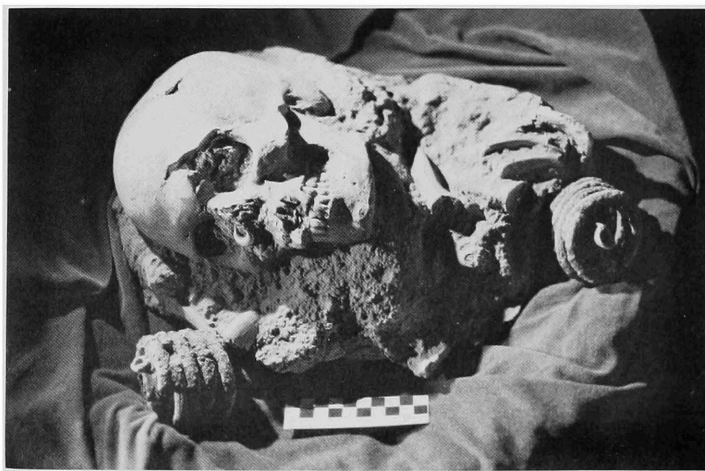
22.

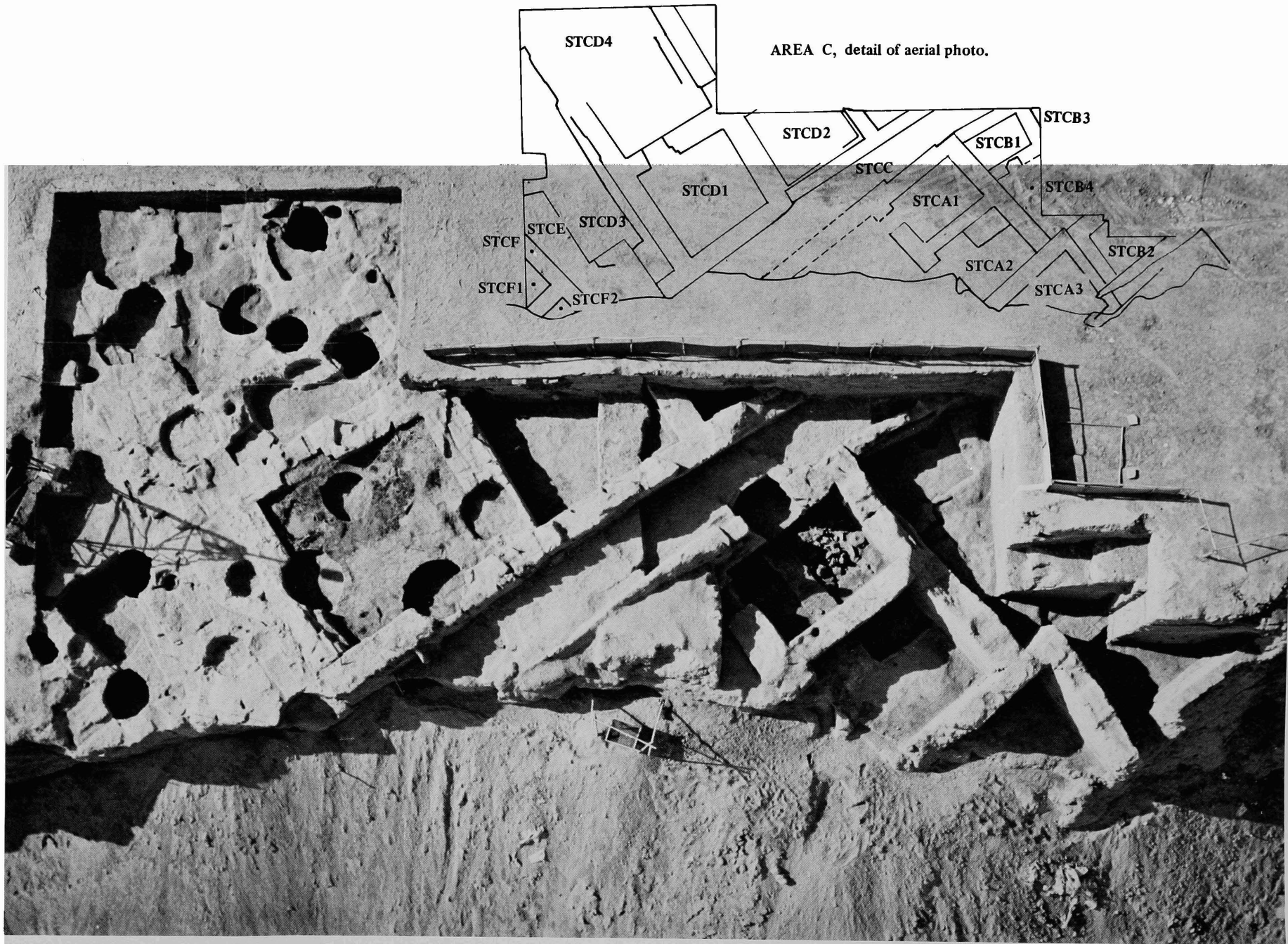


23.



24.

