

EXCAVATIONS AT ANSHAN  
(TAL-E MALYAN):  
The Middle Elamite Period







**EXCAVATIONS AT  
ANSHAN (TAL-E MALYAN):  
THE MIDDLE ELAMITE  
PERIOD**

---



University Museum Monograph 82

MALYAN EXCAVATION REPORTS

William M. Sumner, Series Editor

VOLUME II

# EXCAVATIONS AT ANSHAN (TAL-E MALYAN): THE MIDDLE ELAMITE PERIOD

---

Elizabeth Carter

With contributions by:

Ken Deaver (Chipped stone)

Naomi Miller (Paleoethnobotany)

Chandra Reedy (Optical mineralogy)

Architectural Drawings and Reconstructions by W. Patrick Finnerty and Elizabeth Carter

*Published by*



THE UNIVERSITY MUSEUM  
of Archaeology and Anthropology  
University of Pennsylvania  
Philadelphia  
1996

**Design, editing, production**

The University Museum, Publications Division

**Printing**

Science Press

Ephrata Pennsylvania

**Library of Congress Cataloging-in-Publication Data**

Carter, Elizabeth, 1943-

Excavations at Anshan (Tal-e Malyan) : the middle elamite  
period /

Elizabeth Carter with contributions by Ken Deaver ... [et al.].

p. cm. -- (Malyan excavation reports ; v. 2) (University  
Museum monograph ; 82)

Includes bibliographical references and index.

ISBN 0-924171-22-7

1. Excavations (Archaeology)--Iran. 2. Elam--Antiquities. [1. Anshan  
(Extinct city)] I. Deaver, Ken. II. Title. III. Series, IV. Series:  
University Museum monograph ; 82.

Ds262.A57C37 1994

935--dc20

94-7555

CIP

Copyright © 1996

The University Museum

University of Pennsylvania

Philadelphia

All rights reserved

Printed in the United States of America



---

# Contents

	LIST OF TABLES.....	ix
	LIST OF FIGURES.....	xi
	LIST OF PLATES.....	xiii
	EDITOR'S PREFACE.....	xv
	ACKNOWLEDGMENTS.....	xvii
I	INTRODUCTION.....	1
	Background of the Excavations.....	1
	Description of the Region, the Site and the Excavations.....	1
	The Malyan Recording System.....	3
	Other Factors Involved in the Excavations.....	4
II	LEVEL IV.....	5
	Stratigraphy.....	5
	Architecture and Room Function.....	6
	The Northeast Sector.....	7
	Finds.....	7
	Courtyard 45 and the Surrounding Rooms, or the Southeast Sector.....	8
	Room 69 and Corridor 60.....	8
	Finds.....	8
	Room 76.....	8
	Finds.....	9
	Rooms 12 and 10.....	9
	Finds.....	10
	Corridor 15 and Rooms 26 and 5.....	10
	Finds.....	10
	Corridor 139 and Room 143.....	11
	Finds.....	11
	Corridor 95 and room 96.....	12
	Finds.....	12
	Courtyard 45.....	12
	Finds.....	13
	Discoveries Outside the Middle Elamite Building.....	14
	Finds.....	14
	The Interpretation and Dating of Level IV.....	14
III	THE LEVEL IV CERAMIC ASSEMBLAGE.....	17
	Introduction.....	17
	Buff Wares.....	19
	Buff Ware Open Forms.....	20
	Cups and Bowls.....	20
	Small to Medium Cups and Bowls.....	20
	Medium to Large Bowls.....	20
	Large Bowls.....	20
	Vats.....	21
	Trays.....	21

	Buff Ware Closed Forms .....	21
	Neckless Jars .....	21
	Necked Jar Forms .....	22
	Small to Medium Necked Jars or Goblets .....	22
	"Elamite Goblets" .....	23
	Medium to Large Necked Jars .....	23
	Large Necked Jars .....	24
	Miscellaneous .....	24
	Buff Ware Bases .....	25
	Painted Buff or Qaleh Wares .....	25
	Open Forms .....	26
	Cups and Bowls .....	26
	Cylindrical Vessels .....	26
	Closed Forms .....	26
	Goblets .....	26
	Neckless Jars .....	27
	Medium to Large Necked Jars .....	27
	Miscellaneous .....	27
	Red Ware .....	27
	Handmade Smoothed Ware .....	27
	Open Forms .....	28
	Closed Forms .....	28
	Heavy Mineral Tempered Ware (Cement Ware) .....	28
	Gray Black Wares .....	28
	Banesh Wares .....	29
	Summary and Conclusions .....	29
IV	THE SMALL FINDS FROM LEVEL IV .....	31
	Terracotta .....	31
	Faience .....	32
	Architectural Decoration .....	32
	Knobs .....	32
	Vessels .....	33
	Seals .....	33
	Chipped and Ground Stone .....	33
	Polished Stone .....	34
	Metal .....	34
	Glyptic .....	35
	Sealings on Tablets .....	35
	Sealings on Jar Stoppers and Doorlocks .....	35
	Sealed Tags .....	36
	Seals .....	36
V	LEVEL III .....	37
	Stratigraphy and Architecture .....	37
	Level IIIB .....	37
	Finds .....	39
	Level IIIA .....	39
	Courtyard 117 .....	40
	Finds .....	40
	Door 118 and Room 113 .....	40
	Finds .....	40
	Courtyard 102 .....	40
	Finds .....	41
	Rooms 154 and 151 .....	41
	Finds .....	41
	Rooms 100 and 108 .....	41

	Finds .....	41
	Rooms 111 and 112 .....	41
	Rooms 73 and 74 .....	42
	Finds .....	42
	Room 10 .....	42
VI	THE POTTERY AND SMALL FINDS FROM LEVEL III .....	43
	Level III Pottery .....	43
	IIIB .....	43
	IIIA .....	44
	Buff Ware Open Forms .....	44
	Buff Ware Closed Forms .....	44
	Painted Buff or Qaleh Wares .....	44
	Other Wares .....	44
	The Small Finds from Level III .....	45
	Terracotta .....	45
	Faience and Glass .....	45
	Chipped and Ground Stone .....	45
	Metal .....	46
	Miscellaneous .....	46
	Glyptic .....	46
	Seal impressions .....	46
VII	THE LATER HISTORY OF THE EDD SECTOR .....	47
	Building Level II .....	47
	Building Level I .....	48
VIII	SUMMARY AND CONCLUSIONS .....	49
	TABLES IN TEXT .....	53
	APPENDICES	
	A. The Malyan Pottery Coding Key .....	75
	B. Lithic Clusters from the Middle Elamite Building (EDD) .....	93
	C. Paleoethnobotany .....	99
	D. Optical Mineralogy .....	109
	BIBLIOGRAPHY .....	113
	INDEX .....	119
	PERSIAN SUMMARY	
	Translated by Ezat O. Negahban .....	137-129
	FIGURES	
	PLATES	



---

# Tables

## TABLES IN TEXT

1.	The Chronological Periods at Malyan .....	53
2.	EDD Feature Numbers .....	54
3.	EDD Cultural Strata and Building Level Summary.....	59
4.	The Malyan Lot Index .....	60
5.	The Malyan Deposit Code .....	73
6.	C-14 Dates from EDD.....	74

## TABLES IN APPENDICES

A1 A.	The Malyan Pottery Coding Key.....	76
A1 B.	The Malyan Pottery Coding Key: Painted Designs.....	81
A2.	Distribution of All Wares by Area/Feature.....	82
A3.	Wares by Types of Surface Decoration .....	85
A4.	Distribution of Buff Ware Types by Area/Feature.....	87
A5.	Buff Ware Bowls—Rim Form by Rim Diameter .....	89
A6.	Buff Ware Neckless Jars—Rim Form by Rim Diameter .....	90
A7.	Buff Ware Necked Jars—Rim Form by Rim Diameter.....	91
C1.	Catalog of Flotation samples .....	104
C2.	Seeds from EDD .....	105
C3.	Charcoal from Flotation Samples .....	106
C4.	Hand-picked Charcoal.....	107
C5.	Charred Density .....	108
C6.	Grain Density.....	108
C7.	Ubiquity of Hand-picked Charcoal .....	108
D1.	Summary of Mineral Identifications from Analysed Sherd Samples .....	111



---

# Figures

## FIGURES IN APPENDICES

B1. Debitage and tools from level IVA.....	98
--	----

## FIGURES IN TEXT

1. Map of southwestern Iran.
2. Map of settlements in the Kur River basin.
3. Topographic map of Malyan.
4. Malyan northwest sector.
5. Areas excavated by season in EDD.
6. EDD general plan and profile key.
7. Master sections, A-B and G-E.
8. Master sections, H-I and J-K.
9. Plan of levels IV-III B.
10. Wall foundation sounding.
11. Section through door 159.
12. Horizontal distribution of tablets in room 76.
13. Section through room 76 and reconstruction of shelves.
14. Collapsed pillar 33 in DD 45.
15. Level IVA construction details.
16. Reconstruction of the Middle Elamite building.
17. Buff ware vessel types.
18. Conical and hemispherical bowls.
19. Vats or large open forms.
20. Neckless jars, and flat and ring bases.
21. Elamite and other goblets.
22. Necked pots and jars.
23. Band-rim jars.
24. Large necked jars or "pithoi."
25. Buff ware stands and bases.
26. Painted buff or Qaleh ware.
27. Painted buff or Qaleh ware, continued.
28. Handmade smoothed wares or "cooking pots."
29. Miscellaneous small objects from level IV.
30. Wall tiles and knobs.
31. Reconstruction of tile and knob attachment.
32. Chipped stone objects.
33. Polished stone objects.
34. Glyptic from level IV.
35. EE 39 section drawings.
36. Plan of EE 39, level III B.
37. Kilns 164 and 175.
38. Plan and elevation of kiln 170.
39. Plan of level III A.
40. Pottery from level III B.
41. Pottery from level III A.

42. Pottery from level IIIA, continued.
43. Miscellaneous small objects from level III.
44. Glyptic from level III.
45. Plan of levels I and II.
46. Burial 47, plan, section, objects.
47. Debitage and tools from level IVA.



---

# Plates

1. A. Air view from EDD looking east.  
B. Air view of the EDD Operation.
2. A. Level IV. DD41, Courtyard 45, Corridor 60.  
B. Level IV. EE41, Corridor 95, Door 98, Courtyard 45.
3. A. Level IV. DD41, Corridor 60.  
B. Level IV. DD41, East Balk.
4. A. Level IV. DD41, Room 69. Four pots *in situ* and door.  
B. Level IV. DD41, Room 69. Four pots *in situ*, detail.  
C. Level IV. DD41, Room 69. Interior door 31.
5. A. Level IV. DD41, Pit 85, Room 69, Door 3, Room 76 and Wall 9.  
B. Level IV. DD41, Room 76. Carbonized logs in balk, Stone Pier 63.
6. A. Level IIIA. EE41, Room 154.  
B. Level IVB. FF-EE41, Rooms 151 and 154.
7. A. Level IV. DD45, Room 26, fallen Pillar 33.  
B. Level IV. DD45, Room 26, knob and tile scatter.
8. A. Level IV. CC45, Room 19, Alley 25.  
B. Level IV. DD45, Room 26, Alley 25.
9. Level IV. Miscellaneous Buff Wares.
10. Level IV. Miscellaneous Unpainted Wares.
11. Level IV. Qaleh Painted Wares.
12. Level IVA. Miscellaneous Small Objects.
13. A. Level IIIB. EE39, general view.  
B. Level IIIB. EE39, general view.
14. A. Level IIIB. EE39, Kilns 170 and 175 in Corridor 192.  
B. Level IIIB. EE39, Kiln 175, Pillar 177.
15. A. Level IIIB. EE 39, Kiln 170, exterior; Wall 178.  
B. Level IIIB. EE39, Kiln 170, interior vents, Pit 172.
16. A. Level IIIA. EE39, Courtyard 117, Courtyard 120.  
B. Level IIIB. EE39, Courtyard 102.
17. A. Level IIIA. EE39, to left of balk; DD41.  
B. Level IIIA. EE39, Walls 201 and 56.
18. Level IVA. Wall Tiles and Knobs.
19. Level IVA. Miscellaneous Faience Objects and Glyptic.
20. Level IIIB. Miscellaneous Pottery Vessels.
21. Level IIIA. Glyptic and Small Objects.
22. Level II. Burial Gifts, DD43, Lot 9, Burial 47.
23. Lithics.
24. Thin Sections.



---

# Editor's Preface

The present monograph, describing a large Middle Elamite building and its contents, is the second volume in the Malyan Excavation Reports series. The discovery and identification of Malyan as Elamite Anshan is described in Malyan Excavation Reports, Volume I (Nicholas 1990). Other publications directly relevant to the Middle Elamite levels reported in this monograph include a report on Middle Elamite texts (Stolper 1984) and an analysis and interpretation of the faunal assemblage (Zeder 1991).

Excavations in the Middle Elamite levels at Operation EDD represent the most recent levels explored in four relatively broad operations at Malyan. The EDD area was selected for excavation for two reasons: first, because EDD is located on the highest point of the mound we assumed the stratigraphic sequence there would cover late periods at the site and would overlap with earlier stratigraphy explored in Operation ABC; and second, to investigate a magnetic anomaly.

Although the latest strata excavated in Operations ABC and GHI (Fig. 3) contain Qaleh ceramics similar to those found at EDD, there may be a chronological gap between the earliest EDD strata and the latest strata in ABC and GHI. However, further analysis of the ceramic assemblages from ABC, GHI, and Test Trench D, located on the slope just south of ABC, may eventually allow us to demonstrate the development of the EDD variant of Qaleh ceramics from the Kaftari style of the early second millennium; this would fulfill our chronological reason for opening excavations in the EDD sector.

The precise location of our first square at EDD (EE41) was determined by the location of a strong magnetic anomaly discovered by Elizabeth K. Ralph of the Museum Applied Science Center for Archaeology (MASCA). The magnetometer survey conducted by Ralph was successful in locating four anomalies that were investigated in soundings. Because the burned building in EDD was perhaps the most important discovery of the survey this volume is the appropriate place in which to describe the survey method.

Using a Varian Associates Precision Portable Cesi-

um Magnetometer (Model 4920), the survey was conducted in two separate locations (Fig. 3) covering some 4 ha. The field procedure was quite simple. The sensor was carried by a boy who was inspected each morning to assure that he had no magnetic material on his person. Readings were made by an assistant, Hassan Sepheri, who carried the readout instrument and were recorded by Beth Ralph in a notebook. The crew would advance two paces between readings along a rope stretched between stakes in an east-west direction. At the end of each run the rope would be repositioned two paces north of the previous run. A second sensor was placed in the center of each grid section to control for diurnal and other extraneous magnetic variation. After the completion of each grid section contours were drawn to connect readings of equal magnetic intensity.

Based on the magnetic contour maps Ralph recommended excavations to investigate four anomalies. The first, explored in a 3x3 m sounding in grid square EE10, proved to be a pile of disarticulated baked bricks. The second anomaly, investigated in grid square BB33 (Fig. 3), proved to be a group of five pottery kilns between 50 and 100 cm below the mound surface. The third anomaly was caused by the heavily burned walls and brickly debris in Room 151 of the EDD Middle Elamite building. The fourth anomaly was a Sasanian kiln in grid square X65 (Alden 1978). It is remarkable that Ralph was able to predict with considerable precision the type of features responsible for the anomalies, which demonstrates the value of magnetometer surveys under the right conditions.

Finally, I want to thank Elizabeth Carter for excavating the Middle Elamite building in Operation EDD with such care and for producing this comprehensive account of the stratigraphy, architecture, and finds from the building. I also wish to express my appreciation to her for assuming responsibility for directing the project during my illness during the 1972 season. She continued her work in EDD and kept all the other operations and administrative details running smoothly.

Although we did not actually meet for many years, Liz Carter and I were first introduced to archaeology

in an evening lecture class conducted by Professor Ezat Negahban at Tehran University in about 1960. Little did I know then that we would one day be colleagues and collaborators in exploring the archaeology of Anshan, and that the Persian lan-

guage summary of her report on that research would be written by our first teacher, Ezat Negahban.

William M. Sumner  
April 7, 1994

---

# Acknowledgments

In 1971 I met William Sumner when he was director of the newly founded Tehran Center of the American Institute of Iranian Studies. He showed me photos of inscribed bricks that he had discovered on a large site in the Marv Dasht during the course of his regional survey. Somehow I was sure he had found Anshan, the lost capital of the ancient Elamite highlands. I brought copies of the photos back to Professor Erica Reiner at the Oriental Institute of the University of Chicago, who recognized the bricks as fragments of a complete text that had been published by the French Assyriologist Maurice Lambert (1972). These bricks recorded the construction of a temple at Anshan.

Professor Robert H. Dyson, Jr., then Curator of the Near Eastern Section, convinced Froelich Rainey, Director of the Museum, to appoint Sumner as Field Director of the Malayan Project, and excavations were initiated at the site in 1971 on behalf of The University Museum, University of Pennsylvania. In 1972 I asked to join the team as a new Ph.D. I would like to thank Professors Sumner and Dyson for giving me the opportunity to work at Tale Malayan and putting me in charge of the excavations in the EDD area which turned out to be one of the most productive on the site. They were always helpful and available, and they took on the burden of finding funding for the project. Sumner has read the manuscript in several drafts and helped me not only to focus my ideas but saved me from making errors of both commission and omission.

Financial support for the project came from the Boston Museum of Fine Arts, the Ford Foundation, Harvard University, the Metropolitan Museum of Art, the National Geographic Society, the National Science Foundation (BNS79-5860, BNS76-06455, SOC75-1483), the University Museum, the University of Pennsylvania, the Ohio State University, the University of Michigan, and the Smithsonian Institution. A Research Grant from the University of Oregon and grants from the Research Committee of the Academic Senate at UCLA also provided financial support for the project.

I am also grateful to Dr. Firouz Bagherzadeh, the former director of the Iranian Centre for Archaeo-

logical Research, and the representatives of the Archaeological Service of Iran: Aschar Mir Fattah in 1972, Jaffar Nikkah in 1974, and Mohammed Mavedat in 1976. They facilitated our work and our administrative tasks.

Both the local work force and graduate students cooperated to make this a successful enterprise. My thanks go to archaeologists Iqbal Hasan, 1972; Linda Jacobs and Susan Howard, 1974; and Joseph Kole, 1976. Their efficiency and skill as excavators was much appreciated.

In 1972 a small number of administrative tablets written in Elamite were discovered in EE 41 and I took photos of these back to Professor Erica Reiner who immediately recognized the place name Anshan that was already known from the bricks. She suggested that I ask Matthew W. Stolper, then a graduate student at the University of Michigan, to be our epigrapher. In 1974 and 1976 Stolper participated in the excavations where he skillfully excavated, conserved, and copied the epigraphic materials found in the EDD excavations. His excellent volume on the EDD tablets (Stolper 1984) provides a detailed analysis of the most important finds made in these excavations. I would like to acknowledge his contribution not only as an epigrapher but as a constructive critic who kept my archaeological imagination from wandering too far from the data.

Naomi F. Miller analyzed the plant remains with great diligence and her results are published in this volume. Melinda A. Zeder studied the animal bones and her results are summarized here but published separately (Zeder 1991). I am sure that the readers of the volume will recognize their contributions. Carol Beeman, Mary Virginia Harris, and Kathleen MacLean registered the finds; Janet Nickerson and Susan Wolkow drew most of the complete vessels and small finds; I drew most of the pottery myself and inking was done by Marian Sturz, W. Patrick Finnerty, and W. A. Lincoln. The plans and sections I drew in the field. W. Patrick Finnerty worked with me to produce the final published versions of these drawings and did most of the reconstructions. His drafting skills, eye for detail, and patience have added immeasurably to this report. Students who worked on

recording the more than 10,000 pot sherds included: Ron Norberg, Linda Jacobs, Lenore Gallin, Joan Carothers, Lisa Kealhofer, William Lincoln, Russ Stevens, and Parvin Heravi. They learned about pottery and helped to make a tedious job interesting. Patricia Oliansky aided me in proofreading, checking references, and copy editing.

To all these individuals, institutions, and funding agencies that supported the Malyan project, I offer

my thanks. Responsibility for errors of fact, judgment, or form, remain my own. The manuscript was finished in 1987, the bibliography was updated in 1992, but no work has been done since that time. This volume is dedicated to the residents of modern Tal-e Malyan whose unfailing hospitality, good humor, and hard work made the field portion of this project a success.

---

# Introduction

## *Background of the Excavations*

During the last centuries of the second millennium B.C. the Elamites became a political force in the ancient Near East. They successfully attacked the major cities of Mesopotamia and brought an end to the Kassite dynasty. Although the rulers of the Middle Elamite Empire called themselves kings of Anshan and Susa in numerous Elamite inscriptions found in Susa, the location of Anshan had not been identified when in 1968–1969 William Sumner (1972a) conducted an archaeological survey of the Kur River Basin northwest of Shiraz in south-central Iran. His reconnaissance demonstrated that the large low mound in the northwest corner of the basin, today called Tal-e Malyan, was the major center of regional settlement throughout most of the pre-Achaemenid period (Figs. 1, 2). At that time Sumner discovered fragments of inscribed baked bricks on the site. E. Reiner (1973) identified these as partial duplicates of a complete but unprovenanced text of Huteludush Inshushinak I (c. 1120 B.C.), the last king of the Middle Elamite Empire (Lambert 1972).

The brick inscriptions record the construction and dedication of a temple at Anshan by this little-known Elamite ruler. The number of brick fragments found on the site of Malyan, the kinds of archaeological materials, and the location of the ruins all led to the tentative identification of Malyan as ancient Anshan (Hansman 1972; Reiner 1973; Sumner

1974). These preliminary results clearly underscored the significance of the site for Elamite studies, and test excavations began there in 1971 under the direction of William Sumner (1972b) and joint sponsorship of the Iranian Center for Archaeological Research and The University Museum, University of Pennsylvania. Work on the site continued in 1972 (Sumner 1974), 1974 (Carter 1975; Carter and Stolper 1976; Sumner 1975a, 1976a, 1976b), 1976 (Carter n.d.b), and 1978 (Sumner 1983–1984, 1984).

In conjunction with these excavations detailed resurveys of the basin's Banesh (c. 3400/3200–2600 B.C.; Alden 1979) and Shogha/Teimuran and Qaleh (c. 1600–1000 B.C.; Jacobs 1980) sites were conducted. These surveys and the excavations at Malyan and several smaller sites have led to the reconstruction of a regional archaeological sequence presented in Table 1. The most recent overview of the results of this research is to be found in Sumner (1988) and in Carter and Stolper (1984). This report deals primarily with the Middle Elamite occupation of Malyan and will attempt to demonstrate that Anshan, far from being an Elamite co-capital in the highlands, as might be assumed from its use in the royal titulary, was on the edge of the Elamite empire in the late second millennium B.C.

## *Description of the Region, the Site, and the Excavations*

Tal-e Malyan lies in the northwestern sector of the Kur River Basin approximately 500 km southeast of Susa. The area is an upland internal drainage basin located between the ridges of the Zagros range in western Fars province at an elevation of about 1,600 m. The

region receives adequate rainfall for most cereal crops, although yields are improved by irrigation. Today about half of its 2,200 km<sup>2</sup> are fully arable and 22% are moderately salinized. Thus, it was and is an area of considerable agricultural potential in a

mountainous region where flatlands are at a premium. Paleobotanical (Miller 1982) and paleozoological (Zeder 1991) studies of excavated remains from the site have shown that the fundamental subsistence economy and environmental setting of Tal-e Malyan have not changed significantly since the second millennium B.C. The basin provided easy access to the mountains and their natural resources, was traversed by several major roads linking Fars and Khuzistan (Fig. 1), and had a plentiful supply of grazing lands of relatively high quality. Both farming and nomadic pastoralism are viable economic strategies in this environment. In the second millennium B.C. Malyan was the undisputed center of regional settlement (Fig. 2).

Topographically, Malyan mound (Fig. 3) can be divided into three basic components:

1. a string of narrow (50 m), relatively high (4–8 m) mounds surrounding the site on three sides, the mounds of the city wall (Sumner 1985);
2. a large (70 ha) flat open space inside the walls with limited cultural deposits; and
3. a group of interconnecting mounds covering an area of approximately 130 ha and forming the main occupation area of the ancient city.

The highest mounds of this complex, situated at the northwestern edge of the site, rise 7–8 m above the level of the plain (Fig. 4). They are located 400 m southwest of a large horseshoe-shaped break in the city wall that was probably an important gateway (cf. Oates 1965:67, pl. XII, for a somewhat similar configuration observed at Tell al-Rimah).

This report focuses on the excavations carried out in the EDD sector near the summit of the mound (Fig. 4; Pl. 1). Approximately 430 m east of the EDD sector, and separated from it by a low-lying area of the site, lies a second group of mounds (Fig. 4). Surface finds included numerous fragments of the inscribed bricks of Huteludush Inshushinak. A test trench (EE 16) was sunk here in an attempt to identify the source of these bricks. This sounding failed to uncover any of the bricks in place.

In 1972, a cesium magnetometer survey of the northwestern sector conducted by Elizabeth Ralph of the Museum Applied Science Center for Archaeology, The University Museum, University of Pennsylvania, showed strong magnetic anomalies on the summit of the EDD mound. The areas surveyed

are shown on Fig. 3. One test excavation in X 65 led to the discovery of a large Sasanian kiln (Alden 1978). The second test trench in EE 41 (Fig. 5) uncovered several wide (1.80 m) mud-brick walls that had been heavily burned. Expansion to the east in EE 39 revealed a later reconstruction phase that reused parts of the earlier, larger burned walls found in EE 41. These first results were published in 1974 (Sumner 1974). In the preliminary reports the burned walls were called level II and the later reconstruction phase found in EE 39 was labeled level I.

After the 1974 season it was clear that the stratigraphy was more complex than it had appeared after the 1972 season. This necessitated a revision of the building level numbers, and what had been level II in the preliminary report (Sumner 1974) became level IV, and level I became level III (Carter 1975). Further excavations in 1974 (Carter 1975; Carter and Stolper 1976) in CC 43 and 45 and DD 41, 43, and 45 (Fig. 5) led to the clearance of a monumental burned building, called the Middle Elamite building.

In 1972 and 1974 two separate groups of cuneiform tablets written in Elamite were discovered on and above the floor of the burned structure (Stolper 1984b). Carbon 14 dates (see Table 6) and the epigraphic materials, as well as comparative archaeological materials from Khuzistan, indicated a date of c. 1100 B.C. for the destruction of the IVA structure.

In 1976 an attempt was made to finish the excavation of the burned building and to investigate the earlier and later phases of its use through excavations in EE 39 and FF 41 (Carter n.d.b and Stolper n.d.).

At the end of the 1976 season four main building levels had been identified and described. These are outlined below and are summarized graphically in Figures 6–8:

1. Level IV: The construction (IVB) of a monumental building on the summit of Malyan mound, followed by its remodeling, and second phase of occupation that ended in a destructive fire (IVA).<sup>1</sup> This destruction is dated to the Late Middle Elamite period, c. 1100–1000 B.C.
2. Level III: Four and possibly more kilns found in EE 39 are labeled level IIIB. One kiln was found inside the portico and three were placed just outside it (Fig. 36). The leveling of IIIB and the subsequent construction, primarily in EE 39 and FF 41

1. The areas outside the main construction, southeast of CC 45 and east of wall 9, have been assigned to level IVA for the purposes of this report.



with some traces in DD 41, of a much less formal building is called IIIA (Fig. 39). Some of the standing walls of the building level IV structure were reused and additional, less substantial walls were added to form level IIIA. This occupation is dated to around c. 1000 B.C.

3. Level II: Fragmentary surfaces and associated features above or excavated into the earlier levels (Fig. 45). Some of the finds appear to date to the Neo-Elamite II period (c. 850–750 B.C.).
4. Level I: Stone pier foundations sunk into

building level IVA deposits and thus, sometimes through building level II and III (Fig. 45). No surfaces or other features unequivocally associated with this building level were found. The piers were built of rough stones set in gypsum plaster. The original construction may be dated to the Sasanian period, c. A.D. 400, since some of the ceramics and at least one coin from just below the surface of the mound belong to this period (Balcer 1978). A kiln in X 65, approximately 50 m to the southwest, also dates to this period (Alden 1978).

## *The Malyan Recording System*

A few preliminary remarks on the methods of excavation, recording, and analysis are necessary for the understanding of the subsequent descriptions. The EDD sector, like the other areas at Malyan, was excavated using 9 m square units separated by 1-m balks. This pattern varied occasionally when the situation called for it. Each square is called an operation and designated by its position on the site's master grid. All lots,<sup>2</sup> features, layers, and objects were numbered consecutively within each operation (10 m<sup>2</sup>) in the field.

When it became clear that in the EDD area we were dealing mostly with one building, the whole excavation (Fig. 5) was renamed the EDD operation. The original operation numbers for the features were replaced by a consecutive series for the entire area, since many walls occurred in more than one operation. Table 2 lists the original number assigned to the feature when it was first excavated in the right-hand column. In the middle column are the building levels to which the feature has been assigned. More than one building level in the middle column indicates that the feature was recycled. The publication number is in the left-hand column. The field photographs of the 1972 and 1974 seasons are all labeled with the original operation and locus numbers. Thus the reader may need on occasion to refer to Table 2 to identify the publication number of a feature discussed in a preliminary report or shown in this report in a field photograph from the

1972 or 1974 season.

When the study of the material began at the close of excavations, several master sections of the main excavated area were drawn. Then a series of "cultural strata" were identified for each building level. These cultural strata are not to be confused with the layers shown in the section drawings. A layer is defined as a deposit distinguished on the basis of soil texture, color, and contents. Layers are numbered consecutively in each area of excavation. Layers are shown on the section drawings by Arabic numbers placed in a circle and described in the layer key.

The cultural strata were assigned after the excavation and were based on the depositional history of each building level. Cultural strata assignments are shown in parentheses on the drawings after each layer description. Several cultural strata may be found within a single layer. This condition occurs most often when the strata assignment had to be determined artificially, the floor itself providing the baseline and the top placed arbitrarily at 0.10 to 0.20 m above the floor. Some layers were artificially divided to catch scattered trash deposits on the floors which, during the course of excavation, are difficult to detect through clear soil or color changes. Thus, some of the thicker layers may contain two cultural strata—that is, fill on the floor and fill in the building level itself.

The opposite situation can occur when the deposit is less than 0.20 m thick and fill on the floor

---

2. Defined here as the smallest unit of excavation.

and fill in the level had to be combined (see level III B). Layers are numbered separately in each operation. Several different layers often comprise each cultural stratum, and the number of layers generally varies from feature to feature.

The cultural strata are defined as units reflecting the depositional history of the whole excavation. The building levels and the cultural strata are numbered from the top down. Both are described in Table 3. Each original operation lot number has been assigned to its correct building level, feature, and cultural strata where possible, using the overall stratigraphic record and following a coding system designed by William Sumner for computer-aided analysis.

The information for each EDD lot is outlined in Table 4. This table records the original operation or square name and number, the lot indicator, the area or feature from which the lot was excavated, the period indicator, the building level, the cultural strata, and the deposit code. The deposit codes and the other abbreviations used in Table 4 are given in Table 5. Find spots for all objects are given as follows:

operation (e.g., DD 41); lot number (e.g., Lot 59); area/feature (e.g., 060 CRDX); building level (e.g., IVA); cultural strata (e.g., 9A); deposit code (e.g., 28). The first digit of the deposit code indicates whether primary (1), secondary (2), or tertiary (3) classes of deposit are being described. The codes are described in detail in Table 5.

Finds that are registered are referred to by their mf., or Malyan find numbers,<sup>3</sup> a single consecutive series of numbers of objects and samples that have been entered into the computerized site register. The criteria for choosing items to be numbered in the series were determined by the Malyan project staff. Most of the potsherds illustrated in this report have not been given mf. numbers. They were, nevertheless, deemed worthy of illustration. A number of samples (e.g., lumps of minerals) and small objects (e.g., beads, worked sherds) that could not or did not need to be illustrated are referred to only by their mf. numbers. In cases where the object is illustrated in the figures the mf. number is listed in the catalogue's facing page.

## *Other Factors Involved in the Excavations*

Because of the Iranian revolution certain specific problems could not be solved by on-site inspection. Moreover, the sherds from the 1976 season never were sent to us for study. Finally, because of our inability to reexamine the finds in Iran, it was not possible to make the descriptions of some of the

finds as accurate or uniform as they might have been. Throughout I have tried to give the maximum amount of information, although the reader may find occasional inconsistencies. I hope that the finds will one day be available for study and that this report will serve as a guide for those endeavors.

---

3. In the 1971, 1972, and 1974 seasons another series of registration numbers beginning with capital "M" were assigned to objects deemed suitable for formal entry into the site

catalogue by the representative of the Iranian Archaeological Service. In 1976 all objects and samples were converted into the single mf. series.

## II

---

# Level IV

### *Stratigraphy*

(Figs. 6, 7, 10)

Two construction episodes belong to level IV: IVB—the original building; and IVA—a remodeling of the IVB structure that was subsequently destroyed by fire.

The IVB phase was reached in rooms 154, 151, 96, and 61, as well as in sections of corridor 95 and courtyard 45. A recent disturbance in CC 43, the excavations of pit 172 in EE 39, and a test trench in corridor 139 demonstrate that the IVB and IVA buildings were approximately the same size and had roughly similar plans. Therefore they have been classified as phases of the same level.

A small (2 m<sup>2</sup>) sounding in the southeast corner of room 96 (Fig. 10) shows that the IVB walls were founded directly on layers of trashy fill and that the original floor level (layer 4 on Fig. 10) was one course of brick above the bottom of the walls.

Most of the finds from level IVB came from intentional fill brought into the building to raise the floor level at the beginning of the IVA remodeling. Few objects could definitely be identified as belonging to primary or secondary deposits within level IVB. The original building apparently was cleared out and then filled in with trash.<sup>1</sup> In parts of courtyard 45, corridor 95, and in room 96 the trash layer was capped with several courses of irregularly laid bricks as part of the remodeling process for building level IVA. This fill and brick cap can be seen in Pl. 2 as well as in section L-M (Fig. 11).

The deposit of gray ashy fill found on the IVB

floors in room 96 and corridor 95 contained a large number ( $n=138/702=20\%$ ,  $n=130/335=39\%$ , respectively) of Qaleh painted buff wares (Figs. 26, 27) and kiln stands (Fig. 25:1–10). Many of the sherds were wasters. The sherds and ashy trash were presumably brought into the building from a pottery kiln trash dump. Given the many close parallels, the source of this deposit may well have been the large kiln excavated in BB 33, 40 m southeast of EDD (Fig. 4).

Through door 159, rooms 151 and 154 had access to the central courtyard (45) in the IVB phase, but were blocked off in the remodeling (Fig. 11). This suite of rooms had a different depositional history from the rooms west of door 159. A thin layer of trash with only a few finds was discovered on the IVB surfaces in both rooms. This deposit was capped by irregularly formed layers of bricky trash and water-laid surfaces. It was not always possible when excavating to distinguish the original trash layers from those of intentional fill in level IVB. The bricky trash and water-laid surfaces above the floor contained a much larger percentage of Banesh pottery than lots from elsewhere in the building. The water-laid surfaces in room 151 suggest that it was open or, more likely, that water was used to consolidate the layers of trash (bits of sherd and bone) following its IVB occupation.

No good level IVA surface was identified in either room 154 or 151, and it is possible that they were closed off in level IVA or entered through a door in

---

1. The absence of any features or objects from secure level IVB contexts suggests the possibility that the IVB phase was never used as a living level, but provided a foundation level for the IVA building. This interpretation is also supported by the lack

of any foundation trenches at the base of the IVB walls. The blocking of door 159 in level IVA argues against this reconstruction.

wall 149 that has not been excavated (see below, p. 7). Room 61, south of 154, was filled in intentionally after its IVB occupation. The IVB floor was not reached in room 152, and the room's precise link to the rest of the building is not clear. A large pit (147) in the eastern half of FF 41 has also disturbed much of the room and some of its contents.

There is no apparent reason for the IVB remodeling. The fire damage, so evident in level IVA, is not visible in the IVB layers (Pl. 2, Fig. 10); nor are there any other clues, such as the deterioration of the wall footings. The raising of the floor level by 0.50–0.60 m indicates that the ceiling might well have been raised at the same time the IVA floor was constructed.

An intense fire destroyed the level IVA courtyard (45) and most of the rooms around it. The sparseness and nature of the finds in most of the rooms around the courtyard, the undercutting of the walls in EE 45, and the sandy deposits found on some of

the IVA floors suggest that the Middle Elamite building was in a state of disrepair and partial abandonment when it burned down.

The fire stopped at door 159 to the north. In the east it did not reach room 61, and all of EE 39 and FF 41 are unburned. Rooms 10 and 143 show only light traces of burning, but all the rest of the corridor and rooms opening off of it in level IVA show signs of heavy burning. Deposits of burned beams and reed matting (Fig. 9), layers of ashy fill, and areas of mud plaster and brick burned red by the conflagration<sup>2</sup> were discovered in the rooms around the courtyard.

The areas outside the main building to the southwest (CC 45, locus numbers 19–24) and northeast (east of wall 9 in EE 39) were untouched by the fire. These areas include small parts of other buildings and have been included in our discussion of level IVA for convenience. Only further excavation can establish their relation to the main excavated area.

## *Architecture and Room Function*

The following discussion and detailed description of the rooms and their finds are of necessity based primarily on level IVA. A brief outline of the finds from both the IVB and IVA phases is given after each area/feature description, since some of these discoveries yield information on room functions. Analyses of the various find classes are given in later chapters.

The building can be divided into two main sectors:

1. The courtyard and the rooms surrounding it on the southwest.
2. The portico (room 58) and its associated rooms (154, 151, 152, 61) to the northeast. This is the area of the building least affected by the fire that destroyed the rooms around courtyard 45; it was consequently recycled in the level III constructions.

The original building on the top of Malyan mound was probably a multiple courtyard construction similar to but on a smaller scale than the palaces found at Al Untash-Napirisha, modern Chogha Zanbil in Khuzistan (Ghirshman 1968a:plans 13 and 14). Suites, consisting of a long rectangular room with a square room of similar width placed at

one or both of the short ends and arranged around a central court, are a common architectural pattern in the palaces of Al Untash-Napirisha. Two further construction parallels between Malyan and Al Untash-Napirisha are the placement of a niche at the back wall of the long room (cf. Ghirshman 1968a:plan 13, rooms 7 and 8 with rooms 151 and 154 at Malyan) and the off-axis, unemphasized entry room (Ghirshman 1968a:plan 14).

The discovery of room 152 in FF 41 led to the conclusion that only one unit of a larger and more complicated building had been uncovered. The reconstruction shown in Fig. 16 is based on parallels with Al Untash-Napirisha, the need for light in corridor 151, and on the indications of the surface contours. The speculative reconstruction was drawn to reflect the original plan of the building when door 159 was open. The second courtyard is not attested and only suggested as one of several possibilities.

The bits of other structures identified south, west and east of the main building indicate that the highest point of the mound was occupied by other well-built structures of the late second millennium B.C. All buildings were constructed of mud-bricks (0.42–0.43 m<sup>2</sup> x 0.08–0.12 m). Full half and quarter bricks were used in construction (Fig. 15) along with large

2. Samples of the bricks that were burned in place were taken by Albert Hesse, Centre National de la Recherche Scientifique,

for use in his studies of paleomagnetism. The results of his analysis are not yet available.

quantities of mud-based mortar and plaster. Only room 26 in IVA (see below) has yielded evidence of

wall decoration or architectural ornaments.

### *The Northeast Sector*

The most outstanding feature of the northeast sector (Fig. 9) of the construction is a portico or colonnade that was partially excavated in square EE 39. The outside wall of the building (wall 9) is broken by a 2.20-m-wide doorway (180), followed by a square pillar (177) of similar dimensions, a second doorway (183), and another pillar (173) (Pl. 1B). They appear to form the beginnings of a monumental entrance to the northwest sector of the building. The wide doorways lead into a long, relatively narrow room (58) with a small square (3 m<sup>2</sup>) room (61) opening off of it. Rooms 154, 151, and 96 could not be entered directly from this end of the portico. Whether or not there was an entry into room 152 from 58 remains to be established. The apparent extension of the portico to the northeast also supports the theory that the excavated area represents a single courtyard unit in a larger complex.

### *FINDS*

There were few finds of note from the northeast area of the building except in room 152, where a group of tablets was found smashed and lying on the floor. The 35 tablets and fragments from this narrow room are administrative texts written in Elamite cuneiform. They are similar in language and format to those found in DD 41 and EE 41 (see below, pp. 9, 12). Unlike the latter, which document the receipt or disbursement of various metals, this group records transactions in grain, flour, hides, and other commodities (Stolper 1984b:100, and personal communication).

Three of the tablets display a seal or seals made using the granulation technique (see pp. 35–36). It is not clear whether one or more designs occur on the FF 41 tablets, but the punctate style of the seal design is similar to the two impressions found on the DD 41 and EE 41 tablets (cf. Fig. 34:5,6; Carter and Stolper 1976: figs. 5, 6). Two sealings, possibly fragments of jar sealings (Fig. 34:2, 3), were found associated with

these tablets. One (Fig. 34:2) has stacked triangles framed by wire-wrapped bands and is similar to the sealings on the tablets. The other impression (Fig. 34:3) shows punctates arranged in patterns that imitate cuneiform signs similar to those on the jar sealing found in room 26 (Fig. 34:4).

The undisturbed portions of room 152 contained numerous sherds of large storage jars similar to those shown in Fig. 20:11. Among these was a body sherd from a large vessel with a fragmentary Elamite inscription (Stolper 1984b:104). There is some possibility that the inscription refers to a storehouse, a reading that would fit the archaeological context of the piece: a long, narrow room with numerous sherds of large jars and administrative texts as the chief finds. Also found in this room were seven fragments of asphalt or bitumen waste that may have been parts of jar sealings.

There is no way as yet to link room 152 with the other IVA rooms, and thus it is not possible to securely assign this floor level to its correct phase. It seems likely, but far from certain, that the traces of burning found in room 152 stem from the same fire that destroyed most of level IVA. Scattered lumps of charcoal and reed matting, however, yielded a C-14 date of 888–793 B.C.<sup>3</sup> The C-14 date is the latest date obtained from any of our samples and may indicate that this is a somewhat later occupation or addition to the original building.

Few finds came from rooms 152 and 154. Moreover, it is often difficult to establish whether sherds and other finds came from intentional fill in the room or from occupational debris. Probably belonging to level IVA, but of somewhat uncertain attribution, are a cylinder seal, a group of sealings, and several fragmentary tablets from room 154. The seal (Fig. 34:9) is of white faience and can be dated to the Late Middle Elamite period (see below, pp. 36–37).

The sealings were all extremely fragmentary and were found packed in hard brickly fill in doorway 153 and room 154 (see p. 36, and Fig. 34:7, 8). Several

3. See Table 6 for further details.

tablets and two inscribed labels were found in association with some of the impressions. The "olive-

shaped" labels can be compared to examples from Al Untash-Napirisha (cf. Ghirshman 1968a:pl. 40:7-9).

### *Courtyard 45 and the Surrounding Rooms, or the Southeast Sector*

Each room is described in some detail in the following section and a summary of the results of the ceramic analyses is also provided.

#### ROOM 69 AND CORRIDOR 60

The entrance to the courtyard from the outside of the building on the southeast side was through door 80, room 69, and door 72. Room 69 is rectangular and its dimensions (2.80 x 5 m) are approximately the same as rooms 12 and 76 along corridor 60 to the southwest (Pl. 4). The entrance (door 80) in the outside wall (9) is 1.10-1.20 m (or three bricks) wide and was placed near the northeast corner of the room. A second door (72), near the southwest corner of the room, is 0.85 m (or two bricks) wide and provided an off-axis approach to corridor 60 (2 m wide), which surrounds the central courtyard (Pl. 4C). The corridor links the rooms around the courtyard to one another. The short arm of the corridor (60) on the southwest side of the courtyard is 18.6 m long (Pl. 2A). Off it, to the left, are three narrow (0.81-0.83 m) doorways (38, 63, 72); to the right, two wider doors (59, 37) lead to the central courtyard.

Room 69, the entrance room, was reused in level IIIA. Although no well-preserved surfaces were identified in DD 41, the northeast wall (48) of room 69 was cut into and reused in the IIIA building (see Fig. 6). The IVA phase room was badly damaged in the fire and the ceiling collapsed into it.

#### FINDS

Four pots were found along the south wall (77) of room 69 (Pl. 4). These vessels are of particular importance, since they are the only group of pots found in place, in primary association with the burned level. A band-rim jar (Fig. 23:3) was set in a shallow hole in the floor. A vat (Fig. 19),<sup>4</sup> a second

band-rim jar, and a carinated, squat goblet (Fig. 21:3) rested on a prepared surface of flint waste and clay (Pl. 4A, B). Nearby, but slightly higher up in the fill, were two nearly complete "Elamite goblets" (p. 23, Fig. 21). The sherds from this room indicate that it originally contained more goblets and small vessels than the other IVA rooms.

There is a high degree of variability in rim forms, including some forms uncommon in other rooms. There were relatively greater numbers (19%) of painted vessels, especially goblets, in room 69 than in the other rooms around the courtyard. Flat stones, fragments of grinding stones, and flint debitage were scattered on the floor. Other finds of note were a faience box lid (Fig. 30:8) and several tablet fragments (mf. 1610 and 1833).

Corridor 60 produced an extraordinary number of Elamite goblets—27% versus 11% for the level as a whole. It also produced little painted ware and few other finds of note.

#### ROOM 76

Further left along corridor 60 are two other small (two-brick-wide) doorways leading into rooms 76 and 12. Both corridor 60 and room 76 had been heavily disturbed, first by a large irregular pit (85, building level II) and then by a rectangular excavation for a stone pillar base (pier 63, building level I).<sup>5</sup> These excavations cut away door 63 and half of wall 42, and disturbed much of the northwestern corner of room 76 (dimensions 5.10 x 2.80 m). The southern wall (82) of the room was two bricks wide in the IVA phase. All other walls in the excavated areas of building levels IVA and IVB are four bricks wide, with the exception of the outside walls 4 and 9, which are five bricks wide. Wall 82 is bonded into the outside wall (9) of the building and appears to belong to the original construction phase. The original (IVB)

4. The actual vessel was not restored in the field and cannot be illustrated, but it was similar to the vessel on Fig. 40:10.

5. Pit 85 may have been originally dug shortly after the fire in

order to retrieve the records that had been left behind in room 76, and it possibly should be assigned to level III. Note that pit 147 in FF41 may also have been dug for the same purpose.

width of the wall is unknown since we have yet to go down below the IVA floor in room 76.

Room 76 contained an exceptional amount of burned debris in the form of carbonized beams and reed matting. At first this was identified as ceiling collapse, and part of it clearly stems from that source. The section through the southeast corner of the room offers some evidence that there were wooden shelves placed against the east wall for storing the tablets (Fig. 13; Pl. 5B). They were simply constructed of low mud risers and wooden poles covered with reed mats.<sup>6</sup> The section through the room shows that a tumble of carbonized poles was identified between two bricky areas (Fig. 13). When this balk was removed it was noted that the heavy concentration of carbonized wood did not go back to the southern wall (82) of the room, but stopped 0.20 m in front of it, which suggests that the very heavily burned collapse was not part of the roof fall.

The first tablets were discovered in the burned ashy fill and bricky debris approximately 0.40–0.50 m above the floor in the middle of the room. The greatest concentration, however, came from the loose ashy fill approximately 0.20–0.30 m above the floor. Tablets were scarcer toward the bottom of the ashy layer than toward the top of it (Fig. 13). Although some tablet fragments were found imbedded in the floor, none have been recorded from the red bricky fill. The bricky deposit may represent the mud risers of the original shelf structure that was identified only when it had been cut through and was visible in section. The joins between tablet fragments from well above the floor with those just above or on the floor itself (Stolper 1984b:5) also support the conclusion that the tablets were originally on a shelf or shelves.

Finally, maple charcoal (see Appendix C) has been identified in the samples from room 76. Poplar was usually used for roofing or for fuel in this building as well as in the other areas of the site. The presence of large quantities of maple charcoal in this room, taken in conjunction with the evidence of the stratigraphy and the distribution of the finds, points toward the existence of these shelves.

When the find spots of the tablets, tablet fragments, and joins of fragments from room 76, lots 45, 60, and 61, and the lots from pit 85 were plotted, it became clear that there were two distinct clusters of finds. The tablets in the east cluster were relatively intact, with the exception of those that were crushed by a rock. It seems possible that this group slid off a shelf on to the floor. A group of tablets, all dated to

the month Api, were found along the eastern edge of the cluster.

Tablet fragments that were subsequently joined were widely separated from one another in the western group. This distribution may be the result of activity that occurred before the fire. The tablets appear to have been kicked around, and some examples of joining fragments were fired to two different colors (e.g., mf. 1334 and 1401). Another indication that room 76 was in the process of being cleared out is the number of tablets and fragments found in the doorway (63) and the corridor (60).

### FINDS

Most of the 150 tablets and fragments found in room 76 have been identified as records of the disbursement and receipt of copper and tin (Stolper 1984b:26). Other finds were limited to a few flint tools and pots, including several Elamite goblets. More open forms (vats, bowls, and trays) were found in room 76 than in the other rooms around the courtyard, and it had a complete repertory of forms and sizes. The general impression is of a varied inventory with some emphasis on coarse-textured open forms and Elamite goblets, which comprised 25% of the buff wares. It is a very plain collection of sherds, with little or no painted decoration (n=15/125=12%). It is possible that the tablets or the metals were stored in the open vessels. A single small tablet with a hole in one corner (Stolper 1984b:34) appears to have been used as a tag for a specified weight of metal.

### ROOMS 12 AND 10

The southern door (38) along corridor 60 leads into a suite consisting of a rectangular room (12) measuring 2.80 x 5 m, and a roughly square room (10; 2.80 m<sup>2</sup>) that opens off it to the southwest. Part of the IVA floor was preserved near doorway 38, but the rest was cut away by a modern excavation. The preserved part of the room was heavily burnt like the adjacent door and corridor. An unidentified "vine-like" grouping of carbonized plant remains was found on the floor just next to the door. A niche, possibly a closet, was built into the southwest wall.

The modern disturbance reached the IVB level and showed that this section of the building was part

6. Possibly of the type recorded by P. J. Watson 1979:142, or of a more complicated type as reconstructed here in Fig. 13 on

the basis of the number of carbonized poles identified in section A'-B'.

of the original construction. The fill in level IVB in rooms 10 and 12 was capped by a layer of irregularly laid mud-bricks similar to those identified in corridor 95 and room 96. This layer was much disturbed in room 12, but preserved near door 17.

The only sign of burning identified at the southern end of room 12 and in room 10 appeared to be the ashy deposit on the IVA floor. The intense fire that destroyed most of the building stopped before reaching the back of room 12. Room 10 was resurfaced and possibly reused in level IIIA, although there is no way to link it directly to the level III constructions in DD 41 and EE 39.

### FINDS

Few finds of note came from rooms 12 and 10 in good context. Room 12 was heavily disturbed, and room 10 had been cleaned out and reused in level IIIA. The loose dirt at the edge of the modern disturbance in room 12 did produce two fragmentary tablets (mf. 1596, mf. 1672) that are as yet unpublished, and a fragment of inscribed stone (mf. 1503) was found in the roof fall in corridor 15. A calcite peg (Fig. 33:3), possibly a doorknob or door bolt, was found in the doorway (38) on the floor (see p. 34).

### CORRIDOR 15 AND ROOMS 26 AND 5

Turning right, toward the northwest, the southern end of corridor 60 leads into a long arm (given the number 15). This section of the corridor has an estimated length of 21.5 m and is 2 m wide. To the right three openings (57, 44, and 41) lead into courtyard 45. A single door (40), 1.20 m or three bricks wide, opens off the corridor to the left. This in turn leads to a suite comprised of a long rectangular room (26), 13.8 (minimum length) x 2.9 m wide, and a much smaller, approximately square room (5), 2.9 m<sup>2</sup>, that was entered through a narrow (0.80 m) door in the southeast wall.

This whole area of the building was very heavily burned. Layers of burnt brick, black ash, and roof collapse were clearly identified. The photograph of DD 43 west balk through the corridor gives a good illustration of the nature of the debris removed from this sector of the building (Pl. 3B).

The two rooms along the southwest arm of the

corridor were also heavily burned. Thick ashy layers, identified next to wall 34 near the west balk as part of the roof collapse, contained fragments of yellow- and red-painted mud plaster. Fragments of red-painted mud plaster were also identified in the southeastern corner of room 26, where several large segments of carbonized roof beams were found on the floor near doorway 16.<sup>7</sup> No designs were discernible, and it is not clear whether the ceiling or the walls themselves were the source of the decorated plaster fragments.

A curved mud-plastered groove in the floor once accommodated the swing of a door that opened into room 26. The door does not seem to have opened all the way and when closed rested against a mud-brick sill.<sup>8</sup> It was hung in a socket on the northwest side of the jamb. The heavy concentration of black ash found just in front of door 40 in room 26 probably stems from a wood door that is now completely carbonized (Pl. 7). Room 5 to the southeast was entered through a narrow (two-brick-wide) doorway (16). Just in front of this doorway was a polished stone peg (Fig. 33:2). This object, like the other examples found in level IVA, was probably set into the jamb and used to secure the door (see p. 34). A layer of light sandy brown fill, apparently deposited by water standing on the floor, appears to indicate a period of abandonment before the fire. The sandy fill was capped by an ash lens that consisted of burned reed, carbonized beams, and charcoal—all presumably part of the roof collapse.

### FINDS

The most numerous finds from both corridor 15 and room 26 were contained in two scatters of flint debitage separated by wall 34. The two semicircular clusters, measuring 2 by 4 m and at spots over 0.20 m in depth, were found in a black ashy layer mixed with charcoal, burned reed matting, and burned bone. Study of these groups of debitage (see Appendix B) show that these were not "workshop" areas. The flints had been sorted into size classes and dumped in the building either for storage or more likely to protect the mud-brick building and/or its roof from further erosion. Had the flint clusters originally been in this position they would have partially blocked the corridor and prevented the door of room 26 from closing. It is therefore likely that these deposits were originally spread on the roof and fell on either side of the wall when the burned roof collapsed.

7. Although several large pieces of carbonized beams were found in the corridor and in some of the rooms, it seems likely that many of the roofing beams (perhaps all the reusable ones)

had been removed before the fire.

8. The hole on the southeast is an animal hole.



Other finds of note from corridor 15 and room 26 included a tablet (mf. 1856), a seal impression (Fig. 34:4), and, near doorway 41, a polished stone knob (Fig. 33:1) similar to those found in rooms 12 and 26 near doorways 38 and 16 (cf. p. 34).

In front of the door jamb leading to room 26 was a scatter of over 50 fragments of faience knobs and two tiles, one of baked clay (Fig. 30:2, mf. 1889) and the other of faience (Fig. 30:1, mf. 1900). The tiles originally had been attached to the wall, probably near or around the door jamb, with an undecorated peg. This peg was covered with a decorated knob that slid over it. The faience knob was glued into place with asphalt and locked into position by something inserted through a small hole in the side of the knob (Fig. 31).

Assuming that there was originally one faience knob for each tile, why then were there so many knobs and so few tiles in this scatter? Many of the knobs had been split apart and some joins were found as far apart as one or two meters. In one case a fragment from door 57 joined one from room 26. It seems possible that the original wall decorations were removed from a decaying building to be used elsewhere. It was probably quite easy to remove and reuse a whole tile, but the decorated knobs that had been glued on with asphalt had to be broken to remove them.

Interspersed with the knobs, tile fragments, and flints was a great deal of sealing clay. Twenty-three sealing fragments were identified in this deposit, but they were studied in the field and are now inaccessible. Both jar sealings and door-lock sealings appear to have been identified. The impressions were all made by seals with designs consisting of clusters of dots arranged in triangles, resembling cuneiform signs (Stolper 1984b:15-18, and fig. 34:1-5). The seals used to mark the tablets, jars, boxes, door locks, and other containers were made in a closely similar style. This resemblance suggests that there was a close coordination between the recording and storage activities that took place in the courtyard and rooms around it.

In this room there were proportionately more jars than in any of the other rooms around the courtyard. Jars with thickened-rounded ledge or band-rims were common. It is consistent with the occurrence of such thick heavy rims that 42% of all vessels larger than 0.26 m in diameter are recorded as coming from this room. The large numbers of jars and the proportionately large number of sealing fragments found in room 26 indicate that this room had a storage function.

Twenty-one percent of the painted sherds found in the IVA rooms around the courtyard are also from

room 26. This room was large and elaborately decorated, and contained some of the finest pottery in the building along with some of the coarsest. Why these traits are associated with the largest and coarsest vessels found in the structure is not entirely clear. One possibility is that room 26 combined a storage function with some official activities (e.g., the formal reception or distribution of goods). Another possibility is that it was a dining room where official guests were entertained or received.

Room 5 may have been a kind of closet, and produced little of note. An Elamite goblet (Fig. 21:13, mf. 1456) was found on the floor along with an unbaked clay ring (mf. 7458) and some miscellaneous fragments of flint and shell.

### CORRIDOR 139 AND ROOM 143

The northwest end of corridor 15 and the southwest end of 139 were heavily eroded before the fire. The west face of pier 32 was covered by a sand and silt deposit of approximately 0.30 m in depth. The deposit was laid down before the burning of the building. No IVA floor level was identified in the southern end of corridor 139. A test trench here indicated that the walls in this sector of the building were founded in the IVB phase. Only part of one room (143), entered by a narrow doorway (0.50 m wide), was excavated along this edge of the building. The room is also exceptionally narrow (2 m). It is possibly another corridor or small storage chamber.

### FINDS

A large amount of red, earthy hematite (room 143:122 g, room 142:12 g, corridor 139:81 g) was found in this area of the building and may have been connected with some activity in room 143. Aside from the usual scatters of debitage, faience knobs were found in corridor 139, door 140, and room 143. A fragment of a faience tile (mf. 3654) that joins mf. 1900 (Fig. 30:1) was found in doorway 141. The pottery has not been studied in detail, but can be summarized from the field recording sheets. No complete vessels were found. Approximately 11% of the diagnostic sherd assemblage from IVA came from corridor 139. Only 4% came from the doors 140 and 143, and only 10 diagnostic sherds were recorded from room 143. Most (40%) of the sherds from 139 were recorded as buff ware, but considerably more than usual (29%) were recorded as unidentifiable. Clearly these lots need to be restudied to determine whether the difference is simply the result of re-

cording error or is indeed significantly different from the rest of the building.

### CORRIDOR 95 AND ROOM 96

Corridor 95, like corridor 139, has been cleared only partially. Its main feature was a small hearth (122), 0.40 m in diameter, consisting of a burned surface and a low mud rim. The hearth was placed on a pit (123), 1.3 m in diameter, located directly in front of door 98. This opening (98), 2.4 m wide, or five bricks, was the largest found in any of the rooms off the courtyard, and its size suggests that room 96 was of major importance. In addition to its broad entrance, room 96 is slightly wider (3.4 versus 2.8–3.0 m) than the other rooms off the courtyard; built into the center of its southeast wall was niche 120 (0.80 x 0.80 m). The two other niches in the building, 163 in room 151 and 18 in room 12, are placed in the short back wall of the rooms near the corner, more like closets or cupboards. The articulation of the bricks of wall 78 showed that niche 120 was not simply a blocked doorway but was built into the wall in the IVB phase. It was maintained throughout the history of the level IV building, perhaps even continuing into the IIIA phase, in approximately the same position. The northeast wall of the room was originally (in level IVB) pierced by a door (159), 1.20 m or three bricks wide, that led into room 151 (Fig. 11), 2.9 m wide and of undetermined length. Niche 163 (0.80 x 0.80 m) was built into its southeast wall (161), and a narrow (0.75 m) doorway in the same wall led into a roughly square room (154) similar to rooms 5 and 10 in the southern section of the building. Rooms 151 and 154 were blocked off or entered by a stairway (see pp. 6–7) in the IVA phase of the building and were untouched by the fire. Clear evidence of the extent of the fire was found in doorway 159 (see Fig. 11).

### FINDS

In the ashy fill and on the floor of the southeastern end of corridor 95 and the northeastern end of corridor 60 a second, smaller, group of tablets was found (Stolper 1984b:5) (Pl. 2B). This group of texts was piled up in or near the corner at the time of the fire, possibly in the process of being moved to another part of the structure or removed from the building. The corridor texts deal predominantly with silver and gold, in contrast to the tablets of room 76 that are records of transactions in copper and tin (Stolper 1984b:26).

There was a heavy scatter of flint debitage and fragments of carbonized beams that together indicate a roof collapse in the southeast section of corridor 95 similar to that observed in corridor 15 on the other side of the courtyard (see p. 10 and Fig. 9). A single circular tile (?) (Fig. 30:6) from corridor 95, a human figurine fragment (mf. 412), and a sealing in the punctate style (mf. 5350) were the only finds of note from room 96. The pottery from both the corridor and the room was between 89–92% buff ware, and less than 10% was painted. Thirty-six percent of the buff-ware types found in room 96 were cups and bowls. Room 76 is the only other room with this high a percentage of open forms.

### COURTYARD 45

The IVA rooms excavated are located around a rectangular central courtyard (45) that measures 20.5 m northwest-southeast and 14 m northeast-southwest. Sections A-B and G-E (Fig. 7, Pl. 3B) show clearly that the courtyard was open, since burned ceiling collapse (carbonized beams, reed matting, etc.) was common in the rooms and corridors around the courtyard but absent from it (see Carter and Stolper 1976:35–36). The courtyard was resurfaced three or four times during the IVA phase. Once the destruction of the building occurred, the open space was covered by a layer of ash from the fire and was subsequently filled in like a large pit (see Fig. 7 and Pl. 3B).

The corners of the courtyard were delimited by four massive piers (eight courses long by four courses wide); details of two are shown in Figure 15. Small quarter-brick niches were identified beginning seven courses above the IVA floor. On the short (southeast and northwest) sides of the courtyard a single, four-brick-square pillar was set between the corner piers creating two openings 2.5 m wide. On the long ends of the courtyard, the 10 m between the piers was broken by two 4 m<sup>2</sup> pillars, which formed three doors of approximately the same size linking the courtyard and the long arms of the corridor. All the pillars were twisted out of shape by the fire. One pillar (33) in DD 45 had fallen sideways more or less in place. The original minimum height of the building is estimated at 5 m by placing the bricks upright on paper (Fig. 14). The piers and pillar at the northwestern end of the courtyard showed clear signs of erosion just above the IVA surface before the fire occurred. An ill-defined depression, presumably for drainage of the courtyard, was found in the floor of the northern passage (141) between pillar 136 and

pier 87. A small pit (062 PITX, 1 m in diameter) was found in the courtyard adjacent to doorway 59. Otherwise no features were recorded in this large open space.

### FINDS

The finds in the courtyard can best be described as sparse and utilitarian. In the northeast corner next to pier 87 was a deposit of flint debitage and a few tools. This deposit measured about 1.60 x 3.60 m and was more than 0.30 m thick (Pl. 2A). However, its full extent cannot be established until the balk between EE 45 and EE 43 is removed. The first few pieces of debitage and several large, shattered, possibly fire-cracked jasper nodules were found in the black ashly fill in doorway 89, which links the courtyard and corridor 95. Most of the deposit consisted of fallen mud plaster, and pebbles mixed with large quantities of honey-colored chert. This deposit lay next to pier 87 and looked very much like a Paleolithic living floor when first excavated.

In attempting to follow the courtyard floor west from pillar 88 where it was first identified, it became clear that the bulk of the flint deposit lay below the burned surface of the courtyard (level IVA floor). The concentration was strongest against pier 87 and the western balk. The southwest face of pier 87 appeared to be eroded above the level of the IVA floor, and the chert mixed with very small bits of sherds and bones was packed into the undercut area and over the preserved wall face.

Studies of the few tools discovered in this deposit show that the flakes and debitage found were not the by-products of manufacture. This analysis in turn suggests that the chert deposit was brought into the building from elsewhere and that the mass of stone debris was placed here to protect the base of the wall from further erosion. Otherwise it is difficult to explain the presence of more than 30 kg of stone (see Appendix B for a detailed report). Evidence from EE 45 also indicates that erosion had undercut the other pier (32) and pillar (136) on this end of the courtyard just above the level of the burned surface.

In the courtyard adjacent to pillar 136, six grinding and handstones were discovered, and to the north in door 141 another large grinding stone was found. Next to pier 32 a roughly circular (2.50 m in

diameter) deposit of bone, chert, and pieces of bitumen was found. The pieces of bitumen are possibly the remains of jar or basket sealings. Preliminary analysis of the faunal remains indicates that sheep, goat, and cow are present in the deposit. The sparse finds of botanical remains other than roofing debris, the erosion of the wall bases, and the nonportable and very worn condition of the grinding and handstones all suggest that by the time of the IVA fire the building had been or was in the process of being abandoned. Some stratigraphic evidence of abandonment prior to the fire was also identified in the rooms surrounding the courtyard (see above, p. 10).

Next to pier 49 on the southeast side of the courtyard was a cache of unworked pieces of calcite blocks, with a total weight of 18.11 kg. The representative sample sent back to Ohio State University has been described as follows by James Blackman in the Malayan notes:

16,990 g are white and light green blocks, cleavage rhombs; 11,120 g are white finely crystalline and brown columnar. Both are massive.

No objects of this material have been found. Calcite, however, is one of the ingredients used in the making of faience<sup>9</sup>—a common category of finds elsewhere in IVA.

The variety of the ceramic assemblage from the courtyard was limited in comparison to the finds from the rooms. Only bowls, jars, and Elamite goblets were present. Sixty-five percent of the buffware types coded were of small- to medium-sized jars, commonly with little or no surface treatment, although a relatively high percentage (21%) of painted buff wares was present. No complete vessels and few artifacts were found in the courtyard in spite of the fact that it was, by far, the largest area cleared during the course of the excavations.

The rooms around the courtyard were roofed and closed. Whatever was left in them was sealed by the burning roof collapse during the fire.<sup>10</sup> In contrast, the courtyard was open and continually resurfaced, and it had apparently been cleaned out before the fire. The lack of surface treatment on the vessels, when compared to the finds from the rooms, may be the result of weathering. Prior to analysis, the courtyard was expected to contain a little of everything,

9. Personal communication, Suzanne Heim.

10. There is always the possibility that valuables were removed after the fire by digging through the rubble to salvage whatever

might be undamaged. However, we found no clear evidence in the rooms of such disturbances, with the exception of pit 85, which may have been dug into room 76 in the search for documents or other objects of value that were stored there.

whereas the ceramic inventory of the individual rooms was expected to reflect their more specialized functions. This was not the case. One factor involved

in these differences may be that the courtyard was open and more subject to disturbance after the fire.

### *Discoveries Outside the Middle Elamite Building*

The southwestern edge of the Middle Elamite building was formed by wall 4, which was five bricks wide, like wall 9, which forms the eastern edge of the structure. An alley (25), 3.15 m wide and more than 15 m long, was cleared south of wall 4. A distinct gray ashy lens (Fig. 8, layer 2, section HI), similar to that identified in courtyard 45, indicates that the trash found below it had accumulated before the fire and was probably roughly contemporary with the building. Southwest of the alley, a door (23) and one room (19) of a second structure were uncovered (Pl. 8A).

Room 19 contained two features: a small (0.80 m in diameter) oval hearth and a cooking (?) area composed of two baked bricks (0.36 x 0.05–0.06 m thick) placed against the wall vertically, and four, two whole and two half bricks, laid flat on the floor beneath them. This structure may well belong to a slightly later time period, since it is at a higher elevation (Fig. 8, section HI).

### *FINDS*

In alley 25, scattered along wall 4 for about 4 m beginning just opposite door 23, were a group of broken pots and other objects that appear to be roughly contemporary with level IVA (Fig. 9). The finds consisted of a number of large jars or pithoi (Fig. 24:1–4) that had presumably been placed along the outside wall and were smashed in place. They were associated with a number of badly weathered tablets (mf. 1863–1875), seal impressions (mf.

1982–84, 1993–94), and lumps of sealing or tablet clay. Little can be said about these discoveries because of their poor state of preservation. The tablets appear to be somewhat different in content and format from the texts found inside the building (Stolper 1984b:3–4). One of the tablets mentions an otherwise unattested royal name, su-gīr Ak-šīr<sub>3</sub> 𐎠𐎶 (Stolper 1984b:7).

Mixed in with this deposit were some faience knob fragments (mf. 1753, 1782, 1783); several stone tools, including a pressure-flaked point and scraper (Fig. 32:2,6); a fragment of a calcite statuette (Fig. 33:7a,b); a fragment of a stone vessel (mf. 10891); a number of pieces of worked shell (mf. 10871, 10879, 10883–10887); sherds of a squat goblet (Fig. 21:3); miscellaneous clay cones and worked sherds; and several pieces of glass (mf. 10869, 10912).

The finds from room 19 and doorway 23 were sparse; a single tablet (mf. 1864) discovered next to the baked brick installation remains to be studied. Fragments of an inscribed brick of Huteludush Inshushinak (mf. 1661) were discovered in the fill and on the floor. Their find-spots suggest that they were reused in this room. Assuming that the fire dates to the time of Huteludush Inshushinak, then the recycled bricks of this ruler may indicate that this building is slightly later than level IVA to the northwest.

The outside edge of a second building was discovered east of alley 192 on the northeastern side of the main structure. This building also probably belongs to level IV, and awaits further excavation.

## *The Interpretation and Dating of Level IV*

Sometime in the last centuries of the second millennium B.C. a monumental building was constructed on the highest point of the ancient Anshan. It overlooked the city to the southeast and provided a view of traffic coming from the northwest toward the city gate.

The plan of the building excavated suggests that it

was a complex with many functions. The door (80) and small room (69) leading into courtyard 45 comprised a side entrance (cf. Ghirshman 1968a:48, fig. 16). The smaller rooms (143, 10, 12, 76) on the short sides of the corridors originally may have been used for storage and administrative purposes. The rooms (26 and 96) off the long sides of the corridor

probably had more formal functions. On the basis of present evidence, however, it is difficult to reconstruct them.

The faience knobs and tiles near the doorway of room 26 are the best archaeological evidence for some kind of religious activity in the complex, since similar artifacts in the lowlands are normally associated with religious buildings. The size of room 96 and the niche in its back wall may also be clues to some sort of special function, such as worship or formal reception, that is now impossible to reconstruct.

The tablets found in and just outside the building document the presence of a central authority capable of receiving and issuing large quantities of metal, foodstuffs, and animals. Those texts from corridor 15 and room 76 inside the level IVA building are concerned with the issuance of metals such as gold, silver, copper, and tin, primarily for the manufacture of figurines, rosettes, door fixtures, and other items necessary for the furnishing of a sanctuary (Stolper 1984b:27). One text, originally from room 76, lists precious metals and objects and concludes with a reference to the "gold of king <sup>m</sup>*Hu-[te-lu-du-uš-] [In-š-u-us-š-i-n]a-ak*." Stolper (1984b:125) interprets the sense of this text as follows: "silver and gold belonging to king Huteludush-Inshushinak have been made into ornaments and furnishings, as listed in the body of the text, for temple(s) in or near Anshan."

In short, the non-domestic,<sup>11</sup> monumental character of the building and the contents of the tablets strongly suggest that EDD was a royal installation. Whether it was the temple mentioned on the inscribed bricks of Huteludush Inshushinak, a palace, or some combination of the two cannot be established on the basis of the finds. It seems likely that it was only one of several imposing buildings built on the top of Malyan mound by lowland rulers in the last centuries of the second millennium B.C.

Comparable establishments existed at other sites in the Elamite Empire, but aside from Susa and Al Untash-Napirisha, the only evidence for them consists of inscribed baked bricks found on the surface without reliable archaeological contexts (Stolper 1984a:32–44; 1984b:27–28). The excavations in EDD have yielded an architectural context and an administrative record that provide the first infor-

mation on the functioning of the empire's establishments outside the lowlands. Indeed, not a single group of administrative texts written in Elamite and dated to this period has been discovered in the lowlands. Unfortunately, no inscribed baked bricks have been found yet *in situ* at Malyan.

Goods could have been brought into courtyard 45, sorted, recorded, and subsequently stored in the rooms around it. Issuing of raw materials to persons responsible for the manufacturing of finished products, or possibly the ceremonial reception of those products for use in the temple, could have taken place in the larger rooms. The unworked blocks of calcite found in courtyard 45 and the large amounts of hematite discovered in room 143 and corridor 139 are the only finds, aside from the tablets and the inscribed jar sherd, that support the reconstruction of much of the excavated area as a storehouse.

More formal religious and governmental activities may have been centered in rooms 26 and 96. The rooms behind the monumental colonnade found in EE 39 remain largely unexcavated, and we have no clues to the functions of the unexcavated northwestern sector of the complex that lies behind this imposing facade.

The foundation date of the courtyard and its surrounding rooms can be estimated by extrapolating backward from c. 1000 B.C., the destruction date assigned to level IVA. Three categories of evidence have been used to fix this point: C-14 dates, epigraphic evidence, comparative archaeological materials.

Five C-14 determinations from sure level IVA contexts (Table 6) range in date from c. 1498–906 B.C. Three of these dates (mf. 9932, 9933, 1249A) were run on charcoal from roof beams. They tell us when the trees were cut to build the roof, and thus, given the well-known tendency of roof timber to be recycled, are expected to be somewhat older than dates from grasses or matting, whose origins seem to be from the collapse and burning of the roof. These materials had to be frequently replaced in order to keep the building in good condition and thus would be expected to yield dates younger than those of the roof beams. The two dates (mf. 1390A and mf. 1254) from grass and/or matting range from c. 1309–906 B.C. A sixth sample, yielding a date of 888–793 B.C., came from reeds and charcoal found in room 152, a context with an unknown connection to the central

11. The grinding stones in courtyard 45 and the animal bone and bitumen deposit a few meters south of it are the only indications of food preparation in the entire excavated area. If

the small hearth (122) found in corridor 95 was used for cooking it was not conveniently sited or well suited to that end.

courtyard and adjacent area. It is the latest date from EDD, including the single C-14 determination from charcoal from level IIIA (mf. 3315, 1241–976 B.C.).

A tablet found in DD 41 records metals issued by king Hu[teludush] [Inshushin]ak, the last king of the Elamite Empire (Stolper 1984b:125). The numerous inscribed bricks of this ruler found on the surface of the Malyan mound and in secondary and tertiary contexts in the EDD operation show that Huteludush Inshushinak must have built extensively at the site.

Dated comparative material from Khuzistan also points to a date near the end of the second millennium. The ceramic assemblage, particularly the squat goblet and the elongated form of the Elamite goblet, is dated in Susiana to the last centuries of the second millennium (Carter and Stolper 1984:164 and fig. 11; Miroschedji 1981a:15–16; and below, p. 29).

A date of c. 1100–1000 for the destruction of level IVA appears to fit best with the evidence currently available. A construction date is more difficult to

establish. In spite of the long time span suggested by the C-14 dates, it appears that fewer than 100–200 years separate the construction of the building from the fire that brought an end to level IVA. This assumption is based on the following observations:

1. The IVB and IVA phases show only minor differences in plan.
2. Some of the original walls were in good enough repair after the fire to be recycled in level IIIB and IIIA.
3. The differences in the ceramic assemblages of IVB and IVA are fairly minor. The Qaleh wares from level IVB appear to have been brought into the building from elsewhere.

The archaeological evidence points to a date in the Late Middle Elamite time range. Given the comparative material available, a foundation date of c. 1250–1150 seems the most reasonable, in spite of the C-14 dates on roof beams that yield a foundation date of c. 1498–1056.

### III

---

# The Level IV Ceramic Assemblage

## *Introduction*

This study is based on pots and sherds from all three seasons of excavation. Because there were so few complete vessels found in level IV (5 conical bowls, 4 squat goblets, 4 "Elamite goblets," 2 band-rim jars, and 1 vat) it was necessary to study the sherds in order to gain an idea of the whole assemblage and the horizontal distribution of its types and wares. From the beginning of these excavations it was clear that "buff wares" were predominant and preservation was exceptionally poor. If the variability within the levels IV-III ceramic assemblage was to be examined, then some means of distinguishing subcategories within the buff ware class was essential. In the absence of complete vessels, the distribution of the sherds, particularly in the level IVA occupation, was seen as a major means of establishing room and building functions in a construction otherwise fairly empty of distinctive features or finds.

The Iranian revolution made this study much less comprehensive than had been originally planned. The pottery from the 1976 season was never released by the Iranian Centre for Archaeological Research. The IVB and IVA sherds found in FF 41, the IVA pottery found in EE 45, and the IIIB pottery found in EE 39 have been recorded in a preliminary fashion, and only counts of wares exist in the field records.

All other sherd lots were sorted, and non-diagnostic (i.e., plain body) sherds counted and discarded. The diagnostic sherds<sup>1</sup> were then divided into base and rim categories and classified according to the wares described in this chapter. The sherds

from the 1972 and 1974 seasons that were found in primary or secondary contexts were shipped back to the United States. A typology (Carter n.d.a), based on the pottery from good contexts in levels IV-III, was formulated. This system, outlined in Fig. 17, was used to record the buff wares from EDD.

In general, lots coming from on or just above floors (approximately 0.10-0.20 m) from primary or secondary deposits (cf. p. 4) were classified as good context lots. In level IVB, however, over 86% of the sherds available for study came from trash lots on the floors of corridor 95 and room 96. These lots consisted of trash left behind when the level was abandoned (and thus roughly contemporary with the original building) intermingled with intentional fill brought into this area of the structure to raise the floor level for the IVA remodeling.

It was practically impossible to distinguish between these two categories of trash. Excluding the lots that contained this material from the study would have left so few sherds that any comparison to level IVA would have been suspect. Moreover, the IVB lots also contained a large number of relatively complete painted jar shoulders. These made it possible to describe the Qaleh painted buff ware design repertoire for the first time in some detail.

The inclusion of these lots means that the differences between the ceramic assemblages of IVB and IVA can be attributed as much to the origin of the trash as to stylistic change through time. Other differences between the IVB and IVA assemblages,

---

1. Defined here as rims, bases, and distinctive or decorated body sherds.

such as the marked increase in the number of Elamite goblets in IVA, may also have to be linked to the nature of the deposit in which they were found.

In short, our inability to re-examine the 1976 finds and the special nature of the IVB material available for study make the establishment of a reliable relative ceramic chronology, based on the EDD finds, an impossible task. Enough material from good contexts was found to permit the description and dating of the IVA assemblage. Comparisons with IVB and IIIB can be offered only as points of departure to be confirmed or revised when future excavations or further analyses of the ceramic finds have taken place.

In 1979-1980 sherds from the 1972 and 1974 seasons, the data base for our earlier typology, were coded and quantified using a new system, the Malyan Pottery Key (see Appendix A, Table 1), designed for computer-aided analysis.<sup>2</sup> This method was seen as the most efficient means of studying the variability and spatial distribution of the ceramic assemblage. Each diagnostic sherd from the 1972 and 1974 seasons from a good context lot was cut with a geologic saw so that the paste could be easily seen. Then 38 attributes (Appendix A, Table 1) were coded for each piece. The information from the 1976 pottery field-record sheets and from the finds register was then added to the coded data. This data base (a total of 5,371 pots and sherds) was used to produce the distribution tables in Appendix A (Appendix A, Table 2). The data set will be made available to anyone who wishes to use it. In the interests of economy only the most important tabulations are included in Appendix A, Tables 2-7. The counts tabulated in the descriptive tables that follow Appendix A, Table 2, were based on the 3,074 buff ware sherds available for study and the few complete registered pots. In short all of IIIB is missing from Appendix A, Tables 3-7.

In addition to coding the find-spot, ware, vessel part, type, and size of each diagnostic sherd, a description of the paste, temper, surface treatment, and decoration of each piece was recorded. A comparison of the Malyan Pottery Key with the original typological study shows that the former is a fairly accurate translation of the latter. The original analysis, however, emphasized the vessels that were identifiable by overall shapes (called vessel type in the coding sheet). In level IVB 64%, and in level IVA 60%, of the sherds coded were not sufficiently preserved to allow assignment of a vessel type. Thus, more emphasis had to be placed on rim forms, base

forms, surface decoration, and paste characteristics than on vessel type.

In retrospect, a streamlined coding system that eliminated most of the details of paste and temper composition would have speeded up the sherd processing without loss of information. Indeed, categories such as Fracture (column 31), Percent of Filler (columns 34-35), Size of Filler (columns 36-37), Size of Clay Particles (columns 38-39), and Filler Protrusion (column 40) proved nearly impossible to code consistently even using a 10-power illuminated hand lens. Since the majority of sherds (65% in IVB, 79% in IVA) had no surface decoration (cf. Appendix A, Table 3), it would probably have been easier to describe each decorated example than to use what turned out to be an overelaborate coding system to record a relatively small number of sherds.

The coding of the sherds was a long and tedious process. The results, due primarily to the homogeneous nature of the assemblage and its poor state of preservation, were less than spectacular. Nevertheless, the computer-aided analyses have shown that the distribution of vessel types (as judged by the sherds) in the rooms yielded an unexpected pattern in level IVA. The most likely explanation for this distribution appears to be the differences in the courtyard and room functions.

The results of these ceramic analyses are summarized in the preceding chapter under the description of the finds from each room. Other explanations of the ceramic distributions, such as those related to the secondary use of the building or to the processes involved in its abandonment and destruction, are also discussed in the preceding chapter.

Carter and Carothers (1980) outline the methodology used in these analyses. Packaged statistical programs were used to sort and manipulate the data. The investment of time in coding sherds would surely have yielded greater returns had the excavations expanded and comparisons with other structures and sections of the building been made.

Since wares and types were found with very close parallels to lowland ceramics, analyses of the mineral composition of the various ware categories by optical mineralogy (Chandra Reedy, Appendix D) and neutron activation techniques (Frank Asaro and Helen Michel) were carried out. Once comparative data is available from Khuzistan the results of these studies may permit us to establish whether there are imported pieces in the Malyan assemblage.

2. I am grateful to Joan Carothers, who translated the Malyan typology into the Malyan Pottery Key. Russell J. Stephens,

Lenore Gallin, and William Lincoln assisted in coding the sherds.



## Buff Wares

Buff wares form 78–83% of the total level IV assemblage. These are wheel-made wares whose color ranges from light-green-buff to buff to brown-buff to orange to red-orange. Although certain forms tend to have a predominantly orange or brown color (e.g., Elamite goblets and conical bowls) rather than a green cast (the finer painted buff wares), sherds and vessels are seldom a single codable color. Since all of these colors are light earth tones with slightly different hues, there is no reasonable way to make consistent color distinctions, and therefore the rather nondescriptive term “buff” is applied to all.

The most common colors coded for all wares in all levels were 5YR 7/4 (pink), followed closely by 2.5YR 7/4 (pink) according to the Munsell chart (1975).<sup>3</sup> In level IV the most common hues for the buff wares were 2.5YR, 5YR and 7.5YR in the value/chroma ranges 6/4 and 7/4. The brown to yellow to green buff wares (10YR, 2.5Y) in the value/chroma ranges 8/4 to 8/3 are most popular in IVB where they amount to 13%. These colors become less popular in IVA (6%) and in IIIA (4%). This is probably linked to the decline in the popularity of the painted buff wares in these levels. The core of the buff ware sherds is black-gray, indicating incomplete oxidation, in approximately 43% of the examples in IVB and 53% in IVA. In level IIIA 65% of the sherds were not fired through. The pattern may indicate a decline in firing skills or the increased use of mineral temper in level III.

The texture ranges from very fine to coarse, and fracture is irregular except on the very finest wares. A mixture of vegetable (probably chaff) and mineral (probably sand) was the most common means of tempering used in the buff wares (62% in IVB, 54% in IVA). Spaces left by volatilized vegetable material are clearly visible in the paste on both the interior and exterior surfaces of the majority of the buff ware sherds. The photo on Pl. 10:2 illustrates this feature. Mineral temper is finer and therefore less prominent. Ground or crushed sherd temper could also be mixed with the mineral and organic materials (14%

in IVB, 21% in IVA). Chandra Reedy has identified the minerals found in the temper (see Appendix D). In addition to sand, crushed sherd, and organic materials, some hematite and calcite are found as temper in buff wares.

Common types of surface treatment found on buff ware include:

1. Slip or wet-smoothing, often giving the surface the same or only a slightly contrasting color (47% in IVB, 63% in IVA).
2. Buff wares slipped with a contrasting color. These sherds form 13% of the IVB and 11% of the IVA assemblage. Usually dark red to brown paint or slip was used (Figs. 18:10; 20:1). Occasionally the surfaces of these vessels were smeared with a cloth.

A relatively large number of sherds show no evidence of surface treatment (4% in IVB, 12% in IVA).

The types of surface decoration identified include:

1. Buff wares self-slipped or slipped in a slightly contrasting color and painted in dark red to brown to black paint (Figs. 26 and 27 and Pl. 11). This class of buff ware is called *Qaleh* painted buff after the site where it was first found and comprises 30% in IVB and 13% in IVA of the buff ware assemblage (Appendix A, Table 3).<sup>4</sup>
2. Applied plastic ribs or ridges (Fig. 19, 20:7–8, 21:1–4, 24) or finger-impressed bands (Fig. 20:10, 11) in various combinations are added to some vessels (4% in IVB, 7% in IVA).
3. Plain incised bands are found on jar shoulders (Fig. 23:2,3) or bodies of neckless jars (Fig. 20:2; 3% in IVB, 2% in IVA).
4. A few sherds (under 1%) combined incising or plastic decoration and painting.
5. A few sherds from each level also show traces of burnishing.

3. In the field records the Munsell chart was not used in the 1972 season and only on occasion thereafter. The catalogue gives Munsell attributions wherever possible, but in order to maintain consistency with pieces described earlier, the Munsell name that is listed as the verbal translation of the color code is

not used.

4. The relatively large difference between levels IVB and IVA in the percentage of painted ware is due to the nature of the fill in room 96 and corridor 95. See above, p. 12.

## *Buff Ware Open Forms*

### CUPS AND BOWLS

Cups and bowls form 19% (n=112) of the IVB and 25% (n=182) of the IVA assemblage<sup>5</sup> (Fig. 18, Appendix A, Tables 4 and 5).

#### *SMALL TO MEDIUM CUPS AND BOWLS*

Small to medium cups and bowls could be classified into two subtypes on the basis of size and rim forms:

1. Bowls with a range in diameter of 0–0.13 m form 38% of the IVB and 36% of the IVA typed bowls. Within this group, direct rounded (42% in IVB, 55% in IVA; Fig. 18:1, 4), direct tapered (16% in IVB, 10% in IVA; Fig. 18:7, 11), or direct flattened (12% in IVB, 2% in IVA) rims are found (Appendix A, Table 5).

The complete or reconstructible bowls (Fig. 18:1, 4) are wheel-made with a string-cut, flat base and have marked wheel corrugations on the interior and exterior of the vessel (Pl. 9:1, 2). They have straight, slightly sinuous, or convex sides. Most of the complete examples are wet-smoothed and have marks on both surfaces of burned-out chaff temper (Pl. 9:1–12). They are characterized by an orange to orange-brown surface color.

This vessel class occurs in the medium–large size range (see below), and is well known from Middle Elamite sites in Khuzistan (cf. Miroschedji 1981a:fig. 17:1–11; Gasche 1973:pl. 1:1–17; Ghirshman 1966:64,7).

2. A smaller number (2% in IVB, 14% in IVA) of bowls in this size range have thickened or ledge rims. No complete examples of these vessels are present in level IV, but conical and hemispherical shapes are represented. Illustrated here are bowl sherds with thickened rounded (Fig. 18:6, 10) and

thickened beveled (Fig. 18:9) rims that belong to the medium–large (0.14–0.25 m) size class.

#### *MEDIUM TO LARGE BOWLS*

Medium to large bowls range between 0.14 and 0.25 m in diameter (Fig. 18:5, 8, 12) and form 41% of the assemblage in IVB and 44% in IVA. Types are similar to those found in the small to medium category:

1. Conical bowls (Fig. 18:7, 11) similar in shape to the small to medium bowls. The measurable examples range between 0.15 and 0.24 m in diameter.
2. Sinuous-sided bowls made in a ware with a larger percentage of straw and other inclusions than is found in the conical bowls. Rounded, flattened, thickened, and ledge rim (Fig. 18:2, 5, 8, 9, 12) types are attested. The bases on the two complete examples from level IV are flat and string-cut, but there is an example from level IIIB with a ring base (Fig. 40:8).
3. Semicarinated deep hemispherical bowls (Fig. 18:13, 14) are more distinctive than the simple hemispherical bowls described in the preceding section. The four measurable examples range in diameter from 0.18 to 0.21 m. These vessels have an everted, straight-sided upper body and a rounded lower body. The two examples shown have traces of a red slip and incised lines on the lower body.

#### *LARGE BOWLS*

Large bowls with diameters greater than 0.26 m form only a very small percentage of the IV assemblage (5% in IVB, 4% in IVA). The very large conical bowl sherd with the grooved swag decoration is unique (Fig. 18:16), as is the large hemispherical bowl with a thickened rounded rim (Fig. 18:15).

5. The figures given here (Appendix A, Table 4) represent the percent of sherds and vessels identifiable by type (n=1546 for all levels; not shown in the tables are the 16 vessels and sherds

from IIIB that were well enough recorded to type). The percentage of all the diagnostic buff ware sherds, including those too fragmentary to type, is smaller (12% in IVB, 13% in IVA).

## VATS

Medium to large deep open forms, distinguished by a plastic ridge that separates the rim and upper section (approximately a quarter of the total vessel height) from the rest of the vessel, are called vats. They form 0.83% (n=5) of the IVB and 2% (n=14) (Fig. 19:1-9) of the IVA assemblage. This figure is probably not an accurate guide to the popularity of this vessel type, since sherds coded as bowls with thickened ledge rims and sherds with ridges are also probably parts of such vessels. The overall shape of this type can be described on the basis of several complete or near-complete vessels found in EDD. The upper section of the vessel is either everted (Fig. 19:1-5, 7, 8) or straight (Fig. 19:6, 9). One example has shallow corrugations between the ridge and the rim (Fig. 19:4).

Rims are thickened and can be out-beveled (Fig. 19:1, 4, 7), flattened (Fig. 19:5, 8), rounded (Fig. 19:2, 3), or overhanging and trapezoidal in section (Fig. 19:6). Lower-body shapes range from conical to pointed ovoid to nearly hemispherical. The only complete example came from the pot group in room 69 (see p. 8). Rim sherds indicate that there are two size categories:

1. Medium vessels (0.20-0.35 m in diameter; Fig. 19:1-3, 5, 7, 8) that tend to be smoothed and have a relatively fine exterior surface finish. Overall forms are conical to pointed ovoid. Most of the smaller examples appear slipped, and smaller vessels are smoothed and have a relatively fine surface texture.

2. Larger vessels with a diameter of more than 0.35 m (Fig. 19:4, 9) are pointed conical to pointed ovoid to cylindrical in form. The only complete vessel from level IVA was not mended or drawn, but it had a "funnel" or perforated base similar to the examples shown in Fig. 25:19 and Fig. 40:10 from level IIIB. Large flat and ring bases are also known to have been used on similar vessels from Khuzistan.

There are close parallels with vessels found in Ville Royale II, levels 12-8 (Miroshedji 1981a:fig. 20:1-6; fig. 26:5-10, and the type is closely related to the pithoi discussed below (p. 24). In the latter, the upper part of the body leans in toward the center, producing a closed rather than open vessel shape. Sherds whose rim orientation was nearly straight up and down were difficult to type accurately (cf. Fig. 19:6, 8, 9 and Fig. 24:5).

## TRAYS

A small percentage (0.66% in IVB, 1.0% in IVA) of flat-bottomed, low-sided, handmade, buff ware trays were found (Fig. 19:10, 11). No complete examples came from EDD, and it was difficult to distinguish those found in Middle Elamite contexts from the Banesh trays (Nicholas 1980:487; Alden 1979:215-216) found in the ABC and TUV operations. The EDD examples may simply be indestructible strays from the third millennium deposits, or a vessel type whose practicality contributed to its longevity.

## *Buff Ware Closed Forms*

### NECKLESS JARS

Neckless jars form 19% (n=86) of the IVB and 27% (n=114) of the IVA buff ware typed sherds (Appendix A, Table 6). In level IVB 74% and in level IVA 39% of the neckless jars had thickened rounded rims. No complete vessels of this kind have been recovered, but several varieties of neckless jars can be described on the basis of rim sherds (Fig. 20).

1. Small to medium neckless jars ranging in diameter from 0.00 to 0.19 m formed 56% of the IVB and 51% of the IVA jars. The

great majority of these vessels had thickened rounded rims (Fig. 20:1, 4) although scattered examples of direct, direct flattened (IVA; Fig. 20:2, 5, 6), and ledge rim (Fig. 20:3) varieties were found. Some of these vessels must have had rounded lower bodies (e.g., Fig. 20:1, 2, 4, 6). No complete shapes were found, however.

2. Medium to large (0.20-0.35 m in diameter) neckless jars form 26% of the IVB and 34% of the IVA neckless jars. Again the majority of these vessels have thickened rounded rims with some examples of flattened and

ledge rims. Several sherds indicate a cylindrical rather than rounded overall vessel form (Fig. 20:3, 7, 8), but incomplete preservation does not permit us to describe complete vessel shapes. Hole-mouth jars are uncommon in buff ware, but several rim sherds were found in level IV and fall into the medium (Fig. 20:5) and large (Fig. 20:6) size ranges.

3. Large neckless jars with diameters greater than 0.35 m form 5% of the IVB and 4% of the IVA assemblage. Three subtypes can be identified:
  - a) Jars that are only slightly closed with thickened flat-topped rims (Fig. 20:8) or with thickened overhanging rims that are trapezoidal in section (Fig. 20:7). These appear to have been roughly cylindrical in shape.
  - b) Neckless round or ovoid jars with thickened rounded rims and ridges on the shoulder (Fig. 20:9). These are possibly to be dated to the Kaftari period.
  - c) More fully closed forms with thickened rims. Some examples are decorated with applied finger-impressed bands (Fig. 20:10, 11). The indentation on the top of the rim (Fig. 20:11) is found on a number of sherds belonging to this group. The groove may have been made to accommodate a lid. Room 152 in FF 41 produced a number of sherds of vessels of this type that indicate these jars had large ovoid bodies. The ware of these vessels contained coarser grit, sherd, and chaff temper than the common buff ware.

The heavy ring and disc bases (Fig. 20:12–15) are probably associated with these large vessels, which were used as storage jars.

### NECKED JAR FORMS

Necked (independent restricted) vessels form 42% (n=256) of the IVB and 30% (n=219) of the IVA typed vessels and sherds (Figs. 21-24).

### SMALL TO MEDIUM NECKED JARS OR GOBLETS

In level IVB 35% (n=89) and in IVA 51% (n=112) of buff ware necked vessels recorded fell into the 0.08–0.13 m diameter class (Pl. 9:7–9). Although certain examples could be identified as squat or Elamite goblets, most could not be precisely typed. The small to medium necked jars of goblet class form 3% (n=16) of the IVB and 5% (n=40) of the IVA necked vessels. They are coded in the typology as “other goblets” (Appendix A, Table 4). Three major subtypes could be identified:

1. Squat, shouldered goblets (Fig. 21:1–4) with a plastic ridge at the join of the vessel neck and body. The measurable examples range in height from 0.09 to 0.12 m<sup>6</sup> and in diameter from 0.09 to 0.13 m based on the available sample. The type has a slightly everted or straight neck and a hemispherical lower body. A plastic ridge marks the join of the neck and lower body. The rims are tapered, rounded, or beaded. Bases are flat or slightly convex. Most of the examples are slipped and have been made in a fine to medium ware with grit and some chaff temper. One rim sherd appears to have been decorated with a red band of paint. There are close parallels with Susa Ville Royale B I and Ville Royale II levels 8–10 where they form 5–8% of the assemblage (Miroshedji 1981a:16 and 21).
2. Rounded shouldered vessels that have everted to straight necks and direct or tapered rims. No complete shapes of this type have been recovered. The rim sherds indicate that several varieties existed. Fig. 21:5–8 shows examples of this type found in plain wares. In level IVB 67% of this category had painted geometric decoration; in level IVA only 26% were painted. These goblets and their decoration are discussed below under Qaleh painted wares (see pp. 25–27).
3. Small jars with constricted necks (Fig. 22:1–3) that were probably parts of small lugged jars (Fig. 22:4, 5).

6. Examples from Ville Royale II fall into the same size range (Miroshedji 1981a:21).

### "ELAMITE GOBLETS"

The tall cylindrical vessels called "Elamite goblets" (Pl. 9:3-6) are distinctive, and their lower bodies are nearly indestructible. Elamite goblet sherds form 3% (n=19) in IVB and 11% (n=81) in IVA of the buff ware vessels. The measurable examples from EDD level IVA range in size as follows:

1. diameter of neck: 0.055-0.07, mean 0.063 m (n=21);
2. height of neck: 0.104-0.148 m<sup>7</sup>;
3. diameter of body: 0.077-0.095, mean 0.087 m (n=19);
4. height of body: 0.159-0.218, mean 0.1905 m (n=19);
5. diameter of base: 0.042-0.056, mean 0.050 m (n=14);
6. height of base: 0.015 m (n=14).

These vessels have elongated, nearly cylindrical bodies and straight or slightly everted necks. Vessel necks were more carefully finished, and they are generally thinner and finer than the lower body of the pot and may have been made separately. Rim forms include straight or slightly tapered (Fig. 21:11, 13) and slightly in-beveled (Fig. 21:12, 14-15) types. The foot was made by adding a disc or button that was conical in section. The raised interior boss, characteristic of this vessel type, is a sign of this method of manufacture (Pl. 9:3).<sup>8</sup>

Wheel corrugations are frequently only partly smoothed over. Often the whole vessel is off axis. On one example finger marks are present where the vessel was handled before firing (Pl. 9:5); several goblets were broken before the fire (Pl. 9:5).

These vessels would have been impractical drinking vessels, since they are porous, heavy, and unstable. Representations on rock reliefs and seals, however, indicate that this was at least one of their functions (Carter 1984:170-172). The larger vessels could have been stacked on their sides like beer bottles, and liquid storage can be suggested as a possible function for them. Ghirshman (1968a:pl. 37, 1) found a stand at Al Untash-Napirisha in the Palais Hypogée that he thought could have been used to keep the goblets upright, but no examples of such

stands have been found at Malyan and none have been published from Susa.

The closest parallels for the EDD Elamite goblets are with Susa type 19, variant c, from levels IX-X of Ville Royale A and Ville Royale B, level II (Gasche 1973: pl. 19:9-15); and Ville Royale II, level 10 (Miroschedji 1981a:fig. 12). The careless manufacture and extremely elongated shape of these EDD vessels corresponds most closely to the goblets of similar type found in Ville Royale II, level 10, at Susa. The better-made, more ovoid Elamite goblets, found in levels XI-XII of Ville Royale A at Susa and common in the 14th-century tombs of Al Untash-Napirisha (also classified by Gasche 1973 as type 19c), are unknown at Malyan. The squatter, better-made variants are much more likely to have been used as drinking vessels than the extremely elongated Malyan variants.

The Late Middle Elamite date for the appearance of the elongated goblet form has been demonstrated stratigraphically by the work of Ghirshman (1966:91-92) at Al Untash-Napirisha and at Susa in Ville Royale II (Miroschedji 1981a:15, 36-37). This dating for Khuzistan, around the turn of the millennium, coincides with the C-14 and epigraphic evidence for the destruction of level IVA.

### MEDIUM TO LARGE NECKED JARS

The total buff ware neck jars typed in level IVB was (n=256) and in level IVA was (n=219) were typed as necked jars. Seventeen percent in IVB (n=44) and 23% (n=50) in IVA fell into the 0.14-0.25 m rim diameter (medium to large) size range. Four subtypes could be distinguished on the basis of rim forms in this size range:

1. Necked jars with direct, direct tapered, or direct beveled rims (27% in IVB, 28% in IVA; Fig. 22:8,10) are represented only by a number of poorly preserved sherds.
2. Necked jars with thickened rounded rims or thickened ledge rims (57% in IVB, 38% in IVA; Fig. 22:6, 7, 9).
3. Vessels with plastic ridges at the base of the neck (Fig. 22:13) are intermediate in size

7. Only three complete examples are known; most vessels are chipped off at the rim. The estimated mean size for the IVA goblets is around 30 cm. One example has a neck over 18 cm in height (Fig. 21:15). In level IIIB two complete vessels nearly 50 cm in height were found (Fig. 40:9), suggesting that an extremely tall group of goblets may also be present. Note also that the measurable examples from levels 12-10 in Ville Royale II are somewhat smaller, ranging between 25 and 30 cm in height (Miroschedji 1981a:16).

8. Gasche 1973:39. The raised interior boss was not noted on several of the complete vessels (e.g., Fig. 21:10, 13). Since the interior is difficult to see, this kind of feature might have been overlooked. Without seeing the original object it is impossible to amend the drawings. No such base form has been identified among the sherds available for study. The manufacture of closely related Mesopotamian forms is described in detail by Franken and Kalsbeek (1984).

between the squat goblets (Fig. 21:1-4) and the pithoi (Fig. 22:12, 14, 15). One example (Fig. 23:8) has a band rim; the others have thickened flat-topped rims. No complete examples belonging to this size range were found.

4. Band-rim jars with everted necks and a slightly thickened rim that is triangular in section. Band-rims form 9% of the IVB and 16% of the IVA necked jar sherds. The rims can be:
  - a) folded over, slightly overhanging and generally triangular in section (Fig. 23:3, 5, 6, 8, 15; Pl. 10:2);
  - b) flush against the vessel wall (Fig. 23:1, 2);
  - c) or indented (Fig. 23:4, 7, 9, 10-14, 16; Pl. 10:1).

Indented band-rim jars have a straight or slightly everted neck. The band is usually between 0.02 and 0.025 m wide and the lip is straight, rounded, or tapered (Fig. 23:7, 9, 10-14). The mean rim diameter of the measurable examples from EDD is 0.12 m. Susa band-rim jars have similar rim forms (Gasche 1973:pl. 18:3, 4). Band-rim jar types are found in Ville Royale II, levels 10-12 and 9-8 (Miroschedji 1981a:16, 22; figs. 13:9-13; 24:3, 4; 25:8-14). The type is clearly associated with the other lowland types (conical bowls, Elamite goblets, and vats) discussed above and is common in contemporary Mesopotamian assemblages (cf. Armstrong 1989:61, types 8 and 9; Boehmer and Dämmer 1985, Taf. 135).

Two reconstructible jars of this type were excavated from EDD IVA rooms. These pots have globular bodies and rounded, slightly convex bases. They are decorated with simple incised bands just below the shoulder. The vessels shown here (Fig. 23:1, 3) may well represent the size range of this vessel class. A pot from Susa Ville Royale AXII 140 (Gasche 1973:pl. 37:4) parallels the smaller jar, and

one from Ville Royale II, level 11 (Miroschedji 1981a:fig 13:10) is similar to the larger example. Vessels found in Ville Royale A of this type were commonly placed under courtyard and house floors and were frequently recycled as drains (Gasche 1973:pls. 35:1; 37:1; 38:3).

### LARGE NECKED JARS

Jars with rim diameters greater than 0.25 m form only between 3-5% of the level IV assemblage. Some (Fig. 22:16, 17) are parts of plain necked jars. Sherds of "pithoi" (Figs. 22:12, 14, 15; 24:1-5), however, were most easily identifiable. Measurable rim diameters range between 0.27 and 0.41 m. Like the much smaller goblets described above, a single plastic ridge separates the neck from the body of the vessel. No complete vessels of this type have been found, but two subtypes can be distinguished on the basis of the angle of the upper body of the vessels.

1. Straight or slightly everted necked jars with a cylindrical or bag-shaped lower body (Figs. 22:12, 13; 24:5). Rim forms are thickened and overhanging on the exterior. This type is closely related to the vats (Fig. 19:7, Fig. 40:10) and is only differentiated from them by the rim shape and the slightly more closed vessel form. No bases are preserved, but an added ring base (Fig. 20:12, 13) or funnel base (Fig. 40:10) is a possibility.
2. Necks leaning toward the center axis of the vessel (Fig. 24:1-4). Rim forms are thickened and overhanging on the exterior of the vessel or on the exterior or interior of the pot. These pots appear to have had an ovoid-shaped lower body, but no complete shapes have been discovered.

Parallels are again with Susa Ville Royale II, levels 13-8 (Miroschedji 1981a:17,22; figs. 15:14-20; 26:1-10).

### Miscellaneous

Miscellaneous buff ware sherds are grouped here:

1. A horizontally pierced lugged jar fragment (Fig. 22:4) and a vertically pierced example with traces of a rope impression on the body (Fig. 22:5);
2. A ribbed jar neck (Fig 22:6);

3. An example of incised and excised decorated buff ware, possibly part of a jar neck (Fig 22:11).
4. Two types of pottery stands are known:
  - a) Ceramic rings or ovals (Fig. 25:1-10) with bases that are thickened by folding over the clay at the bottom, giving the

base a flattened or rounded form (Pl. 20:1, 2). The rims are finely tapered and are often chipped.

Similar artifacts have been found over a wide geographical area and from contexts dated as early as 3500 B.C. (Carter 1980:28, fig. 38:9). They are often associated with ceramic manufacture and may have been used as vessel supports on firing boards or in kilns as setters or stands. Modern potters in Sicily use rings as kiln setters (Hampe and Winter 1965:118, fig. 113), and some are known from sites in Roman Britain (Swan 1984:40). An alternative suggestion (Alden 1979:88–89), that

they were used as scrapers, remains to be established by edge-wear analysis. Malyan has produced several complete examples (from level IIIB, Fig. 40:5, 6, and operation BB 33). Level IVB in EDD contained a large amount of kiln-related trash, and this is the source of most of the level IV examples.

- b) Large pot stands (Fig. 25:11) with thickened rims are common at Susa, Al Untash-Napirisha, and elsewhere on Malyan. Only one example was found in the EDD operation. They were probably used as supports for round-bottomed jars and vats.

### *Buff Ware Bases*

Buff ware bases were divided into three size categories (Figs. 20:12–15; 25:12–25):

1. Less than 0.04 m in diameter (8% in IVB, 14% in IVA)
2. 0.04–0.10 m in diameter (77% in IVB, 13% in IVA)
3. Greater than 0.10 m in diameter (4% in IVB, 13% in IVA)

The rest of the bases (10% in IVB, 8% in IVA) were not preserved well enough to be measured.

In the small range the most common were the flat

string-cut (15% in IVB, 18% in IVA), button (38% in IVB, 46% in IVA), stump (23% in IVB, 14% in IVA), and funnel (8% in IVB, 4% in IVA) bases.

In the medium (0.04–0.10 m) category, ring bases form 65% of the IVB and only 30% of the IVA assemblage. This disparity is probably related to the presence of a disproportionate number of Qaleh painted, buff ware goblets in the IVB lots. Flat string-cut (4% in IVB, 14% in IVA) and goblet bases (3% in IVB, 11% in IVA) are also more common in level IVA than in IVB. These base forms are associated with two of the most characteristic lowland types.

### *Painted Buff or Qaleh Wares*

Painted buff wares form 33% of the IVB and 13% of the IVA assemblage (Figs. 26 and 27). The shapes of and designs on Qaleh painted ware vessels link them with the local Kaftari ceramic tradition that has its roots early in the second millennium B.C. The distinctiveness of these wares led to the decision to treat this segment of the buff ware class separately from the plain buff ware class described above.

Sand temper combined with some organic temper is usual (see Appendix D), and the spaces left by incompletely volatilized vegetable temper, characteristic of the plain buff wares, are not as prominent in this ware class. Most of the sherds are completely

oxidized. The color range is quite similar to the plain buff wares. A number of the largest sherds from IVB appeared to have been overfired (e.g., Pl. 11:8) and have a greenish tint. These overfired sherds or wasters originated in a ceramic manufacturing area.

The vessels are usually slipped and are decorated with black or black-brown geometric designs. There are also some examples fired to a red or even a greenish color. Rim sherds are decorated with a single solid band or with ticking. Simple geometric motifs decorate vessel shoulders and occasionally the lower body of the vessel. The motifs will be described in the following sections and are graphically pre-

sented in Appendix A, Table 1.

A comparison of the Kaftari wares, dated to the first half of the second millennium (Nickerson 1983:132-134, figs. 39, 40, 59b,p), with the Qaleh painted buff wares shows that the former are decorated with geometric and figurative designs (mainly birds). These are applied in a careless fashion and cover the entire surface of the vessel. The Qaleh wares are decorated with a thinner line than the Kaftari wares, and decoration on Qaleh vessels is confined, for the most part, to a simple band or ticking on the rim and bands on the shoulder or upper body of the vessel. The motifs and

the vessel shapes, however, are generally similar in both ceramic styles.

Like the Qaleh painted wares, the red wares discovered in the EDD operation possibly represent the continuation of the earlier Kaftari tradition. Efforts to trace the development of Qaleh painted buff wares from the Kaftari styles are limited by the lack of complete shapes and the lack of a continuous sequence spanning the middle to late second millennium in either the EDD sector or in other excavated areas on the site.

## *Open Forms*

### CUPS AND BOWLS

These form 13% of the IVB and 4% of the IVA Qaleh painted wares. Measurable examples range in diameter from 0.14 to 0.18 m. No complete or reconstructible shapes were discovered. The sherds show that several types of bowls (Fig. 26:1-4) and cups (Fig. 26:5) were in use. Direct, direct tapered (Fig. 26:1), exterior thickened (Fig. 26:2, 3), and flat-topped rim (Fig. 26:4, 5) forms are attested. Decoration is limited to plain horizontal bands on the rim and, in two instances, on the lower body. The best parallels are with unpublished examples from Malyan operation BB 33. Larger open bowls or vats

(Fig. 26:8) are also present, perhaps to be compared to Vanden Berghe (1966: pl. 57, b).

### CYLINDRICAL VESSELS

This type is attested through very fragmentary rim sherds, and the complete shape is impossible to reconstruct (Fig. 26:9, 14). Decoration appears limited to a plain band on an exterior everted rim, and similar sherds have been found in BB 33. On the basis of the EDD rim sherds it is difficult to distinguish between jars (possibly Fig. 26:9) and the more open forms.

## *Closed Forms*

### GOBLETS

No complete examples of this type are known from EDD (Fig. 27:1-15, Pl. 11:1-15). However, other examples have been found elsewhere on the site (Sumner 1974:174, fig. 13:k; and operation BB 33). Nine percent of the IVA and 27% of the IVB painted wares are decorated jar shoulders from vessels of this type. These goblets have high everted necks, globular bodies, and a low ring base. Rims are usually tapered, but some thickened examples were

found. Decoration is limited to a simple band on the rim and various combinations of geometric designs contained within a frame of horizontal bands placed on the shoulder. The most common motif is a group of horizontal bands (Pl. 11:1) (49% in IVB, 49% in IVA). The space between the bands is sometimes decorated with groups of short vertical lines (Fig. 27:5, 7, 9) or wavy bands (Fig. 27:1, 2; 17% in IVB, 3% in IVA). Triangles, solid (Fig. 27:10), outlined (Fig. 27:12), or hatched (Fig. 27:13), are used as fillers or linked together to form bands (4% in IVB, 3% in IVA). Hatched circles, squares, rectangles, and



bands (Fig. 27:9, 13, 16, 18, 19) are also part of the decorative schemes found (12% in IVB, 10% in IVA). Rows or bands of dots (Fig. 27:14; Pl. 11:9, 10, 12) and a checkerboard pattern (Pl. 11:15) are also attested.

The closest parallels outside Malyan are with other sites in the Kur River Basin: Shogha, level II; Teimuran, level IV; Qaleh II (Vanden Berghe 1966:42–44, pls. 52b, c; 53; 57); and Darvazeh Tepe (Jacobs 1980:61–63, fig. 28:4–8). Similar painted wares have also been found in the Ram Hormuz region of eastern Khuzistan (Carter 1971:264–270, figs. 56:16, 17; 57). Only a few examples of these painted wares are known from Susiana.

## NECKLESS JARS

Two subtypes are attested:

1. Small fine-ware pots with everted lips. The most complete example is decorated with plain horizontal bands (Fig. 26:17).
2. Medium jars (Fig. 26:13, 16). No complete examples are known. The rims are thickened and overhanging. Plain bands decorate the shoulder of one; the other is painted with brown paint.

## MEDIUM TO LARGE NECKED JARS

Several sherds decorated with simple painted bands establish the presence of this type in the EDD operation (Fig. 26:18-22).

## *Miscellaneous*

Included in this group are a bottle neck (Fig. 26:15) and a fine cylindrical cup base and rim that

are possibly part of the same vessel (Fig. 26:9, 14).

## *Red Ware*

This ware forms 4% of the assemblage in IVB and IVA. It is distinguished from the buff wares by a red-orange paste that frequently contains small white calcite grits visible in the break or beneath an abraded surface. Vessel surfaces are often burnished or smoothed and sometimes painted with black

geometric designs. Bowls (Fig 26:7) and jars with thickened rounded rims are the forms attested in this sample. It is not certain whether these sherds represent the continuation of the Kaftari red ware tradition into the late second millennium or strays from earlier levels.

## *Handmade Smoothed Ware*

This ware forms a small percentage (5% in IVB%, 4% in IVA) of the assemblage but is easily distinguished from the buff wares by a coarse micaceous mineral (calcite) temper easily visible in the paste (Fig. 28; Pl. 10:5, 6; see Appendix D for details). Some chaff temper that is incompletely volatilized is also present. This produces a grainy,

friable ware that breaks easily and irregularly. The color ranges from gray to black to brown to buff to red. Several shades are often found on a single pot. On some vessels only the exterior surface is oxidized. Both interior and exterior surfaces are hand-smoothed, and sometimes they are slipped. Several burnished examples are also present. Traces of

bitumen and/or burning are also frequently seen on vessels of this ware. Decoration is limited to simple

punctates or incisions on jar rims and shoulders (Fig. 28:2, 8, 9).

### *Open Forms*

Bowls or basins in this ware are less common than jars (27% in IVB, 9% in IVA open forms versus 56% in IVB, 32% in IVA closed forms). The example from level IVB has a beaded rim (Fig. 28:1). The great majority are direct or thickened rounded. Since it is

often difficult to establish orientation on handmade pottery, it is possible that this type is under-represented in our counts. It should be noted that 17% of the IVB and 55% of the IVA sherds in this ware could not be typed.

### *Closed Forms*

No complete shapes are known, but on the basis of rim and base sherds the most common vessel shape in this ware was a medium (diameters range from 0.11 to 0.30 m, with a mean of 0.19 m) bag-shaped jar with a rounded base and a slightly everted neck. Most common is a simple rounded rim that can be flattened (Fig. 28:8, 9), in-beveled (Fig. 28:3), or out-beveled (Fig. 28:11). Some vessels have added strap handles (Fig. 28:12, 13). This is the only type of

handmade vessel identified in the Malyan Middle Elamite assemblage. The vessel class is found in earlier and later contexts at Malyan and in Khuzistan at Tepe Farukhabad (cf. Carter 1971:205) in early to mid-second millennium B.C. contexts. The heavy calcite temper was a good heat conductor, and the rims of these vessels were generally smoke-blackened; thus they have been called cooking pots.

## *Heavy Mineral Tempered Ware (Cement Ware)*

This ware forms 2% of the assemblage in IVB and 3% in IVA. It is brown-buff to red-buff in color and is characterized by a coarse rock temper clearly visible in the paste. It has a rough surface and tends to be a

harder ware than the ordinary buff wares (Pl. 11:16). One example has a buff slip decorated with Qaleh-style bands in a light brown paint (Fig. 26:22).

### *Gray-Black Wares*

Only 0.47% in IVB and 2% in IVA could be classified as gray-black wares. The best-preserved example has a grooved decoration on the exterior surface (Pl. 10:4). The bowl ranges from (10YR5/1),

gray to (10YR6/4), light yellowish brown and shows some traces of burnishing. Unfortunately it is from an uncertain context and could be from a later period.

## Banesh Wares

Banesh wares form 5% of the assemblage in level IVB and 3% in IVA. In IVB over half the Banesh sherds came from the suspect lots that contained some amount of intentional fill. The next largest number of Banesh sherds in both IVB and IVA came from the courtyard (45). The high percentage of

earlier sherds is perhaps best explained by the indestructible nature of the Banesh coarse- and grit-tempered wares and the use of Banesh sherds for paving open courts. Banesh deposits could also have been used in making the bricks for the EDD constructions.

## Summary and Conclusions

From level IVB, only four complete shapes (two conical bowls and two squat goblets) were found. These vessels came from contexts where it was difficult to establish whether they were part of the intentional fill or trash left behind on the room floors. In level IVA one group of vessels, consisting of two band-rim jars, a vat, and a squat carinated pot, was found in place on the floor in room 69 (see above, p. 8). Associated with the group were several Elamite goblets, and examples of this type were found on or near the floors of most of the IVA rooms.

On the basis of the complete or nearly complete buff ware vessels found in place in the EDD operation, the ceramic types in use at or near the time of the level IVA destruction include:

1. Conical cups and bowls (Fig. 18:1, 4, 7);
2. Vats (Fig. 19:1-9);
3. Band-rim jars (Fig. 23:2, 3, 12);
4. "Elamite goblets" (Fig. 21:9-15);
5. Squat double-angled goblets (Fig. 21:1-4).

This overview is only partially confirmed by the analyses of the sherds. These indicate that medium to large jars with thickened rounded rims were much more popular than could have been deduced by looking at only the complete or reconstructible vessels.

The plain buff ware types found in EDD are closely paralleled by finds from Susa in the Ville Royale II, levels 11-8, and from Al Untash-Napirisha (Chogha Zanbil) in the topmost level of the

Ishnikarib temple courtyard sounding (Ghirshman 1966:91-92) and in the Palais Hypogée specific parallels are given in ceramic catalogue (Ghirshman 1968a:51-52).<sup>9</sup> Two of these forms—the tall Elamite goblet and the squat shouldered goblet—are identified by Miroshedji (1981a:16) as appearing in quantity in level 10 of the Ville Royale II sounding. These forms can be considered the "type fossils" of the Late Middle Elamite period. The Malyan EDD IV assemblage, in spite of its predominantly plain character, is of importance because of its close resemblance to the lowland assemblages discovered in Khuzistan.

In addition to those ceramics that are clearly identifiable as lowland-related forms, the assemblage contained Qaleh painted wares. The latter were part of an established local ceramic tradition stretching back to the early second millennium B.C. The discovery of a kiln in operation BB 33 establishes their production at Malyan.

It is not possible to reconstruct a sequence spanning the last half of the second millennium B.C. from Malyan. Operations BB 33 and GHI I-II have yielded Qaleh wares in association with plain buff types, such as vats and pithoi, that have close parallels with the EDD IV forms (Fig. 3). These operations, however, have not produced Elamite goblets or squat goblets and the ceramic finds may well belong to a slightly earlier period. The material from Operations BB33 and GHI I-II has not been studied in detail.

Preliminary observations suggest that the lowland-related goblet types appear suddenly and were in use only for a short time. Malyan has yet to produce the squatter Middle Elamite goblet forms known from

9. Ghirshman thought originally that the final floor of the Ishnikarib temple should date to 646 B.C., and not c. 1000 B.C. (cf. Carter 1984:164).

the earlier layers in the Ville Royale and Al Untash-Napirisha. Moreover, on the basis of fairly extensive surveys in the Kur River Basin, Malyan is the only site with Qaleh painted wares to have yielded such specifically lowland-related ceramics as EDD IV-III (Jacobs 1980).

Few Elamite goblets came from level IVB, although that level produced the majority of the painted sherds. In level IVA the situation is reversed. The painted buff wares are represented only by a limited number of sherds from each of the good context lots, and the lowland-related goblet types are much more common. No reconstructible painted ware vessels have been recovered from either IVB or IVA.

The predominately lowland nature of the ceramic finds from level IVA can be best explained by the following:

1. The building was the focus of the lowland presence in the Kur River Basin during the last centuries of the second millennium B.C. This explanation is supported by the dis-

covery of the name of a lowland king found on one of the administrative tablets. Faience tiles and knobs and terracotta figurines provide further evidence of lowland contacts.

2. The removal of most of the contents of the building before the fire leads us to expect that only broken pots or those difficult to move and/or of little value would have been left behind. Thus the finer painted wares, the hallmark of the Qaleh tradition, might well be underrepresented in level IVA. It may well be possible that other less formal, contemporary buildings on the site will have a much lower percentage of lowland-related forms.

Any statistic of changes in assemblage composition through time based only on the work in EDD must be treated with caution. First, the IVB material is, for the most part, from a mixed context; second, only part of the material was studied in detail.

## IV

---

# The Small Finds from Level IV

Terracotta, faience, and chipped, ground, and polished stone constitute the bulk of the small objects found in level IV. Several metal objects, a

single seal, and a number of sealings complete the small-finds inventory.

### *Terracotta*

Half a terracotta wall tile was found in corridor 15 (Fig. 30:2, Pl. 18:2). It corresponds in size and design to the interior portion of the larger faience tile shown next to it (Fig. 30:1). Clay tiles may have been used as substitutes for the more luxurious faience tiles. This is suggested by the paint adhering to the tile surface.

Only a few fragmentary figurines of terracotta were found in level IV; none came from primary contexts. These were a female with hands supporting her breasts and a bowlegged dwarf figurine (Fig. 29:1, 2). A third figurine or plaque fragment (Fig. 29:3) may represent part of a flounced skirt and is possibly earlier in date. Two crudely made animal figurines (Fig. 29:5, 6) were found. One of these (Fig. 29:6) is part of a hump-backed bull figurine, a type common in lowland Elam. A third animal figurine (Fig. 29:4), made of unbaked clay, may also belong to this category.

Two plain buff-ware model chariot wheels (Fig. 29:9, 10) can also be compared with lowland types. The painted chariot wheel (Fig. 29:11) is less easy to match. Found on the surface of EE 45, but possibly from level IVA, is a fragment of a terracotta bed or chair similar to examples from Khuzistan. Taken together these objects are yet another indication of cultural links to the Elamite lowlands. The female holding her breasts, the bowlegged dwarf, and the

hump-backed bull are all extremely common in lowland Elamite sites of the late second millennium and have been recovered in a variety of contexts, domestic and religious. The female figurines may have been representations of deities. All appear to have been part of Elamite popular religious practices (Ghirshman 1968b:11–13).

Other miscellaneous terracotta objects include a conical token or weight (Fig. 29:7), a button (Fig. 29:8), and a large number of terracotta cones (2 in IVB and 21 in IVA). They are all made of Banesh grit-tempered ware and have been redeposited from a much earlier context (cf. Nicolas 1980:263–265). Their large numbers in this excavation may well indicate the use of Banesh deposits to manufacture bricks. It may also indicate the presence of an important religious building of the late fourth to early third millennium B.C. beneath the EDD structures of the late second millennium B.C. on the high point of Malyan mound. Four sherds, reworked into discs (an example from level IIIA is illustrated in Fig. 43:13), were also found in level IVB (mf. 1526, 5474–5, 9285–6) and 6 in IVA (mf. 1173, 6141–2, 10881, 10935, 10945). Some of these were pierced and may have been used as spindle whorls. A single identifiable spindle whorl, possibly from IIIA, was found in EDD (Fig. 43:14).

## *Faïence*<sup>1</sup>

### *Architectural Decoration*

Two types of faïence wall tiles were found in level IVA:

1. A large roughly square (0.27 m<sup>2</sup>) tile with a frame formed by three slightly raised bands (Fig. 30:1, Pl. 18:3). The strip between the outermost and second band is colored with alternating rectangles of yellow-orange and white. The second raised band is greenish; and the strip between it and the third band is decorated with rectangles of blue-green and white. In each corner of the central area are three raised petals (quarter rosettes), possibly white, on a green-blue background. The central hole is approximately 0.04 m in diameter and the depression for the attachment of a knob is 0.096 m (see below). Five fragments of this tile were found in corridor 15 in square DD 45, and the rest were discovered in doorway 141 in EE 45. The join seems likely. A similar tile was found at Susa with an inscription of Shutruk Nahhunte I (c. 1165) (Amiet 1966:fig. 300).

2. A smaller tile (Fig. 30:3, Pl. 18:1), just over 0.12 m<sup>2</sup>, with two raised bands and a single strip between them, was found in room 26. The raised bands of the frame are white and the strip between is decorated with alternating squares of orange-beige and white. Each corner has three raised petals; the center petal is orange-beige and the flanking petals are white. A similar tile was found in the Palais Hypogée at Al Untash-Napirisha (Ghirshman 1968a:pl. 6, GTZ 826).

The square tiles were attached to the wall, possibly around or near the door jambs, by undecorated pegs that were covered with a decorated faïence knob (see below). A reconstruction is suggested in Fig. 31.

The circular tiles (Fig. 30:5-7), which are either plain or decorated with petals (Pl. 19:1), have much smaller central holes than the square tiles. These round objects may or may not have been wall decorations.

### *Knobs*

Over 38 knobs and knob fragments<sup>2</sup> were found scattered just in front of the doorway leading out of room 26 along with the smaller of the two rectangular tiles and a terracotta tile (Fig. 30:2). One knob was found in doorway 40, and five more were found in corridor 15. Three of the knobs were located in corridor 139, room 143, and door 140, and four were found outside the building in alley 25.

Only five knobs were complete enough to allow their profiles to be reconstructed. Thirteen shafts, 17 heads, and 34 bases of knobs were recorded. The heads are occasionally plain (4 of 17), as illustrated in Fig. 30:15-17, but more frequently (13 of 17)

molded into the form of a twelve-petal rosette, as in Fig. 30:11-14, Pl. 18:6. One knob appears to have been pierced completely through and another appears to have had two center holes, instead of one, to receive the wall peg (Fig. 30:14-17). Most appear to have had a molded screw type base, but one example (Fig. 30:9, Pl. 18:4) is rounded at the base. The knobs average 0.05-0.065 m in height and 0.04-0.06 m in base diameter. One example (Fig. 30:10) has a base diameter of 0.09 m. Since only one knob base with a diameter suitable for use with the large format (0.27 m<sup>2</sup>) tile was found, it is not unreasonable to suggest that the larger tiles were

1. Frit and faïence are often difficult to distinguish from each other by visual examination. The term "faïence" is used here since these pieces all have a distinct glaze layer (Tite 1986).

2. Since fragments were group-registered, there is no way to calculate the exact number of knobs without access to the objects.

somehow central to an arrangement of the smaller (0.12 m<sup>2</sup>) ones. Two small tiles would fit along each side of a large format tile.

The pieces are all quite worn and the original color of the glazed surface was not easy to determine. White, greenish blue, and possibly some yellow were identified. Amiet (1966:fig. 301) has published a knob from Susa with alternating petals of yellow and white, and some of these Malyan examples were probably colored in the same fashion. They all have one or two small lock holes just above the base that served to hold the knob in position in the same way a modern doorknob is fastened. Many have traces of bitumen, which also helped in fixing them to the tile.

If these decorations were at one time in place on the walls, this building at Malyan would have been decorated in the style of a lowland temple. The contemporary domestic areas excavated at Susa in Ville Royale II have not yielded similar artifacts, but large numbers of knobs and tiles were found in the early excavations on the Acropole, the locus of the Susian temples. These find classes are also familiar from the ziggurat and temples of Al Untash-Napirisha. It has been suggested (see above, p. 11) that the tiles were removed before the building burned, but the knobs, broken in order to remove the tiles, were left behind.

### *Vessels*

A faience box lid (Fig. 30:8, Pl. 19:2) finds close parallels in Al Untash-Napirsha (Ghirshman 1966:pl.

84, G.T.Z 786) and in Susa, Ville Royale II, level 9 (cf. Miroschedji 1981a:fig. 27:5-7).

### *Seals*

A single seal made in this material was found. See below under Glyptic, p. 36.

## *Chipped and Ground Stone*

Large quantities of debitage were found in level IVA. The material was concentrated in two clusters: one in the courtyard next to corner pier 87, and the second split in two parts by wall 34 in DD 45. These flint concentrations were brought into the building from elsewhere and used secondarily to shore up an eroding wall footing in EE 43, and possibly to protect a mud roof from further erosion, as in DD 45. The materials attested include chert, cryptocrystalline quartz, amethyst, and jasper. Other lighter scatters of debitage and a few tools were found in corridors 60, 95, and 139, and in alley or kuche 25 outside the building.

The quantities of debitage and the few tools discovered in good context lots in the level IVA excavations bear witness to a chipped stone industry of some sophistication in the late second millennium B.C.

Of interest are several finely made pressure-flaked points (Fig. 32:1-3, Pl. 12:6, 8). Although none is from particularly good contexts, less-well-preserved examples from more reliable contexts suggest that they belong to the last half of the second millennium. Of more certain attribution are the scrapers found in association with the pots and stones on the floor of room 69 (Fig. 32:11-13). Other tools found include sickle blades (Fig. 32:7); retouched blades, including knife blades (Fig. 32:4, 6, 12); scrapers (Fig. 32:9); tanged points (Fig. 32:5); and a finely crafted triangle (Fig. 32:10).

Most of the ground stone objects (11 querns and one handstone) were found in the courtyard next to pillar 136 and in the doorways (140, 141) adjacent to it (*in situ* Fig. 9, Pl. 2A). All but one (mf. 5124), identified as jasper sandstone, are made of jasper

conglomerate (mf. 5117, 5120-1, 5128). Two handstones of unidentified stone were found in association with this group (mf. 10568, 10777). A second

(mf. 302), of hematite sandstone, came from room 69.

## *Polished Stone*

Three polished stone pegs (Fig. 33:1-3; Pl. 12:1, 2) were found in or near level IVA doorways. All have an unfinished, tapered, pierced lower end and a domed peg with highly polished collar at the upper end. In one case (Fig. 33:1) the knob end has traces of red paint. The tapered lower end would have allowed these pegs to be built into a wall or door jamb and fixed by a peg placed through the hole into the mud-brick. A rope attached to a door could have been tied around the knob. The stone knob in the jamb with the rope around it could have been covered with clay and sealed. This system is similar to that described by Fiandra (1975:10-12, figs. 52, 53). Unfortunately, the seal impressions discovered in room 26 are so fragmentary that this reconstruction cannot be established with certainty.

Two pegs (Fig. 33:4, 5; Pl. 12:3, 5) and a partially

preserved knob of gray-black soapstone (Fig. 33:6; Pl. 12:4) are finely made but of unknown function.

A small fragment of the shoulder and beard of a statuette made of translucent calcite (Fig. 33:7a,b) provides another link to the Elamite lowlands. The starlike designs on the shoulder of the garment and the beard are paralleled in the figurines found in Susa on a pavement near the temple of Inshushinak. The Susa examples are dated by Amiet (1966: figs. 318, 319) to the Late Middle Elamite period.<sup>3</sup>

Few beads came from the excavation. In addition to the carnelian bead (Fig. 33:8), level IVA produced beads of carnelian (mf. 1248), shell (mf. 3792, 10915), and limestone (mf. 10880). Beads of lapis (mf. 1286), rock crystal (mf. 5175), and stone (mf. 596, 757) were found in the IVB layers of courtyard 45.

## *Metal*

Despite the frequent mention of metal in the texts, few objects were found. An iron nail (Fig. 29:15), a copper/bronze pin fragment (Fig. 29:14), a copper/bronze point (Fig. 29:13; Pl. 12:10), and a lead needle (Fig. 29:16) are the only objects

recorded from level IV. Only one of these, the iron nail, came from a good context lot. In addition several samples of small metal bars were discovered: mf. 6296 in IVB; mf. 1491, 10765-6, 10892 in IVA.

3. The correct identification of this poorly preserved stone fragment was first made by R. H. Dyson, Jr.



## *Glyptic*

### *Sealings on Tablets*

By far the most common sealing design discovered was composed of small circular indentations forming a pattern of triangles and lozenges, called punctate style (Stolper 1984b:15–18, fig. 4, seal no. 1, and here Fig. 34:6). Two different examples of a similar seal impression were discovered in level IV:

1. The first, on a tablet from corridor 95, adds a slightly larger circle between the lozenges (Stolper 1984b:fig. 5, seal no. 2).
2. The second pattern, possibly impressed on a tablet as well, consists of four triangles arranged so that their bases form a square. A small group of four dots decorates the center of the square. This design appears to alternate with one of triangles placed with their bases on opposite straight-line borders of the seal (Fig. 34:5).

The impressions are extremely sharp, and the seals, of which we have no examples, were probably made of metal. The closest parallels to these particular Malyan designs come from impressions on Nippur tablets dated to the reign of Nazi Marutash (1297–1283 B.C.) (Clay 1906:pl. 14:39–42). They were made by rolling only the metal caps, decorated with granulated gold balls and wire-wrapped borders, on the tablet (Clay 1906:pl. 15:11). At Malyan no trace of figurative designs is associated with the geometric patterns. A comparison of the impressions on the Malyan tablets with Kassite sealings from Nippur (stored in The University Museum, University of Pennsylvania) indicates that the individual dots that constitute the impressions were somewhat larger and coarser (2–3 mm in diameter versus 1 mm) on the

Malyan tablets. The geometric patterns and their composition are so close, however, that there appears to be some connection.

In studying the two major groups of tablets from corridor 95/60 and from room 76, Stolper (1984b:15–16) found that approximately 25% of the tablets had seal impressions. The sealings cover the unscribed area of the tablet and appear to have been used to prevent unauthorized additions to the text. Otherwise he could not identify any correlation between the content and form of the text and the use of the seal. He was also of the opinion that the impressions were made by seals rather than just the impression of the seal-cap as was suggested for the Nippur examples (Clay 1906:15). An impression on a jar sealing from Susa has a similar dotted design but is associated with figures and was, unlike the Malyan sealings, made by a seal-cap (Amiet 1972:seal 2069).

This decorative technique of granulation is found not only on Kassite seal-caps, but on jewelry of the period: for example, Dur Kurigalzu (Baqir 1946:pl. 15; fig. 8); Susa (Amiet 1966: figs 311–313); and Marlik (Negahban 1964:figs. 66, 68, 69). The pattern also appears on a fragment of jewelry of Mitannian date from Tell Brak (Oates 1987:pl. 39c). The whetstone handle from Susa (Amiet 1966:fig. 320), dated to the time of Shilhak Inshushinak (c. 1150–1120 B.C.), and the sword-hilt from the Arjan tomb (Towhidi and Khaliliyan 1983:272–274; Alizadeh 1985b:pl. 29,I), dated to the eighth to seventh century B.C., also establishes its use in Elam on a wide variety of objects over a long time span. Just what kind of a seal was used on the Malyan tablets remains unknown.

### *Sealings on Jar Stoppers and Doorlocks*

Fragments of sealings from elsewhere in the building (Fig. 34:1–4) indicate that seals of the same type were used to mark clay stoppers for containers and doorlocks. The impression (Fig. 34:2) was

possibly from a doorlock seal. Like the seals on the tablets, it consists of a series of triangles composed of sharply impressed dots<sup>4</sup> and a wire-wrapped border. The large group of sealings from room 26 was never

4. The back side of this impression was not drawn and no photograph exists. The drawing is based on a sketch in the

field register.

studied in detail. All the examples available are illustrated. One piece has two rollings of the same seal (Fig. 34:4 and Pl. 19:3); it was sharply impressed and probably made by a metal seal. The design consists of small circular indentations, like those found on the tablets, but the dots are arranged in patterns that imitate cuneiform signs. The "signs" appear to be framed by wire-wrapped bands indicating that the entire seal design consisted only of groups of dots arranged in signlike patterns.

Two other fragmentary sealings of the "cuneiform

sign" type are known.

1. A small piece of a jar sealing found in association with the group of tablets discovered in room 152 (Fig. 34:3; Pl. 19:4) that may belong to level IVA.
2. A larger fragment of a jar sealing from the erosion floor of level IIIB, strata 6b (Fig. 44:8).

Neither group of signs appears to form any identifiable word or words (Stolper n.d.), and no good parallels have been identified.

### *Sealed Tags*

A cache of more than 100 very fragmentary sealings was found in doorway 153 and room 154. They were in an area of very hard brown bricky fill below the level III floors and were probably part of the trash on the IVA surface. They were found in association with several tablets (as yet unread) and two inscribed "olive-shaped" tags similar to those from Chogha Zanbil (Ghirshman 1968a:pl. XI:7-9).

Most of the fragments in the cache of sealing clay were "flat tags" 0.013-0.025 x 0.03-0.05 x 0.005 m with one side smoothed. The thin, dark colored, poorly prepared clay is unlike the well-prepared clean clay on the jar or door-lock sealings. The two identifiable designs include randomly arranged animals walking left (Fig. 34:7) and a "flowing vase"

whose streams frame fish, stars, and birds(?) (Fig. 34:8). The function of these pieces is unknown and their findspot offers no help in understanding their original use. They may have been tags, as their shape suggests, or simply "practice" rollings. The flowing vase with stream, fish, and star motifs is paralleled at Susa and elsewhere in Mesopotamia in the glyptic art of the last half of the second millennium B.C. (e.g., Amiet 1972: nos. 2054, 2075; Steve et al. 1980: pl. 6, nos. 22, 28; Porada 1970: nos. 25, 66), but the particular combination on the Malyan pieces is otherwise unattested. The design of the fish is paralleled by the fish at the base of the Kurangun rock relief (cf. Vanden Berghe 1986:160, fig. 7).

### *Seals*

The only seal from level IV was found in the intentional fill in room 151 (Fig. 34:9). It is a long (0.043 m.), narrow (0.01 m in diameter) faience seal. Horizontal "ladders" frame a slightly angled scene. The border is common on faience seals found at Susa (e.g., Amiet 1972: nos. 2131-3; 1980:147), Al Untash-Napirisha (Porada 1970: nos. 51, 25), and Surkh Dum-i Luri in Luristan (Schmidt, Van Loon, and Curvers 1989: pl. 236; 75, 77, 80). A male figure (a groom?) standing behind a tree leads a rider on a saddled horse. The groom is dressed in a rounded helmet and a kilt with bandolier-like straps across his chest (cf. Porada 1970: seals 37, 46, 82). One hand leads the horse and the other is placed in front of his face. The horseman, wearing a kilt, raises a weapon (?) or a whip (?) in one hand and grasps the reins of his mount in the other. The horseman with a raised

hand holding a weapon can be compared to a seal from the Mecquenem excavations of the Ville Royale (Mecquenem 1928:175, no. 3). The strange "duck-billed" noses and helmets of the figures find close parallels at Surkh Dum-i-Luri (cf. Schmidt, Van Loon, and Curvers pl. 236:75-77).

Fillers above the main scene include a fly, a bird, and a crescent moon, spheres, and stars (cf. Porada 1970: seals 48, 51). These secondary motifs are paralleled in lowland Elamite and contemporary Mesopotamian glyptic. The Elamite seals are distinguished from late Kassite examples in part by the large size of the fillers in proportion to the central scenes. Also characteristic of Middle Elamite faience seals is the use of trees or a tree to frame the scene (Schmidt, Van Loon, and Curvers. 1989:417; Porada 1970: seals 31, 39, 49, 87).

# Level III

## *Stratigraphy and Architecture*

(Figs. 6, 35–39, Pls. 13–17)

The actual deposit that separates level IV from level III is very small (Fig. 35), and some level IV walls were reused in the succeeding building level. A new level number has been assigned, rather than a subphase letter, because there is such a marked change in the function of the constructions within the excavated area at this time. The division of level III from IV is arguable, since both the stratigraphy and the assemblages discovered in levels IVA–IIIB indicate that not much time separates these occupations. Level III was discovered primarily in EE 39, DD 41, and FF 41 at the north and northeastern edge of the EDD excavation. The area to the south and west is badly eroded (see Figs. 4, 45) and thus no coherent remains of the level III constructions could be identified with certainty, although some rooms, originally built in level IV along the eastern edge of the building, were probably refloored and could have been in use at the same time as the level IIIA constructions excavated in EE 39 (Fig. 39).

Two major construction phases belonging to level III have been identified (Fig. 35):

1. IIIB, the earliest, is a brief reoccupation of the east portico and exterior street (169 and 192) of level IV where four or five pottery kilns were built (Fig. 36).
2. IIIA is marked by the leveling of the kilns and some walls of level IV to provide a foundation for a new construction. Smaller (two-brick-wide) walls were built against the recycled walls 56 (Pl. 17B) and 105 of level IV in EE 39 (Fig. 39). Together these walls and a series of newly built two-brick-wide walls form the interior courtyard (Pl. 16) of a much less formal building than the earlier level IV construction. Rooms 61, 154, and 151 were refloored and incorporated into the level III structure (Fig. 39; Pls. 6, 17).

## *Level IIIB*

(Figs. 6, 35–38; Pls. 13–15)

Shortly after, or possibly during, the abandonment of the level IVA building, the east colonnade was transformed into a pottery manufacturing area. At least four kilns were constructed in EE 39. Three were dug into the fill in the area just outside the original exterior wall (9) and the colonnade of level

IV, and one was found just inside the old building behind pillar 177 (Figs. 6, 36).

The fire that destroyed the level IVA building might even have been caused by the close proximity of the kilns to the building. Since rooms 64 and 154 and the north side of wall 43 are unburned, however,

this reconstruction seems problematic. Level IIIB is definitely identified in square EE 39 and may be represented by floor levels in rooms 61, 151, and 154. Little remains of IIIB since the construction of IIIA required that the kilns be leveled. Moreover, the layers of the IIIA courtyard, 117, dip sharply in the northeast corner of the square, lensing out the remains of level IIIB to the north (Fig. 35).

East of the portico a single patch of burned sloping surface (174) associated with kiln 170 could be assigned to level IIIB with some certainty (Fig. 36). The IIIB surfaces in area 199 west of the old portico are irregularly formed outside erosion layers that were difficult to follow and distinguish from the fill in level IVA. The pits dug in IIIB, and the subsequent reconstruction of the area in level IIIA, led to a complex stratigraphy in a short time span in this area of the excavation.

Walls 56, 68, 105, 43, and 9 (Fig. 36) of the level IV building were still standing and in good repair after the fire. Pillars 177 and 173 (Fig. 9, 36) were either leveled or had collapsed. The post holes 165, 166, 169, 182, and 184–190 (Fig. 36) suggest that lean-to structures were built along what had been the eastern edge of the old level IV building.

Next to wall 105 a fireplace(?) (167) was built of half bricks (42 x 0.21 x 0.10 m) and faced with mud plaster. The top of this structure was cut away by a level IIIA oven built over it (Fig. 35). The horseshoe-shaped foundations of a kiln (164) were identified 2 m south of the fireplace. The building of wall 115 of level IIIA (see Fig. 6) cut away all of this feature except part of the firing pit and the central pillar that once supported the floor of the firing chamber (Fig. 37:1). It has been reconstructed on the basis of a much larger and better-preserved kiln, also with a central floor support, excavated in operation BB 33 at Malyan.

Two larger and more elaborately constructed pottery kilns were found in area 192 (Pl. 14A) just east of wall 9 and pillar 177 (Fig. 36). Kiln 175 (Fig. 37:2) consisted of a deep, well-built firing pit that reused pillar 177 of level IV as its back wall. Brick steps led down into a stoking hole covered by the floor or the grate of the firing chamber. This was made of mud plaster and pierced with seven small circular holes. The grate is damaged, but it originally was subrectangular or roughly circular. A chimney and a number of smaller vents were used to control the fire in the pit. The stoking hole has not been completely excavated, and no evidence of the kiln superstructure was uncovered (Pl. 14B). A kiln found in the temple of Hishmitik and Ruhurair at Al

Untash-Napirisha has a similar opening at ground level that leads into the stoking hole (cf. Ghirshman 1968a:29–30).

Adjacent to the kiln on the north was a group of post holes and two small pits filled with small sherds and pebbles. Two very tall Elamite goblets (nearly 0.50 m in height; see Pl. 20:5, 6) were placed end to end in a sherd packing reminiscent of a drainage arrangement (Fig. 36). What these remains represent is unclear.

The third kiln (170, Fig. 38) lay 4 m southeast of kiln 175. It consisted of a large underground stoke hole (172) where fuel was fed into the fire burning in the adjacent roofed flue. The hot gases were drawn into the furnace or combustion chamber through a large flue or fire tunnel and a number of smaller vents (Pl. 15). A chimney and vent at ground level opposite the fire tunnel suggest that this kiln was more complex than a simple updraft kiln. The hot gases could have been forced up through the ceramics and then down to escape through the chimney (a downdraft kiln) or pulled across by the chimney (a crossdraft or throughdraft kiln). Kiln 175 also may have been of the same type. Both downdraft and crossdraft systems are more fuel efficient than the simple updraft kilns commonly in use in earlier and contemporary sites (Alizadeh 1985a). A kiln of the Sasanian period excavated in X 65 (Alden 1978) also has a chimney opposite the fire tunnel.

The floor of the firing chamber or grate was a circular mud-plaster plate (1 m in diameter) pierced by small circular holes (seven are preserved and their average diameter is 0.10 m). The upturned lip and the shape of the floor indicate that the original kiln was domed and very possibly a temporary structure. The remains of a small opening to the firing chamber, perhaps a spy-hole, were also identified.

Partial clearing of the combustion chamber indicates that the floor of the furnace was supported by pilasters built of mud-brick (cf. Swan 1984:IIIV for a similar Roman kiln). A reconstruction of the upper part of the kiln is shown in Fig. 38. The firing chamber is stacked with representative ceramics and several setters or "stands" (see Fig. 25:1–10; Fig. 40:5–6) shown as they might have been used.

One meter north of kiln 170, the top of a fourth kiln (191), or kiln-related remains, was coming into view when the excavation stopped. There are some indications in the southeast corner of the square and in the east balk (Fig. 35) of EE 39, in the unexcavated area northeast of 175, that more kilns will be found in this area of the site.

### FINDS

Ten pieces of baked-clay supports and numerous wasters found in association with kilns 170 and 175 certify that they are pottery kilns. The number of wasters (25, or 4% of the diagnostic sherds) was also much higher than in other levels. Two kiln stands or "setters" were found in the combustion chamber of kiln 175 (Fig. 40:5, 6; Pl. 20:1, 2). Four painted vessels were found in the stoking hole and combustion chamber of kiln 175 (Fig. 40:1-4), along with two handstones (mf. 6261, 5275), two querns (mf. 5349, 5277), a chert blade (Fig. 43:5), a limestone bead (mf. 5273), and a worked sherd disc (mf. 6147). Kiln 170 and the stoking hole adjacent to it (172) produced a large deep bowl (Fig. 40:8); three worked sherd discs (mf. 6143, 10968, 10969); debitage of jasper, prase, and chert (mf. 5405, 5257, 5285, 6108, 6110, 6111); and a seal impression (mf. 6130) on baked clay.

Scattered on the erosion surface between kilns 164 and 170 were tablets (mf. 4430, 4437), a sealing (Fig. 44:8), and nearly a kilogram of small pieces of bitumen waste. A funnel vat (Fig. 40:10) and the very elongated Elamite goblets (Fig. 40:9) mentioned above were among the pots found. Miscellaneous objects such as worked sherd discs (Fig. 43:13; mf. 6138, 5264, 5404); debitage (mf. 6254, 5212, 10575,

5172) of jasper, chert, and cryptocrystalline quartz; blades of jasper (mf. 5135) and chert (Fig. 43:6); a limestone handstone (mf. 5137); and querns (mf. 5274, 5276, 5308) of jasper sandstone, jasper conglomerate, and baked clay; and lumps of blue pigment, which were found scattered on the 6B erosion surfaces. All of these finds are consistent with the interpretation that areas 192 and 199 were involved in ceramic production. The brick hearth or fireplace (167) might have been used for drying pottery. The disparate sizes and forms of the kilns suggest that they were built to fire different kinds of pots. The material recovered from them, however, does not offer any real clues to the specific uses of each kiln type.

On the basis of a preliminary analysis of its finds, a large circular kiln excavated in BB 33, 40 m to the south of the EDD excavation, appears to be earlier than the kilns excavated in EE 39. Since more kilns and kiln-related debris are visible in the east balk, further excavation of the area is expected to yield more detailed information on ceramic production in Anshan during the last half of the second millennium B.C. Why the highest part of the site and the edge of a large public building were converted to a ceramic production area remains puzzling since it seems an odd use to make of expensive urban real estate.

### Level IIIA

(Figs. 6, 35, 39)

This occupation is stratigraphically above level IIIB in EE 39 and FF 41. Fragmentary remains also exist in DD 41 and possibly in CC 43. Some of the standing walls of the level IV structure were recycled during the building level IIIA phase. Walls 9, 43, 56, 68, and 105 were reused in various ways in IIIA:

1. Wall 9, originally an outside wall of the level IV building, was leveled in EE 39. Several courses of bricks were added at its foot, and a heavy coating of mud plaster covered its top. This provided a solid floor for room 100 and a foundation for wall 103 in level IIIA (Pl. 13A).
2. In DD 41 a course of bricks was cut away from wall 9 (making the wall four instead of five courses wide), and wall 75 was bonded into what had been the outside wall of the complex (Fig. 6).

3. Wall 43 in EE 39 was also cut into, possibly to allow a new wall to be bonded to it.
4. Wall 68 was still standing but was cut by door 114 in level IIIA. This door led to rooms 154 and 151. Since doorway 159 (Fig. 11) was blocked at this time, these rooms did not communicate with the level IV (45) courtyard but could be entered from the east through courtyard 102, level IIIA.

Additional, less substantial walls were constructed. These were built of bricks of the same size as those used in level IV (0.40-0.43 m<sup>2</sup> x 0.09 m), but the walls were two rather than four bricks wide. Neither wall 201 nor wall 115 was bonded into the level IV walls, but both were built against them (Pl. 17).

The new building (Fig. 39) consisted of inner (102) and outer courtyards (117) with a series of rooms opening off the inner courtyard. How much

of the old level IV building was in use at this time is difficult to establish because of the heavy erosion to the west. Rooms 154 and 151 in FF 41 and room 61 in EE 41 were occupied, and the rooms 73 and 74 in DD 41 were also part of level IIIA. Walls 78 and niche 120 in EE41 may have been in use, but no floor levels were preserved west of the wall. The upper surface of room 10 in CC 43 might also have been part of this building level, but the connection between it and the rest of the building is cut by a modern disturbance.

## COURTYARD 117

(Pl. 16A)

The outside courtyard was formed by the addition of wall 115 to wall 105. Wall 105 was a recycled level IV wall that had been part of the original construction. Wall 115 was not bonded into wall 105 but was built against it in two irregularly sized sections. The first section, west of doorway 118, was seven bricks long and varied in width from one and a half to two courses. The second section was one brick wide, and several courses of bricks had been removed from the bottom of the wall, leaving a hole for the water from the inside courtyard (102) to drain to the outside courtyard (117) and into pit 116. A second pit (107) was identified just northeast of pit 116; it was sealed over by the courtyard floor and seems to have been dug from this level into level IIIB. A buttress consisting of a short brick wall (200) joined by a chineh or pisé rim (0.30 x 2.4 m) was added to wall 115 and provided a work space for the bin (130) and hearth (124) to the north. A pit from above and a small hearth (157, level II) had disturbed the top surface of the buttress.

An oval bin (130, maximum diameter 0.60 m) made of gray-brown mud with walls 0.05–0.07 m thick was placed between the corner of the buttress and wall 105. It was preserved to a height of about 0.30 m and was full of ashy earth. Next to it was a small oven (124). The other feature of note in 117 is a manger (135) built of mud added to wall 115. It consists of a rectangular trough (0.018 x 0.80 x 0.25 m, outside dimensions) with a small clay loop at the end. Similar mangers can be seen in Malyan village.

### FINDS

(Pl. 21)

The finds from courtyard 117 were not completely

consistent with the "farmyard" character of the features identified in it. On the floor were the bottom third of a faience seal (Fig. 44:7); a faience wall peg (Fig. 43:7) that ended in a human head and torso; a faience vessel fragment (Fig. 43:4); a whetstone fragment (mf. 10331); a fragment of a travertine banded marble vessel (mf. 10330); a limestone tile fragment (mf. 10466); and a terracotta model chariot wheel (mf. 616). In the fill above the floor a silver (?) handle (mf. 638) was discovered. A tablet (Stolper 1984b:5, mf. 603) and a fragment of faience handle or bracelet (Fig. 43:9) were found in bin 130. Six fragmentary sealings were uncovered in the trash in pit 107 (Fig. 44:1–6).

The pottery included coarse ware trays, and ribbed jar and vat sherds similar to the ones shown in Pl. 16A next to the manger. Rim sherds of the common buff ware forms, band-rim jars, Elamite goblets, and conical cups and bowls were also discovered.

## DOOR 118 AND ROOM 113

The main entrance into the IIIA building from the courtyard was through a small (3 x 2 m) rectangular room. A baked brick door socket was found in place next to the door jamb and a round basin (0.80 m in diameter) built into the floor was placed facing the doorway. The floor around this feature was almost cement-like, and it is possible that a washstand or water jar once stood here. A brick step was found in the door leading into the interior courtyard (102).

### FINDS

A green alabaster vessel fragment (mf. 584) with several lines of inscription in Elamite was found in this room. Sherds found in the floor lots include band-rim jars (Fig. 42:11), conical cups and bowls, a sherd of Qaleh painted ware, and a red-buff ware bowl sherd (Fig. 41:2).

## COURTYARD 102

(Pls. 16B, 17A)

The inside courtyard is roughly square (5 x 5.6 x 6 x 6 m). Two rooms (61 and 154), originally part of the level IV building, had been filled in and

resurfaced. A door (114) had been cut into wall 105, linking room 154 to courtyard 102.

Several irregular surfaces were cleared within this area. None of them runs all the way across the courtyard, and they show signs of outside weathering, indicating that this space was unroofed. Parallel to wall 115, a wall (201) one and one-half bricks wide abutted against a reused level IV wall (56) to form the southwest wall of the interior court (Pl. 17). Wall 103 was also constructed at this time. It may have been bonded into wall 43 where one course of the original level IV wall had been removed (Fig. 39). The new walls, one and one-half bricks wide, were built using large amounts of mortar and plaster. A small buttress was added to wall 104. Otherwise, all the new walls were bonded to one another and formed the eastern side of courtyard 102.

Features identified in courtyard 102 include a pebble pavement (158), which was placed next to the drain in wall 115, and three shallow depressions, possibly hearths, west of buttress 104. A large rock was found next to wall 201. Smashed sherds of a large jar were found scattered around the rock, indicating that it was probably used as a base for the vessel (Pl. 16A).

### *FINDS*

Courtyard 102 produced very few finds: a fragment of glazed brick, a glass vessel handle (Fig. 43:10), a lump of red ochre, some debitage (cryptocrystalline quartz, jasper, and prase), three querns, a fragmentary copper/bronze knife, and some shell. In addition to the large jar sherds, the pottery included simple bowls, band-rim jars, and a red ware sherd painted with brown stripes.

### ROOMS 154 AND 151

(Pl. 6)

Rooms 154 and 151 were linked to courtyard 102 by a door (114) that was cut into wall 105. Together they form a suite composed of a long rectangular room and a roughly square room. In the IVB level this group of rooms had been linked to the main courtyard (45). But by level IVA, door 159 had been blocked and the rooms may not have been used again (see pp. 6–8 and Fig. 11) until level IIIA when the new door (114) was opened.

Room 154 in level IIIA had a small rectangular mud-built hearth in the southwest corner. A niche

(161) was built into the southeast wall of room 151. It is similar in size and position to the niche in the south wall of room 12 in CC 43. These niches can in turn be compared to the niches in Palais II and III at Al Untash-Napirisha (Ghirshman 1968a: plan XIII, rooms 7, 13, 15; plan XIV, rooms 1, 5, 17, 22, 26). Otherwise no features were identifiable in these rooms.

### *FINDS*

Neither room 151 or 154 produced many finds. Several handstones of limestone (mf. 5035, 5036) and one of siltstone (mf. 3312), a chert bead (mf. 5030), a chert blade (mf. 3293), and some chert and limestone debitage recovered from room 151 suggest that, despite its impressive size, its uses were domestic. Room 154 produced a cone of baked clay (mf. 5028) and a ball of unbaked clay (mf. 5029). A single C-14 date from room 151 (see Table 6) gives a date range of 1241–976 B.C. for this level. The pottery from room 151 was not shipped back for study and only a few sherds came from room 154 in level III contexts. Among these were a conical bowl (Fig. 41:1) and a band-rim jar sherd (Fig. 42:10).

### ROOMS 100 AND 108

Rooms 100 and 108 measure approximately 6 x 4 m. They lie adjacent to the southwest and southeast sides of courtyard 102. Room 108 had a small pit (106) in the corner and a hearth (125).

### *FINDS*

The only find of note was a knife blade (Fig. 43:1) from room 108. Otherwise only a few potsherds came from rooms 100 and 108.

### ROOMS 111 AND 112

Rooms 111 and 112 are incompletely excavated. They may even belong to another building. They were built on top of walls 178 and 204 of level IV. The tops of the lower level walls were used as the floors of the upper level rooms and provided foundations for them. The inset on the level IIIA plan (Fig. 39) shows a detail of the relationship between level IV wall 204 and wall 133 of room 111.

### ROOMS 73 AND 74

Rooms 73 and 74 are also incompletely excavated and are assigned tentatively to the level IIIA construction. Wall 75 in DD41 was added to wall 9 by cutting away a course of the original wall. It is possible that pit 84 was dug from this level.

#### *FINDS*

Only a few finds and sherds were discovered in these areas.

### ROOM 10

Room 10 in CC 45 was part of the original level IV building that was possibly resurfaced and reused in level IIIA. The only feature in this room was a circular pit (14), 0.50 m in diameter, that was cut into the fill in level IVA. Any connection between this room and the other level III structures can only be established through further excavations.



# The Pottery and Small Finds from Level III

## *Level III Pottery*

The pottery from level IIIB was never shipped back to the United States. The IIIB assemblage as recorded in the field consists of 805 sherds, 9 complete or reconstructible pots, and 2 "stands" or kiln setters. The pottery excavated in 1972 from EE 39 from level IIIA (570 diagnostic sherds) was studied in detail, but the assemblage from rooms 151 and 154 (34% of the total for level IIIA) excavated in 1976 was not available for further scrutiny. Aside from two conical bowls (Fig. 41:1,3), no complete or reconstructible pots were discovered in good level IIIA contexts.

The paucity of the material and its poor preservation, combined with its inaccessibility, make statistical comparisons with the level IV pottery impractical. A maximum number of pots and sherds from level III have been illustrated in an attempt to compensate for these unfortunate circumstances. The wares and types identified in level III were similar to those described in level IV. Such changes as were noted in the III assemblage will be discussed below:

### IIIB

Four plain buff ware vessels were found crushed but apparently in place on the IIIB erosion surface:

1. Two Elamite goblets, both of the extremely elongated type (Fig. 40:9; Pl. 20:4, 5);
2. a vat in area 199 (Fig. 40:10; Pl. 20:7);
3. and a large conical bowl in area 192 (Fig. 40:7; Pl. 20:6).

A fifth reconstructible vessel came from the combustion chamber of kiln 170. It is a large buff ware bowl (Fig. 40:8) similar to those found in the Ville Royale II, level 8, at Susa (cf. Miroshedji 1981a:fig. 18:2). The vessels and sherds indicate continuity in the plain buff ware types from level IV into level III.

The diagnostic sherds from level IIIB, as summarized in the field record sheets, contained a high percentage of painted buff wares. Of the 631 diagnostic buff ware sherds recorded, 291 (46%) were painted and 48 (8%) had some kind of plastic decoration. No further details are available. Several complete or near complete painted Qaleh-ware vessels came from the combustion chamber of kiln 175. The high percentage of painted pottery in this area of the excavations appears directly related to the production of this ware class in the kiln.

The painted buff wares from IIIB differ from the Qaleh wares found in level IV and are a late manifestation of that ceramic tradition. Forms attested include three carinated goblets (Fig. 40:1-3), two decorated with horizontal bands and the third with vertical panels of cross-hatching and wavy lines framed by horizontal bands. This shape is not found among the level IV painted wares, but has parallels with a vessel from operation D (Nickerson 1983:fig. 47a) elsewhere on the site. The form and decoration of this vessel type are also paralleled in Luristan (e.g., Henrickson 1986:fig. 17:10). The other painted-ware vessel type attested is a necked jar with a low ring base. Its decoration, like that found on the goblets, is confined to the upper part of the vessel. The design consists of a band of paint on the rim and a frame of

horizontal bands of differing widths containing a row of solid triangles on the shoulder and upper body of the vessel.

These designs are simpler and their execution is less precise than those found on vessels from level IV. The more intricately decorated shouldered goblets and the open forms found in level IV are absent from level IIIB.<sup>1</sup> It now appears that it will be possible to identify phases of development within the Qaleh painted-ware tradition.