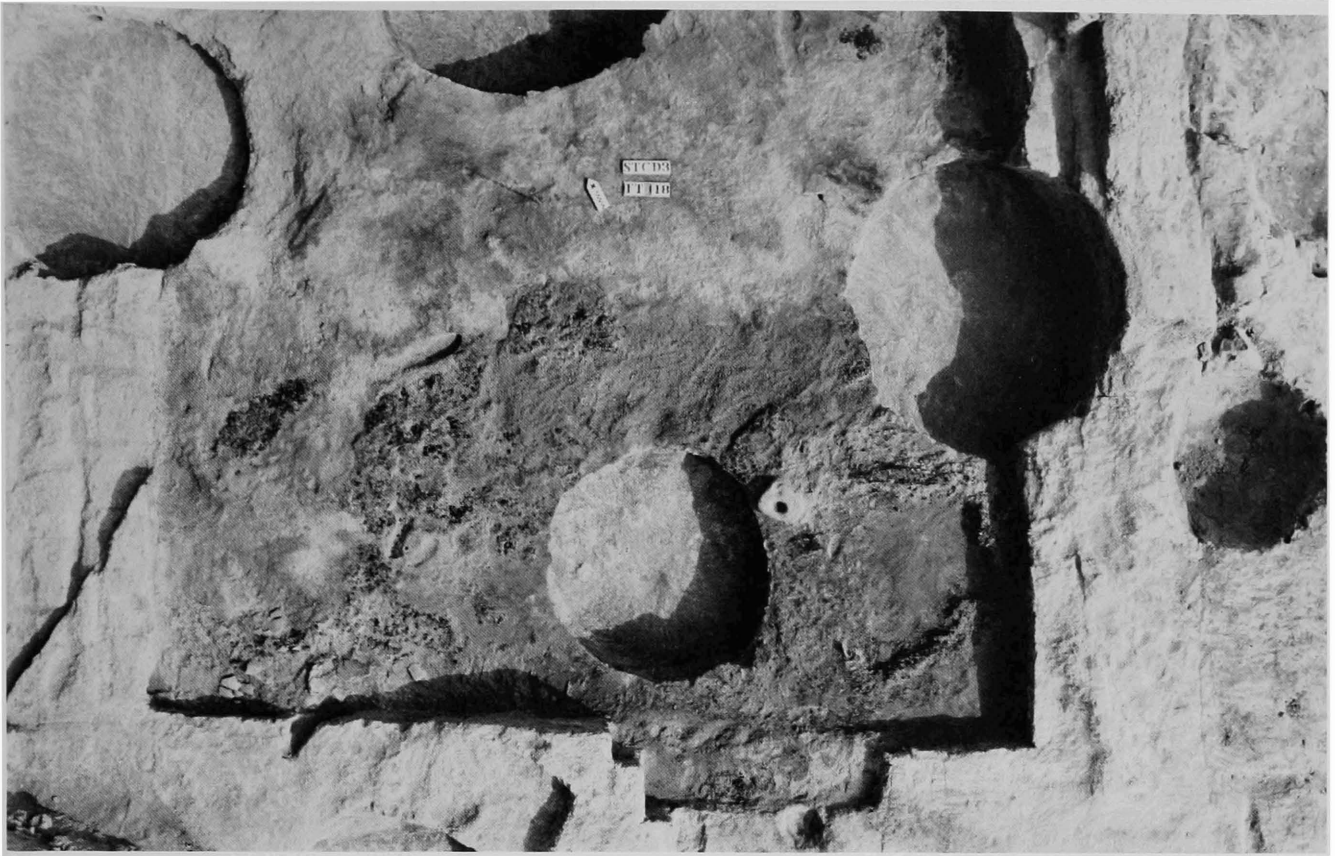




X

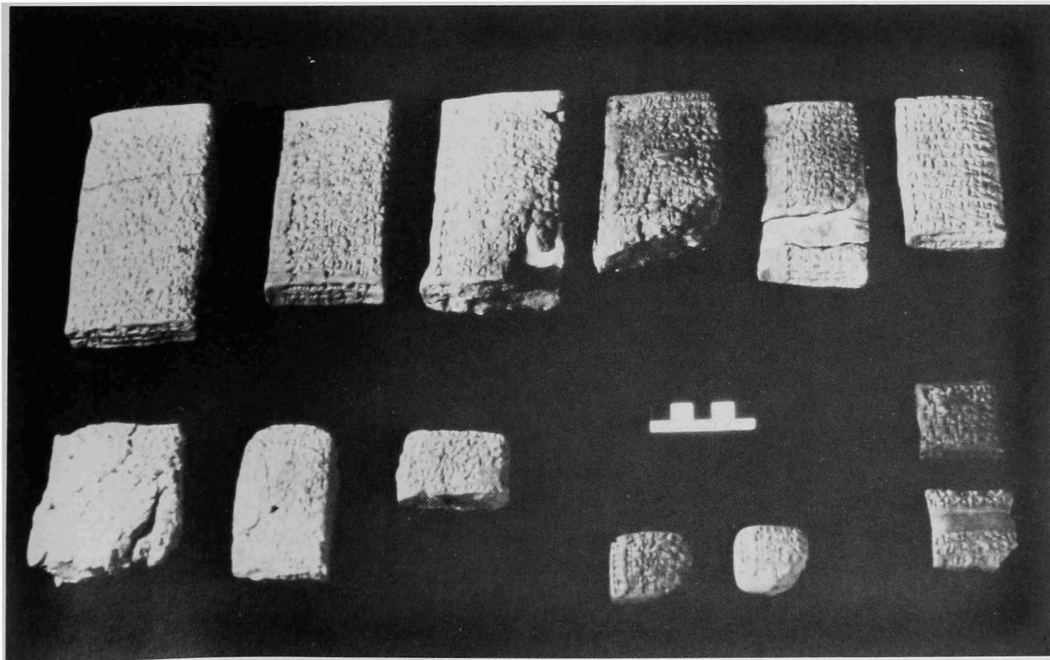
25. Area C  
Overhead, with airfoil.

Picture was taken before completion of excavation in STCA1 (the archive room) and STCC (the street). A screen is in place on the edge of the escarpment.



**26. Monumental building: room with rabbeted doorway and burnt floor**  
 Area C, STCD3 FT18, overhead with monopod (“giraffe”). Khana period.

Rabbeted doorway (left jamb only) is visible on lower center, with heavy concentration of charred wood remains to the north. A granite grinder is visible opposite the door. The holes are the bottom of medieval pits.



**27. Tablets from Puzurum’s archive**

After cleaning and restoration.

Only the major tablets are shown here. They are all contracts except for the small ones on the lower right—a loan contract and two lists.

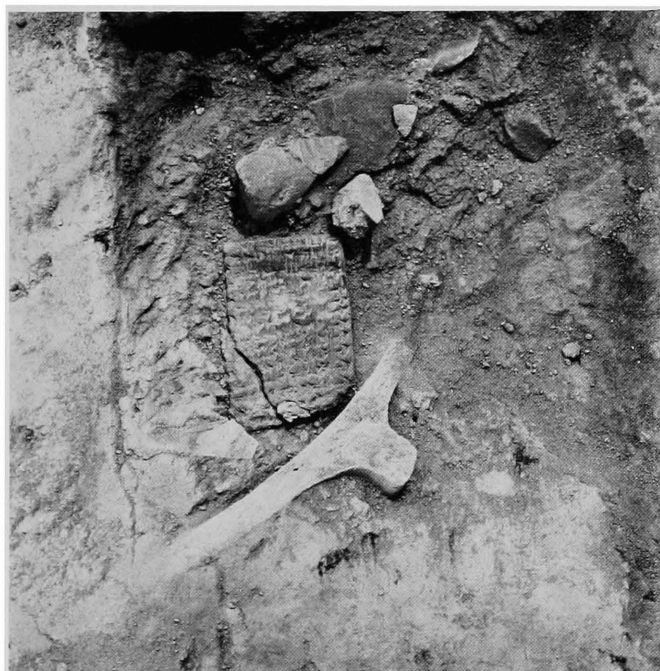




### 28. Archive room: reuse floor and compaction subfloor

Area C, STCA1, from above looking southwest. Khana period.

Floor on the left (FT10) is the reuse floor after the fire had destroyed the original room. Exposure at lower right is the expansion of test locus SG8 LC9 opened in 1977 (*TPR* 6, Ill. 2,5). Doorway shows on upper left, and deep medieval storage pit on upper right (STCA1 FT11 = SG8 FT14, originally found empty, see text, 2.2).



### 29-30. Ili-dumqi's tablet and envelope in situ

TQ4-T1, 4, 85 in STCA1 LC10 LV3, from overhead. Khana period.

Two successive moments in the excavation are illustrated here. Ill. 29 shows the reverse of the tablet which had been found nearby in 1977. Just above the tablet there is a corner and other fragments of the envelope in which the tablet had been encased. In Ill. 30 the tablet has been removed and more envelope fragments show underneath, as well as to the right of the large vessel sherd.



31.  
**Archive room:  
 reuse floor and  
 compaction  
 subfloor**  
 STCA1,  
 overhead with  
 monopod (“giraffe”).  
 Khana period.

Reuse floor is  
 visible in southern  
 half of room.  
 Initial test locus  
 has been expanded  
 from smaller  
 exposure  
 (visible in  
 Ill. 28) to entire  
 northern sector,  
 to a depth of  
 10 cms. (level 1);  
 note  
 concentration  
 of sherds and  
 clear demarcation  
 lines between  
 darker (black)  
 and lighter  
 (pink) zones  
 within debris.





32.

**32. Archive room: compaction subfloor and collapse stratum STCA1, overhead looking SW. Khana period.**

Baulk is still standing in the middle, and southern sector has been excavated only through the top compaction stratum. On the right, northern sector is almost completely cleared except for two small portions above and below.

**33. Archive room: collapse stratum and baulk face STCA1, at ground level looking SE. Khana period**

Upper part of baulk corresponds to compaction subfloor, lower part to collapse stratum also visible in foreground.



33.



34.

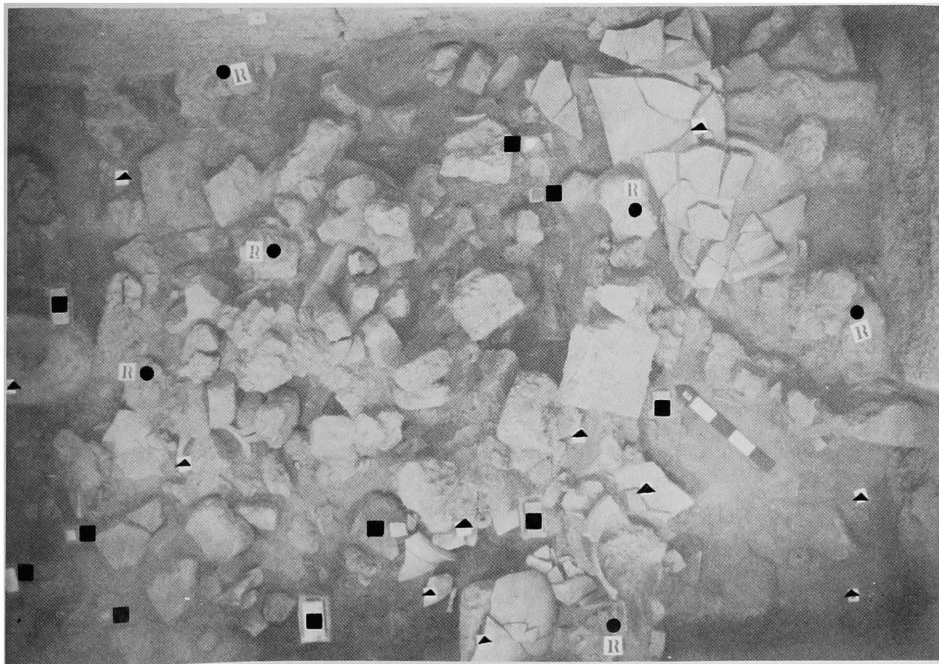
**34. Yassi-el's tablet in situ**

TQ4-T60 in STCA1 LC20 LV5, from overhead. Khana period.

A complete tablet well preserved in the midst of the collapse stratum.



**35. Archive room: collapse stratum (complete)**  
STCA1, overhead looking southwest. Khana period.



**36. Archive room:  
collapse stratum with  
tablets in place**

STCA1, overhead looking southwest. Khana period.