### IIIA

Most of the 360 IIIA buff ware sherds available for study came from the two courtyards, 102 (26%) and 117 (23%), and entry room 113 (19%). A large number of sherds from room 151 (166) were not available for detailed analysis. All other areas, with the exception of pit 84 in DD 41, produced very few (less than 5% of the total) diagnostic sherds. The types and wares represented in level IIIA appear to have been closely similar to those from earlier levels. There is an increase in the percentage of mineral tempered wares and a decrease in the number of sherds with predominantly vegetable temper in the IIIA buff wares. The vessels shown in Fig. 42:15, 16 are examples of this primarily mineral tempered ware. As in level IVA, the IIIA buff ware was mostly a plain buff ware with a self-slip or slip in contrasting color. The proportions of painted ware (10%) and ware with plastic decoration (8%) closely match those recorded for level IVA (Appendix A, Table 3).

#### *BUFF WARE OPEN FORMS*

Cups and bowls form 26% (n=48) of the IIIA buff ware rims. The simple conical bowl with direct rim and string-cut base (Fig. 41:1, 2, 4) remains a common type. Out-beveled (Fig. 41:5) rim sherds in a somewhat coarser ware indicate the presence of vessels similar to the one shown in Fig. 40:8. The rounded base vessel (Fig. 41:3) is also made in a relatively coarse tempered ware.

The one vessel form that appears to be more common in level IIIA than in level IVA is the vat, which comprises about 5% of the identifiable rim sherds. Most (6 of 9) of these came from courtyard 117. Only one coarse ware tray was recorded.

1. It is not possible to distinguish the small pieces of painted wares from level IIIB from those of level IV; therefore this is only a preliminary assessment.

#### *BUFF WARE CLOSED FORMS*

Jars form over half (53%) of the identifiable buff goblet types in IIIA, as they do in the other levels. Elamite (11%) (Fig. 42:7) and other goblets (5%) (Fig. 42:1-4) form about the same percentage of the assemblage, although no examples of the squat-shouldered goblet could be identified with certainty in level IIIA.

Of the 93 jar rim sherds (n=39; 42%) are neckless and (n=54; 58%) are necked. The rest are classifiable only as to diameter and rim form. Most of the neckless jars (54%) have thickened rounded rims (Fig. 41:10), 15% have band rims (Fig. 41:11), and 26% have thickened ledge rims (Fig. 41:9, 14). The number of neckless jars with direct rims declines sharply from level IVA.

Twenty percent (a similar percentage was identified in level IVA) of the necked jars have thickened rounded rims, 22% (15% in level IVA) have band rims (Fig. 42:8-12, 15), and 15% (4% in IVA) have thickened ledge rims (Fig. 42:13-14, 16-17). Thus there is apparently an increase in the popularity of the band-rim and thickened ledge-rim jars in level IIIA. The latter are closely related to the vats and are similar to the pithoi and large necked jars of level IVA (Fig. 42:13, 14, 16, 17).

These counts may indicate subtle changes in the assemblage from level IVA-III A. But the nature of the evidence prevents detailed conclusions.

#### *PAINTED BUFF OR QALEH WARE*

Qaleh painted wares form 11% of the IIIA buff wares. No complete shapes or rim sherds that permit vessel reconstructions were found.

#### *OTHER WARES*

Red wares were uncommon (less than 1%), although a jar rim with red wash or paint (Fig. 41:10) was found in pit 116 in courtyard 117. Handmade smoothed wares are represented by a few examples (9 sherds) found in level IIIA. Rim sherds of bag-shaped jars are typical of these wares (Fig. 41:12, 13). Cement wares (Fig. 41:9, 14) form 2.5% of the IIIA sherds. Gray-black wares form 1.75% and Banesh wares 2.81% of the assemblage.

## *The Small Finds from Level III*

### TERRACOTTA

Two female figurine fragments were found in level IIIB:

1. Fig. 43:11 illustrates a high headdress typical of lowland figurines of the late second millennium B.C. (Ghirshman 1968b).
2. Fig. 43:12 represents the lower portion of a local Kaftari figurine type (Nickerson 1979:fig. 7:e, p.105, no. 55). It is made of red ware and was decorated with incised lines and black paint.

The only other terracotta objects found in level IIIB were:

1. Seven worked sherds (mf. 6143, 10968-9, 6147, 5264, 5404, 6138). One (mf. 6138) is perforated like the example shown in Fig. 43:13 and was probably used as a spindle whorl.
2. A tile fragment (mf. 6145).
3. Three clay cones (mf. 5408, 5132, 5134).

From IIIA a chariot wheel (mf. 616) similar to those shown on Fig. 29:9-10, a worked sherd disc (mf. 1521), and three clay cones (mf. 1541, 10463, 5028) are the only terracotta objects recorded.

### FAIENCE AND GLASS

A corner fragment of a large (0.27 m<sup>2</sup>) glazed tile (Fig. 43:2) was found in level IIIB trash, but it may well be from the level IV building. A piece of glazed brick (mf. 708) found in IIIA may also have originated in the more luxurious earlier level.

Level IIIA produced a relatively large number of small faience objects, especially when compared to the finds from level IV, where architectural decorations formed the bulk of the faience finds.

Miroschedji (1981a:23) has noted a sharp rise in the popularity of similar objects at the turn of the second millennium in Ville Royale, levels 9-8.

At Malyan several vessel fragments or stands of faience were discovered in courtyard 117 of level IIIA. Fig. 43:3 shows a rim sherd of a small jar decorated with a guilloche pattern. A fragment of a vessel, stand, or bracelet with geometric decoration is shown in Fig. 43:4. A handle fragment (Fig. 43:9), also decorated with a guilloche pattern, was recorded from the same area of level IIIA. A vessel handle (Fig. 43:10) recorded once as faience and once as glass was discovered in level IIIA, courtyard 102.<sup>2</sup> The glaze on all of these objects is so deteriorated that attribution of their original colors is difficult. The vessels appear to have been green originally. The handle, however, appears to have been yellow and white.

The most interesting of the faience finds is a wall nail (Fig. 43:7). The knob end of this object is molded in the form of a bearded male with clasped hands, possibly carrying an offering. His posture is similar to other Elamite figures (Amiet 1966:fig. 317) and the object type itself can be compared to one from Hasanlu (Porada 1965:pl. 30) dated to the ninth century B.C. The only other faience object was the lower half of a seal (Fig. 44:7). This piece can be paralleled by late-second-millennium finds from Al Untash-Napirisha and Susa (see below under Glyptic).

### CHIPPED AND GROUND STONE

The large quantities of debitage found in the level IV building were not discovered in level III. Of note are several tools found in level IIIB that could have been used in ceramic production (Fig. 43:5, 6). Cryptocrystalline quartz was no longer the dominant raw material used in flint knapping; chert appears to have taken its place. Of the 27 pieces recorded from level IIIA, 16 are chert, 4 jasper, 6 cryptocrystalline quartz, and 1 limestone.

Querns and handstones of jasper sandstone,

---

2. Some small pieces of glass but no identifiable objects have been found in both level IVA and level III.

jasper conglomerate, limestone, and sandstone were found in levels IIIB and IIIA. A baked clay quern came from IIIB, and a siltstone handstone was found in IIIA.

## METAL

Very little metal was discovered in IIIB. There are two unidentifiable pieces of copper/bronze (mf. 5343 and 5217). The tanged copper/bronze knife blade (Fig. 43:1) is the only metal object from a good level III context.

## MISCELLANEOUS

Miscellaneous pieces of worked shell, including some of beads, were found in levels IIIB (mf. 5173, 5214, 6128) and in IIIA (mf. 3320, mf. 10477). An unbaked clay spindle whorl (Fig. 43:14) is the only representative of this find class from level III.

## GLYPTIC

### SEAL IMPRESSIONS

A single seal impression was found in level IIIB (Fig. 44:8). It shows cuneiform signs composed of dots within a frame of wire-wrapped bands (see above, pp. 35–36, for a more detailed description of this type).

Six fragmentary seal impressions were found in pit

107 in courtyard 117 of the level IIIA house. The pit, sealed by the courtyard floor, was dug from that level into the fill of level IVA. Two of the fragments (Fig. 44:2, 6) were parts of sealings used to close a square container such as a box or basket.<sup>3</sup> One very faint impression shows a striding kilted figure and a kneeling figure who appears to be grinding something, followed by a small sphere, the head of a horned animal, and a hatched lozenge (Fig. 44:1). Two seals may have been rolled across this fragment. The small sphere and hatched lozenge are paralleled in the glyptic from Al Untash-Napirisha (Porada 1970:54, 76). The "grinding" figures may have much earlier parallels (Amiet 1972:no. 670).

Two other fragmentary sealings were found in this locus. One shows two rosettes that can be compared to examples from Surkh Dum in Luristan (Schmidt, Van Loon, and Curvers 1989:pls. 241:134, 250:20 for a stamp seal) dated to the late second or early first millennium.

The last three fragmentary impressions should be dated to the late second millennium. One is a fragment of a flat tag (0.011–0.003 m thick). It shows a bird (possibly a vulture) (Fig. 44:4) surrounded by indistinct triangular objects. This sealing type is similar to those shown in Fig. 34:7, 8 from level IVA. Two other fragments depict a row of fish (?) (Fig. 44:5) framed by ladder-like bands (Fig. 34:5, 6). These can be compared to seals from Susa (Amiet 1972:nos. 2050, 2054). The type of fish is also paralleled closely by a filler motif found on a Susa seal (Amiet 1972:no. 2134).

One fragmentary faience seal from courtyard 117 in level IIIA shows what appears to be the lower half of a banquet scene (Fig. 44:7) and can be compared to examples from Susa and Al Untash-Napirisha (Amiet 1972:no. 2055; Porada 1970: no. 73).

3. I am grateful to R. Zettler for showing me how to determine this simply by using plasticine on the back of the impressions to make a positive.

## VII

---

# The Later History of the EDD Sector

### *Building Level II*

(Fig. 45)

Level IIIA was abandoned early in the first millennium. An erosion surface capped the architectural remains in part of EE 39 (Fig. 35). Sherds, a few finds, and a number of fragmentary and isolated features were located just below the modern surface of the mound. The latter are shown on the plan in Fig. 45. They included two large pits (147 and 85<sup>1</sup>); a ceramic drain (54); an isolated baked-brick pavement (66); several hearths (30, 127, 148, 157); some piles of stones (145, 64, 65, 28); and three burials (27 in CC 45, 67 in DD 41 and 47 in DD 43). Burial 27 appears to have been a relatively recent interment, unaccompanied by any burial goods. Burial 67 was found almost immediately beneath the surface and was disturbed.

Burial 47 in DD 43 (Fig. 46) was the most important of the three. The bottom, or the grave pit, was situated just below the eroded top of wall 50; the level from which the burial was dug is not preserved. The skeleton lay on its side in a flexed position with the head facing north. The individual wore five simple copper/bronze bracelets and a necklace consisting of a spacer bead, six tubular faience beads, and a faience seal. He (?) was wrapped in a shroud or wore a garment that was fastened at the neck by four dome-headed copper/bronze pins, two short and two long (Fig. 46:6, 12–14). A large, unreconstructible

pot was placed at his forehead, a small plain pot (Fig. 46:7) and a larger painted one (Fig. 46:8) were located between his arms and knees, and a second small jar was found below his feet (Fig. 46:9).

The pottery is handmade and has no close parallels from other excavated contexts at Malyan or other sites in Fars. The pins have parallels at Persepolis (Schmidt 1970:pl. 46:11) but are not distinctive enough to date with precision. The seal is also difficult to date. The proportions of the figure and his weapon can perhaps be compared to metal figurines found at Marlik (Negahban 1979:168). Likewise the arched neck of the horse and the treatment of the mane and the limbs are possibly crude imitations of the stylistic conventions used to portray horses on the metal vessels from Marlik (Negahban 1983:16–17) or on seals dated to the early first millennium (Carter 1984:185; Schmidt, Van Loon, and Curvers 1989:pl. 239:118). The disorganized seven dots in the field are paralleled in arrangement and number by a seal from Al Untash-Napirisha (Porada 1970:99 and seal 122). These dots may represent the Pleiades and are common in Neo-Assyrian seals. Assuming that the seal is not an heirloom, this burial should be dated to sometime before the Achaemenid period and after the abandonment of level IIIA.

---

1. It is possible but not certain that pit 85 was dug earlier. See above, p. 9.

## *Building Level I*

(Fig. 45)

Nine piers, consisting of roughly square shafts of irregular dimensions sunk into building level IVA deposits, comprise building level I (Fig. 45). A tenth pier was visible in the FF 41 balk. These features run diagonally across the length of the excavation. It is possible that they form the foundations for a colonnade of a much later building, but only further excavation can establish this. The shafts were lined with a

cement-like material and filled with stones of irregular shape and dimensions (0.25–0.30 x 0.15–0.20 m) (e.g., Pl. 5B). Smaller stones and pieces of baked brick were also included in the fill. The stones appear to have been set in lime-plaster (gatch). The most likely date for this eroded construction appears to be the Sasanian period.

## VIII

---

# Summary and Conclusions

Sometime in the last centuries of the second millennium B.C. the highest point of Anshan was occupied by at least one monumental structure. This building and those adjacent to it were not far from the city wall at the northwestern edge of the settlement. The site looked over the town to the south and east and had a commanding view of traffic moving across the plain. Excavations have shown that one of these structures, "the Middle Elamite building," covered more than 1000 m<sup>2</sup>. Although this building is smaller and was constructed without the extensive use of baked bricks, the basic layout of the rooms and patterns of architectural decoration are similar to those identified in the palaces at Al Untash-Napirisha in Khuzistan. A more generalized similarity can be seen in the arrangement of the rooms adjacent to the court in the Mitanni building at Tell Brak (Oates 1987:182-185, fig. 4).

The original (IVB) level consisted of a multi-sectioned building (Fig. 16) planned on a large scale. It was probably built as part of a general program of Elamite expansion into the highlands, perhaps under Humban-numena (c. 1350 B.C.)<sup>1</sup> or Untash-Napirisha, but possibly as late as the time of Shutruk-Nahhunte (c. 1190 B.C.) or Shilhak Inshushinak (c. 1150-1120 B.C.).

The second construction phase, level IVA, was in the process of being abandoned when most of it burned. The finds from this destruction level included two groups of administrative texts written in Elamite cuneiform that record transactions in metals: silver and gold in one group, and bronze, copper, and occasionally tin in the second. The tablets mention amounts from 3 oz. to 55 lbs., if Elamite and Babylonian measures are equivalent (Carter and Stolper 1976:38). Many appear to be receipts for materials that were used to manufacture cult items. Among the tablets found in IVA is a text that records

large amounts of silver and gold belonging to king Huteludush Inshushinak (c. 1120 B.C.) that were made into ornaments and furnishings for a temple or temples in or near Anshan (Stolper 1984b:122-125). Numerous inscribed bricks of this king found on the site also record the construction of a temple at Anshan, and it is possible that the records stored in level IVA were documents pertaining to the building of that temple or related structures. The temple itself may have been located on the hill 400-450 m east of EDD around EE16 (Fig. 4) since a large number of inscribed baked bricks were discovered in this spot.

The excavated portion of the EDD building, was probably not the main sanctuary. High-status administrative or religious functions, however, cannot be excluded for room 26, whose door jamb was decorated with faience wall tiles and knobs,<sup>2</sup> and room 96, with a large niche in the center of one of its short walls and a wide entrance. Tablets from the rooms around the courtyard and the corridor document transactions in metals; those discovered outside in alley 25 and in room 152 at the northern edge of the building record transactions in livestock, hides, and commodities. The contents of the tablets and finds of caches of calcite, hematite, and bitumen indicate that the courtyard and its surrounding rooms were used for the formal reception, redistribution, and storage of goods necessary for the functioning of the empire.

The lowland Elamites of the last centuries of the second millennium entered a region and a town in the process of decline and cultural realignments. The Kaftari period (2200-1600 B.C.) city of 20,000 to 30,000 inhabitants had shrunk to a town of 4000 to 8000 people in the last half of the second millennium (Sumner 1988). In the Kur River Basin the number and size of sites also dropped sharply at the same time. Malyan's influence continued to be

---

1. A synchronism between Untash-Napirisha and the Kassite king, Burnaburiash II, points to a mid 14th century date for Humban-numena and Untash-Napirisha (Steve and Vallat 1989).

2. Ghirshman (1968a:48) notes that in the Palais Hypogée at Al Untash-Napirisha only selected doorways of important rooms opening onto the interior court were decorated.

felt in the western half of the valley, where Qaleh ceramics, which were probably produced at Malyan, continued to be used. On the eastern side of the river a new ceramic tradition appeared, called Shogha/Teimuran (Jacobs 1980:63–83).

The lowlanders apparently were able to penetrate the western edge of the basin and establish themselves in a prominent position in Anshan, a long-lived, historically important city.<sup>3</sup> At Malyan and elsewhere in their realm the kings of the Middle Elamite Empire founded “temples” at key points in a network that reached from Fars to Khuzistan (Carter 1984:181). These establishments must have functioned as centers for local peoples, both tribal folk and farmers. Manufactured goods, such as pottery, were probably available in the towns in exchange for agricultural and animal products as well as raw materials. The complex excavated in EDD was a only a segment of a larger building that must have served as a focus for the servants of the Elamite state in Anshan. One of their duties may have been to extract or purchase raw materials and supply high-quality finished goods to both the local populations and the lowland cities. The tablets suggest that their motives were linked to the exploitation of metals and possibly other products from the highlands.

The reconstruction above finds support in the analysis of the faunal assemblage from EDD IV. The butchering age and types of body parts found indicate that animals may have been delivered directly from herders or mobile pastoralists and then butchered and distributed from this building (Zeder 1984:296–301). Moreover, despite an assemblage in which sheep and goat are the predominant species (76%), cattle (16%), equid (4%), and camel (2%) are present in EDD IV with a greater frequency than in the more domestic or residential areas of the site. This distribution in turn suggests that the activities of the elite residents of the town, who had and needed access to transportation and large quantities of meat, were centered in and around EDD IV (Zeder 1985a; 1991:208–239).

Local craft traditions are represented by the Qaleh painted buff wares found in association with the lowland-related plain buff wares in levels IV–III. It is now clear that this ceramic style developed from and overlapped with the earlier Kaftari painted buff wares. The Kaftari-Qaleh transition is not yet understood, but something of the final phases of the

Qaleh style can be gleaned from EDD. In level IVB a large number of fine buff-ware jar shoulders painted in precise geometric patterns were discovered. Qaleh painted buff ware has been found on thirteen other sites and occupation locales in the valley, mostly in association with sherds of a distinct painted ware tradition called Shogha/Teimuran (Fig. 2, above; Carter 1984: 174–175; Jacobs 1980:63–83; Sumner 1988). None of these settlements, except Malyan, have produced clearly lowland-related forms.

The study of the Malyan ceramic assemblage established numerous parallels with contemporary pottery from Late Middle Elamite Khuzistan, Late Bronze Age Luristan, and Kassite Babylonia. These comparisons lead to two main conclusions. First, the great majority (70–80%) of the ceramics in the Middle Elamite building levels IV–III have close parallels in contemporary lowland sites such as Susa and Al Untash-Napirisha. The main Elamite types have close analogues with the major ceramic types known from Kassite Babylonia. The combination of conical bowl, goblet,<sup>4</sup> plain and indented band-rim jars, and pithoi with heavy overhanging rims can be seen in Fars, Susiana, and Kassite Babylonia. These ceramic types and their association can be considered horizon markers of the Late Bronze Age assemblages east of the Euphrates and south of Assyria. Second, highland ceramic traditions are represented at Malyan by the painted buff or Qaleh ware sequence. Similar painted wares from eastern Khuzistan, particularly the Ram Hormuz and Izeh regions, (cf. Carter 1971:268–270; Wright 1979:106–113) and Luristan in the last half of the second millennium B.C. (cf. Schmidt, Van Loon, and Curvers 1989:pls. 109:e,i,k, 115:b; Henrickson 1986:fig. 17) linked the craft traditions of Fars, eastern Khuzistan, and Luristan. These ceramic similarities suggest the possibility that painted buff ware ceramic styles were characteristic of highland Elamite cultures of the period.

The buildings on the highest point of ancient Anshan could have been maintained only with extreme difficulty, if, as has been argued, they were the center of the Middle Elamite imperial presence in the hinterlands of the Kur River Basin more than 500 km southeast of the lowland capital in Susa. These excavations have demonstrated that there was a steady decline in the size and importance of the complex through time. After the fire that destroyed level IVA, the colonnade of the monumental

3. A hint of this relationship is found in a text of Shtruk Nahhunte in which he records bringing back to Susa the stole of an unknown king from Anshan (König 1965:pp. 73-74: no. 20).

4. Although the Kassite and Elamite goblet forms were made in different ways—the foot of the Elamite goblet was attached and characterized by the raised interior boss (Pl. 9:3b); the Kassite chalice had a solid foot (e.g., Armstrong 1989:fig. 64, type 6). Both goblets were roughly similar in shape and thus probably functional equivalents.



building was transformed into a pottery workshop. Further excavation of the area to the east of EE 39 will provide valuable documentation on ceramic production at Malyan and clarify the relationship of the Qaleh painted ware tradition to the other painted wares found in the Kur River Basin. These vessels are associated with the same lowland-related forms that were discovered in IVA and IIIA.

Level IIIA follows closely on IIIB. Some of the old level IV walls were recycled, and the kilns were leveled. New walls were constructed, and the character of the architecture and most of the finds points to a domestic rather than a public building. Lowland-style ceramics continued in use, but there were some slight changes in temper and in the popularity of certain forms. A single tablet and several sealings found in this level point to a continuity in administrative traditions as well. Ceramic parallels with Susa Ville Royale 9–8 are close, and a single C-14 date suggests a date range of c. 1241–976 for the level, although a date of c. 900–800 B.C. is not impossible.

In spite of the marked changes in function recorded in EDD—from monumental building (level IV), to ceramic production area (level IIIB), to domestic structure (level IIIA)—there is no reason to suspect that the strong cultural ties to the lowlands had been severed until level IIIA was abandoned, and its walls covered by an erosion surface. The only indication of post-Middle Elamite and pre-

Achaemenid occupation is found in burial 47 (Carter n.d.c.). Scattered sherds of handmade pottery similar to the pottery from burial 47 found in surface lots point to the end of Elamite ceramic traditions and the rupture of cultural ties with Susiana. Surprisingly few sherds of the Achaemenid period have been discovered so far in EDD or on the site (Sumner 1986). Sasanian ceramics similar to those from the kiln excavated in X 65 were relatively common in surface lots. The stone pillar foundations are dated to that period for primarily that reason. A correlation of the EDD stratigraphy with the phases of the Middle Elamite Empire would not be productive. Nevertheless, it seems worthwhile to point out that the pattern sketched here for EDD appears to parallel the general course of the empire's history: a brief period of expansion before the end of the second millennium followed by a rapid decline in the first centuries of the first millennium B.C.

The finds from EDD and the ceramic evidence from the region strongly suggest that Malyan was an isolated outpost of the lowland kings. The excavations in EDD have provided us with our first detailed view of the functioning of the Middle Elamite Empire outside Susiana. Further study of other contemporary contexts excavated at Malyan will lead to a fuller understanding of the internal sequence and eventually will shed more light on the relationship between the local folk and their lowland overlords.



TABLE 1  
The Chronological Periods at Malyan (after Sumner 1988:314-315)

A.D. 600	Islamic	Surface—NE corner, city wall embankment
	Sasanian	TUV—coin in burial EDD—coin, possibly BL 1 X65—kiln
	Sasanian or Parthian	A63—disturbed architecture Surface—many sherds, SW quarter of site Test Trench D—upper building
50 B.C.	Parthian	Z46—coin in burial GHI—coin in burial
300 B.C.	Achaemenid	Surface—7 sherds
600 B.C.	Hiatus?	
900 B.C.	Qaleh- Middle Elamite	EDD—BLs 3 and 4 BB33—Qaleh kilns XX—BL 1 GHI—BL 1 ABC—upper wells Test Trench D—middle strata
	Shogha	a few surface sherds
1600 B.C.	Kaftari	ABC—upper strata GHI—BLs 2-4 GGX98—all strata FX106—all strata BY8—upper strata F26—upper strata Test Trench D—lower strata
2200 B.C.	Hiatus?	
2800 B.C.	Banesh	ABC—BLs 2-5 TUV—BLs 1-3 GHI—sounding, lower strata BY8—lower strata F26—lower strata Z46—lower strata
3400 B.C.	Lapui	Surface—a few sherds
3900 B.C.	Bakun	Surface—12 sherds EE16 and Z46—a considerable number of sherds in disturbed contexts
4500 B.C.	Shamsabad	Surface—a few sherds
4800 B.C.	Gari	Surface—a few sherds
5500 B.C.	Muski	Not identified at Malyan

TABLE 2  
EDD Feature Numbers

Area/Feature Numbers	Codes <sup>1</sup>	Building Level(s)	Cross References	Comments
1	MISC	II	CC43 1 MISC	pile of stones
2	PIER	I	CC43 2 MISC	
3	PIER	I	CC43 3 MISC	
4	WALL	IVA/IIIA?	CC43 4, CC45 4, DD45 4	
5	ROOM	IVA	CC43 5 ROOM	
6	WALL	IVA	CC43 6 WALL	between rooms 5 and 26
7	WALL	IVA	CC43 7 WALL	
8	WALL	IVB/IVA/IIIA?	CC43 8 WALL	
9	WALL	IVB/IVA/ IIIB/IIIA	CC43 9, DD41 6, EE43 9	
10	ROOM	IVA/IIIA	CC43 10 ROOM	
11	WALL	IVB/IVA/ IIIA?	CC43 11, DD43 7, DD45 7, WALL	
12	ROOM	IVB/IVA/IIIA?	CC43 12 ROOM	
13	PIER	I	CC43 13 MISC	
14	PITX	IIIA	CC43 14 PITX	
15	CRDX	IVA	DD45 13 14, DD43 13, CC43 15 CRDX	
16	DOOR	IVA	DOOR	between rooms 5 and 26
17	DOOR	IVB?/IVA/ IIIA	CC43 17 DOOR	between rooms 10 and 12
18	NICH	IVB?/IVA	CC43 18 NICH	
19 <sup>2</sup>	ROOM	IVA	CC45 11 ROOM	
20	HRTH	IVA	CC45 12	
21	WALL	IVA	CC45 2 WALL	
22	WALL	IVA	CC45 6 WALL	
23	DOOR	IVA	CC45 10 DOOR	
24	WALL	IVA	CC45 7 WALL	
25	KUCH	IVA	CC45 9, CC43 16 KUCH	
26	ROOM	IVA	CC45 8, DD45 8 ROOM	
27	BURL	STRATA 1	CC45	burial
28	MISC	II	CC45 3 MISC	brick fragments
29	MISC	IVA	CC45 5 MISC	baked bricks in room 19
30	HRTH	II	CC45 13	on wall 22
31	WALL	IVB/IVA/IIIA	CC43	between rooms 5 and 10
32	WALL	IVA	DD45 1, EE45 1	corner pier
33	WALL	IVA	DD45 2 WALL	pillar
34	WALL	IVA	DD45 WALL	
35	MISC	IVA	DD45 5 MISC	flint in ash in corridor 15
36	WALL	IVA	DD45 6 MISC	collapsed pillar
37	DOOR	IVA	DD41; DD43	between walls 92 and 49
38	DOOR	IVA	CC43 17	door between rooms 12 and 60
39	DOOR	IVA	CC45/43	door between walls 16 and 4
40	DOOR	IVA	DD45 11	door between walls 34 and 11
41	DOOR	IVA	DD45 12	between walls 32 and 33
42	WALL	IVA/IIIB?	DD41 10 WALL	

TABLE 2 (continued)  
EDD Feature Numbers

Area/Feature Numbers	Codes <sup>1</sup>	Building Level(s)	Cross References	Comments
43	WALL	IVB/IVA	EE41 WALL B	
44	DOOR	IVA	DD45 15	floor under collapsed pillar
45	COUR	IVB/IVA	DD43, DD45 16, EE43 16, EE41 2, EE45 45	
46	BURL	STRATA 1	DD43 1	
47	BURL	IIIA/II?	DD43 2	
48	PIER	I	DD43 3 MISC	
49	WALL	IVA	DD43 4 WALL	pillar
50	WALL	IVA	DD43 4 WALL	corner pier
51	PIER	I	EE41	not originally numbered
52	PIER	I	EE41	not originally numbered
53	SURF	IIIA	FF41	
54	MISC	II/IIIA?	DD43 9 MISC	ceramic drain
55	WALL	IVA	DD43 10 WALL, DD45 10	pillar
56	WALL	IVB/IVA/IIIB/IIIA	EE39/41, WALL I	
57	DOOR	IVA	DD43 12 DOOR	
58	ROOM	IVA	EE39 58, EE41 5	behind colonnade
59	DOOR	IVA	DD43 14 DOOR	
60	CRDX	IVA	DD43 15, DD41 16, CC41 5	cf. corridor 15, 95
61	ROOM	IVB/IIIB/IIIA	EE41 4 ROOM	occasionally marked room 2
62	PITX	IVA	DD43 17 PITX	
63	PIER	I	DD41 1, DD43 6	stone pier
64	MISC	II	DD41 2	stones
65	MISC	II	DD41 3	rockpile
66	MISC	II	DD41 4	baked brick paving
67	BURL	II	DD41 5 BURL	
68	WALL	IVB/IVA/IIIB/IIIA	EE41 F1 WALL, EE39 WALL F	
69	ROOM	IVA/IIIA?	DD41 7 ROOM	
70	AREA	II	DD41 8 AREA	
71	PIER	I	DD41 9 PIER	
72	DOOR	IVA	DD41 17 DOOR	between walls 42 and 83
73	ROOM	IIIA	DD41 11 ROOM	
74	ROOM	IIIA	DD41 12 ROOM	
75	WALL	IIIA	DD41 13 WALL	
76	ROOM	IVA	DD41 14 ROOM	
77	WALL	IVA	DD41 15 WALL	
78	WALL	IVB/IVA IIIB?/IIIA	EE41 WALL A	wall top used as surface in IIIA only = EE41 F1
79	DOOR	IVB/IVA	DOOR	between walls 56 and 68
80	DOOR	IVA	DD41 18 DOOR	
81	WALL	IVA/IIIB?	DD41 19 WALL, DD43 8 WALL	
82	WALL	IVA	DD41 20 WALL	
83	WALL	IVA/IIIA?	DD41 21 WALL	

TABLE 2 (continued)  
EDD Feature Numbers

Area/Feature Numbers	Codes <sup>1</sup>	Building Level(s)	Cross References	Comments
84	PITX	IIIA	DD41 22 PITX	
85	PITX	II	DD41 23 PITX	
86	WALL	IVB/IVA	EE43 41 WALL N	pillar
87	WALL	IVB/IVA	EE43 2 WALL, EE45	corner pier
88	CACH	IVA	EE43 3 MISC	flint deposit
89	DOOR	IVB/IVA	EE43 4 DOOR	between walls 87 and 8
90	WALL	IVB/IVA	EE43 WALL D	
91	WALL	IVB/IVA	EE43 WALL E	pillar
92	WALL	IVB/IVA	EE41 WALL L	corner pier
93	DOOR	IVB/IVA	EE41	unnumbered between walls 86 and 91
94	DOOR	IVB/IVA	EE41 DOOR G	
95	CRDX	IVB/IVA	EE41 ROOM 3	
96	ROOM	IVB/IVA/IIIA?	EE41 1 ROOM	(IIIA = niche or hearth area just below surface)
97	WALL	IVB/IVA?/IIIA	EE41 WALL C	(cf. wall A)
98	DOOR	?	EE41 1 DOOR	between walls 90 and 43
99	CACH	IVA	DD43	calcite pile next to wall 49
100	ROOM	IIIA	EE39 1 ROOM	
101	DOOR	IIIA	EE39 2 DOOR	
102	COUR	IIIA	EE39 3 ROOM	
103	WALL	IIIA	EE39 WALL H	
104	WALL	IIIA	EE39 WALL I	
105	WALL	IVB/IVA/IIIB IIIA	EE39 WALL F2	
106	PITX	IIIA	EE39 F13	
107	PITX	IIIA	EE39 F12	
108	ROOM	IIIA	EE39 8 ROOM	
109	WALL	IIIA	EE39 WALL O	
110	WALL	IIIA	EE39 WALL K	
111	ROOM	IIIA	EE39 15 ROOM	
112	ROOM	IIIA	EE39 9 ROOM	
113	ROOM	IIIA	EE39 4 ROOM	
114	DOOR	IIIA	EE39 11 DOOR	between walls F and F2
115	WALL	IIIA	EE39 WALL J	
116	PITX	IIIA	EE39 14 PITX	
117	COUR	IIIA	EE39 7 and 6 COUR	
118	DOOR	IIIA	EE39 5 DOOR	
119	WALL	IIIA	EE39 WALL I	
120	NICH	IVB/IVA/IIIA?	EE41 NICH F	
121	WALL	IIIA	EE39 WALL P	between rooms 111 and 112
122	HRTH	IVA	EE41	on floor of room 95
123	PITX	IVA	EE41 ?	
124	HRTH	IIIA	EE39 F11	hearth
125	HRTH	IIIA	EE39 F8	hearth
126	HRTH	IIIA	EE39 F2	hearth
127	HRTH	II	EE39 F1	
128	HRTH	IIIA	EE39 F4	

TABLE 2 (continued)  
EDD Feature Numbers

Area/Feature Numbers	Codes <sup>1</sup>	Building Level(s)	Cross References	Comments
129	HRTH	IIIA	EE39 F3	or small pit
130	BINX	IIIA	EE39 F6	
131	PITX	IIIA	EE39 F5	
132	MISC	IIIA	EE39 F7	buttress
133	WALL	IIIA	EE39 K2 WALL	
134	HRTH	IIIA	EE39 F9	in 113 room
135	MISC	IIIA	EE39 F10	manger in courtyard 117
136	WALL	IVA	EE45	pillar
137	WALL	IVA	EE45	
138	WALL	IVA	EE45	
139	CRDX	IVA	EE45	
140	DOOR	IVA	EE45	
141	DOOR	IVA	EE45	
142	DOOR	IVA	EE45	
143	ROOM	IVA	EE45	
144	CACH	IVA	EE45	floor deposit bones and bitumen bits
145	MISC	II	FF41	stone pile; possibly burial
146	MISC	II	FF41	stone pile
147	PITX	II	FF41	
148	MISC	II	FF41	
149	WALL	IVB/IVA/IIIA	FF41	
150	WALL	IVB/IVA?/IIIA	FF41	
151	ROOM	IVB/IVA?/IIIA	FF41	
152	ROOM	IVA?/IIIA	FF41	
153	DOOR	IVB/IVA?/IIIA	FF41	
154	ROOM	IVB/IVA?/IIIA	FF41	
155	HRTH	IIIA	FF41	
156	PIER	I	FF41 EE41	stone pillar base in 154 room 1
157	HRTH	II	EE39	
158	MISC	IIIA	EE39	pebble pavement in courtyard 102
159	DOOR	IVB	FF41	blocked in IIIA and IVA
160	WALL	IVB/IVA/IIIA	FF41	
161	WALL	IVB/IVA?/IIIA	FF41	
162	WALL	IVB?/IVA	FF41	
163	NICH	IVB/IVA?/IIIA?	FF41	
164	KILN	IIIB	EE39	
165	POST	IIIB	EE39	
166	POST	IIIB	EE39	
167	HRTH	IIIB	EE39	fireplace
168 <sup>9</sup>	DOOR (?)	IVA?	EE39	space between wall 178 and foundation platform 179
169	POST	IIIB	EE39	
170	KILN	IIIB	EE39	
171	PITX	IIIB	EE39	
172	PITX	IIIB	EE39	

TABLE 2 (continued)  
EDD Feature Numbers

Area/Feature Numbers	Codes <sup>1</sup>	Building Level(s)	Cross References	Comments
173	WALL	IVA/IIIB?	EE39	pillar, top only visible in IIIB
174	SURF	IIIB	EE39	
175	KILN	IIIB	EE39	
176	POST	IIIB	EE39	group of five holes
177	WALL	IVA/IIIB	EE39	pillar = IVA; back wall of combustion chamber of kiln 174 = IIIB
178 <sup>2</sup>	WALL	IVA/IIIB/IIIA	EE39	corner of another building in IVA, used as floor and wall foundation in IIIB/IIIA
179	WALL	IIIB?/IIIA	EE39	foundation platform
180	DOOR	IVA	EE39	
181	DOOR	IVA	EE39	
182	MISC	IIIB	EE39	
183	DOOR	IVA	EE39	
184	POST	IIIB	EE39	
185	POST	IIIB	EE39	
186	POST	IIIB	EE39	
187	POST	IIIB	EE39	
188	POST	IIIB	EE39	
189	POST	IIIB	EE39	
190	POST	IIIB	EE39	
191	KILN	IIIB	EE39	
192	KUCH	IVA/IIIB	EE39	
193	KILN	IIIB	EE39	in north balk
194	SURF	IIIB?/IIIA	FF41, EE41	ashy surface in room 154
195	SURF	IVA	EE45, EE43, EE41, DD44 43	surfaces of courtyard 45
196	SURF	IVB	EE41	in room 96
197	SURF	II	CC45	floor on top wall 22
198	MISC	II	DD41	unnumbered stone pile
199	AREA	IIIB	EE39	open space with kilns
200	PITX	II	EE39	pit in wall 115
201	WALL	IIIA	EE39 41 WALL G	
202	SURF	IIIA	CC43 10 ROOM	surface
203	DOOR	IIIA	EE39	between walls 104 and 103
204	WALL	IVA/IVB	EE39 WALL	

<sup>1</sup>The following abbreviations are used in this list and are the same as those used in the computer coding of the data: AREA = area, BINX = bin, BURL = burial, CACH = cache, CRDX = corridor, COUR = courtyard, DOOR = door, HRTH = hearth, KUCH = alley, MISC = miscellaneous, NICH = niche, PIER = pier, PITX = pit, ROOM = room, SURF = surface, WALL = wall.

<sup>2</sup>Although Area/Feature numbers 19 to 24 are situated southwest of the main building excavated, they have been assigned to level IVA.

<sup>3</sup>When wall 109 (IIIA) was built it was founded, in part, on wall 178 (IVA). In level IIIB the wall top may have been part of the surface associated with kiln 170. Walls 110 and 121 (IIIA) were built on a foundation platform (?) (179) or another wall top which parallels 178 and to which a half brick had been added to facilitate the construction of the IIIA walls 110 and 121. Only further excavation can clarify the situation here. If wall 179 stops then passage 168 will be cancelled.



TABLE 3  
EDD Cultural Strata and Building Level Summary

Building Level	Cultural Strata	Description
none	1	Surface wash and disturbed topsoil and pits or burials excavated through or from stratum 1.
I	2	B.L. I stone piers.
II	3a	Arbitrarily associated features on or above the walls and fill of B.L. IIIA or IVA or arbitrarily associated features excavated into the fill of B.L. IIIA or IVA from stratum 3a.
none	3b	Fill below B.L. II surfaces or features but above B.L. IIIA or IVA walls or fill.
IIIA	4a	Fill below the tops of B.Ls. IIIA walls.
IIIA	4b	Fill on upper floor (5a) of B.L. IIIA.
IIIA	4c	Mixed brick fill from B.L. III and IV.
IIIA	5a	Upper floor of B.L. IIIA.
IIIA	5b	Fill between upper (5a) and lower (5c) B.L. IIIA floors.
IIIA	5c	Lower (foundation) floor of B.L. IIIA.
IIIB	6a	Fill in B.L. IIIB.
IIIB	6b	Fill on B.L. IIIB surface (6c).
IIIB	6c	B.L. IIIB surface.
IIIB	6d	Fill below the B.L. IIIB surface (6c) related to kiln construction.
IVA	7a	Fill in B.L. IVA.
IVA	7b	Fill in B.L. IVA with a heavy concentration of burnt material in the roofed areas.
IVA	7c	Fill in B.L. IVA alley.
IVA	8	Silt or unburned material in or below ash level in courtyard of B.L. IVA.
IVA	9a	Fill on the floor (10a) of B.L. IVA rooms, doorways, and corridors.
IVA	9b	Fill on surfaces (10b) of B.L. IVA courtyard.
IVA	9c	Fill on the surfaces (10c) of B.L. IVA alley.
IVA	10a	Floors of B.L. IVA rooms.
IVA	10b	Surfaces of B.L. IVA courtyard for the most part not yet removed.
IVA	10c	Surfaces of B.L. IVA alley.
IVB	11a	Fill below the B.L. IVA rooms and corridors.
IVB	11b	Fill below the B.L. IVA courtyard surfaces (10a).
IVB	12	Intentional fill in B.L. IVB.
IVB	13a	Fill on floor (14) of B.L. IVB rooms and doorways.
IVB	13b	Fill on surfaces (14) of B.L. IVB courtyard.
IVB	14	Floor and courtyard surfaces of B.L. IVB.
V	15	Fill below B.L. IVB; or below floor/surface (14).

TABLE 4  
The Malyan Lot Index

Operation Number	Lot Number	Lot Indicator (M = Mixed)	Area/ Feature	Period Indicator	Building Level	Strata	Deposit Code	Comments	
CC 43	1				I		32		
	2			M	II	3A	34		
	3			M	II	3A	34		
	4		005ROOM	M	IVA	7A	35		
	5			M		1	32		
	6		005ROOM	M	IVA	7A	48		
	7		010ROOM	M	IIIA	4A	35		
	8		025KUCH	M	IVA	7C	35		
	9		005ROOM	M	IVA	7B	27		
	10	M	017DOOR	M	IVA	9A	41		
	11		010ROOM	M	IIIA	4B	26		
	12					I	2	36	2, 31 PIERS
	13	M	012ROOM	M	IVA	9A	25		
	14		012ROOM	M	IVA	9A	26		
	15			M	IIIA	5A	29		202 SURF
	16		012ROOM	M		1	43		DISTURBED AREA, ROOM 12
	17		005ROOM	M	IVA	9A	26		
	18					1	23		DISTURBED AREA, ROOM 12
	19		010ROOM	M	IVA	7A	35		
	20		015CRDX	M	IVA	9A	26		
	21					1	47		DISTURBED AREA, ROOM 12
	22					1	43		DISTURBED AREA, ROOM 12
	23		010ROOM	M	IVA	9A	26		
	24		005ROOM	M	IVA	9A	26		
	25		005ROOM	M	IVA	9A	26		
	26	M	017DOOR	M	IVA	9A	48		
	27		012ROOM	M	IVB	11A	48		
	28		010ROOM	M	IIIA	4A	35		
	29		010ROOM	M	IIIA	4B	26		
	30		010ROOM	M	IVA	7A	35		
	31		010ROOM	M	IVA	9A	26		
	32		014PITX	M	IIIA	5A	22		
	33		025KUCH	M	IVA	7C	42		
	34		025KUCH	M	IVA	9C	26		
	35	M	018NICH	M	IVA	7A	41		
	36					IVA	7A	36	CLEANING BRICKS
	37					IVA	7A	36	CLEANING BRICKS
	38					1	32		
	39		015CRDX	M	IVA	7B	35		
	40		015CRDX	M	IVA	7B	27		
	41		015CRDX	M	IVA	9A	26		
	42		038DOOR	M	IVA	9A	26		
CC 45	1					1	32		
	2					1	32		

TABLE 4 (continued)  
The Malyan Lot Index

Operation Number	Lot Number	Lot Indicator (M = Mixed)	Area/ Feature	Period Indicator	Building Level	Strata	Deposit Code	Comments	
CC 45	3		027BURL			1	13		
	4		026ROOM	M	IVA	7A	35		
	5					1	32		
	6		025KUCH	M	IVA	7C	35		
	7		025KUCH	M	IVA	7C	35		
	8		019ROOM	M	IVA	7A	35		
	9	M	025KUCH	M	IVA	7C	23		
	10		026ROOM	M	IVA	7A	35		
	11		026ROOM	M	IVA	7B	48		
	12		025KUCH	M	IVA	7C	23		
	13		019ROOM	M	IVA	7A	23		
	14		019ROOM	M	IVA	7C	23		
	15		019ROOM	M	IVA	9A	26		
	16		025KUCH	M	IVA	7C	48		
	17		025KUCH	M	IVA	7C	48		
	18		026ROOM	M	IVA	7B	27		
	19		026ROOM	M	IVA	9A	26		
	20		025KUCH	M	IVA	7C	23		
	21		019ROOM	M	IVA	9A	26		
	22		023DOOR	M	IVA	9A	26		
	23		025KUCH	M	IVA	7C	23		
	24		025KUCH	M	IVA	9C	26		
	25		197SURF		II	3A	37		
	26			M	IVA	9A	36	29 MISC BAKED BRICKS IN ROOM 19	
	DD 41	1						31	
		2					1	32	
3						1	32		
4						1	32		
5		M			I	2	36	63 PIER	
6					II	3A	34		
7					II	3A	34		
8		M			II	3A	34		
9					II	3A	34		
10					II	3A	34		
11						3B	47		
12		M			II	3A	38		
13					II	3A	47		
14					II	3A	34		
15				067BURL		II	3A	13	
16						II	3A	36	198 MISC STONE PILE
17						II	3A	36	65 MISC ROCK PILE
18			076ROOM	M	IVA	7B	35		
19				M	II	3A	34		

TABLE 4 (continued)  
The Malyan Lot Index

Operation Number	Lot Number	Lot Indicator (M = Mixed)	Area/ Feature	Period Indicator	Building Level	Strata	Deposit Code	Comments
DD 41	20		069ROOM		IIIA	4A	35	
	21		VOID					
	22		076ROOM	M	IVA	7A	35	
	23			M	II	3A	34	
	24		069ROOM	M	IIIA	4A	35	
	25		070AREA			3B	48	
	26		070AREA			3B	48	
	27		070AREA			3B	48	
	28		076ROOM	M	IVA	7A	35	
	29	M				3B	35	
	30		074ROOM	M	IIIA	4A	35	
	31		073ROOM	M	IIIA	4A	35	
	32		074ROOM	M	IIIA	4B	35	
	33	M	076ROOM	M	IVA	7A	35	
	34				I	2	36	63 PIER
	35		069ROOM	M	IVA	7B	27	
	36	M	060CRDX	M	IVA	7A	48	
	37		069ROOM	M	IVA	7B	27	FLOAT SAMPLE
	38	M	060CRDX	M	IVA	7B	35	
	39	M	085PITX	M	II	3A	22	
	40		069ROOM	M	IVA	7B	35	
	41		060CRDX	M	IVA	7B	48	
	42		069ROOM	M	IVA	9A	52	
	43				I	2	36	71 PIER
	44		069ROOM	M	IVA	9A	26	
	45		076ROOM	M	IVA	7B	27	
	46		069ROOM	M	IVA	9A	26	
	47		069ROOM	M	IVA	9A	26	
	48		069ROOM	M	IVA	9A	26	SCREEN SAMPLE S027
	49		069ROOM	M	IVA	9A	26	FLOAT SAMPLE F0043
	50		069ROOM	M	IVA	9A	26	FLOAT SAMPLE
	51		069ROOM	M	IVA	9A	26	FLOAT SAMPLE
	52		069ROOM	M	IVA	9A	26	FLOAT SAMPLE
	53		069ROOM	M	IVA	9A	26	FLOAT SAMPLE
	54		069ROOM	M	IVA	7B	52	FLOAT SAMPLE F0044
	55		069ROOM	M	IVA	7B	52	FLOAT SAMPLE F0045
	56		069ROOM	M	IVA	7B	52	FLOAT SAMPLE F0046
	57		076ROOM	M	IVA	7B	27	FLOAT SAMPLE
	58		060CRDX	M	IVA	7B	48	
	59		060CRDX	M	IVA	9A	26	
	60		076ROOM	M	IVA	9A	26	
	61		060CRDX	M	IVA	9A	26	SCREEN S037 FLOAT SAMPLE F0047F
	62		076ROOM	M	IVA	9A	26	

TABLE 4 (continued)  
The Malyan Lot Index

Operation Number	Lot Number	Lot Indicator	Area/ Feature	Period Indicator	Building Level	Strata	Deposit Code	Comments	
DD 41	63		085PITX		II	3A	22		
	64		084PITX	M	IIIA	5A	22		
	65		073ROOM	M	IIIA	4B	26		
	66		085PITX		II	3A	22		
	67		084PITX	M	IIIA	5A	22		
	68		084PITX	M	IIIA	5A	22		
	69		084PITX	M	IIIA	5A	22		
	70		084PITX	M	IIIA	5A	22		
	71		085PITX		II	3A	22		
	72		074ROOM	M	IIIA	4B	26		
	73			M	IIIA	4C	36	TOP WALL 9	
	74		076ROOM	M	IVA	9A	26		
	75					1	32		
	76		076ROOM	M	IVA	7B	27		
	77				II	3A	32		
	78				I	2	36	71 PIER	
	79		069ROOM	M		3B	23		
	80		069ROOM	M	IVA	7B	27		
	81		085PITX		II	3A	22		
	82		069ROOM	M	IVA	9A	26		
	83		085PITX		II	3A	22		
	84		069ROOM	M	IVA	9A	26		
	85		060CRDX	M	IVA	7B	27		
	86		060CRDX	M	IVA	9A	26		
	DD 43	1					1	32	
		2					1	32	
3			046BURL		II	3A	13		
4					II	3A	47		
5				M	II	3A	34		
6					II	3A	34		
7					II	3A	34		
8					II	3A	34		
9			047BURL		II	3A	13		
10						3B	34		
11			045COUR	M	IVA	7A	35		
12			059DOOR	M	IVA	7B	35		
13			059DOOR	M	IVA	7B	35		
14			060CRDX	M	IVA	7B	35		
15			045COUR	M	IVA	7A	35		
16			045COUR	M	IVA	7B	42		
17			045COUR	M	IVA	7A	35		
18			045COUR	M	IVA	7A	35		
19			015CRDX	M	IVA	7A	35		
20			059DOOR	M	IVA	7B	35	FLOAT SAMPLE F001-F038	

TABLE 4 (continued)  
The Malyan Lot Index

Operation Number	Lot Number	Lot Indicator	Area/ Feature	Period Indicator	Building Level	Strata	Deposit Code	Comments	
<b>DD 43</b>	21		060CRDX	M	IVA	7B	35		
	22			M		3B	34		
	23			M		3B	34		
	24		057DOOR	M	IVA	7B	35		
	25		015CRDX	M	IVA	7B	35		
	26					II	3A	36	54 MISC CERAMIC DRAIN
	27		015CRDX	M	IVA	7B	35		
	28							38	
	29		045COUR	M	IVA	7A	35		
	30		045COUR	M	IVA	7A	35		
	31		045COUR	M	IVA	8	35		
	32		045COUR	M	IVA	8	35		
	33		045COUR	M	IVA	8	42		
	34		045COUR	M	IVA	8	42		
	35		060CRDX	M	IVA	7B	35		
	36		057DOOR	M	IVA	7B	35		
	37		015CRDX	M	IVA	9A	26		
	38		045COUR	M	IVA	9B	26		
	39		045COUR	M	IVA	8	23		
	40		045COUR	M	IVA	8	35		
	41		045COUR	M4A	IXB	26			
	42		045COUR	M	IVA	9B	26		
	43		059DOOR	M	IVA	9A	26		
	44		057DOOR	M	IVA	7B	27		
	45		015CRDX	M	IVA	9A	26		
	46		060CRDX	M	IVA	7B	27		
	47		045COUR	M	IVA	9B	26		
	48		045COUR	M	IVA	9B	26		
	49		060CRDX	M	IVA	9A	26		
	50		057DOOR	M	IVA	9A	26		
	51		015CRDX	M	IVA	9A	26		
	52		045COUR	M	IVA	9B	26		
	53					I	2	36	63, 48 PIERS
	54		037DOOR	M	IVA	7A	35		
	55		037DOOR	M	IVA	7B	35		
	56		037DOOR	M	IVA	9A	26		
	57		060CRDX	M	IVA	7B	27		
	58		060 CRDX	M	IVA	9A	26		
	59					1	32		
	60		045COUR	M	IVA	7A	42		
	61		045COUR	M	IVA	8	35		
	62		045COUR	M	IVA	8	48		
	63		045COUR	M	IVA	9B	26		
	64					1	32		

TABLE 4 (continued)  
The Malyan Lot Index

Operation Number	Lot Number	Lot Indicator (M = Mixed)	Area/ Feature	Period Indicator	Building Level	Strata	Deposit Code	Comments	
<b>DD 43</b>	65		045COUR	M	IVA	7A	23		
	66		045COUR	M	IVA	7A	35		
	67		045COUR	M	IVA	8	23		
	68		045COUR		IVA	8	23		
	69		045COUR	M	IVA	9B	26		
	70		045COUR	M	IVA	10B	36		
	71		045COUR	M	IVB	11B	35		
<b>DD 45</b>	1					1	32		
	2			M	IVA	7A	34		
	3		015CRDX	M	IVA	7A	35		
	4			M	IVA	7A	35		
	5				II	3A	34		
	6		026ROOM	M	IVA	7A	35		
	7		015CRDX	M	IVA	7A	35		
	8		045COUR	M	IVA	7A	42		
	9		015CRDX	M	IVA	7B	27		
	10		026ROOM	M	IVA	7A	35		
	11		015CRDX	M	IVA	7B	27		
	12		045COUR	M	IVA	8	42		
	13		015CRDX	M	IVA	9A	26		
	14		026ROOM	M	IVA	7B	27		
	15		VOID						
	16		026ROOM	M	IVA	7B	27		
	17		026ROOM	M	IVA	7B	27		
	18		045COUR	M	IVA	9B	26		
	19		040DOOR	M	IVA	7A	35		
	20		026ROOM	M	IVA	9A	26		
21		036DOOR	M	IVA	7A	35			
22		040DOOR	M	IVA	9A	26			
23		036DOOR	M	IVA	7B	35			
24			M	IVA	9A	36	TOP WALL 34		
25			M	IVA	9A	36	TOP WALL 11		
26		036DOOR	M	IVA	7B	48			
<b>EE 39</b>	1						31		
	2					1	32		
	3	M	100ROOM	M	IIIA	4A	35		
	4		101DOOR	M	IIIA	4A	35		
	5	M			IIIA	4C	34	WALL DUG INTO	
	6		102COUR	M	IIIA	4C	35		
	7		102COUR	M	IIIA	4B	21		
	8	M	102COUR	M	IIIA	4C	35		
	9		102COUR	M	IIIA	4A	35		
	10		102COUR	M	IIIA	4A	35		
	11		102COUR	M	IIIA	4A	35		

TABLE 4 (continued)  
The Malyan Lot Index

Operation Number	Lot Number	Lot Indicator (M = Mixed)	Area/ Feature	Period Indicator	Building Level	Strata	Deposit Code	Comments	
EE 39	12		102COUR	M	IIIA	4B	21		
	13					1	32		
	14		102COUR	M	IIIA	4B	21		
	15		102COUR	M	IIIA	4A	35		
	16		102COUR	M	IIIA	4B	21		
	17					1	32		
	18		117COUR			IIIA	4A	23	
	19		113ROOM	M	IIIA	4A	35		
	20		113ROOM	M	IIIA	4B	21		
	21	M	117COUR	M	IIIA	4A	35		
	22		108ROOM	M	IIIA	4A	48		
	23		112ROOM	M	IIIA	4A	35		
	24		117COUR	M	IIIA	4B	26		
	25	M	114DOOR	M	IIIA	4B	35		
	26		107PITX	M	IIIA	5A	22		
	27		117COUR	M	IIIA	4B	21		
	28		107PITX	M	IIIA	5A	22		
	29		112ROOM	M	IIIA	5B	48		
	30		130BINX	M	IIIA	4B	28		
	31		116PITX	M	IIIA	5A	22		
	32	M				IIIA	5A	36	WALL CLEANING
	33		111ROOM	M	IIIA	4B	25		
	34		200PITX			II	3A	22	END OF 1972 SEASON
	35							38	
	36		102COUR	M	IIIA	4A	35		
	37		102COUR	M	IIIA	4B	21		
	38	M	100ROOM	M	IIIA	4A	35		
	39		100ROOM	M	IIIA	4B	21		
	40					IIIA	5C	36	130, 109, 104 WALLS
	41	M						38	
	42	M						41	
	43				M	IIIA	5C	36	115 WALL
	44				M	IIIA	5C	36	110 WALL
	45							38	
	46					I	2	36	156 PIER
	47		200PITX			II	3A	22	
	48		157HRTH			II	3A	28	
	49		102COUR			IIIA	5A	41	
	50					IIIA	5A	36	115 WALL, BUTTRESS
	51		199AREA	M		IIIB	6B	26	
	52		058ROOM	M		IVA	7A	23	
	53		199AREA	M		IIIB	6B	26	
	54		164KILN	M		IIIB	6C	28	
	55		199AREA	M		IIIB	6B	26	
	56		167HRTH	M		IIIB	6C		



TABLE 4 (continued)  
The Malayan Lot Index

Operation Number	Lot Number	Lot Indicator (M = Mixed)	Area/ Feature	Period Indicator	Building Level	Strata	Deposit Code	Comments
EE 39	57		199AREA	M	IIIB	6B	25	
	58		199AREA	M	IIIB	6B	26	
	59		111ROOM	M	IIIA	5B	42	
	60		165POST	M	IIIB	6C	22	
	61		199AREA	M	IIIB	6B	26	
	62		199AREA	M	IIIB	6B	26	
	63		170KILN	M	IIIB	6C	28	
	64		170KILN	M	IIIB	6C	28	
	65		172PITX	M	IIIB	6C	22	
	66		172PITX	M	IIIB	6C	22	
	67		174SURF	M	IIIB	6C	25	
	68		199AREA	M	IIIB	6D	23	
	69	M	199AREA	M	IIIB	6D	23	
	70		199AREA	M	IIIB	6B	26	
	71		175KILN	M	IIIB	6C	28	
	72		182MISC	M	IIIB	6B	26	
	73		180DOOR	M	IIIB	6D	23	
	74		182MISC	M	IIIB	6B	26	
	75		175KILN	M	IIIB	6C	28	
	76		199AREA	M	IIIB	6D	23	
	77		175KILN	M	IIIB	6C	28	
	78		175KILN	M	IIIB	6C	28	
	79		058ROOM	M	IVA	7A	48	
	80		166POST	M	IIIB	6C	22	
	81		165POST	M	IIIB	6C	22	
	82			M	IIIB	6C	36	167 HRTH
	83		184POST	M	IIIB	6C	22	
	84			M	IIIB	6C	36	164 KILN
	85		190POST	M	IIIB	6C	22	
	86		180DOOR	M	IVA	7A	48	
	87		183DOOR	M	IVA	7A	48	
	88		181DOOR	M	IVA	7A	48	
	89			M	IIIB	6D	36	174 SURF
	90		199AREA	M	IIIB	6C	26	
	91		192KUCH	M	IIIB	6D	23	
	92		058ROOM	M	IVA	7A	23	
	93		168DOOR	M	IIIB	6D	23	
	94		180DOOR	M	IVA	7A	48	
	95		172PITX	M	IIIB	6C	22	
	96		111ROOM	M	IIIA	5C	48	
	97		058ROOM	M	IVA	7A	23	
	98		192KUCH	M	IIIB	6D	23	
	99		165POST	M	IIIB	6C	22	

TABLE 4 (continued)  
The Malyan Lot Index

Operation Number	Lot Number	Lot Indicator (M = Mixed)	Area/ Feature	Period Indicator	Building Level	Strata	Deposit Code	Comments	
<b>EE 39</b>	100		058ROOM	M	IVA	9A	26		
	101		170KILN	M	IIIB	6C	28		
	102			M	IIIA	5C	36	TOP WALL 9	
<b>EE 41</b>	1					1	32		
	2			M	IIIA	4C	34		
	3	M		M	IIIA	4C	35		
	4		096ROOM	M	IVA	7B	27		
	5		096ROOM	M	IVA	7B	27		
	6		061ROOM	M	IIIA	4A	35		
	7		096ROOM	M	IVA	7A	35		
	8		096ROOM	M	IVA	7B	27		
	9						1	31	
	10	M					1	32	
	11						1	32	
	12		096ROOM	M	IVA	7B	27		
	13	M	061ROOM	M	IIIA	4A	35		
	14	M	095CRDX	M	IVA	7B	27		SOME 4B MIXTURE
	15		061ROOM	M	IIIA	4B	26		
	16	M	061ROOM	M	IVA	7A	35		
	17		095CRDX	M	IVA	7B	27		
	18						1	32	
	19						1	32	
	20	M	154ROOM	M	IIIA	4A	35		
	21		095CRDX	M	IVA	7B	27		
	22		096ROOM	M	IVA	9A	26		
	23						1	32	
	24		096ROOM	M	IVB	13	48		
	25		096ROOM	M	IVB	13	48		
	26	M	095CRDX	M	IVB	12	35		
	27		123PITX	M	IVA	10A	22		
	28		096ROOM	M	IVB	13	26		
	29		094DOOR	M	IVA	7B	27		
	30						1	32	
	31		058ROOM	M	IVA	7A	42		
	32		095CRDX	M	IVB	12	48		
	33		095CRDX	M	IVA	9A	26		
	34		045COUR	M	IVB	14B	26		
	35		060CRDX	M	IVA	9A	26		
	36		096ROOM	M	IVB	14A	26		
	37		045COUR	M	IVB	15A	29		
	38		061ROOM	M	IVB	11A	42		
	39		096ROOM	M	IVB	15A	29		196 SURF
	40		061ROOM	M	IVB	14A	26		

TABLE 4 (continued)  
The Malyan Lot Index

Operation Number	Lot Number	Lot Indicator (M = Mixed)	Area/ Feature	Period Indicator	Building Level	Strata	Deposit Code	Comments
EE 41	41					16	23	
	42					16	23	
EE 43	1					1	32	
	2					1	32	
	3					1	32	
	4					1	32	
	5					1	32	
	6		089DOOR	M	IVA	7A	35	
	7					1	32	
	8		045COUR	M	IVA	7A	35	
	9		045COUR	M	IVA	7B	35	
	10		089DOOR	M	IVA	7B	35	
	11		045COUR	M	IVA	7A	35	
	12		045COUR	M	IVA	7B	35	
	13		045COUR	M	IVA	7A	35	
	14		045COUR	M	IVA	7A	48	
	15		045COUR	M	IVA	7A	48	
	16		045COUR	M	IVA	9B	26	
	17		045COUR	M	IVA	7A	42	
	18		045COUR	M	IVA	8	42	
	19		045COUR	M	IVA	8	42	
	20		045COUR	M	IVA	9B	26	
	21		089DOOR	M	IVA	9A	26	
	22					1	32	
23			M		3B	34		
24		045COUR	M	IVA	7A	48		
25		095CRDX	M	IVA	7A	35		
26		095CRDX	M	IVA	9A	26		
27		045COUR	M	IVA	9B	26		
28		045COUR	M	IVA	9B	26		
29			M	IVA	10A	29	195 SURF, COUR 45	
30		045COUR	M	IVB	11B	26		
EE 45	1						31	
	2					1	32	
	3					1	32	
	4		139CRDX	M	IVA	7A	35	
	5		137WALL	M	IVA	7A	35	WALL DUG INTO
	6		139CRDX	M	IVA	7B	35	
	7		045COUR	M	IVA	7A	48	
	8		140DOOR	M	IVA	7A	35	
	9		139CRDX	M	IVA	7B	35	
	10		045COUR	M	IVA	7A	48	
	11		141DOOR	M	IVA	7A	35	
	12		139CRDX	M	IVA	7B	35	

TABLE 4 (continued)  
The Malyan Lot Index

Operation Number	Lot Number	Lot Indicator (M = Mixed)	Area/ Feature	Period Indicator	Building Level	Strata	Deposit Code	Comments	
EE 45	13		142DOOR	M	IVA	7A	35		
	14		140DOOR	M	IVA	7B	35		
	15		143ROOM	M	IVA	7B	35		
	16		045COUR	M	IVA	7A	48		
	17		141DOOR		IVA	7B	27		
	18		045COUR	M	IVA	7A	48		
	19		139CRDX	M	IVA	7B	27		
	20		140DOOR	M	IVA	7B	48		
	21		045DOOR	M	IVA	8	42		
	22		142DOOR	M	IVA	7B	48		
	23		143ROOM	M	IVA	7B	35		
	24		141DOOR	M	IVA	7B	27		
	25						38		
	26		140DOOR	M	IVA	9A	21		
	27		139CRDX	M	IVA	9A	21		
	28		139CRDX	M	IVA	9A	25		
	29		139CRDX	M	IVB	11A	23		
	30		045COUR	M	IVA	9B	21	CONTAINS 144, TRASH DEPOSIT	
	31		141DOOR	M	IVA	9A	26		
	32		139CRDX	M	IVA	9A	26		
	33		140DOOR	M	IVA	9A	21		
	34		142DOOR	M	IVA	7B	35		
	35		143ROOM	M	IVA	7A	26		
	36		142DOOR	M	IVA	9A	26		
	37		143ROOM	M	IVA	9A	26		
	38		139CRDX	M	IVA	9A	25		
	FF 41	1					1	31	
		2					1	32	
		3				II	3A	34	
		4					1	32	
		5					II	3A	145 MISC, STONES
		6						3B	34
		7					II	3A	36
		8					II	3A	23
		9		151ROOM	M	IIIA	4C	35	
		10		148PITX		II	3A	33	
		11		151ROOM	M	IIIA	4A	35	
		12				I		32	
13			159DOOR	M	IVA	7B	35		
14			148PITX		II	3A	22		
15			148PITX		II	3A	22		
16			154ROOM	M	IIIA	4B	26		
17			151ROOM	M	IIIA	4B	26		

TABLE 4 (continued)  
The Malyan Lot Index

Operation Number	Lot Number	Lot Indicator (M = Mixed)	Area/ Feature	Period Indicator	Building Level	Strata	Deposit Code	Comments
FF 41	18		147PITX		II	3A	22	
	19					1	33	
	20		147PITX		II	3A	22	
	21		151ROOM	M	IIIA	4B	26	
	22		151ROOM	M	IIIA	4B	26	
	23		147PITX		II	3A	22	
	24		147PITX		II	3A	22	
	25		152ROOM	M	IVA	7A	35	
	26		147PITX		II	3A	22	
	27		147PITX		II	3A	22	
	28		147PITX		II	3A	22	
	29					1	33	
	30		154ROOM	M	IIIB	6A	23	
	31		152ROOM	M	IVA	7B	27	
	32		152ROOM	M	IVA	7B	48	
	33		152ROOM	M	IVA	7B	48	
	34		152ROOM	M	IVA	9A	26	
	35		152ROOM	M	IVA	9A	26	
	36		152ROOM	M	IVA	9A	26	
	37		096ROOM	M	IVA	7B	35	
	38			M	IIIA	5A	29	53 SURF, ROOM 151
	39		151ROOM	M	IIIA	5C	35	
	40		151ROOM	M	IVA	7A	48	
	41		151ROOM	M	IVA	7A	48	
	42		154ROOM	M	IVA	7A	35	
	43			M	IIIA	5C	36	155 HRTH
	44		153DOOR	M	IVA	9A	26	
	45		154ROOM	M	IVA	9A	26	
	46		151ROOM	M	IVA	9A	26	
	47		163NICH	M	IVA	9A	37	
	48		154ROOM	M	IVB	11A	23	
	49		153DOOR	M	IVB	11A	23	
	50		151ROOM	M	IVB	12	48	
	51		154ROOM	M	IVB	11A	23	
	52		151ROOM	M	IVB	12	48	
	53		151ROOM	M	IVB	14A	26	
	54		151ROOM	M	IVB	14A	26	
	55		154ROOM	M	IVB	13	23	
	56		096ROOM	M	IVA	9A	26	
	57		151ROOM	M	IVB	13	48	
	58		151ROOM	M	IVB	13	48	
	59		153DOOR	M	IVB	13	23	
	60		154ROOM	M	IVB	13	23	
	61		151ROOM	M	IVB	13	48	

TABLE 4 (continued)  
The Malyan Lot Index

Operation Number	Lot Number	Lot Indicator (M = Mixed)	Area/ Feature	Period Indicator	Building Level	Strata	Deposit Code	Comments
FF 41	62		096ROOM	M	IVB	13	42	
	63			M	IIIA	5C	36	159 DOOR BLOCKING
	64		159DOOR	M	IVA	7A	48	
	65		159DOOR	M	IVB	13	48	
	66		159DOOR	M	IVA	7A	35	
	67		096ROOM	M	IVB	13	42	
	68		096ROOM	M	IVB	14A	26	
	69			M	IVB	12	36	159 DOOR BLOCKING
	70		159DOOR	M	IVB	13	48	
	71		159DOOR	M	IVB	14A	26	
	72		151ROOM	M	IVB	14A	26	
	73		151ROOM	M	IVB	14A	26	
	74		153DOOR	M	IVB	13	48	
	75		154ROOM	M	IVB	13	23	
	76		153DOOR	M	IVB	14A	26	
	77		154ROOM	M	IVB	14A	26	
	78		154ROOM	M	IVB	14A	26	
	79		163NICH	M	IVB	13	48	

TABLE 5  
The Malyan Deposit Code

Deposit Code: This is a 2-digit code which indicates the nature of the deposit within which a lot occurs.

### 1. PRIMARY DEPOSITS

- 11 Undisturbed floor deposit. Very rare, artifacts abandoned on the floor where they were last used.
- 12 Undisturbed surface deposit, courtyard, open area.
- 13 Burial deposit (each burial should have a separate lot number).
- 14 Cache.
- 15 Cluster: a group of objects apparently deposited together, not on a surface or a floor.
- 16 Collapsed second-story deposit.
- 17 Artificially deposited pebble/cobble layer.
- 18 to be assigned
- 19 to be assigned

### 2. SECONDARY DEPOSITS

- 21 Trash deposit on a floor or surface, unlike code 11 this is the result of bad housekeeping, not sudden abandonment. Trash accumulation occurred before the room was abandoned as a habitation. Deposit is probably compacted and relatively level. Not sloping much at the sides.
- 22 Trash in a pit or well, boundaries of pit or well must be clearly defined.
- 23 Amorphous trashy deposit, boundaries must be difficult to establish.
- 24 Disturbed burial.
- 25 Disturbed floor or surface deposit. Use this code only if the deposit is extensively disturbed, otherwise use code 11.
- 26 Trash deposit which accumulated on a surface within a room after that room was abandoned as a habitation. Difficult to identify; probably sloping against walls. See definition for code 21.
- 27 Ceiling collapse.
- 28 Kiln, hearth or oven contents, or other container (see code 32).
- 29 Removal of floor or living surface. Actual material the floor or surface is made of.

### 3. TERTIARY DEPOSITS

- 31 Surface pick-up.
- 32 Disturbed topsoil.
- 33 Rodent burrow.
- 34 Amorphous brickly fill, *associated with wall not identified*.
- 35 Brickly fill below tops of identified walls.
- 36 Feature removal: this refers to the actual material a feature is made of, the bricks in a wall, the clay of a hearth, etc.
- 37 Arbitrary floor cleaning lot composed of brickly or other fill which cannot be identified as having a trash component.
- 38 Balk removal. Use only if balk was not removed stratigraphically.
- 39 Dump
- 40 Unknown
- 41 Clean-up
- 42 Non-brickly fill within identified walls (without obvious trash component).
- 43 Rocky-trash fill *not associated* with mud-brick walls.
- 44 Surface wash.
- 45 Sandy fill, probably water-laid product of steep erosion from well.
- 46 to be assigned
- 47 Mixed fill with some brick component *not within* identified walls.
- 48 Mixed fill with some brick component within identified walls.
- 49 Redeposited material. Material which was removed and then redeposited in antiquity; i.e., material from a burial pit.
- 50 Sterile natural soil deposit.
- 51 Brick packing.
- 52 Contents of pot, drain, or other container. If there is a strong reason to believe the contents are a secondary deposit, use code 28.

TABLE 6  
C-14 Dates from EDD

mf Number	Lab Number	Find Spt	5568 half-life	Corrected dates Calib Program 1σ B.C.	Comments	Reference
1	9932	P2060	EE 41, Lot 29 094 DOOR 4A 7B 27 LEVEL IVA*	3170±50 1220 B.C.	1498-1412	charcoal Fishman and Lawn 1989:225, sample no. 22.
2	9933	P2061	EE 41, Lot 17 095 CRDX 4A 7B 27 LEVEL IVA	3060±60 1110 B.C.	1429-1196	charcoal Fishman and Lawn 1978:225, sample no. 14.
3	1249A	P2330	DD 43, Lot 43 059 DOOR 4A 9A 26 LEVEL IVA	2980±60 1030 B.C.	1371-1056	charcoal, roof beam, Populus, cf. Acer Fishman and Lawn 1978:225, sample no. 52A.
4	1390A	P2331	CC 43, Lot 17 005 ROOM 4A 9A 26 LEVEL IVA	2830±60 880 B.C.	1187-906	reed and charcoal Populus/Salix, Fraxinus, cf. Acer Fishman and Lawn 1978:225, sample no. 18.
5	1254	P2332	DD43, Lot 49 060 CRDX 4A 9A 26 LEVEL IVA	2950±60 1000 B.C.	1309-1052	matting and charcoal from roof, cf. Acer Fishman and Lawn 1978:225, sample no. 68.
6	3315	P3261	FF 41, Lot 21 151 ROOM 3A 4B 26 LEVEL IVA	2900±60 950 B.C.	1241-976	charcoal (only date from later reuse level) Quercus Unpublished 7/1/85, sample no. 29.
7	5019	P3257	FF 41, Lot 35 152 ROOM 4A 9A 26 LEVEL IVA	2640±60 690 B.C.	888-793	charcoal and reeds, level 4A?, Populus Unpublished 7/1/85, sample no. 76.

\* Levels as assigned in the Table 4 Malyan Index.



---

# Appendix A

## *The Malyan Pottery Coding Key (see pp. 17–18)*

The coding system was designed to describe each diagnostic sherd and its find-spot. The assemblage on first inspection seemed astonishingly uniform and thus many variables of paste and temper were recorded in hopes of finding some hidden variability in the assemblage. Table A1 provides a record of the attributes that were recorded for each sherd, Table A2 illustrates the distribution by area/feature and level for each of the major wares. It shows the excavated areas that produced the most pottery and underscores, as does Table A3, that plain buff wares without any decoration or surface treatment were by far the most common ceramics in use in the Middle Elamite Building. Table A3 shows that painted buff

wares form between 10-12% of the IIIA and IVA assemblages and 29% of the IVB assemblage, indicating some differences in the composition of the earlier assemblage. The possible reasons for these differences are discussed on pp. 5–6. Table 4 gives an overview of the buff ware sherds and their locations in the building—these distributions give us some clues as to the functions of the level IVA rooms. Tables A5 examines in detail the buff ware bowls by rim-form and rim-diameter; Tables A6 and A7 give details of the neckless and necked jars respectively. These Tables (A2–7) are included here because they form the basis for our arguments in the main text on the function of the rooms and of the IVA building.

## APPENDIX A, TABLE 1A

The Malyan Pottery Coding Key (see pp.17-18)

COLS.		17	Vessel Diameter
1-5	Identification Number	1	less than 8 cm.
6-9	Square Number	2	8-13 cm.
10-12	Lot Number	3	14-19 cm.
13	Ware Type	4	20-25 cm.
	1 Buff Ware	5	26-35 cm.
	2 Red Ware	6	greater than 35 cm.
	3 Handmade Smoothed Wares	7	insufficient evidence
	4 Cement Ware	18-19	Vessel Type
	5 Gray-Black Ware	1	cup
	6 Banesh Ware	2	bowl
	7 Other	3	vat
14-15	Vessel Part	4	tray
	1 rim	5	jar
	2 base	6	Elamite goblet
	3 plain body	7	other goblet
	4 stepped body—jar or goblet shoulder	8	strainer
	5 handle or lug	9	other
	6 complete	10	insufficient evidence
	7 complete profile	20-21	Rim Form
	8 rim and plain body	1	direct rounded
	9 rim and stepped body/shoulder	2	direct tapered
	10 rim and handle	3	direct beveled exterior
	11 rim and neck	4	direct flattened
	12 rim, neck and handle	5	other direct forms
	13 rim, neck and plain body	6	thickened rounded
	14 rim neck and stepped body/shoulder	7	thickened beveled exterior
	15 rim, plain body and handle	8	thickened beveled interior
	16 rim, stepped body and handle	9	thickened ledge
	17 base and plain body	10	narrow band
	18 base and stepped body	11	wide band
	19 handle and plain body	12	indented band
	20 handle and stepped body	13	other thickened forms
	21 stopper or top	14	insufficient evidence
	22 lid	15	not a rim sherd
	23 neck	16	pinched rim = Banesh form
	24 other	22-23	Base Form
	25 ridged or ribbed body	1	flat string cut
	26 rim and ridged or ribbed body	2	flat plain
	27 base and ridged or ribbed body	3	rounded
	28 ridged or ribbed shoulder	4	plain button
	29 base, plain body, neck	5	button with raised interior boss
	30 plain body and neck	6	disc
	31 stepped body and neck	7	stump
	32 spout	8	ring
	33 stepped body	9	flat, slightly convex, perforated
16	Vessel Form	10	flat, slightly convex, plain
	1 open or unrestricted	11	solid pedestal
	2 dependent closed or restricted (neckless jar)	12	other
	3 independent restricted (necked jar)	13	insufficient evidence
	4 insufficient evidence	14	not a base
		15	funnel base

APPENDIX A, TABLE 1A (*continued*)

24	Base Diameter	12	mineral, mica and vegetable
	1 less than 4 cm.	13	mineral, sherd and vegetable
	2 4-10 cm.	14	mica, sherd and vegetable
	3 greater than 10 cm.	15	other
	4 insufficient evidence	16	insufficient evidence
	5 not a base	17	none present
25-26	Handle and Spout Forms	18	mineral, mica, sherd and vegetable
	1 vertically pierced single lug	34-35	Percent Density of Filler
	2 vertically pierced multiple lugs	1	1% or less
	3 horizontally pierced single lug	2	2%
	4 horizontally pierced multiple lugs	5	5%
	5 flat strap handle	10	10%
	6 rounded handle	20	20%
	7 other handles	30	30%
	8 tubular spout	40	40%
	9 conical spout	60	60%
	10 other spouts	80	80%
	11 insufficient evidence	99	none present
	12 not a handle or spout	36-37	Size of Filler
27-28	Sherd Thickness	1	very fine (less than 0.25 mm.)
	average vessel wall thickness at points <i>not</i>	2	fine (0.25-0.5 mm.)
	affected by special treatment such as handle	3	medium (0.5-1.0 mm.)
	application or by rim or base contours. Record	4	coarse (1.0-1.5 mm.)
	to the nearest whole millimeter. 99 = can't tell	5	very coarse (1.5 mm. and larger)
29	Oxidation	6	very fine through very coarse
	1 complete oxidation	7	very fine through coarse
	2 incomplete oxidation	8	very fine through medium
30	Porosity	9	very fine and fine
	1 dense, compact (no air spaces)	10	very fine and medium
	2 slightly porous (a few air spaces)	11	very fine and coarse
	3 medium porous	12	very fine and very coarse
	4 highly porous (numerous or very large	13	fine through very coarse
	spaces)	14	fine through coarse
	5 insufficient evidence	15	fine and medium
31	Fracture	16	medium and coarse
	1 square, even break	17	medium through very coarse
	2 conchoidal break	18	coarse and very coarse
	3 irregular, ragged break	19	fine and coarse
	4 other	20	fine and very coarse
	5 insufficient evidence	21	medium and very coarse
32-33	Kind of Filler	22	unidentifiable
	1 mineral	23	none
	2 mica	38-39	Size of Clay Particles
	3 sherd	1	very fine (less than 0.25 mm.)
	4 vegetable	2	fine (0.25-0.5 mm.)
	5 mineral and mica	3	medium (0.5-1.0 mm.)
	6 mineral and sherd	4	coarse (1.0-1.5 mm.)
	7 mineral and vegetable	5	very coarse (1.5 mm. and larger)
	8 mica and sherd	6	very fine through very coarse
	9 mica and vegetable	7	very fine through coarse
	10 sherd and vegetable	8	very fine through medium
	11 mineral, mica and sherd	9	very fine and fine
		10	very fine and medium

APPENDIX A, TABLE 1A (*continued*)

	11	very fine and coarse		6	partial exterior
	12	very fine and very coarse		7	partial interior
	13	fine through very coarse		8	partial interior and partial exterior
	14	fine through coarse		9	rim only
	15	fine and medium		10	rim and interior
	16	medium and coarse		11	rim and exterior
	17	medium through very coarse		12	rim and neck
	18	coarse and very coarse		13	neck
	19	fine and coarse		14	other
	20	fine and very coarse		15	insufficient evidence
	21	medium and very coarse		16	no surface treatment
	22	unidentifiable		17	shoulder
	23	none		18	neck and shoulder
				19	rim, neck and shoulder
40		Filler Protrusion		20	spout
	1	none (no particles visible at the surface)		21	interior and exterior different color
	2	visible (visible at the surface but not protruding)	47-48		Kind of Surface Decoration
	3	slight to moderate protrusion (less than 0.5 mm.)		1	burnished
	4	extended high protrusion (0.5 mm. or greater protrusion)		2	plastic
	5	insufficient evidence		3	incised or excised decoration
41		Surface Character		4	painted designs
	1	dull or matte		5	burnished with plastic decorations
	2	lustrous		6	burnished with incised or excised decoration
	3	insufficient evidence		7	burnished with painted designs
	42	Surface Texture (use unslipped side if possible to determine)		8	plastic and incised or excised decoration
	1	smooth (tightly compacted, entirely smooth)		9	plastic and painted decoration
	2	fine-smooth (basically smooth but less tightly compacted)		10	incised or excised and painted decoration
	3	medium-rough		11	burnished with plastic and incised or excised decoration
	4	coarse-rough		12	burnished with plastic and painted decoration
	5	insufficient evidence		13	burnished with painted and incised or excised decoration
	6	salt encrusted		14	painted, plastic and incised or excised decoration
43-44		Kind of Surface Treatment		15	burnished, painted, plastic and incised or excised decoration
	1	self-slip or slipped the same color as the fabric		16	other
	2	slipped in a color contrasting with fabric		17	insufficient evidence
	3	double slipped and/or smeared		18	none
	4	dark paint on a self-slip or a slip the same color as the fabric	49-50		Position of Burnishing
	5	dark paint on a contrasting slip		1	exterior only
	6	other painted		2	interior only
	7	no surface treatment		3	interior and exterior, same color
	8	insufficient evidence		4	interior and partial exterior
45-46		Position of Surface Treatment		5	exterior and partial interior
	1	exterior only		6	partial exterior
	2	interior only		7	partial interior
	3	interior and exterior, same color		8	partial interior and partial exterior
	4	interior and partial exterior		9	rim only
	5	exterior and partial interior		10	rim and interior
				11	rim and exterior

APPENDIX A, TABLE 1A (*continued*)







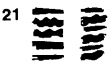













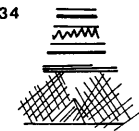











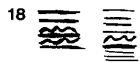




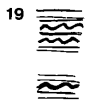


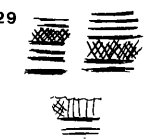
12	rim and neck		
13	neck		
14	other		
15	insufficient evidence		
16	no surface treatment		
17	shoulder		
18	neck and shoulder		
19	rim, neck and shoulder		
20	spout		
21	interior and exterior different color		
<b>51-52</b>	<b>Position of Plastic Decoration</b>		
1	exterior only		
2	interior only		
3	interior and exterior, same color		
4	interior and partial exterior		
5	exterior and partial interior		
6	partial exterior		
7	partial interior		
8	partial interior and partial exterior		
9	rim only		
10	rim and interior		
11	rim and exterior		
12	rim and neck		
13	neck		
14	other		
15	insufficient evidence		
16	no surface treatment		
17	shoulder		
18	neck and shoulder		
19	rim, neck and shoulder		
20	spout		
21	interior and exterior different color		
<b>53-54</b>	<b>Position of Incised/Excised Decoration</b>		
1	exterior only		
2	interior only		
3	interior and exterior, same color		
4	interior and partial exterior		
5	exterior and partial interior		
6	partial exterior		
7	partial interior		
8	partial interior and partial exterior		
9	rim only		
10	rim and interior		
11	rim and exterior		
12	rim and neck		
13	neck		
14	other		
15	insufficient evidence		
16	no surface treatment		
17	shoulder		
18	neck and shoulder		
19	rim, neck and shoulder		
20	spout		
21	interior and exterior different color		
		<b>55-56</b>	<b>Position of Painted Designs</b>
		1	exterior only
		2	interior only
		3	interior and exterior, same color
		4	interior and partial exterior
		5	exterior and partial interior
		6	partial exterior
		7	partial interior
		8	partial interior and partial exterior
		9	rim only
		10	rim and interior
		11	rim and exterior
		12	rim and neck
		13	neck
		14	other
		15	insufficient evidence
		16	no surface treatment
		17	shoulder
		18	neck and shoulder
		19	rim, neck and shoulder
		20	spout
		21	interior and exterior different color
		<b>57-58</b>	<b>Plastic Motifs</b>
		1	ridged or ribbed
		2	flat finger impressed bands
		3	raised finger impressed bands
		4	flat incised or excised bands
		5	raised incised or excised bands
		6	ridged or ribbed with flat finger impressed bands
		7	ridged or ribbed with raised finger impressed bands
		8	ridged or ribbed with flat incised or excised bands
		9	ridge or ribbed with raised incised or excised bands
		10	flat finger impressed and raised finger impressed bands
		11	flat finger impressed and flat incised or excised bands
		12	flat finger impressed and raised incised or excised bands
		13	raised finger impressed and flat incised or excised bands
		14	raised finger impressed and raised incised or excised bands
		15	flat or raised incised or excised bands
		16	ridged or ribbed with finger impressed and incised or excised bands
		17	other
		18	insufficient evidence
		19	none
		<b>59-60</b>	<b>Incised or Excised Motifs</b>
		1	single horizontal line

APPENDIX A, TABLE 1A (*continued*)

2	multiple horizontal lines	28	none
3	zigzag line	61-62	Painted Motifs (see p. 80)
4	single wavy line	999	none
5	multiple wavy lines	63-65	Fabric Color (see below)
6	punctates	999	none
7	grooves	66-68	Surface Treatment Color (see below)
8	scraping	999	none
9	horizontal and zigzag lines	69-71	First Paint Color (see below)
10	horizontal and wavy lines	999	none
11	horizontal lines and punctates	72-74	Second Paint Color (see below)
12	horizontal lines and grooves	999	none
13	horizontal lines and scraping	75-76	Special Features
14	zigzag and wavy lines	1	fire-blackened
15	zigzag lines and punctates	2	fingerprints
16	zigzag lines and grooves	3	bitumen
17	zigzag lines and scraping	4	graffiti
18	wavy lines and punctates	5	cloth impression
19	wavy lines and grooves	6	none
20	wavy lines and scraping	7	rope impressions
21	punctates and grooves	8	interior scraping
22	punctates and scraping	9	interior wheel corrugations
23	grooves and scraping	10	#9 and #10
24	horizontal and wavy lines and punctates	11	other
25	horizontal and wavy lines and grooves	77-78	Number of Fragments
26	zigzag lines, punctates and grooves		
27	insufficient evidence		

## Color Description Code

HUE		CHROMA AND VALUE	53	5/3	
1	7.5 R	20	N2/	63	6/3
2	10 R	30	N3/	73	7/3
3	2.5 YR	40	N4/	83	8/3
4	5 YR	50	N5/	24	2/4
5	7.5 YR	60	N6/	34	3/4
6	10 YR	70	N7/	44	4/4
7	2.5 Y	80	N8/	54	5/4
8	5 Y	21	2/1	64	6/4
		31	3/1	74	7/4
		41	4/1	84	8/4
		51	5/1	36	3/6
		61	6/1	46	4/6
		71	7/1	56	5/6
		81	8/1	66	6/6
		22	2/2	76	7/6
		32	3/2	86	8/6
		42	4/2	38	3/8
		52	5/2	48	4/8
		62	6/2	58	5/8
		72	7/2	78	7/8
		82	8/2	88	8/8
		33	3/3	999	no color
		43	4/3		

1 	11  continuous	20 	30 	39 painted design indistinguishable
2 	12 	21 	31 	40 
3 	13 	22 	32 	41 not painted
4  indicates multiple horizontal bands	14 	23 	33 	42 other solid geometric
5  two groups of multiple bands - number and width may vary	15 	24 	34 	43 other solid figurative
6  Single band + 4 or 5	16 	25  can repeat	35 	44 
7  can repeat	17 	26 	36 	45 
8 	18 	27  birds only left facing	37 	46 
9  numbers of horizontal bands and spacing of dots	19 	28  birds only right facing	38 other cross-hatched	47 insufficient data
10  can repeat		29 		

APPENDIX A, TABLE 1B  
The Malyan Coding Key: Painted Designs

APPENDIX A, TABLE 2  
Distribution of All Wares by Area/Feature

*Building Level IIIA*

## Ware

Area	Buff	Red	Handmade Smoothed	Cement	Gray-Black	Banesh	Other	Total	%
10	4	0	0	0	0	0	0	4	0.70
69	1	0	0	0	0	0	0	1	0.18
73	2	0	0	0	0	0	0	2	0.35
84	41	0	0	1	2	1	0	45	7.89
101	2	0	0	0	0	0	0	2	0.35
102	103	0	1	0	4	2	0	110	19.30
107	14	0	0	0	0	1	0	15	2.63
108	10	0	0	1	0	0	0	11	1.93
112	5	0	1	2	0	2	0	10	1.75
113	55	0	3	4	1	5	0	68	11.93
116	15	0	0	2	0	0	0	17	2.98
117	76	0	0	4	2	2	0	84	14.74
130	4	0	0	0	1	0	0	5	0.88
151	166	5	2	0	0	3	1	177	31.05
154	17	0	2	0	0	0	0	19	3.33
TOTAL	515	5	9	14	10	16	1	570	100%
%	90.35	0.88	1.58	2.46	1.75	2.81	0.18	100%	

*Building Level IIIB*

## Ware

Area	Buff	Red	Handmade Smoothed	Cement	Gray-Black	Banesh	Other	Unidentifiable	Total	%
154	42	0	0	0	0	0	0	0	42	5.22
165	43	2	1	0	0	0	2	0	48	5.96
166	2	0	0	0	0	0	0	0	2	0.25
168	12	0	0	0	0	0	0	0	12	1.49
170	63	9	1	0	0	2	0	0	75	9.32
172	68	8	0	0	0	2	0	0	78	9.69
175	91	13	4	0	0	0	0	3	111	13.79
180	24	0	3	0	0	0	0	0	27	3.35
182	57	6	1	0	0	3	0	0	67	8.32
192	50	1	1	0	0	4	0	0	56	6.96
199	237	24	8	1	3	11	3	0	287	35.65
TOTAL	689	63	19	1	3	22	5	3	805	100%
%	85.59	7.83	2.36	0.12	0.37	2.73	0.62	0.37	100%	



APPENDIX A, TABLE 2 (continued)

## Building Level IVA

## Ware

Area	Buff	Red	Handmade Smoothed	Cement	Gray-Black	Banesh	Other	Unident.	Total	%
5	10	0	1	0	0	1	1	0	13	0.56
10	1	0	0	0	0	0	0	0	1	0.04
15	48	0	0	2	2	1	0	0	53	2.29
17	2	0	0	0	0	0	0	0	2	0.09
19	1	0	0	0	0	0	0	0	1	0.04
23	1	0	0	0	0	0	0	0	1	0.04
25	280	0	1	23	3	3	0	0	310	13.42
26	127	3	3	0	0	4	0	0	137	5.93
36	1	0	0	0	0	0	0	0	1	0.04
40	12	0	0	0	0	0	0	0	12	0.52
45	429	19	36	2	5	26	3	23	543	23.51
57	1	0	0	0	0	0	0	0	1	0.04
58	140	10	0	1	2	8	0	0	161	6.97
59	1	0	0	0	0	0	0	0	1	0.04
60	104	0	3	1	0	2	0	1	111	4.81
69	108	2	2	2	3	6	0	0	123	5.32
76	104	7	3	4	2	4	1	0	125	5.41
89	1	0	0	0	0	0	0	0	1	0.04
94	69	0	0	2	0	8	0	0	79	3.42
95	51	0	1	3	0	2	0	0	57	2.47
96	103	5	1	0	0	3	0	0	112	4.85
139	105	37	12	11	15	5	1	77	263	11.39
140	15	1	2	0	2	0	10	2	32	1.39
141	23	5	13	6	9	5	0	29	90	3.90
142	1	2	0	0	1	0	0	0	4	0.17
143	5	1	3	1	0	0	0	0	10	0.43
151	1	0	0	0	0	0	0	0	1	0.04
152	55	7	0	0	0	1	0	0	63	2.73
154	2	0	0	0	0	0	0	0	2	0.09
<b>TOTAL</b>	<b>1801</b>	<b>99</b>	<b>81</b>	<b>58</b>	<b>44</b>	<b>79</b>	<b>16</b>	<b>132</b>	<b>2310</b>	<b>100%</b>
<b>%</b>	<b>77.97</b>	<b>4.29</b>	<b>3.51</b>	<b>2.51</b>	<b>1.90</b>	<b>3.42</b>	<b>0.69</b>	<b>5.71</b>	<b>100%</b>	

APPENDIX A, TABLE 2 (*continued*)*Building Level IVB*

## Ware

Area	Buff	Red	Handmade Smoothed	Cement	Gray-Black	Banesh	Other	Unident.	Total	%
45	148	9	6	0	2	5	0	0	170	10.08
61	35	0	0	1	0	0	0	0	36	2.14
95	300	2	3	16	2	12	0	1	336	19.93
96	608	1	51	22	4	33	7	2	728	43.18
139	29	18	4	0	0	5	0	4	60	3.56
151	55	11	3	0	0	7	0	0	76	4.51
153	15	1	0	0	0	2	0	0	18	1.07
154	196	24	10	0	0	18	0	0	248	14.71
159	12	1	0	0	0	1	0	0	14	0.83
<b>TOTAL</b>	<b>1398</b>	<b>67</b>	<b>77</b>	<b>39</b>	<b>8</b>	<b>83</b>	<b>7</b>	<b>7</b>	<b>1686</b>	<b>100%</b>
%	82.92	3.97	4.57	2.31	0.47	4.92	0.42	0.42	100%	

APPENDIX A, TABLE 3  
Wares by Types of Surface Decoration

*Building Level IIIA*

Surface Decoration

Ware	Burnished	Plastic	Incised or Excised Decoration	Painted Designs	Burnished with Painted Designs	Plastic and Incised or Excised Decoration	None	Total	%
Buff	1	25	6	34	2	2	250	320	88.89
Handmade Smoothed	0	1	0	0	0	0	4	5	1.39
Cement	0	3	0	0	0	0	11	14	3.89
Gray-Black	1	0	0	0	0	0	7	8	2.22
Banesh	0	0	0	3	0	0	10	13	3.61
<b>TOTAL</b>	<b>2</b>	<b>29</b>	<b>6</b>	<b>37</b>	<b>2</b>	<b>2</b>	<b>282</b>	<b>360</b>	<b>100%</b>
%	0.56	8.06	1.67	10.28	0.55	0.55	78.33	100%	

*Building Level IVA*

Surface Decoration

Ware	Burnished	Plastic	Incised or Excised Decoration	Painted Designs	Burnished with Painted Designs	Plastic and Incised or Excised Decoration	Plastic and Painted Decoration	Incised or Excised and Painted Decoration	Burnished with Plastic and Painted Decoration	Other	Insufficient Evidence	None	Total	%
Buff	2	89	24	170	0	1	1	2	1	2	2	1054	1348	89.81
Red	2	0	0	5	2	0	0	0	0	0	0	13	22	1.47
Handmade Smoothed	0	1	0	0	0	0	0	0	0	0	0	21	22	1.47
Cement	2	1	1	2	0	0	0	0	0	0	0	33	39	2.60
Gray-Black	3	0	0	0	0	0	0	0	0	0	0	9	12	0.80
Banesh	1	2	1	3	0	0	0	0	0	0	0	45	52	3.46
Other	0	2	0	0	0	0	0	0	0	0	0	2	4	0.27
Unidentifiable	0	0	0	0	0	0	0	0	0	0	0	2	2	0.13
<b>TOTAL</b>	<b>10</b>	<b>95</b>	<b>26</b>	<b>180</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1179</b>	<b>1501</b>	<b>100%</b>
%	0.67	6.33	1.73	11.99	0.13	0.07	0.07	0.13	0.07	0.13	0.13	78.55	100%	

APPENDIX A, TABLE 3 (*continued*)

## Wares by Types of Surface Decoration

*Building Level IVB*

## Surface Decoration

Ware	Burnished	Plastic	Incised or Excised Decoration	Painted Designs	Burnished with Painted Designs	Plastic and Incised or Excised Decoration	Insufficien Evidence	None	Total	%
Buff	2	37	14	342	1	1	5	635	1037	85.49
Red	0	0	0	2	0	0	0	10	12	0.99
Handmade Smoothed	3	1	1	1	0	0	0	53	59	4.86
Cement	0	2	1	4	0	0	0	32	39	3.22
Gray-Black	0	1	0	0	0	0	0	7	8	0.66
Banesh	1	2	0	4	1	1	0	40	49	4.04
Other	2	0	0	1	0	0	0	3	6	0.49
Unidentifiable	0	0	0	0	0	0	0	3	3	0.25
<b>TOTAL</b>	<b>8</b>	<b>43</b>	<b>16</b>	<b>354</b>	<b>2</b>	<b>2</b>	<b>5</b>	<b>783</b>	<b>1213</b>	<b>100%</b>
%	0.66	3.54	1.32	29.18	0.17	0.17	0.41	64.55	100%	

APPENDIX A, TABLE 4  
Distribution of Buff Ware Types by Area/Feature

*Building Level IIIA*

Type

Area	cup	bowl	vat	tray	jar	Elamite goblet	other goblet	Total	%
10	0	0	0	0	1	1	0	2	1.06
84	0	2	0	0	20	4	0	26	13.83
101	0	1	0	0	0	0	0	1	0.53
102	0	9	2	0	37	0	2	50	26.60
107	0	1	0	0	1	2	1	5	2.66
108	0	2	0	0	5	2	0	9	4.79
112	0	1	0	0	2	1	0	4	2.13
113	0	8	0	1	10	6	6	31	16.49
116	1	6	1	0	4	0	0	12	6.38
117	2	12	6	0	19	3	0	42	22.34
130	0	2	0	0	0	2	0	4	2.13
154	0	1	0	0	1	0	0	2	1.06
<b>TOTAL</b>	<b>3</b>	<b>45</b>	<b>9</b>	<b>1</b>	<b>100</b>	<b>21</b>	<b>9</b>	<b>188</b>	<b>100%</b>
%	1.60	23.94	4.79	0.53	53.19	11.17	4.79	100%	

APPENDIX A, TABLE 4 (continued)

## Building Level IVA

## Type

Area	cup	bowl	vat	tray	jar	Elamite goblet	other goblet	strainer	other	Total	%
5	0	0	0	0	0	2	0	0	0	2	0.27
10	0	0	0	0	0	0	1	0	0	1	0.14
15	0	1	0	0	11	3	0	1	0	16	2.17
17	0	0	0	0	0	1	0	0	0	1	0.14
19	0	0	0	0	0	1	0	0	0	1	0.14
23	0	0	0	0	1	0	0	0	0	1	0.14
25	0	14	2	1	112	3	4	0	0	136	18.43
26	1	19	3	0	34	8	4	0	0	69	9.35
36	0	0	0	0	0	1	0	0	0	1	0.14
40	0	5	0	0	2	2	0	0	0	9	1.22
45	2	32	1	0	107	8	5	0	0	155	21.00
57	0	0	0	0	0	1	0	0	0	1	0.14
58	0	5	0	1	5	0	0	0	0	11	1.49
59	0	0	0	0	0	1	0	0	0	1	0.14
60	0	12	0	0	18	12	2	0	0	44	5.96
69	1	12	0	1	35	5	3	0	0	57	7.72
76	1	19	5	3	14	16	4	0	2	64	8.67
89	0	0	0	0	0	1	0	0	0	1	0.14
94	2	20	2	0	23	4	8	0	1	60	8.13
95	0	8	0	1	18	6	2	0	0	35	4.74
96	3	22	1	0	30	6	7	0	0	69	9.35
151	0	1	0	0	0	0	0	0	0	1	0.14
154	0	2	0	0	0	0	0	0	0	2	0.27
<b>TOTAL</b>	<b>10</b>	<b>172</b>	<b>14</b>	<b>7</b>	<b>410</b>	<b>81</b>	<b>40</b>	<b>1</b>	<b>3</b>	<b>738</b>	<b>100%</b>
%	1.36	23.31	1.90	0.95	55.56	10.98	5.42	0.14	0.41	100%	

## Building Level IVB

## Type

Area	cup	bowl	vat	tray	jar	Elamite goblet	other goblet	other	Total	%
45	0	9	0	0	31	8	0	0	48	7.95
61	1	3	1	0	18	0	1	0	24	3.97
95	1	33	2	1	139	3	11	0	190	31.46
96	1	62	2	3	258	8	3	2	339	56.13
154	0	1	0	0	0	0	0	0	1	0.17
159	0	1	0	0	0	0	1	0	2	0.33
<b>TOTAL</b>	<b>3</b>	<b>109</b>	<b>5</b>	<b>4</b>	<b>446</b>	<b>19</b>	<b>16</b>	<b>2</b>	<b>604</b>	<b>100%</b>
%	0.50	18.05	0.83	0.66	73.84	3.15	2.65	0.33	100%	

APPENDIX A, TABLE 5  
Buff Ware Bowls—Rim Form by Rim Diameter

*Building Level IIIA*

Rim Diameter	Rim Form									Total	%
	Direct Rounded	Direct Tapered	Direct Beveled Exterior	Direct Flattened	Thickened Rounded	Thickened Ledge	Narrow Band	Not a Rim Sherd			
< 8 cm	0	3	0	0	0	0	0	0	0	3	6.52
8–13 cm.	12	3	0	1	1	0	1	0	0	18	39.13
14–19 cm.	6	2	1	2	1	0	0	0	0	12	26.09
20–25 cm.	2	0	1	0	0	1	0	0	0	4	8.70
26–35 cm.	0	0	1	2	0	1	0	0	0	4	8.70
insuff. evid.	3	0	0	0	1	0	0	0	1	5	10.87
<b>TOTAL</b>	<b>23</b>	<b>8</b>	<b>3</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>46</b>	<b>100%</b>
%	50.00	17.39	6.52	10.87	6.52	4.35	2.17	2.17	100%		

*Building Level IVA*

Rim Diameter	Rim Form													Total	%
	Direct Rounded	Direct Tapered	Direct Beveled Exterior	Direct Flattened	Other Direct Forms	Thickened Rounded	Thickened Beveled Exterior	Thickened Ledge	Narrow Band	Other Thickened Forms	Not a Rim Sherd	Pinched Rim = Banesh Form			
< 8 cm.	4	0	0	0	0	0	0	1	0	0	0	0	0	5	2.81
8–13 cm.	32	7	0	2	1	7	0	8	1	0	0	0	2	60	33.71
14–19 cm	18	9	1	5	3	8	1	10	0	0	0	0	2	57	32.02
20–25 cm.	6	1	0	3	0	3	1	6	0	0	0	0	1	21	11.80
26–35 cm.	3	0	0	0	0	2	0	2	0	1	0	0	0	8	4.49
insuff. evid.	9	4	1	0	0	1	1	5	0	0	4	2	2	27	15.17
<b>TOTAL</b>	<b>72</b>	<b>21</b>	<b>2</b>	<b>10</b>	<b>4</b>	<b>21</b>	<b>3</b>	<b>32</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>7</b>	<b>178</b>	<b>100%</b>	
%	40.45	11.80	1.12	5.62	2.25	11.80	1.68	17.98	0.56	0.56	2.25	3.93	100%		

*Building Level IV B*

Rim Diameter	Rim Form											Total	%
	Direct Rounded	Direct Tapered	Direct Flattened	Thickened Rounded	Thickened Beveled Exterior	Thickened Beveled Interior	Thickened Ledge	Narrow Band	Not a Rim Sherd	Pinched Rim = Banesh Form			
<8 cm.	0	1	0	0	0	0	0	0	0	0	0	1	0.91
8–13 cm.	18	6	5	6	0	0	2	1	1	2	4	41	37.27
14–19 cm.	9	2	6	8	0	2	6	1	0	0	0	34	30.91
20–25 cm.	3	1	0	3	3	0	0	0	0	1	1	11	10.00
26–35 cm.	0	1	0	1	0	0	1	0	0	0	0	3	2.73
> 35 cm.	0	0	1	1	0	1	0	0	0	0	0	3	2.73
insuff. evid.	2	5	2	3	0	0	1	0	4	0	0	17	15.45
<b>TOTAL</b>	<b>32</b>	<b>16</b>	<b>14</b>	<b>22</b>	<b>3</b>	<b>3</b>	<b>10</b>	<b>2</b>	<b>5</b>	<b>3</b>	<b>110</b>	<b>100%</b>	
%	29.09	14.54	12.73	20.00	2.73	2.73	9.09	1.82	4.54	2.73	100%		

APPENDIX A, TABLE 6  
Buff Ware Neckless Jars—Rim Form by Rim Diameter

*Building Level IIIA*

## Rim Form

Rim Diameter	Direct Flattened	Thickened Rounded	Thickened Ledge	Narrow Band	Wide Band	Indented Band	Total	%
< 8 cm.	0	0	0	1	1	0	2	5.13
8-13 cm.	1	2	2	3	0	0	8	20.51
14-19 cm.	0	5	1	1	0	0	7	17.95
20-25 cm.	0	5	2	0	0	0	7	17.95
26-35 cm.	0	6	5	0	0	0	11	28.21
insuff. evid.	0	3	0	0	0	1	4	10.26
<b>TOTAL</b>	<b>1</b>	<b>21</b>	<b>10</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>39</b>	<b>100%</b>
%	2.57	53.85	25.64	12.82	2.56	2.56	100%	

*Building Level IVA*

## Rim Form

Rim Diameter	Direct Rounded	Direct Tapered	Direct Flattened	Thickened Rounded	Thickened Beveled Exterior	Thickened Ledge	Narrow Band	Wide Band	Indented Band	Other Thickened Forms	Total	%
< 8 cm.	1	1	0	0	0	0	0	2	0	0	4	3.51
8-13 cm.	7	1	4	6	0	2	1	2	1	0	24	21.05
14-19 cm.	3	0	3	15	0	7	1	1	0	0	30	26.32
20-25 cm.	1	0	2	10	2	6	0	0	0	1	22	19.30
20-25 cm.	1	0	5	8	0	3	0	0	0	0	17	14.91
> 35 cm.	0	0	0	4	0	0	0	0	0	0	4	3.51
insuff. evid.	1	1	4	2	0	3	2	0	0	0	13	11.40
<b>TOTAL</b>	<b>14</b>	<b>3</b>	<b>18</b>	<b>45</b>	<b>2</b>	<b>21</b>	<b>4</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>114</b>	<b>100%</b>
%	12.28	2.63	15.79	39.47	1.75	18.42	3.51	4.39	0.09	0.09	100%	

*Building Level IVB*

## Rim Form

Rim Diameter	Direct Rounded	Direct Tapered	Thickened Rounded	Thickened Ledge	Narrow Band	Wide Band	Other Thickened Forms	Insufficient Evidence	Not a Rim Sherd	Total	%
< 8 cm.	0	2	0	0	0	0	0	0	0	2	2.33
8-13 cm.	2	0	10	0	0	1	0	0	0	13	15.12
14-19 cm.	4	0	24	2	0	2	1	0	0	33	38.37
20-25 cm.	0	0	14	1	1	0	0	1	0	17	19.77
26-35 cm.	0	0	4	1	0	0	0	0	0	5	5.81
> 35 cm.	0	0	3	1	0	0	0	0	0	4	4.65
insuff. evid.	0	0	9	0	0	1	0	1	1	12	13.95
<b>TOTAL</b>	<b>6</b>	<b>2</b>	<b>64</b>	<b>5</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>86</b>	<b>100%</b>
%	6.98	2.33	74.42	5.81	1.16	4.65	1.16	2.33	1.16	100%	



APPENDIX A, TABLE 7  
Buff Ware Necked Jars—Rim Form by Rim Diameter

*Building Level IIIA*

## Rim Form

Rim Diameter	Direct Rounded	Direct Tapered	Direct Flattened	Thickened Rounded	Thickened Ledge	Narrow Band	Wide Band	Indented Band	Not a Rim Sherd	Total	%
8-13 cm.	2	1	1	5	2	2	8	4	0	25	46.30
14-19 cm.	2	0	1	3	3	0	2	0	0	11	20.37
20-25 cm.	0	0	1	2	2	0	0	0	0	5	9.26
26-35 cm.	1	1	0	0	0	0	0	0	0	2	3.70
insuff. t. evi. e	1	0	0	1	1	0	0	2	6	11	20.37
TOTAL	6	2	3	11	8	2	10	6	6	54	100%
%	11.11	3.70	5.56	20.37	14.81	3.70	18.52	11.11	11.11	100%	

*Building Level IVA*

## Rim Form

Rim Diameter	Direct Rounded	Direct Tapered	Direct Beveled Exterior	Direct Flattened	Other Direct Forms	Thickened Rounded	Thickened Beveled Exterior	Thickened Ledge	Narrow Band	Wide Band	Indented Band	Other Thickened Forms	Not a Rim Sherd	Finched Rim = Banesh Form	Total	%
< 8 cm.	7	2	0	0	0	1	0	0	0	0	0	0	0	0	10	4.59
8-13 cm.	46	15	2	1	0	20	2	2	9	11	3	0	1	0	112	51.38
14-19 cm.	11	3	0	1	1	9	4	5	0	5	0	1	0	0	40	18.35
20-25 cm.	1	0	0	1	0	4	0	1	1	0	1	0	0	0	9	4.13
26-35 cm.	1	0	0	1	0	1	0	1	0	0	0	0	0	0	4	1.83
insuff. evid.	13	1	0	0	0	8	1	2	1	2	2	0	12	1	43	19.72
TOTAL	79	21	2	4	1	43	7	11	11	18	6	1	13	1	218	100%
%	36.24	9.63	0.92	1.83	0.46	19.72	3.21	5.05	5.05	8.26	2.75	0.46	5.96	0.46	100%	

*Building Level IVB*

## Rim Form

Rim Diameter	Direct Rounded	Direct Tapered	Direct Flattened	Other Direct Forms	Thickened Rounded	Thickened Beveled Exterior	Thickened Beveled Interior	Thickened Ledge	Narrow Band	Wide Band	Indented Band	Other Thickened Forms	Insufficient Evidence	Not a Rim Sherd	Total	%
< 8 cm.	5	3	0	0	2	0	0	1	0	0	0	0	0	0	11	4.30
8-13 cm.	40	9	2	1	23	0	1	0	6	7	0	0	0	0	89	34.76
14-19 cm.	4	2	4	0	16	1	0	4	1	2	1	1	0	0	36	14.06
20-25 cm.	1	0	2	0	5	0	0	0	0	0	0	0	0	0	8	3.13
26-35 cm.	0	0	0	0	3	0	0	3	0	0	0	0	0	0	6	2.34
insuff. evid.	11	1	1	0	3	0	0	1	0	5	0	0	2	82	106	41.41
TOTAL	61	15	9	1	52	1	1	9	7	14	1	1	2	82	256	100%
%	23.83	5.86	3.52	0.39	20.31	0.39	0.39	3.52	2.73	5.47	0.39	0.39	0.78	32.03	100%	



---

# Appendix B

## *Lithic Clusters from the Middle Elamite Building (EDD)*

By Ken Deaver Ph.D.

### *Excavation Data*

During the excavation of the Middle Elamite building in the EDD unit a large quantity of chert debris was encountered. I intend to provide a brief description of the distribution and nature of this lithic material, along with several possible interpretations of how and why it was deposited within the building.

I encountered chert of various types in most excavation units in the EDD area, but a particular kind of chert occurred in a patterned distribution and in very large quantities. The chert in question is an opaque variety ranging in color from tan to light gray but generally appearing as a shade of honey-gray.

A total of approximately 170 kg of the honey-gray chert was encountered in the Middle Elamite building. At least one fragment was found in each square, and indeed occasional pieces have been found in other portions of the site (e.g., EE 16). However, over 115 kg of the total inventory came from two isolated spots within the building. One concentration was found in the northern portion of the courtyard, principally in square EE 43. The other concentration came from the center of corridor 15,

and through the doorway into room 26, all in square DD 45 (Fig. 9, above). The remaining 50–55 kg were found in a light scatter over the courtyard and as isolated pieces in each corridor and room on the southern and eastern sides of the building (Fig. 9).

The two concentrations were tightly clustered. Concentration A (in the courtyard) measured a little under 2 x 4 m and was up to 0.30 m deep in places. Concentration B (in square DD 45) appeared to be a single cluster but was split by wall 34. This resulted in two facing semicircular clusters on either side of the wall, each measuring approximately 2 x 4 m. Depth varied throughout the cluster but in spots was over 0.20 m.

Both clusters came from the IVA level (strata 7–9) indicating deposition on the floor being used when the building burned. Cluster A was found just below a silt and ash layer. Cluster B was in a burned layer mixed with charcoal, burned reed matting, ash, silt, and burned bone. Many of the flakes in Cluster B are burned probably as a result of being mixed with the burning roof debris when it collapsed. The courtyard was not roofed and thus the flint in Cluster A is unburned.

## *Laboratory Examination*

Some of the material from the two clusters was shipped to Ohio State University (O.S.U.) for further examination. The sample at O.S.U. was selected to be fairly representative of the range of material from the two clusters but was not a truly random sampling. A total of 21 kg of the chert are in the selected sample. This represents a bit over 18% (by weight) of all chert found in the two clusters.

The examination at O.S.U. consisted of three steps. First, flakes were examined, sorted (by amount of cortex present and amount of burning), and

counted, and each group was weighed. Second, all edges of all flakes were examined (for edge modification or damage) under a 10x hand lens and in most cases under a Wild binocular microscope up to magnification of 100x. Third, a series of experiments were performed with flakes of the honey-gray chert to determine the types of edge damage that result from various possible actions (e.g., banging against other flakes, working bone, and working soft stone).

### *General Flake Morphology*

A total of 808 flakes were examined at O.S.U. Most of these (692) are fairly large hard-hammer percussion flakes. Average flake length is just over 0.07 m; average width is just over 0.045 m; and average weight is 30 gm. The remaining 116 flakes are very small (averaging 0.4 gm each). These are the result of hard-hammer retouch of a larger flake, and all came from a single lot of DD 45.

The size and shape of the larger flakes is fairly uniform. Most flakes are quite close to the averages given above. Of the flakes appreciably below the averages, most came from DD 45, are burned, and have broken into two or more pieces. There are no small shatter flakes present in the collection. Indeed, the two excavators of the squares noted in the field notes that neither of these clusters could be manufacturing areas owing to the uniformity of the assemblage and the lack of small shatter flakes.

Although the flakes were probably not produced where they were found and not all lithic debris resulting from their production is present in the assemblage, some statements can nevertheless be made about the production sequence. Large chert nodules completely covered in a thick (up to 0.01 m) cortex were collected from a unknown location. A number of cortical flakes were driven off the nodules by hard-hammer percussion. With a portion of the nodule's interior exposed the cortex was further peeled away by driving off bladelike flakes adjacent and parallel to the cortex edge. This produced

ridged flakes with cortex covering one lateral edge. The nodules were further reduced by driving off single- or double-ridged flakes. In many cases the ridge(s) runs parallel to the direction of the blow that removed the flake (see Fig. 47.1; Pl. 23.1). In other cases the force was slightly diagonal to the ridge, thus producing "left- or right-leaning flakes" (see Fig. 47.2, 3; Pls. 23.2, 3).

It is difficult to determine the ultimate aim in this reduction sequence. The assemblage observed resembles a Middle Paleolithic flake kit. It could also be the waste debris from blade core production. Either process would have produced exhausted cores after flakes or blades were removed. No exhausted cores were found in the O.S.U. collection. The only clue is the presence of 22 trapezoidal "platform rejuvenation flakes" (see Fig. 47.4; Pl. 23.4), suggesting but certainly not proving the manufacture and subsequent repair of blade cores. No Bronze Age bladelets of this material were found in the Middle Elamite building, however, a few (see Fig. 47.5; Pl. 23.5) did appear in other portions of the site.

After the nodules were exhausted, the debris was separated. Either all the large flakes (cortical, bladelike, ridged, left-leaning, right-leaning, platform rejuvenation) were gathered up and moved to the two clusters in the building, or the exhausted cores and small shatter flakes were cleaned up and removed. It is interesting to note that there is no apparent selection or segregation of cortical flakes, thin

ridged flakes, or steep-angled platform rejuvenation flakes. The only criteria that all of these flakes seem to share is a fairly consistent size.

At some time after production a very small number of the flakes were retouched and further worked. Four bifacially worked implements were found in EE 43 (Fig. 47.6; Pl. 23.6). Five flakes (3 from EE 43, 2 from DD 45) display steep unifacial retouch along a portion of one lateral edge (Fig. 47.7; Pl. 23.7).

## EDGE DAMAGE

Many of the flakes examined display substantial edge damage, some of which is visible to the naked eye. Examination under magnifications of 10–100x revealed massive edge damage on at least portions of virtually all edges. This damage consists of microflaking, in the form of randomly arranged and oriented scalar flakes partially obscured by subsequent smaller step flakes. In addition to the microflaking, most sharp angles display crushing, rounding, and light polish. In general the weakest edges display the greatest damage, but many of the obtuse angles on dorsal flake surfaces also show substantial crushing and rounding. The flakes from DD 45 display less damage but some is present. The random distribution and orientation of the microflaking is a good indication of unintentional damage (Tringham et al. 1974:182, 192).

Only five flakes were found with portions of edges displaying possible "use-wear." These flakes show microflaking on a single surface, in a tightly packed distribution, and with a consistent orientation (very slightly off of perpendicular to the flake edge). The four bifacially worked implements found in EE 43 show similar but less distinctive patterns. This type of edge damage will result from scraping or shaving bone (Tringham 1974:189–91), or a soft stone (Del Bene and Shelley 1979).

Attempts were made to replicate the type of edge damage seen on both the "used" and the apparently unused flakes. Four flakes were removed from the collection and reworked to produce fresh edges. One of the reworked flakes was used to shave a fragment of unworked calcite similar to the pile of this material found in the southern portion of the courtyard. Another flake was used to scrape bone. The final two flakes (one with thin sharp edges, the other with steep angular edges) were placed in a cloth bag with four granitic hammerstones and a handful of slag glass flakes. The bag was then agitated for five minutes.

The calcite and bone were both scraped for 100 strokes and then examined under the binocular microscope. The calcite-working tool displayed a few scalar flakes and numerous step flakes which dulled the edge and obscured the bulbs of the scalar flakes. There was some rounding and polish near the edge. The microflaking generally conformed in distribution and orientation to that predicted by Tringham et al. (1974), but not completely. A few scalar flakes were seen on the ventral surface of the flake, and a couple of flakes had inconsistent orientations. This could be due to the highly irregular surface of the calcite or the variable pressure used on different strokes. In general, the wear patterns were similar to those seen on the five "used" flakes and the bifacially worked implements, but much less extreme, indicating that the prehistoric implements were used far more than 100 strokes.

The bone-working tool displayed numerous scalar flakes and fewer step flakes. Rounding and polish on the edge were very similar to that on the calcite-working tool. Microflake distribution and orientation were a bit less than predictable again. It appears that more than 100 strokes are needed to produce distinctive wear patterns where both action and material can be identified. In general, the bone-working tool displayed microflaking somewhat different from that seen on the "used" flakes. Bone-working produced scalar flakes too numerous and too invasive to match prehistoric patterns.

The flakes that were agitated in the cloth bag served as a sort of control sample. All chert was bagged together at the site, and bags have been subjected to substantial jostling between excavation and examination. This process was replicated on a small but violent scale to determine the possible extent of postexcavation damage. All edges showed rounding and crushing on edges. However, there were very few scalar flakes and no edge polish. Additionally the damage was only a minute fraction of that seen on both used and unused flakes in the collection. The exact nature and degree of damage differ but agitation does produce fairly uniform damage on virtually all edges, with the most extreme damage on the weakest edges and some crushing even on obtuse angles on the dorsal flake surface.

In general the "used" flakes and possibly the bifacially worked implements appear to have been used with a transverse action (scraping/shaving) on soft stone or possibly hard bone (antler?). All other flakes, particularly those in EE 43, were subjected to extensive, random abuse. Some of the damage is compatible with that produced by shaving soft stone or bone/antler, but taken as a whole the patterns are indicative of unintentional trampling and prolonged

agitation against sand, silt, and other flakes. It seems most likely that the clusters of lithic material were dumped, scattered (perhaps unintentionally over time), swept back into piles, rescattered, and reassembled, probably many times. Each time a flake moved it banged against other flakes, occasionally producing scalar microflakes with random distributions and orientations. Later movement produced step flakes, crushing, and rounding of all sharp

edges. Abrasion with sand and silt, particularly in the courtyard, produced additional rounding and polish on all edges and angles.

It is possible that many of the flakes may have been used ephemerally. But later unintentional edge damage has obscured traces of light use wear. Only massive and random, unintentional edge abuse can explain the extensive damage seen on both sharp and obtuse angles.

## *Speculative Conclusions*

Based on both physical attributes and contextual data, several statements can be made about the sequence of actions that left the flakes in the Middle Elamite building. Nodules of chert were flaked in a strongly patterned reduction sequence, probably with the ultimate aim of producing blade (or possible flake) cores. The large waste flakes from this process were gathered up and dumped in two piles in the building. Small waste flakes, exhausted cores, and bladelets were treated separately and do not appear in the O.S.U. collection, nor are they mentioned in the field notes.

The large flakes were placed in two piles in the building. Pile A was in the northern corner of the courtyard probably up against pillar 87. Other areas of the courtyard had piles of unworked calcite and bitumen. Pile B was placed on the roof of the building over the center of corridor 15 and room 26. It is possible Pile B was on the floor of the corridor and room, but this seems highly unlikely since the corridor would have been partially blocked and the door would not have closed.

Edge damage on the flakes, particularly those in the courtyard, indicates that the piles were scattered and reassembled repeatedly. This dispersion may have been the result of natural forces (wind, rain, and gravity) combined with random human foot-traffic. It is also possible that the flakes were intentionally scattered over the uncovered courtyard to provide a drier walking surface during the rainy season. Some of the flakes were interspersed with water-lain silt layers in the courtyard. Others may have been reassembled in a pile by housekeeping activities after the courtyard dried up.

A few of the flakes were used as tools. Four were bifacially worked and at least five more were unifacially retouched. Five others were used unaltered to work soft stone or bone/antler. Although

the use of these flakes is interesting, the number of "used flakes" is far too small to suggest that all the flakes were placed in the building to be used for this purpose. The use of these very few flakes from a huge assemblage is probably due to a flake being present and suitable to perform a particular task being conducting in the building.

At the time of the fire in the Middle Elamite building the chert was generally piled in two clusters with some flakes scattered randomly in corridors, rooms, and probably over the roof surface. The courtyard contained a general light scatter, much of which was partially buried after having been pressed into earlier muddy layers. The fire caused pillars, walls, and the ceiling to collapse. Cluster A was buried by plaster/gatch collapsed from the walls and then covered with a layer of ash. Cluster B collapsed with the burning roof falling on both sides of wall 34. This was capped with fallen plaster, collapsed wall, and ash. Cluster B contained almost twice as much material by weight as Cluster A, but then the courtyard material was more extensively scattered.

When this examination was undertaken, the ultimate objective was to determine the purpose of the flakes within the building. Unfortunately, no single function can explain both the physical attributes and distribution of the entire flake assemblage. The combination of all data can only be accounted for through a series of unconnected actions. The flakes were produced as a by-product of core production. The waste debris was later sorted by size, and one size class was dumped in piles in the building. This building seems to have served as a storage location and the chert was simply one of several raw materials present. The piles were scattered and partially reassembled repeatedly. Some of the scattering may have been intentional, to cover a muddy courtyard floor, but random unintentional

dispersion was also involved. A few of the flakes were used to work (scrape/shave) a hard material, but the ultimate purpose of piling so much chert in the building remains unknown. It is possible that the

lithic material was simply considered trash or that the Middle Elamite inhabitants intended to use some or all of the flakes in the future and were saving it until the need arose.





---

# Appendix C

## *Palaeoethnobotany*

by Naomi F. Miller, Ph.D.,  
Research Specialist, Archaeobotany,  
Museum Applied Science Center for Archaeology,  
The University Museum, Philadelphia, PA

Archaeobotanical samples from the 1974 and 1976 excavations of area EDD at Malyan were submitted for identification and analysis.<sup>1</sup> Nearly all the samples come from the main Middle Elamite

structure, a large public building that was destroyed by fire in antiquity. Sediment samples were taken for flotation, and large pieces of charcoal were sometimes taken as miscellaneous samples.

## *Flotation*

Flotation samples were taken from several rooms and other features, but not all features were examined (Appendix C, Tables 1 and 2). The research was carried out early in the author's career, and certain procedures for extracting and recording samples were changed as experience dictated. This circumstance diminishes the comparability of samples taken in 1974 and 1976, but I hope that the following report will not suffer excessively.

During both seasons, a manual flotation system was used. Small amounts of sediment were poured into a sieve (in 1974, c. 1.5 mm mesh) or soup strainer (in 1976, c. 1 mm mesh), which was then placed in water. After gentle agitation, floating material was scooped up with a tea strainer of smaller

mesh. The residue was examined by eye, and the procedure was repeated until no charred material remained in the large strainer. The charred material was set in cloth to dry and then be transferred to permanent containers.

In 1974, samples were not sieved prior to flotation, and the weight of the sediment samples was recorded. Beginning in 1976, the volume of excavated, sieved sediment was measured in buckets of known volume. Usually, the sieve used had a 1-cm mesh. A few samples from areas in which tablets had been found were sieved with a smaller mesh (0.25 cm). After the 1974 season, several 10-liter buckets of sediment were weighed in order to get an approximate conversion from weight to volume to facilitate

---

1. This report is one part of a larger study of the plant remains from Malyan. Analysis of the late fourth to early second millennium remains is available elsewhere (Miller 1982, 1985).

I refer the reader to these publications for a fuller account of the earlier periods to which occasional reference has been made.

comparisons between samples. The sediment weight was about 10 to 15 kg per bucket, depending on the type of sediment, and I have converted the sample weight to approximate volume using 12 kg/10 liters for this report.

Laboratory procedures were also not completely uniform. Ordinarily, the processed samples were put through a 0.85-mm geological sieve. Material smaller than 0.85 mm was examined only for seeds and other identifiable material. Material larger than 0.85 mm was sorted completely. Occasionally, a sample was so large that total sorting was not possible. In that case, a portion was sorted completely, and the remainder was examined for seeds. Proportions and densities of charred material were then estimated. Samples with large quantities of reeds could not be sorted completely, either, so estimates of the relative quantities of charcoal, reeds, and seeds were made. For these reasons, the quantitative information in the accom-

panying tables provides only a rough idea of the quantities of material recovered.

Most charcoal pieces recovered by flotation are quite small, less than 2 mm on a side. An attempt was made to identify up to 20 pieces per sample where possible (Appendix C, Table 3). Pieces weighing less than 0.01 g were considered too small to identify. Charcoal and seeds were examined with a binocular microscope (7–30x). Identifications are based on comparative material in the author's collection of modern seeds and wood, a duplicate set of which is located in the University of Michigan Museum of Anthropology Ethnobotanical Laboratory, Ann Arbor. For some taxa, it was possible to use published seed and wood manuals for other parts of the world. The laboratory work was largely completed by 1976, under the direction of R.I. Ford of the University of Michigan and W. van Zeist of the Biologisch-Archaeologisch Instituut.

### *Hand-picked Charcoal*

Given the massive burning of many deposits, it was not possible to collect or identify all charcoal from area EDD. The excavator therefore chose a few pieces for the ethnobotanist to identify (Appendix C, Table 4). Most of the wood charcoal probably comes from roof beams. However, beams were rarely found

in place. Unless different species are identified, it is not possible to know if a sample consisting of several pieces represents one original piece of wood or several. Therefore, only limited quantification of the wood charcoal is provided, as greater precision would be meaningless.

## *The Plants*

### *Cereals (Gramineae)*

Most of the cereal remains were severely fragmented and exploded, presumably owing to the intense burning of the building. Most were not identifiable even to the genus level, but are likely to be

barley (*Hordeum* sp.) and wheat (*Triticum* sp.). Most of the identifiable grain is barley. At least some of the barley is the six-row type, *Hordeum vulgare*, since six twisted grains were noted.

### *Pulses (Leguminosae)*

Less common than cereal, lentil occurs in small numbers. There were only two measurable lentils. Both are small (diameter 2.5 mm and 2.8 mm),

similar to the lentils of the earlier periods at Malyan. The other cultivated legume is tentatively identified as bitter vetch (*Vicia ervilia*), a fodder plant.

## Fruits

A few grape seeds (*Vitis vinifera*) and fragments of a hackberry (*Celtis*) seed were recovered. Grape was cultivated in the Kur basin from at least Banesh times. Hackberry is a member of the elm family with a tiny, but edible fruit. It occurs in such small quan-

tities that it is impossible to determine whether it was collected for food. Since hackberry is the major tree of the Ulmaceae in this part of Iran, the occasional charcoal piece identified to that family is probably hackberry.

## Nuts

Nutshell of pistachio (*Pistacia*) and almond (*Amygdalus scoparia* and *Amygdalus* sp.) occurs. All three are components of the pistachio-almond forest region of the southern Zagros. Both pistachio and almond are edible, although wild almond has a bitter aftertaste.

Pistachio and almond charcoal do not occur in EDD; perhaps these trees were rare during Middle Elamite times, or were protected for nut production. The indeterminate nutshell category is a smooth-shelled type, presumably *Pistacia* or *A. scoparia*.

## Wild and Weedy Plants

I assign seeds in this category to probable ecological group based on extensive botanizing in the Kur basin. "Weed" is a catch-all category for the herbaceous plants that are widespread in a variety of disturbed habitats. Although many species of weeds can be assigned to a more precise habitat, most of the archaeological specimens can be identified only by genus. The plants in the "weed" category include *Vaccaria*, *Centaurea*, *Astragalus*, *Adonis* cf. *dentata*, *Galium*, and various indeterminate Cruciferae, Gramineae, and Leguminosae. *Aegilops* is the only

Middle Elamite weed restricted to dry-farmed areas in the Kur basin today, so it is accorded its own column. A few types (see chart) are found only in irrigated fields, including *Medicago*, *Malva*, *Fumaria*, and an indeterminate Boraginaceae. A fourth category ("Wet Area") comprises plants of very moist areas (streamsides, marsh, and heavily irrigated alfalfa and sugar beet fields). It includes *Setaria*, a grass, and *Carex*, a sedge. The taxa from which the weed seeds come can all be seen today in the Kur basin.

## Other Woody Plants

In addition to the hackberry mentioned above, other woody plants are a source of charcoal in EDD. Poplar (*Populus*) and willow (*Salix*), fast-growing trees of streamsides and irrigated gardens, are used today for roof beams. This was undoubtedly true in the past as well. They could have occurred naturally or been planted. Poplar and willow can only be distinguished under high magnification, so the larger chunks of poplar were examined with an incident light mineralogical microscope at about 100x. Since the economic and ecological interpretations of poplar and willow are so similar, the flotation charcoal was

not examined under high power. Ash (*Fraxinus*) is another moisture-loving tree that may be used for a variety of purposes (construction, fuel, tools, etc.). Oak (*Quercus aegilops*) is the dominant tree of the forest to the north and west of Malyan. Almond and pistachio are the two dominant genera of the woodland at the southeastern end of the Kur basin, but are not present as charcoal in the EDD samples. Maple (*Acer monspessulanum*) and juniper (*Juniperus*) could represent components of either woodland type.

## *Reeds*

Unidentifiable slivers of charred reeds or grasses are common in samples at EDD.<sup>2</sup> Although some *Phragmites* stems have been seen in charcoal samples, most reeds come from flotation samples. Modern construction techniques provide a very obvious and plausible ethnographic analogy for the ancient situation. Straw matting is placed over wooden beams (typically poplar and willow today), and a layer of

brush (willow branches and licorice [*Glycyrrhiza glabra*] are commonly used today) is placed on the mats. The roof is then topped with packed mud. Reeds are more common in some samples than others, presumably those which contain the remains of mats. Although they were sometimes seen to disintegrate during flotation, samples containing significant quantities of reeds are readily recognized.

## *The Deposits*

The Middle Elamite material at Malyan comes from a large burned structure. Plant remains from Middle Elamite EDD are therefore not comparable to those of the earlier deposits represented at Malyan, which originated primarily in fuel, both wood and dung. The range of types represented is much more limited in EDD than in the earlier deposits, most probably a result of the very different circumstances of preservation. Major differences between the Banesh and Kaftari period assemblages, attributable to deforestation, are documented (Miller 1982, 1985), but differences between Kaftari and Middle Elamite assemblages are more readily explained by the unique character of the later deposit.

Ordinarily, the major source of charred material on an archaeological site is fuel, supplemented by the debris of refuse disposal and accidental burning. These items could account for some of the EDD remains. The charcoal could also be the remains of building furnishings (shelves, furniture, storage boxes). Seeds could come from stored materials (such as foodstuffs) and a variety of accidentally burned items. Most of the material at EDD is, however, probably from construction materials.

In order to identify some of the different sources of plant materials in EDD, it is useful to look at some

of the basic characteristics of the samples. For example, samples with high concentrations of building debris are expected to contain much charcoal and reeds. In EDD, deposits with a high density of charred material have these high proportions of charcoal and reeds. In contrast, those deposits with relatively high proportions of seeds (more than 10% by weight) tend to have lower densities of charred material, generally under 1 g/10 l. sediment (Appendix C, Table 5). This group of samples is more typical of "ordinary" debris samples. The percentage of seeds by weight in these samples is similar to many Kaftari deposits, where dung fuel is thought to be a major source of charred plant material. One exception to this pattern is CRDX 60, where a relatively high proportion of charcoal and reeds is associated with a relatively high density of grain. This is a possible concentration of grain that is neither construction nor fuel. CRDX 15 also has a high grain density, though the proportion of seeds relative to charred material is fairly low (Appendix C, Table 6).

The contents of a group of jars from ROOM 69 were examined. It is clear that they contain burned construction debris; there is, however, no trace of the original contents.

---

2. It is not known whether the ancient matting from EDD was made of reeds (a category that includes the grass, *Phragmites*) or straw from the cultivated grasses, wheat and barley. Reeds could have grown wild on the meadow in the middle of the

Beiza plain, about 2 km from Malyan, or along irrigation ditches. Straw would have been readily available as a by-product of cereal production.

## *Charcoal Analysis*

Charcoal analysis of the earlier material from Malyan suggested a trend to deforestation between the Banesh and Kaftari periods (Miller 1985). Once set in motion, certain trends may become irreversible, such as increased erosion and destruction of seed sources. It is, however, possible for forests to recover even from severe human abuse, although fuel cutting and grazing will affect the speed with which this may occur.

People tend to collect fuel wood close to where they will use it, to limit transport costs. For that reason, charcoal analysis of fuel frequently provides a fair first approximation of the arboreal vegetation near a site. Applying this assumption, it was thought that juniper and (probably uncultivated) poplar grew near Malyan in the Banesh period. By Kaftari times, these fuels had declined in importance, and were

replaced by the more distant oak. Other genera, such as maple, pistachio, and almond, did not show such clear-cut changes. If population declined in Middle Elamite times, and human disturbance was proportionately reduced, there could have been some forest regeneration. However, interpretation of the Middle Elamite situation is complicated by the unusual circumstances of preservation at EDD. In Middle Elamite times, the ubiquity of poplar at EDD attests to its use in construction (Appendix C, Table 7). It is possible that over the millennia, it had become primarily a cultivated tree, as it is today. Several chunks of maple charcoal are now thought to represent lumber as well, based on their archaeological context; the arrangement of maple charcoal visible in the baulk of DD 41, ROOM 76 suggests logs of maple were used for shelving (see above, p. 9).

## *Discussion*

EDD plant remains largely originated in construction debris. Satisfying environmental and economic reconstructions are not possible with the available data. Two points of interest may, however, be noted. First, the apparent use of maple for shelving in the EDD structure suggests less degraded woodland conditions than today, where full-sized maple

trees are not common in the Kur basin.

Second, the crop and weed seed assemblage contains only taxa known from the earlier periods at the site. However, the small numbers recovered preclude any precise statement about change or stability in agricultural practices between Kaftari and Middle Elamite times.

APPENDIX C, TABLE 1. Catalog of Flotation Samples<sup>1</sup>

BL	Feature	Square	Lot	DC	Volume (bucket)	Charcoal (g)	Seed (g)	Charred dens. g/bucket	Seed Prop.	Comments
IVB	ROOM 151.2	FF41	78	26	1	0.49	-	0.50	0.02	
IVB	ROOM 154.2	FF41	78	26	1	0.86	-	0.86	-	
IVB	ROOM 5	CC43	25	26	2.8	62.64	47.79	39.44	+	34 kg (3); (4)
IVA	CRDX 15	DD45	13	26	1	56.65	0.51	60.44	0.02	12 kg (3); (4)
IVA	COUR 45.1	DD43	66, 67	35, 23	2	0.05	-	0.02	-	(4)
IVA	COUR 45.2	DD43	69	26	1	0.40	0.14	1.51	0.64	(2)
IVA	COUR 45.3	EE45	30a	21	?	0.02	0.97	?	0.03	(4)
IVA	COUR 45.4	EE45	30b	21	?	0.62	0.22	?	0.36	(4)
IVA	DOOR 59.1	DD43	43	26	1	11.41	-	11.62	0.02	12 kg (3)
IVA	DOOR 59.2	DD43	48	35	0.75	0.06	-	0.08	-	9 kg (3)
IVA	CRDX 60	DD41	61	1.25	5.45	2.33	3.51	9.03	0.31	15 kg (3)
IVA	ROOM 69.1	DD41	37	1	8.32	0.79	-	9.11	-	11 kg (3)
IVA	ROOM 69.2	DD41	47	26	0.25	10.49	0.01	46.00	+	3 kg (3); (4)
IVA	ROOM 69.3	DD41	49	26	1	0.85	1.22	2.08	+	11 kg (3)
IVA	CRDX 95	EE43	26	1	2.25	0.75	0.07	3.07	0.02	(4)
IVA	ROOM 96	FF41	37	35	0.5	0.17	+	0.34	+	
IVA	CRDX 139.1	EE45	28	25	1	0.23	-	0.24	0.04	
IVA	CRDX 139.2	EE45	32	26	0.7	2.84	-	4.07	+	
IVA	DOOR 140	EE45	33	21	1	0.25	0.07	0.32	0.22	
IVA	DOOR 141	EE45	31	26	1	2.57	0.03	2.60	0.01	
IVA	DOOR 142	EE45	36	26	0.5	6.79	+	13.58	+	(4)
IVA	ROOM 143	EE45	37	26	0.7	4.55	5.00	13.64	0.02	(4)
IVA	ROOM 152.1	FF41	34	26	1	2.38	0.05	3.23	0.02	(4)
IVA	ROOM 152.2	FF41	36	26	1	1.81	-	1.81	-	(2)
IVA	ROOM 154.1	FF41	42	35	1	0.16	-	0.18	-	(2)
IVA	JAR.1	DD41	54	52	0.7	17.04	0.02	33.01	0.11	4 kgG (3); (4)
IVA	JAR.2	DD41	54	52	?	13.04	-	?	-	(4)
IVA	JAR.3	DD41	55	52	0.4	8.35	-	22.05	-	5 kg (3)
IVA	JAR.4	DD41	56	52	0.6	17.56	-	62.30	-	7 kg (3)
IIA	KILN 164	EE39	54	28	1	0.33	0.01	0.34	0.03	(2)
IIIB	HRTH 167	EE39	56	28	1	0.10	0.19	0.29	0.66	
IIIB	KILN 170	EE39	63	28	1	0.18	-	0.18	+	
IIIB	KILN 175.1	EE39	71	28	1	0.42	0.01	0.43	0.02	
IIIB	KILN 175.2	EE39	75	28	0.25	0.27	0.05	1.28	0.16	
IIIB	KILN 175.3	EE39	77, 78	28	3	7.65	0.35	2.67	0.04	
IIIB	PITX 172	EE39	65, 95	22	2	0.92	0.17	0.54	0.16	
IIIA	PITX 14	CC43	32	22	3	0.59	+	0.20	+	
IIIA	ROOM 111	EE39	96	48	1	0.49	0.03	0.52	0.06	
IIIA	ROOM 151.1	FF41	21	26	1.7	7.63	0.01	4.49	+	
III	POST 165	EE39	81	22	1	0.08	-	0.08	-	
III	POST 166	EE39	80	22	1	0.04	-	0.04	-	
III	POST 184	EE39	83	22	0.5	0.05	0.01	0.12	0.17	
II	HRTH 157	EE39	48	28	1	0.09	0.07	0.16	0.44	
II	PITX 85	DD41	71	22	1	0.02	-	0.02	-	
II	PITX 147	FF41	27, 28	22	2	2.76	0.08	1.42	0.03	25 kg (3)
II	DRNX	DD43	26	36	0.75	5.88	-	7.84	-	9 kg (3)
?	none	EE43	13	-	?	0.06	-	?	-	

(1) Feature abbreviations: CRDX=Corridor, COUR=Courtyard, DRNX=DRAIN, HRTH=Hearth. Other abbreviations: DC=deposit code, Volume (in 10 l. buckets), Charred dens.=density of charred material (in g/bucket), seed prop.=proportion (by weight) of seeds to total charred material (charcoal+reed+seed)

(2) Small mesh sieve used in field

(3) ? indicates that indicated in comments is estimate

(4) Absolute and relative quantities of charcoal and reeds are estimates based on partial sorting for those samples containing reeds

APPENDIX C, TABLE 2. Seeds from EDD

BL	Feature	Square	Lot	Hor- deum	Triti- cum	Cereal	Pulse	Nut	Fruit	Weed	Irrigated	Wet Area	Aeg gb	Unk
IIVB	ROOM 151.2	FF 41	73					+ nut		1 Centaurea		1 Carex		
IIVA	ROOM 5	CC 45		0.01		+						3 Carex		
IIVA	CRDX 15	DD 45		0.33		1.02			1 Vitis	1 Galium			1	
IIVA	COUR 45.1	DD 43	66, 67							1 Gramineae				
IIVA	COUR 45.2	DD 43	69	0.28			+ Lens		+ Vitis	2 Galium	1 Borag		1	
IIVA	COUR 45.3	EE 45	30	0.01		+		0.01 Pist						
IIVA	COUR 45.4	EE 45	30	0.01										
IIVA	DOOR 59.1	DD 43	43	0.08		0.12					1 cf. Medicago			
IIVA	CRDX 60	DD 41	61	0.43		2.98	1 Lens	+ nut		2 Galium	1 cf. Malva			
IIVA	ROOM 69.2	DD 41	47			0.01								
IIVA	ROOM 69.3	DD 41	49			0.01				1 Adonis				
IIVA	CRDX 95	EE 45	26	0.01		0.06				1 Legum				
IIVA	ROOM 96	FF 41	37			+								
IIVA	CRDX 139.1	EE 45	28				1 Lens	0.01 Pist						
IIVA	CRDX 139.2	EE 45	32				0.5 Lens	+ Pist						
IIVA	DOOR 140	EE 45	33			0.05	1 Lens	+ cf. Pist						2
IIVA	DOOR 141	EE 45	31			0.02	1 Lens				1 Fumaria			2
IIVA	DOOR 142	EE 45	36											1
IIVA	ROOM 152.1	FF 41	34			0.04	1 Vicia			1 cf. Legum				
IIVA	ROOM 154.1	FF 41	42			0.02								8
IIVA	JAR.4	DD 41	56											
IIVB	KILN 164	EE 39	54			0.01								
IIVB	HRTH 167	EE 39	56	0.02		0.17	+ Lens			8 Gramineae-6 Galium-1	1 Borag			1
IIVB	KILN 170	EE 39	63			+				cf. Astrag-1				
IIVB	KILN 175.1	EE 39	71			0.01				1 Gramineae				1
IIVB	KILN 175.2	EE 39	75			0.05								
IIVB	KILN 175.3	EE 39	77, 78	0.06	+	0.21	1 Lens	0.05 Amyg-04 A. sc+ Pist-01	1 Vitis	7 Crucif-1 Gramineae-4 Galium-1				
IIVB	PITX 172	EE 39	65, 95	0.04	0.02	0.06	3.5 Lens	+ Pist	1 Vitis	3 Gramineae-1 Galium-2	2 Borag			
IIVA	PITX 14	CC 43	32			+								
IIVA	ROOM 111	EE 39	96	0.01		0.01		0.01 Amyg-01 Pist+	+ Vitis	1 Gramineae				1
IIVA	ROOM 151.1	FF 41	21			0.01								
III	POST 184	EE 39	83	0.01										
II	HRTH 157	EE 39	48	0.01		0.04			0.5 Celtis	4 Gramineae-2 Legum-1 Astrag-1				
II	PITX 147	FF 41	27, 28	0.01		0.04		0.03 Pist						
II	DRNX 54	DD 43	26			+								2

Hordeum: (g)

Triticum: T. aestivum/durum (g)

Cereal: (g)

Nut: includes Lens, Vicia ervilia

Pulse: includes Amegdadus sp. (Amyg), A. sophora (A. sc), Pitavala (Pist); (g)

Weed: includes Gramineae, Vaccaria, Cnicus, Cruciferae (Crucif), Astragalus (Astrag), Leguminosae (Legum), Adonis cf. denudata, Galium

Irrigated: includes Boraginaceae (Bor), Medicago, Malva, Fumaria

Wet Area: includes Carex, Setaria

Aeg gb: Aegilops glume base

Unk: Unknown

APPENDIX C, TABLE 3  
Charcoal from Flotation Samples

Building Level	Provenience	<i>Populus</i> #	wt.,g	<i>Fraxinus</i> #	wt.,g	<i>Acer</i> #	wt.,g	Other #	wt.,g
IIIA	PIT 14	CC 43	32	—	—	—	—	3 <i>Quercus</i> 2 diff. por. 1 unk.	(.08) (.02) (.01)
IVA	ROOM 5	CC 43	25	—	(2.69)	—	—	—	—
IVA	CRD 15	DD 45	13	8	(.42)	—	(1.05)	—	—
IVA	DOOR 59	DD 43	43	15	(.45)	—	(.11)	2 unk.	(.11)
IVA	CRD 60	DD 41	61	8	(.33)	—	—	—	—
IVA	ROOM 69	DD 41	37	18	(1.73)	—	—	2 unk.	(.11)
IVA	DD 41	DD 41	47	12	(.20)	—	(.14)	—	—
IVA	DD 41	DD 41	49	4	(.09)	—	—	—	—
IVA	JAR	DD 41	54	1	(.01)	cf 1	(.01)	—	—
IVA	JAR	DD 41	54	1	(.01)	—	—	2 <i>Ulmac.</i>	(.01)
IVA	JAR	DD 41	55	2	(.02)	cf 8	(.08)	—	—
IVA	JAR	DD 41	56	16	(1.07)	cf 2	(.10)	2 unk.	(.12)
II	MISC	DD 43	26	2	(.10)	—	—	3 <i>Ulmac.</i>	(.18)
						11	(.57)		

Abbreviations: diff. por.: diffuse porous; *Ulmac.*: *Ulmaceae*; Unk.: unknown



APPENDIX C, TABLE 4

## Hand-picked Charcoal

Building Level	Feature Number	Square	Lot	Types	Comments
IVA	ROOM 5	CC 43	9	<i>Populus</i>	
IVA		CC 43	25	<i>Populus</i>	3 samples
IVA		CC 43	25	<i>Populus/Salix</i> , <i>Fraxinus</i> , cf. <i>Acer</i> , reeds	2 small flotation samples submitted as miscellaneous
IVA	ROOM 12	CC 43	13	<i>Populus</i>	2 samples
IVA	CRD 15	CC 43	40	Ulmaceae, cf. <i>Celtis</i>	
IVA		CC 43	40	<i>Acer</i>	
IVA	ROOM 26	DD 45	20	<i>Populus</i>	
IVA	COUR 45	DD 43	43	<i>Populus</i>	
IVA		DD 43	43	cf. <i>Acer</i>	
IVA	CRD 60	DD 41	58	<i>Populus/Salix</i> , reed	from small miscellaneous flotation sample
IVA		DD 41	59	<i>Populus</i>	3 samples
IVA		DD 41	85	<i>Populus</i> , Ulmaceae, cf. <i>Celtis</i>	
IVA		DD 43	49	cf. <i>Acer</i>	
IVA	ROOM 69	DD 41	35	<i>Phragmites</i> , <i>Populus</i>	
IVA		DD 41	37	<i>Populus</i>	
IVA		DD 41	44	<i>Populus/Salix</i> , <i>Fraxinus</i> , reed	from miscellaneous flotation sample
IVA		DD 41	47	<i>Populus</i> , <i>Fraxinus</i>	
IVA		DD 41	84	<i>Populus</i> , <i>Phragmites</i>	
IVA	ROOM 76	DD 41	45	<i>Acer</i>	
IVA		DD 41	76	<i>Acer</i>	2 samples
IVA	CRD 139	EE 45	28	<i>Populus</i>	
IVA		EE 45	32	<i>Quercus</i>	
IVA		EE 45	?	<i>Quercus</i>	
III A	ROOM 151	FF 41	21	<i>Quercus</i>	
IVA	ROOM 152	FF 41	36	<i>Populus</i>	
IVA	? 26	CC 45	19	<i>Populus</i>	2 samples
IVA		CC 45	19	cf. <i>Juniperus</i>	
IVA	none —	DD 41	43	reeds	

## APPENDIX C, TABLE 5

## Charred Density

Seed Proportion	1.5 g/10 l	
	1.5 g/10 l	1.5 g/10 l
.1	15	19
.1	7	1

## APPENDIX C, TABLE 6

Grain Density  
(cereal and *Hordeum* wt. g/10l)

CRD 60	2.7
CRD 15	1.7
COUR 45	1.0

25 samples grain density .25 g/10 l.  
17 samples have no grain at all.

## APPENDIX C, TABLE 7

Ubiquity of Hand-picked Charcoal  
(total number of samples 28)

<i>Populus/Salix</i>	24
<i>Acer</i>	8
<i>Fraxinus</i>	4
<i>Quercus</i>	3
Ulmaceae	2
<i>cf. Juniperus</i>	1

---

# Appendix D

## *Optical Mineralogy*

by Chandra Reedy,  
Associate Professor, Art Conservation Department,  
University of Delaware

Standard thin sections 0.03 mm in thickness were examined under a petrographic microscope (x200) in order to observe the mineralogical constituents and textural characteristics of the sherds samples.

### M72 EE 41 L28 (TWO SAMPLES)

The porous clay contains a variety of small mineral grains. These include muscovite, very small specks of hematite, biotite, and a few grains of hornblende. The presence of numerous (approximately 7%) larger quartz grains, most 0.05 mm, with sharp and angular edges indicates that a sand temper may have been added. Many of these quartz grains show pronounced undulatory extinction. Plagioclase feldspar is also present, exhibiting both Carlsbad and albite twinning. Use of the Michel-Levy statistical method indicates that the plagioclase is probably labradorite. The presence of that mineral combined with undulatory quartz may indicate that the sand originates from a sediment deposit composed of material from a metamorphic origin. Some organic material has been added. The edges around the pores have altered to clay and cryptocrystalline quartz rather than to secondary calcite.

### DD 43 L40 BANESH GOBLET

The sample contains hematite, muscovite, biotite, and plagioclase feldspar. Quartz may have been added as sand temper, since it occurs as larger angular grains ranging up to 0.2 mm. A few of these grains have undulatory or wavy extinction. The sample is distinguished by the presence of large amounts of calcite. Some of the calcite may have been added as a temper, with larger angular grains, which are much more common than the quartz. There are also small round calcite grains, which were probably originally in the clay. Some secondary calcite has also formed around the edges of the pores.

### DD 43 L34 COOK POT

This sample is distinguished by the presence of a large amount of added calcite. The grains range up to 2.5 mm, and are sharply angular with clear rhombohedral outlines. The calcite is a major constituent of the sample, approximately 50%. No other temper is visible, and the remainder of the sample is composed of fairly pure clay.

## M74 EE 43 LOT 12

The clay contains grains of hematite, biotite, chert, plagioclase feldspar with undulatory extinction, and a few zircon grains. There are also numerous (approximately 25%) larger, very angular quartz grains, indicating a sand temper. Some of the quartz grains exhibit signs of metamorphic stress. Some organic matter is also visible in the sample. Some of the pore edges are altering to clay, but secondary calcite is most commonly found forming in the pores.

## EE 41 L37 KAFTARI RED SHERD ?

This sample contains relatively purer clay than most other samples, with few visible mineral grains. There is a small amount of angular to subangular quartz (approximately 5%), which may be added, along with a few grains of plagioclase feldspar and chert. A small amount of hematite was probably added. Some secondary calcite has formed in the pores. It is also very common to see secondary calcite rims forming around the hematite fragments.

## M74 EE 43 LOT 25 (TWO SAMPLES)

This sample contains small grains of muscovite, quartz, sphene, zircon, plagioclase feldspar, and chert. Small pieces of hematite are found, but these do not exceed 0.025 mm. There are also calcite grains scattered throughout the slide, ranging up to

0.05 mm with angular edges. This may indicate an added calcite temper. There is a small amount of secondary calcite alteration around the pores. The samples are identical.

## DD 43 L40 BUFF JAR

The clay contains many mineral grains, including muscovite, biotite, some clinopyroxenes, and zircon. Some hematite probably occurs originally with the clay, and some may be added. Larger grains of quartz have been added as a sand temper, and these are often polycrystalline with undulatory extinction. Plagioclase feldspar probably came in with the quartz and sand temper. Crushed sherd temper has also been added. These sherds were themselves sand-tempered, and are made up of fragments of clay, quartz, and biotite. Added calcite grains have angular, sharp outlines, up to 1.2 mm in size. Some secondary calcite has formed in the pores, particularly in the pores found within the sherd temper fragments.

## M74 EE 43 L15

In this sample the porous clay contains very small grains of quartz and muscovite. There are scattered pieces of sherd temper that may reach 0.2 mm in size. The sample also contains large angular grains of hematite, typically 0.1–0.2 mm, which have probably been deliberately added. The edges around the pores contain only small amounts of clay alteration product; there is no secondary calcite.

## SUMMARY

The primary differences found among the samples are in the type of temper added. The most common form is a sand, often composed of quartz and plagioclase from sediments derived from a metamorphic environment. Some sort of mica (muscovite and/or biotite) is usually present. Variation in other accessory minerals may be due to the fact that a single thin section sample from a vessel may not

include all representative minor accessories. The quartz in some of the samples does not show signs of metamorphic stress. Calcite temper is also common, as well as added hematite. Crushed sherds and organic material may be added to the ceramics. Most of the samples have secondary calcite forming, but three samples do not.

**APPENDIX D, TABLE 1**  
**Summary of Mineralogy Identifications**  
**from Sherd Samples**

LEVEL	SHERD SAMPLE	MINERALS	TEMPER	COMMENTS
IVB	M72 EE41 Lot 28 (two samples)	Quartz (metamorphic) Plagioclase feldspar Biotite Muscovite Hematite Hornblende	Sand Organic	Secondary alteration - Clay Cryptocrystalline quartz
IVA	DD43 Lot 34 Cook Pot		Calcite	
	DD43 Lot 40 Buff Jar	Quartz (metamorphic) Plagioclase feldspar Muscovite Biotite Hematite Zircon Clinopyroxene	Hematite Sand Sherd Calcite	Secondary alteration - Calcite
	DD43 L40 Banesh Goblet	Quartz (metamorphic) Plagioclase feldspar Biotite Hematite Calcite	Sand Calcite	Secondary alteration - Calcite
	M74 EE43 Lot 12	Quartz (metamorphic) Plagioclase feldspar Biotite Hematite Chert Zircon	Sand Organic	Secondary alteration - Clay Calcite
	M74 EE43 Lot 15 (two samples)	Quartz Plagioclase feldspar Muscovite Sphe Chert Zircon	Calcite	Secondary alteration - Calcite
	M74 EE43 Lot 15	Quartz Muscovite	Sherd Hematite	Secondary alteration - Clay
	EE41 Kaftari Red sherd	Quartz Plagioclase feldspar Chert	Sand Hematite	Secondary alteration - Calcite



---

# Bibliography

**Alden, John R.**

- 1978 Excavations at Tal-i Malyan. Part 1. A Sasanian Kiln. Iran 16:79–86.
- 1979 Regional Economic Organization in Banesh Period Iran. Ph.D. dissertation, University of Michigan. Ann Arbor: University Microfilms.

**Alizadeh, Abbas**

- 1985a A Protoliterate Kiln from Chogha Mish. Iran 23:39–50.
- 1985b A Tomb of the Neo-Elamite Period at Arjān, near Behbahan. Archäologische Mitteilungen aus Iran 18:49–73.

**Amiet, Pierre**

- 1966 Elam. Auvers-sur-Oise: Archée Éditeur.
- 1972 Glyptique susienne, des origines à l'époque des Perses-Achéménides. Mémoires de la Délégation archéologique en Iran 43, 2 vols. Paris: Geuthner.

**Armstrong, James A.**

- 1989 The Archaeology of Nippur from the Decline of the Kassite Kingdom Until the Rise of the Neo-Babylonian Empire. Ph.D. dissertation, University of Chicago.

**Balcer, Jack Martin**

- 1978 Excavations at Tal-i Malyan. Part 2. Parthian and Sasanian Coins and Burials (1976). Iran 16:86–92.

**Baqir, Taha**

- 1946 Iraq Government Excavations at 'Aqar Qūf: Third Interim Report. Iraq 8:73–93.

**Boehmer, R.M., and H.-W. Dämer**

- 1985 Tell Imilhiye, Tell Zubeidi, Tell Abbas. Baghdader Forschungen. Vol. 7. Mainz am Rhein: Philipp von Zabern.

**Börker-Klähn, Jutta**

- 1970 Untersuchungen zur altelamischen Archäologie. Inaugural-Dissertation, Philos. Fakultät, Freie Universität Berlin.

**Carter, Elizabeth**

- 1971 Elam in the Second Millennium B.C.: The Archaeological Evidence. Ph.D. dissertation, University of Chicago.
- 1975 Excavations at Tappeh Malyān 1974: The Middle Elamite Building. In Proceedings of the 3rd Annual Symposium on Archaeological Research in Iran. Firouz Bagherzadeh, ed. Tehran: National Centre for Archaeological Research. Pp. 163–170.

- 1979 Elamite Pottery, ca. 2000–1000 B.C. Journal of Near Eastern Studies 38:111–128.

- 1980 Excavations in the Ville Royale I at Susa: The Third Millennium B.C. Occupation. Cahiers de la délégation archéologique française en Iran 11:7–134.

- 1984 Part II: Archaeology. In Elizabeth Carter and Matthew W. Stolper, Elam: Surveys of Political History and Archaeology. Berkeley: University of California Press. Pp. 103–230.

- n.d.a Preliminary Typology of Middle Elamite Pottery from Malyan, Operations CC/DD/EE, August 20, 1976. Eugene, Oregon.

- n.d.b Excavations in the EDD Sector at Tal-e Malyān, 1976. In Proceedings of the 6th Annual Symposium on Archaeological Research in Iran. Firouz Bagherzadeh, ed. Tehran: National Centre for Archaeological Research.

- n.d.c Bridging the Gap between the Elamites and the Persians in Southeastern Khuzistan.