Ill. 35 and 36 are taken both at the same point in time, but Ill. 36 includes all major tablets (■) set in place at the elevation where they were found, within either the collapse or the compaction stratum. The larger pieces of roofing material are marked by a circle (●) and other noticeable items by a triangle (▲).





### 37. Archive room: living floor

STCA1, overhead with bipod. Khana period.

Only items actually found on the floor are shown. The darker areas (black) are concentrations of charcoal, the one in the center representing the remains of a wooden panel. The lighter areas (pink) resulted from the firing of non-organic material, especially the mud on the roof and on the floor. Most items were removed and then replaced for these photographs; only the bricks in the center, in the lower left and lower right were never removed during the 1978 season, and some more material pertaining to the living floor may be concealed underneath.



38.

Archive room: living floor with tablets in place.

STCA1, overhead looking SW. Khana period.

Artifacts and tablets are numbered as follows (starred items are also shown in Ill. 37):

- \*1. Hole for door socket
- \*2. Base of goblet
- \*3. Envelope fragment (T166, LC51, LV7)
- \*4. Jar stand (205, LC51, LV6)
- 5. Jar (restored, 209, LC51, LV6)
- 6. Ili-dumqi tablet, obverse (TQ3-T, LC9)
- 6a. Envelope and reverse of Ili-dumqi tablet (T1, T85, LC10, LV3)
- 7. Obverse of loan contract (T39, LC21, LV4)
- 7a. Reverse of loan contract (T55, LC22, LV3)
- \*8. Broken platter
- 9. Iddin-Kakka tablet (T144, LC21, LC7)
- \*10. Sin-abuša tablet (T23, LC4, LV2)
- \*11. Base of goblet
- 12. Perforated stone disk (197, LC50, LV7)
- 13. Yasmaḥ-Dagan tablet (T95, LC50, LV4)
- \*14. Perforated platter (201, LC24, LV7)
- 15. Warad-addu tablet (T153, LC20, LV6, joins with no. 21 to form T174)
- 16. Tablet: list (T92, LC44, LV5)
- 17. Door socket (U120, LC50, LV5)
- \*18. Wooden panel (S402, LCC, LV8)
- 19. Part of reverse of Ili-dumqi tablet (T4, LC10, LV8)
- \*20. Base of small jar
- \*21. Tablet (T149, T152, LC30, LV8; T154, LC29, LV8)
- \*22. Rim of small jar
- 23. Yassi-el tablet (T60, LC20, LV5)
- 24. Hearth (detail in Ill. 43).
- 25. Large pottery basin, reconstructed (208, LC38,45,46, LV3-6)
- \*26. Base of goblet and barley seed (detail in Ill. 42)
- 27. Izi-dammi tablet (T94, LC48, LV5)
- 28. Tablet: list (T88, LC47, LV3)
- 29. Antler (S322, LC47, LV8)
- 30. Smaller hearth
- \*31. Goblet

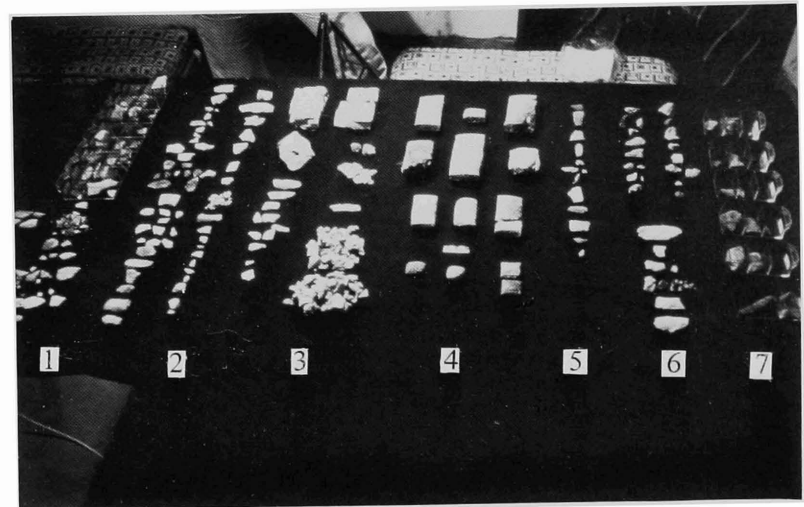


39.

Complete artifactual inventory from archive room

After cleaning and restoration

On table, foreground: tokens and two lids. On ground, upper left of floor socket: beads, silver crescent, duck weight.



40.

Complete epigraphic inventory from archive room

- 1. Broken tablets
- 2. Broken envelopes
- 3. Envelopes
- 4. Tablets
- 5. Bullae
- 6. Tags
- 7. Broken bullae

41.



41. Carbonized barley seeds  
in Puzurum's archive

Detail of Ill. 37-38 (Item N. 26)  
Khana period.

42. Doorway to Puzurum's archive

Looking southeast. Khana period.

Deposition within doorway was not excavated in 1978, but both jambs of doorway show clearly: at the top, a little over a meter from ground level, the sides of the doorway begin to curve inward, as if to form an arch. Hole for door socket is visible on the right of doorway. Items on floor are the same as shown in Ill. 37.



42.

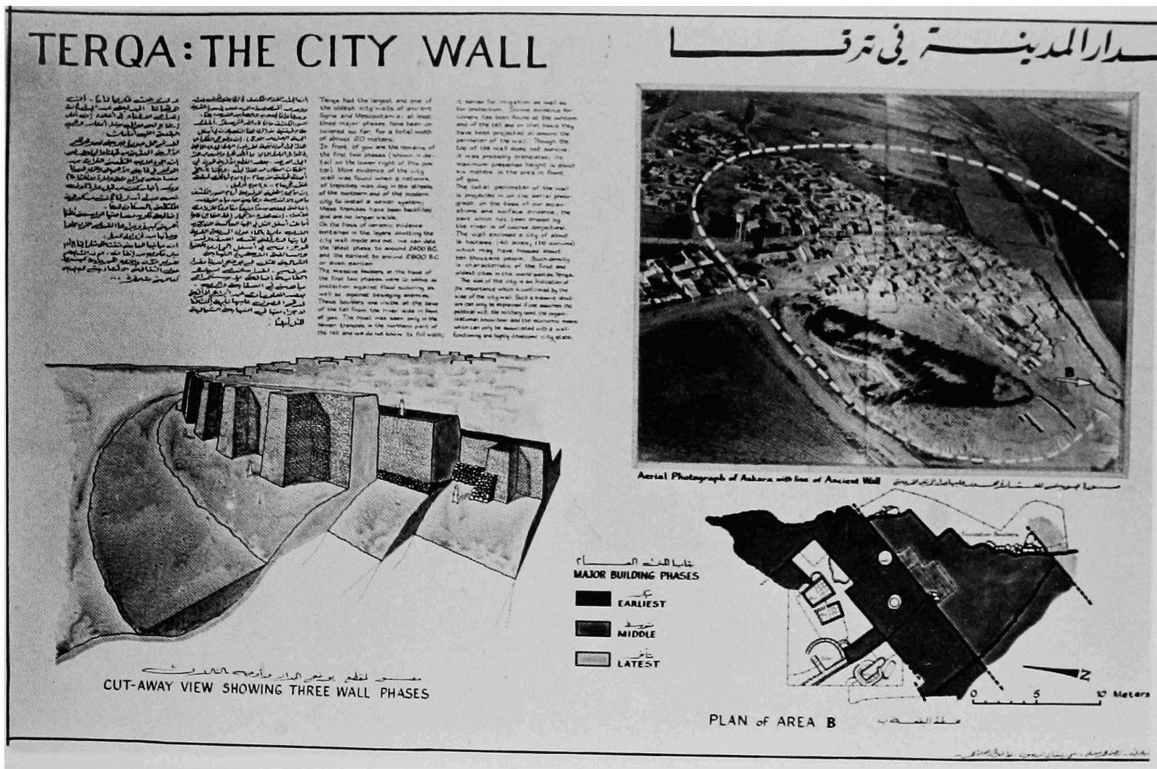
43.



43. Two hearths (?) in  
Puzurum's archive

Detail of Ill. 37-38,  
looking north-northwest.  
Khana period.



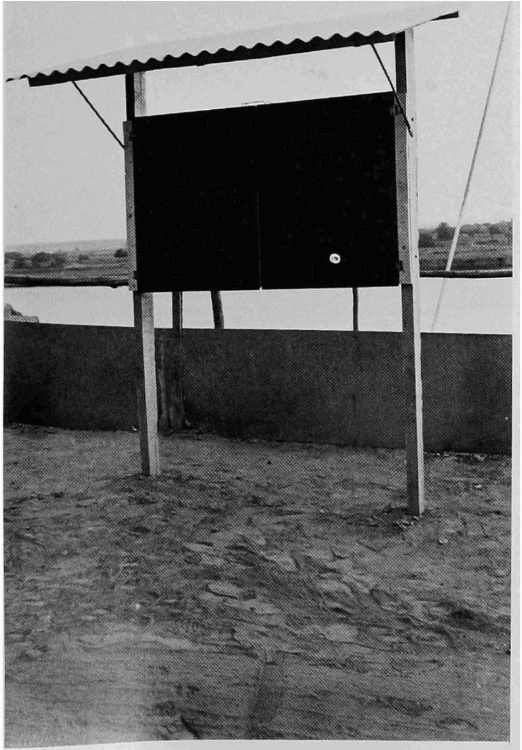


44. Poster with description of defensive system

Execution by R. Anderson

Color original is on display at site overlooking Area B.