- Forthcoming *In* Achaemenid History Workshop 8: Continuity and Change. H. Sancisi-Weerdenberg et al., eds. Leiden: Brill.
- Carter, Elizabeth, and Joan Carothers**  
1980 The Middle Elamite Occupation at Malyan. *In* Problems of Large-Scale, Multi-Disciplinary Regional Research. A Symposium presented at the annual meeting of The Society for American Archaeology, Philadelphia, May 1980.
- Carter, Elizabeth, and Matthew W. Stolper**  
1976 Middle Elamite Elam. Expedition 18(2): 33–42.  
1984 Elam: Surveys of Political History and Archaeology. University of California Publication, Near Eastern Studies 25. Berkeley: University of California Press.
- Clay, Albert**  
1906 Documents from the Temple Archives of Nippur. Babylonian Expedition of the University of Pennsylvania, Series A: Cuneiform Texts, Vol. XIV. H.V. Hilprecht, ed. Philadelphia.
- Del Bene, Terry A., and Phillip H. Shelley**  
1979 Soapstone Modification and Its Effects on Lithic Implements. *In* Lithic Use-Wear Analysis. Brian Hayden, ed. New York: Academic Press. Pp. 243–253.
- Fiandra, Enrica**  
1975 Ancora a proposito delle cretule di Festòs: connessione tra i sistemi amministrativi centralizzati e l'uso delle cretule nell'età del bronzo. *Bollettino d'Arte*, N. 1–2:1–25.
- Fishman, Bernard, and Barbara Lawn**  
1978 University of Pennsylvania Radiocarbon Dates XX. *Radiocarbon* 20(2):210–233.
- Franken, H.J., and J. Kalsbeek**  
1984 Some Techniques Used by the Potters of Tell-ed-Dër. *In* Tell ed-Dër IV. L. de Meyer, ed. Leuven: Peeters. Pp. 81–89.
- Casche, Hermann**  
1973 La poterie élamite du deuxième millénaire a. C. *Mémoires de la Délégation archéologique en Iran* 47. Leiden and Paris: Brill and Geuthner.
- Ghirshman, Roman**  
1964 Suse, campagne de fouilles 1962–1963. *Rapport préliminaire. Arts asiatiques* 10:3–20.  
1966 Tchoga Zanbil (Dur Untash). Vol. I: La ziggourat. *Mémoires de la Délégation archéologique en Iran* 39. Paris: Geuthner.  
1968a Tchoga Zanbil (Dur Untash). Vol. II: Temenos, temples, palais, tombes. *Mémoires de la Délégation archéologique en Iran* 40. Paris: Geuthner.  
1968b La déesse nue élamite. *Archäologische Mitteilungen aus Iran NF* 1:11–13.
- Hampe, Roland and Adam Winter**  
1965 Bei Töpfern und Ziegeln in Süditalien, Sizilien und Griechenland. Bonn: Römisch-Germanischen Zentralmuseums Mainz in Kommission bei Rudolf Habelt Verlag.
- Hansman, John**  
1972 Elamites, Achaemenians and Anshan. *Iran* 10:101–125.
- Heim, Suzanne**  
1989 Glazed Architectural Elements in Elam and Related Material from Luristan. Ph.D. dissertation, New York University. Ann Arbor: University Microfilms.
- Henrickson, Robert**  
1986 A Regional Perspective on Godin III Cultural Development in Central Western Iran. *Iran* 24:1–55.
- Jacobs, Linda K.**  
1980 Darvazeh Tepe and the Iranian Highlands in the Second Millennium B.C. Ph.D. dissertation, University of Oregon. Ann Arbor: University Microfilms.
- König, Friedrich W.**  
1965 Die elamischen Königsinschriften. *Archiv für Orientforschung, Beiheft* 16. Graz: E. Weidner.
- Kortum, Gerhard**  
1976 Die Marvdasht-Ebene in Fars. *Kieler Geographische Schriften*, Vol. 44. Kiel: Geographische Institut, Universität Kiel.



- Lambert, Maurice**  
1972 Hutélutush-Insushnak et le pays d'Anzan. *Revue d'Assyriologie* 66:61–76.
- Mecquenem, Roland de**  
1927 Inventaire de cachets et cylindres: Suse 1925–26. *Revue d'Assyriologie* 24:7–21.  
1928 Choix d'intailles Susiennes. *Revue d'Assyriologie* 25:169–177.  
1943 Fouilles de Suse. *Archéologie susienne. Mémoires de la Mission archéologique en Iran* 29. Paris: Geuthner.
- Mecquenem, Roland de, and J. Michalon**  
1953 Recherches à Tchogha Zambil. *Mémoires de la Mission archéologique en Iran* 33. Paris: Geuthner.
- Miller, Naomi Frances**  
1982 Economy and Environment of Malyan, A Third Millennium B.C. Urban Center in Southern Iran. Ph.D. dissertation. Ann Arbor: University Microfilms.  
1985 Paleoethnobotanical Evidence for Deforestation in Ancient Iran: A Case Study of Urban Malyan. *Journal of Ethnobiology* 5:1–19.
- Miroschedji, Pierre de**  
1978 Stratigraphie de la période néo-élamite à Suse. *Paléorient* 4:213–228.  
1981a Fouilles du chantier Ville Royale II à Suse (1975–1977). I. Les niveaux élamites. *Cahiers de la Délégation archéologique française en Iran* 12:9–136.  
1981b Observations dans les couches néo-élamite au nord-ouest du tell de la Ville Royale. *Cahiers de la Délégation archéologique française en Iran* 12:143–168.  
1990 La fin de l'Elam: Essai d'analyse et d'interprétation. *Iranica Antiqua* 25:47–95.
- Negahban, Ezat**  
1964 Preliminary Report on the Marlik Excavation, Rudbar 1961–1962. Tehran: Institute of Archaeology at the University of Tehran.  
1972 Rahnemah-ye Muzeh va Hafari-ye Haft Tepe. Tehran.  
1979 Pottery and Bronze Human Figurines of Marlik. *Archäologische Mitteilungen aus Iran* 12:157–173.  
1983 Metal Vessels from Marlik. *Prähistorische Bronzefunde Abteilung II, Band 3*. Munich: Beck.  
1991 Excavations at Haft Tepe, Iran. University Museum Monograph 70. Philadelphia: The University Museum.
- Nicholas, Ilene M.**  
1980 A Spatial/Functional Analysis of the Late 4th Millennium Occupation at the TUV Mound, Tal-e Malyan, Iran. Ph.D. dissertation, University of Pennsylvania. Ann Arbor: University Microfilms.  
1990 The Proto-Elamite Settlement at TUV. University Museum Monograph 69. Philadelphia: The University Museum.
- Nickerson, Janet**  
1979 The Study, Analysis, and Interpretation of the Human and Animal Figurines from Tal-e Malyan (Anshan) Iran. B.A. Honors Thesis. Columbus: Ohio State University.
- Nickerson, John**  
1983 Intrasite Variability During the Kaftari Period at Tal-e Malyan (Anshan), Iran. Ph.D. dissertation, The Ohio State University. Ann Arbor: University Microfilms.
- Oates, David**  
1965 The Excavations at Tell Al Rimah, 1964. Iraq 27:62–80.  
1987 Excavations at Tell Brak 1985–86. Iraq 49:175–191.
- Porada, Edith**  
1965 The Art of Ancient Iran. New York: Crown.  
1970 Tchoga Zanbil (Dur Untash). Vol. IV: La glyptique. *Mémoires de la Délégation archéologique en Iran* 42. Paris: Geuthner.  
1981 Stamp and Cylinder Seals of the Ancient Near East. In Glen Markoe, ed. *Ancient Bronzes Ceramics and Seals*. Los Angeles: Los Angeles County Museum of Art. Pp. 187–234.

**Reiner, Erica**

1972 Tall-i Malyan—Inscribed Material. Iran 10:177.

1973 The Location of Anšan. *Revue d'Assyriologie* 67:57–62.

1974 Tall-i Malyan, Epigraphic Finds, 1971–72. Iran 12:176.

**Schmidt, Erich F.**

1970 Persepolis III: The Royal Tombs and Other Monuments. Oriental Institute Publication 69. Chicago: University of Chicago Press.

**Schmidt, Erich F., Mauritz Van Loon, and Hans Curvers**

1989 The Holmes Expedition to Luristan. Oriental Institute Publications Vol. 108. Chicago: Oriental Institute.

**Steve, Marie Jean, et al.**

1980 La Susiane au deuxième millénaire: à propos d'une interprétation des fouilles de Suse. *Iranica Antiqua* 15:49–154.

**Steve, Marie-Jean, and François Vallat**

1989 La dynastie des Igihalkides. In *Archaeologia Iranica et Orientalis, Miscellanea in Honorem Louis Vanden Berghe*. Léon de Meyer and Ernie Haerincx, eds.. Gent: Peeters. Pp. 223–238.

**Stolper, Matthew W.**

1976 Preliminary Report on Texts from Tāl-e Malyan 1971–1974. In *Proceeding of the 4th Annual Symposium on Archaeological Research in Iran*. Firouz Bagherzadeh, ed. Tehran: Iranian Centre for Archaeological Research. Pp. 89–97.

1984a Political History. In *Carter and Stolper 1984*. Pp. 3–100.

1984b Texts from Tall-i Malyan, I: Elamite Administrative Texts (1972–1974). Occasional Publications of the Babylonian Fund, 6. Philadelphia: The University Museum.

n.d. Malyān EDD 1976: Texts.

**Stronach, David**

1978 Pasargade. Oxford: Oxford University Press.

**Stuiver, M., and P.J. Reimer**

1986 A Computer Program for Radiocarbon Age Calibration. *Radiocarbon* 28:263–910.

**Sumner, William M.**

1972a Cultural Development in the Kur River Basin, Iran. An Archaeological Analysis of Settlement Patterns. Ph.D. Dissertation, University of Pennsylvania. Ann Arbor: University Microfilms.

1972b Tall-i Malyān. Iran 10:176–177.

1974 Excavations at Tall-i Malyan, 1971–72. Iran 12:155–180.

1975a Excavations at Tal-e Malyān: A Summary of Three Seasons' Results. In *Proceedings of the 3rd Annual Symposium on Archaeological Research in Iran*. Firouz Bagherzadeh, ed. Tehran: Iranian Centre for Archaeological Research. Pp. 157–162.

1975b Malyan. Iran 13:186–187.

1976a Analysis of Material from Tāl-e Malyān: 1975. In *Proceedings of the 4th Annual Symposium on Archaeological Research in Iran*. Firouz Bagherzadeh, ed. Tehran: Iranian Centre for Archaeological Research. Pp. 85–88.

1976b Excavations at Tall-i Malyan (Anshan) 1974. Iran 14:103–115.

1983/4 Tal-e Malyan. *Archiv für Orientforschung* 29/30:305–306.

1984 Excavations at Tal-e Malyan, Iran. *National Geographic Research Reports* 17:335–339.

1985 The Proto-Elamite City Wall at Tal-i Malyan. Iran 23:153–161.

1986 Achaemenid Settlement in the Persepolis Plain. *American Journal of Archaeology* 90(1):3–31.

1988 Malijān, Tal-e. In *Reallexikon der Assyriologie und vorderasiatischen Archäologie*. Band 7 3/4. Pp. 306–320.

**Swan, Vivien**

1984 The Pottery Kilns of Roman Britain. Royal Commission on Historical Monuments

- Supplementary Series 5. London: Her Majesty's Stationery Office.
- Tite, M.S.**  
1986 Characterisation of Early Vitreous Material. *In* International Symposium on Archaeometry Abstracts. N.R.C. "Demokritos," Agia Paraskevi, Attikis, Greece; 19–23 May. P. 186.
- Towhidi, F., and A.M. Khalilian**  
1983 Report of the Investigations of the Objects from the Tomb of Arjan, Behbahan. *Journal of Athar* 7–9:232–286. In Persian.
- Tringham, Ruth, Glenn Cooper, George Odell, Barbara Voytek, and Ann Whitman**  
1974 Experimentation in the Formation of Edge Damage: A New Approach to Lithic Analysis. *Journal of Field Archaeology* 1:171–196.
- Vallat, François**  
1980 Suse et l'Élam. Recherche sur le Grandes Civilisations, Mémoire No. 1. Paris: Éditions ADFP.  
1984 Kidin-Hutran et l'époque néo-élamite. *Akkadica* 37:1–17.
- Vanden Berghe, Louis**  
1966[1959] *Archéologie de l'Iran ancien*. Leiden: E.J. Brill.  
1973 Le Luristan à l'âge du bronze. *Archaeologia* 63:25–30.  
1986 Données nouvelles concernant le relief rupestre élamite de Kūrangūn. *In* *Fragmenta Historiae Elamicae: Mélanges offerts à M.J. Stève*. Paris: Editions Recherche sur les Civilisations. Pp. 157–173.
- Watson, Patti Jo**  
1979 *Archaeological Ethnography in Western Iran*. Viking Fund Publications in Anthropology 57. Tucson: University of Arizona Press.
- Wright, Henry, ed.**  
1979 *Archaeological Investigations in Northeastern Xuzestan, 1976*. Technical Reports, No. 10; Research Reports in Archaeology, Contribution 5. Ann Arbor: Museum of Anthropology.
- Wulff, Hans**  
1966 *The Traditional Crafts of Persia*. Cambridge, Mass.: MIT Press.
- Zeder, Melinda Ann**  
1984 Meat Distribution at the Highland Iranian Urban Center of Tal-e Malyan. *In* *Animals and Archaeology: Vol. 3, Early Herders and Their Flocks*. BAR International Series 202, Juliet Clutton-Brock and Caroline Grigson, eds. Pp. 279–307.  
1985a The Equid Remains from Tal-e Malyan, Southern Iran. *In* *Equids in the Ancient World*. Beihefte zum Tübinger Atlas des Vorderern Oriens, Wiesbaden: Reichert, Series A, no. 19/1. R.H. Meadow and H.P. Uerpmann, eds. Pp. 366–412.  
1985b *Urbanism and Animal Exploitation in Southwest Highland Iran, 3400–1500 B.C.* Ph.D. Dissertation, University of Michigan. Ann Arbor: University Microfilms.  
1991 *Feeding Cities: Specialized Animal Economy in the Ancient Near East*. Smithsonian Series in Archaeological Inquiry. Washington D.C.: Smithsonian Institution Press.



---

# Index

- Abandonment/erosion: 6, 10, 11, 13, 17, 33, 37–40, 47, 49, 51
- Al Untash-Napirisha (Chogha Zanbil), Khuzistan: 6, 8, 15, 23, 25, 29, 29 n. 9, 30, 32, 33, 36, 38, 41, 45–47, 49, 49 n. 2, 50
- ceramics: 50
- EDD buff ware: 29
- Elamite goblets: 23, 30
- faience: 8, 11, 32, 33, 36, 45
- box lid: 8, 33
- seals: 36, 45
- wall knobs: 11
- wall nail or peg: 11, 45
- wall tile: 11, 32, 33
- labels: 8
- Hishmitik and Ruhuratir Temple: 38
- Ishnikarab temple: 29 n. 9
- niches: 41
- palaces: 6, 23, 29, 32, 41, 49 n. 2
- Palais II and III: 41
- Palais Hypogée: 23, 29, 32, 49 n. 2
- pot stands: 25
- pottery kiln: 38
- seal design (Pleiades): 47
- seal impressions: 46
- Animals, faunal remains: xv, xvii, 15 n. 11, 50
- camel: 50
- cattle: 13, 50
- equid: 50
- goat: 13, 50
- sheep: 13, 50
- percentages: 50
- Animals, products:
- hides: 49
- livestock: 49
- products: 50
- Animals, representations of:
- birds: 36, 46
- fish: 36, 46
- horse: 36, 47
- humped-back bull: 31
- Anshan (Anzan, Tal-e Malyan), Fars:
- Elamite state: 50
- kings: 1, 50 n. 3
- site of: xvii, 1, 2, 14
- temples in or near: xvii, 1, 15, 49
- Appendices mentioned in text:
- Appendix A: 20, 22, 26
- Tables A 1–7: 18, 75
- Table A 3: 19
- Table A 4: 20 n. 5, 22
- Table A 5: 20
- Table A 6: 15, 21
- Appendix B: 10, 13
- Appendix C: 9
- Tables C 3, 4: 100
- Tables C 5, 6: 102
- Table C 7: 103
- Appendix D: 18, 19, 25, 27
- Api, month of: 9
- Archaeological survey: 1
- Architectural features: see also Levels
- alley: 14
- bin: 40
- bricks:
- baked: xv, 14, 48, 49
- door socket: 40
- inscribed bricks: see Inscribed objects
- pavement: 47
- size: 6, 7, 14, 38, 39
- mudbrick:
- capping layer: 5, 10
- composition of: 29
- built-in basin: 40
- buttress: 40, 41
- city gate: 2, 14
- city wall: 2, 49
- closet: 10, 11
- colonnade/portico: see Levels
- courtyard: see Levels
- doors/doorways:
- blocked: 5, 5 n. 1, 6, 12, 39, 41
- construction: 10, 12, 33, 34
- decoration: 15, 32–34, 49, 49 n. 2
- fixtures: 10, 15
- jamb: 10, 11, 32, 40, 49
- placement: 5, 39–41
- sill: 10
- size: 7, 8, 10–12
- socket: 10, 40
- width: 7–10, 12
- wooden: 10
- drain/drainage: 24, 38, 40, 41, 47
- entrance: 6–8, 14, 40
- floor: 2–7, 10–14, 17, 25, 29, 33, 36, 37, 39, 40, 41, 46, 93, 96, 97
- hearth: see Levels
- mud-built hearth: 41

- lean-to structures: 38  
 manger: 40  
 mortar, mud: 7  
 niche: see Levels  
 oven: 40  
 pavement:  
   baked brick: 47  
   pebble: 41  
 piers: see Levels  
 pillars: see Levels  
   brick: 12  
 plaster:  
   lime: 48  
   mud: 6, 7, 13  
 portico: see Levels  
 post-holes: see Levels  
 roofing: 9, 10, 96, 102  
   beams: 100  
   collapsed burned debris: see Fire  
 rooms: see Levels  
   dimensions: 8-10, 12, 41  
 sanctuary: 49  
 shelves, wooden: 9, 102, 103  
 stairway: 12  
 step, brick: 40  
 storage/storeroom: 11, 15, 49, 96  
 street: 37  
 walls:  
   decoration of: 7, 10, 11, 32, 33, 49, 49 n. 2  
   dimensions: 14, 37, 39, 40, 41  
 Arjan tomb, Behbahan, Khuzistan:  
   granulated sword hilt: 35  
 Baked clay objects: see Terracotta  
 Banesh: see also Ceramic Wares; Periods  
   deposits: 29, 31  
   sites: 1  
 Beads: 4, 34, 41, 46  
   carnelian: 34  
   faience: 47  
   lapis: 34  
   rock crystal: 34  
 Bricks: see Architectural features; Inscribed objects  
 Building levels, renumbered: 2  
 Burials: 47, 51  
 Caches:  
   calcite blocks: 13  
   sealed tags: 36  
 C-14 dates: 2, 7, 15, 16, 23, 41, 51  
 Ceramic analyses:  
   analyses: 17-18  
   diagnostic sherds: 17, 18, 20 n. 5, 43, 44  
   Middle Elamite "fossil types": 29  
 Munsell:  
   color chart: 19, 19 n. 3  
   colors found: 19, 80  
   percentages of Wares, Types: 5, 8, 9, 11-13, 18-29, 39, 43-44, 75  
 Ceramic types:  
   vessel types: closed forms: 21-24, 26-28, 44, 76  
   band-rim jars: 8, 11, 17, 24, 29, 40, 41, 43, 44, 50  
   cylindrical vessels: 26  
   goblets:  
     Elamite: 8, 9, 11, 13, 16-19, 22-24, 29, 30, 38-40, 43, 44, 50 n. 4  
     Kassite: 50 n. 4  
     other: 22, 44  
     squat: 8, 14, 16, 17, 22, 24, 29, 44  
   jars: 7, 8, 11, 13-15, 17, 19, 21-29, 40, 43, 45, 47, 50  
     hole-mouth jars: 22  
     large jars or pithoi: 7, 14, 24, 29, 41, 44, 50  
     necked jars: 22-24, 27, 43, 44  
     neckless jars: 19, 21-22, 27, 44  
   vessel types: open forms: 9, 12, 20, 21, 28, 44  
   cups and bowls: 9, 12, 13, 20, 26, 29, 40, 41, 43, 44, 50, 75  
   trays: 9, 21, 40, 44  
   vats: 8, 9, 17, 21, 24-26, 29, 39, 40, 41, 43, 44  
   vessel types: pots (form unspecified) : 8, 9, 14, 17, 18, 21, 30, 43, 47, 109  
 bases:  
   buff ware: 25, 76-77  
   button: 25  
   disc: 22  
   flat: 20, 21, 25  
   "funnel": 21, 24, 25  
   goblet: 25  
   ring: 20, 21, 22, 24, 26, 43  
   rounded: 24, 25, 44  
   string cut: 20, 25, 44  
 Ceramic wares:  
   Banesh: 5, 21, 29, 31, 44  
   buff: 9, 12, 17-20, 20 n. 5, 21-27, 29, 30, 40, 43, 44, 50, 75  
   burnished: 19, 27, 28  
   finger-impressed bands: 19, 22  
   plastic rib or ridges: 19, 21, 22, 24, 44  
   slipped or wet, smoothed: 19-21, 25, 27, 44  
 Cement ware (Heavy Mineral Tempered ware): 28, 44  
 Grey-Black ware: 28, 44  
 handmade (ware unspecified) : 21, 28, 47  
 Handmade Smoothed (or "cooking pots"): 21, 27-28, 44  
 Kaftari Painted: 27, 50  
 Kaftari Red ware: 27, 110  
 painted red ware: 26, 27, 41, 44  
 painted ware (unspecified): 8, 9, 11-13, 19, 19 n. 4, 27, 30, 43, 44, 50, 75  
 Qaleh Painted: xv, 5, 16, 17, 19, 19 n. 4, 22, 25-27, 29-30, 40, 43, 44, 44 n. 1, 50-51  
 Shogha/Teimuran Painted: 50  
 Types of surface decoration: 78-80  
   painted designs: 81  
   painted designs on goblets: 26-27  
   wheelmade buff ware: 19, 20, 21, 23  
 Cereals: see Plant Remains  
 Chipped stone objects:  
   bladelets: 96  
   blades: 39, 41, 94  
   Cluster A: 13, 33, 93, 94, 96  
   Cluster B: 10, 33, 93, 94, 96  
   cores: 94, 96  
   debitage: 8, 33, 39, 41, 45, 94, 96

- flakes: 93–97  
 nodules: 94, 96  
 O.S.U. sample: 94  
 pressure-flaked points: 14, 33  
 scrapers: 14, 33  
 sickle blades: 33  
 tanged points: 33  
 triangles: 33  
 Chogha Zanbil: see Al Untash Napirisha  
 Clothing/ornaments/textiles:  
   beads: see Beads  
   bracelets: see Faience, Metal objects  
   helmet: 36  
   kilt: 36, 46  
   necklace: 47  
   pins: 34, 47  
   shroud: 47  
 Darvazeh Tepe, Fars: 27  
 Deforestation: 102, 103  
 Dur Kurigalzu, Iraq:  
   granulated jewelry: 35  
 Edge-wear analysis: 25, 94–96  
 Elamites:  
   lowland: 15, 34, 36, 49–51  
   highland: 1, 15, 49–51  
 Elamite:  
   ceramic style: 50  
   Empire: 1, 15, 16, 50, 51  
   inscriptions: see Inscribed objects  
   religious practices: 31  
   rulers:  
     Humban-numena: 49, 49 n. 1  
     Huteludush Inshushinak I: 1, 2, 14–16, 49  
     Shilhak Inshushinak: 35, 49  
     Shutruk Nahhunte I: 32, 49, 50 n. 2  
     Su-gir Ak-širgš: 14  
     Untash-Napirisha: 49 n. 1  
   seals: see Glyptic objects  
   state: 50  
   studies: 1  
   temples: xvii, 1, 15, 29, 29 n. 9, 34, 38  
 Faience objects: 32 n.1  
   beads: 47  
   box lid: 8, 33  
   bracelet/handle: 40  
   bracelet/stand: 45  
   brick: 41, 45  
   handle: 45  
   seals: 7, 33, 36, 40, 45–47  
   vessel: 40, 45  
   wall knob: 11, 14, 15, 30, 32 n. 2, 33, 40, 49  
     human-headed: 40, 45  
   wall nail: 45  
   wall tile: 11, 15, 30, 31–33, 45, 49  
 Farming: 2  
 Fire/burned: xv, 2, 5, 6, 6 n. 2, 7, 9, 10, 10 n. 7, 11, 12,  
   16, 49, 99, 100, 102  
   beams: 6, 9, 10 n. 7, 12, 15, 16  
   brick: 6, 10  
     sample: 6 n. 2  
   debris: xv, 2, 5, 6, 6 n. 2, 7, 9, 10, 10 n. 7, 11, 12, 16,  
     49, 99, 100, 102  
   extent of: 5, 6, 12–14, 37–38  
   mud plaster: 6, 7  
   reed matting: 6, 9, 12, 16, 93, 102  
   roof collapse: 10–13, 15, 93, 96, 100  
 Flint: see Chipped stone objects  
 Fuel: 9, 101–103  
 Geographic locations:  
   Assyria: 50  
   Babylonia: 50  
   Beiza Plain, Kur River Basin: 102 n. 2  
   Elam: 35  
   Euphrates River, Syria-Iraq: 50  
   Fars: 1, 2, 47, 50  
   Iran: 101  
   Izeh/Malamir, Khuzistan: 50  
   Khuzistan: 2, 6, 16, 18–20, 21, 23, 27–30, 49, 50  
   Kur River Basin, Fars: 1, 27, 30, 49–51, 101, 103  
   Luristan: 36, 43, 46, 50  
   Marv Dasht, Fars: xvii, 50  
   Mesopotamia: 1, 24, 36  
   Near East: 1  
   Shiraz, Fars: 1  
   Susiana, Khuzistan: 16, 27, 50, 51  
   United States: 17, 43  
   Zagros mountains, Western Iran: 101  
 Glass objects:  
   handle: 41, 45  
   slag flakes: 95  
 Glyptic motifs:  
   animals walking: 36  
   fish: 36, 46  
   “grinding” figure: 46  
   male figure: 36, 47  
   metal caps: 35  
   “punctate” style: 7, 12, 35, 36  
   tree frame: 36  
   wire-wrapped bands: 7, 35, 36, 46  
 Glyptic objects:  
   sealed tablets: 7, 11, 35, 36  
   sealed tags: 36  
   sealings: 7, 8, 11, 12, 13, 14, 31, 35, 36, 39, 40, 46, 51  
   sealings on box and basket: 11, 13, 46  
   sealings on jar stoppers and door locks: 7, 11, 35, 36  
   seals: 7, 31, 33, 35, 36, 46, 47  
 Granulation technique at:  
   Arjan: 35  
   Dur Kurigalzu: 35  
   Malyan: 35  
   Marlik: 35  
   Susā: 35  
   Tell Brak: 35  
 Ground stone objects:  
   grindingstones/querns: 8, 13, 15 n. 11, 33, 34, 39, 41,  
     45  
   handstones: 13, 33, 34, 39, 41, 45  
   whetstone: 40  
 Hasanlu, Azerbaijan:  
   human-headed wall tile: 45  
 Inscribed objects:  
   alabaster vessel: 40

- bricks: xvii, 1, 2, 14–16, 49
- jar sherd: 7, 15
- labels: 8
- tablets: xvii, 2, 7–12, 14–16, 30, 35, 36, 39, 40, 49, 51
  - flour: 7
  - grain: 7
  - hides: 7, 49
  - livestock: 49
- transactions in metals: 7, 12, 49, 50
  - bronze: 49
  - copper: 12, 49
  - gold: 12, 49
  - silver: 12, 49
  - tin: 12, 49
- tag: 9, 36, 46
- Iranian revolution: 4, 17
- Irrigation: 1
- Kaftari: see also Ceramic wares
  - ceramic tradition: 25
  - Kaftari-Qaleh transition: 50
  - period: 22, 49, 102, 103
  - wares: 26
- Kassite:
  - Babylonia: 50
  - Burnaburiash II: 49 n. 1
  - chalice: 50 n. 4
  - dynasty: 1
  - goblet: 50 n. 4
  - granulated seal caps: 35
  - Nazi Marutash: 25
  - seal impressions: 35
  - seals: 36
- Kilns: xv, 25, 37
  - Level IIIB:
    - 164: 38, 39
    - 170: 38, 39, 43
    - 172: 38, 39
    - 175: 38, 39, 43
    - 191: 38
  - BB33: 5, 29, 38, 39
  - Sasanian:
    - X65: 2–3, 38, 51
  - stands/setters: 5, 38, 39, 43
    - oval: 24
    - ring: 24, 25
  - types: 38
    - circular: 39
    - cross-through draft: 38
    - down-draft: 38
    - up-draft: 38
  - wasters: 5, 25, 39
- Kurangun rock relief, Fars: 36
  - fish design: 36
- Levels:
  - I: 2, 3, 8, 48
    - colonnade: 48
    - piers: 8, 48
  - II: 2, 3, 8, 40, 47
    - burials:
      - 27: 47
      - 47: 47, 51
    - 67: 47
    - drain:
      - 54: 47
    - hearth:
      - 30: 47
      - 127: 47
      - 148: 47
      - 157: 40, 47
    - pits:
      - 85: 8, 8 n. 5, 9, 13 n. 10, 47, 47 n. 1
    - stone piles:
      - 28: 47
      - 64: 47
      - 65: 47
      - 145: 47
  - III: 2, 3, 8 n. 5, 17, 19, 36, 37–46, 47, 51
  - IIIA: 3, 8, 12, 16, 17, 19, 31, 37–46, 47, 51
  - bin:
    - 130: 40
  - buttresses:
    - 104: 41
    - 200: 40
  - courtyards:
    - 102: 39–41, 44, 45
    - 117: 38–40, 44–46
  - doorways:
    - 114: 39, 40, 41
    - 118: 40
    - 159: 39
  - hearth:
    - 124: 40
    - 125: 41
  - manger:
    - 135: 40
  - niche:
    - 120: 40
  - pavement:
    - 158: 41
  - pits:
    - 14: 42
    - 84: 42, 44
    - 106: 41
    - 107: 40, 46
    - 116: 40, 44
  - rooms:
    - 10: 10, 40, 42
    - 61: 37, 38, 40
    - 69: 8
    - 73: 40, 42
    - 74: 40, 42
    - 96: 12
    - 100: 39, 41
    - 108: 41
    - 111: 41
    - 112: 41
    - 113: 40, 44
    - 151: 5, 37, 39–40, 41, 43, 44
    - 154: 37, 39–41, 43
  - walls:
    - 9: 39, 42
    - 43: 39, 41



- 50: 47  
 56: 37, 39, 41  
 68: 39  
 75: 39, 42  
 78: 40  
 103: 39, 41  
 105: 37, 39, 40, 41  
 115: 39, 40, 41  
 133: 41  
 201: 39, 41  
**IIIB:** 2-4, 16, 18, 20, 21, 23 n. 7, 25, 36, 37-40, 43-46, 51  
**areas:**  
 174: 38  
 192: 38, 39, 43  
 199: 38, 39, 43  
**hearth:**  
 167: 38, 39  
**kilns:**  
 164: 38-39  
 170: 38-39, 43  
 172: 38, 39  
 175: 35-39, 43  
 191: 38  
**pillars:**  
 173: 38  
 177: 37-38  
**post-holes:**  
 165: 38  
 166: 38  
 169: 38  
 182: 38  
 184-90: 38  
**portico:**  
 169: 37  
**rooms:**  
 61: 38  
 151: 38  
 154: 38  
**street:**  
 192: 37  
**walls:**  
 9: 38  
 43: 38  
 56: 38  
 68: 38  
 105: 38  
 115: 38  
**IV-III:** 17, 30, 50  
**IV:** 2, 3, 5, 12, 14, 17, 19, 20, 22, 24, 31, 35-45, 49-51  
 Northeast sector: 6-8  
 Northwest sector: 7  
 Southwest sector: 7  
**IVA:** 2, 3, 5-34, 36-38, 41, 42, 44, 46, 47, 49, 51  
**alley:**  
 25: 14, 32, 33, 49  
 192: 14  
**colonnade:** see portico  
**corridors:**  
 15: 10-12, 15, 31, 32, 93, 96  
 60: 8-10, 12, 33, 35  
 95: 5, 10, 12, 13, 15 n. 11, 17, 19 n. 4, 33, 35  
 139: 5, 11-12, 15, 32, 33  
 151: 6  
**courtyard:**  
 45: 5, 6, 8, 10-15, 15 n. 11, 29, 34, 39, 41, 93,  
 95-97  
**doorways:**  
 16: 10, 11  
 17: 10  
 37: 8  
 38: 8-11  
 40: 10  
 41: 11  
 57: 11  
 59: 8, 13  
 63: 8, 9  
 72: 8  
 80: 8, 14  
 89: 13  
 98: 12  
 140: 11, 33  
 141: 11, 13, 33  
 142: 11  
 153: 8, 35  
 154: 35  
 159: 6, 12, 35 n. 1, 41  
 180: 7  
 183: 7  
**hearth:**  
 122: 12, 15  
**niches:**  
 18: 12  
 120: 12  
 163: 12  
**openings:**  
 41: 10  
 44: 10  
 57: 10  
**piers:**  
 32: 11, 13  
 49: 13  
 87: 13, 33, 96  
**pillars:**  
 88: 13  
 136: 13, 33  
 177: 7, 37  
**pits:**  
 123: 12  
 147: 8  
 172: 5  
 062 PTX: 13  
**portico:**  
 58: 6, 7  
**rooms:**  
 5: 10-12  
 10: 6, 9-10, 12, 14, 42  
 12: 8-12, 14, 41  
 26: 7, 10-11, 15, 32, 34-36, 49, 93, 96  
 58: see portico  
 61: 6, 7  
 64: 3, 7

- 69: 8, 14, 21, 29, 33–34, 102  
 76: 8–9, 12–15, 35, 103  
 96: 5, 7, 10, 12, 15, 17, 19 n. 4, 49  
 143: 6, 11–12, 14, 15, 32  
 151: xv, 5–7, 12, 35, 41  
 152: 6, 7, 16, 22, 35, 49  
 154: 6–8, 12, 37, 41
- walls:  
 4: 8, 14  
 9: 6–9, 14, 35, 37  
 34: 10, 33, 93  
 42: 8  
 43: 37  
 48: 8  
 49: 6  
 77: 8  
 78: 12  
 82: 8, 9  
 161: 12  
 173: 7  
 178: 41  
 204: 41
- IVA/Second Structure, southwest of alley 25: 14  
 door 23: 14  
 hearth 20: 14  
 room 19: 14
- IV: Third Structure, east of alley 192: 14
- IVB: 2–3, 5–6, 8–12, 14–31, 34, 41, 49–51, 75
- corridors:  
 95: 5, 10, 12, 17, 19 n. 4  
 139: 5, 11
- courtyards:  
 45: 5, 29, 34, 41
- doorway:  
 159: 5, 6, 11
- kiln:  
 BB33: 5, 29
- niche:  
 120: 12
- pit:  
 172: 5
- portico:  
 58: 7
- rooms:  
 10: 9–10  
 12: 9–12  
 58: see portico  
 61: 5, 6  
 76: 8–9  
 96: 5, 10, 12, 17, 19 n. 4
- Northeast Sector:  
 151: 5, 6, 41  
 152: 6  
 154: 5–8, 12, 41
- Magnetometer survey: 2  
 magnetic anomalies: xv  
 Varian Associates: xv
- Malyan, Fars: xv, 1–2, 6, 15, 16, 23, 25–31, 33–36, 45, 47,  
 50, 51, 99–103
- assemblage: 18  
 city wall: 2
- topography: 2  
 village: 40
- Malyan find numbers (mf) in text:  
 172: 39  
 302: 34  
 412: 12  
 596: 34  
 616: 45  
 757: 34  
 1173: 31  
 1248: 34  
 1249A: 15  
 1254: 15  
 1286: 34  
 1334: 9  
 1390A: 15  
 1401: 9  
 1456: 11  
 1491: 34  
 1521: 45  
 1526: 31  
 1541: 45  
 1596: 10  
 1661: 14  
 1672: 10  
 1753: 14  
 1782: 14  
 1783: 14  
 1856: 11  
 1863–75: 14  
 1889: 11  
 1900: 11  
 1982–84: 14  
 1993–94: 14  
 3293: 41  
 3312: 41  
 3315: 16  
 3320: 46  
 3654: 11  
 3792: 34  
 4430: 39  
 4437: 39  
 5028: 45  
 5028–30: 41  
 5035–36: 41  
 5117: 34  
 5120–21: 34  
 5124: 33  
 5128: 34  
 5132: 45  
 5134: 45  
 5135: 39  
 5172: 39  
 5173: 46  
 5175: 34  
 5212: 39  
 5214: 46  
 5217: 46  
 5257: 39  
 5264: 39  
 5273–77: 39

- 5285: 39  
 5308: 39  
 5343: 46  
 5349: 39  
 5350: 12  
 5404: 39, 45  
 5405: 34  
 5408: 45  
 5474–75: 31  
 6108: 39  
 6110–11: 39  
 6128: 46  
 6130: 39  
 6138: 39, 45  
 6141–42: 31  
 6143: 39, 45  
 6145: 45  
 6147: 39, 45  
 6261: 39  
 6296: 34  
 7458: 11  
 9285: 31  
 9932: 15  
 10463: 45  
 10477: 46  
 10568: 34  
 10575: 39  
 10765: 34  
 10777: 34  
 10869: 14  
 10871: 14  
 10879: 14  
 10880: 34  
 10881: 31  
 10883–87: 14  
 10891: 14  
 10892: 34  
 10909: 39  
 10912: 14  
 10915: 34  
 10935: 31  
 10945: 31  
 10968: 39, 45  
 10969: 45
- Malyan Project Recording System:  
 area/feature: 3, 4, 17, 19, 23, 25, 26, Table 2  
 building levels: 2–4, Table 3  
 cultural strata: 3, 4, Table 3  
 deposit codes: 4, Table 5  
 field photographs: 3  
 find spots: 4, 75  
 layer: 3, 4  
 locus number: 4, 75  
 lot number: 3, 3 n. 2, 76  
 Malyan find numbers (mf): 4, 4 n. 3  
 master sections: 3  
 operations: 3, 4  
 publication numbers for features: 3, Table 2  
 Pottery Coding Key: 18, 18 n. 2, 75
- Marlik, Gilan:  
 granulated jewelry: 35  
 metal figures: 47  
 metal vessels: 47
- Materials  
 antler: 95, 96  
 amethyst: 33  
 asphalt: see bitumen  
 baked clay (terracotta): 11, 12, 14, 15, 30–32, 39–41, 43, 45–48, 50, 51  
 bitumen: 7, 11, 13, 15 n. 11, 28, 33, 39, 49, 96  
 bone: 10, 13, 15, 93, 95, 96  
 calcite: 10, 13–15, 19, 27, 34, 47, 95, 96  
 carnelian: 34  
 charcoal: 7, 9, 10, 15, 16, 93, 99–103  
 chert: 33, 39, 41, 45, 93, 96, 97  
 chineh (pisé): 40  
 clay, sealing/tablet: 11, 14  
 cryptocrystalline quartz: 33, 39, 41, 45  
 dung (fuel): 102  
 faience: 15, 30, 31, 32 n. 1, 32 n. 2, 33, 36, 37, 40, 41, 45–47, 49  
 flint: see chert  
 frit: see faience  
 glass: 14, 41, 45, 45 n. 2  
 glaze: see faience  
 green alabaster: 40  
 hematite: 11, 15, 19, 34, 49  
 jasper: 13, 33, 39, 41, 45  
 conglomerate: 33, 39, 45  
 sandstone: 33, 39, 45  
 lapis: 34  
 limestone: 34, 39, 40, 41, 45  
 metals: 16, 31, 34–36, 40  
 copper: 9, 12, 15, 49  
 copper/bronze: 34, 41, 46, 47  
 gold: 12, 15, 35, 49  
 iron: 34  
 lead: 34  
 silver: 12, 15, 40, 49  
 tin: 9, 12, 15, 49  
 pebbles: 13, 38, 41  
 pigment:  
 blue: 39  
 red ochre: 41  
 plaster:  
 gypsum: 3  
 lime: 48  
 mud: 6, 7, 13, 96  
 painted: 10  
 prase: 39, 41  
 reeds/reed matting: 6, 7, 9, 10, 12, 16, 93, 100, 102, 102 n. 2, 103  
 sandstone: 34, 45  
 shell: 11, 14, 34, 41, 46  
 siltstone: 41, 45  
 soapstone: 34  
 stone: see Chipped, Ground, Polished stone objects, as well as specific types of stone, Materials  
 “soft” stone: 95, 96  
 terracotta: see Terracotta objects  
 travertine-banded marble: 40  
 unbaked clay: 11, 41

## Measures:

- Babylonian: 49
- Elamite: 49

## Metal Objects:

- bar: 34
- bracelets: 47
- cult items: 49
- figurines: 47
- handle: 40
- knife blade: 41, 46
- needle: 34
- pins: 34, 36, 46, 47
- point: 34
- vessels: 47

## Methods of excavation: see Malyan Project Recording System

## Middle Elamite:

- building: 2, 7, 14, 49–51, 75, 93, 96, 97, 99, 102
  - minimum height: 12
- context/levels: xv, 21
- Empire: 1, 15, 16, 50, 51
- occupation: 1
- period: see Periods
- sites: 20
- texts: xv, xvii, see Inscribed objects

## Mitannian:

- building: 49
- granulated jewelry: 35

## Neo-Assyrian seals: 47

## Neutron-activation analysis: 18

## Nippur, Iraq:

- granulated seal cap impressions: 35

## Nomadic pastoralism: 2

## Operations: 3, 4

## ABC: 21

- EDD: xv, xviii, 2–5, 15–18, 21, 23–27, 29–31, 37, 49, 51, 93, 99–103

BB33: xv, 5, 25, 26, 29, 38, 39

CC43: 2, 5, 39–41

CC45: 2 n. 1, 42, 47

DD41: 2–4, 7, 8, 10, 16, 37, 39, 40, 42, 44, 47, 103

DD43: 2, 10, 47, 110

DD45: 2, 12, 32, 33, 93, 94, 95

EE10: xv

EE16: 2, 49, 93

EE39: 2, 3, 5–7, 10, 15, 17, 37–39, 43, 47, 51

EE41: xv, xvii, 2, 7, 40, 109, 110

EE43: 13, 33, 93, 95, 110

EE45: 6, 13, 17, 31, 32

FF41: 2, 3, 6, 7, 8 n. 5, 17, 22, 37, 39, 40, 48

GHI-II: xv, 29

X65: 2, 3, 38

## TUV: 21

## Optical mineralogy: 18, 109

## Palaeobotanical studies: 2, see Plant remains

## Palaeozoological studies: 2

see also Animals, faunal remains

## Palais II and III (Al Untash Napirisha): 41

## Palais Hypogée (Al Untash Napirisha): 23, 29, 32, 49 n. 2

## Periods:

Achaemenid/Achaemenian: 1, 47, 51

Banesh: 101–103

Kaftari: 22, 49, 102–103

Late Bronze Age, Luristan: 50

Late Middle Elamite: 2, 7, 16, 29, 34, 50

Middle Elamite: 2, 7, 29, 34, 101, 103

Paleolithic:

Middle: 94

Post-Middle Elamite: 51

Pre-Achaemenid: 1, 51

Sasanian: 2–4, 38, 48, 51

Persepolis, Fars: 47

Plant remains:

flotation samples: 99–100, 102

CRDX 15: 102

CRDX 60: 102

foodstuffs/agricultural products: 50, 102

plant remains, general: xvii, 1, 9, 13, 15, 16, 100–103

plant remains, specific:

cereals (Gramineae):

barley: 100, 102 n. 2

wheat: 100, 102 n. 2

pulses (Leguminosae):

bitter vetch: 100

lentils: 100

fruits:

grape: 97

hackberry: 97

nuts:

almonds: 101, 103

pistachio: 101, 103

reeds (Phragmites): 102, 102 n. 2

grass: 14–15, 102, 102 n. 2

wild/weedy plants:

*Adonis cf. dentata*: 101

*Aegilops*: 101

*Astragalus*: 101

Boraginaceae: 101

*Carex*: 101

*Centaurea*: 101

Cruciferae: 101

*Fumaria*: 101

*Galium*: 101

Gramineae: 101

Leguminosae: 101

Licorice: 102

*Malva*: 101

*Medicago*: 101

Setaria: 101

*Vaccaria*: 101

woody plants:

ash: 101

hackberry: 101

juniper: 101, 103

maple: 9, 101, 103

oak: 101, 103

poplar: 9, 101, 103

willow: 101, 102

Pleides: 47

Polished stone objects: 31

pegs/knobs: 10, 11, 34

statuette: 14, 34

- vessels: 14, 15, 40
  - inscribed fragment: 40
- Qaleh: 5, 6, 16, 17, 25–26, 40, 43, 44, 49, 51
  - ceramic tradition: 30, 50
  - sites: 1, 27
  - styles: 28, 50
  - wares: 29
- Ram Hormuz, Khuzistan: 27, 50
- Recording system: see Malyan Project Recording System
- Regional archaeological sequence: 1, Table 1
- Roman Britain:
  - ring kiln letter: 25
- Roman kiln: 38
- Sasanian:
  - ceramics: 51
  - coin: 3
  - kiln X65: 2–3, 38, 51
  - period: see Periods
- Seals: see Glyptic objects
- Sections:
  - A-B: 12
  - G-E: 12
  - L-M: 5
- Shogha/Teimuran, Fars:
  - ceramic tradition: 50
  - sites: 1, 27
- Stratigraphy: 2, 5–6, 13, 37–39, 51
- Surkh Dum-i-Luri, Luristan
  - seal impressions: 46
  - seals: 36
- Susa, Khuzistan:
  - Acropole: 33
  - band jar rims: 24
  - buff ware bowl (HIB type): 43
  - calcite statuette: 34
  - EDD plain buff ware: 29
  - faience
    - box lid: 33
    - seal: 45
    - wall knob: 33
    - wall tile: 32
  - granulation: 35
  - jewelry: 35
    - seal cap impressions: 35
    - whetstone handle: 35
  - kings: 1
  - pot stands: 25
  - seal designs: 36, 46
    - banquet scene: 46
    - fish: 46
    - flowing vase: 36
  - site: 1, 15, 22, 50, 51
  - stele: 50 n. 2
  - Ville Royale: 30, 36, 51
  - Ville Royale A: 23, 24
    - Levels IX–XII (Elamite goblets): 23
    - Level XII (Elamite goblet): 24
  - Ville Royale B: 22, 23
    - Level I (necked jars or goblets): 22
    - Level II (Elamite goblets): 23
  - Ville Royale II: 21, 22, 22 n. 6, 23, 23 n. 7, 24, 29, 33, 43, 51
    - Level 8 (buff ware bowl): 43
    - Levels 8–9 (band-rim jar): 24
    - Levels 8–10 (necked jars or goblets): 22
    - Levels 8–11 (plain buff ware): 29
    - Levels 8–12 (pottery vats): 21
    - Levels 8–13 (large necked jars): 24
    - Level 9 (faience box lid): 33
    - Level 10 (Elamite goblets): 23
    - Levels 10–12 (band-rim jar): 24
    - Levels 10–12 (Elamite goblets): 23 n. 7
    - Level 11 (band-rim jar): 24
- Tablets: see Inscribed objects
- Tal-e Malyan: see Anshan
- Teimuran: see Shogha/Teimuran
- Tell al-Rimah, Iraq: 2
- Tell Brak, Syria: 35, 49
  - granulated jewelry: 35
- Temper: 18, 51, 76
  - minerals used:
    - biotite: 109–111
    - calcite: 109–111
    - chert: 110–111
    - clay: 110
    - clinopyroxene: 111
    - hematite: 109–111
    - hornblende: 109, 111
    - labradorite: 109
    - mica: 110
    - muscovite: 109–111
    - plagioclase feldspar: 109–111
    - quartz: 109–111
    - sphene: 110, 111
    - zircon: 110, 111
  - types:
    - mineral: 19, 22, 25, 27–29, 31, 43, 44, 73, 74, 109–111
    - sherd: 19, 22, 74, 110
    - vegetable/chaff: 19, 20, 22, 25, 27, 44, 73, 74
- Temples: xvii, 1, 15, 29, 33, 49, 50
- Tepe Farukhabad, Khuzistan:
  - handmade smoothed wares: 28
- Terracotta objects:
  - button: 31
  - cones (token/weights): 14, 31, 41, 45
  - discs: 38, 39
  - figurines: 30, 31
    - animals (humped-back bulls): 31
    - bow-legged dwarf: 31
    - female: 31, 45
    - human: 12, 31, 34, 45
  - bed/chair: 31
  - model chariot wheels: 31, 40, 45
  - spindle whorls: 31, 45, 46
  - wall tiles: 11, 31, 32, 45
    - circular: 12
  - worked sherds: 39, 45, 46
- Test trenches: xv, 1, 2, 5, 11
- Unbaked clay objects:
  - ball: 41
  - cones: 14, 45

ring: 11  
Vulture: 46  
Wooden objects:  
  door: 10  
  furniture: 102  
  poles: 9

shelves: 9, 102, 103  
storage boxes: 102  
Ziggurat: 33

بعضی از دیوارهای قدیمی طبقه چهارم مجدداً مورد استفاده قرار گرفته و کوره‌ها بکلی از بین رفته و مسطح گردیده‌اند. دیوارهای جدیدی ساخته شده و بطور کلی نوع معماری و آثار مکشوفه معرف یک ساختمان بومی و عادی تا یک ساختمان عمومی است. نوع سفال دشتهای کم ارتفاع (خوزستان) رواج داشته ولی تغییرات جزئی در مخلوط خمیره و رواج بعضی از اشکال بوجود آمده است. یک لوحه گلی و چند اثر مهر در طبقه سوم الف بدست آمد که اشاره به دوام وضع سنتی اداری می‌نماید. سفال مشابه شوش تپه شهر سلطنتی<sup>۱</sup> طبقات ۹-۸ رواج داشته و آزمایش کربن ۱۴ تاریخی در حدود ۱۰۳۰-۱۱۴۰ پیش از میلاد را برای این طبقه تعیین نموده، اگرچه تاریخی در حدود ۸۰۰-۹۰۰ نیز غیرممکن نیست.

طبقه سوم الف متروک و سطح دیوارهای آن را آثار پوسیدگی فرا پوشانیده است. تنها نشانه استقرار پس از ایلام میانه و قبل از دوره هخامنشی در قبر شماره ۴۷ آشکار گردیده است. قطعات شکسته پراکنده سفال دست ساخته که در سطح محوطه وجود دارد نمایش انتهای دوران نوع سفال سنتی ایلامی و هم چنین قطع بستگی تمدنی و فرهنگی را با دشت شوش می‌دهد. شگفت اینکه تاکنون تعداد معدودی سفال شکسته دوران هخامنشی در محوطه EDD یا در تپه بدست آمده است. سفال دوران ساسانی مشابه آنچه در محل کوره X65 بدست آمده بود در سطح تپه عمومیت داشت. پایه‌های ستونهای سنگی بهمین دلیل به آن دوره تاریخ‌گذاری شده‌اند.

بستگی و ارتباط طبقات حفاری محوطه EDD با امپراطوری ایلام میانه نمی‌تواند چندان گره‌گشا باشد، ولی بهرحال مفید است اشاره گردد که بافتی که برای محوطه EDD در اینجا طراحی شده بنظر می‌رسد مشابه روند عمومی تاریخ امپراطوری که یک دوران کوتاه توسعه در اواخر هزاره دوم پیش از میلاد قبل از اضمحلال در قرون اول هزاره اول را نشان می‌دهد باشد. حفاری محوطه EDD اولین دید دقیق ما را نسبت به وظایف امپراطوری ایلام میانه در مناطق خارج از دشت شوش بوجود آورده است. تحقیقات و بررسیهای بیشتری در ملیان و آثار مکشوفه در آن مسلماً راهنمایی بیشتری نسبت به درک وضعیت این منطقه نموده و نتیجتاً اطلاعات وسیعی درباره رابطه این حکومت‌نشینها با مرکز پادشاهان دشتهای وسیع کم ارتفاع شوش و خوزستان در اختیار خواهد گذارد

عزت‌الله نگهبان

ال‌اوتاش‌ناپیریشا (چغازنبیل) در بالاترین طبقه سطحی ترانشه حیاط معبد ایشین‌کاریب<sup>۱</sup> و قصر زیرزمینی<sup>۲</sup> دارد. تعداد زیادی ظروف شبیه دو شکل کوزه‌های طویل ایلامی و ظروف شانه کوتاه بوسیله پروفیسور میروشچی<sup>۳</sup> در طبقه دهم ترانشه تپه سلطنتی دوم در شوش مشخص گردیده است. این انواع را می‌توان به عنوان "نوع مشخص"<sup>۴</sup> سفال اواخر دوره ایلام میانه معرفی نمود. مجموعه طبقه چهارم محوطه EDD علی‌رغم طبیعت و حالت ساده‌اش بعلت تشابه زیاد با مجموعه‌های مکشوفه در دشتهای کم ارتفاع خوزستان از اهمیت خاصی برخوردار است.

اینک کاملاً روشن است که نوع سفال منقوش قلعه از نوع قدیمی ظروف منقوش سفالی کفتاری متأثر و بموازات آن تکامل یافته است. دوران تحولی کفتاری - قلعه کاملاً مفهوم نیست ولی آثار و شواهدی از دوره‌های اخیر آن را در محوطه EDD می‌توان لمس نمود.

قطعات شکسته سفال منقوش نخودی رنگ قلعه در سیزده محل و تپه محلی دیگر در دره همراه با سفال مشخص منقوش همزمان بومی که بنام سفال چغاتیموران خوانده می‌شود بدست آمده است<sup>۵</sup> (شکل شماره ۲ بالا).

در هیچکدام از این محلها بجز تل‌ملیان سفال بومی دشتهای کم ارتفاع یا شبیه آن در آنها تولید نگردیده است. آثار مکشوفه در محوطه EDD و یا مدارک سفالی موجود در منطقه قویاً نشان می‌دهد که تل‌ملیان یک ناحیه مستقل و جداگانه پادشاهان دشتهای کم ارتفاع در دره رودکر بوده است. ساختمانهای واقع در مرتفع‌ترین قسمت آنتشان مسلماً با مشکلات زیادی نگاهداری و محافظت می‌گردیده و مرکز حضور امپراطوری ایلام میانه در دشت رودکر که در حدود پانصد کیلومتر جنوب شرقی شوش پایتخت سرزمینهای کم ارتفاع واقع گردیده بوده است. این حفاریهانشان داده است که یک سیر نزولی مداومی هم در وسعت و هم در اهمیت ساختمانها و تأسیسات واقع در بالای تپه ملیان با گذشت زمان وجود داشته است. پس از هنگامی که آتش‌سوزی باعث تخریب طبقه چهارم الف گردید، ایوان بزرگ ستون‌دار ساختمان وسیع به یک کوره سفال‌گری مبدل شد. ادامه حفاری در مشرق محوطه EE39 مدارک ارزنده‌ای درباره تولید سفال در ملیان عرضه خواهد نمود و مسلماً رابطه نوع سفال منقوش بومی با سفالهای دیگر دره رودکر را روشن خواهد نمود.

این ظروف عموماً همراه با همان نوع مربوط به سفال دشتهای کم ارتفاع که در طبقه چهارم الف و سوم الف بدست آمده است. اگرچه احتمالاً وضع عمومی منطقه عوض گردیده ولی دلیلی وجود ندارد که رابطه آن با دشتهای کم ارتفاع بکلی قطع شده باشد. طبقه سوم الف بلافاصله بر روی طبقه سوم ب ادامه داده شده است.

1 - Ishin karib

2 - Palais Hypogée, Ghirshman 1966:90-91.

3 - Miroshedji 1981a:16

4 - Thpe Fossils

5 - Carter 1984: 174-175; Jacobs 1980:63-83; Sumner 1988.



در شهر قدیمی و مهم آنتشان بدست آورده بودند<sup>۱</sup>. در ملیان و هم‌چنین مناطق دیگر معابدی در جاهای مهم از ایالت فارس تا خوزستان احداث گردیده بود<sup>۲</sup>. این تأسیسات و تشکیلات شبیه آن بعنوان مراکز برای امور محلی ایلات و کشاورزان انجام وظیفه می‌نمود. فرآورده‌های تولیدی مانند سفال در شهرها برای مبادله با محصولات کشاورزی و دامی و مواد خام موجود بود. مجموعه‌ای که در محوطه EDD در حفاری آشکار شده، فقط قسمتی از ساختمان بزرگتری بود که بعنوان مرکز کارمندان دولت انجام وظیفه می‌نمود. وظیفه آنها احتمالاً خرید و جمع‌آوری مواد خام و تهیه تولیدات بسیار خوب برای مردم محلی بوده است. متن لوحه‌های گلی اظهار می‌دارد که هدف آنان در رابطه با بهره‌برداری فلزات و احتمالاً تولیدات دیگر نواحی کوهستانی بوده است. این نظریه با توجه به بررسی بقایای حیوانی مکشوفه در محوطه EDD تأیید می‌گردد. سنین کشتار و نوع قطعه‌کردن قسمتهای بدن حیوانات دلیل بر آن دارد که حیوانات احتمالاً مستقیماً از گله آورده شده و سپس کشتار و از این ساختمان توزیع گردیده‌اند<sup>۳</sup>. علاوه بر این علی‌الرغم یک اجتماع که در آن بز و گوسفند نوع مرغوب تر (۹۷٪) و گاو (۱۶٪) و خر و اسب (۳٪) و شتر (۱۰۵٪) در محوطه EDD این وضعیت تکرار بیشتری نسبت به محوطه‌های مسکونی و بومی دارد. این طرز توزیع سهم خود اظهار می‌دارد که فعالیت‌های ساکنین نخبه و برگزیده شهر یعنی آنهائیکه احتیاج بیشتری به وسیله حمل و نقل و هم‌چنین مقدار بیشتری گوشت داشتند در اطراف محوطه EDD متمرکز بوده است<sup>۴</sup>. تولیدات سنتی و بومی بوسیله ظروف سفالی نخودی رنگ قلعه که همراه با سفالهای نخودی رنگ ساده دشتهای کم ارتفاع در طبقه چهارم تا سوم آشکار گردیده است. بعلت کاملاً یا تقریباً منحصر بودن نوع ظروف سفالی نخودی رنگ که در محوطه EDD کشف گردیده، نوع سفال دشتهای کم ارتفاع مورد استفاده در هنگام تخریب طبقه چهارم الف شامل:

۱ - فنجانها و کاسه‌های قیفی شکل (شکل شماره ۱۸ نمره‌های ۱ و ۷)

۲ - خمرها (شکل شماره ۱۹ نمره‌های ۹ تا ۱)

۳ - آبخوریها با لبه نواری (شکل شماره ۲۳ نمره‌های ۳ تا ۲ و ۱۲)

۴ - تنگهای ایلامی (شکل شماره ۲۱ نمره‌های ۱۵ تا ۹)

۵ - ظروف دو زاویه کوتاه (شکل شماره ۲۱ نمره‌های ۴ تا ۱) هستند.

این نظریه تا اندازه‌ای با بررسی تکه سفالهای بدست آمده تأیید می‌گردد. نوع سفال نخودی رنگ ساده که

در محوطه EDD بدست آمده شباهت نزدیک با سفال شوش در تپه سلطنتی دوم<sup>۵</sup> طبقه‌های ۱۱ تا ۸ و

1 - König 1965:20

2 - Carter 1984: 181

3 - Zeder 1984:287-301

4 - Zeder 1985a.

5 - Ville Royale II

تخریب شامل دو گروه لوحه‌های گلی منقور با خط میخی ایلامی مربوط به امور اداری و ثبت و ضبط مبادلات فلزهائی مانند نقره و طلا در یک گروه و مفرغ و مس و گاهی قلع در گروه دوم می‌باشد. در این لوحه‌ها مقادیری از ۳ انس تا ۵۵ پوند تذکر داده شده البته اگر چنانچه واحد اوزان بابلی‌ها و ایلامیها مساوی باشد<sup>۱</sup>. تعداد زیادی بنظر می‌رسد، رسید موادی است که برای ساختمان و تولید اشیاء مذهبی بکار می‌رفته است.

در بین لوحه‌هایی که در طبقه چهارم بدست آمده یک لوحه وجود دارد که متن آن شرح مقادیر زیادی نقره و طلا متعلق به هوتلودوش اینشوشیناک<sup>۲</sup> (حدود ۱۱۲۰ سال پیش از میلاد) پادشاه ایلامی است که به صورت زیورآلات و تزئینات برای معبد یا معابدی در یا نزدیک آنشان درآمده است<sup>۳</sup>. تعداد زیادی آجرهای کتیبه‌دار مربوط به هوتلودوش اینشوشیناک پادشاه ایلامی که در این محل بدست آمده بود متضمن شرح ساختمان معبدی در آنشان هستند و احتمالاً مدارکی که در طبقه چهارم الف نیز جای داده شده بود مربوط به ساختمان معبد و ضمام آن بوده است. با وجودیکه قسمت حفاری شده ساختمان احتمالاً شامل محراب اصلی نمی‌باشد، ولی بهرحال نمی‌تواند شامل قسمت اداری و مذهبی مهمی نباشد. سالن شماره ۲۶ که چهارچوب درب آن با کاشیهای لعابی دیواری و قبه‌ها تزئین شده<sup>۴</sup>، سالن شماره ۹۶ با یک طاقچه بزرگ در یکی از دیوارهای کوتاهش و یک ورودی عریض هر دو کاملاً غیرعادی و جالب توجه هستند. لوحه‌های بدست آمده در اطاقهای اطراف حیاط و راهروهای آن مبادلات بر روی فلزها را شرح می‌دهند. لوحه‌های مکشوفه در خارج در راهرو شماره ۲۵ و در اطاق ۱۵۲ در حاشیه شمالی ساختمان متذکر مبادلات دام و حیوانات و چرم و کالاهای می‌باشند. لوحه‌ها و اشیاء آهنی، سنگ حدید و قیر طبیعی نشان می‌دهند که حیاط و اطاقهای اطراف آن برای پذیرائیهای رسمی و توزیع مجدد و جمع‌آوری موادی که مورد نیاز وظایف امپراطوری بوده بکار می‌رفته‌اند.

ایلامیهای مسکون در دشتهای کم ارتفاع قرون اخیر هزاره دوم پیش از میلاد مسیح در هنگامیکه این منطقه و شهر آن رو به زوال می‌رفت وارد آن گردیدند. شهر دوران کفتری (در حدود ۱۶۰۰-۲۰۰۰ پیش از میلاد) که بیست تا سی هزار جمعیت داشت به چهار تا هشت هزار سکنه در نیمه دوم هزاره دوم پیش از میلاد تقلیل یافته بود<sup>۵</sup>. در دره رود کر نیز، هم تعداد و هم مساحت اجتماعات در این دوران به شدت تقلیل یافته بود. نفوذ و تأثیر ملیان هنوز در نیمه غربی دره در سفال قلعه که احتمالاً در آنجا تولید می‌گردید ادامه داشت. در منطقه مشرق رودخانه یک نوع سفال جدید که به نام چغاتی‌موران مشخص شده ظاهر گردیده بود<sup>۶</sup>.

ایلامیهای دشتهای پائین ظاهراً در این هنگام در حاشیه غربی دره مسلط و مستقر گردیده و موقعیت برتری

1 - STOLPER AND CARTER 1976:38

2 - HUTELUDUSH INSHUSHINAK

3 - Stolper 1984b: 122-125.

4 - Ghirshama 1968a:48

5 - Sumner 1988

6 - Jacobs 1980:63-83

۳ - طبقه دوم: در این لایه آثار سطحی و همچنین آثاری که در داخل لایه قدیمتر ساخته و جای داده شده‌اند (شکل ۴۵) وجود دارد. بعضی از آثار مربوط به دوره دوم دوران ایلام نو (۷۵۰-۸۵۰ پیش از میلاد) می‌باشند.

۴ - طبقه اول: پی‌های سنگی ستونهای ساختمانهای این طبقه در قسمتهائی تا عمق طبقه چهارم الف و در بعضی جاها در طبقه‌های دوم و سوم نفوذ کرده‌اند (شکل ۴۵). آثار و بقایای سطحی یا آثار مشخص دیگری مربوط به این طبقه آشکار نگردید. این ستونهای سنگی از سنگ سختی ساخته شده و در گچ کارگذارده شده‌اند. ساختان اصلی را احتمالاً می‌توان به دوره ساسانی در حدود چهارصد میلادی بعثت آشکارسدن سفال این دوره و یک سکه ساسانی درست در زیر سطح لایه تاریخ‌گذاری نمود<sup>۱</sup>. یک کوره در فاصله پنجاهمتری در جهت جنوب غربی محوطه X65 هم چنین به دوره ساسانی تاریخ‌گذاری شده است<sup>۲</sup>.

### نتیجه

زمانی در قرون اخیر هزاره دوم پیش از میلاد مسیح مرتفع‌ترین قسمت آثار باستانی آنتشان بوسیله ساختمان عظیمی اشغال شده بود. این ساختمان و ضامم اطراف آن فاصله زیادی با حصار دفاعی شهر در حاشیه شمالغرب این منطقه مسکونی نداشت. این محل مشرف بر شهر و در نظرگاه جنوب و شرق خود کلیه عملیات دشت را به راحتی زیر نظر داشت. حفاری بخوبی روشن نمود که یکی از این ساختمانها (ساختمان دوره ایلام میانه) محوطه‌ای در حدود یکهزار مترمربع را فرا می‌گرفته است. اگرچه این ساختمان کوچکتر بود و آجر زیادی در ساختمان آن مصرف نگردیده بود ولی نقشه اطاقها و بافت تزئینات معماری آن شبیه به قصور اِل‌اوتاش ناپیریشا<sup>۳</sup> در خوزستان بود. طبقه اصلی چهارم ب شامل یک ساختمان با قسمتهای متعدد (شکل شماره ۱۶) که نقشه وسیعی داشت. این ساختمان احتمالاً در ضمن برنامه کلی توسعه کشور ایلام بطرف قسمتهای ارتفاعات و شاید بوسیله هوپان - نومنا<sup>۴</sup> (حدود ۱۳۵۰ پیش از میلاد) یا اوتاش - ناپیریشا<sup>۵</sup> (حدود ۱۳۵۵-۱۳۶۰ پیش از میلاد) و یا احتمالاً<sup>۶</sup> در تیراز آن بوسیله شوتروک - ناهوته<sup>۶</sup> (حدود ۱۱۶۵ پیش از میلاد) و یا شیلهاک - اینشوشیناک<sup>۷</sup> (حدود ۱۱۲۰-۱۱۵۰ پیش از میلاد) ساخته شده بود. طبقه دوم ساختمانی، طبقه چهارم الف، هنگامیکه قسمت زیادی از آن به آتش کشیده شد تقریباً در حال متروک شدن بوده است. آثار مکشوفه از این لایه

1 - BALCER 1978.

2 - ALDEN 1978.

3 - AL UNTASH-NAPIRISHA

4 - HUBAN-NUMEA

5 - UNTASH-NAPIRISHA

6 - SHUTRUK - NAHUNTE

7 - SHILHAK - INSHUSHINAK

پیچیده‌تر از آنست که در فصل حفاری ۱۹۷۲ میلادی تصور آن می‌رفت.

این وضعیت ضرورت یک تجدید نظر در لایه‌گذاری طبقات ساختمانی باستانی را ایجاد می‌نمود و پس از تجدید نظر بقایای باستانی طبقه‌ای که در گزارش مقدماتی حفاری (سال ۱۹۷۴) به عنوان طبقه دوم مشخص شده بود به طبقه چهارم و طبقه اول قدیم به طبقه سوم اصلاح گردید<sup>۲</sup>. حفاری بیشتر در سال ۱۹۷۴<sup>۳</sup> در ترانسه‌های CC45 و CC43 و DD45 و DD43 و DD41 (شکل شماره ۵) باعث کشف یک ساختمان سوخته عظیمی گردید که مربوط به دوران امپراطوری ایلام میانه بود. در سالهای ۱۹۷۲ و ۱۹۷۴ میلادی دو گروه جداگانه لوحه‌های کتیبه‌دار گلی که با خط میخی ایلامی منقور شده بود بر روی کف و بالاتر از کف ساختمان سوخته آشکار گردید<sup>۴</sup>. آزمایش تاریخ‌گذاری کربن ۱۴ (توجه به تابلو شماره ۶)، لوحه‌های گلی منقور و همچنین مقایسه آثار بدست آمده با سایر آثار باستانی مکشوفه در خوزستان همگی معرف تاریخی در حدود ۱۱۰۰ سال پیش از میلاد مسیح برای زمان تخریب ساختمان طبقه چهارم الف بود. در فصل حفاری سال ۱۹۷۶ میلادی برای اتمام حفاری ساختمان سوخته و هم‌چنین بررسی در بقایای باستانی دوره‌های قبل و پس از آن در ترانسه‌های EE39 و FF41 حفاری گردیده در انتهای فصل حفاری ۱۹۷۶ میلادی چهار طبقه ساختمانی مشخص و شرح داده شد. این طبقات بطور خلاصه در زیر آمده و خلاصه آن در شکل‌های ۸ تا ۶ آمده است.

۱ - طبقه چهارم: ساختمان (چهارم ب) عظیم که در قلعه تپه‌ملیان قرار دارد و هم‌چنین بقایای تعمیرات و بازسازی دوره دوم استقرار در آن بوسیله آتش‌سوزی عظیمی از بین رفته است. (چهارم الف<sup>۵</sup>). این تخریب و آتش‌سوزی در حدود اواخر دوره ایلام میانه در حدود ۱۰۰۰-۱۱۰۰ سال پیش از میلاد مسیح تاریخ‌گذاری شده است.

۲ - طبقه سوم: چهار و احتمالاً تعداد بیشتری کوره‌ای که در محوطه EE39 آشکار شده‌اند مربوط به طبقه سوم ب می‌باشند. یک کوره در محوطه ایوان و سه کوره در خارج از آن قرار داشتند (شکل شماره ۳۶). سطح طبقه سوم ب و ساختمان بعدی آن که بیشتر آن در محوطه EE39 و FF41 و مقداری در DD41 قرار گرفته و ساختمان معمولی‌تری است به عنوان طبقه سوم الف (شکل ۳۹) خوانده شده‌اند. بعضی از دیوارهای پا برجای ساختمان طبقه چهارم نیز مجدداً مورد استفاده قرار گرفته و دیوارهای دیگری نیز اضافه گردیده و همگی طبقه سوم الف را تشکیل می‌دهند. این طبقه مسکونی در حدود هزار سال پیش از میلاد مسیح تاریخ‌گذاری شده است.

1 - SUMNER 1974

2 - CARTER 1975

3 - CARTER & STOLPER 1976

4 - STOLPER 1984b.

5 - CARTER n.d.

۶ - محوطه خارج از ساختمان اصلی در جنوب‌شرقی ترانسه CC45 و مشرق دیوار ۹ در این گزارش به عنوان طبقه چهارم الف مشخص گردیده است.

تغییر زیادی در توزیع و بافت نباتات و حیوانات از اواخر هزاره دوم پیش از میلاد تاکنون در منطقه ایجاد نگردیده است. این دره به آسانی به وسیله راههای موجود تبادل فرآورده‌های منابع طبیعی کوهستانی را با مناطق فارس و خوزستان مرتبط می‌نماید (شکل شماره ۱) و دارای مراتع فراوانی برای پرورش دام می‌باشد. کشاورزی و دامپروری هر دو منابع اقتصادی جالب توجهی در این منطقه می‌باشند. در هزاره دوم پیش از میلاد تل ملیان مرکز استقرار مهمی در منطقه بوده است. تل ملیان از نظر وضع عمومی (شکل شماره ۳) به سه قسمت اصلی تقسیم می‌گردد. قسمت اول ردیف تپه‌های باریکی به عرض ۲۵-۲۰ متر و به ارتفاع ۱۸-۱۶ متر که دور تا دور تپه را در سه طرف محصور نموده است که بقایای حصار شهر می‌باشند<sup>۱</sup>. قسمت دوم یک محوطه مسطح باز در داخل حصار که در حدود ۵۰ هکتار مساحت داشته و در آن بقایای محدودی وجود دارد. قسمت سوم گروه تپه‌های متصل بهم که ناحیه‌ای در حدود ۱۰۰ هکتار را پوشانیده و بقایای باستانی اصلی شهر را معرفی می‌نماید. مرتفع‌ترین تپه‌های این مجموعه بقایای باستانی در لبه شمالغربی واقع شده و ارتفاع آن به ۲۸ تا ۲۷ متر از سطح دشت می‌رسد (شکل شماره ۴). این تپه‌ها در حدود ۴۰۰ متری جنوب‌غربی بریدگی نعل اسبی شکلی که در برآمدگی بقایای حصار شهر وجود دارد و احتمالاً دروازه شهر را معرفی می‌نماید واقع شده‌اند (وضعیت شبیه و قابل مقایسه‌ای در بقایای تل‌الریماح نیز مشاهده می‌گردد<sup>۲</sup>).

این گزارش بیشتر در رابطه با حفاریهای منطقه EDD که در نزدیک قلّه تپه (شکل شماره ۴، تابلو شماره ۱) قرار دارد تنظیم گردیده است. تقریباً در حدود ۴۳۰ متر مشرق منطقه EDD که بوسیله قسمت کم ارتفاعی از تپه مجزا شده است گروه دوم تپه‌ها قرار گرفته‌اند (شکل شماره ۴). بقایای باستانی سطح تپه شامل تعدادی قطعات شکسته آجرهای کتیبه‌دار مربوط به هوتلودوش اینشوشیناک پادشاه ایلامی بود. یک ترانسه آزمایشی (EE16) بمنظور تعیین هویت این آجرهای شکسته کتیبه‌دار در این محل حفاری گردید. در این ترانسه متأسفانه هیچ اثری از آجرهای کتیبه‌دار در محل اصلی خود بدست نیامد. در سال ۱۹۷۲ میلادی در ترانسه آزمایشی دیگری در محل EE41 (شکل ۵) چند دیوار عریض (عرض ۱/۸۰ متر) خشتی آشکار گردید که به شدت سوخته شده بود. ادامه کار بطرف مشرق در ترانسه EE39 بقایای معماری و بازسازی دوره جدیدتری را که بر روی دیوارهای سوخته قدیمتر و بزرگتری در ترانسه EE41 ساخته شده بود آشکار نمود. نتیجه این حفاریها بوسیله پروفیسور زامنر<sup>۳</sup> در سال ۱۹۷۴ به چاپ رسید. در گزارش مقدماتی حفاری این دیوارهای سوخته به عنوان طبقه دوم حفاری مشخص گردید و تعمیرات و بازسازی دوره جدیدتری که در ترانسه EE39 آشکار شده بود بعنوان طبقه اول مشخص گردید. پس از انجام حفاری فصل ۱۹۷۴ میلادی ثابت گردید که طبقات و لایه‌های باستانی و وضعیت آنها خیلی

1 - SUMNER 1985

2 - D. OATES 1965:67, PL.XII

3 - SUMNER 1974

کارگران حفاری که همه روزه با نهایت علاقه و فداکاری عملیات حفاری را بخوبی انجام و محیط دلپذیری فراهم نموده بودند تشکر نمایم.

حفاری در این محل در سالهای ۱۹۷۲ (بوسیله پروفیسور زامنر)<sup>۱</sup> و ۱۹۷۴ میلادی بوسیله (کارتز)<sup>۲</sup> و استولپر<sup>۳</sup> و زامنر<sup>۴</sup> و کارتز<sup>۵</sup> و ۱۹۷۶ میلادی (بوسیله کارتز) و ۱۹۷۷ میلادی (بوسیله زامنر<sup>۶</sup> ادامه داشت. همگام با عملیات حفاری بررسی مجدد و دقیقی در حوزه بانس (بوسیله آلدن<sup>۷</sup> در آثار مربوط به ۳۲۰۰-۳۵۰۰ تا ۲۶۰۰ پیش از میلاد و در حوزه چغاتیموران و قلعه (بوسیله ژاکب)<sup>۸</sup> مربوط به آثار ۱۵۰۰-۱۶۰۰ پیش از میلاد نیز انجام گردید. این بررسیها و حفاریهای تل ملیان و محل های کوچک دیگری منتج به روشن شدن آثار باستانی این منطقه و تنظیم دورانهای باستانی گردید که در طرح شماره ۱ منعکس می باشد. جدیدترین تحقیقات و مطالعات و نتیجه گیری از این عملیات را می توان در کتابهای زامنر به سال ۱۹۸۸ و کارتز و استولپر به سال ۱۹۸۴ مشاهده نمود. این گزارش بیشتر با آثار باستانی مربوط به دوران ایلام میانه تل ملیان رابطه داشته و کوششی است برای نشان دادن اینکه آتشان علاوه بر اینکه پایتخت مشترک ایلامها در ارتفاعات کوهستانی بوده به عنوان مقر و جایگاه خانواده پادشاهان ایلامی و در سر حد امپراطوری ایلام در اواخر هزاره دوم پیش از میلاد مسیح قرار داشته است.

### شرح منطقه و محل های باستانی و حفاریها

تل ملیان در قسمت شمالغرب دره رود کر در حدود پانصد کیلومتری جنوب شرقی شوش واقع شده است. این منطقه جزء دره های مرتفعی است که مابین ارتفاعات رشته جبال زاگرس در مغرب استان فارس قرار گرفته و در حدود ۱۶۰۰ متر ارتفاع دارد. در این منطقه بحد کافی برای زراعت انواع غلات باران می بارد و در ضمن نیز برای کشت و زراعت بهتر از آبیاری نیز استفاده می گردد. در حال حاضر در حدود نصف مساحت ۲۲۰۰ کیلومتر مربع آن شامل مناطق قابل کشت و فقط در حدود ۲۲٪ آن شوره زار است. بنابراین این منطقه بعنوان یکی از نواحی حاصلخیز مسطح و مرغوب در نواحی کوهستانی در گذشته و حال محسوب می گردد. محققین و متخصصین نباتات<sup>۹</sup> و حیوانات<sup>۱</sup> که بر روی آثار نباتات و حیوانات مکشوفه در حفاری مطالعه نموده اند اظهار می دارند که

1 - SUMNER 1974

2 - CARTER 1975

3 - STOLPER 1976

4 - SUMNER 1975b, 1976a, 1976b, 1977,

5 - SUMNER 1983-84, 1984)

6 - ALDEN 1979

7 - JACOBS 1980

8 - MILLER 1982

9 - ZEDER 1984b

## ترجمه تلخیص کتاب حفاریها در تل ملیان<sup>۱</sup>

در نیمه دوم هزاره دوم پیش از میلاد مسیح دولت ایلام بصورت قدرتی سیاسی مهمی در منطقه خاور نزدیک باستان درآمد. این دولت حملات پیروزمندانه‌ای به شهرهای مهم بین‌النهرین نمود و به حکومت دولت کاسیها در این منطقه پایان بخشید. اگرچه فرمانروایان دولت ایلام میانه خود را به لقب پادشاهان آشان و شوش در متون متعدد ایلامی که در شوش بدست آمد نامیده‌اند، ولی مکان حقیقی آشان تا قبل از بررسیهای باستانشناسی پروفیسور ویلیام زامتر در سالهای ۱۹۶۸-۱۹۶۹ میلادی در دره رودکر<sup>۲</sup> در منطقه شمال غرب شیراز در ناحیه جنوبی فلات مرکزی ایران هنوز بطور قطع و یقین روشن نبود. این بررسی باستانشناسی نشان داد که تپه بزرگ کم ارتفاعی که در گوشه شمال غربی این دره واقع شده و امروز بنام تل ملیان خوانده می‌شود مهمترین و بزرگترین کانون اجتماعات این منطقه در دورانهای پیش از امپراطوری هخامنشی بوده است (شکلهای ۱و۲). در این بررسی پروفیسور زامتر قطعات شکسته آجرهای کتیبه داری را در این تپه کشف نمود. پروفیسور رابنر<sup>۳</sup> متن این آجرهای شکسته کتیبه‌دار را شبیه به متن کتیبه ایلامی موجود ولی بدون هویتی از نظر محل کشف که متعلق به پادشاه ایلامی هوتلودوش اینشوشیناک<sup>۴</sup> اول (در حدود ۱۱۲۰ سال پیش از میلاد مسیح) آخرین پادشاه سلسله ایلام میانه<sup>۵</sup> تشخیص داد. متن این کتیبه‌ها دلالت بر ساختمان و هدیه معبدی در آشان بوسیله این پادشاه ایلامی که اطلاعات مختصری درباره او وجود داشت می‌نمود. تعداد قطعات شکسته آجرهای کتیبه‌دار بدست آمده در تپه ملیان و کیفیت آثار باستانی و محل این آثار باستانی همگی راهنما و مبین این بود که تپه ملیان محل شهر قدیمی آشان می‌باشد. این نتایج مقدماتی به وضوح مؤید اهمیت آثار باستانی تل ملیان و لزوم تحقیقات باستانشناسی درباره تمدن ایلام بوده و حفارگمانه‌های آزمایشی در سال ۱۹۷۱ میلادی تحت سرپرستی پروفیسور زامتر و با شرکت مرکز کاوشها و پژوهشهای باستانشناسی در ایران به مدیریت آقای فیروز باقرزاده و هم‌چنین همکاری موزه دانشگاه پنسیلوانیا شروع گردید. دکتر فیروز باقرزاده و کارمندان ایشان در مرکز تحقیقات باستانشناسی برای پیشرفت کار این حفاری نهایت توجه را داشته و بدون همکاری ایشان انجام چنین برنامه‌ای امکان‌پذیر نبود. پروفیسور عزت‌اله نکهبان نیز موافقت نمود تا اطلاعات و نتایج حاصله از حفاری‌های هفت تپه را بمنظور انجام مقایسات لازم قبل از انتشار و چاپ نهائی آنها در دسترس ما بگذارد و با نهایت محبت موافقت نمود که این خلاصه کتاب را نیز به فارسی ترجمه نماید. من علاقه دارم از پشتیبانی‌های پروفیسور دایسون مدیر موزه دانشگاه و پروفیسور زامتر مدیر موسسه شرقی دانشگاه شیکاگو تشکر نمایم. در خاتمه از کمکهای دانشجویان و

۱ - خلاصه بوسیله نویسنده کتاب پروفیسور الیزابت کارتر تهیه شده و فقط ترجمه آن بوسیله عزت‌الله نکهبان انجام گردیده است.

2 - WILLIAM SUMNER 1972a.

3 - ERICA REINER, 1973.

4 - HUTELUDUSH INSHUSHINAK

5 - LAMBERT, 1972.

6 - HANSMAN 1972, REINER 1973, SUMNER 1974

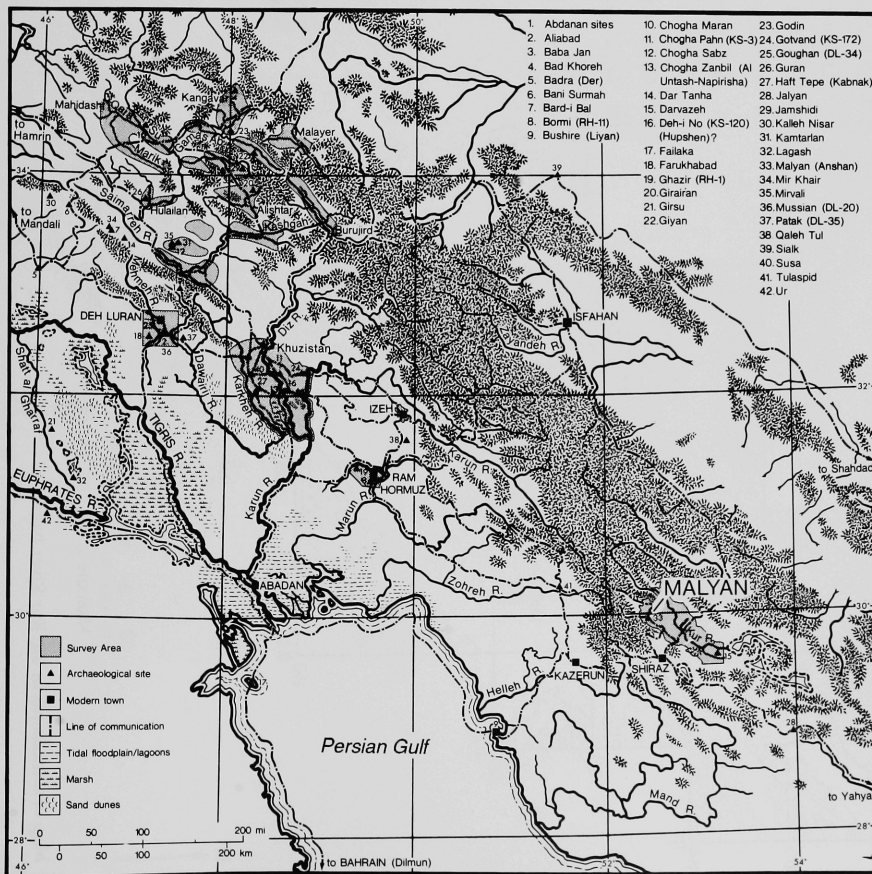




---

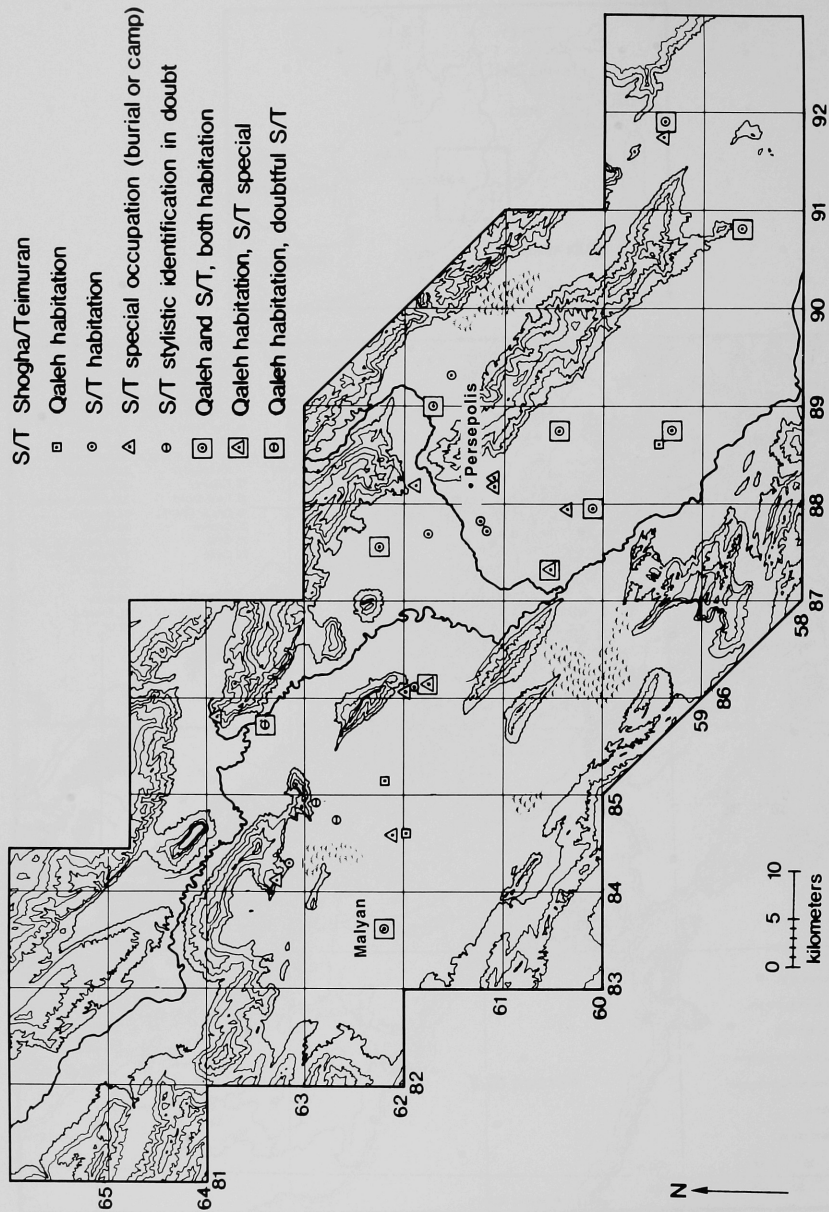
# Figures



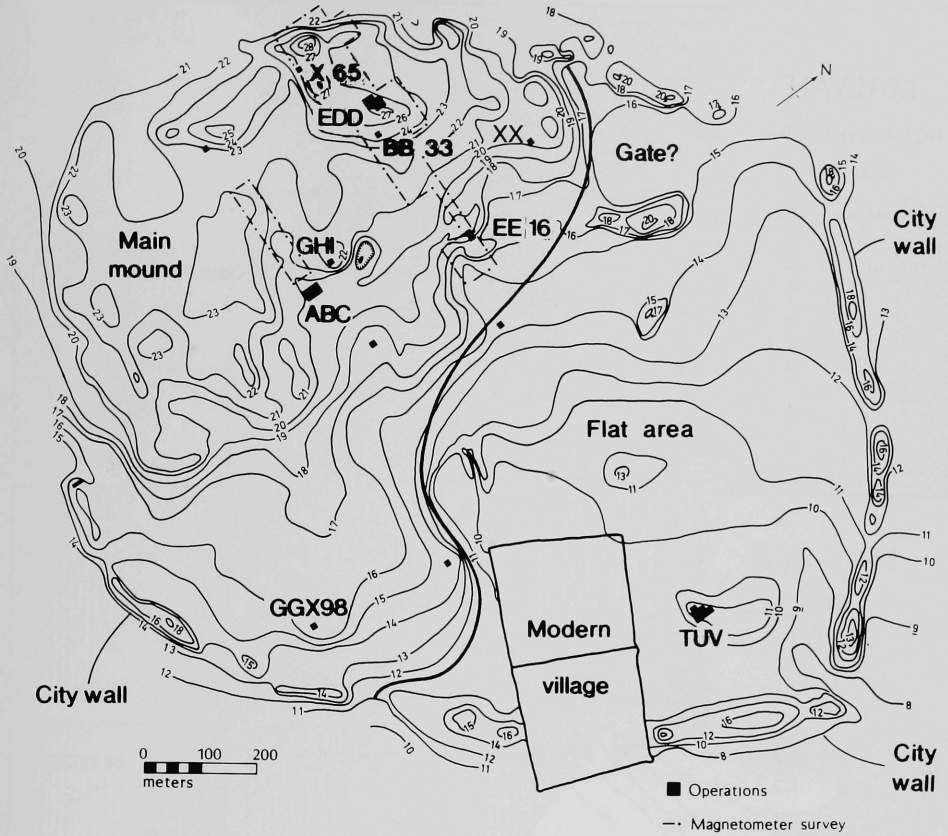


Map of southwestern Iran.

FIGURE 2

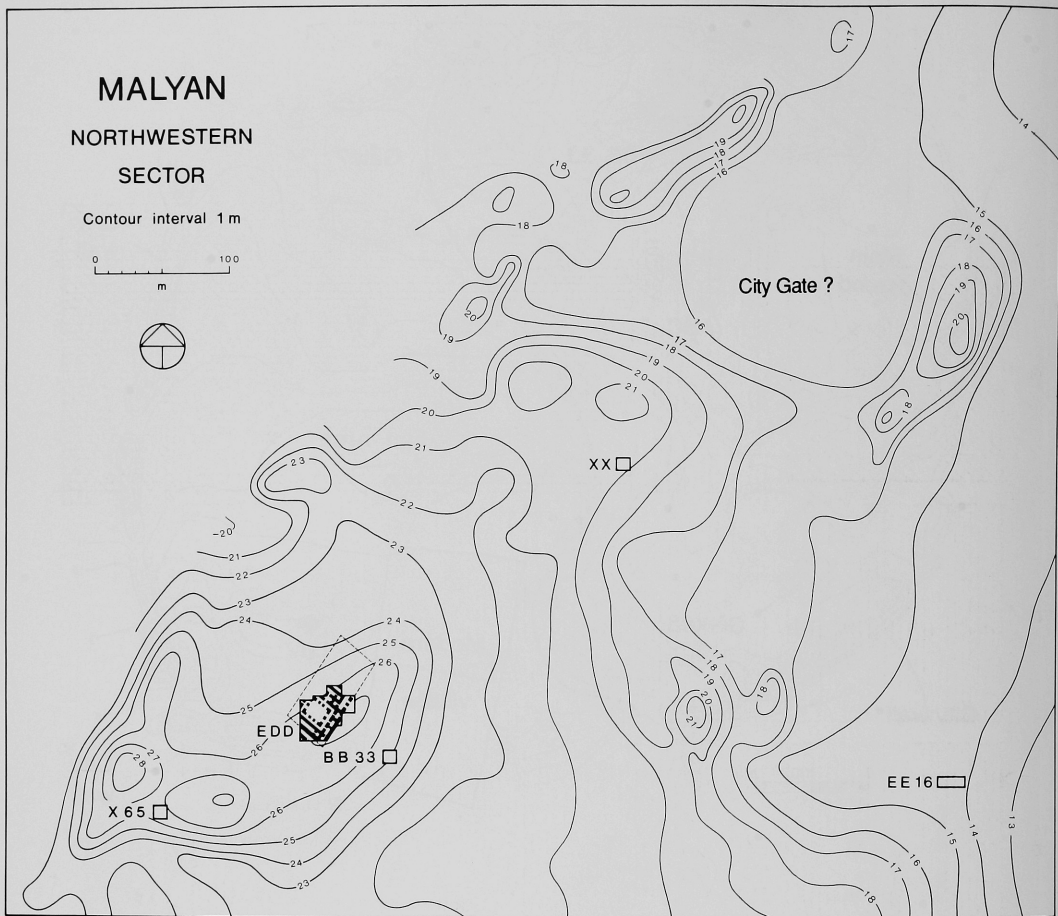


Map of settlements in the Kur River basin.

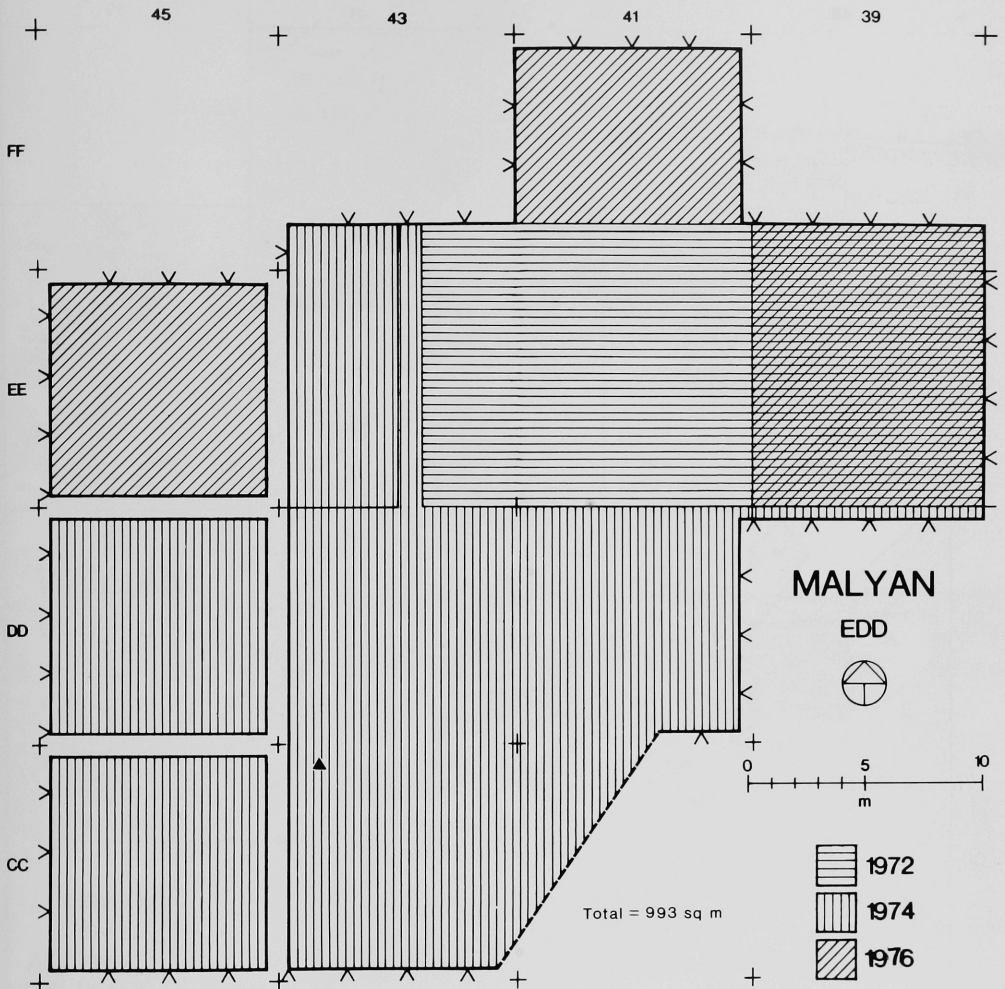


Topographic map of Malyan.

FIGURE 4



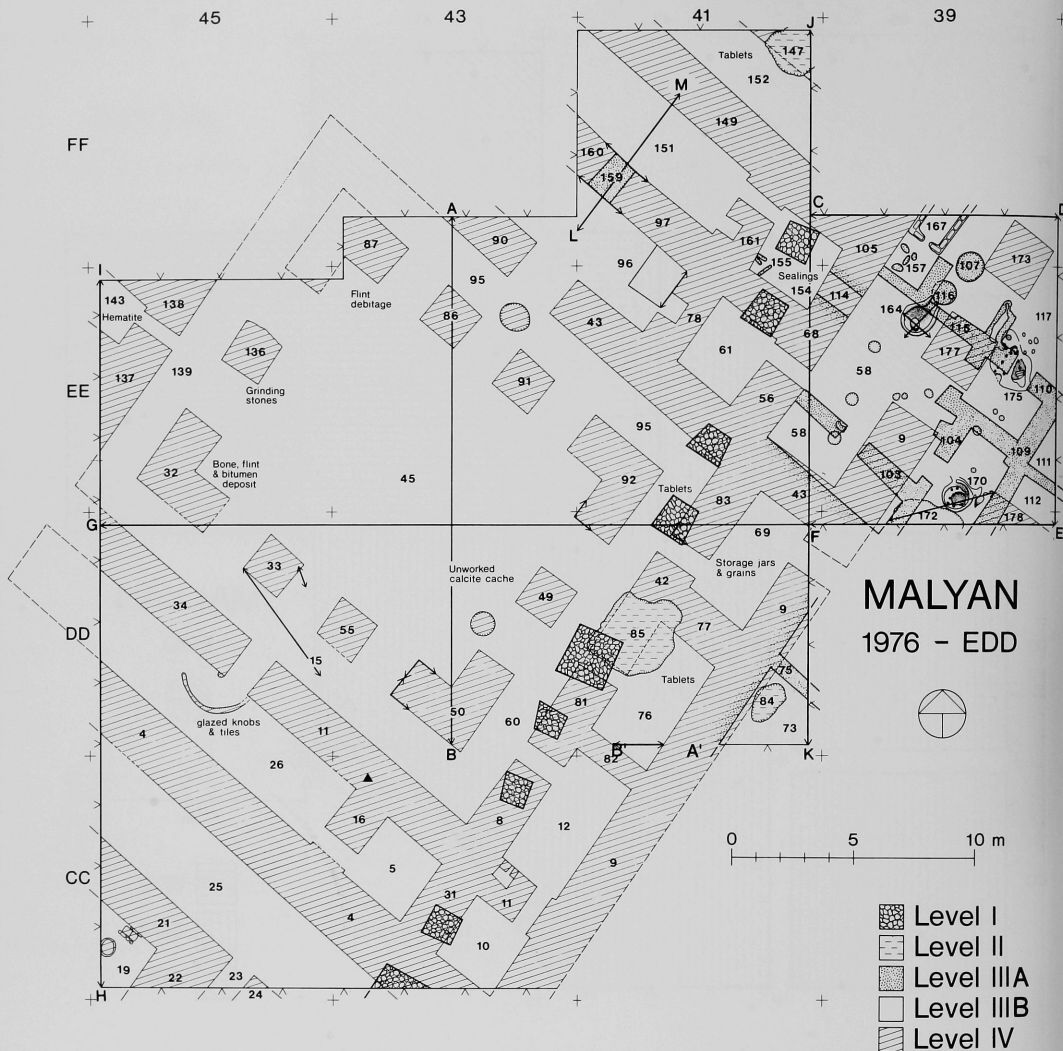
Malyan northwest sector.



Areas excavated by season in EDD.

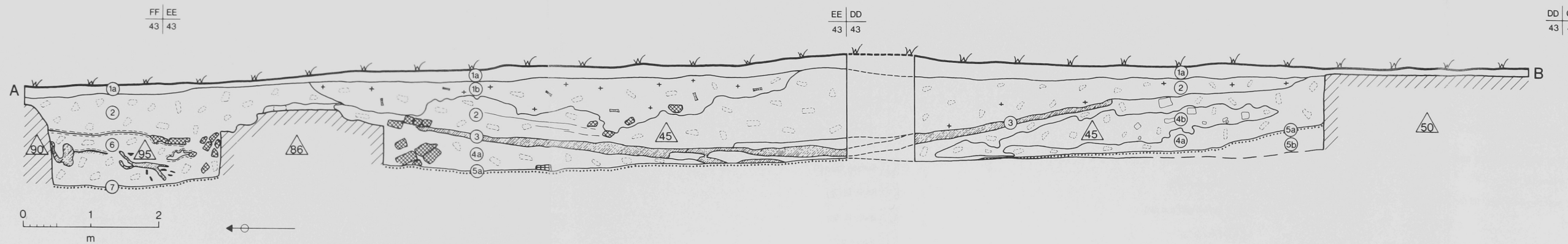
FIGURE 6

LEVELS I-IV



EDD general plan and profile key.



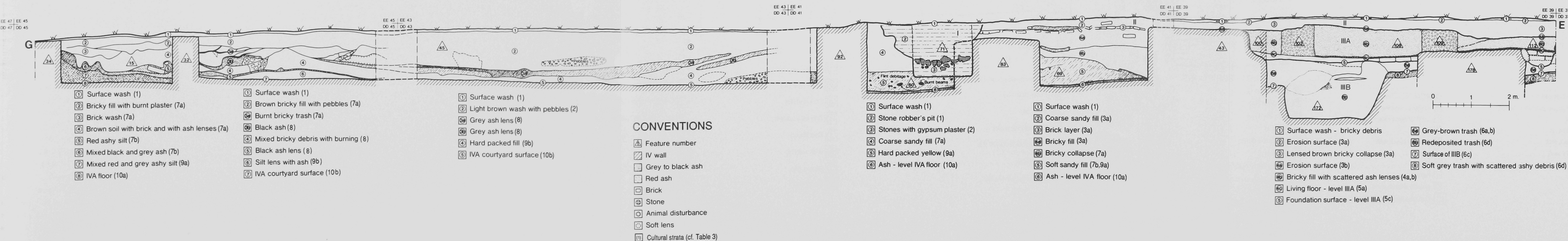


CONVENTIONS

- Feature number
- Building level IV wall
- Brick
- Burnt brick
- Plaster
- Burned floor
- Black ash
- Stone / pebble
- Bone
- Cultural strata (cf. Table 3)

LAYER DESCRIPTIONS

- Surface wash (1)
- Brickly wash with pebbles and bones (3c)
- Brown brickly fill (7a)
- Lensed grey ash and light brown silt (8)
- Compact brickly fill (9b)
- Loose-packed brickly fill (8)
- Burnt "kahgel" floor (10b)
- Hard packed water-laid surfaces (10b)
- Light brown silt with fragments of burnt bricks and beams (9a)
- Burnt "kahgel" floor (10a)



- Surface wash (1)
- Brown brickly fill with pebbles (7a)
- Burnt brickly trash (7a)
- Black ash (8)
- Mixed brickly debris with burning (8)
- Black ash lens (8)
- Silt lens with ash (9b)
- IVA courtyard surface (10b)
- Surface wash (1)
- Light brown wash with pebbles (2)
- Grey ash lens (8)
- Grey ash lens (8)
- Hard packed fill (9b)
- IVA courtyard surface (10a)

CONVENTIONS

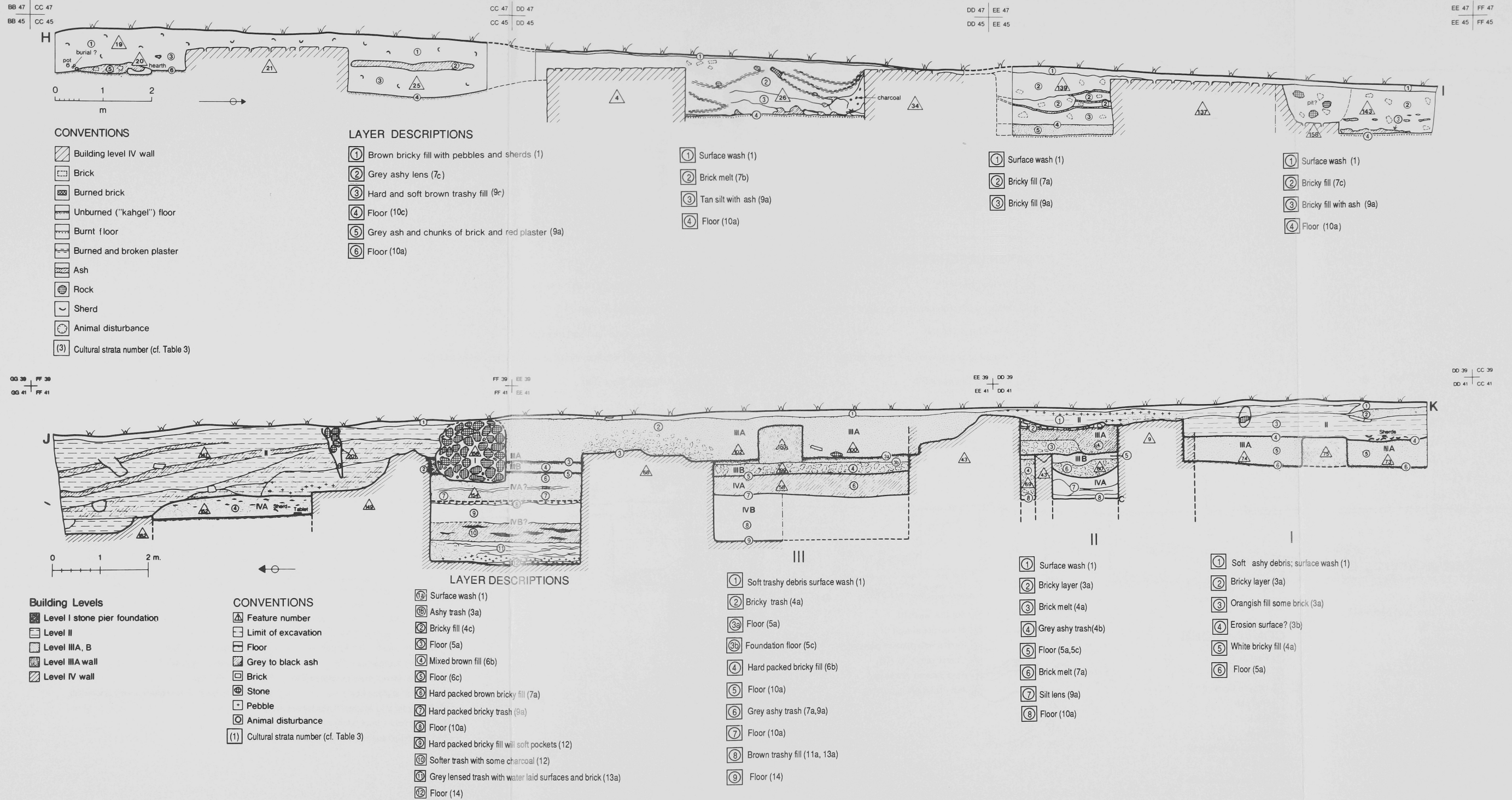
- Feature number
- IV wall
- Grey to black ash
- Red ash
- Brick
- Stone
- Animal disturbance
- Soft lens
- Cultural strata (cf. Table 3)

- Surface wash (1)
- Stone robber's pit (1)
- Stones with gypsum plaster (2)
- Coarse sandy fill (7a)
- Hard packed yellow (9a)
- Ash - level IVA floor (10a)
- Surface wash (1)
- Coarse sandy fill (3a)
- Brick layer (3a)
- Brickly fill (3a)
- Coarse sandy fill (7a)
- Hard packed yellow (9a)
- Ash - level IVA floor (10a)

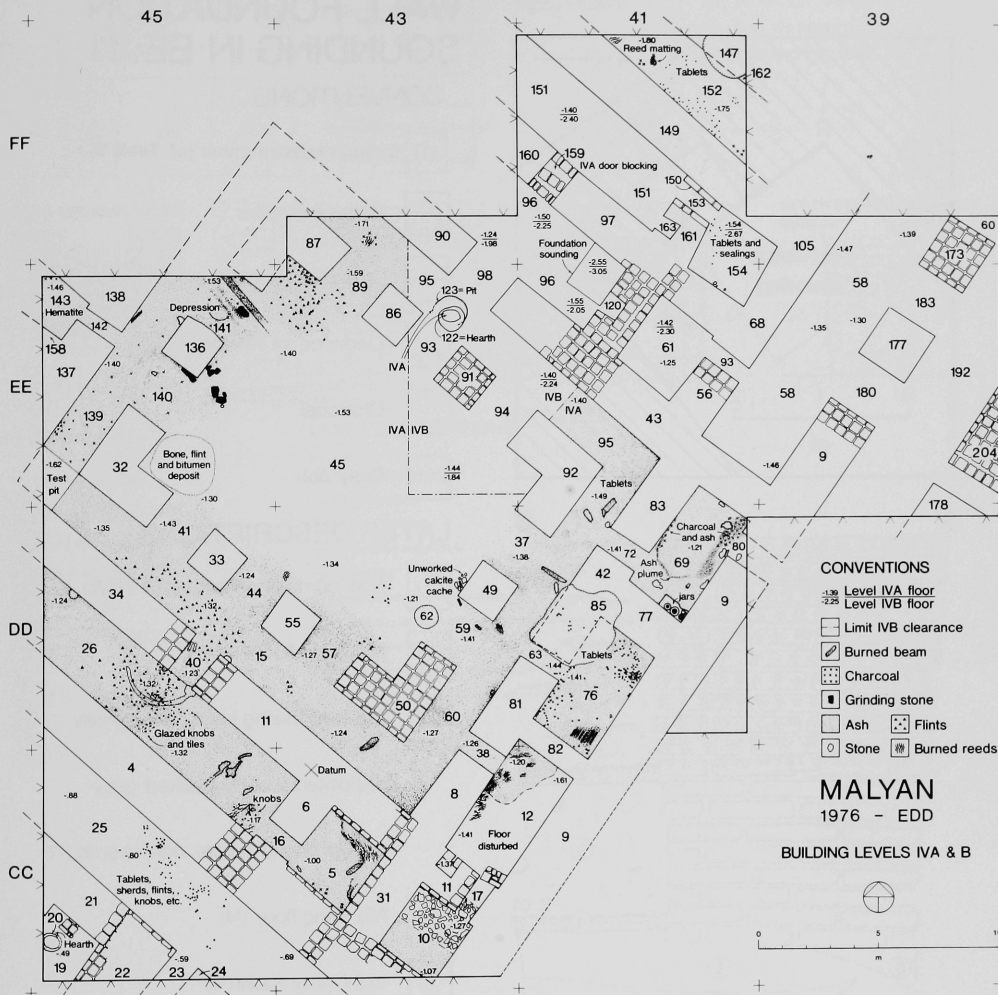
- Surface wash - brickly debris
- Erosion surface (3a)
- Lensed brown brickly collapse (3a)
- Erosion surface (3b)
- Brickly fill with scattered ash lenses (4a,b)
- Living floor - level IIIA (5a)
- Foundation surface - level IIIA (5c)
- Grey-brown trash (6a,b)
- Redeposited trash (6d)
- Surface of IIIB (6c)
- Soft grey trash with scattered ashy debris (6d)

Master sections, A-B and G-E.

FIGURE 8








Mastersections, H-I and J-K.











Plan of levels IV-III B.

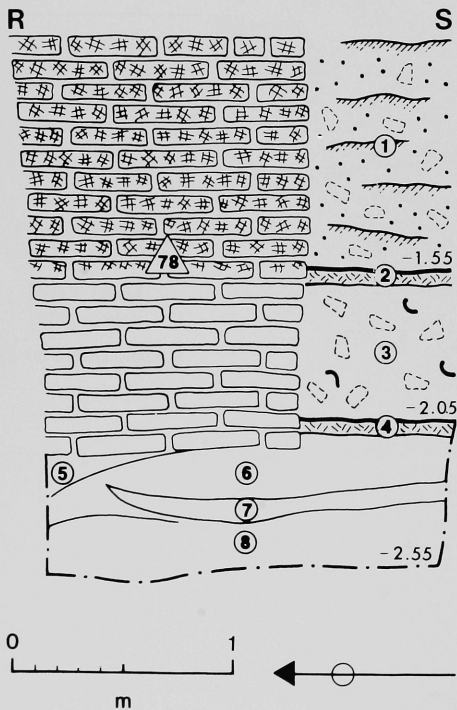
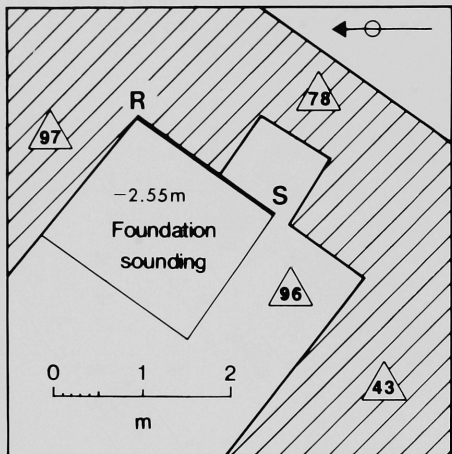
# WALL FOUNDATION SOUNDING IN EE 41

## CONVENTIONS

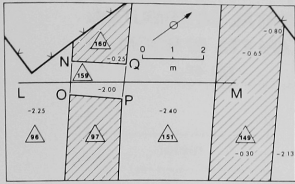
- (1) Cultural strata number (cf. Table 3)
-  Feature number
-  Limit of excavation
-  Evidence of IVA fire
-  Charcoal
-  Grey ash

## LAYER DESCRIPTIONS

-  ① Soft burned red bricky fill (9a,7b)
-  ② IVa living floor (10a)
-  ③ IVa remodeling layer: intentionally deposited loosely packed grey-brown bricky rubble with sherds (12)
-  ④ IVb living floor (14)
-  ⑤ Light grey trash (15)
-  ⑥ Dark grey fill (15)
-  ⑦ Yellow lens (15)
-  ⑧ Light grey trash (15)

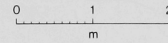
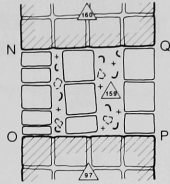


Wall foundation sounding.

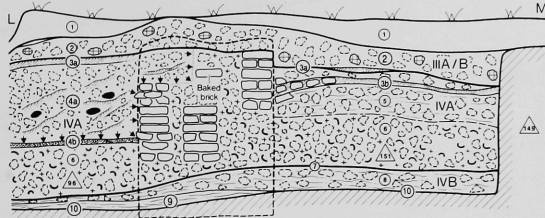
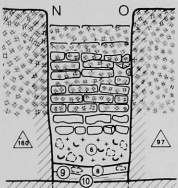


SECTIONS L – M, N – O AND P – Q

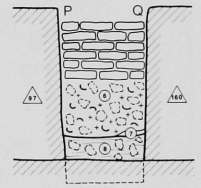
BUILDING LEVEL IVA REMODELING  
OF LEVEL IVB ARCHITECTURE



SOUTH SIDE FEATURE 159



NORTH SIDE FEATURE 159



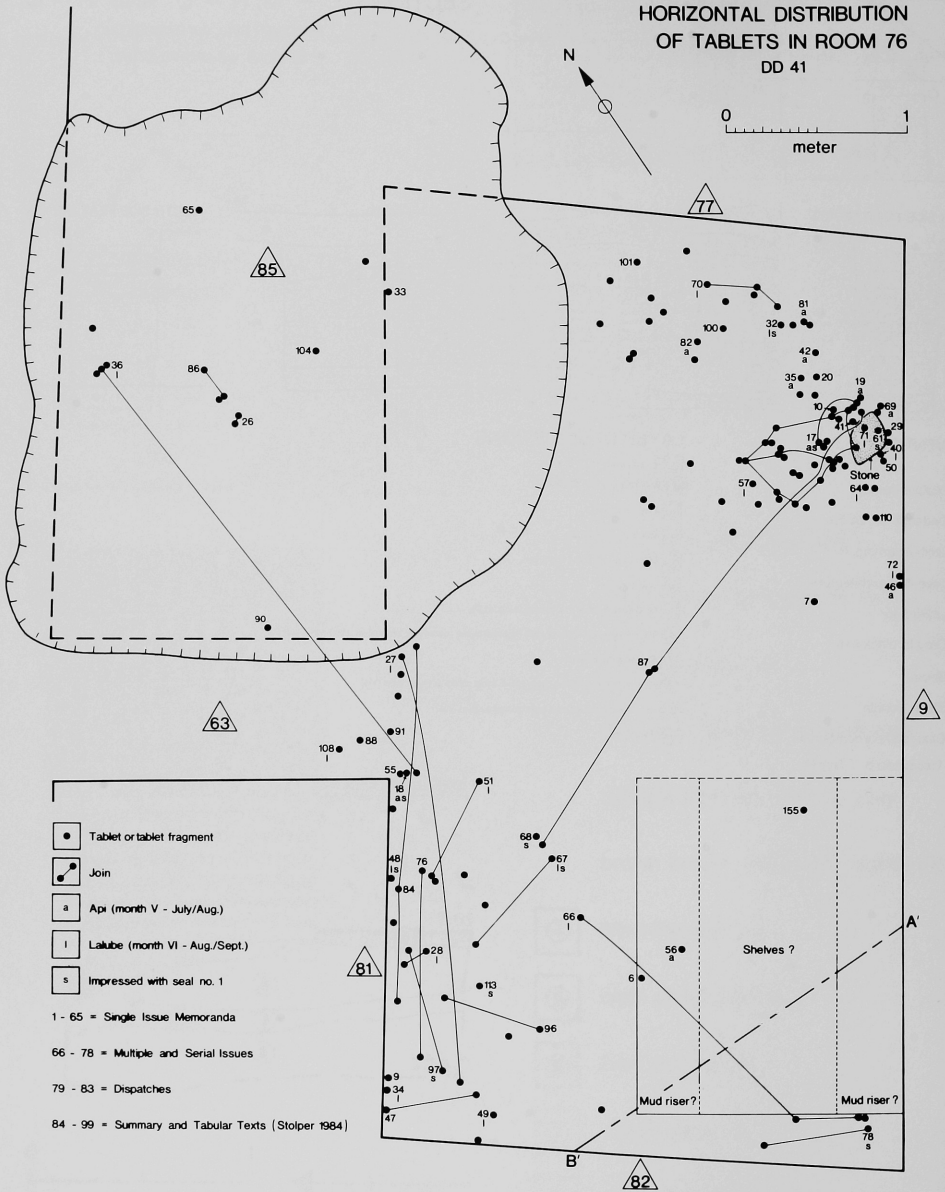
CONVENTIONS

- Feature number
- Evidence of IVA fire
- Limit of burning
- Level IVB architecture
- Living floor
- Grey to black ash
- Sherd
- Stone/pebble
- Charcoal/burned beam
- Cultural strata cf. ( Table 3 )

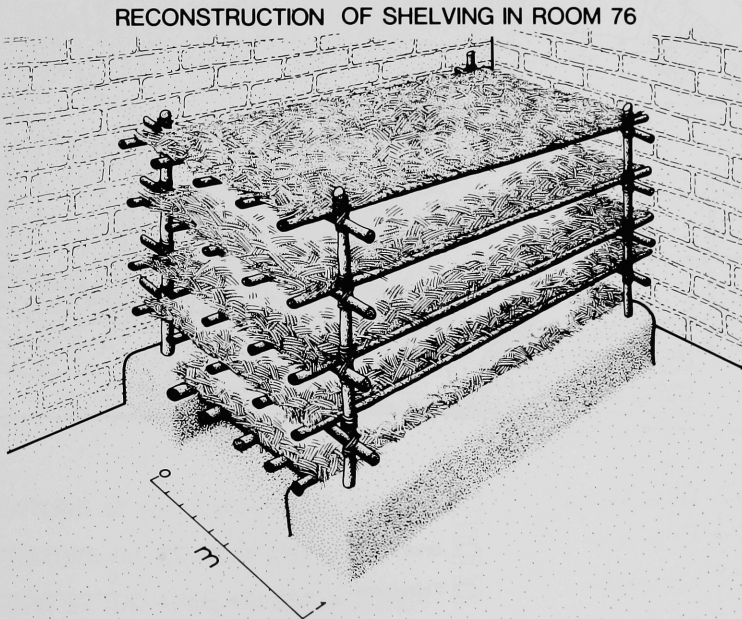
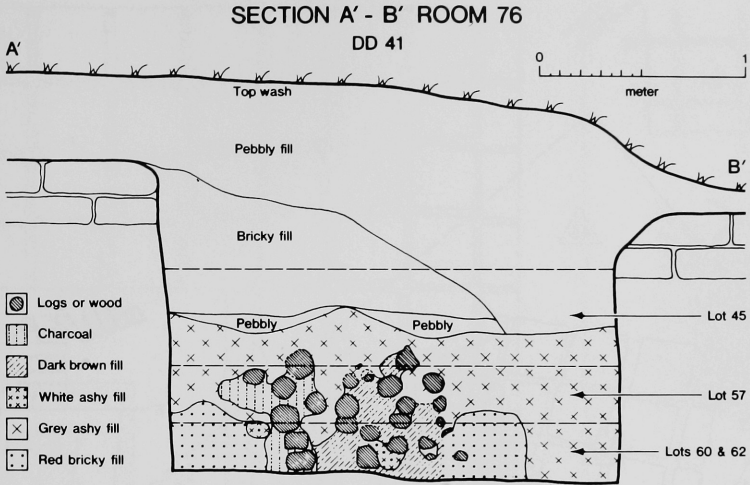
LAYER DESCRIPTIONS

- ① Surface wash (1)
- ② Brown bricky fill with stones (4c)
- ③ Ashy surface (5a)
- ④ Foundation surface (5c)
- ④a Soft burned red bricky fill (7b, 9a)
- ⑥ IVA floor (10a)
- ⑤ Lensed bricky debris with water laid surfaces (7a)
- ⑥ IVA remodeling layer; intentionally deposited loosely packed grey-brown bricky rubble with sherds (12)
- ⑦ Erosion surface (12)
- ⑧ Hard packed yellow-brown clayey fill with bricks and water laid surfaces (13a)
- ⑨ Grey fill with scattered trash and water laid surfaces (13a)
- ⑩ Floor (14a)

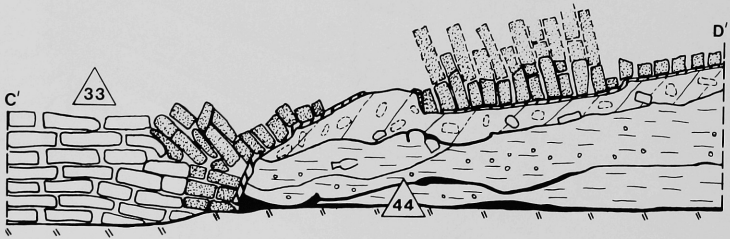
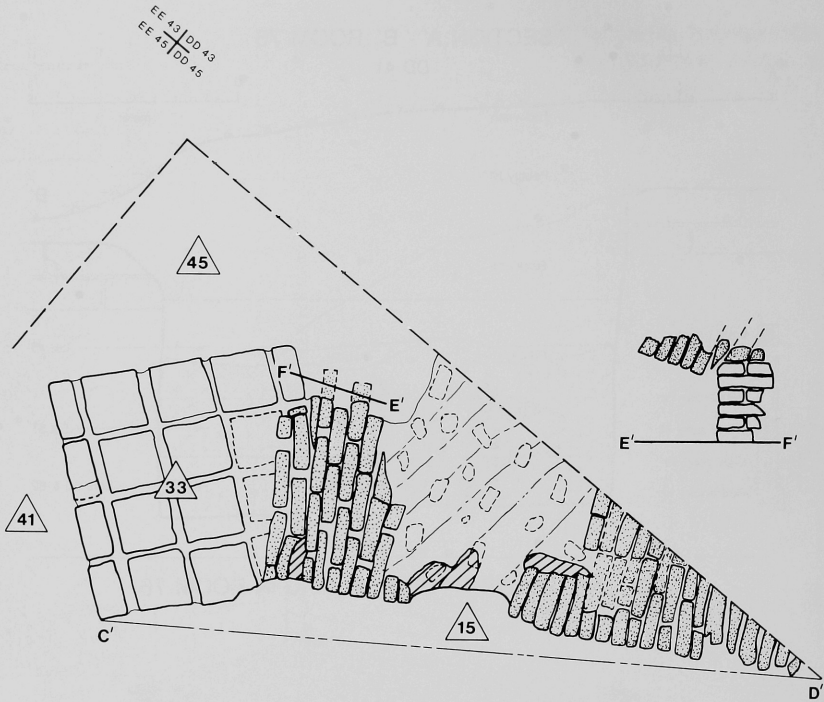
Section through door 159.







Horizontal distribution of tablets in room 76.

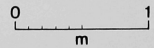


Section through room 76 and reconstruction of shelves.



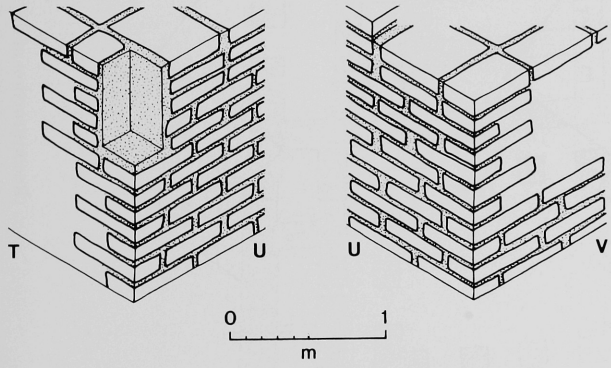
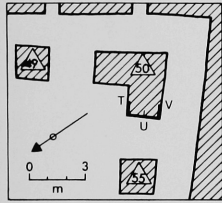
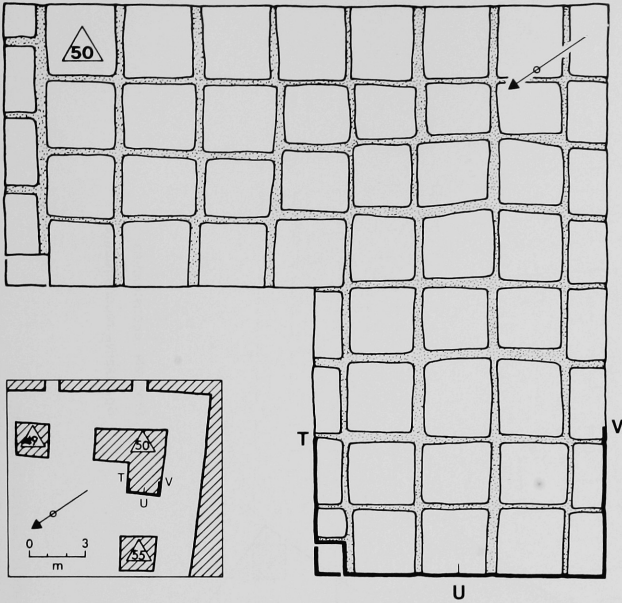
-  Burned plaster
-  Bricky fill
-  Charcoal
-  Black ash

-  Silt
-  Brick in place
-  Fallen brick



Collapsed pillar 33 in DD 45

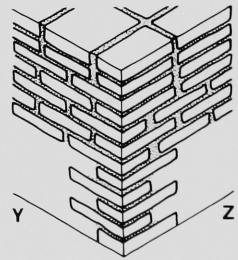
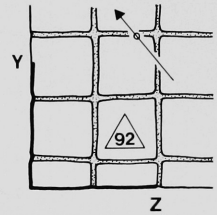
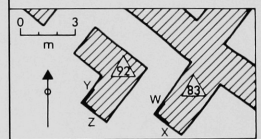
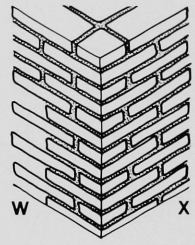
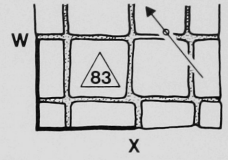




FEATURE 50 (DD 43) CORNER PIER

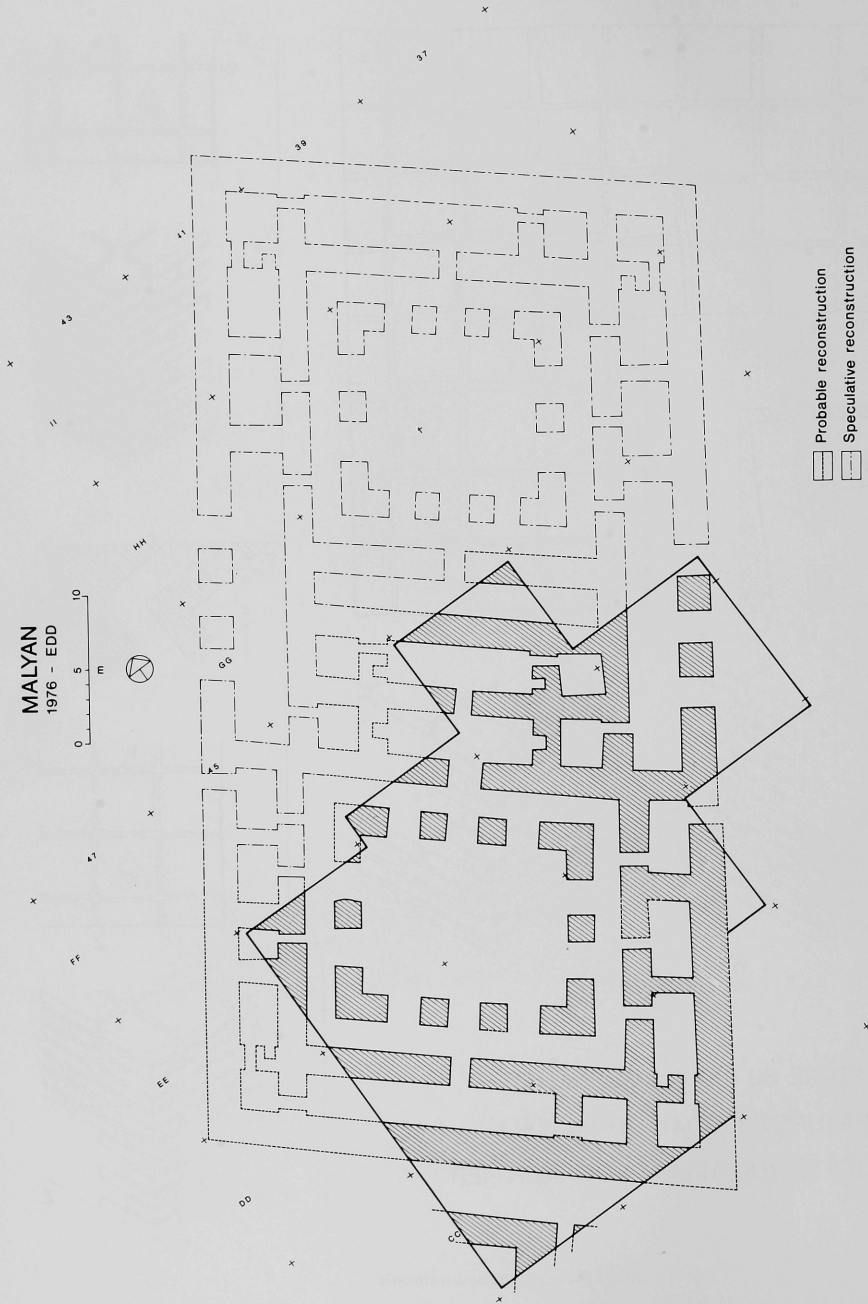
FEATURE 83 (DD41) ROOM WALL

FEATURE 92 (DD 41/EE 41) CORNER PIER



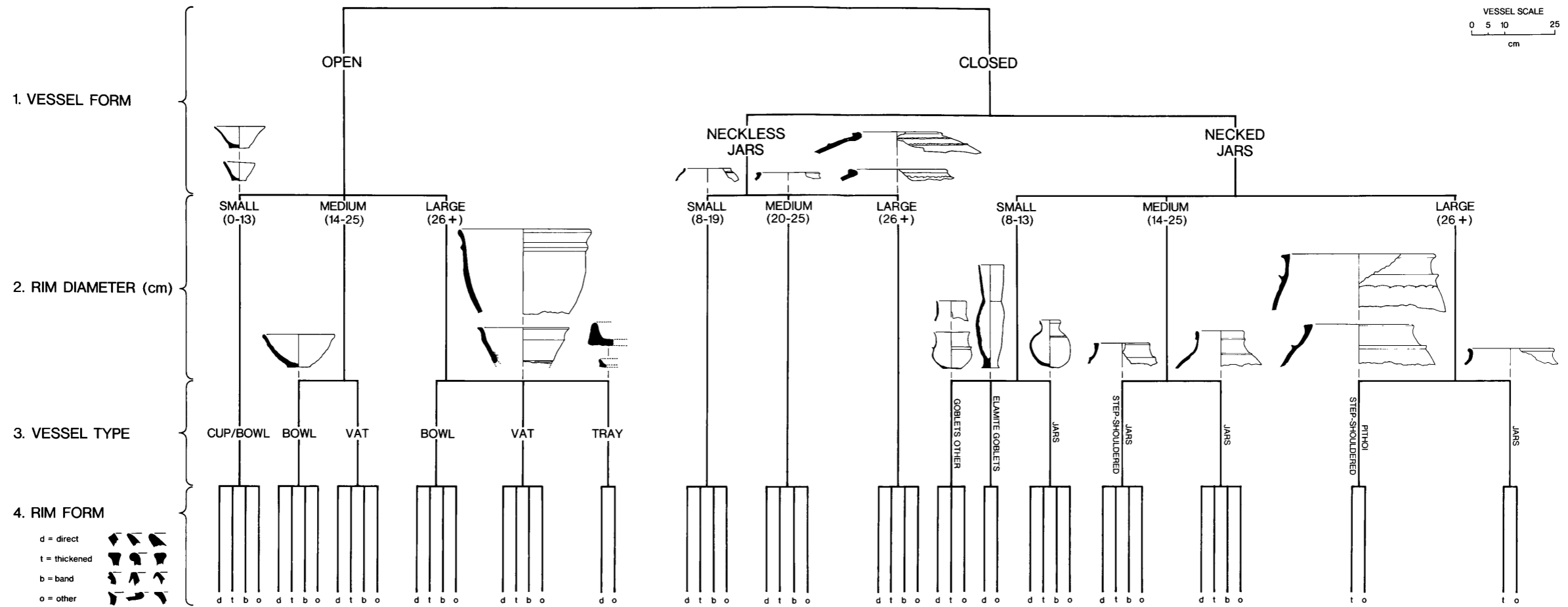
Level IVA construction details.

FIGURE 16



Reconstruction of the Middle Elamite building.

MALYAN EDD BASIC BUFF WARE TYPOLOGY



Buff ware vessel types.

FIGURE 18

## CONICAL AND HEMISPHERICAL BOWLS

Mf. No.	Find Spot	Description	References
1	5224 FF 41, Lot 46 151 ROOM 4A 9A 26	Buff ware (7.5 YR 8/4); chaff temper, wheel corrugations. (see Pl. 9:1) IVA.	Susa: Miroschedji 1981a, fig. 17:7, VR II 9
2	6187 FF 41, Lot 65 159 DOOR 4B 13 48	Reddish-yellow buff ware (7.5 YR 7/6), incompletely oxidized; chaff temper; interior traces of bitumen; wheel corrugations. IVB.	
3	DD 43, Lot 48 045 COUR 4A 9B 26	Light orange-buff ware, gray core; fine mineral temper. IVA.	
4	5142 FF 41, Lot 44 153 DOOR 4A 9A 26	Buff ware, black core, uneven surface color (7.5 YR, 6/4), wheel corrugations; matt finish; string-cut base. IVA.	Susa: Miroschedji 1981a, fig. 11:4, VR II 10; Nippur: Armstrong 1989, fig. 62:1 Type 2
5	6073 FF 41, Lot 60 154 ROOM 4B 13 23	Coarse buff ware (7.5 YR 8/4); chaff and some mineral temper; string-cut base. IVB.	
6	EE 43, Lot 16 045 COUR 4A 9B 26	Buff ware (10 YR 8/3); partly volatilized heavy chaff temper with some sand; self slip. Possible traces brown paint on rim. IVA.	Susa: Miroschedji 1981a, fig. 19:9, VR II 13
7	EE 41, Lot 29 094 DOOR 4A 7B 27	Brown-buff ware (5 YR 7/6), incompletely oxidized; chaff temper with some white grits; self slip, wheel corrugations. IVA.	Susa: Gasche 1973, Pl. 16, VR AXI 36; Tell Imlihiye: Boehmer and Dämer 1986: Tafel 28:20
8	EE 41, Lot 28 096 ROOM 4B 13 26	Buff ware (7.5 YR 6/4), incompletely oxidized; chaff temper with some white grits; self slip; wheel corrugations. IVB.	Susa: Miroschedji 1981a, fig. 18:10, VR II 8
9	DD 41, Lot 59 060 CRDX 4A 9A 26	Compact orange-buff ware (5 YR 7/4), incompletely oxidized; coarse mineral temper with some volatilized chaff; wet smoothed. IVA.	Tell Zubeidi: Boehmer and Dämer 1985: Tafel 119:243
10	EE 41, Lot 16 045 COUR 4A 9B 26	Buff ware, volatilized chaff temper with some sand temper; red slip. IVA.	Susa: Miroschedji 1981a, fig. 10:9, VR II 13
11	CC 45, Lot 20 025 KUCH 4A 7C 23	Orange-buff ware (5 YR 7/6), incompletely oxidized; chaff or other volatilized vegetable temper, self slip, wheel corrugations. IVA.	Susa: Miroschedji 1981a, fig. 17:9, VR II 9
12	CC 45, Lot 20 025 KUCH 4A 7C 23	Orange-buff ware (5 YR 7/6), chaff and mineral temper; interior smoke blackened. IVA.	Susa: Miroschedji 1981a, fig. 11:18, VR II 11
13	CC 45, Lot 24 025 KUCH 4A 7C 23	Red-buff ware (7.5 YR 7/4), incompletely oxidized; chaff temper, red slip (2.5 YR 6/6) exterior. IVA.	
14	CC 45, Lot 20 025 KUCH 4A 7C 23	Brown-buff ware (7.5 YR 7/6), gray core; chaff temper, volatilized; brown red slip (5 YR 7/6). IVA.	
15	EE 43, Lot 15 045 COUR 4A 7A 48	Green-buff ware (10 YR 8/2); mineral and chaff temper; self slip. IVA.	
16	CC 45, Lot 20 025 KUCH 4A 7C 23	Green-buff ware (2.5 Y 8/6); chaff and mineral temper; self slip; exterior grooved "swag decoration." IVA.	

CONICAL AND HEMISPHERICAL BOWLS

FIGURE 18

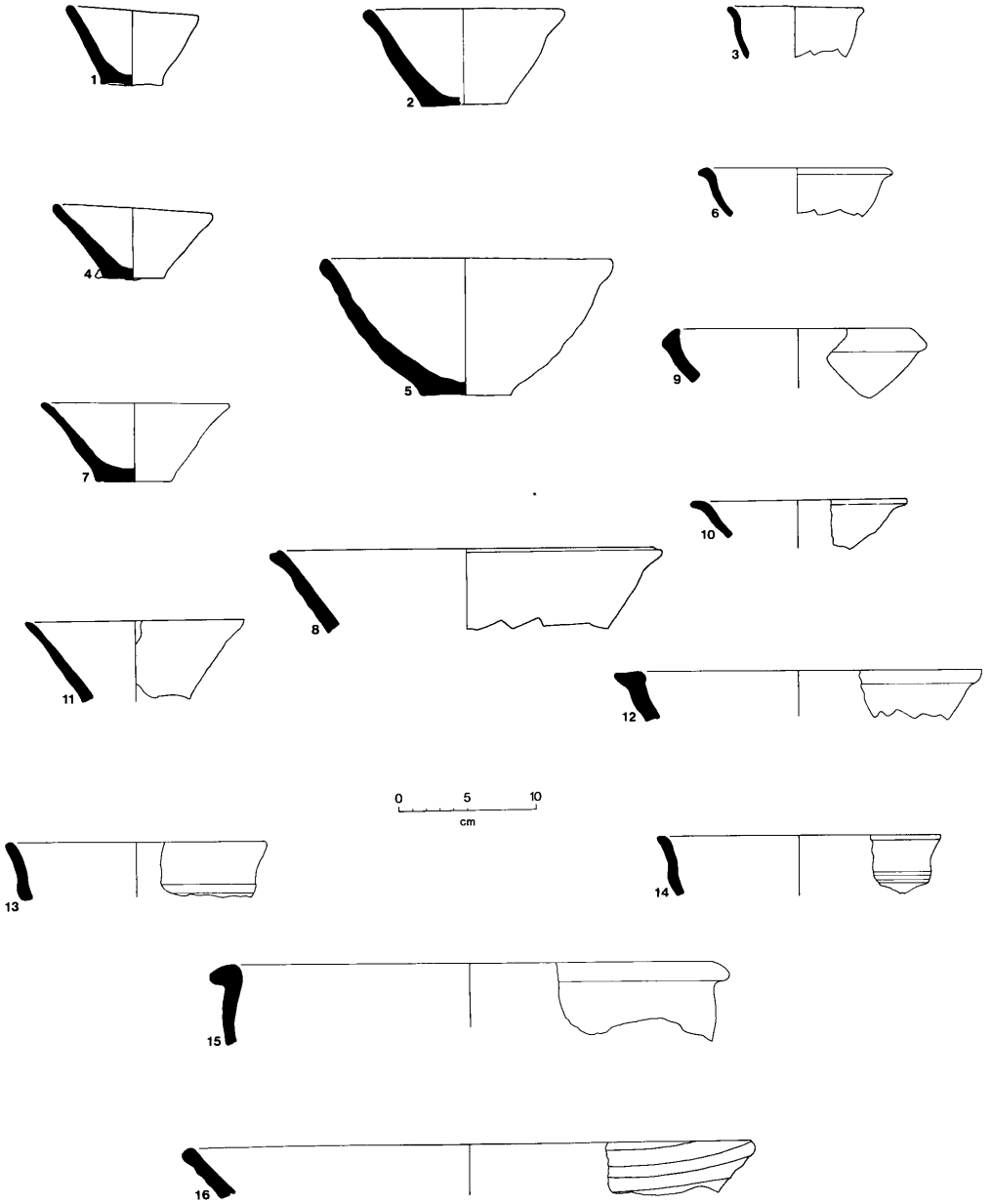


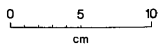
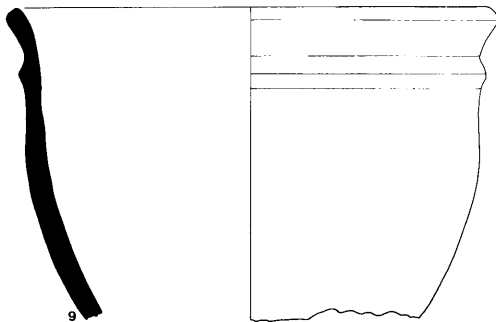
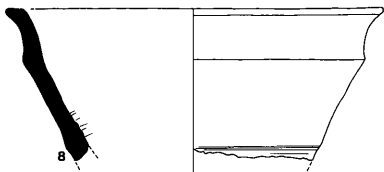
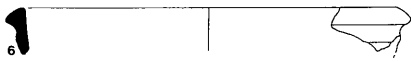
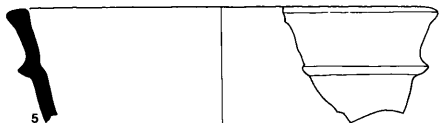
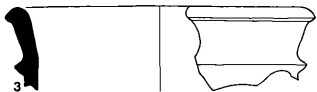
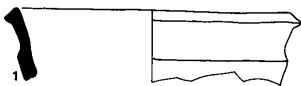
FIGURE 19

## VATS OR LARGE OPEN FORMS

Mf. No.	Find Spot	Description	References
1	DD 43, Lot 35 060 CRDX 4A 7B 35	Light orange-buff ware, gray core; chaff and grit temper. IVA.	Susa: Miroschedji 1981a, fig. 20:6, VR II 8
2	DD 45, Lot 17 026 ROOM 4A 7B 27	Buff ware (5 YR 7/3); fine mineral and chaff temper; wet-smoothed. IVA.	
3	DD 43, Lot 51 015 CRDX 4A 9A 26	Compact buff ware (5 YR 7/4); core incompletely oxidized; chaff and some mineral temper. IVA.	Susa: Miroschedji 1981a, fig. 15:4, VR II 10-11
4	CC 45, Lot 20 025 KUCH 4A 7C 23	Brown-buff ware (7.5 YR 7/6); some mineral and heavy chaff temper, only partly volatilized; self slip. IVA.	
5	DD 45, Lot 17 026 ROOM 4A 7B 27	Buff ware (5 YR 6/6); fine mineral and chaff temper; wet-smoothed. IVA.	Susa: Miroschedji 1981a, fig. 11:10, VR II 11
6	DD 45, Lot 16 026 ROOM 4A 7B 27	Compact brown buff ware (5 YR 8/3), incompletely oxidized; chaff and mineral temper; buff slip (2.5 Y 8/2); overfired. IVA.	
7	CC 45, Lot 20 025 KUCH 4A 7C 23	Orange-buff ware (5 YR 8/4); chaff temper, mostly volatilized; self slip. IVA.	Susa: Miroschedji 1981a, fig. 20: 6, VR II 8
8	EE 45, Lot 32 139 CRDX 4A 9A 21	Brown-buff ware, incompletely oxidized; chaff and grit temper; wheel scoring on lower body. IVA.	
9	CC 43, Lot 13 012 ROOM 4A 9A 25	Pink buff ware; chaff and grit temper. IVA.	Malyan: BB 33; Susa: Gasche 1973, Pl. 44:2, VRAXI
10	DD 41, Lot 74 076 ROOM 4A 9A 26	Extremely coarse buff ware (7.5 YR 7/4), poorly levigated clay contains pieces of sherd, rock, clay, etc.; surface smoothed. IVA.	
11	DD 41, Lot 57 076 ROOM 4A 7B 27	Coarse buff ware (5 YR 7/3), incompletely oxidized; heavy chaff and some mineral temper; surface smoothed. IVA.	

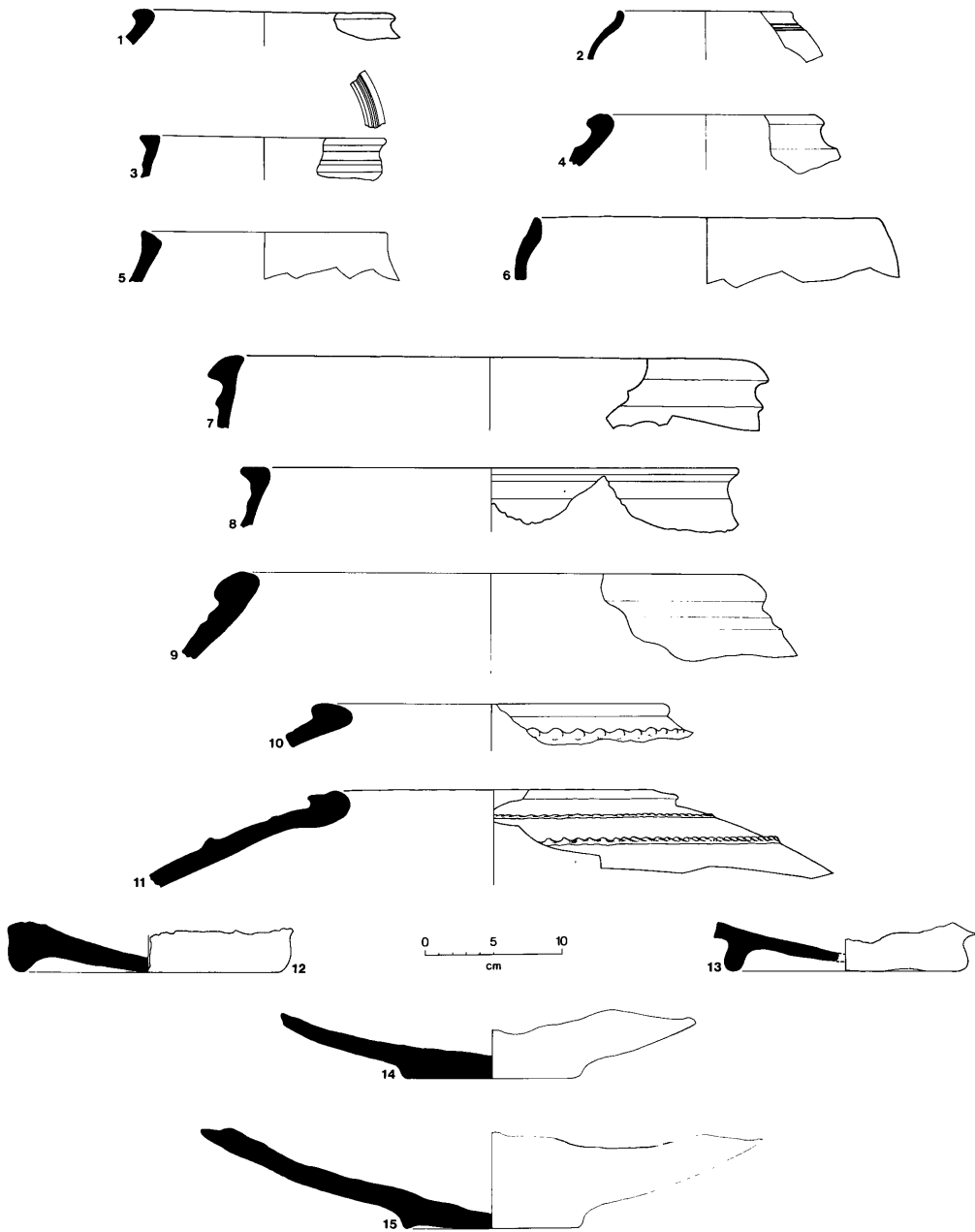
VATS OR LARGE OPEN FORMS

FIGURE 19



Mf. No.	Find Spot	Description	References
1	DD 41, Lot 62 076 ROOM 4A 9A 26	Pink-buff ware (5 YR 6/4), core incompletely oxidized; fine chaff and mineral temper; all-over red-brown slip or paint (5 YR 5/6). Possibly Kaftari. IVA.	
2	DD 41, Lot 57 060 CRDX 4A 9A 26	Pink-buff ware (10 YR 7/3); mineral and chaff temper; black-brown slip; incised decoration. IVA.	
3	DD 45, Lot 16 026 ROOM 4A 7A 27	Compact brown-buff ware (10 YR 8/4); sand and some chaff temper; buff slip (2.5 Y 8/4). IVA.	
4	EE 41, Lot 28 096 ROOM 4B 13 26	Buff ware (7.5 YR 7/4), core incompletely oxidized; chaff, mineral, and sherd temper. IVA.	
5	CC 45, Lot 24 025 KUCH 4A 9C 23	Red-brown buff ware (5 YR 7/6), incompletely oxidized; chaff and mineral temper; self slip. IVA.	
6	DD 43, Lot 34 045 COUR 4A 8 42	Red-orange buff ware, incompletely oxidized; mineral temper. IVA.	
7	DD 41, Lot 57 076 ROOM 4A 7B 27	Compact pink-buff ware (5 YR 7/4), incompletely oxidized; mineral, sherd, and some chaff temper; self slip. IVA.	
8	CC 45, Lot 22 025 KUCH 4A 9A 26	Pink-buff ware (5 YR 8/4), incompletely oxidized; mineral, chaff, and some sherd temper; self-slip. Sherds found in CC45 Lot 20.(IVA).	
9	EE 41, Lot 28 096 ROOM 4B 13 26	Buff ware (5 YR 7/4), core incompletely oxidized; sherd, mineral, and chaff temper; self slip. IVB.	
10	CC 45, Lot 24 025 KUCH 4A 9C 26	Fire-blackened buff ware (7.5 YR 7/6); heavy chaff temper, mostly volatilized; self slip; finger-impressed band. IVA.	
11	EE 41, Lot 28 096 ROOM 4B 13 26	Fire-blackened buff ware; heavy chaff, some sherd and mineral temper; fingernail and finger-impressed ridges. IVB.	
12	CC 45, Lot 9 025 KUCH 4A 7C 23	Brown-buff ware (7.5 YR 7/6); very heavy chaff and mineral temper; pink-buff slip (5 YR 7/4). IVA.	
13	CC 45, Lot 20 025 KUCH 4A 7C 23	Brown-buff ware (5 YR 6/6), black core; heavy chaff and mineral temper; self slip. IVA.	
14	CC 45, Lot 24 025 KUCH 4A 9C 26	Red ware (5 YR 7/6), black core; chaff and some mineral temper; self slip; extra layer of clay and straw added inside. IVA.	
15	CC 45, Lot 20 025 KUCH 4A 7C 23	Brown-buff ware (5 YR 6/6), interior not completely oxidized; chaff, mineral, and sherd temper; self slip, interior wheel corrugations. IVA.	