Artist's reconstruction of three major defensive rings was done before conclusion of the season, and does not include the presence of a walkway between the middle and the outermost walls. The aerial photograph on the upper right (also produced in the field) provides a suggested reconstruction of the perimeter of the city-wall.

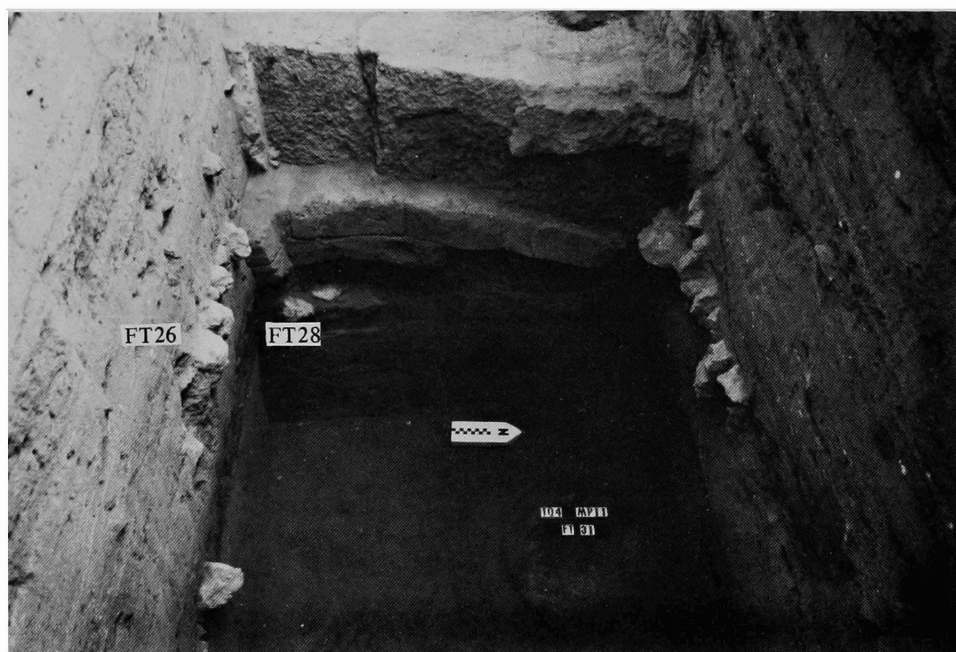


45. Poster kiosk

Area C, looking NW. Executed by R. Anderson.

The poster is protected by two panels in front which swing open to allow full view to a visitor, and by a small overhang.

46.

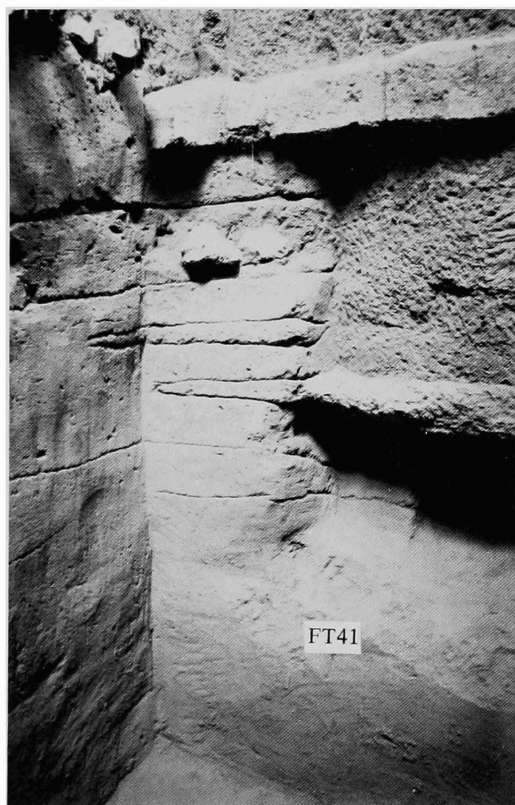


**46. Base of inside face  
of City Wall 1-1A**

Area D, MP11 LC1, looking west. Late 4th and early 3rd millennium.

The sidewalls of the sewer trench are visible at either side of the photograph. The cut of the mechanical shovel into the top of CW1A is visible in the background. Note course of bricks jutting out of wall face near base of wall, which may represent the base of CW1A, associated with the stone pavement FT26 and with the ash lenses FT28, from which came sample TQ4-S284, which yielded a C-14 determination of 2900-2600 BC.

47.

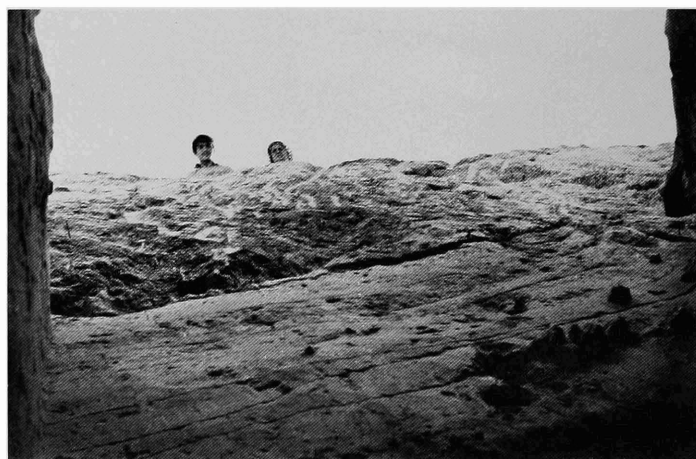


**47. Base of inside face of City Walls 1 (?) and 1A**

Detail of Ill. 46.

Plastered face below protruding course of bricks may be inner face of CW1. The lowest stratum (FT41) is virgin soil.

48.

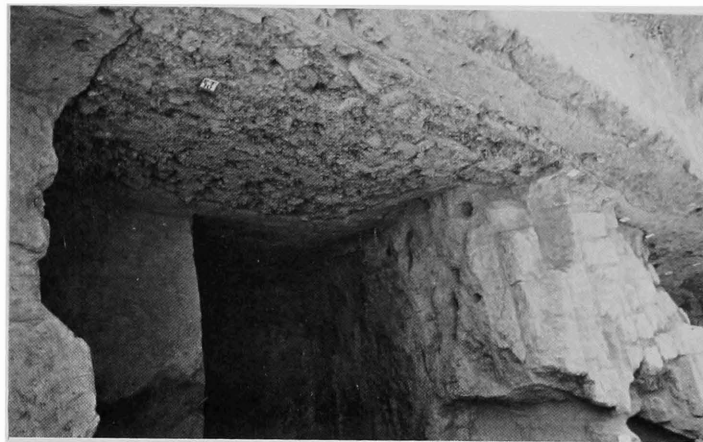
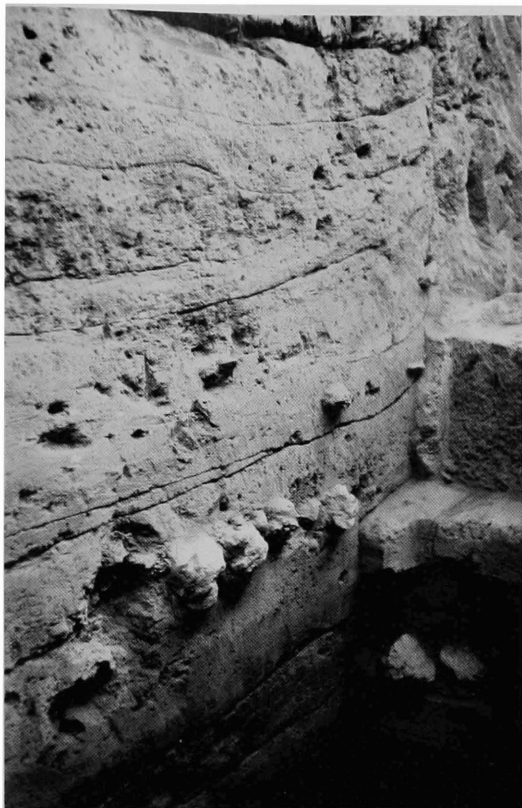


**48. Sidewall of deep trench**

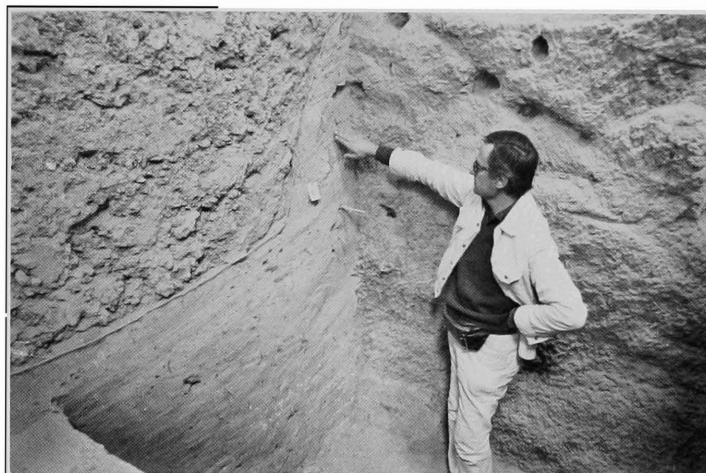
Same as Ill. 46, but looking up at southern baulk from bottom.