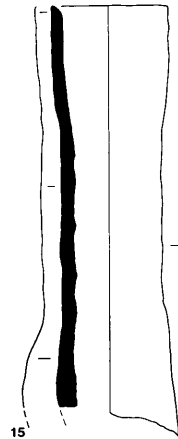
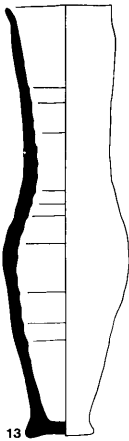
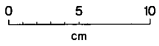
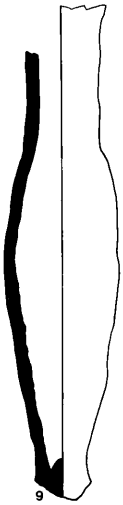
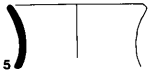
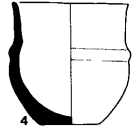
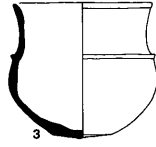
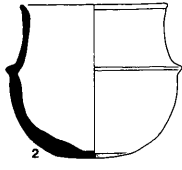
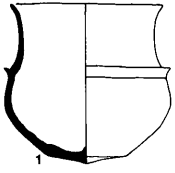




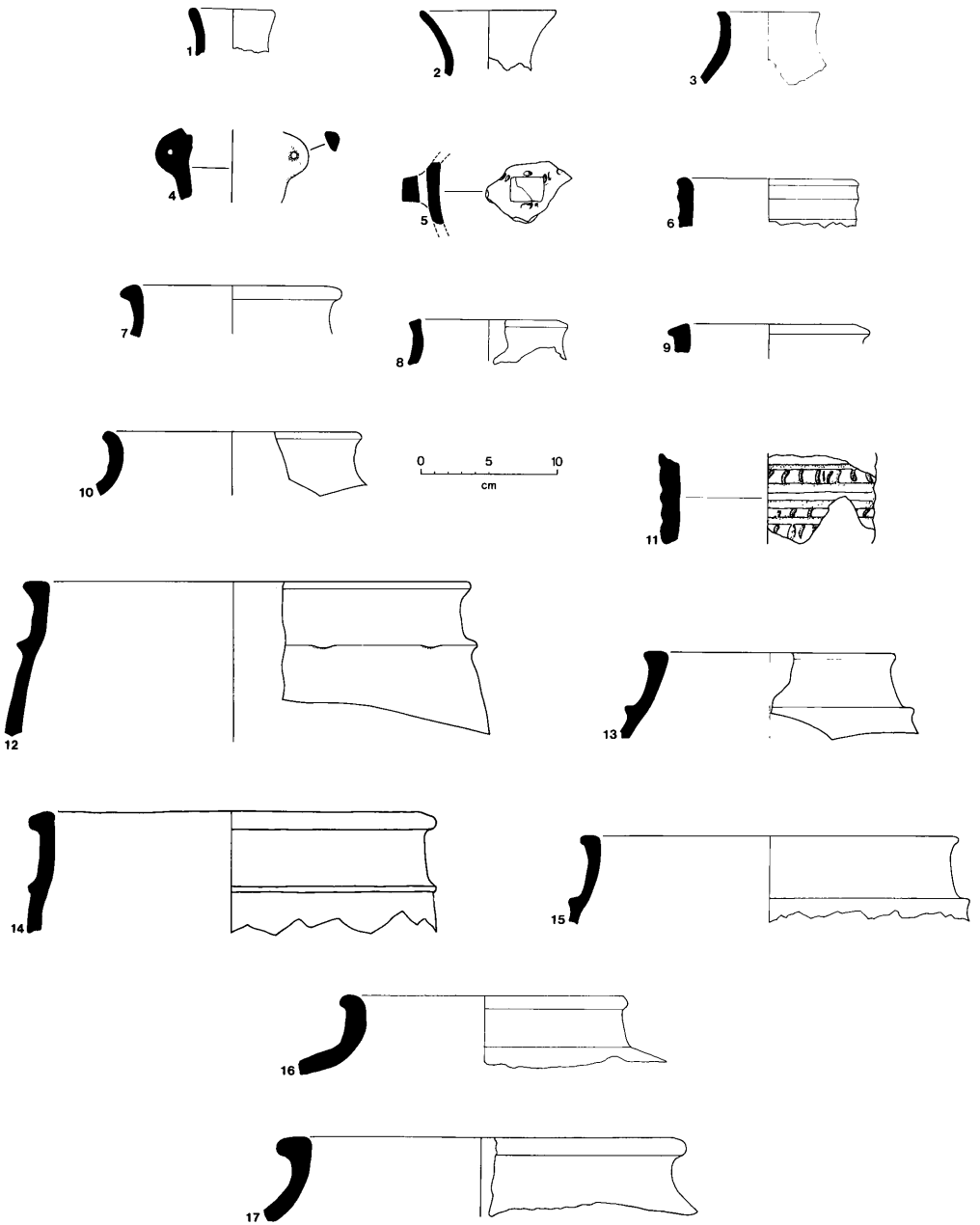
Mf. No.	Find Spot	Description	References	
1	1240	DD 41, Lot 46 069 ROOM 4A 9A 26	Red-buff ware; grit and some straw temper; white slip; firing blush on one side. IVA.	Susa: Gasche 1973, Pl. 31:7; VR B I
2		FF 41, Lot 64 159 DOOR 4A 7A 48	Orange-buff ware. IVA.	Susa: Miroschedji 1981a, fig. 22:6, VR II 8
3	1923	CC 45, Lot 20 025 KUCH 4A 7C 23	Fine orange-buff ware, gray core; possibly self slipped; firing blush on the side. (see Pl. 9:8). IVA.	Susa: Miroschedji 1981a, fig. 12:14, VR II 10; 1981b fig. 48:9 Ap-VR P26-28, tomb 2346
4	6186	FF 41, Lot 65 159 DOOR 4B 13 48	Coarse pink-buff ware (7/5 YR 7/4); chaff temper. (see Pl. 9:9). IVB.	Susa: Miroschedji 1981, fig. 22:7, VR II 8
5		DD 43, Lot 36 057 DOOR 4A 7B 35	Buff ware (7.5 YR 7/4); chaff and some mineral temper; traces of bitumen coating interior. IVA.	
6		CC 45, Lot 20 025 KUCH 4A 7C 23	Compact red-buff ware (2.5 YR 6/6); fine chaff and mineral temper; self slip. IVA.	
7		CC 43, Lot 31 010 ROOM 4A 9A 26	Fine red-buff ware (2.5 YR 6/6); mineral and chaff temper; cream slip (10 YR 8/2). IVA.	
8		CC 45, Lot 22 023 DOOR 4A 9A 25	Brown-buff ware; chaff and sand temper, unburnt chaff visible in paste; orange-buff slip interior and exterior. (see Pl. 9:7). IVA.	
9	1197	DD 41, Lot 45 076 ROOM 4A 7B 27	Buff ware (7.5 YR 6/4); chaff temper; wet- smoothed; body shape irregular (see Pl. 9:6). IVA.	Malyan: Carter and Stolper 1976: 40, fig. 1
10	1196	DD 43, Lot 20 059 DOOR 4A 7B 35	Reddish-buff ware, black core; chaff and mineral temper. IVA.	Malyan: Carter and Stolper 1976: 40, fig. 2.
11	428	EE 41, Lot 12 096 ROOM 4A 7B 27	Buff ware. IVA.	Susa: Miroschedji 1981b, fig. 48:7, AP- VR P26-8, tomb 2346
12		DD 43, Lot 57 060 CRDX 4A 7B 27	Pink-buff ware (5 YR 7/3), incompletely oxidized; chaff and mineral temper; self slip; interior and part of exterior fire-blackened. (see Pl. 9:4). IVA.	Chogha Zanbil: Ghirshman 1968: Pl. 96, GTZ 41, Temple of Ishnikarab
13	1456	CC 43, Lot 24 005 ROOM 4A 9A 26	Orange-buff ware (5 YR 6/6); finger marks on surfaces, straw and mineral temper; body shape irregular. IVA.	Susa: Miroschedji 1981a, fig. 12:15-17; VR II 10 and parallels listed there
14		DD 41, Lot 86 060 CRDX 4A 9A 26	Orange-buff ware (5 YR 6/6); mineral and chaff temper; interior and part of exterior fire- blackened. IVA.	
15		DD 41, Lot 62 076 ROOM 4A 9A 26	Orange-buff ware IVA.	Susa: Miroschedji 1981a, fig. 12:16; VR II 10

ELAMITE AND OTHER GOBLET

FIGURE 21



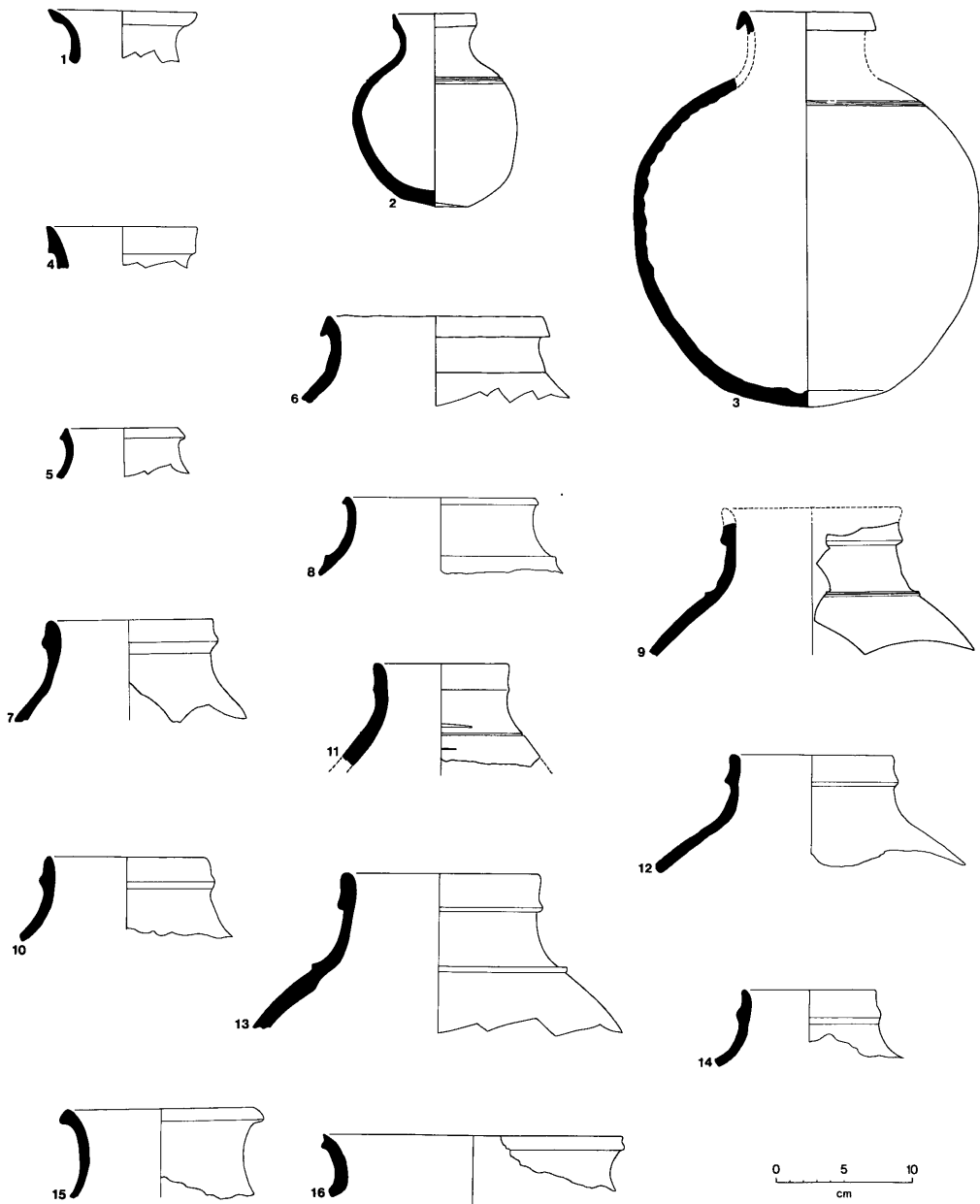
Mf. No.	Find Spot	Description	References
1	DD 45, Lot 16 026 ROOM 4A 7B 27	Compact pink-brown buff ware (5 YR 7/4); chaff and grit temper; self slip. IVA.	
2	CC 45, Lot 20 025 KUCH 4A 7C 23	Compact brown buff ware; sand and chaff temper; cream slip. IVA.	
3	DD 45, Lot 18 045 COUR 4A 9B 26	Compact pink buff ware (5 YR 7/4); mineral and chaff temper; buff slip (5B YR 7/6) exterior. IVA.	
4	DD 43, Lot 49 060 CRDX 4A 9A 26	Buff ware, grit and straw temper. IVA.	
5	DD 43, Lot 59 0 1 32	Buff ware; impressed rope design.	
6	DD 41, Lot 62 076 ROOM 4A 9A 26	Orange buff ware (5 YR 7/4), black core, chaff and some calcite temper. IVA.	
7	DD 43, Lot 49 060 CRDX 4A 9A 26	Orange buff ware; fine chaff and mineral temper; self slip. IVA.	
8	CC 45, Lot 9 025 KUCH M 4A 7C 23	Brick-red ware; fine grit and chaff temper; self slip (?), brown paint on rim. IVA.	Susa: Gasche 1973, Pl. 31:4, VR AXI
9	DD 43, Lot 45 015 CRDX 4A 9A 26	Buff ware; fine chaff and mineral temper. IVA.	
10	DD 45, Lot 12 045 COUR 4A 8 42	Buff ware (7.5 YR 7/4); chaff and mineral temper. Surface worn. IVA.	
11	DD 41, Lot 28 076 ROOM 4A 7A 35	Buff ware; straw temper; excised fingernail decoration. IVA.	
12	EE 41, Lot 22 096 ROOM 4A 9A 26	Buff ware (5 YR 7/6) incompletely oxidized; straw and mineral temper; self slip. IVA.	Susa: Miroschedji 1981a, fig. 15:19, VR II 10; Malyan, BB 33, unpublished
13	EE 41, Lot 14 095 CRDX 4A 7B 27	Buff ware (10 YR 7/3); heavy chaff and mineral temper; surface burned. IVA.	Susa: Miroschedji 1981a, fig. 15:16, VR II 10.
14	CC 43, Lot 13 012 ROOM 4A 9A 25	Orange buff ware, incompletely oxidized; surface burnt. IVA.	
15	EE 41, Lot 28 096 ROOM 4B 13 26	Orange-buff ware. IVB.	
16	CC 45, Lot 24 025 KUCH 4A 9C 26	Red-orange ware (5 YR 7/6), very little oxidation; heavy chaff temper; self slip. IVA.	
17	CC 45, Lot 24 025 KUCH 4A 9C 26	Red-orange ware (2.5 YR 6/8), black core; heavy chaff, some mineral and sherd temper, cream slip (7.5 Y 8/2). IVA.	



Mf. No.	Find Spot	Description	References
1	CC 45, Lot 20 025 KUCH 4A 7C 23	Red-brown ware (5 YR 7/6), black core; heavy but finely prepared chaff temper; brown-buff slip; deformed in secondary firing. Pieces in CC 45, Lot 24. IVA.	
2	1718 DD 45, Lot 13 015 CRDX 4A 9A 26	Buff ware; chaff and mineral temper; heavily fire-blackened in a reducing atmosphere; incised decoration. (see Pl. 10:2). IVA.	Susa: Gasche 1973, Pl. 37:4, AXII 140
3	1198 DD 41, Lot 46 069 ROOM 4A 9A 26	Orange-buff ware, black core; straw and grit temper, buff slip. IVA.	Susa: Miroschedji 1981a, fig. 13: 4, VR II 12
4	CC 45, Lot 24 025 KUCH 4A 9C 26	Brown-buff ware (10 YR 8/3), gray core; chaff temper; self slip. IVA.	Susa: Gasche 1973, Pl. 18:3, AIX 104
5	DD 41, Lot 42 069 ROOM 4A 9A 52	Orange-buff ware (2.5 YR 6/4); coarse chaff and mineral temper; buff slip (10 YR 7/3) with gray smoke stain. IVA.	
6	DD 43, Lot 42 045 COUR 4A 9B 26	Buff ware; coarse chaff and mineral temper; buff slip, gray smoke stain. IVA.	Susa: Miroschedji 1981a, fig. 13:6, VR II 11
7	EE 41, Lot 37 045 COUR 4B 15A 29	Buff ware (7.5 YR 7/4), incompletely oxidized; fine chaff and some mineral temper; self slip (10 YR 6/1). IVB.	
8	CC 45, Lot 24 025 KUCH 4A 9C 26	Brown-buff ware (5 YR 8/4); heavy chaff and some mineral temper; pink buff slip 5 YR 7/6). IVA.	
9	DD 45, Lot 13 015 CRDX 4A 9A 26	Buff ware, heavily fire-blackened in a reducing atmosphere; chaff and mineral temper; plastic decoration. IVA.	
10	CC 45, Lot 9 025 KUCH M 4A 7C 23	Gray ware (10 YR 7/3), black core; heavy chaff temper and some mineral. IVA.	
11	EE 43, Lot 16 045 COUR 4A 9B 26	Buff ware, fire blackened (10 YR 3/1). IVA.	Nippur: Armstrong 1989, fig. 65:12, type 9
12	CC 45, Lot 20 025 KUCH 4A 7C 23	Brick-red ware (2.5 YR 6/8), brown-black core; chaff and mineral temper; cream slip (10 YR 7/6) exterior only (see Pl. 10:1). IVA.	Susa: Miroschedji 1981a, fig. 13:10, VR II 11
13	CC 45, Lot 20 025 KUCH 4A 7C 23	Red-buff ware (5 YR 7/6), incompletely oxidized; mineral, chaff, and sherd temper; self slip. IVA.	Susa: Miroschedji 1981a, fig. 13:12, VR II 10; Malyan: BB 33
14	CC 45, Lot 20 025 KUCH 4A 7C 23	Red-buff ware (5 YR 8/4), black core; heavy chaff and some mineral temper; self slip. IVA.	Zubeidi: Boehmer and Dämmer 1985, Pl. 127:298, type 27
15	EE 41, Lot 28 096 ROOM 4B 13 26	Buff ware (10 YR 7/3); chaff, mineral, and sherd temper; buff (2.5 YR 8/2) slip. IVB.	Nippur: Armstrong 1989, fig. 65:5, type 8
16	CC 45, Lot 9 025 KUCH M 4A 7B 27	Brown-buff ware (5 YR 7/4), black core; chaff and mineral temper; red-brown slip (5 YR 6/6). IVA.	

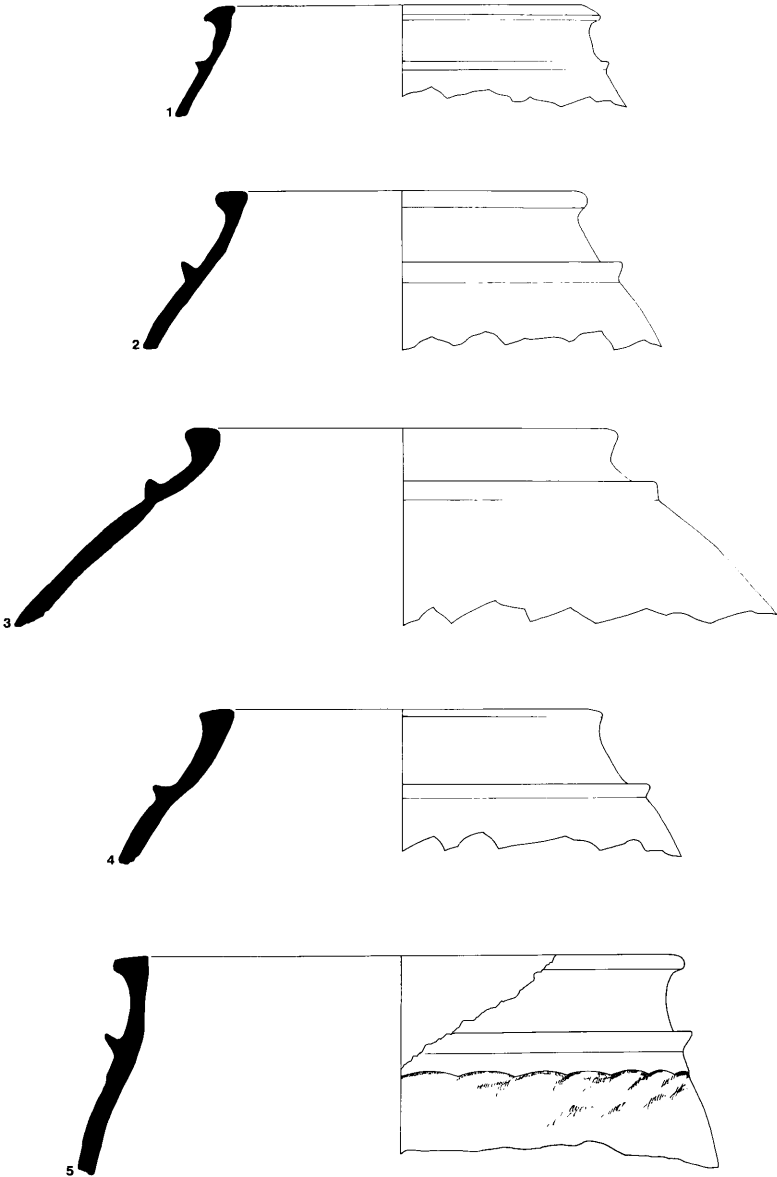
*BAND-RIM JARS*

*FIGURE 23*



Mf. No.	Find Spot	Description	References
1	CC 45, Lot 9 025 KUCH M 4A 7C 23	Brick-red ware (10 R 6/8), gray-black core; chaff and sand temper; slightly deeper red inside. IVA.	Susa: Miroschedji 1981a, fig. 26:3, VR II 9; 1981b, fig 50:6, trench 5244, 7c
2	CC 45, Lot 9 025 KUCH M 4A 7C 23	Brick-red ware (5 YR 7/6), black core; mineral and chaff temper, partly volatilized; self slip. IVA.	Susa: Miroschedji 1981a, fig. 26:1, VR II 9
3	CC 45, Lot 20 025 KUCH 4A 7C 23	Red-brown ware (5 YR 7/6), black core; chaff, mineral, and sherd temper; cream slip (5 YR 7/6) exterior. IVA.	Susa: Miroschedji 1981a, fig. 10:18, VR II 13
4	CC 45, Lot 20 025 KUCH 4A 7C 23	Brown-buff ware (5 YR 7/4), gray-black core; vegetable, mineral, and chaff temper, some partly volatilized; cream slip (10 YR 8/6) exterior (see Pl. 10:3). IVA.	Susa: Miroschedji 1981a, fig. 15:15, VR II 10
5	CC 45, Lot 24 025 KUCH 4A 9C 26	Orange-buff ware (5 YR 8/4), black core; chaff, sherd, and ?? temper; cream slip exterior; body below ridge scraped. IVA.	Susa: Miroschedji 1981a, fig. 15:8, VR 11 10



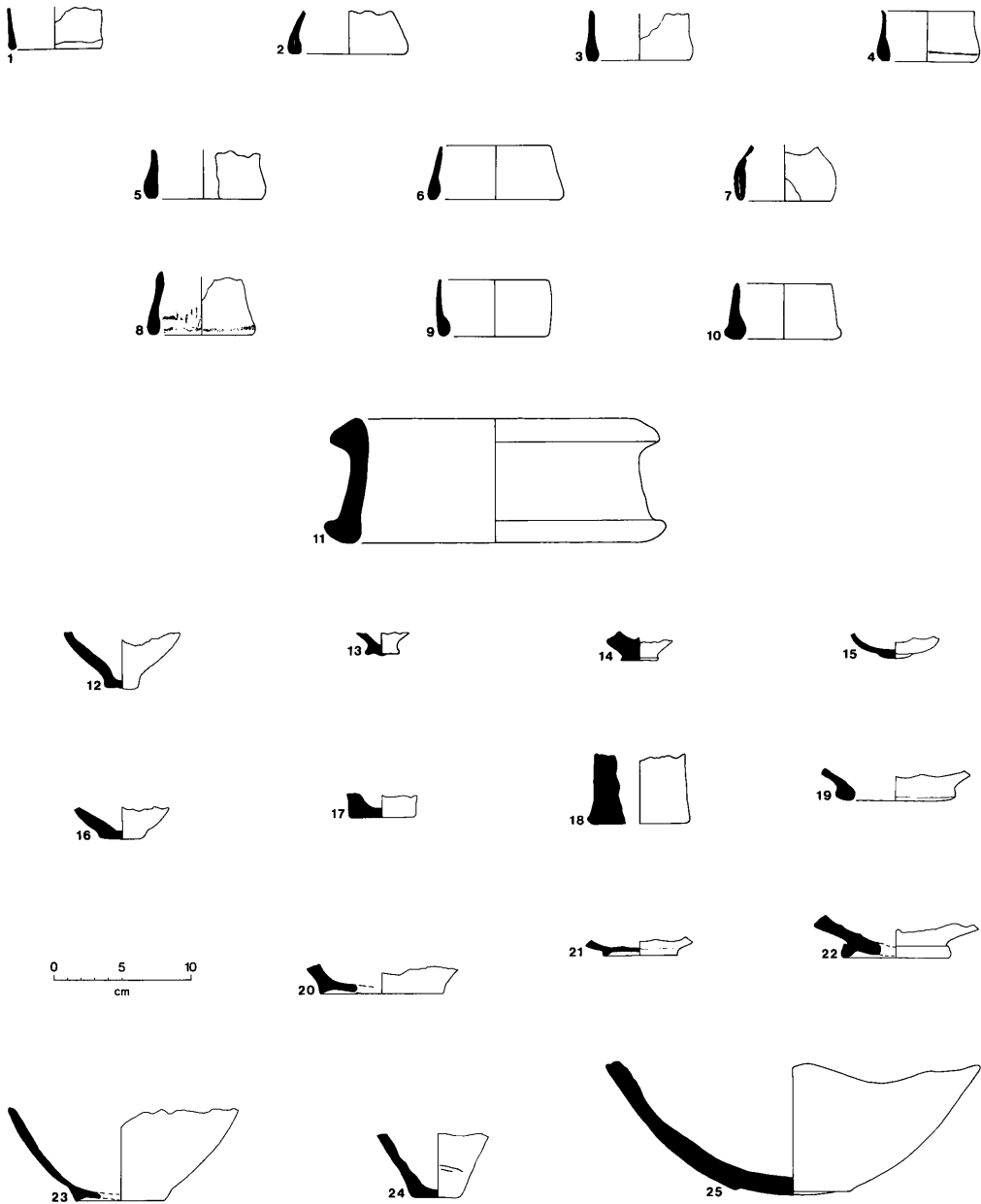


0 5 10  
cm

Find Spot	Description	References
1 EE 41, Lot 16; 061 ROOM M; 4A 7A 35	Fine red ware (2.5 YR 4.5/6); fine mineral temper; secondary surface burning. IVA.	
2 EE 41, Lot 32; 095 CRDX; 4B 12 48	Red buff ware (5 YR 6.5/6), incompletely oxidized; mineral, sherd, and some chaff temper. IVB.	
3 EE 41, Lot 32; 095 CRDX; 4B 12 48	Buff ware secondarily fired to olive-gray (2.5 Y 5/2); chaff and mineral temper; partially vitrified. IVB.	
4 EE 41, Lot 37; 045 COUR; 4B 15A 29	Buff ware (5Y 7/3); mineral temper and some chaff. IVB.	Malyan: BB 33, mf. 4556, unpublished
5 EE 41, Lot 28; 096 ROOM; 4B 13 26	Buff ware secondarily fired black; chaff and mineral temper. IVB.	
6 EE 41, Lot 28; 096 ROOM; 4B 13 26	Light gray buff ware. Overfired. IVB.	Malyan: Sumner 1974, fig. 13f
7 EE 41, Lot 25; 096 ROOM; 4B 13 48	Fine red buff ware (10R 5/8), incompletely oxidized; fine mineral and some chaff temper; slip ?; warped, original shape possibly oval. IVB.	
8 EE 41, Lot 26; 095 CRDX M; 4B 12 35	Red buff ware (2.5 YR 5.5/6); mineral temper; surface smoothed, finger impressions on interior. IVB.	
9 EE 41, Lot 32; 095 CRDX; 4B 12 48	Fine buff ware (5 YR 6.5/6), incompletely oxidized; mineral, sherd, and some chaff temper; warped, original shape possibly oval. IVB.	
10 EE 41, Lot 37; 045 COUR; 4B 15A 29	Very fine dark reddish buff ware; mineral temper; buff slip. IVB.	
11 FF 41, Lot 55; 154 ROOM; 4B 13 23	Buff ware (5 Y 8/3); mineral temper and lime inclusions. mf 5482 IVB.	Susa: Gasche 1973, Pl. 33:9 AXIII
12 CC 45, Lot 20; 025 KUCH; 4A 7C 23	Stump base. Buff ware (5 YR 8/4); chaff, sherd, and fine mineral temper; cream slip (10 R 8/3). IVA.	
13 DD 43, Lot 49; 060 CRDX; 4A 9A 26	Button base. Buff ware, fine mineral temper. IVA.	
14 CC 45, Lot 20; 025 KUCH; 4A 7C 23	Button base. Compact buff ware (5 YR 8/3), heavily smoke blackened; sand and chaff temper; slip? IVA.	
15 EE 41, Lot 28; 096 ROOM; 4B 13 26	Disc base. Fine buff ware (7.5 YR 8/4); fine mineral and chaff temper; cream slip (10 YR 8/3), probably from Qaleh painted vessel. IVB.	
16 DD 45, Lot 16; 026 ROOM; 4A 7B 27	Flat string-cut base. Brown buff ware; sand and chaff temper; buff slip. IVA.	
17 CC 45, Lot 20; 025 KUCH; 4A 7C 23	Flat string-cut base. Brown buff ware (5 YR 7/4); sand and chaff temper; self slip. IVA.	
18 CC 45, Lot 9; 025 KUCH; 4A 7C 23	Perforated string-cut base. Brown-buff ware (5 YR 7/8), incompletely oxidized; mineral, sherd, and chaff temper, some not volatilized; self slip; pierced. IVA.	
19 EE 41, Lot 28; 096 ROOM; 4B 13 26	Funnel base, usually on vats. Pink-buff ware (5 YR 7/4); very fine mineral and chaff temper; cream slip (7.5 YR 8/2). Cf. fig. 40:10. IVB.	Susa: Gasche 1973, Pl. 44:6 AXII
20 DD 45, Lot 16; 026 ROOM; 4A 7B 27	Low-ring base. Compact brown buff ware; sand and a little chaff temper; buff slip. IVA.	
21 EE 41, Lot 28; 096 ROOM; 4B 13 26	Low-ring base. Fine pink-buff ware (5 YR 8/4); fine chaff and mineral temper; self slip; probably from Qaleh painted vessel. IVB.	

*BUFF WARE STANDS AND BASES*

*FIGURE 25*



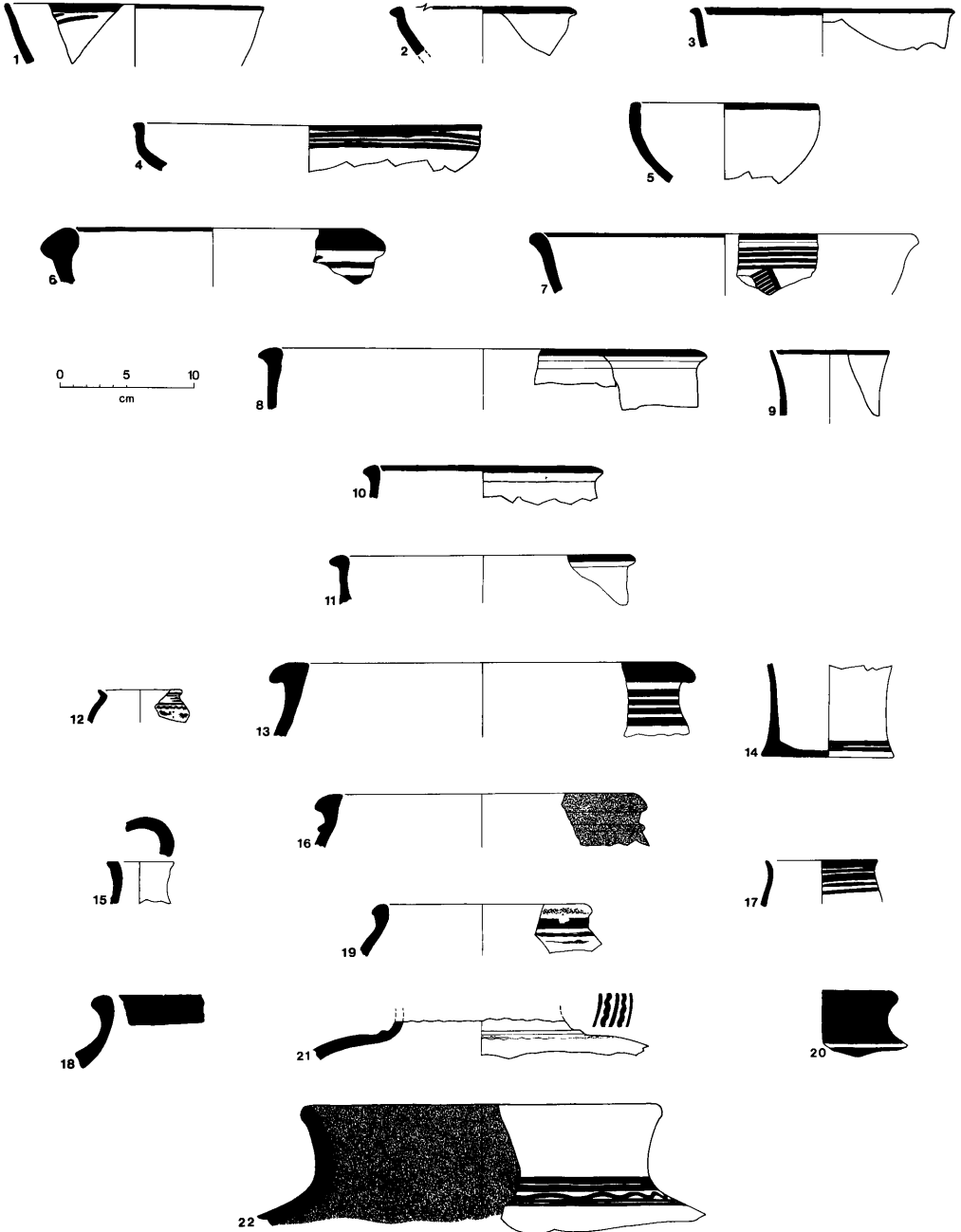


*BUFF WARE STANDS AND BASES, CONTINUED*

*FIGURE 25*

- |    |                                      |   |
|----|--------------------------------------|---|
| 22 | CC 45, Lot 20; 025 KUCH;<br>4A 7C 23 | Low-ring base. Buff ware; sand and some chaff temper; cream slip. IVA.  |
| 23 | CC 45, Lot 11; 026 ROOM;<br>4A 7B 48 | Low-ring base. Brown buff ware; sand temper; buff slip. IVA.  |
| 24 | DD 41, Lot 46; 069 ROOM;<br>4A 9A 26 | Flat base. Compact pink-buff ware (7.5 8/4); fine mineral and chaff temper; surface smoothed, exterior firing blush on base. IVA. |
| 25 | EE 45, Lot 36; 142 DOOR;<br>4A 9A 26 | Low-ring base. Buff ware; mineral and chaff temper; traces of deep red slip; interior irregularly scraped. IVA.                   |

	Find Spot	Description	References
1	EE 41, Lot 28; 096 ROOM; 4B 13 26	Fine brown ware; no visible temper; brown paint. (see Pl. 11:3). IVB.	
2	CC 43, Lot 27; 012 ROOM; 4B 11A 48	Fine buff ware; fine mineral and chaff temper; dark brown paint, d. 25 cm. IVB.	
3	DD 45, Lot 20; 026 ROOM; 4A 9A 26	Fine red ware (2.5 YR 6/6); small amount of fine chaff and mineral temper; self slip; brown paint. IVA.	Malyan: BB 33, unpublished
4	EE 41, Lot 32; 095 CRDX; 4B 12 48	Fine brown-buff ware; no visible temper; brown paint. IVB.	
5	EE 41, Lot 32; 095 CRDX; 4B 12 48	Fine buff ware; no visible temper; brown paint. IVB.	Malyan: BB 33, mf. 3467, unpublished
6	EE 41, Lot 32; 095 CRDX; 4B 12 48	Green-buff ware (5 Y 8/2); fine chaff temper; buff slip; black paint; slightly overfired. IVB.	
7	EE 43, Lot 13; 045 COUR; 4A 7A 35	Red-buff ware (2.5 YR 6/6), brown core; chaff and some mineral temper; red slip (10 R 6/6); faded black paint. IVA.	
8	EE 41, Lot 28; 96 ROOM; 4B 13 26	Fine red-buff ware (10 YR 7/2), incompletely oxidized; mineral and some fine chaff temper, self slip (5 YR 6/6); red-brown paint. Joins with sherd from EE 41, Lot 38, 061 ROOM, 4B 11A 42. IVB.	
9	CC 43, Lot 27; 012 ROOM; 4B 11A 48	Fine orange-buff ware; no visible temper; dark red paint. IVB.	
10	CC 43, Lot 26; 017 DOOR; 4A 9A 48 M	Light orange-buff ware; mineral and some chaff temper; buff slip; dark brown paint. IVA.	
11	EE 41, Lot 32; 095 CRDX; 4B 12 48	Fine buff ware (10 YR 8/3), incompletely oxidized; chaff and mineral temper; wet-smoothed; red-brown painted band on rim. IVB.	
12	DD 45, Lot 20; 026 ROOM; 4A 9A 26	Fine pink-buff ware (5 YR 7/3); sand, mineral and some chaff temper. Surface faded. IVA.	
13	EE 41, Lot 28; 96 ROOM; 4B 13 26	Compact buff ware (10 YR 7/3); sand, mineral, and some fine chaff temper; wet-smoothed; brown-black paint. IVB.	
14	EE 41, Lot 16; 045 COUR; 4A 1A 42	Buff ware, maroon-brown paint. IVA.	
15	EE 41, Lot 32; 095 CRDX; 4B 12 48	Pink-buff ware (5 YR 7/4); incompletely oxidized; fine mineral and chaff temper; faded brown-black paint (cf. Pl. 11:5). IVB.	
16	EE 43, Lot 16; 045 COUR 4A 7A 42	Compact brown-buff ware (10 YR 7/3); mineral and some fine chaff temper; flakey brown paint interior and exterior.	
17	EE 41, Lot 28; 096 ROOM; 4B 13 36	Fine buff ware; reddish-brown paint. IVB.	
18	EE 41, Lot 32; 095 CRDX; 4B 12 48	Green-buff ware; brown paint; overfired. IVB.	
19	DD 41, Lot 57; 076 ROOM; 4A 7B 27	Red-buff ware (5 YR 7/4); fine chaff and mineral temper; buff exterior (10 YR 8/3); interior self slip; exterior gray- brown paint. IVA.	Malyan: BB 33, unpublished
20	EE 41, Lot 32; 095 CRDX; 4B 12 48	Green buff-ware; brown paint. IVB.	
21	EE 41, Lot 39; 096 ROOM; 4B 15A 29	Buff ware (10 YR 8/3); fine chaff and mineral temper; buff slip (2.5 Y 8/2); very faded brown paint. IVB.	
22	DD 41, Lot 57; 076 ROOM; 4A 9A 26	Red "cement" ware (2.5 YR 6/6), core incompletely oxidized; heavy mineral and some sherd temper; cream slip (2.5 Y 8/2) with light brown paint exterior; interior dark brown paint. Joins with lot 62 (cf. Pl. 11:16). IVA.	

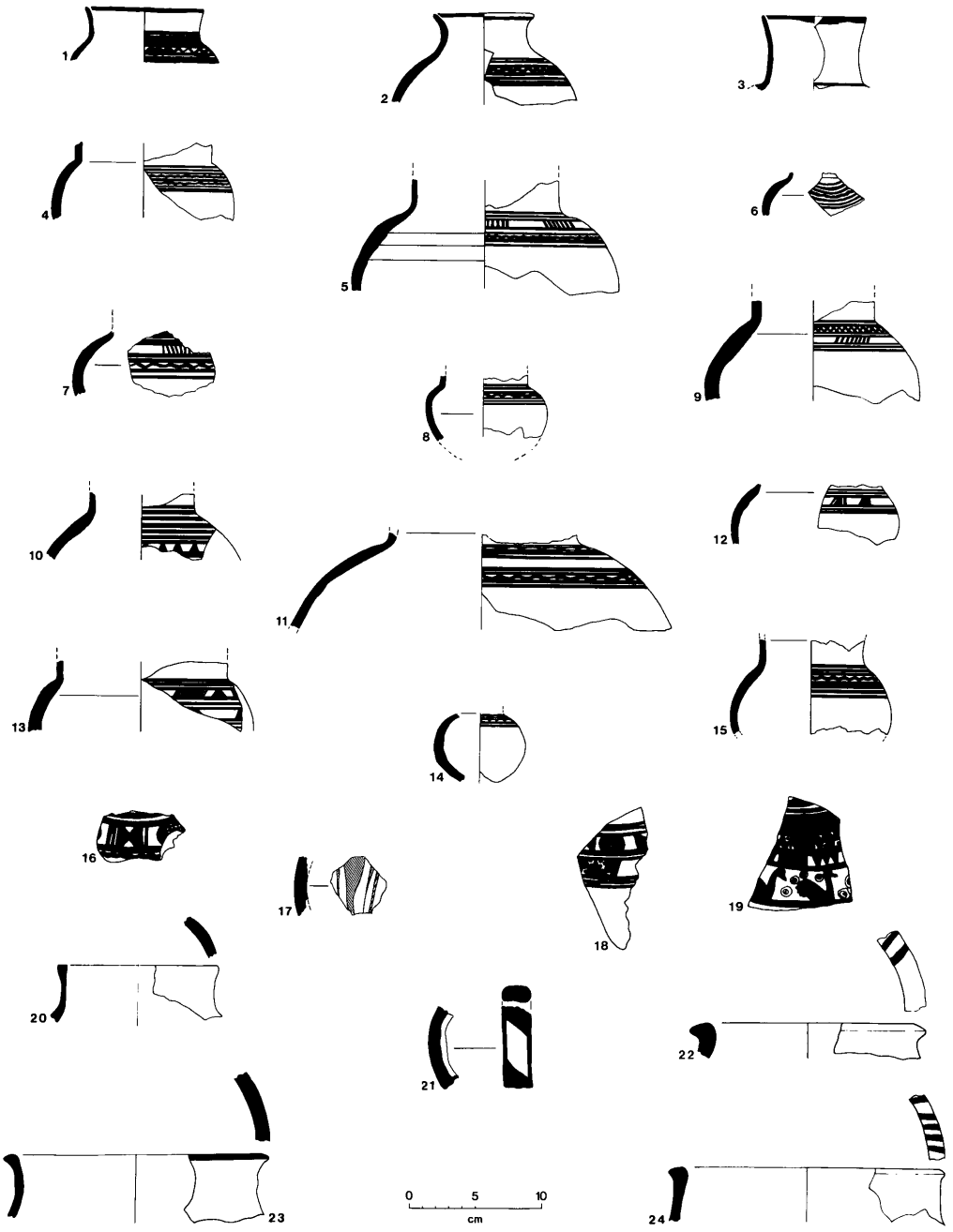


Find Spot	Description	References
1 DD 43, Lot 44; 057 DOOR; 4A 7B 27	Fine buff ware; mineral and chaff temper; black paint. IVA.	
2 DD 41, Lot 46; 069 ROOM; 4A 9A 26	Fine buff ware (5 YR 7/4); fine mineral and some chaff temper; buff slip (10 YR 8/3); faded black-brown paint. IVA.	Kamtarlan: Schmidt et al. 1989, Pl. 115:b; Late Bronze Age
3 EE 41, Lot 28; 096 ROOM; 4B 13 26	Fine red-buff ware (10R 6/8); fine mineral and chaff temper; self slip; brown-black paint. IVB.	Malyan: BB 33, unpublished
4 EE 41, Lot 32; 095 CRDX; 4B 12 48	Fine red-buff ware (5 YR 8/2); fine chaff and mineral temper; self slip; red-brown paint. IVB.	
5 EE 41, Lot 28; 096 ROOM; 4B 13 26	Compact pink-buff ware (5 YR 7/3); fine chaff and mineral temper; buff slip (7.5 YR 8/2); brown paint. Joins with sherd from EE 41, Lot 40. IVB.	Malyan; Sumner 1974, fig. 13 k, Op. B 1
6 EE 41, Lot 28; 096 ROOM; 4B 13 26	Compact pink-buff ware (7.5 7/4); fine mineral and chaff temper; buff (10 YR 8/3) slip; brown-black paint. IVB.	
7 EE 41, Lot 28; 096 ROOM; 4B 13 26	Compact pink-buff ware (5 YR 7/4); fine mineral and chaff temper; buff slip (10 YR 8/3) exterior; brown-black paint. (see Pl. 11:3). IVB.	
8 EE 41, Lot 28; 096 ROOM; 4B 13 26	Fine red-buff ware (5 YR 7/6); fine chaff and mineral temper; buff slip (5 YR 8/2); brown-red paint. IVB.	
9 EE 41, Lot 28; 096 ROOM; 4B 13 26	Compact buff ware (10 YR 7/3); fine chaff, mineral, and sherd temper; buff slip (10 YR 8/4); black paint. IVB.	Ghazir: Carter 1971, fig. 55:17-18
10 EE 41, Lot 28; 096 ROOM; 4B 13 26	Fine buff ware (5Y 8/2); fine chaff and mineral temper; self slip; brown-black paint; slightly overfired. Spaces left by burnt-out chaff visible on the surface. IVB.	Ghazir: Carter 1971, fig. 56:3, 6, 7
11 EE 41, Lot 38; 061 ROOM; 4B 11A 42	Pink-buff ware (5 YR 7/6), incompletely oxidized; chaff and mineral temper; cream-buff slip (10 YR 8/3); brown paint. IVB.	
12 EE 41, Lot 32; 095 CRDX; 4B 12 48	Compact red-buff ware (5 YR 7/6); fine mineral and chaff temper; self slip; red-brown paint (cf. Pl. 11:4). IVB.	Malyan: BB 33, unpublished
13 EE 41, Lot 28; 096 ROOM; 4B 13 26	Waster; green-buff ware (5Y 6/3); mineral and fine chaff temper; vitrified black-olive paint (see Pl. 11:5). IVB.	
14 EE 41, Lot 32; 095 CRDX; 4B 12 48	Fine buff ware (5 YR 7/3); chaff and fine mineral temper; self-slipped; black paint, some paint splatters on surface. IVB.	Malyan: BB 33, unpublished
15 EE 41, Lot 32; 095 CRDX; 4B 12 48	Compact red-buff ware (5 YR 7/6), brown core; fine mineral and chaff temper; brown-red paint. IVB.	
16 EE 41, Lot 28; 096 ROOM; 4B 13 26	Buff ware; black paint. IVB.	Malyan; Sumner 1974, fig 13: n
17 EE 41, Lot 37; 045 COUR; 4B 15A 29	Fine red-buff ware (5 YR 6/8), incompletely oxidized; chaff and mineral temper; wet-smoothed?; red-brown paint on exterior, light brown paint on interior. (see Pl. 11:4). IVB.	
18 EE 41, Lot 28; 096 ROOM; 4B 13 26	Buff ware; black paint. IVB.	Malyan; Sumner 1974, fig. 13 1
19 EE 41, Lot 28; 096 ROOM; 4B 13 26	Fine buff ware, overfired to green; brown paint. Joins with sherd from EE 41, Lot 24, 096 ROOM, 4B 13 48. IVB.	Malyan; Sumner 1974, fig. 13 m, o
20 EE 41, Lot 28; 096 ROOM; 4B 13 26	Fine red-buff ware (5 YR 6.5/6); sand and very fine chaff temper; buff slip (10 YR 8/3); brown paint on rim. IVB.	
21 EE 41, Lot 28; 096 ROOM; 4B 13 26	Compact green-buff ware (5Y 7/3); dark brown paint; self slip; slightly overfired. IVB.	



*PAINED BUFF OR QALEH WARE*

*FIGURE 27*





*PAINTED BUFF OR QALEH WARE, CONTINUED*

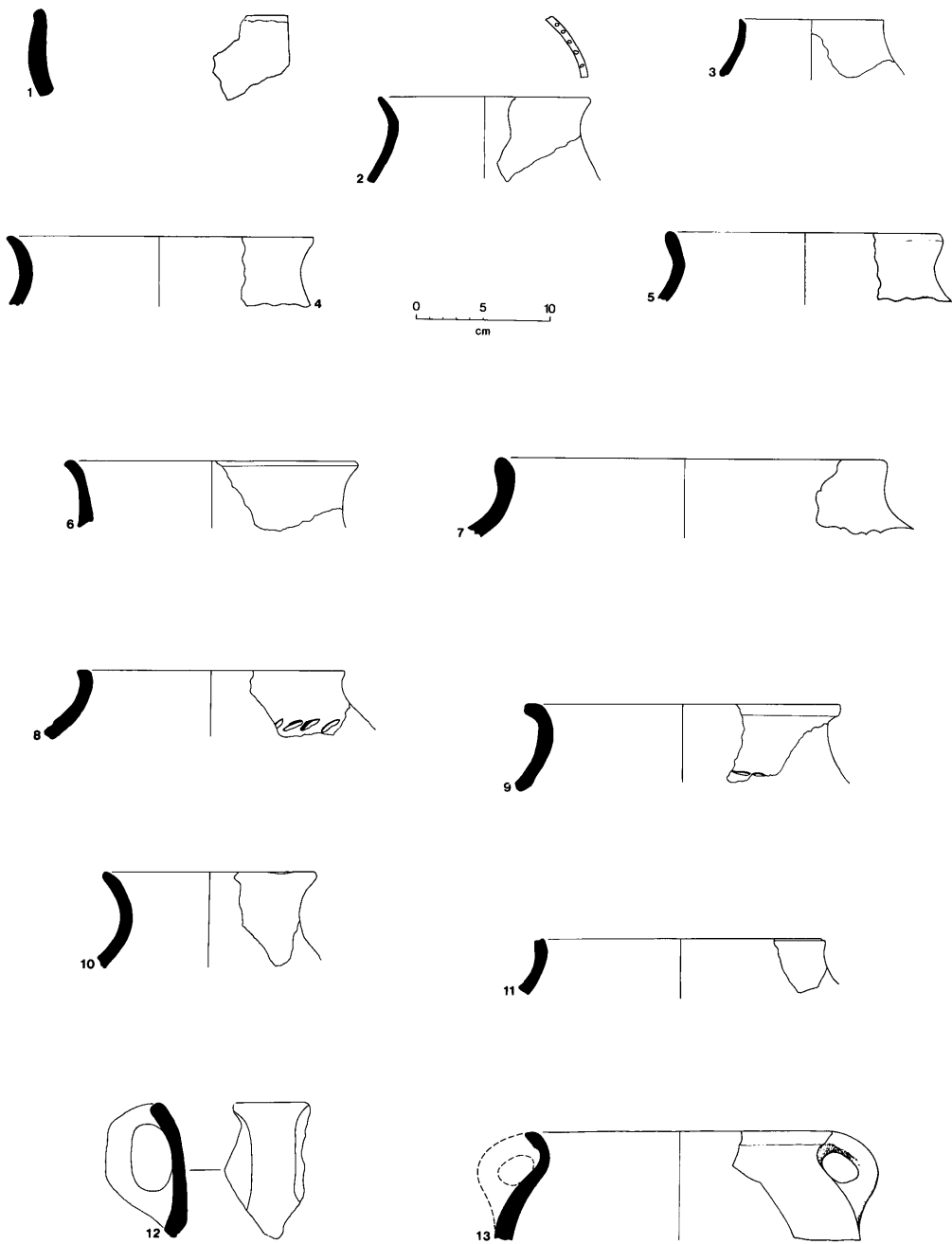
*FIGURE 27*

22	EE 41, Lot 32; 095 CRDX; 4B 12 48	Compact green-buff ware (5Y 7/2); chaff, mineral, and sand temper; self-slip; olive green paint; overfired. IVB.	Chazir: Carter 1971, fig 56:2
23	EE 41, Lot 32; 095 CRDX; 4B 12 48	Fine pink-buff ware (7.5 YR 7/3); chaff, sand and sherd temper; self slip; brown paint. IVB.	
24	EE 41, Lot 31; 058 ROOM; 4A 7A 42	Pink-buff ware (7.5 YR 7/4); chaff, sherd, and mineral temper; buff slip (10 YR 8/3); traces of brown paint. IVA.	Malyan: BB 33, unpublished

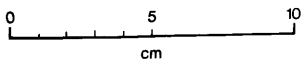
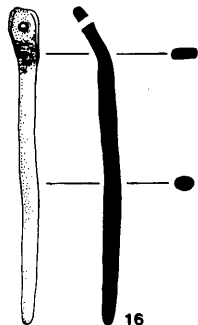
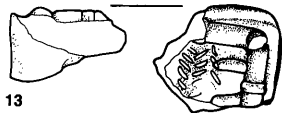
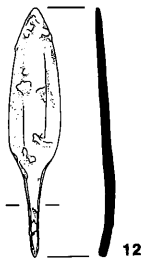
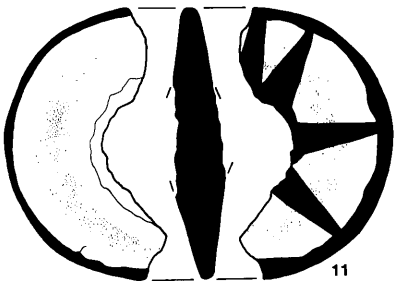
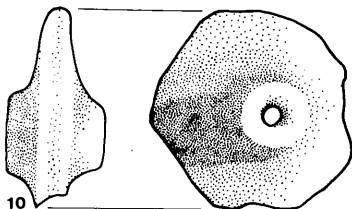
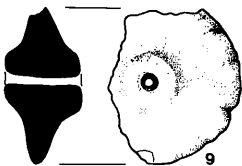
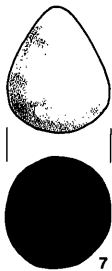
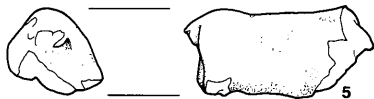
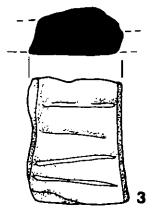
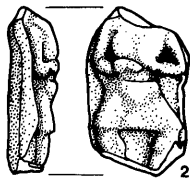
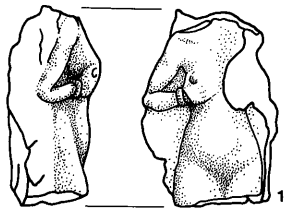
Mf. No.	Find Spot	Description	References
1	EE 41, Lot 28 096 ROOM 4B 13 26	Interior and vessel core are black, exterior reddish brown (5 YR 5/4); heavy chaff and calcite temper; both surfaces lightly burnished. IVB.	
2	CC 45, Lot 9 025 KUCH M 4A 7C 23	Gray-buff ware (10 YR 7/1); gray core; fine chaff, micaceous mineral, and sherd temper; interior and exterior surfaces smoothed; incised decoration. IVA.	
3	CC 45, Lot 9 025 KUCH M 4A 7C 23	Gray-brown ware (10 YR 7/3); chaff, micaceous grit, and sherd temper; buff slip; interior gray, exterior pink buff (5 YR 8/3); smoothed inside and out. IVA.	
4	EE 41, Lot 28 096 ROOM 4B 13 26	Red-buff ware (2.5 YR 6.5/4), entire core black; fine micaceous mineral, chaff, and white calcite temper; surface red buff (5 YR 6.5/4) smoothed. IVB.	
5	EE 41, Lot 28 096 ROOM 4B 13 26	Red-buff ware (5 YR 6.5/6); core incompletely oxidized; chaff, sherd, and white calcite temper; surface (5 YR 5/1) slightly smoother. IVB.	
6	CC 45, Lot 9 025 KUCH M 4A 7C 23	Red-buff ware (5 YR 7/4), incompletely oxidized; micaceous mineral and calcite temper; interior and exterior smoothed; orange wash (10 R 5/6) exterior. IVA.	
7	EE 41, Lot 28 096 ROOM 4B 13 26	Red (10R 5/3) to reddish-gray (10R 6/1) core; heavy calcite and some chaff temper; interior and exterior smoothed and grayish from smoke (?). IVB.	
8	CC 45, Lot 9 025 KUCH M 4A 7C 23	Pink ware (5 YR 7/4), gray core; very heavy white calcite and micaceous mineral temper; exterior and interior smoothed; exterior smoke blotches. (see Pl. 10:5). IVA.	
9	CC 45, Lot 9 025 KUCH M 4A 7C 23	Red-brown ware (2.5 YR 6/6), black core; white calcite and micaceous mineral temper; exterior and interior surfaces smoothed; exterior smoke-blackened; incised punctates. IVA.	
10	CC 45, Lot 9 025 KUCH M 4A 7C 23	Red-buff ware (5 YR 7/3), black core; heavy white calcite, micaceous mineral, and some chaff and sherd temper; exterior gray (?) slip and interior red slip (2.5 YR 6/6). IVA.	
11	CC 45, Lot 9 025 KUCH M 4A 7C 23	Buff ware (7.5 YR 7/4), black core; calcite, sherd, and micaceous temper; exterior and interior smoothed, rim smoke blackened. IVA.	
12	CC 45, Lot 20 025 KUCH 4A 7C 23	Red-buff ware (5 YR 7/4), black core; heavy micaceous mineral temper and some chaff; exterior and interior smoothed; smoke blackened; surface eroded (see Pl. 10:6). IVA.	
13	DD 41, Lot 46 069 ROOM 4A 9A 26	Gray-black ware (10 R 7/1); calcite and micaceous mineral temper; self-slipped, hand smoothed. IVA.	

HANDMADE SMOOTHED WARES OR "COOKING POTS"

FIGURE 28

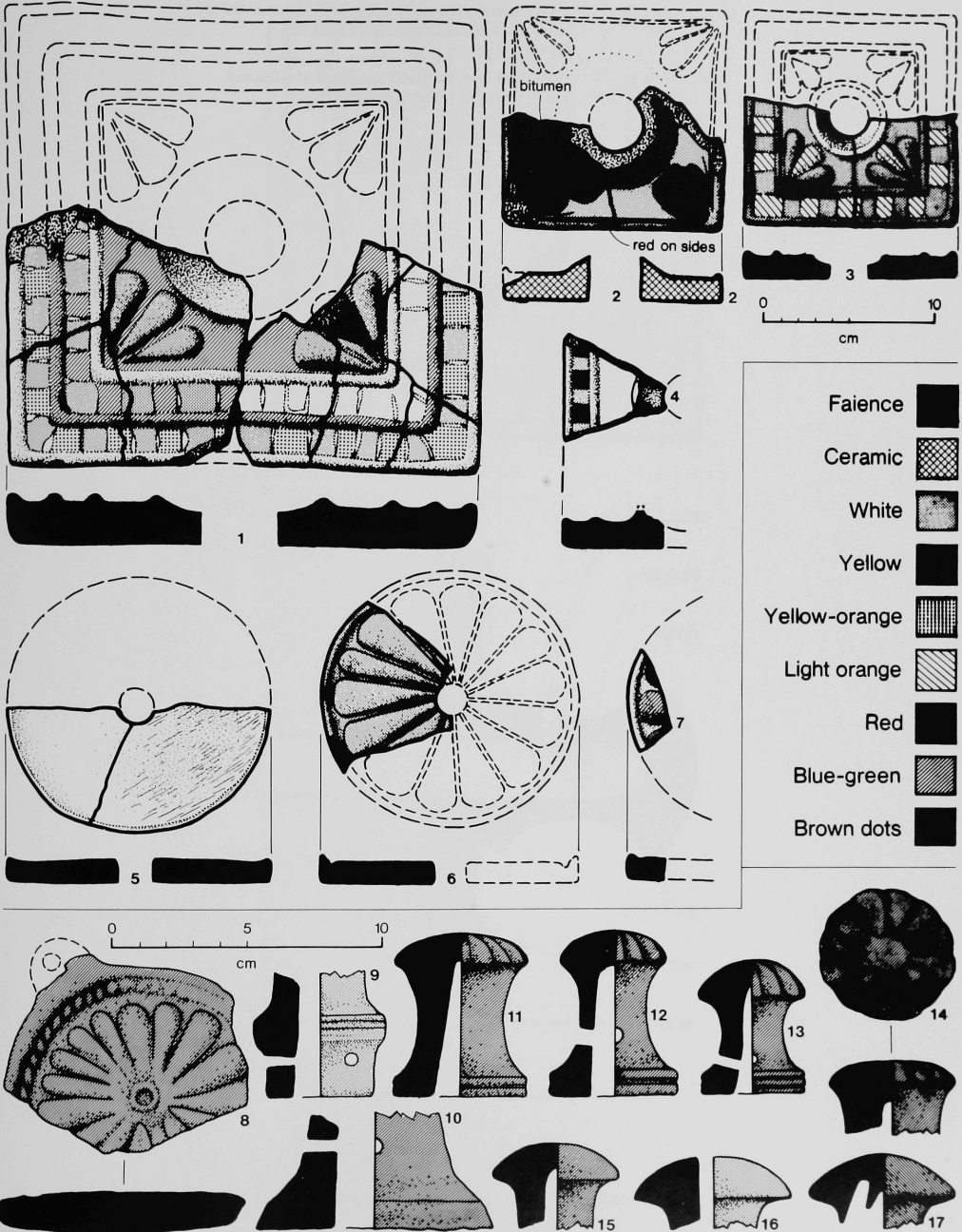


Mf. No.	Find Spot	Description	References
1	1179 DD 43, Lot 21 060 CRDX 4A 7B 35	Molded terracotta female figurine fragment; fingerprints on back (see Pl. 12:8). IVA.	Susa: Ghirshman 1964, 16a,b, VR AXII; Chogha Zanbil: Ghirshman 1968a, Pl. 66: G T-Z, 921, 937, 931, Temple of Shimut and NIN-ali
2	1447 EE 41, sherd dump	Molded figurine fragment; "bowlegged, lute-playing dwarf" type (see Pl. 12:7).	Haft Tepe: Negahban 1991: Pl. 25:172
3	5347 FF 41, Lot 48 154 ROOM 4B 11A 23	Orange buff ware (2.5 YR 5/8) figurine or plaque fragment. Kaftari? IVB.	Malyan: Nickerson 1979, 160
4	7107 CC 45, Lot 17 025 KUCH 4A 7C 48	Unbaked clay bovine figurine fragment; four puncture marks on left side of body and left leg. IVA.	
5	10292 EE 41, Lot 40 061 ROOM 4B 11A 42	Light buff ware animal figurine fragment. IVB.	
6	528 EE 41, Lot 28 096 ROOM 4B 13 26	Green buff ware, black grit temper; humped-bull figurine fragment.	Susa: Ghirshman 1964, fig. 19, VR A X-XII
7	492 EE 41, Lot 20 154 ROOM 3A 4A 35 M	Buff ware chariot wheel, possibly with yellow-buff slip. IIIA.	
8	3650 EE 45, Lot 4 139 CRDX 4A 7A 35	Buff ware (5 YR 5/4) token, possibly a weight (57 g). IVA	
9	1298 DD 41, Lot 58 060 CRDX 4A 7B 48	Unbaked clay button? IVA.	
10	3655 EE 45, Lot 8 140 DOOR 4A 7A 35	Fine buff ware (7.5 YR 5/4) chariot wheel. IVA.	
11	5483 FF 41, Lot 56 096 ROOM 4A 9A 26	Buff ware (5Y 8/2) chariot wheel; no visible temper; black paint on rim and exterior (see Pl. 12:11). IVA.	
12	3653 EE 45, Lot 7 045 COUR 4A 7A 48	Copper/bronze point; square haft, leaf-shaped blade; ridges on one side of blade (see Pl. 12:10). IVA.	Chogha Zanbil: Ghirshman 1968a, Pl. 90: GTZ 838, Palais Hypogée, Tomb Z
13	3657 EE 45, Lot 1	Buff ware (7.5 YR 6/4) fragment of a bed model; parts of the frame and caning preserved.	Susa: Mecquenem 1943, fig. 99, 19
14	5023 EE 39, Lot 79 058 ROOM 4A 7A 48	Copper/bronze pin fragment; club-shaped end, point broken; round in cross section. IVA.	
15	1492 DD 43, Lot 51 015 CRDX 4A 9A 26	Twisted iron nail; head is irregular but rounded on top, stock also round. IVA.	
16	1494 EE 43, Lot 15 045 COUR 4A 7A 48	Lead/tin (?) needle, possibly a weaving shuttle for very coarse material; the head is .8 cm wide. IVA.	Chogha Zanbil: Ghirshman 1968a Pl. 97: GTZ.1100, Complex Nord



Mf. No.	Find Spot	Description	References
1	1900 DD 45, Lot 13 015 CRDX 4A 9A 26	Eight fragments of a faience wall tile; pieces on right were given mf. 3654 and are from EE 45, Lot 31, 4A 9A 26. They appear to join mf. 1900, the pieces on the left (see Pl. 18:3). IVA.	Susa: Amiet 1966, fig. 300; inscription of Shutrak-Nahhunte I
2	1899 DD 45, Lot 13 15 CRDX 4A 9A 26	Half a pottery tile; traces of white paint on front and red paint on sides; bitumen splash (see Pl. 18:2). IVA.	Cf. Fig. 43:2 below
3	1897 DD 45, Lot 20 026 ROOM 4A 9A 26	Two fragments of a faience tile; three petals in corners; two low raised bands (see Pl. 18:1). IVA.	Chogha Zanbil: Chirshman 1966, Pl. 97; GTZ 269 a-b, Ziggurat; 1968a Pl. 86; GTZ 826 Palais Hypogée
4	1898 DD 43, Lot 49 60 CRDX 4A 9A 26	Fragment of a rectangular glazed faience tile; two low raised bands; corners not preserved. IVA.	
5	1896 CC 45, Lot 19 026 ROOM 4A 9A 26	Fragment of a faience disc, no design. IVA.	
6	532 EE 41, Lot 33 95 CRDX 4A 9 26	Fragment of a faience disc or tile pierced in the center, rosette design in low relief (see Pl. 19:1). IVA.	
7	1894 DD 45, Lot 20 26 ROOM 4A 9A 26	Fragment of a faience disc or tile, with rosette design in low relief. IVA.	
8	1895 DD 41, Lot 84 069 ROOM 4A 9A 26	Fragment of a faience box lid, molded decoration in low relief (see Pl. 19:2). IVA.	Susa: Miroshedji 1981a, fig 27:5, VR II 9 and parallels listed there
9	1749 DD 45, Lot 20 026 ROOM 4A 9A 26	Base end of a faience knob; molded raised band marked by incised lines; 4 similar examples (?); traces of reddish tint and bitumen on the flat surface. (see Pl. 18:4). IVA.	
10	1756 DD 45, Lot 20 026 ROOM 4A 9A 26	Approximately half of a faience knob; patches of blue glaze remain. IVA.	
11	1765 DD 45, Lot 20 026 ROOM 4A 9A 26	Half a faience knob; in center channel and lock hole traces of bitumen remain. IVA.	
12	1766 DD 45, Lot 20 026 ROOM 4A 9A 26	Half a faience knob; center channel and lock hole have traces of bitumen (see Pla. 18:6). IVA.	
13	1775 CC 45, Lot 20 026 ROOM 4A 9A 26	Top of a faience knob; the glaze has deteriorated to a gritty white on the top and a light green on the shaft. IVA.	Susa: Amiet 1966, fig. 301
14	1751 DD 45, Lot 20 026 ROOM 4A 9A 26	Faience knob base; two lines incised around the circumference; interior channel is coated with bitumen; similar encrustation on the base. IVA.	
15	1747 DD 45, Lot 20 026 ROOM 4A 9A 26	Head end of a faience knob with a domed shape; white glaze with light green patches. (see Pl. 18:5). IVA.	

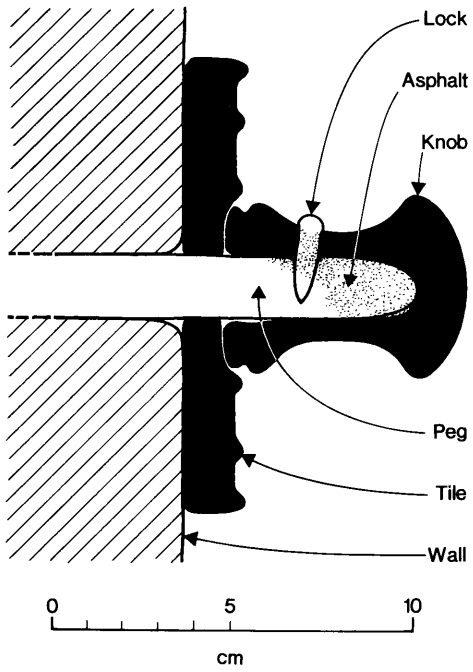
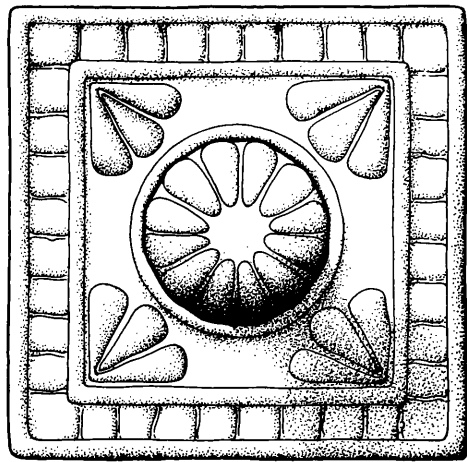




*FIGURE 30*

*WALL TILES AND KNOBS, CONTINUED*

<b>16</b>	1750	DD 45, Lot 20 026 ROOM 4A 9A 26	Head end of a faience knob with a piece of the surface sheared off; bitumen traces in channel. IVA.
<b>17</b>	1764	DD 45, Lot 20 026 ROOM 4A 9A 26	Approximately half of a head end of a faience knob; white to yellowish glaze. IVA.

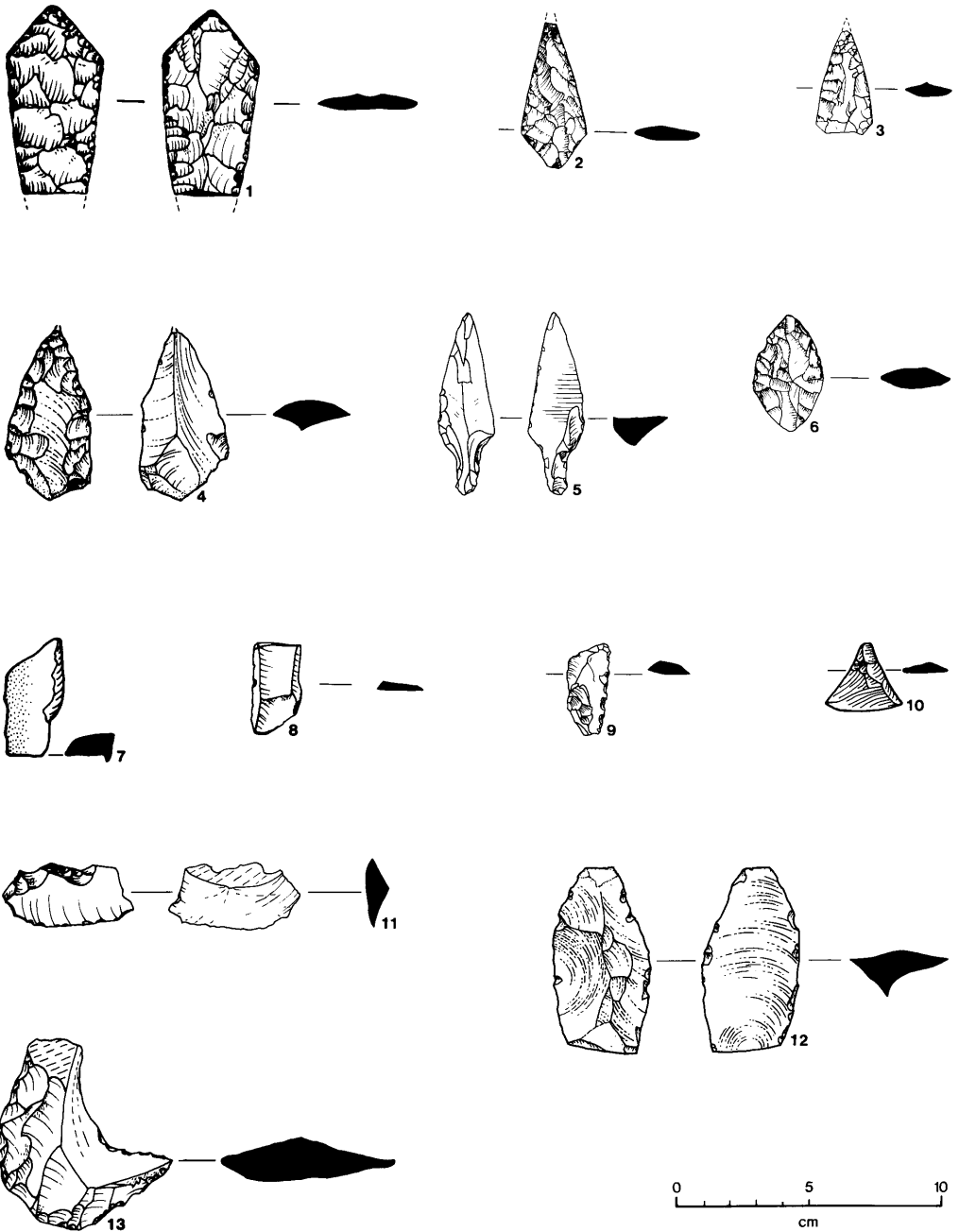


Reconstruction of tile and knob attachment.

	Mf. No.	Find Spot	Description	References
1	1025	DD 41, Lot 20 061 ROOM 3A 4A 35	Pressure-flaked point; pink-beige chert, butt end broken; retouched on all edges. IVA.	
2	1909	CC 45, Lot 20 025 KUCH 4A 7C 23	Dark reddish-brown (5 YR 3/3) chert, pressure-flaked flint point, sides and end of the tang are retouched (see Pl. 12:6). IVA.	
3	3628	EDD surface	Pressure-flaked chert point; butt-end is broken.	
4	10360	EE 41, Lot 29 094 DOOR 4B 7B 27	Chert point; traces of pressure flaking and use-retouching along the edges. IVA.	Chogha Zanbil: Ghirshman 1968a, pl. 87: GTZ 737, Palais Hypogée
5	3625	EE 45, Lot 10 ? 0 1 32	Ridged chert point with tang; retouching or use nibbles on one edge. IVA.	
6	1910	CC 45, Lot 24 025 KUCH 4A 9C 26	Pressure-flaked beige flint scraper, some traces of retouching. IVA.	
7	570	EE 41, Lot 34 045 COUR 4B 14B 26	Fragment of a red chert sickle blade; bitumen hafting partially preserved. IVB.	
8	1215	DD 41, Lot 45 076 ROOM 4A 7B 27	Reddish-brown flint blade, trapezoidal in section; retouching on three sides (see Pl. 12:8). IVA.	
9	3621	EE 45, Lot 16 045 COUR 4A 7A 48	Chert scraper, side struck; sickle sheen and retouching along one edge. IVA.	
10	479	EE 41, Lot 10 ? 0 1 32	Beige flint triangle.	
11	1227	DD 41, Lot 47 069 ROOM 4A 9A 26	Chert flake; signs of use or retouching; associated with the pottery and flint deposit in room 69. IVA.	
12	1213	DD 41, Lot 46 069 ROOM 4A 9A 26	Chert blade, triangular in section; traces of use retouching along both edges; associated with the pottery and flint deposit in room 69. IVA.	
13	1223	DD 41, Lot 47 069 ROOM 4A 9A 26	Crescent-shaped scraper; retouched edges and use marks; associated with the pottery and flint deposit in room 69. IVA.	

CHIPPED STONE OBJECTS

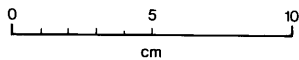
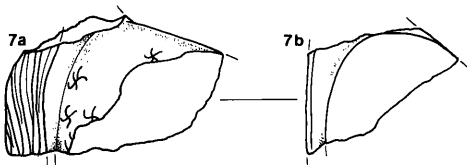
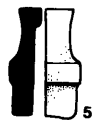
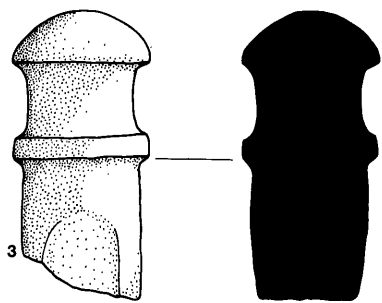
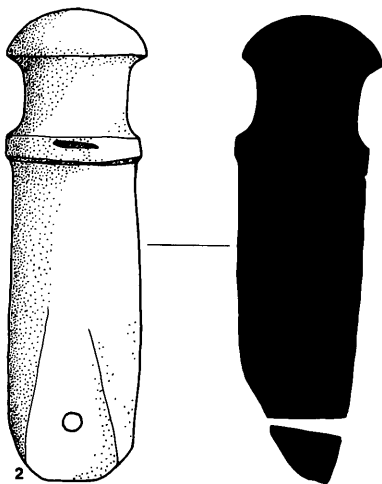
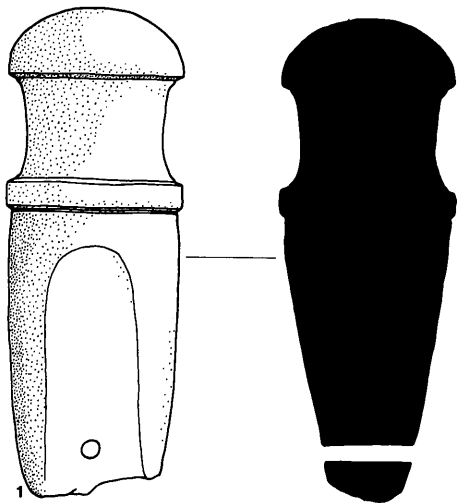
FIGURE 32



Mf. No.	Find Spot	Description	References
1	1891 DD 45, Lot 13 015 CRDX 4A 9A 26	Calcite peg; lower body flattened on both sides and pierced by a small hole; white to beige color with traces of red pigment in the grooves and over portions of knob end (see Pl. 12:2).	
2	1892 CC 45, Lot 19 026 ROOM 4A 9A 26	Calcite peg; end flattened and pierced by a small hole; yellowish brown with black patches; chisel marks and rootlike calcifications are on much of the surface (see Pl. 12:1). IVA.	
3	1893 CC 43, Lot 42 038 DOOR 4A 9A 26	Calcite peg; broken just below the point where the peg begins to taper; beige where polished on the head, neck, and collar; white where rough with chisel marks on the body. IVA.	
4	1890 CC 43, Lot 41 015 CRDX 4A 9A 26	Calcite peg (?); top narrower than the rest of the shaft; the top is polished and pierced by hole 1.9 cm deep by .3 cm in diameter; the shaft is unfinished; light beige stone shot through with dark brown (see Pl. 12:3). IVA.	
5	1888 DD 43, Lot 51 015 CRDX 4A 9A 26	Fragment of a calcite peg; the flat top is pierced by a hole that widens just below the end; beige with cream veins; original was similar to mf. 1890 (see Pl. 12:5). IVA.	
6	1889 DD 43, Lot 51 015 CRDX 4A 9A 26	Soapstone lid (?) fragment, domed top broken; many scratches just above the collar; a second collar is only partially preserved (see Pl. 12:4). IVA.	
7	1905 CC 45, Lot 20 025 KUCH 4A 7C 23	Calcite figurine fragments, parts of beard and shoulder preserved; front and side views are shown. IVA.	Susa: Amiet 1966, fig. 318-319; on pavement of a ruined tomb near the temple of Inshushinak on the Acropole.
8	3791 FF 41, Lot 48 154 ROOM 4B 11A 23	Carnelian bead, tool marks on surface; hole drilled from each side. IVB.	

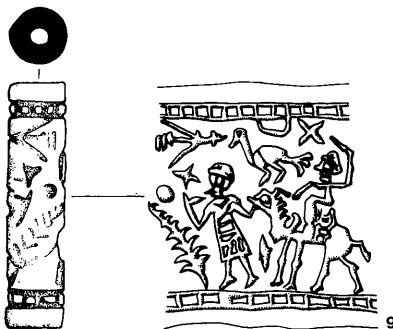
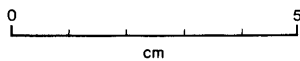
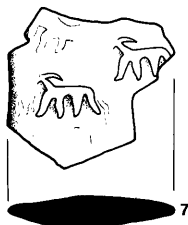
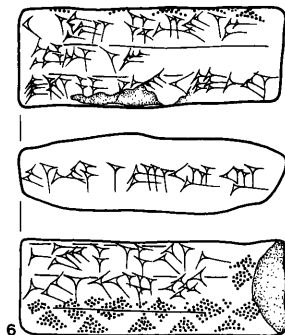
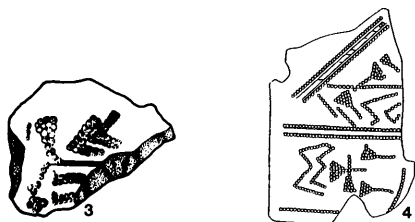
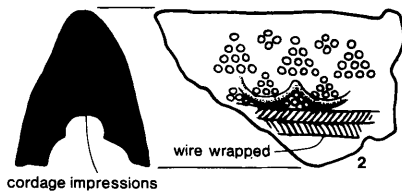
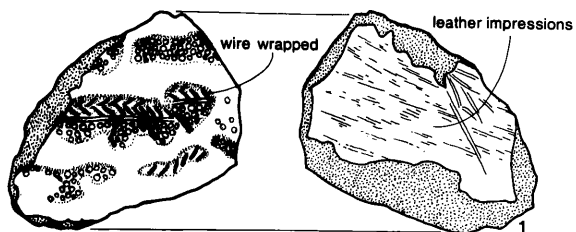
POLISHED STONE OBJECTS

FIGURE 33

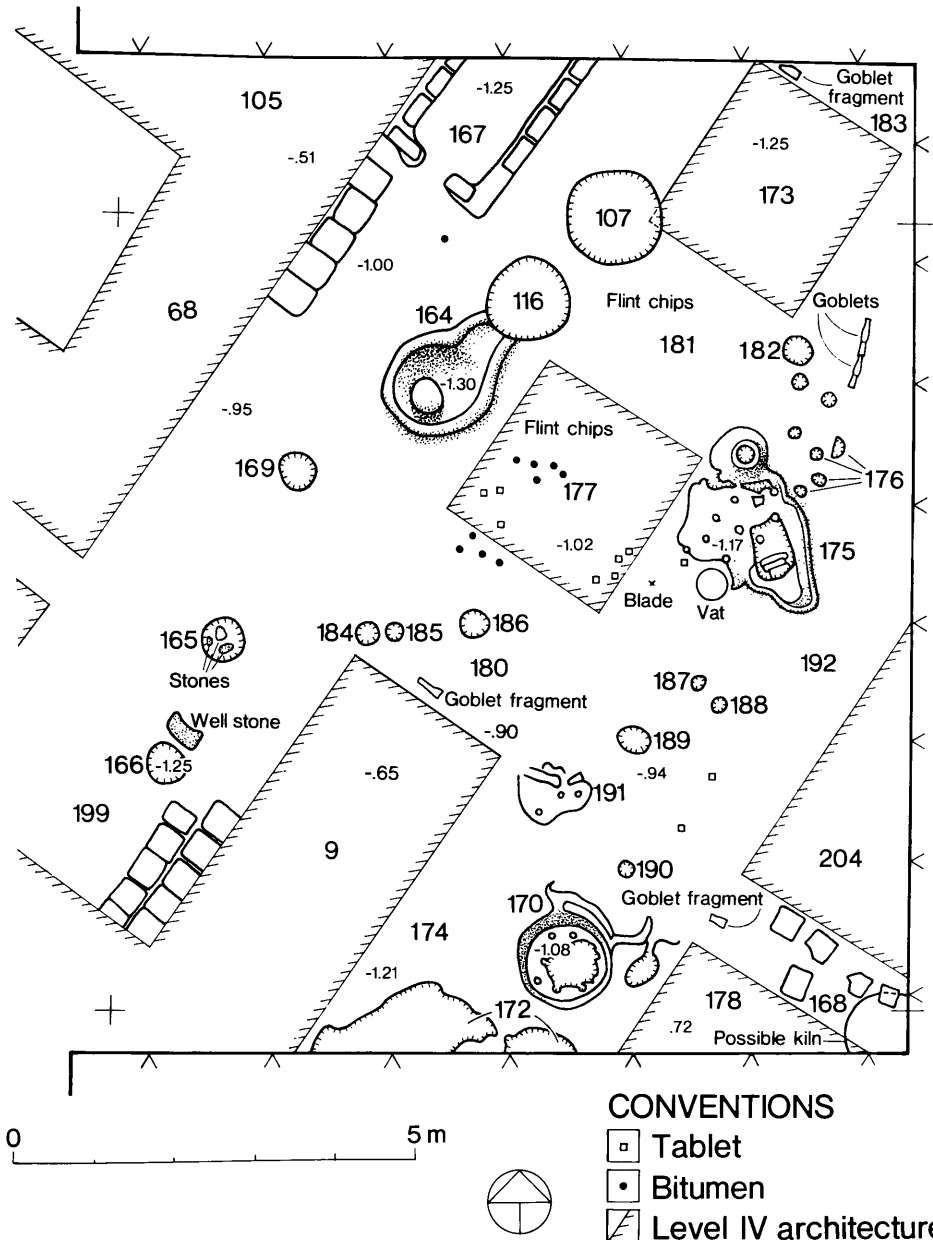


	Mf. No.	Find Spot	Description	References
1	10746	DD 45, Lot 20 026 ROOM 4A 9A 26	Clay jar (?) sealing fragment; several faint impressions consisting of rows of triangles made up of small dots framed by wire-wrapped bands; interior surface of sealing bears traces of leather. IVA.	
2	5985	FF 41, Lot 36 152 ROOM 4A 9A 26	Sealing fragment; two rows of staggered punctate triangles; small lozenges separate the tips of the upper row of triangles; a wavy band, punctates, and a row of bands formed by wires wrapped in opposing directions comprise the design. IVA.	Brak:D. Oates 1987, Pl. 39c, Mitanni Temple; Pasagarde; Stronach 1978, Pl. 160a,b
3	6242	FF 41, Lot 36 152 ROOM 4A 9A 26	Clay sealing fragment; punctate style; fragments of designs that imitate cuneiform signs, each composed of small dots; reverse shows leather impressions (see Pl. 19:4). IVA.	
4	1967	DD 45, Lot 20 026 ROOM 4A 9A 26	Clay sealing, probably door-lock type; two rollings of the same seal; punctate style similar to that found on level IVA tablets; wire-wrapped bands frame a design of cuneiform signs composed of small circular dots (granulations) (see Pl. 19:3). IVA.	
5	4443	FF 41, Lot 36 152 ROOM 4A 9A 26	Sealed tablet (?) fragment; punctate style. Decorated with a band of four triangles placed with their bases forming a square, and four dots in the center. These are separated by two triangles with their points facing each other. All are composed of small dots. IVA.	
6	546	EE 41, Lot 33 095 CRDX 4A 9A 26	Sealed "single transaction" tablet; punctate style; bands of lozenges impressed on the tablet edge and side. IVA.	Stolper and Carter 1976, fig. 39, 5
7	6205	FF 41, Lot 45 154 ROOM 4A 9A 26	One of 13 fragments of sealed clay tags. All have the same impression of animals walking left, randomly arranged. The backs are smooth or have finger impressions. W. 2.1-3.1 cm. IVA.	
8	5970	FF 41, Lot 44 153 DOOR 4A 9A 26	Fragments of a clay sealed tag. Tags are flat and smooth on the back. Wavy lines coming from a vase frame fish and stars on fragment <i>a</i> . Fragment <i>b</i> shows an animal framed by water coming from a flowing vase. W. 1.3-2.5 cm. IVA.	Susa: Amiet 1972, Pl. 178, 2054, Pl. 18b, 2075; Kurangun: Vanden Berghe 1986, 172, fig. 7; Haft Tepe: Negahban 1991, 96, Ill. 46
9	5037	FF 41, Lot 41 151 ROOM 4A 7A 48	Faience seal with ladder bands framing the scene. One man leads another who is on horseback and holds a sword in his raised arm. A pine (?) tree, a fly (?), a bird, a moon, stars, a sphere, and a fish (?) provide the setting (see Pl. 19:5). IVA.	Susa: Börker-Klähn 1970, Pl. 74: 91, Pl. 75: 101, 102; Surkh Dum-i Luri: Schmidt et al. Pl. 236:75-77 for the "duck-billed" figures and seal type



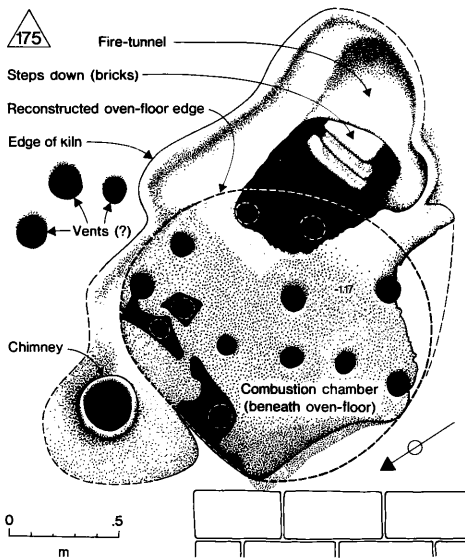
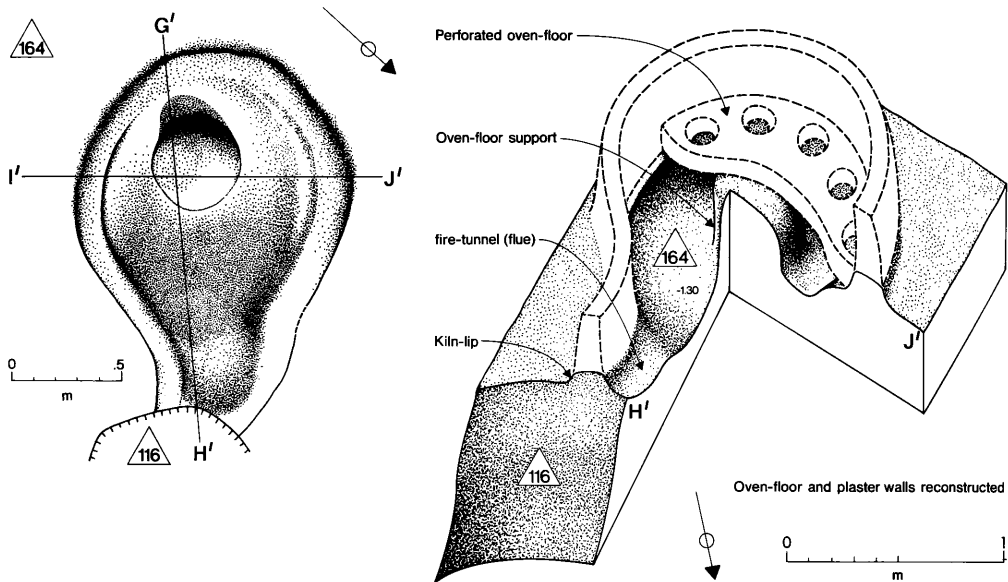




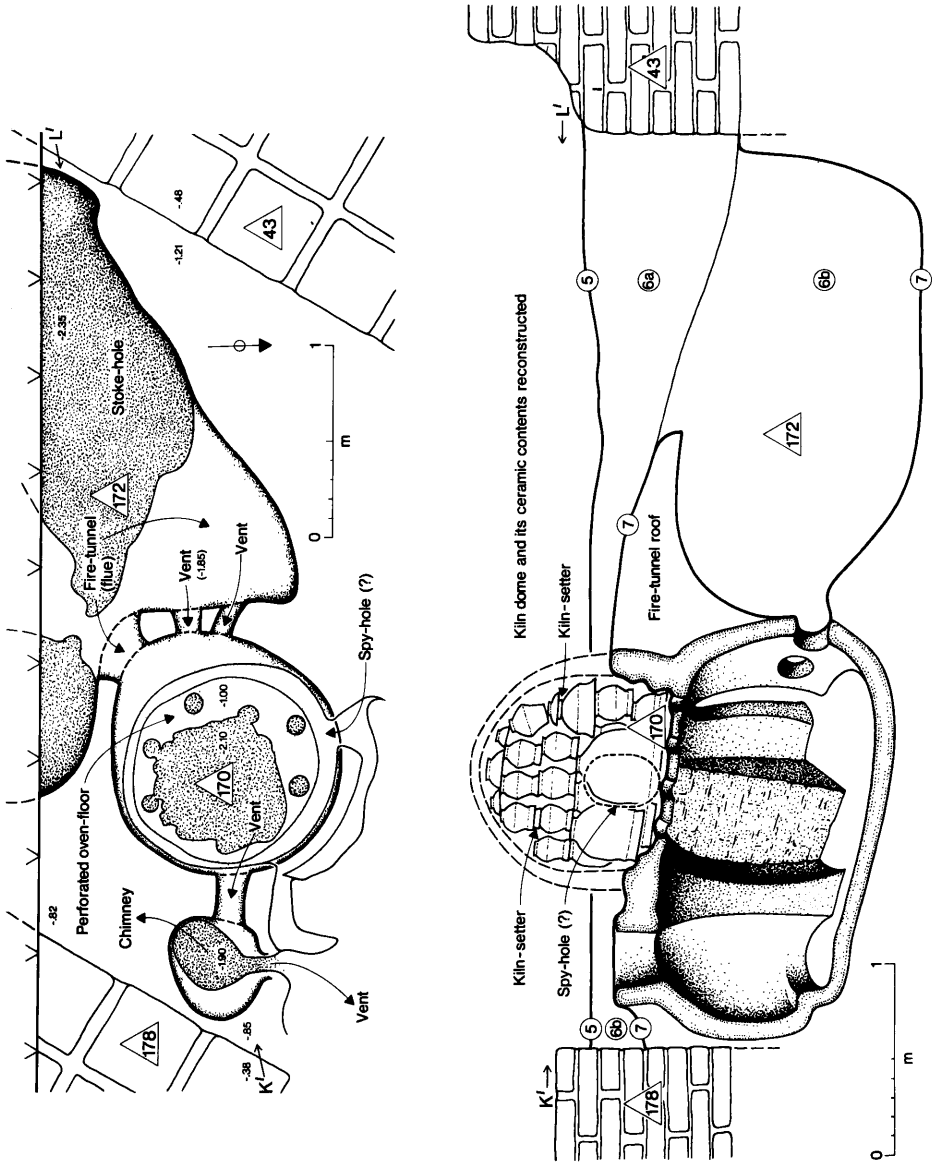


Plan of EE 39, level IIIB.