The total height of the sidewall is here about 4 ms.

49.



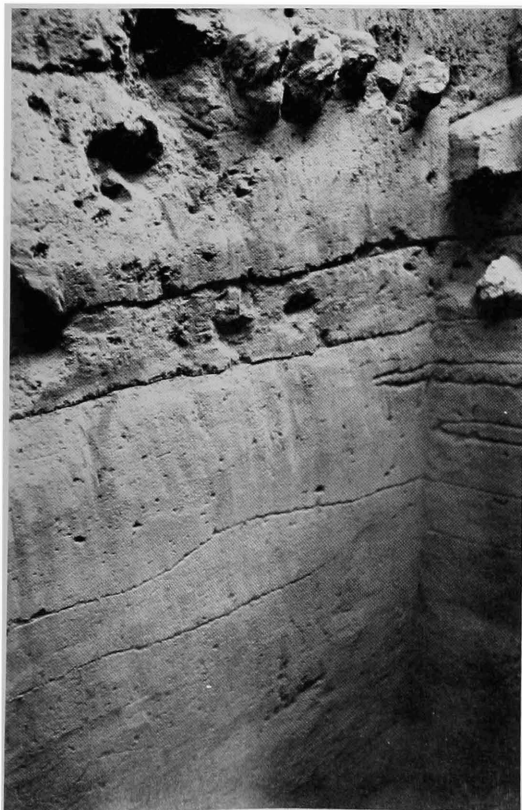
51.



52.

**49-50.**  
Floors against City Walls 1 (?) and 1A  
Details of Ill. 46, but looking SW.

50.



53.

**51-53.**  
Floor accumulation  
against City Wall 1A

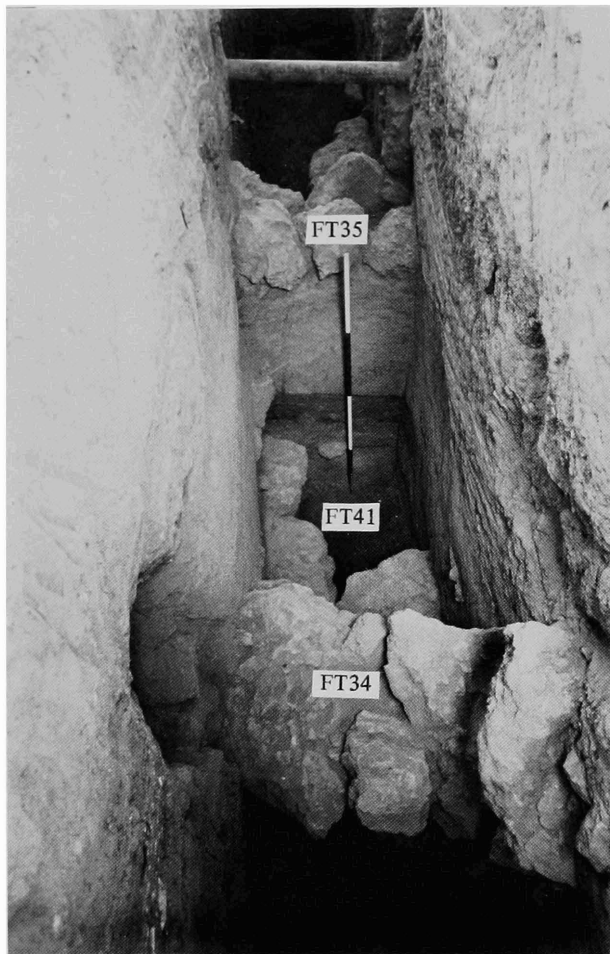
51-52. Area D, SG17  
LC21, looking SW.  
Early 3rd millennium.

53. Area D, SG17 LC21  
FT33, looking N.  
Early 3rd millennium.

At an elevation of ca. 30 cms  
above the bottom of CW1A,  
this is one of the earliest  
structural features dis-  
covered so far next to the  
inner face of the City Wall.



54.

**54-55. Boulder glacis of City Wall 1A**

Area D, MP11 LC5 and 7, looking W.  
Late 4th (?) and early 3rd millennia.

The masonry of CW1A in LC5 has here been removed.

Ill. 54 shows both the glacis proper in the foreground (FT34) and in the background the boulders (FT35) which presumably have fallen off the glacis; the 2 m. pole rests on virgin soil (FT41) which is clearly demarcated as a darker stratum.

Ill. 55 is a detail of the boulder glacis proper (FT34), resting on a layer of sand which in turn is above virgin soil at the bottom.

55.



56.

**56. Base of outside face of City Walls 1(?) and 1A**

Detail of Ill. 55, but looking SW.

FT63 is a pocket of silty clay which may demarcate CW1 (lower boulders and bricks) from CW1A (higher bricks and boulders).

57.



**57-59. Deposition outside  
City Wall 1 (?) and 1A**

57-58: Area D, MP11 LC12, looking ESE.  
Early 4th (?) and early 3rd millennia.

The boulders (FT35) are presumed to have fallen off the glacis of CW1A. The bricks underneath (FT68) are associated with strata (FT69) which override the lowest course of boulders in the glacis. The dark stratum (FT45 and 46) is presumably the same as FT61 in LC14, for which see Ill. 59. The bottom stratum (FT41) is virgin soil.

58.



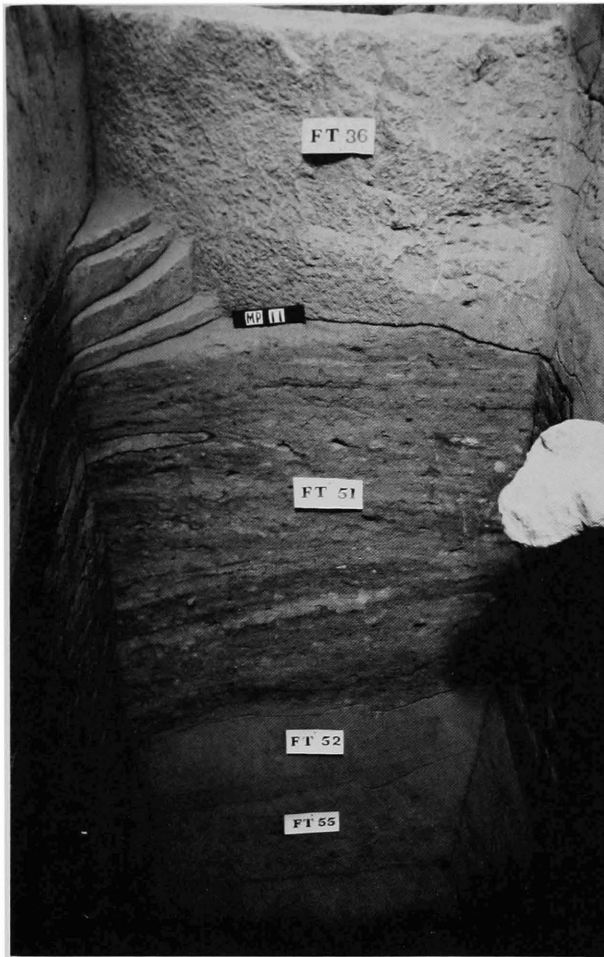
59.