FIGURE 37



Kilns 164 and 175.



Plan and elevation of kiln 170.



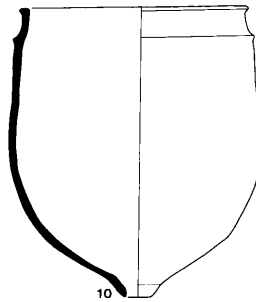
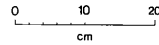
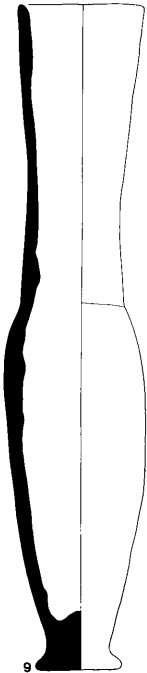
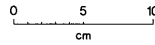
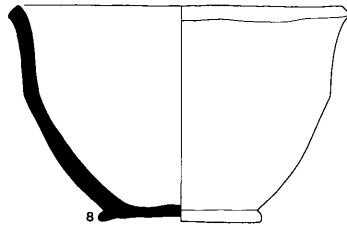
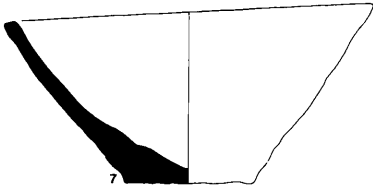
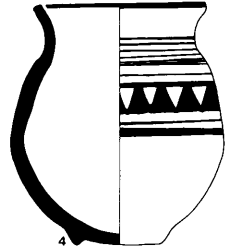
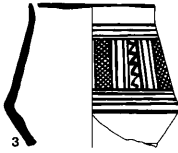
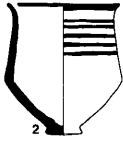
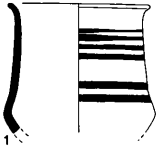


Mf. No.	Find Spot	Description	References	
1	EE 39, Lot 77 175 KILN 3B 6C 28	Beige-buff ware, faded red paint; lime pops on surface. IIIB.	Malyan: BB 33; Chigha Sabz: Schmidt et al. 1989: Pl. 109:i, Late Bronze Age	
2	5482	EE 39, Lot 78 175 KILN 3B 6C 28	Red-buff ware, red paint applied as the wheel was turning (see Pl. 20:4). IIIB.	Godin: Henrickson 1986, fig. 17: 10; post III:2 graves
3		EE 39, Lot 78 175 KILN 3B 6C 28	Beige-buff ware; red paint; reconstructed design. IIIB.	
4	6157	EE 39, Lot 78 175 KILN 3B 6C 28	Orange-buff ware, mineral temper; red paint (see Pl. 20:5). IIIB.	
5	5278	EE 39, Lot 71 175 KILN 3B 6C 28	Light brown-buff ware (5Y 6/6); mineral temper; oval in shape (see Pl. 20:2). IIIB.	Cf. fig. 25:1-10 above
6	5307	EE 39, Lot 77 175 KILN 3B 6C 28	Fine buff ware (7.5 YR 6/6); mineral temper; oval in shape; bottom flattened by fingers (see Pl. 20:1). IIIB.	
7	5176	EE 39, Lot 53 199 AREA 3B 6B 26	Buff ware (7.5 YR 7/6), incompletely oxidized; wheel corrugations; string-cut base. IIIB.	
8	6188	EE 39, Lot 101 170 KILN 3B 6C 28	Red-brown buff ware (5 YR 6/4); incompletely oxidized; chaff and mineral temper; self slip (see Pl. 20:8). IIIB	Susa: Miroschedji 1981a, fig. 18:1, VR II 8
9	5284	EE 39, Lot 72 182 MISC 3B 6B 26	Buff ware, incompletely oxidized; chaff and mineral temper; possibly made in sections and joined together (see Pl. 20:7). IIIB.	Chogha Zanbil: Ghirshman 1968a, Pl. 88:GT-Z 893, Palais Hypogée
10	6198	EE 37, Lot 62 192 KUCH 3B 6B 26	Pink ware (5 YR 7/4), incompletely oxidized; chaff and mineral temper; cream slip (7.5 YR 8/2) (see Pl. 20:9). IIIB.	Susa: Miroschedji 1981a, fig. 15:6, 9 VR II 10-11; Chogha Zanbil: Ghirshman 1966, Pl. 43:6; Ghazir: Carter 1971, fig. 55:13, Mound B

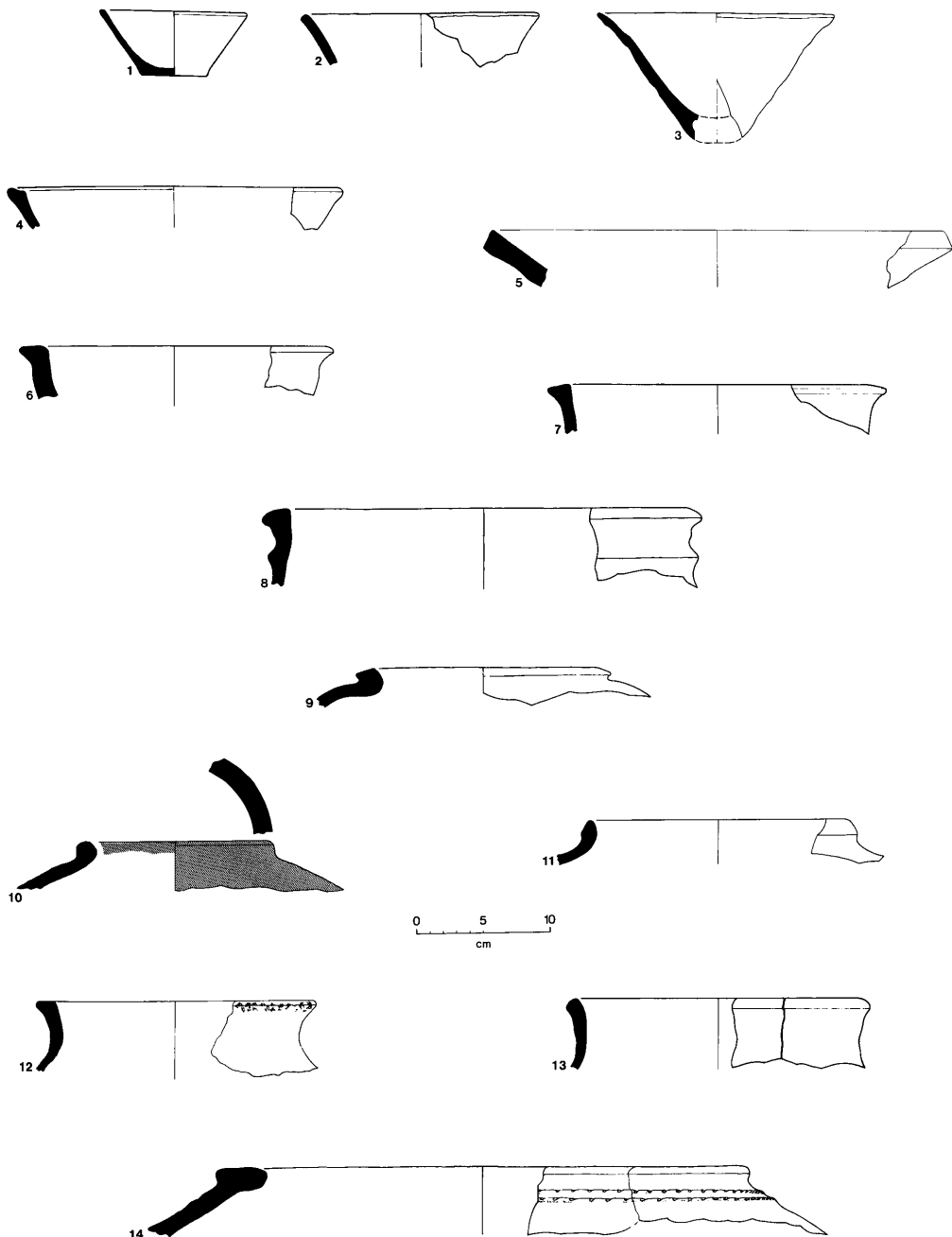


POTTERY FROM LEVEL IIIB

FIGURE 40



	Mf. No.	Find Spot	Description	References
1	480	EE 41, Lot 20 154 ROOM M 3A 4A 35	Conical bowl, buff ware incompletely oxidized; mineral and chaff temper; string cut base. IIIA.	Susa: Miroshedji 1981a, fig. 11:3 VR II 11
2		EE 39, Lot 20 113 ROOM 3A 4B 21	Conical bowl, compact red buff ware (5 YR 6/6); sherd and mineral temper; red slip (2.5 YR 5/8); interior and exterior polished. IIIA.	
3		EE 39, Lot 24 117 COUR 3A 4B 26	Conical bowl, pink buff ware (5 YR 7/4), core incompletely oxidized; chaff and possibly some mineral temper; self slip; wheel corrugations. IIIA.	Susa: Miroshedji 1981a, fig. 18:3 VR II 8
4		EE 39, Lot 29 112 ROOM 3A 5B 48	Buff ware (5 YR 6.5/3); fine mineral and chaff temper; surface smoothed. IIIA.	
5		EE 39, Lot 27 117 COUR 3A 4B 21	Buff ware (10 YR 7/2); core incompletely oxidized; mineral and chaff temper; interior smoke blackened; D. ca. 34 cm. IIIA.	
6		EE 39, Lot 27 117 COUR 3A 4B 21	Red-buff ware (5 YR 7/4), core incompletely oxidized; chaff and sand temper; wet-smoothed or self-slip. IIIA.	
7		EE 39, Lot 20 116 PITX 3A 5A 22	Brown-buff ware (5 YR 7/3), incompletely oxidized core; chaff, sherd, and some grit temper; self slip. IIIA.	
8		EE 39, Lot 31 117 COUR 3A 4B 21	Brown-buff ware (7.5 YR 7/4), incompletely oxidized core; chaff, sherd, and some grit temper; self slip. IIIA.	
9		EE 39, Lot 27 117 COUR 3A 4B 21	"Cement ware," buff color (7.5 YR 6.5/4); heavy sherd, chaff, and mineral temper; pieces of sherds 2 mm in diameter visible on exterior surface. IIIA.	
10		EE 39, Lot 31 116 PITX 3A 5A 22	Red-buff ware (2.5 YR 6/6); mineral, sherd, and fine chaff temper; all-over red (2.5 YR 4/8) paint. Bituminous black paint on rim. IIIA.	
11		EE 39, Lot 27 117 COUR 3A 4B 21	Buff ware (7.5 YR 4/5), incompletely oxidized; mineral and chaff temper; interior smoke blackened. IIIA.	
12		EE 39, Lot 22 108 ROOM 3A 4A 48	Handmade, smoothed, red buff ware (2.5 YR 6/6); heavy mineral (calcite) temper with some chaff; smoke-blackened band on the outer edge. IIIA.	
13		EE 39, Lot 19 113 ROOM 3A 4A 35	Handmade, smoothed ware (2.5 YR 6/6), black core; heavy calcite and some chaff temper. IIIA.	
14		EE 39, Lot 31 116 PITX 3A 5A 22	"Cement ware" (5 YR 6/6); heavy micaceous mineral, sherd, and some chaff temper; fire-blackened; fingernail-impressed ridges. IIIA.	fig. 20:11



Mf. No.	Find Spot	Description	References
1	EE 39, Lot 27 117 COUR 3A 4B 21	Pink-buff ware (7.5 YR 7/4); fine mineral, sherd, and chaff temper; wet-smoothed. IIIA.	
2	EE 39, Lot 20 113 ROOM 3A 4B 21	Pink-buff ware (5 YR 7/4), incompletely oxidized; chaff, mineral, and some sherd temper; reddish-yellow slip (5 YR 7/6). IIIA.	
3	EE 39, Lot 27 117 COUR 3A 4B 21	Red-buff ware (5 YR 7/6); fine mineral (calcite?), and some chaff temper; self slip. IIIA.	
4	EE 39, Lot 27 117 COUR 3A 4B 21	Compact buff ware (10 YR 8/4), mineral and some chaff and sherd temper; self slip. IIIA.	
5	EE 39, Lot 16 102 COUR 3A 4B 21	Jar neck or bowl(?). Dark gray ware; grooved rim. IIIA.	
6	EE 39, Lot 37 102 COUR 3A 4B 21	Orange-buff ware, black core; chaff and mineral temper; possible slip; surface pitted. IIIA.	
7	EE 39, Lot 11 102 COUR 3A 4A 35	Buff ware (5 YR 8/4), incompletely oxidized; mineral and chaff temper; surface wet-smoothed; traces of secondary firing. IIIA.	
8	EE 39, Lot 24 117 COUR 3A 4B 26	Very compact buff ware (5 YR 7/4); fine mineral and chaff temper; self slip. IIIA.	
9	EE 39, Lot 20 113 ROOM M 3A 4B 22	Pink-buff ware (5 YR 6.5/6); mineral, chaff, and sherd temper. IIIA.	
10	EE 41, Lot 20 154 ROOM M 3A 4A 35	Brick red ware; grit temper; orange buff slip. IIIA.	Susa: Miroschedji 1981a, fig. 25:12, VR II 8
11	EE 39, Lot 31 116 PITX 3A 5A 22	Buff ware (7.5 YR 7/4), incompletely oxidized; heavy chaff and some mineral temper; self slip. IIIA.	
12	EE 39, Lot 22 108 ROOM 3A 4A 48	Light-red ware (10R 6/6), black core; sherd, chaff, and some mineral temper; light gray (10 YR 7/1) surface exterior; buff slip (7.5 YR 8/2) interior. IIIA.	Susa: Miroschedji 1981a, fig. 25:13, VR II 10
13	EE 39, Lot 13 0 132	Brick-red ware (2.5 Y/R), black core; chaff and mineral temper; cream slip. IIIA.	
14	EE 39, Lot 11 102 COUR 3A 4A 35	Buff ware (10 YR 7/3) with plastic decoration; coarse chaff and some mineral temper; self slip; some secondary fire blackening; broken before being burned. IIIA.	Susa: Miroschedji 1981a, fig. 15:14 VR II 12
15	EE 39, Lot 24 117 COUR 3A 4B 26	Rim and base. Compact light red ware (2.5 YR 6/8); fine calcite, other mineral, and chaff temper; buff slip (5YR 8/1) poorly preserved. IIIA.	
16	EE 39, Lot 37 102 COUR 3A 4B 21	Orange-buff ware, black core; chaff and grit temper, some calcite; cream slip (?); d. 32.8 cm. IIIA.	
17	EE 39, Lot 23 112 ROOM 3A 4B 35	Red-buff ware (2.5 YR 6/6); heavy chaff and mineral and some sherd temper; deformed and discolored in firing. IIIA.	Susa: Miroschedji 1981a, fig. 26:3 VR II 8

POTTERY FROM LEVEL IIIA

FIGURE 42

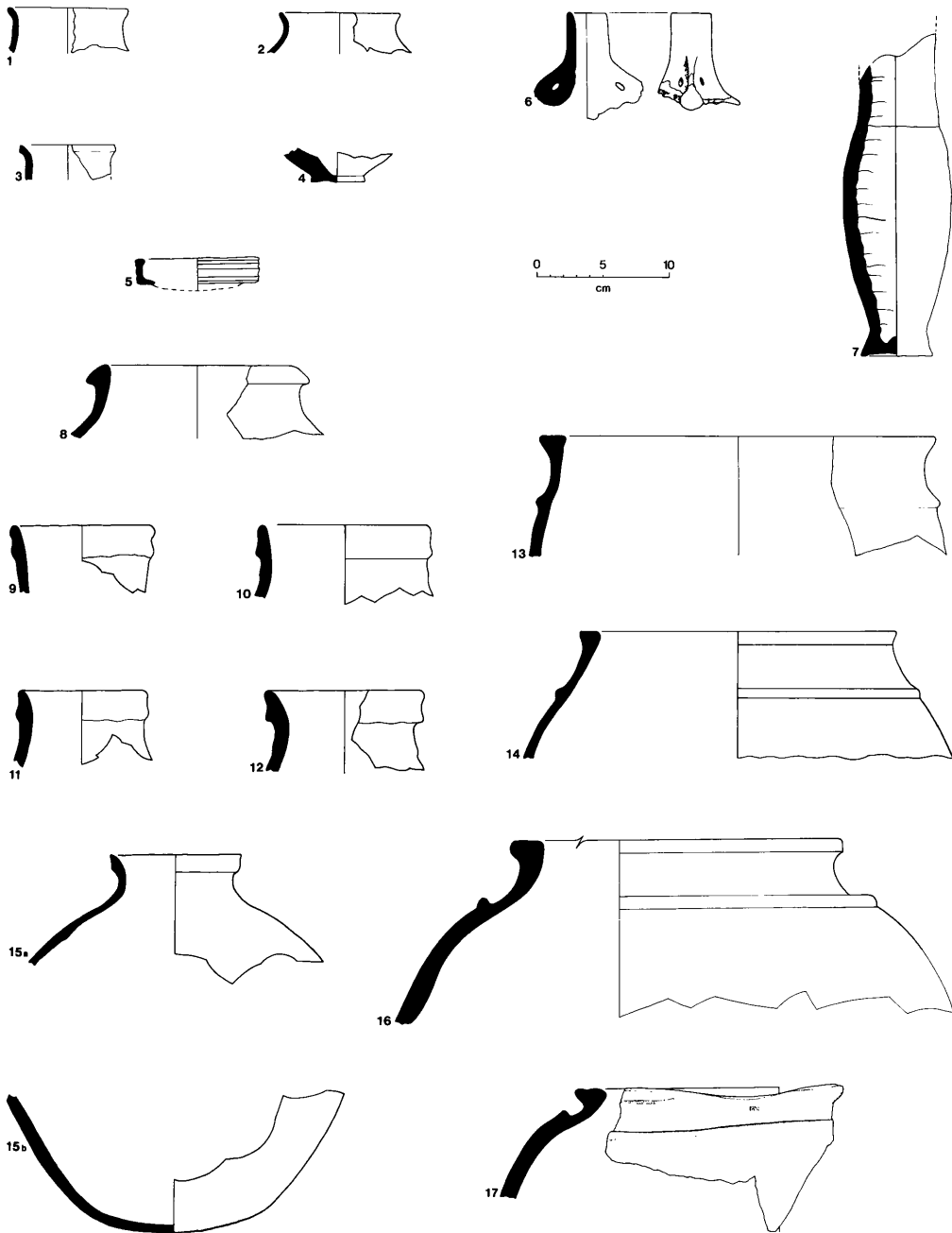
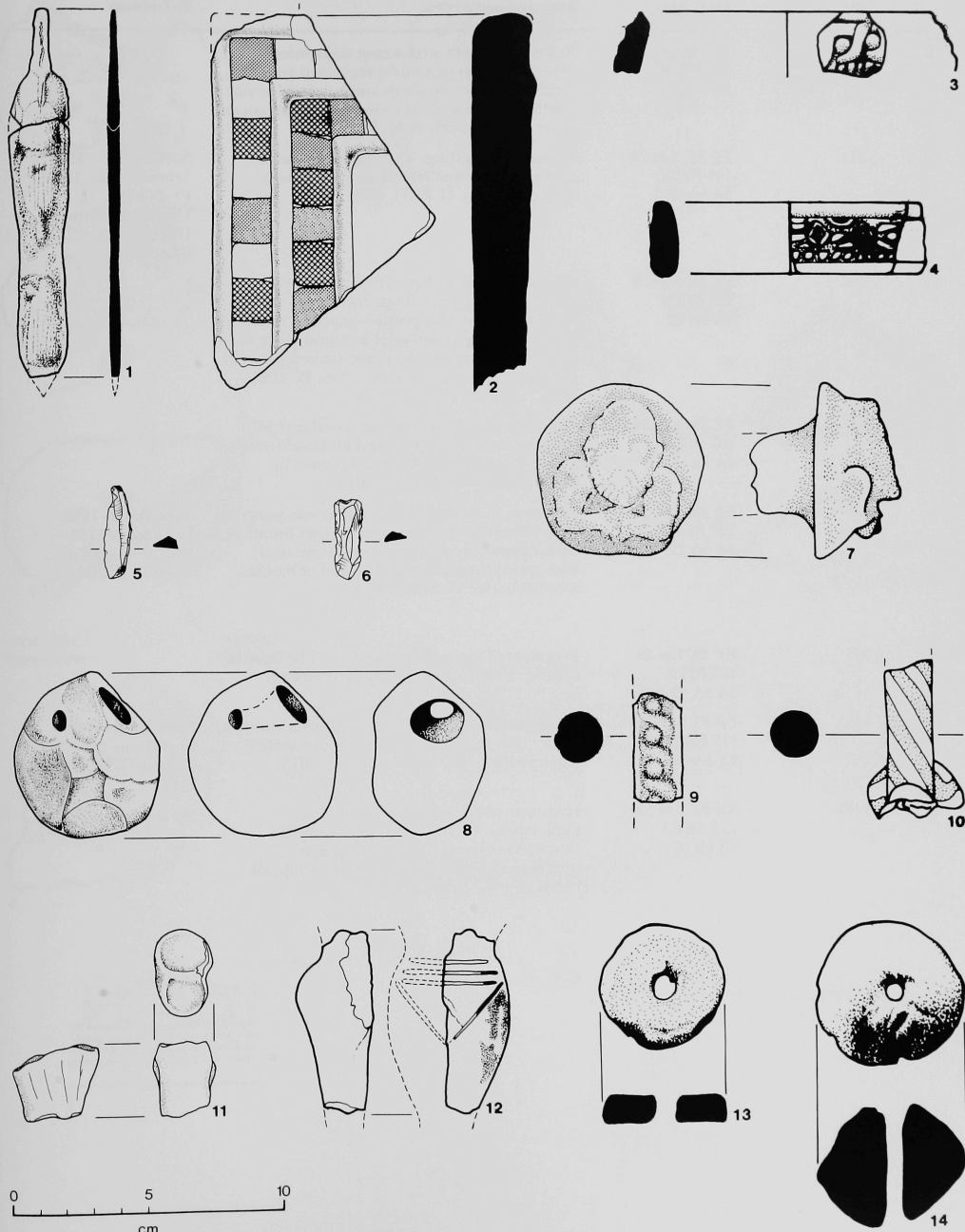


FIGURE 43

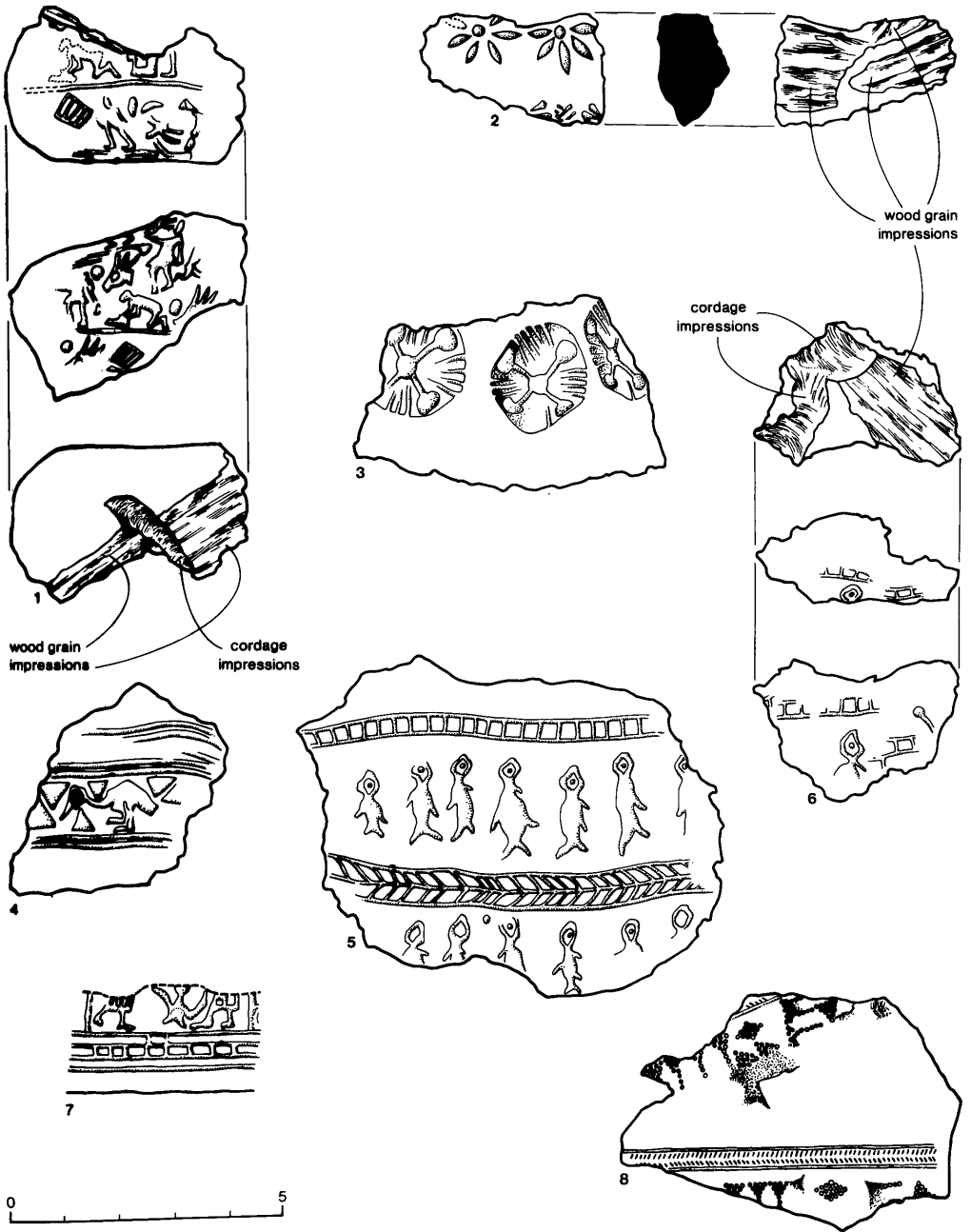
## MISCELLANEOUS SMALL OBJECTS FROM LEVEL III

	Mf. No.	Find Spot	Description	References
1	609	EE 39, Lot 22 108 ROOM 3A 4A 48	Corroded copper/bronze blade (see Pl. 21:1). IIIA.	
2	5225	EE 39, Lot 53 199 AREA 3B 6B 25	Faience tile fragment. White, green, and yellow squares between the first and second bands; yellow and green squares alternate on the inside (see Pl. 21:5). IIIA.	cf. fig. 30:2 above
3	610		Faience stand fragment. Whitish-green glaze.	Chogha Zanbil: Mecquenem 1953, fig. 7:4
4	649	EE 39, Lot 27 117 COUR 3A 4B 21	Faience stand fragment. Whitish-green glaze. (see Pl. 21:3). IIIA.	Surkh Dum̄-i-Luri: Schmidt et al. 1989: Pl. 152:c
5	5487	EE 39, Lot 78 175 KILN 3B 6C 28	Notched jasper blade; use nibbled edge. IIIB.	
6	5218	EE 39, Lot 62 199 AREA 3B 6B 26	Chert flake, possibly used as a drill; heavy secondary flaking. IIIB.	
7	582	EE 39, Lot 27 117 COUR 3A 4B 21	Faience wall nail. Whitish-green glaze; head is decorated in relief with the head and shoulders of a bearded man who is holding something (see Pl. 21:2). IIIA.	Susa: Amiet 1966, 416, fig. 317
8	511	EE 39, Lot 49 102 COUR 3A 5A 41	Perforated limestone weight. 210 g. IIIA.	
9	617	EE 39, Lot 30 130 BINX 3A 4B 28	Faience handle fragment. Whitish-green glaze (see Pl. 21:4). IIIA.	
10		EE 39, Lot 16 102 COUR 3A 4B 21	Faience or glass handle. Alternating yellow and white stripes. IIIA.	
11	5139	EE 39, Lot 55 199 AREA 3B 6B 26	Terracotta figurine fragment. Only part of a high headdress remains; fire blackened. IIIB.	Haft Tepe: Negahban 1977, fig. 19
12	5174	EE 39, Lot 54 164 KILN 3B 6C 28	Terracotta figurine fragment. Orange buff ware (2.5 YR 4/8) apparent; red slip; traces of black paint; Kaftari Period. IIIB.	Malyan: Sumner 1974: fig. 11j
13	1176	DD 41, Lot 14 2 3A 34	Buff ware (5 YR 7/4) worked sherd, incompletely oxidized. IVA.	
14	10266	EE 39, Lot 18 117 COUR 3A 4A 23	Unbaked clay spindle whorl; surface in poor condition; 83 g. IIIA.	



	Mf. No.	Find Spot	Description	References
1	594	EE 39, Lot 28 107 PITX 3A 5A 22	Sealing fragment with string impression. Several rollings of a multi-registered seal. Grinding figure on knees and hatched lozenge are the only clear design elements. Impression is very light (see Pl. 21:6). IIIA.	
2	611	EE 39, Lot 28 107 PITX 3A 5A 22	Fragment of sealing. Two eight(?)-petaled flowers are all that remain of a very sharp impression (see Pl. 21:7). IIIA.	Surkh Dum-i-Luri: Schmidt et al. 1989: Pl. 241:134; Unknown: Porada 1981, 231, no. 1227, for rosette
3	593	EE 39, Lot 28 107 PITX 3A 5A 22	Fragment of jar sealing. Inner arch shows where clay was pressed against mouth of jar. The impression was possibly made by a stamp seal. The design consists of a central circle with four spokes that end in circles; incised lines fill the spaces between the spokes (see Pl. 21:8). IIIA.	
4	592	EE 39, Lot 28 107 PITX 3A 5A 22	Fragment of a sealed clay tag, similar to mf. 5970, fig. 34:8. A long-necked bird (vulture?) in a field of triangles. The seal is framed by double bands (see Pl. 21:9). IIIA.	
5	591	EE 39, Lot 28 107 PITX 3A 5A 22	Fragment of an ovoid sealing that was warped. Two impressions of the same seal are found. A ladder band, a band of fish, or scorpions (?) with raised mandibles, and a band of hatches are visible (see Pl. 21:12). IIIA.	Susa: Amiet 1972, Pl. 186, no. 2152 (scorpions), Pl. 181, no. 2075 (fish)
6	595	EE 39, Lot 28 107 PITX 3A 5A 22	Fragment of the same impression. The interior suggests that it sealed a wooden container (see Pl. 21:12). IIIA.	
7	585	EE 39, Lot 27 117 COUR 3A 5A 22	Lower part of a faience seal, possibly a banquet scene. Two figures on either side of a table (?). No drawing of the seal is available. IIIA.	Susa: Amiet 1972, Pl. 179, no. 2055; for frame Pl. 186, 2144
8	4484	EE 39, Lot 55 199 AREA 3B 6B 26	Fragment of a door-lock sealing. Two impressions of a seal with cuneiform-like characters composed of small circular impressions, with a border of wire-wrapped bands (see Pl. 21:10). IIIB.	See fig. 33:4 above





wood grain impressions

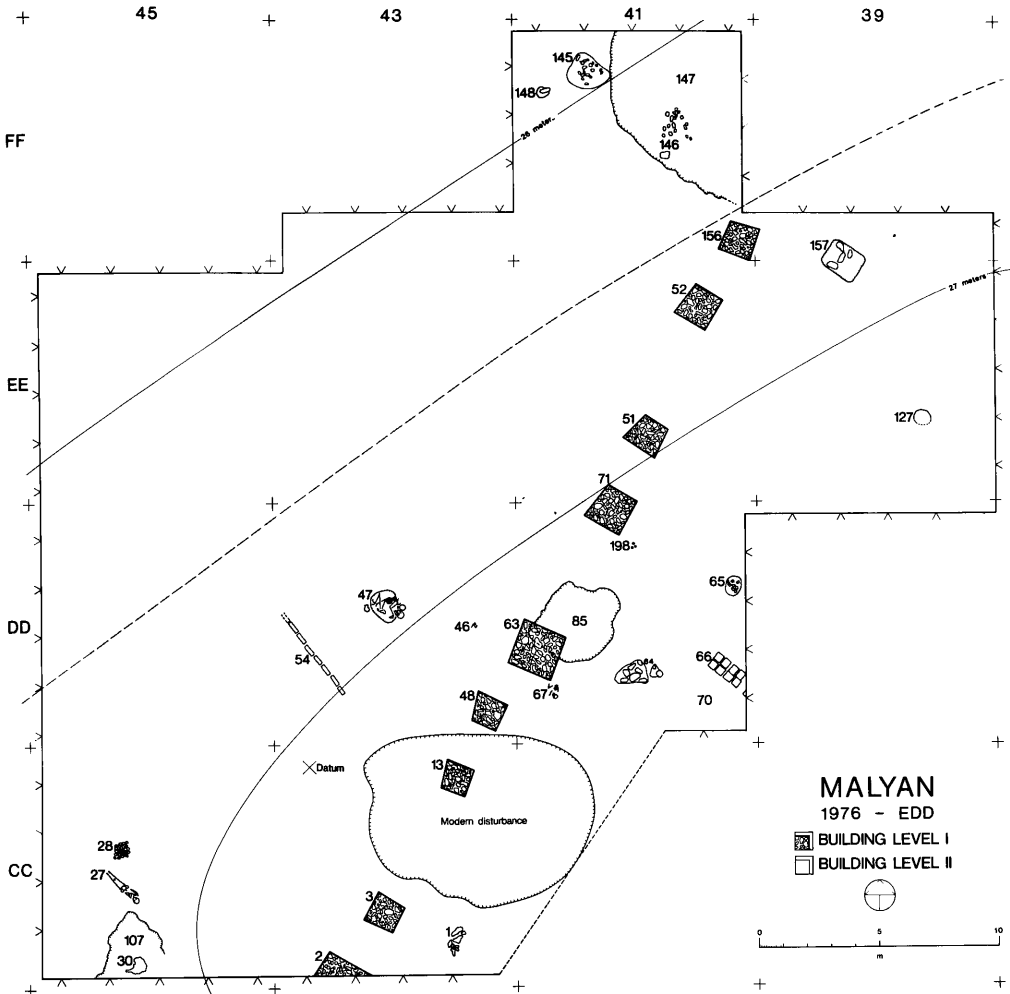
cordage impressions

wood grain impressions

cordage impressions

0 5  
cm





Plan of levels I and II.

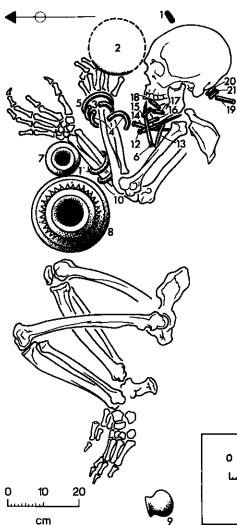
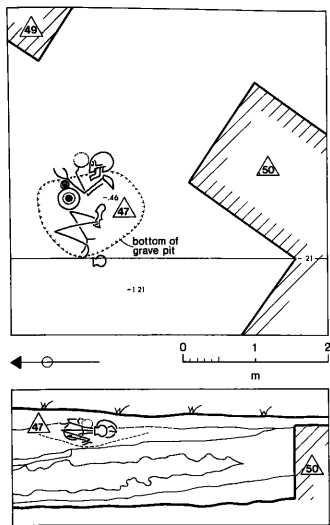
FIGURE 46

## LEVEL II: BURIAL 47, PLAN, SECTION, OBJECTS

	Mf. No.	Find Spot	Description	References
1	1021	DD43 Lot 9 Burial 47	Faience seal. Man wearing a sword leads a horse with one hand and holds an unidentifiable object, forked lightning or a weapon, in the other. Seven dots are placed in the field. Two bands of fingernail impressions frame the scene. II.	
2		"	Pot in pieces, no rim preserved. II.	
3	1031	"	Copper/bronze bracelet with some bronze disease. II.	
4	1032	"	Copper/bronze bracelet with some bronze disease. II.	
5	1033	"	Copper/bronze bracelet with some bronze disease. II.	
6	1036	"	Copper/bronze dome-headed pin. II.	Persepolis: Schmidt 1970, Pl. 46:11
7	1041	"	Handmade round-bottomed pot. Body color pink (8/4). No obvious temper. II.	
8	1968	"	Handmade flat-bottomed jar. Firable light reddish brown ware (2.5 YR 6/4); grit tempered with small lime pops visible on surface; red painted decoration and small black firing bloom. Cloth impression on interior of base. II.	
9	1042	"	Handmade round-bottomed pot. Body color is light reddish brown (6/4). Some sand temper. II.	
10	1034	"	Copper/bronze bracelet with some bronze disease. II.	
11	1035	"	Copper/bronze bracelet with some bronze disease. II.	
12	1037	"	Copper/bronze dome-headed pin. II.	
13	1038	"	Copper/bronze dome-headed pin. II.	
14	1034	"	Copper/bronze dome-headed pin. II.	
15-21	1040	"	Not illustrated. 7 faience beads and the seal from a necklace; 6 beads are tubular, (d. 5 cm, 21 = 4 cm; 2, 1 = 3.5 cm; and 1 each at 1 = 4.5 and 1 = 2.8 cm). The seventh is a spacer; four holes pierced through the side .45 cm x .5 mm x 2.6 cm. II.	

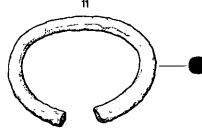
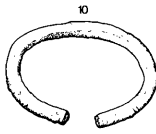
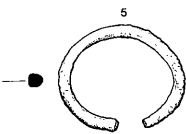
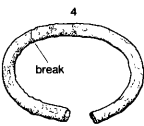
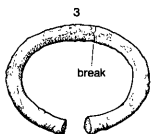
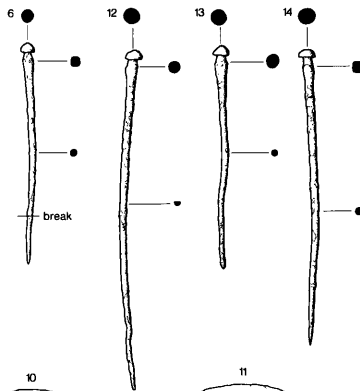
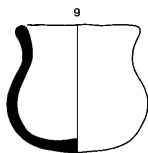
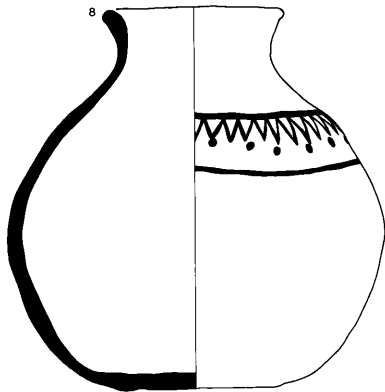
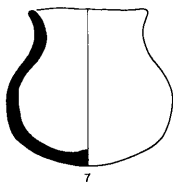
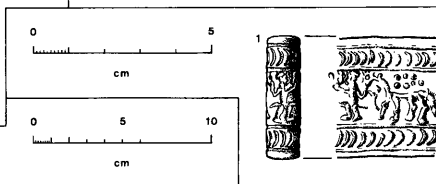
LEVEL II: BURIAL 47, PLAN, SECTION, OBJECTS

FIGURE 46

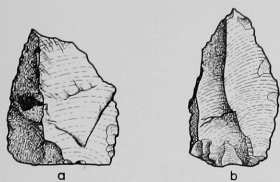


DD 43 LOT 9 BURIAL 47

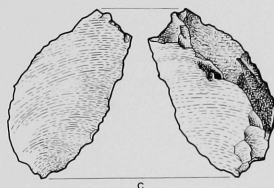
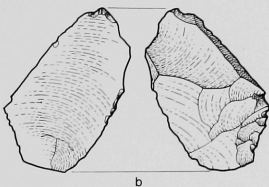
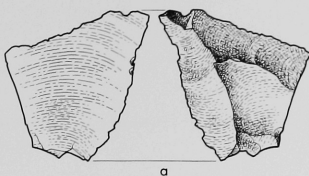
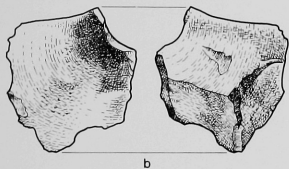
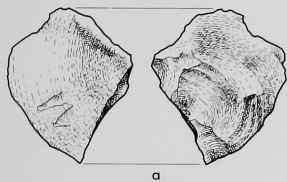
- 1 Cylinder seal (blue glazed faience)
- 2 Pot (pieces)
- 3 - 5 Bronze/copper bracelets (3, 4 broken)
- 6 Bronze/copper pin (broken)
- 7 Pot
- 8 Pot (broken)
- 9 Pot
- 10, 11 Bronze/copper bracelets
- 12 - 14 Bronze/copper pins
- 15 - 21 Tubular shaped beads (possibly faience)



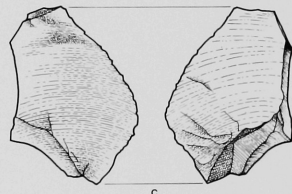
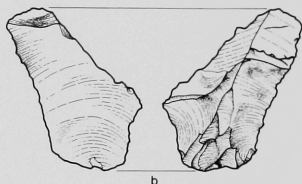
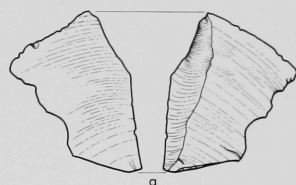




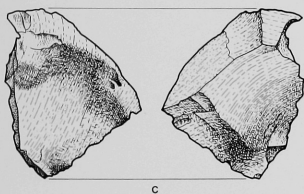
1 Ridged Flakes



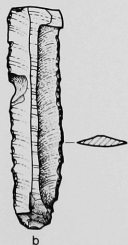
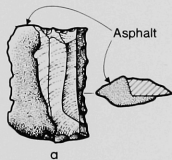
2 Right Leaning Flakes



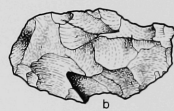
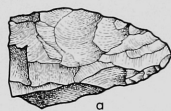
3 Left Leaning Flakes



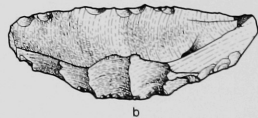
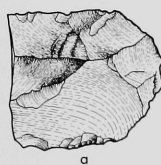
4 Platform Rejuvenation Flakes



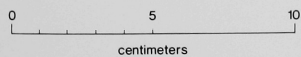
5 Blades (CC 45)



6 Bifacially Worked Implements



7 Unifacially Worked Implements







---

# Plates





A. Air view from EDD looking eastward toward BB33, GH1, ABC, and the modern village (see Fig. 3).



B. Air view of the EDD operation (see Figs. 5, 6, and 9).



A. Level IV. DD41, Courtyard 45, Corridor 60 looking northeast, levels IVA and IVB (see Figs. 6 and 9).



B. Level IV. EE41, Corridor 95, Door 98 (foreground), Courtyard 45 (background), looking southeast. IVA floor where tablets were found visible in left background (see Figs. 6 and 9).



A. Level IV. DD41, Corridor 60, looking northeast (see Figs. 6 and 9).



B. Level IV. DD41, east balk (with white tags) seen from the middle of Courtyard 45 (foreground). Note the difference in fill between the open courtyard (foreground) and rooms behind (see Figs. 6 and 9).



A. Level IV. DD41, Room 69. Four pots *in situ* and door, looking southwest (see Fig. 9).



B. Level IV. DD41, Room 69. Four pots *in situ*, detail, in southern corner of the room (see Fig. 9).



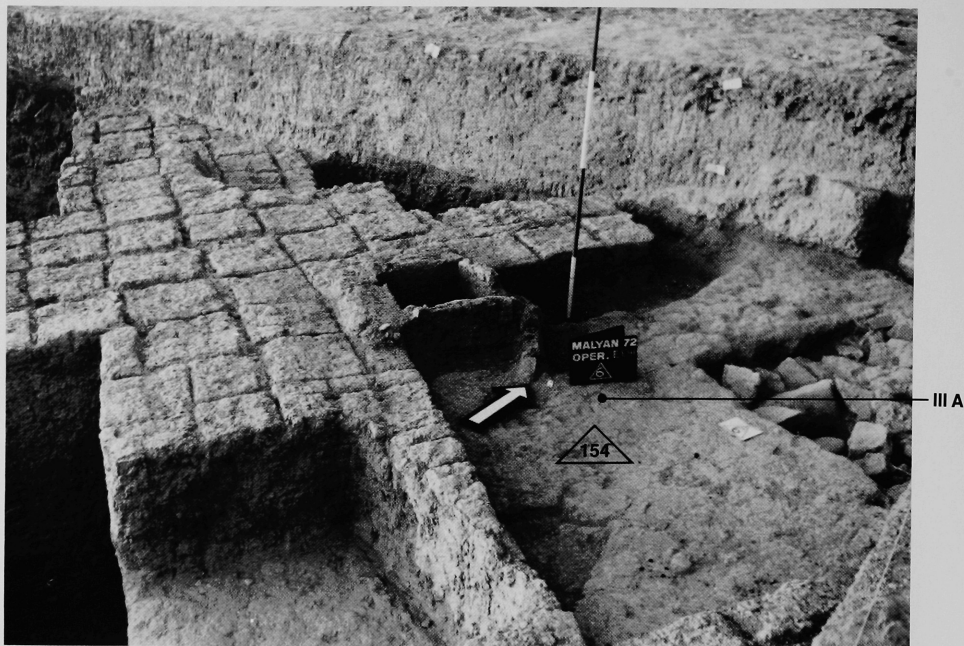
C. Level IV. DD41, Room 69. Interior door 31, looking northwest (see Fig. 9).



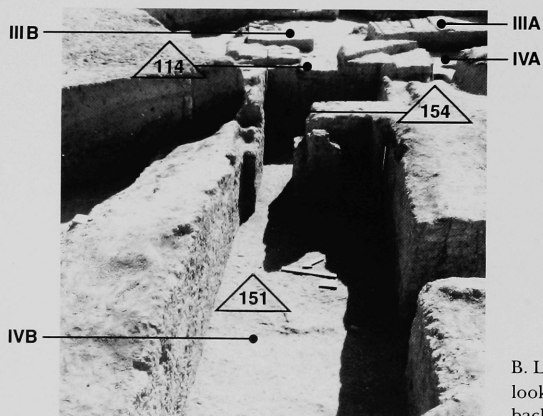
A. Level IV. DD41, Pit 85 in left foreground; Room 69 and Door 3 in back of Pit 85. Room 76 in the center and Wall 9 (on the far right), looking north (see Fig. 9).



B. Level IV. DD41, Room 76, the tablet room (see Fig. 12), looking south. Carbonized logs in balk, Stone Pier 63 from a now eroded later structure at right (see p. 48 and Fig. 6).



A. Level IIIA. EE41, Room 154 looking north (see Figs. 9 and 39).



B. Level IVB. FF-EE41, Rooms 151 and 154 behind it, looking southeast. Level IIIB is visible in the background (see Fig. 6).





A. Level IV. DD45, Room 26, fallen Pillar 33, looking northeast (see Figs. 6 and 14).



B. Level IV. DD45, Room 26, knob and tile scatter, looking southeast (see Figs. 6 and 9).



A. Level IV. CC45, Room 19 (center foreground), Alley 25 (center), looking northeast (see Fig. 6).



B. Level IV. DD45, Room 26 (left foreground), Alley 25 (right foreground), looking southeast (see Fig. 6).



1A



1B



2A



2B



3A



3B



4



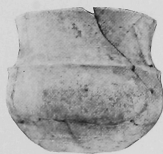
5



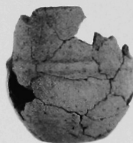
6



7



8



9

Level IV. Miscellaneous Buff Wares. 1: mf. 5224, Fig. 18:1. 2: mf. 5306. 3: DD41 Lot 49 069 Room; 4A, 9A, 26. 4: DD43, Lot 57 060 CRDX 4A, 7B, 27, Fig. 21:12. 5: mf. 1728. 6: mf. 1197, Fig. 21:9. 7: mf. 1240, Fig. 21:1. 8: mf. 1923, Fig. 21:3. 9: mf. 6186, Fig. 21:4.



1



2



3



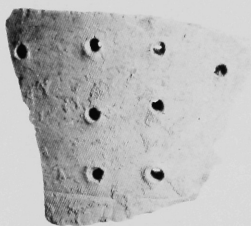
4



5



6



7



8



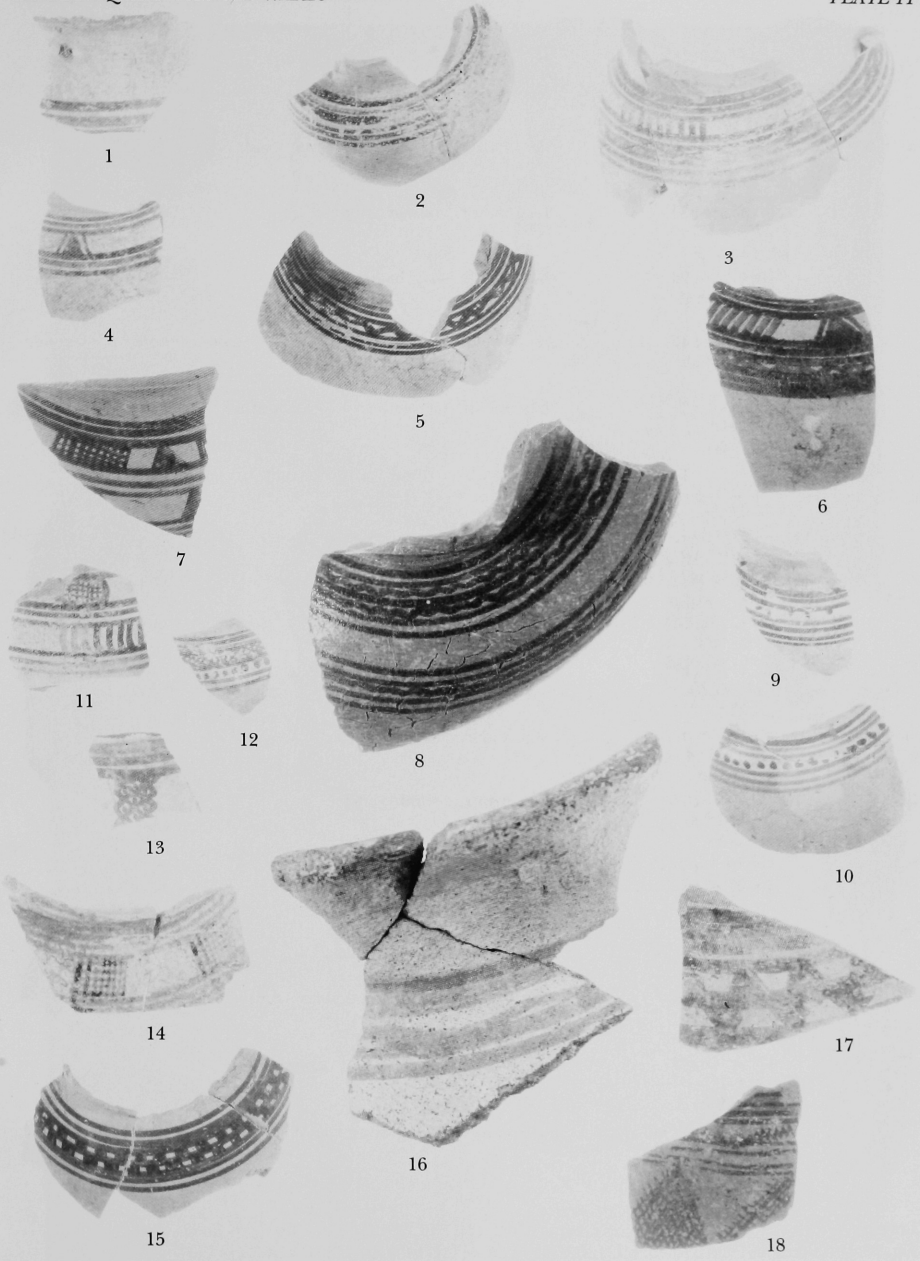
9

Level IV. Miscellaneous Unpainted Wares. 1: CC45, Lot 20 025 KUCH; 4A 7C 23; Fig. 23:12; indented band-rim jar. 2: mf. 1718, Fig. 23:2, plain band-rim jar. 3: CC 45, Lot 20 025 KUCH; 4A 7C 23; Fig. 24:4, pithoi. 4: EE 41, Lot 30, 1 32; gray ware. 5: CC45, Lot 9 025 KUCH; 4A 7C 23; Fig. 28:8, cooking pot ware. 6: CC45, Lot 20 025 KUCH; 4A 7C 23; cf. Fig. 28:12, cooking pot ware, 7: EE 41, Lot 30 0 1 32. 8: EE 41, Lot 40 061 ROOM; 4B 14A 26. 9: EE 41 Lot 28 096 ROOM; 4B 13 28.



	Find Spot	Description
1	EE 41, Lot 18	Plain bands
2	EE 41, Lot 38 061 ROOM 4B 11A 42	Plain bands
3	EE 41, Lot 28 096 ROOM 4B 13 26	Plain bands, vertical lines, wavy bands
4	EE 41, Lot 37 045 COUR 4B 15A 29	Plain bands, framed triangle
5	EE 41, Lot 28 096 ROOM 4B 13 26	Plain bands, wavy bands
6	EE 41, Lot 40 061 ROOM 4B 13 26	Waster; plain bands, vertical lines, framed triangle, wavy bands
7	EE 41, Lot 28 096 ROOM 4B 13 26	Plain bands, hatched rectangle, triangle, waster
8	EE 41, Lot 16 061 ROOM 4A 7A 35	Plain bands and wavy bands, waster
9	EE 41, Lot 40 061 ROOM 4B 14A 26	Plain bands and alternating dots
10	EE 41, Lot 31 058 ROOM 4A 7A 42	Plain bands and dotted band
11	EE 41, Lot 37 045 COUR 4B 15A 29	Plain bands, hatched circle, vertical lines
12	EE 41, Lot 40 058 ROOM 4B 14A 26	Plain bands, hatched band, dotted band
13	EE 41, Lot 28 096 ROOM 4B 13 26	Plain bands, dotted circles
14	EE 41, Lot 16M 061 ROOM 4A 7A 35	Plain Bands, hatched squares
15	EE 41, Lot 40 058 ROOM 4B 14A 26	Extra fine ware; plain bands, checker board, joins with EE 41, Lot 38; 061 ROOM, 4B 11A, 42
16	DD 41, Lot 57 076 ROOM 4A 7B 27	Cement ware; plain bands, wavy bands, joins with DD 41, Lot 62, 076 ROOM, 4A 9A 26
17	EE 41, Lot 27 123 PITX 4A 10A 22	Plain bands, alternating triangles
18	EE 41, Lot 20M 154 ROOM 3A 4A 35	Plain bands, zig-zag band, hatched triangles, possible Shogha sherd

Plate 11. Qaleh painted wares from Level IV.



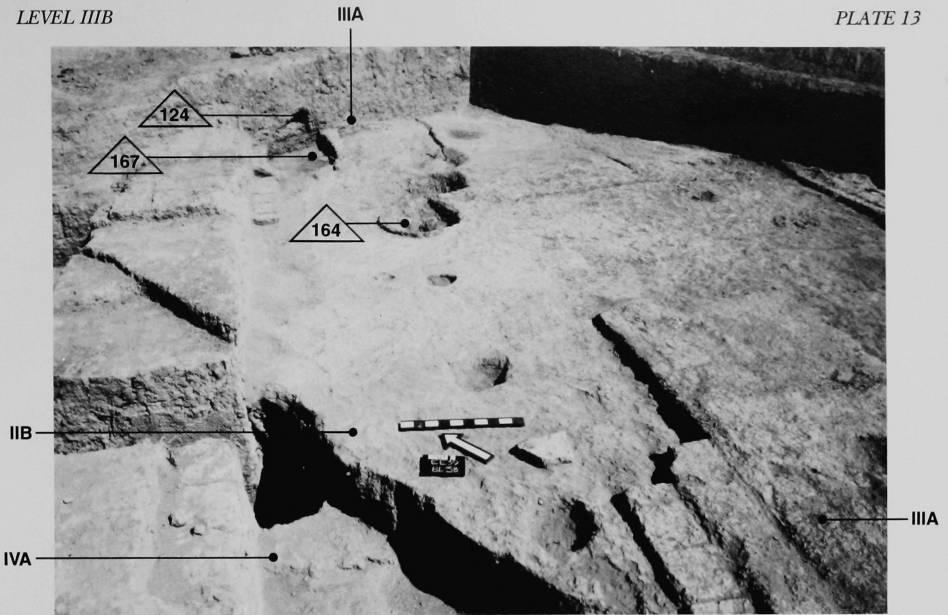
Level IV. Qaleh Painted Wares.



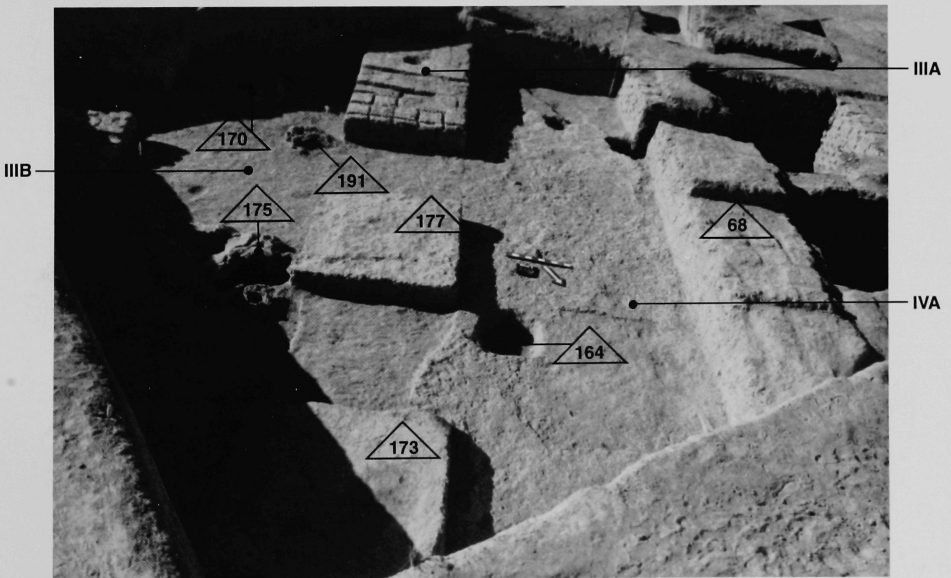
Level IVA. Miscellaneous Small Objects. 1: mf. 1892, Fig. 33:2. 2: mf. 1891, Fig. 33:1. 3: mf. 1890, Fig. 33:4. 4: mf. 1889, Fig. 33:6. 5: mf. 1888, Fig. 33:5. 6: mf. 1909, Fig. 32:2. 7: mf. 1447, Fig. 29:2. 8: mf. 1025, Fig. 32:1. 9: mf. 1179, Fig. 29:1. 10: mf. 3653, Fig. 29:12. 11: mf. 5483, Fig. 29:11

1-6, 10 1:2  
 7-9 1:1  
 11 2:5





A. Level IIIB. EE39, general view, looking northeast along Wall 9 (left, see Fig. 31).



B. Level IIIB. EE39, general view, looking southwest (see Fig. 36 for plan). Level IVA surface is visible to the left of Wall 68 (right).



A. Level IIIB. EE39, Kilns 170 (lower center) and 175 (upper center) in Corridor 192, looking northeast (see Fig. 36).



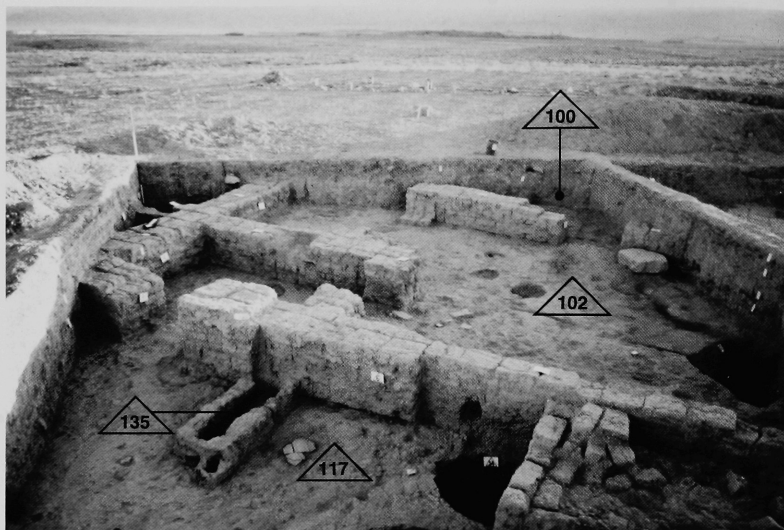
B. Level IIIB. EE39, Kiln 175, looking south. Pillar 177 (center right, see Fig. 36 for plan).



A. Level III B. EE 39, Kiln 170, exterior; Wall 178 at left, looking southwest (see Figs. 36 and 38).



B. Level III B. EE39, Kiln 170, interior vents, Pit 172 (fire tunnel) (see Fig. 38).



A. Level IIIA. EE39, Courtyard 117 (foreground), Courtyard 120 (center), looking southwest (see Figs. 6 and 39).



B. Level IIIB. EE39, Courtyard 102 (foreground), looking northeast (see Fig. 39).



A. Level IIIA. EE39, to left of balk; DD41, Level IV walls at upper right, looking south (see Fig. 39).



B. Level IIIA. EE39, Walls 201 (IIIA, upper right) and 56 (IV, upper left), looking north (see Fig. 39).



1



2



3A



3B



4A



4B



5A



5B

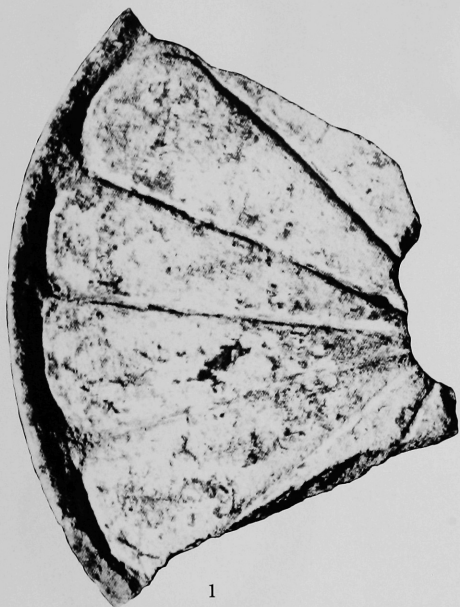


6A



6B

Level IVA. Wall tiles and knobs. 1: mf. 1897, Fig. 30:3. 2: mf. 1899, Fig. 30:2. 3A: mf. 1900, Fig. 30:1; 3B = mf. 3654, =Fig. 30:1. 4: mf. 1749, Fig. 30:9. 5: mf. 1747, Fig. 30:15. 6: mf. 1766, Fig. 30:12.



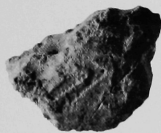
1



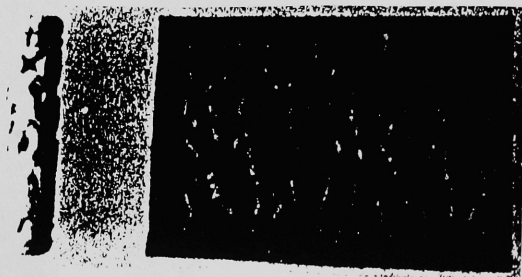
2



3



4



5

Level IVA. Glyphic and Wall tiles. 1: mf. 532, Fig. 30:6. 2: mf. 1895, Fig. 30:8. 3: mf. 1967, Fig. 34:4.  
4: mf. 6242, fig. 34:3. 5: mf. 5037, Fig. 349.

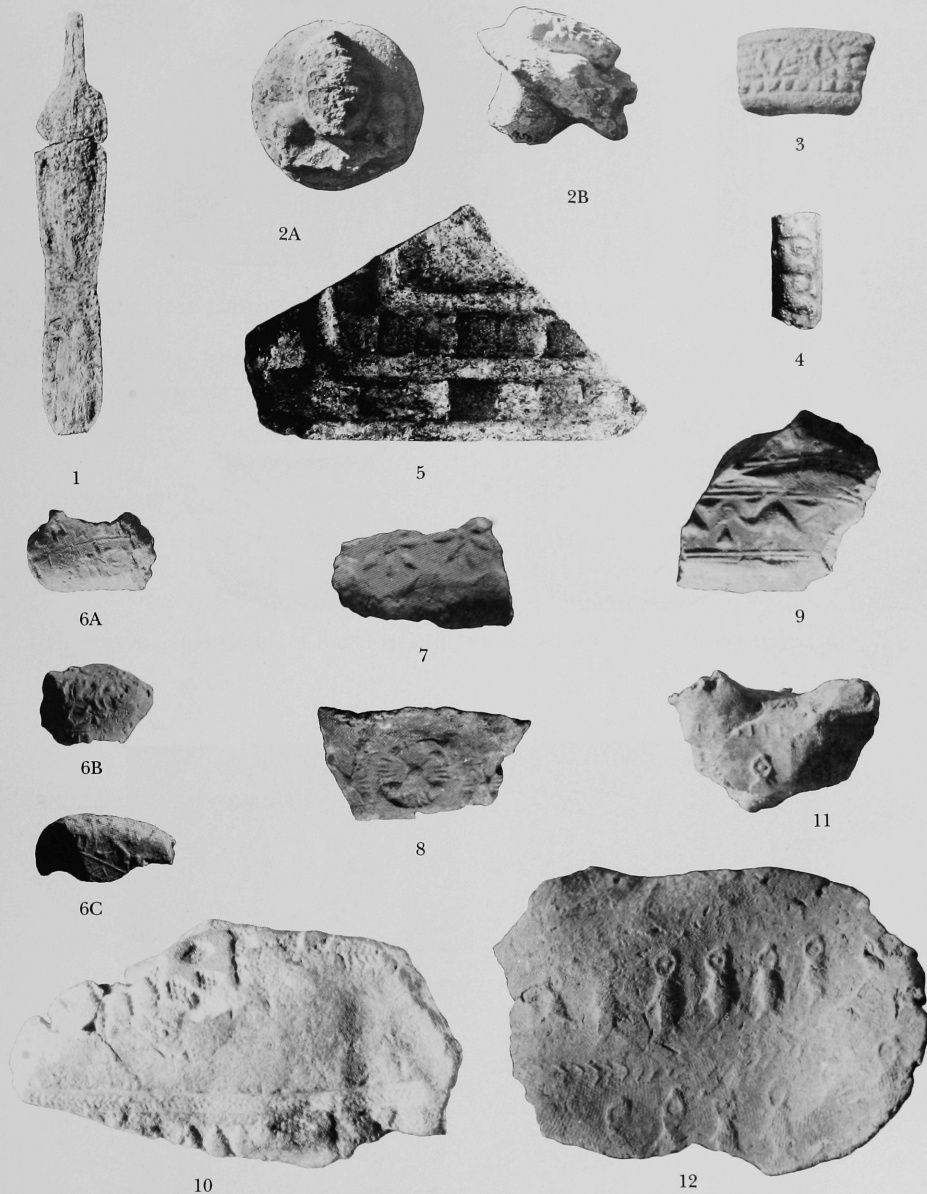
1-4 1:2  
5 2:1



Level IIIB. Miscellaneous Pottery Vessels. 1: mf. 5307, Fig. 40:6. 2: mf. 5278, Fig. 40:5. 3: mf. 5346. 4: mf. 5482, Fig. 40:2. 5: mf. 6157, Fig. 40:4. 6: mf. 5308. 7: mf. 5284, Fig. 40:9. 8: mf. 6188, Fig. 40:8. 9: mf. 6198, Fig. 40:10.

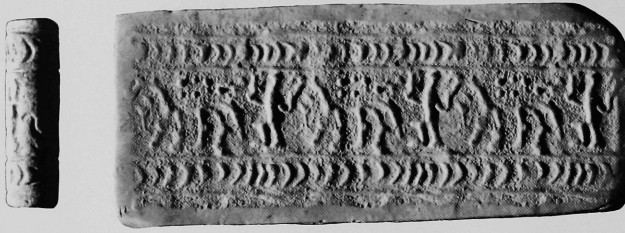
1-3 1:2  
 4 2:5  
 5-8 1:4  
 9 1:10





Level IIIA. Glyptic and Small Objects. 1: mf. 609, Fig. 43:1. 2: mf. 582, Fig. 43:7. 3: mf. 649, Fig. 43:4. 4: mf. 617, Fig. 43:9. 5: mf. 5225, Fig. 43:2. 6: mf. 594, Fig. 44:1. 7: mf. 611, Fig. 44:2. 8: mf. 593, Fig. 44:3. 9: mf. 592, Fig. 44:4. 10: mf. 4484, Fig. 44:8. 11: mf. 595, Fig. 44:6. 12: mf. 591, Fig. 44:5.

1-6 1:2  
7, 9-12 1:1  
8 n.s.



A. Level II. Burial Gifts, DD43, Lot 9, Burial 47. Faience cylinder seal, mf1021 (see Fig. 46:1).



B. Level II. Burial Gifts, DD43, Lot 9, Burial 47. Pots, mf 1041 (left), 1042. (see Fig. 46:7,9).

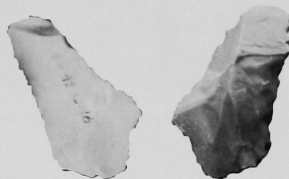
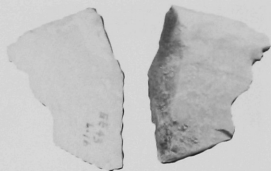
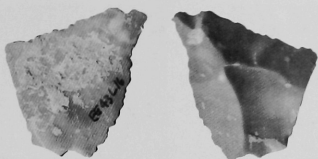


Level IVA. Miscellaneous faience objects (tile and box lid) and glyptic. 1: mf. 532, Fig. 30:6. 2: mf. 1895, Fig. 30:8. 3: mf. 1967, Fig. 34:4. 4: mf. 6242, fig. 34:3. 5: mf. 5037, Fig. 349.

A 1:1  
 B 1:2  
 C 3:1



1. Ridged Flakes.

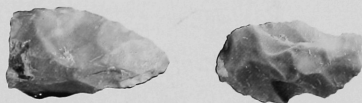


2. Right Leaning Flakes.

3. Left Leaning Flakes.



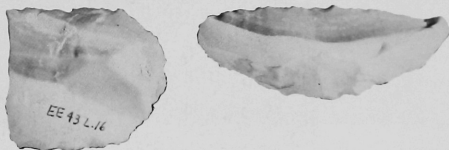
4. Platform Rejuvenation Flakes.



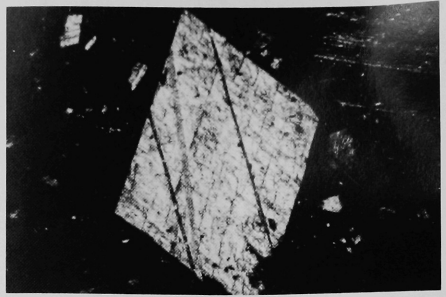
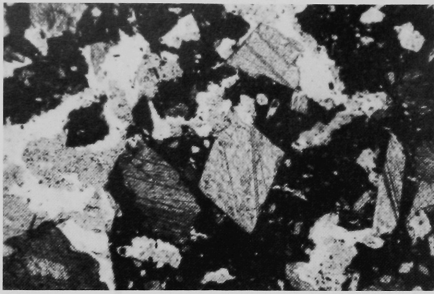
6. Bifacially Worked Implements.



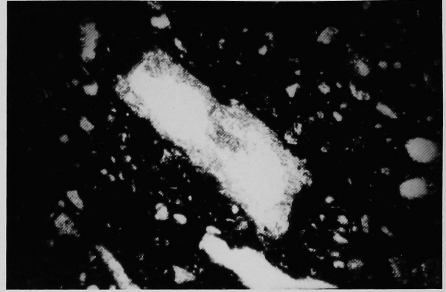
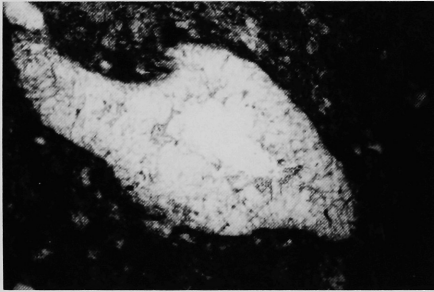
5. Blades



7. Unifacially Worked Implements.



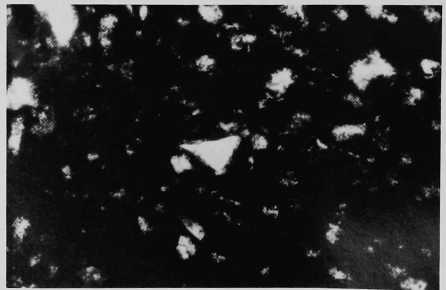
1,2. Sharp rhombohedral outlines of calcite grains indicating an added temper, sample DD43 L34 cook pot. (x80, x200).



3,4. Secondary calcite formed on inside edge of pores, sample DD43 L40. (x200).



5. Secondary calcite rims found around added hematite, unlabeled slide. (x80).



6. A typical angular quartz grain of sand temper, sample M74 EE43 Lot 12. (x80).