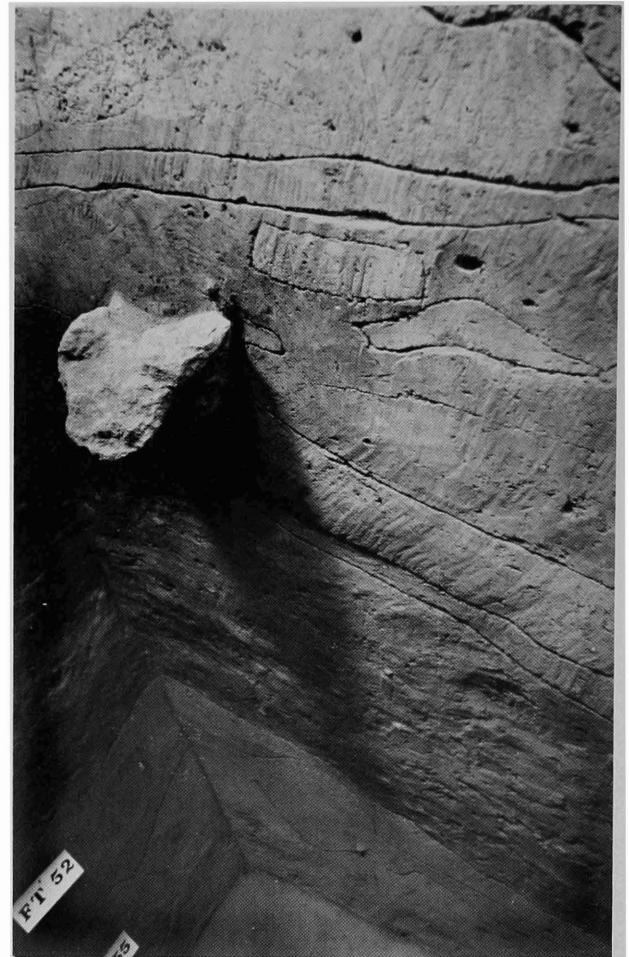
**59: Area D, MP11 LC14, looking E.  
Early 3rd millennium (?)**

FT61 is a series of ash lenses intercalated with charcoal stained clay. It is possibly linked with FT45 and 46 shown in Ill. 58.

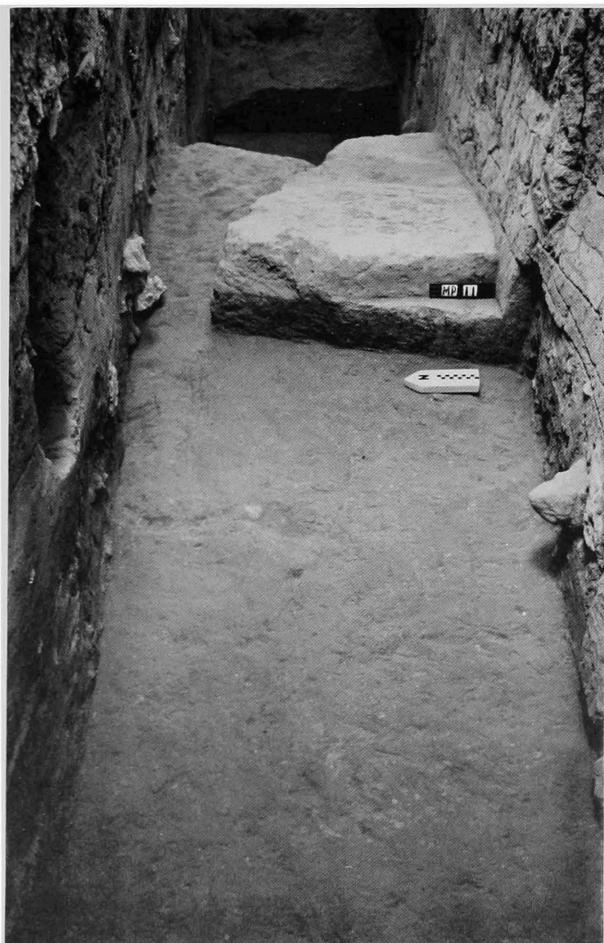
60.



61.



62.



### 60-61. Base of outside face of City Wall 2

Area D, MP11 LC10.

Ill. 60: looking E; Ill. 61: looking SE.

Early 3rd millennium.

The plastered face of CW2 (FT36) with floors riding up to it on its lower left. FT51 is a thick deposit of ash lenses with finely disseminated charcoal from which came sample TQ4-S314, which yielded a C-14 determination of 3700-3600 BC. At the bottom is virgin soil (FT55).

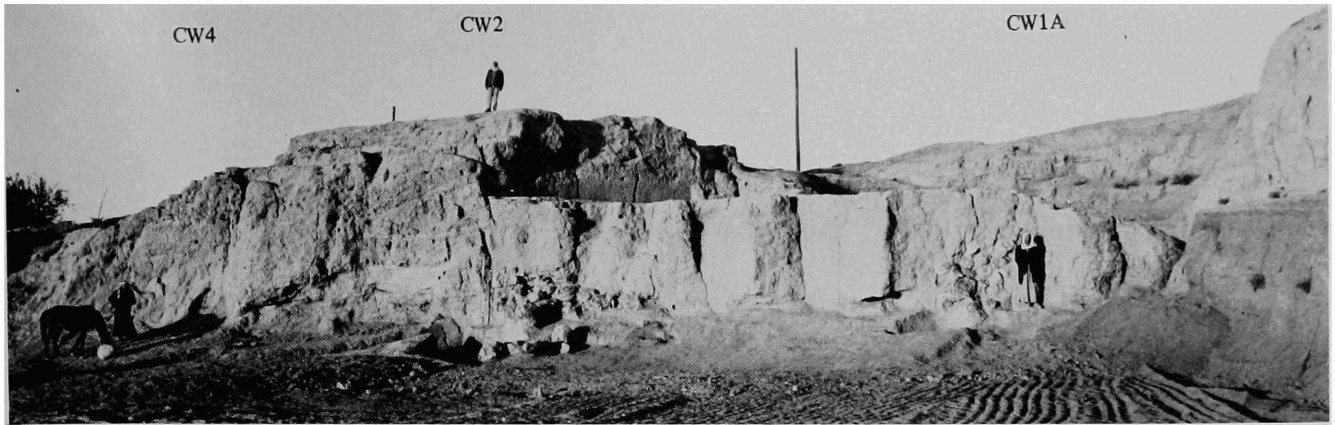
### 62. Base of tower of City Wall 3

Area D, MP11 LC15, looking E.

Second quarter of 3rd millennium.

Bricks of CW3 are visible on southern baulk at right. TQ4-S267, which yielded a C-14 determination of 4700-4500 BC, came from a fill to the left of the tower.

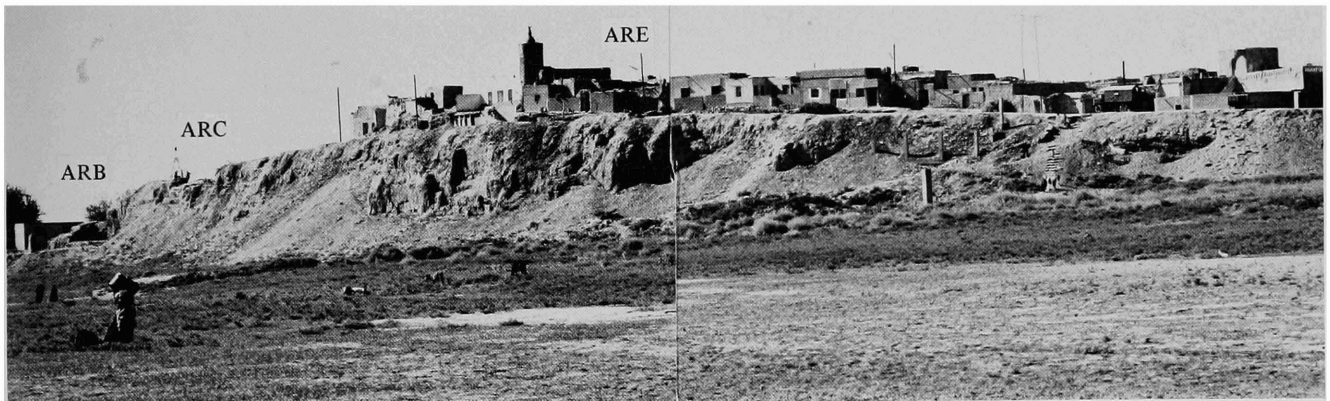




### 63. Highest preserved portion of defensive system

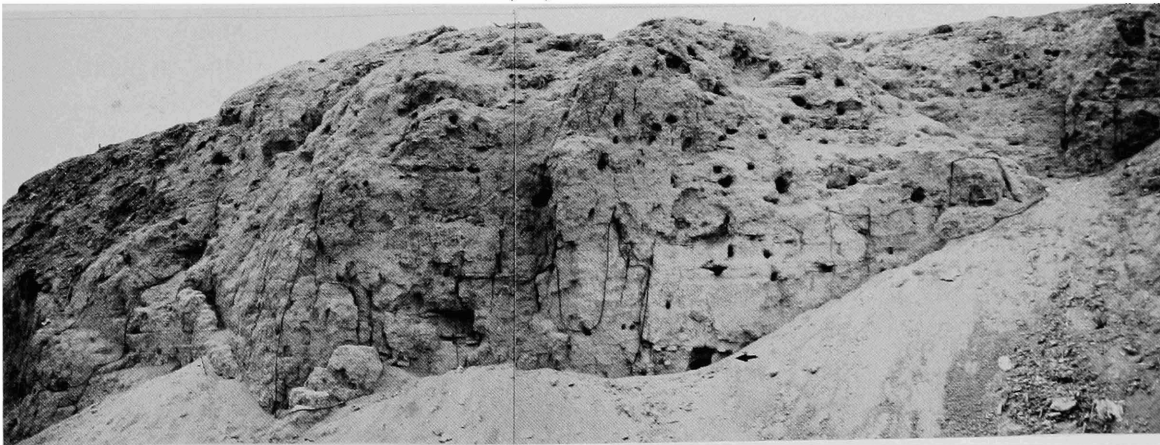
Area B, looking W. Early 3rd to early 2nd millennia.

Figure at right is standing in front of outer face of CW1A, next to boulder glacis. Meter pole in middle is just in front of CW2 face, with boulder girdle to the right; just above, central figure is standing on top of CW2 masonry. Man with horse at left is standing below articulated masonry of CW4.



### 64. General view of eastern side of tell

Areas B, C, and E looking SW.

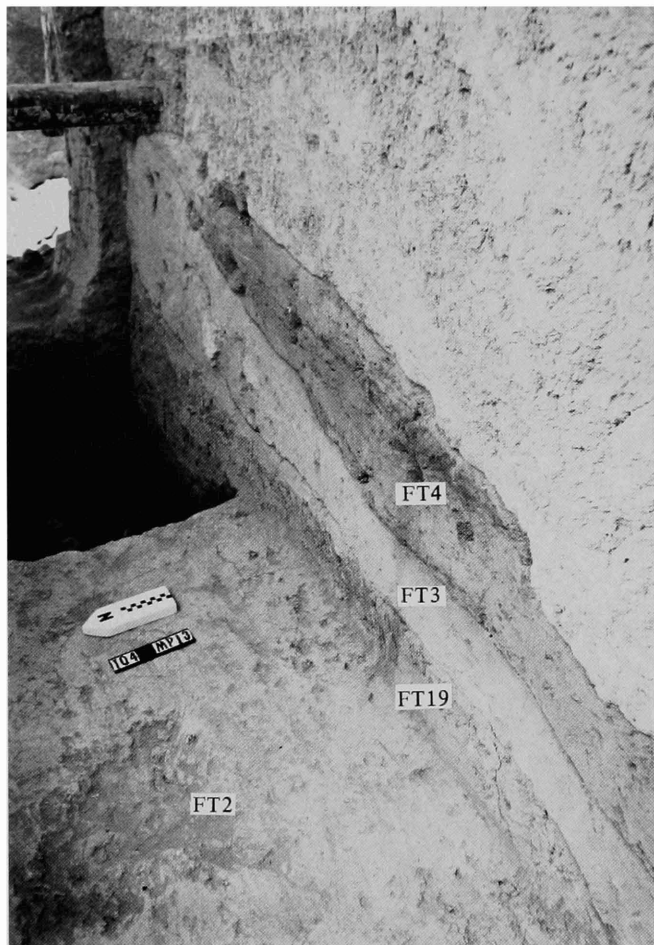


### 65. Unexcavated monumental building

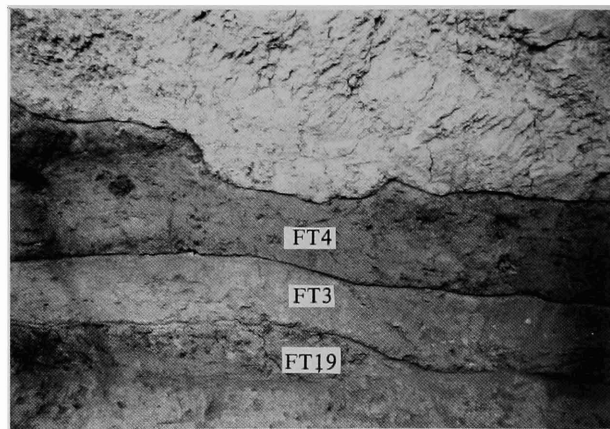
Area E, looking SSW. Early 2nd millennium (?)

Massive walls show on face of escarpment and are marked off here by dark ropes; note baked brick pavement where arrow points. SG40 is situated at the top in the center.

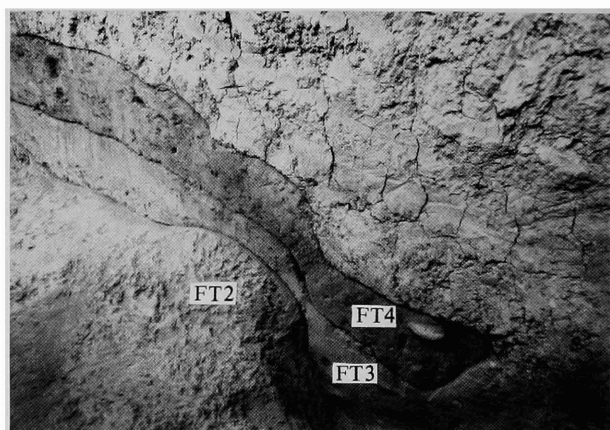
66.



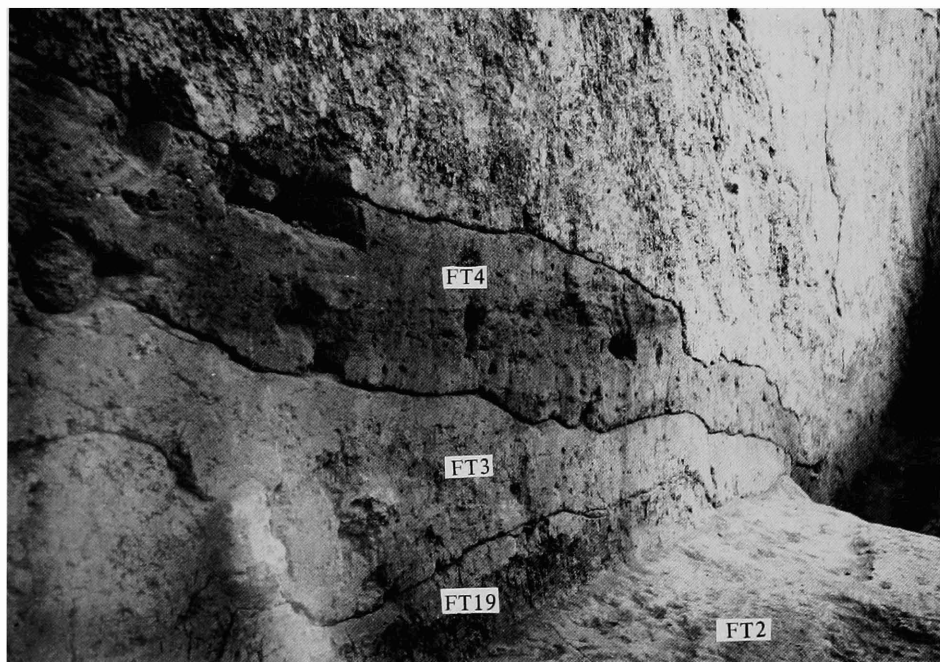
68.



69.



67.

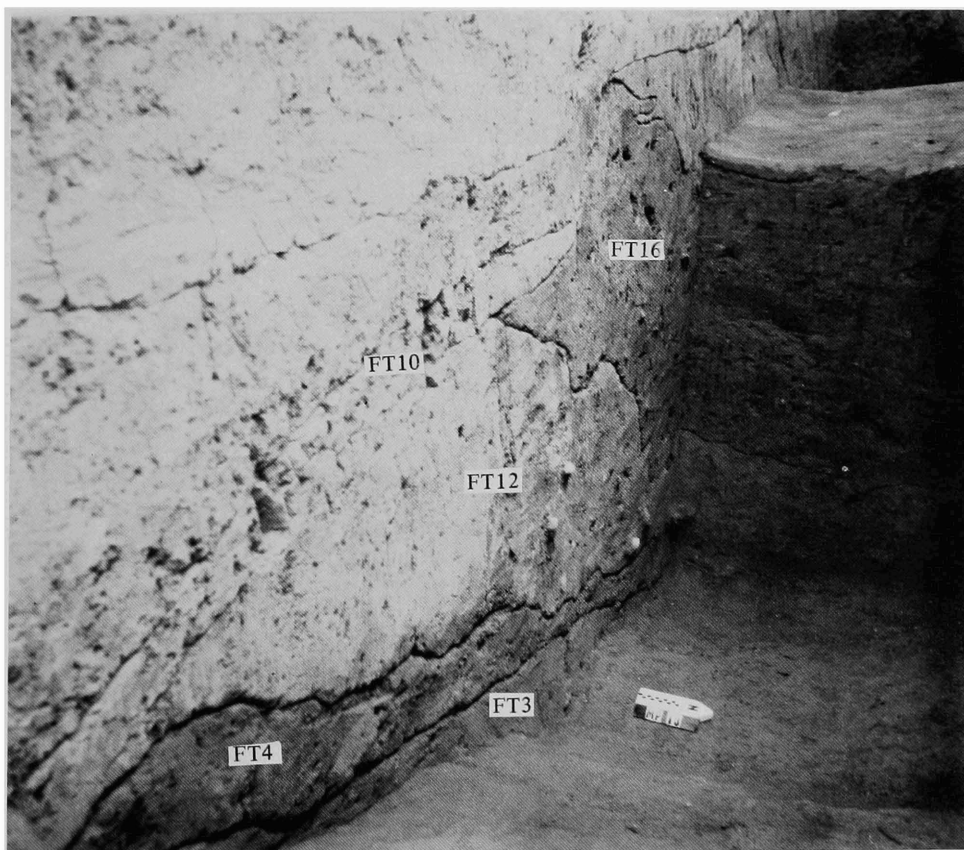
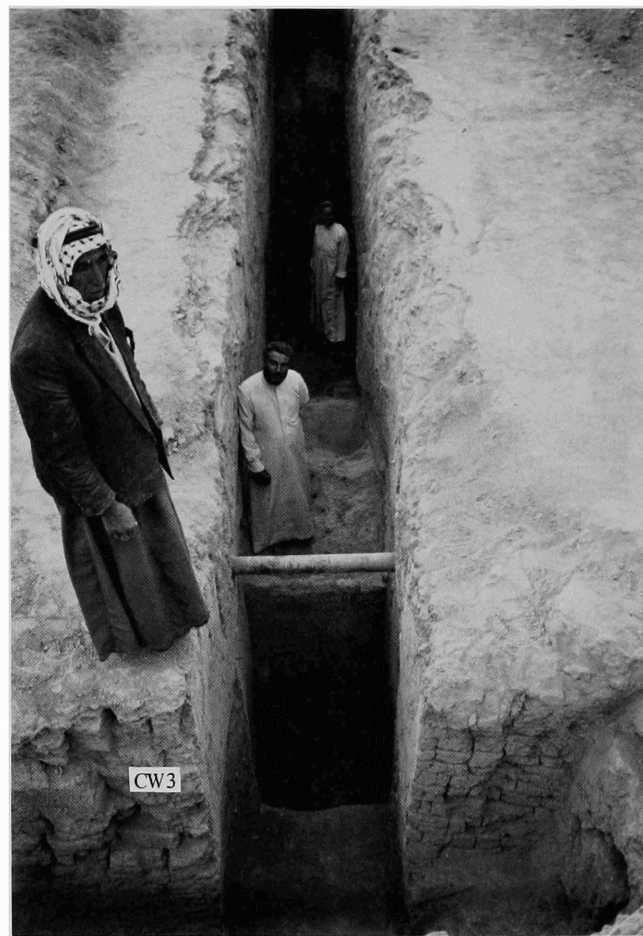
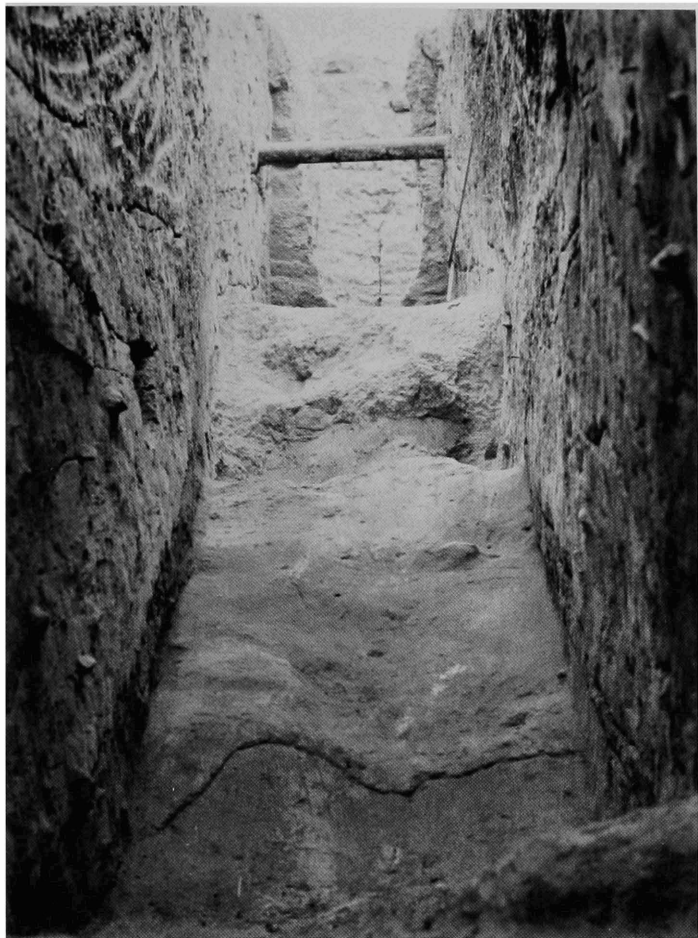


**66-69.**

**Moat deposition  
outside  
City Wall 3**

Area D, MP13, LC 3  
Ill. 66: looking SE;  
67: SW; 68: S; 69: SE.  
Mid 3rd millennium

Photographs were  
taken before removal  
of CW3 moat floor  
(FT 2)



### 70-71. City Wall 3 and its moat

Area D, MP13

Ill. 70: looking E from bottom;  
71: W from top.

Photographs taken before removal of moat floor. Pipe is city's water main. In Ill. 71 first figure is standing on top of preserved masonry of CW3, middle figure at base of wall and on top of moat, last figure at bottom of excavated portion of moat.

### 72. Water table and excavated bottom of moat

Area D, MP13 LC 4 looking SW.  
Mid 3rd and early 2nd millennia.

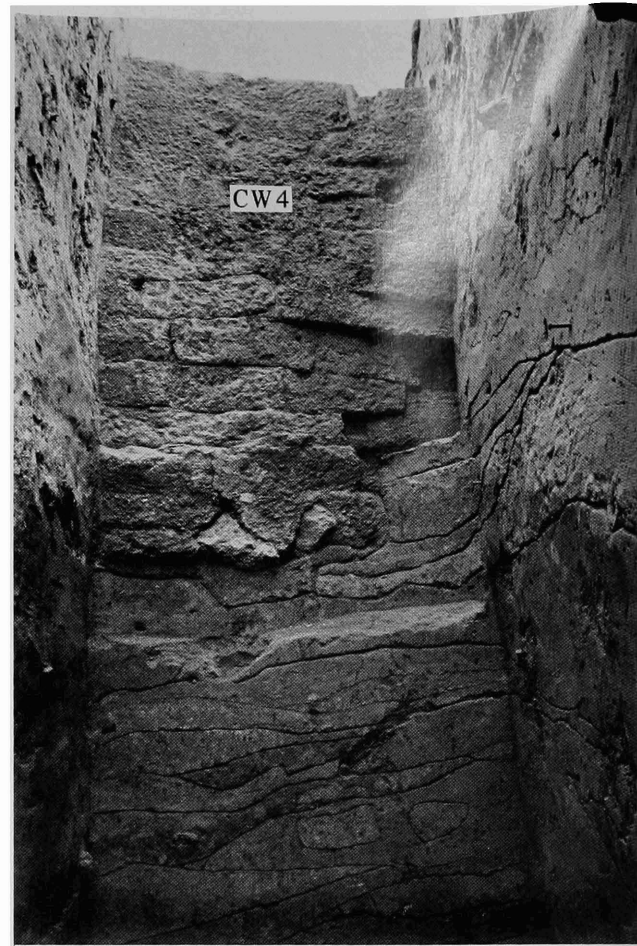
Water table was reached at lower right (it is covered with dirt in this photograph). The clay lense FT10 is a small canal bed, which is presumed to date to a period of decline when the moat was not in use, possibly the early second millennium.



73.



74.



75.



**73-74. The latest defensive ring at Terqa**

Area D, MP13+, looking E. Mid 2nd millennium.

Ill. 73 shows the lowest point reached in MP13+. At the end of the trench, the baulk has been cut down to virgin soil in alignment with the face of CW4 (detail in Ill. 74). Above (and to the left of the figure) the brickwork of CW4A is visible.

**75. Early and late defensive rings**

Area D, SG17, looking E.  
Early 3rd and mid 2nd millennia.

Square bricks in foreground belong to the latest rebuilding of the defensive system, CW4. The rectangular bricks behind them are those of CW1A.







